

FINAL

Final Report

860 Unit Cooling Tower and Hartranft Street - Point Breeze South Yard

Former Philadelphia Energy Solutions Refinery Facility ID No. 51-33620
3144 West Passyunk Avenue, Philadelphia, Pennsylvania
eFACTS 854903

Prepared for

Philadelphia Energy Solutions Refining and Marketing LLC
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Acronyms and Abbreviations

25 Pa. Code	Title 25 Pennsylvania Code
Act 2	Pennsylvania Land Recycling and Environmental Remediation Standards Act
AOI	Area(s) of Interest
AST	aboveground storage tank(s)
ASTM	American Society for Testing and Material
bgs	below ground surface
COPC	chemical(s) of potential concern
Evergreen	Evergreen Resources Group, LLC; includes Sunoco, Inc. n/k/a ETC Sunoco Holdings LLC, Sunoco, Inc. (R&M) n/k/a Sunoco (R&M), LLC n/k/a Energy Transfer (R&M), LLC and Evergreen collectively referred to as “Evergreen”
DC	direct contact
the Facility	former Philadelphia Energy Solutions refinery facility
ft	feet or foot
ft ²	square feet
MSC	medium-specific concentration(s)
NIR	Notice of Intent to Remediate
Non-Res	non-residential
NorthStar	NorthStar Contracting Group, Inc.
PADEP	Pennsylvania Department of Environmental Protection
PESRM	Philadelphia Energy Solutions Refining and Marketing LLC
PID	photoionization detector
RL	reporting limit(s)
the Site	petroleum release area near the 860 Unit and Hartranft Street – Point Breeze South Yard of the former Philadelphia Energy Solutions Refinery
SHS	Statewide Health Standard(s)
SVOC	semi-volatile organic compound(s)
Terraphase	Terraphase Engineering Inc.
USEPA	United States Environmental Protection Agency
VISL	vapor intrusion screening levels
VOC	volatile organic compound(s)

Certification

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

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

I hereby attest that, as a Professional Geologist licensed in the Commonwealth of Pennsylvania, I am familiar with, and have reviewed and/or prepared the interpretation of the geology and hydrogeology presented in the attached report entitled:

*Final Report, 860 Cooling Tower and Hartranft Street – Point Breeze South Yard, Former Philadelphia Energy Solutions Refinery Facility ID No. 51-33620
3144 West Passyunk Avenue, Philadelphia, Pennsylvania, dated March 2024.*

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



Alexander J. Strohl, PG
Project Geologist



March 1, 2024

Date

Executive Summary

Terraphase Engineering Inc. (Terraphase) has prepared this Final Report, on behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), to detail the results of the environmental activities completed at the location of a petroleum release which occurred during the removal of overhead pipelines near the 860 Unit Cooling Tower and Hartranft Street in the Point Breeze South Yard (the Site). The Site is located within the former Philadelphia Energy Solutions Refinery (the “Facility”), an approximately 1,300-acre property situated in a highly developed area of Philadelphia. The refinery ceased operations in 2019 and has since been undergoing demolition and redevelopment activities.

A Notice of Intent to Remediate (NIR) for the Site was submitted to Pennsylvania Department of Environmental Protection (PADEP) on March 1, 2022 (eFacts 854903). The pipeline that caused the release was associated with two aboveground storage tanks (ASTs) (i.e., PB 840 and PB 843) that were formerly used to store crude oil. The release impacted three separate areas; one area was an asphalt road surface and the other two were areas of soil immediately adjacent to the asphalt road surface. Soil excavation was conducted in these two adjacent areas where the release occurred to soil. The three separate areas impacted by the release are estimated to be approximately 480, 170, and 260 square feet (ft²), respectively. NorthStar Contracting Group, Inc. (NorthStar) conducted a prompt interim response, including two shallow soil excavations, immediately following discovery of the release.

The results of soil sampling conducted in October 2023 indicate that chemical concentrations in soil remaining after the interim response activities attain the Statewide Health Standard (SHS). Terraphase concludes that all the requirements of the SHS have been met, and as such, PESRM qualifies for the cleanup liability protection under the applicable provisions of the *Land Recycling and Environmental Remediation Standards Act (Act 2)* for petroleum chemicals associated with the pipeline release as detailed in Section 6 of this Final Report.

1 Introduction

Terraphase Engineering Inc. (Terraphase) has prepared this Final Report, on behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), to detail the results of the environmental activities completed at the location of a release which occurred during the removal of overhead pipelines near the 860 Unit Cooling Tower and Hartranft Street in the Point Breeze South Yard (the Site). The Site is located within the former Philadelphia Energy Solutions Refinery (the “Facility”), an approximately 1,300-acre property situated in a highly developed area of Philadelphia. The refinery ceased operations in 2019 and has since been undergoing demolition and closure activities. The Site location is depicted on **Figure 1**. The environmental activities at the Site were performed in accordance with the applicable provisions of the *Land Recycling and Environmental Remediation Standards Act* (Act 2), Title 25 Pennsylvania Code (25 Pa. Code) Chapter 250 Sections 204 and 312, administered by the Pennsylvania Department of Environmental Protection (PADEP), to obtain the associated release of environmental cleanup liability.

A Notice of Intent to Remediate (NIR) for the Site was submitted to PADEP March 1, 2022 (eFacts 854903). A copy of the NIR was also submitted to the local municipality (City of Philadelphia) and a legal notification was published in the *Philadelphia Inquirer* with service to the area. As the NIR indicates, PESRM intended to remediate soil at the Site in order to attain the Statewide Health Standard (SHS). In addition, notification of this Final Report submittal to PADEP was sent to the City of Philadelphia on February 28, 2024 and a legal notification regarding this submittal was published in the *Philadelphia Inquirer* with service to the area. Copies of the NIR and Final Report notification documents, including proof of publication/delivery are provided in **Appendix A**.

The pipeline that caused the release was an out of service line used to remove water from two aboveground storage tanks (ASTs) formerly used to store crude oil (i.e., PB 840 and PB 843) in the Point Breeze South Yard. The incident resulted in three separate impacted areas; one area was an asphalt road surface and the other two were areas of soil immediately adjacent to the asphalt road surface. These areas were approximately 480, 170, and 260 square feet (ft²), respectively. NorthStar Contracting Group, Inc. (NorthStar) conducted a prompt interim response, including the excavation of shallow soil immediately following discovery of the release.

This report was prepared in accordance with the applicable provisions of the *Land Recycling and Environmental Remediation Standards Act 2*, 25 Pa. Code Chapter 250 Sections 204 and 312. It provides a summary of the environmental investigation activities, soil remediation activities, an ecological evaluation, and demonstrates attainment of the SHS. The Final Report is organized as follows:

- Section 2 details the site setting, including operational history, site topography, geology, and hydrogeology.
- Section 3 includes the selected standard and a summary of current and reasonably anticipated future land and groundwater use at and in the vicinity of the Site.
- Section 4 discusses the release, soil remediation (i.e., removal activities) and subsequent RI.
- Section 5 presents the Ecological Screening Evaluation.



- Section 6 summarizes the demonstration of attainment.
- Section 7 summarizes the conclusions of the Final Report.
- Section 8 provides the references used in the preparation of this report.

2 Site Setting

This section presents the site setting and includes a description of the Site, the operational history, topography, geology, and hydrology of the Site and the surrounding area.

2.1 Site Description

The Facility, a former 1,300-acre refinery, is situated in a highly developed area of the City of Philadelphia, Philadelphia County, Pennsylvania (**Figure 1**). The Facility was developed with large tanks, buildings, pipelines, roads, and was formerly used as a petroleum refinery. The Site is the location of a release which occurred during the removal of overhead pipelines near the 860 Unit Cooling Tower and Hartranft Street in the Point Breeze South Yard (39.912846, -75.200482). Remediation activities are being conducted at the Facility under Act 2 by both PESRM and Evergreen Resources Group, LLC (Evergreen)¹ in accordance with the 2012 Buyer-Seller Agreement and the 2020 First Amendment to that Agreement. The Site is also located along the bounds of the Evergreen Area of Interest (AOI) 2 and 3. The nearest residential area is located approximately 0.75 miles east of the Site.

The Site is currently uncovered and without structures and can be accessed by on-site workers and personnel via Hartranft Street. The Facility is fenced and secured, and the Site is not accessible to individuals other than on-site workers and personnel. While there are no on-Site surface water bodies, the Schuylkill River is located approximately 900 feet to the west.

2.2 Operational History

The Facility operated as a petroleum refinery between 1860 and 2019. The refinery ceased operations in 2019 and has since been undergoing demolition and closure activities. Multiple ASTs and associated pipelines were formerly present near the Site, and decommissioning of the ASTs and appurtenances began in May 2021. In the immediate vicinity of the Site, ASTs held primary products of crude oil. The pipeline involved in the release was used to remove water from the two ASTs that were formerly used to store crude oil.

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

2.3 Topography

Topography at the Facility is generally flat. Regional topography slopes gently to the west towards the Schuylkill River, the nearest surface water body, and to the south towards the Delaware River. The ground surface in the area of the Site is approximately 5 feet (ft) above mean sea level,² though ground surface elevations vary across the Facility.

2.4 Regional Geology and Hydrogeology

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

Much of the Facility and surrounding area is underlain by fill material, which was placed for the purpose of reclaiming lowlands along the banks of the tidal Delaware and Schuylkill Rivers during industrialization. Below the fill material, sediments consist of gray, muddy deposits with occasional sand, gravel, and organic-rich lenses. These sediments were deposited in floodplain, channel, and marsh environments through the Holocene. The most recent deposits are poorly consolidated and below the water table as a result of their relatively young geologic age and position along the Schuylkill River (tributaries and creeks). Below the Holocene deposits is Pleistocene glacial outwash, commonly referred to as the “Trenton Gravel” along the Delaware River valley. Cretaceous-age sand and clay units making up the Potomac-Raritan-Magothy aquifer system underly the Pleistocene deposits.

The sedimentary record near the Facility consists of a complex series of water-bearing sand units which can comprise one or more hydrostatic units. Previous investigations conducted at the Facility have identified two saturated zones, including an unconfined shallow groundwater unit (occurring within the Holocene and Trenton Gravel deposits) and a deep groundwater unit known as the Farrington Sand, which is part of the Potomac-Raritan-Magothy aquifer system. The deeper groundwater unit is separated by a clay unit; as such, the deeper groundwater has been classified as a semi-confined aquifer. Groundwater is first encountered generally at the Facility at a depth approximately 15 to 25 ft below ground surface (bgs).

² Philadelphia City Datum



2.5 Local Geology and Hydrogeology

Local geology is generally consistent with the regional geology described above. Investigations at the Site indicated the presence of fill³ (identified by the presence of brick and cinders) greater than 5 ft thick. The fill generally consists of brown to gray well graded gravel with clay with sand.

During previous investigations in the area, unconfined aquifer groundwater has typically been encountered at a depth of approximately 5 to 18 ft bgs.

Groundwater at the Facility has historically been interpreted to flow to the south toward the convergence of the Delaware and Schuylkill Rivers. Based on previous investigations conducted by PESRM and Evergreen in the adjacent Tank Groups and AOI, unconfined aquifer groundwater in the vicinity of the Site has been interpreted to flow to the south and southeast. Groundwater was not encountered during soil removal or remedial investigation activities.

3 Selection of Standards

This section discusses planned land and groundwater use at the Site. It also discusses the standard selected by PESRM for the Site and which Media Specific Concentrations (MSCs) have been identified as applicable based upon current and reasonably anticipated future land and groundwater use.

3.1 Land and Groundwater Use

Currently, the Facility (which includes the Site) is undergoing decommissioning, demolition, environmental investigation, and predevelopment activities. The land is zoned for Industrial Use⁴. The Site, which is generally flat, is currently uncovered and lightly vegetated.

As noted in the parcel map included in **Appendix B** and as captured in the conceptual imagery developed by Hilco Redevelopment Partners (<https://www.thebellwetherdistrict.com/>), the area encompassing the Site is being redeveloped. Current and reasonably anticipated future land use in the area of the Site is commercial/industrial. Following redevelopment, much of the area is also expected to be covered by hardscape (e.g., building pads, drive aisles, parking lots, roadways) or other features that will function as barriers to direct contact exposure. Once redevelopment plans have been finalized, in accordance with the 2012 Buyer-Seller Agreement and the 2020 First Amendment to that Agreement, additional investigation and/or evaluation of potential vapor intrusion pathways will be conducted to

³ As has been recognized by PADEP (2018), the historic use of fill in and around the Facility has resulted in the identification of certain constituents (e.g., polycyclic aromatic hydrocarbons, lead) in soil in various locations at elevated concentrations which may not be associated with releases to the environment from Facility-related activities.

⁴ <https://openmaps.phila.gov/>.

further evaluate whether conditions could pose an unacceptable risk to future building occupants such that risk management action (e.g., remediation, vapor mitigation) is warranted.

Stemming from several efforts to assess the potential for current and reasonably anticipated future use of groundwater at and in the vicinity of the Facility, Evergreen has documented no confirmed drinking water supply wells within 1 mile of the Facility. These efforts have included several well searches, field verification, and a review of the City of Philadelphia’s ordinances. In 2021, Evergreen supplemented these efforts by reviewing the City of Philadelphia’s publicly available information concerning potable drinking water intakes, contacting PADEP’s Safe Drinking Water Program, contacting the City of Philadelphia’s Health Department, contacting the City of Philadelphia Water Department, contacting the City of Philadelphia Department of Parks and Recreation, conducting updated database searches (paGWIS and eMapPA), coordinating with the PADEP to obtain information from the New Jersey Department of Environmental Protection, and providing additional documentation concerning the institutional controls at the Site which prohibit groundwater use (Evergreen 2021). As a result, groundwater on-facility and off-facility is not a current or reasonably anticipated future source of potable or nonpotable water.

3.2 Selected Standard

PESRM has selected the SHS for the Site. Based upon current and reasonably anticipated future land and groundwater use at and in the vicinity of the Site, the following MSCs and screening criteria have been used to evaluate the results of soil sampling conducted at the Site. Concentrations in soil were compared against the following MSCs:

- Non-Residential (Non-Res) Direct Contact (DC) Numeric Values for Surface Soil (0-2 ft bgs)
- Non-Res DC Numeric Values for Subsurface Soil (2-15 ft bgs)
- Non-Res Soil-to-Groundwater Numeric Values for Used Aquifers [Total Dissolved Solids \leq 2,500]

In order evaluate the sampling results to determine if constituent concentrations could represent a potential vapor intrusion source, in accordance with the *Land Recycling Program Technical Guidance Manual* (PADEP 2021), the following generic PADEP SHS vapor intrusion screening levels (VISL) were used:

- Non-Res Soil VISL⁵

⁵ As noted in Section 3.1, potential future vapor intrusion exposure will be evaluated once redevelopment plans have been finalized. Because there is no current vapor intrusion exposure in the area, the pathway is incomplete and the results of the comparison of soil concentrations to VISLs does not impact attainment of the SHS. In accordance with Sections III.E.3, IV.A, and IV.H of the *Technical Guidance Manual* (PADEP 2021), in attaining the SHS, PESRM will continue to maintain attainment of the SHS by establishing institutional controls and, as needed engineering controls, to ensure no unacceptable vapor intrusion exposure to occupants of future buildings on the property.

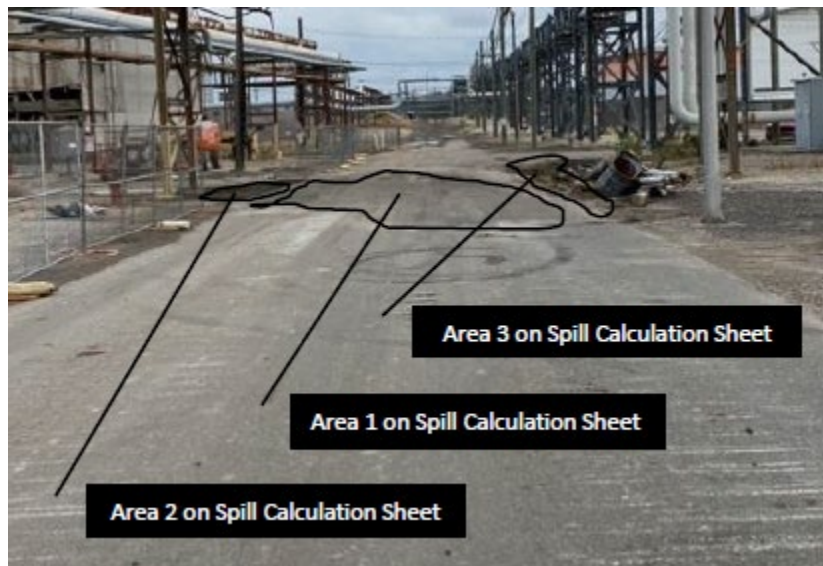


4 Release, Soil Removal, and Remedial Investigation

The following sections describe the release which occurred at the Site, the soil removal activities, and the remedial investigation.

4.1 Release and Response

The release occurred on October 11, 2021, during decommissioning activities involving the removal of overhead pipelines within a pipe rack. The pipeline that caused the release was an out of service line used to remove water from ASTs PB 840 and PB 843 which were formerly used to store crude oil. The release resulted in three separate impacted areas approximately 480, 170, and 260 ft² (**Appendix C**). In this Final Report, these areas are referred to as Area 1, Area 2, and Area 3, respectively (**Figure 2**). Within these three areas, NorthStar documented that an estimated 10-, 13-, and 10-gallons of oil mixed with water were released in Areas 1, 2, and 3, respectively. Approximately 450 gallons of recovered water were discharged to the facility's Point Breeze Industrial Wastewater Treatment Plant and the recovered oil was transferred to PB 272 for potential future sale (**Appendix C**).



Location of areas impacted by the release event (NorthStar)

NorthStar notified PESRM of the release on October 11, 2021, and conducted a prompt interim response, including product and water recovery via vacuum truck from the three areas and shallow soil excavations in Areas 2 and 3. Surficial soil (between 0.5 and 1.0 ft bgs) from Area 2 and Area 3 was removed using an excavator and screened for signs of impact from the release. Impacted soil was

identified using a photoionization detector (PID), olfactory evidence, and visual staining. Since the asphalt was in good condition with no evidence of cracks or breaches, soil located beneath the asphalt in Area 1 is not expected to have been impacted by the release. A sorbent material was placed over the impacted surfaces. The sorbent material and excavated soil were stockpiled prior to being containerized in a roll-off container and disposed of off-site. A waste characterization sample was taken from the soil located in the roll-off container before disposal. Approximately 12 to 14 cubic yards of soil were transported off-site for disposal at the Pure Soil Technologies facility in Jackson, New Jersey.

Post-excavation soil sampling was initially completed to define the nature and extent of chemicals of potential concern (COPC) in soil in and around the release area. This initial sampling included the collection of six biased confirmation samples⁶ by NorthStar on October 12, 2021, the collection of additional samples⁷ at the same six locations by Ransom Consulting, LLC on November 29, 2021, and the collection of eight samples⁸ at step-out locations by Ransom Consulting, LLC on June 2, 2023. None of the samples reported chemicals at concentrations greater than Non-Res DC or Soil-to-Groundwater MSCs; however, since the original post-excavation sample locations were not selected via a random procedure (i.e., PADEP's Systematic Random Sampling Workbook), the samples were not used for the attainment evaluation. These data are included in **Appendix D**.

Additionally, following a review of the documentation and photographs provided by NorthStar and based upon a follow-up site-walk and review with PESRM and NorthStar on September 6, 2023, the aerial extent of the release impact and excavations performed in Areas 2 and 3 were determined to ensure the proper and adequate collection of attainment samples as described in Sections 4.2 and 4.3. The documentation provided by NorthStar used to verify the aerial extent of the impact, including the estimated dimensions of area affected by the release and photos of the excavations, are included in **Appendix C**. Disposal documentation is provided in **Appendix E**. Field notes detailing the subsequent attainment sampling are provided in **Appendix F**.

4.2 Sampling Procedure

Sections 4.3.1 and 4.3.2 describe the additional post-excavation sampling performed in Areas 2 and 3 in order to demonstrate attainment of the SHS. Pursuant to 25 Pa. Code Sections 250.703(d) and 250.707(b)(1)(i), attainment sampling was performed within the excavation areas. Sampling locations were selected using PADEP's Systematic Random Sampling Workbook⁹, an Excel spreadsheet developed by PADEP to determine random sampling points within an area or volume subject to attainment evaluation. Grab soil samples were taken from the top half foot of soil from the base of the excavation or from the sidewall of the excavation at each designated location.

⁶ The samples were analyzed for a broad range of VOCs, naphthalene, polychlorinated biphenyls, and lead.

⁷ The samples were analyzed for a broad range of semi-volatile organic compounds (SVOCs).

⁸ The samples were analyzed for a broad range of VOCs, SVOCs, and lead.

⁹ Note that sample locations HSE-SB-25, HSE-SB-28, and HSE-SB-30 were adjusted in the field due to the presence of asphalt and inaccessibility of the original proposed location. The samples were collected from the first accessible locations adjacent to the asphalt roadway.



The samples were submitted for analysis of the following chemicals: benzene, cumene, ethyl benzene, toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, xylenes (total), anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, fluorene, naphthalene, phenanthrene, and pyrene. These chemicals are consistent with PADEP's Short Lists of Petroleum Products inventory (Table III-5 of the *Land Recycling Program Technical Guidance Manual* [PADEP 2021]) excluding 1,2-dibromoethane, 1,2-dichloroethane, methyl tert-butyl ether, and lead. These four chemicals were excluded from analysis as they would not be present in a release involving crude oil or water in contact with crude oil (PADEP 2014, ITRC 2018).

Soil samples submitted for analysis were placed directly into laboratory provided glassware and stored on ice in a cooler under appropriate chain of custody protocol. The soil samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and lead by United States Environmental Protection Agency (USEPA) methods 8260D, 8270E, and 6010D, respectively. Laboratory analytical services were provided by Alpha Analytical, Inc. of Westborough, Massachusetts which is a PADEP-certified laboratories. Copies of the laboratory data deliverables are included as **Appendix D**.

4.3 Soil Removal and Attainment Sampling

4.3.1 Area 2

In the release area designated as Area 2 (**Figure 3a**), 0.5 ft of surficial soil was removed during the initial soil excavation conducted by NorthStar on October 11, 2021. As discussed in Section 4.1, the area over which soil was removed was guided by PID screening, olfactory evidence, and visual observations of the extent of staining. As shown on **Figure 3a**, using PADEP's Systematic Random Sampling tool, eight post-excavation sampling locations were identified and sampled on October 5, 2023. The post-excavation soil samples were collected either from the base or sidewall of the excavation. The results of the soil sampling did not identify any chemicals in soil at concentrations greater than the applicable MSCs or VISLs (**Figure 3b**). The SHS has been attained in this area.

Analytical results from the soil sampling performed are provided in **Table 1**. Laboratory results are provided in **Appendix D** and outputs of PADEP's Systematic Random Sampling Workbook are included in **Appendix G**.

4.3.2 Area 3

In the release area designated as Area 3 (**Figure 4a**), surficial soil (between 0.5 and 1 ft bgs) was removed during the soil excavation conducted by NorthStar on October 11, 2021. Approximately, 0.5 ft of surficial soil was removed from the northern section of Area 3 (see blue outlined area) and 1 ft of surficial soil was removed from the southern section of Area 3 (see yellow outlined area). As discussed in Section 4.1, the area over which soil was removed was guided by PID screening, olfactory evidence, and visual observations of the extent of staining. As shown on **Figure 4a**, using PADEP’s Systematic Random Sampling tool, eight post-excitation sampling locations were identified and sampled on October 5, 2023. The post-excitation soil samples were collected either from the base or sidewall of the excavation. The results of the soil sampling did not identify any chemicals in soil at concentrations greater than the applicable MSCs or VISLs (**Figure 4b**). The SHS has been attained in this area.



October 2021 Excavation, Area 3 (NorthStar)

Analytical results from the soil sampling performed are provided in **Table 2**. Laboratory results are provided in **Appendix D** and outputs of PADEP’s Systematic Random Sampling Workbook are included in **Appendix G**.

4.4 Analytical Limits Evaluation

For non-detect COPC, reporting limits (RLs) were compared to the SHS MSC and SHS VISL to determine the degree to which possible elevated RLs could impact the demonstration of attainment. None of the COPC in attainment samples exhibited a maximum RL greater than any of the applicable MSCs or VISLs.

5 Ecological Screening Evaluation

The following describes the ecological screening evaluation that was performed for the Site. This evaluation was conducted in accordance with 25 Pa. Code Section 250.311 and Section II.B.2.e of the *Land Recycling Program Technical Guidance Manual* (PADEP 2021). The regulatory framework for conducting an ecological screening evaluation under the SHS is outlined in Section II.B.2(e) and summarized in the Ecological Screening Flow Chart provided in Figure II-16 of the *Land Recycling Program Technical Guidance Manual* (PADEP 2021). The key elements of the screening procedure are comprised of nine steps.



The initial screening phase of the process consists of Steps 1 and 2, as follows:

- Step 1: Presence of Light Petroleum Product Constituents; and
- Step 2: Site Size.

As indicated on Figure II-16 of the *Land Recycling Program Technical Guidance Manual* (PADEP 2021), after completion of the initial screen (Steps 1 and 2), the remediator may be able to determine that no further ecological screening is required.

Step 1: Presence of Light Petroleum Product Constituents

The first step in the ecological screening process is to determine whether the chemicals present in on-site surface soil (soil at a depth of up to 2 ft) or sediment are related only to light petroleum products (i.e., gasoline, jet fuel A, kerosene, #2 fuel oil/diesel fuel), which have relatively low polycyclic aromatic hydrocarbon content (American Society for Testing and Material [ASTM] International E1739-95¹⁰). If light petroleum product chemicals (including benzene, toluene, ethyl benzene, and xylene) are the only chemicals detected on-site, then the screening process moves to Step 9 (Final Report: No Further Ecological Evaluation Required). Although light petroleum product chemicals are present in the post-excavation soil samples, sampling results also indicate the presence of other chemicals. The screening process continues to Step 2 (Site Size).

Step 2: Site Size

The second step in the ecological screening process is determining the area of exposed and contaminated surface soil (soil at a depth of up to 2 ft) and sediment that are of potential ecological concern. The minimum areas are: 2 acres of exposed and contaminated surface soil or 1,000 ft² of contaminated sediment. If the area of the site is smaller than the specified minimum areas, then the screening process moves to Step 9 (Final Report: No Further Ecological Evaluation Required).

Because no sediment is present at the Site and the area of the impact encompassed (0.023 acres) is less than the minimum, no further ecological evaluation is required.

6 Demonstration of Attainment

This section provides a summary of the chemicals detected in soil at the Site based on the characterization activities and how the efforts to remediate soil have resulted in conditions which attain the SHS. The attainment soil samples were collected from the base and sidewalls of the excavation areas. The results of the soil sampling conducted in October 2023 did not identify any chemicals in soil at concentrations greater than the applicable MSCs. In addition, none of the chemicals in soil were detected at concentrations greater than the SHS VISLs. As such, these data demonstrate attainment of the SHS in each area affected by the release.

¹⁰ ASTM International, Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites, 2015.

As discussed in Section 4, attainment sampling conducted after soil removal activities has resulted in the attainment of SHS for each of the chemicals for which soil was analyzed. PESRM has demonstrated attainment of the SHS for the following chemicals:

Volatile Organic Compounds	Semi-Volatile Organic Compounds
<ul style="list-style-type: none">• Benzene• Cumene• Ethyl Benzene• 1,2,4-Trimethylbenzene• 1,3,5-Trimethylbenzene• Toluene• Xylenes (total)	<ul style="list-style-type: none">• Anthracene• Benzo(a)anthracene• Benzo(a)pyrene• Benzo(b)fluoranthene• Benzo(g,h,i)perylene• Chrysene• Fluorene• Naphthalene• Phenanthrene• Pyrene

7 Summary and Conclusions

Terraphase has prepared this Final Report, on behalf of PESRM, to detail the results of the RI completed, in accordance with the applicable provisions of 25 Pa. Code Section 250, at the location of a petroleum release which occurred during the removal of overhead pipelines near the Site. The pipeline that caused the release was associated with two ASTs (i.e., PB 840 and PB 843) formerly used to store crude oil. Three separate areas were impacted by the release – one area was an asphalt road surface and the other two were areas of soil immediately adjacent to the asphalt road surface. Soil excavation was conducted in the two adjacent areas as part of a prompt interim response.

The results of soil sampling, conducted on October 2023, indicate that chemical concentrations in soil remaining after the interim response activities attain the SHS. Terraphase concludes that all the requirements of the SHS have been met, and as such, PESRM qualifies for the cleanup liability protection under Act 2 for petroleum chemicals associated with the pipeline release.

8 References

Evergreen. 2021. Letter to Ms. Lisa Strobridge. *RE: PADEP Comments – Public Involvement Remedial Investigation Report*. eFACTS PF No. 780190. August 28.



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___. 2018. RE: ECB – Land Recycling Program, *Act 2 Technical Memo Summary, Sunoco Philadelphia Refinery AOI-8 Remedial Investigation Report eFACTS PF No. 749898*, 3144 Passyunk Avenue, City of Philadelphia, Philadelphia County. March 22.

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Tables

- 1 Attainment Sampling Soil Analytical Results – Area 2
- 2 Attainment Sampling Soil Analytical Results – Area 3



Table 1

Attainment Sampling Soil Analytical Results - Area 2

Hartranft Area

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Collection Depth (ft bgs) Sample Method Sample Date Comments	Non-Residential Direct Contact MSCs for Surface Soil (0-2 ft)	Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC	Non-Residential Soil Vapor Intrusion Screening Value	HSE-SB-15 Sidewall of Excavation Grab - Attainment 10/5/2023	HSE-SB-16 Base of Excavation Grab - Attainment 10/5/2023	HSE-SB-17 Base of Excavation Grab - Attainment 10/5/2023	HSE-SB-18 Base of Excavation Grab - Attainment 10/5/2023	HSE-SB-19 Base of Excavation Grab - Attainment 10/5/2023	HSE-SB-20 Base of Excavation Grab - Attainment 10/5/2023	HSE-SB-20 Base of Excavation Grab - Attainment 10/5/2023 Field Duplicate	HSE-SB-21 Base of Excavation Grab - Attainment 10/5/2023	HSE-SB-22 Base of Excavation Grab - Attainment 10/5/2023
Volatile Organic Compounds												
Benzene	280	0.5	0.13	ND (0.0006)	ND (0.00047)	ND (0.00059)	0.00038 J (0.00056)	0.00086 (0.00055)	0.00062 (0.00062)	0.00034 J (0.00059)	ND (0.00051)	0.0006 (0.00056)
Cumene	10000	2500	2500	ND (0.0012)	ND (0.00094)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.0012)	ND (0.0012)	ND (0.001)	ND (0.0011)
Ethyl Benzene	880	70	46	ND (0.0012)	ND (0.00094)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.0012)	ND (0.0012)	ND (0.001)	ND (0.0011)
Toluene	10000	100	44	ND (0.0012)	ND (0.00094)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.0012)	ND (0.0012)	ND (0.001)	ND (0.0011)
1,2,4-Trimethylbenzene	4700	300	300	ND (0.0024)	ND (0.0019)	ND (0.0024)	ND (0.0022)	ND (0.0022)	ND (0.0025)	ND (0.0024)	ND (0.002)	ND (0.0022)
1,3,5-Trimethylbenzene	4700	93	93	ND (0.0024)	ND (0.0019)	ND (0.0024)	ND (0.0022)	ND (0.0022)	ND (0.0025)	ND (0.0024)	ND (0.002)	ND (0.0022)
Xylenes (total)	7900	1000	990	ND (0.0012)	ND (0.00094)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.0012)	ND (0.0012)	ND (0.001)	ND (0.0011)
Semivolatile Organic Compounds												
Anthracene	190000	350	--	0.1 J (0.12)	0.048 J (0.11)	0.074 J (0.13)	0.091 J (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)
Benzo(a)anthracene	130	340	--	0.31 (0.12)	0.16 (0.11)	0.31 (0.13)	0.31 (0.11)	0.071 J (0.11)	0.091 J (0.11)	0.087 J (0.11)	0.11 (0.11)	0.075 J (0.11)
Benzo(a)pyrene	91	46	--	0.39 (0.15)	0.19 (0.15)	0.44 (0.17)	0.37 (0.15)	0.1 J (0.15)	0.12 J (0.15)	0.12 J (0.15)	0.13 J (0.14)	0.086 J (0.14)
Benzo(b)fluoranthene	76	170	--	0.41 (0.12)	0.23 (0.11)	0.47 (0.13)	0.42 (0.11)	0.11 (0.11)	0.13 (0.11)	0.13 (0.11)	0.15 (0.11)	0.11 (0.11)
Benzo(g,h,i)perylene	190000	180	--	0.34 (0.15)	0.19 (0.15)	0.49 (0.17)	0.32 (0.15)	0.11 J (0.15)	0.12 J (0.15)	0.12 J (0.15)	0.13 J (0.14)	0.086 J (0.14)
Chrysene	760	230	--	0.35 (0.12)	0.21 (0.11)	0.4 (0.13)	0.35 (0.11)	0.081 J (0.11)	0.11 (0.11)	0.094 J (0.11)	0.13 (0.11)	0.086 J (0.11)
Fluorene	130000	3800	--	0.046 J (0.19)	0.021 J (0.18)	0.028 J (0.22)	0.033 J (0.18)	ND (0.19)	0.035 J (0.19)	ND (0.18)	ND (0.18)	ND (0.18)
Naphthalene	66	25	25	0.19 (0.038)	0.11 (0.037)	0.1 (0.043)	0.12 (0.036)	0.25 (0.038)	0.35 (0.038)	0.19 (0.036)	0.042 (0.036)	0.19 (0.036)
Phenanthrene	190000	10000	--	0.38 (0.12)	0.19 (0.11)	0.36 (0.13)	0.33 (0.11)	0.095 J (0.11)	0.18 (0.11)	0.1 J (0.11)	0.1 J (0.11)	0.07 J (0.11)
Pyrene	96000	2200	--	0.32 (0.12)	0.23 (0.11)	0.38 (0.13)	0.42 (0.11)	0.091 J (0.11)	0.12 (0.11)	0.1 J (0.11)	0.16 (0.11)	0.095 J (0.11)

Notes:

- 1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
- 2 No concentrations exceed the Non-Residential Direct Contact MSCs for Surface Soil (0-2 ft).
- 3 No concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC.
- 4 No concentrations exceed the Non-Residential Soil Vapor Intrusion Screening Value.

Abbreviations:

- ND - Not Detected
- J - Estimated Concentration

Table 2

Attainment Sampling Soil Analytical Results - Area 3

Hartranft Area

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Collection Depth (ft bgs) Sample Method Sample Date Comments	Non-Residential Direct Contact MSCs for Surface Soil (0-2 ft)	Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC	Non-Residential Soil Vapor Intrusion Screening Value	HSE-SB-23 Sidewall of Excavation Grab - Attainment 10/5/2023	HSE-SB-24 Base of Excavation Grab - Attainment 10/5/2023	HSE-SB-25 Base of Excavation Grab - Attainment 10/5/2023	HSE-SB-26 Base of Excavation Grab - Attainment 10/5/2023	HSE-SB-27 Base of Excavation Grab - Attainment 10/5/2023	HSE-SB-28 Base of Excavation Grab - Attainment 10/5/2023	HSE-SB-29 Sidewall of Excavation Grab - Attainment 10/5/2023	HSE-SB-30 Sidewall of Excavation Grab - Attainment 10/5/2023
Volatile Organic Compounds											
Benzene	280	0.5	0.13	ND (0.00051)	ND (0.00045)	0.00021 J (0.00045)	0.017 J (0.029)	0.00029 J (0.00046)	ND (0.00047)	ND (0.00043)	0.00021 J (0.00051)
Cumene	10000	2500	2500	ND (0.001)	0.00018 J (0.0009)	ND (0.0009)	0.21 (0.057)	0.0017 (0.00091)	ND (0.00095)	0.00012 J (0.00086)	ND (0.001)
Ethyl Benzene	880	70	46	ND (0.001)	ND (0.0009)	ND (0.0009)	0.13 (0.057)	0.00076 J (0.00091)	ND (0.00095)	ND (0.00086)	ND (0.001)
Toluene	10000	100	44	ND (0.001)	ND (0.0009)	ND (0.0009)	ND (0.057)	ND (0.00091)	ND (0.00095)	ND (0.00086)	ND (0.001)
1,2,4-Trimethylbenzene	4700	300	300	ND (0.002)	ND (0.0018)	ND (0.0018)	3 (0.11)	0.024 (0.0018)	ND (0.0019)	0.0011 J (0.0017)	ND (0.002)
1,3,5-Trimethylbenzene	4700	93	93	ND (0.002)	ND (0.0018)	ND (0.0018)	1.2 (0.11)	0.017 (0.0018)	ND (0.0019)	0.0034 (0.0017)	ND (0.002)
Xylenes (total)	7900	1000	990	ND (0.001)	ND (0.0009)	ND (0.0009)	0.82 (0.057)	0.013 (0.00091)	ND (0.00095)	0.00056 J (0.00086)	ND (0.001)
Semivolatile Organic Compounds											
Anthracene	190000	350	--	ND (0.12)	ND (0.12)	ND (0.12)	0.057 J (0.11)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.12)
Benzo(a)anthracene	130	340	--	0.079 J (0.12)	0.12 (0.12)	0.088 J (0.12)	0.22 (0.11)	0.14 (0.11)	0.1 J (0.12)	0.07 J (0.11)	0.056 J (0.12)
Benzo(a)pyrene	91	46	--	0.11 J (0.16)	0.17 (0.16)	0.096 J (0.16)	0.29 (0.15)	0.17 (0.14)	0.11 J (0.16)	0.094 J (0.15)	0.064 J (0.16)
Benzo(b)fluoranthene	76	170	--	0.14 (0.12)	0.21 (0.12)	0.094 J (0.12)	0.34 (0.11)	0.2 (0.11)	0.13 (0.12)	0.11 (0.11)	0.085 J (0.12)
Benzo(g,h,i)perylene	190000	180	--	0.076 J (0.16)	0.11 J (0.16)	0.061 J (0.16)	0.19 (0.15)	0.11 J (0.14)	0.077 J (0.16)	0.082 J (0.15)	0.056 J (0.16)
Chrysene	760	230	--	0.096 J (0.12)	0.12 (0.12)	0.095 J (0.12)	0.24 (0.11)	0.15 (0.11)	0.12 (0.12)	0.085 J (0.11)	0.071 J (0.12)
Fluorene	130000	3800	--	ND (0.2)	ND (0.2)	ND (0.2)	0.034 J (0.19)	0.018 J (0.18)	ND (0.19)	ND (0.19)	0.045 J (0.2)
Naphthalene	66	25	25	0.19 (0.04)	0.053 (0.04)	0.026 J (0.04)	0.1 (0.038)	0.048 (0.036)	0.03 J (0.039)	0.043 (0.038)	0.045 (0.041)
Phenanthrene	190000	10000	--	0.053 J (0.12)	0.097 J (0.12)	0.083 J (0.12)	0.21 (0.11)	0.13 (0.11)	0.11 J (0.12)	0.079 J (0.11)	0.1 J (0.12)
Pyrene	96000	2200	--	0.048 J (0.12)	0.14 (0.12)	0.13 (0.12)	0.29 (0.11)	0.19 (0.11)	0.16 (0.12)	0.1 J (0.11)	0.089 J (0.12)

Notes:

- 1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
- 2 No concentrations exceed the Non-Residential Direct Contact MSCs for Surface Soil (0-2 ft).
- 3 No concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC.
- 4 No concentrations exceed the Non-Residential Soil Vapor Intrusion Screening Value.

Abbreviations:

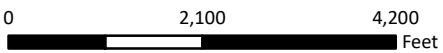
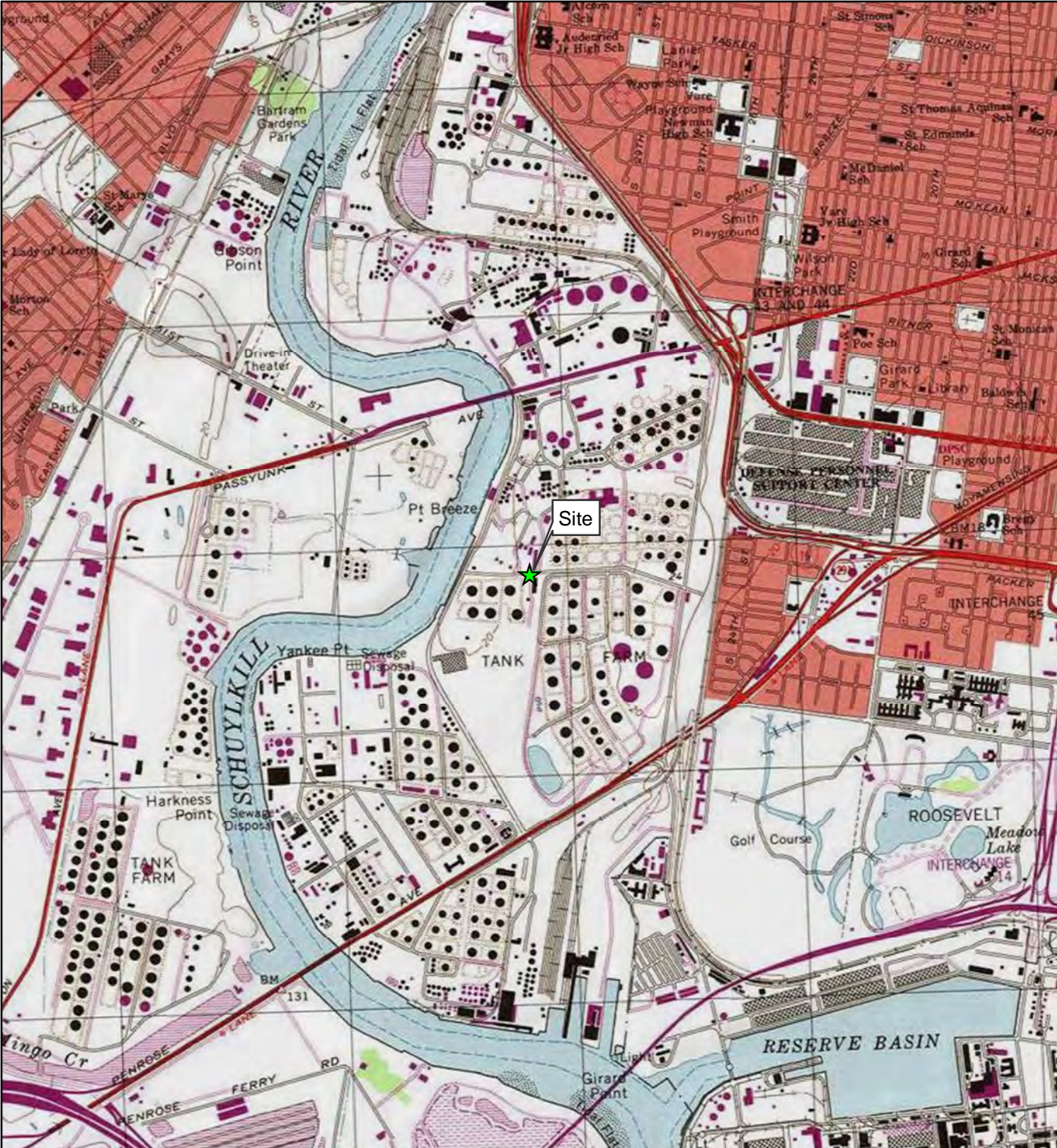
- ND - Not Detected
- J - Estimated Concentration

Figures

- 1 Site Location Map
- 2 Site Layout
- 3a Proposed Attainment Sampling Soil Sampling Locations – Area 2
- 3b Attainment Sampling Soil Sampling Results – Area 2
- 4a Proposed Attainment Sampling Soil Sampling Locations – Area 3
- 4b Attainment Sampling Soil Sampling Results – Area 3



File: N:\GIS\Prj\044_001_PESRM-PE\WMDs\Pipeline Release - 860 Unit Hartrant\ForRIR\Figure 1 - Site Location Map.mxd 10/23/2023 Created by: Mia Coordinate System: NAD_1983_StatePlane_Pennsylvania_South_FIPS_3702_Feet



1 inch = 2,083 feet



Legend

★ Site Location

Base Map: USGS Philadelphia (1995) 7.5 Minute Quadrangle.

SAFETY FIRST



CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

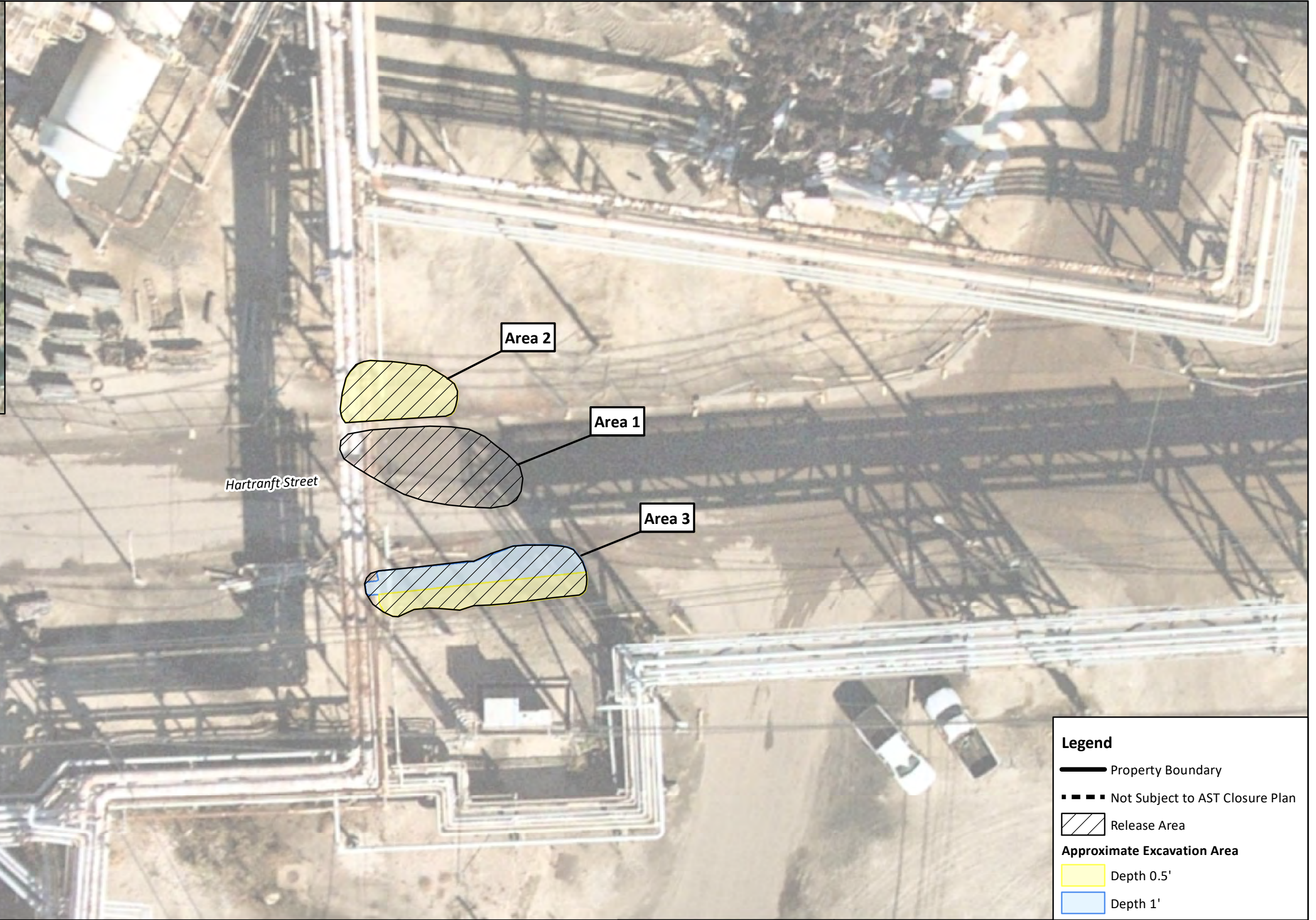
PROJECT: Pipeline Release at 860 Unit Cooling Tower

PROJECT NUMBER: P044.001.004

Site Location Map

FIGURE 1

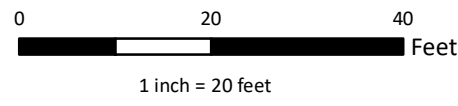
File: N:\GIS\PI\P044.001_PESRM-PES\XDS\Pipeline Release - 860 Unit Hartranft\Figure 2 - Site Layout.mxd 11/1/2023 Created by: MLC Checked by: RKW Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet



Legend	
	Property Boundary
	Not Subject to AST Closure Plan
	Release Area
Approximate Excavation Area	
	Depth 0.5'
	Depth 1'

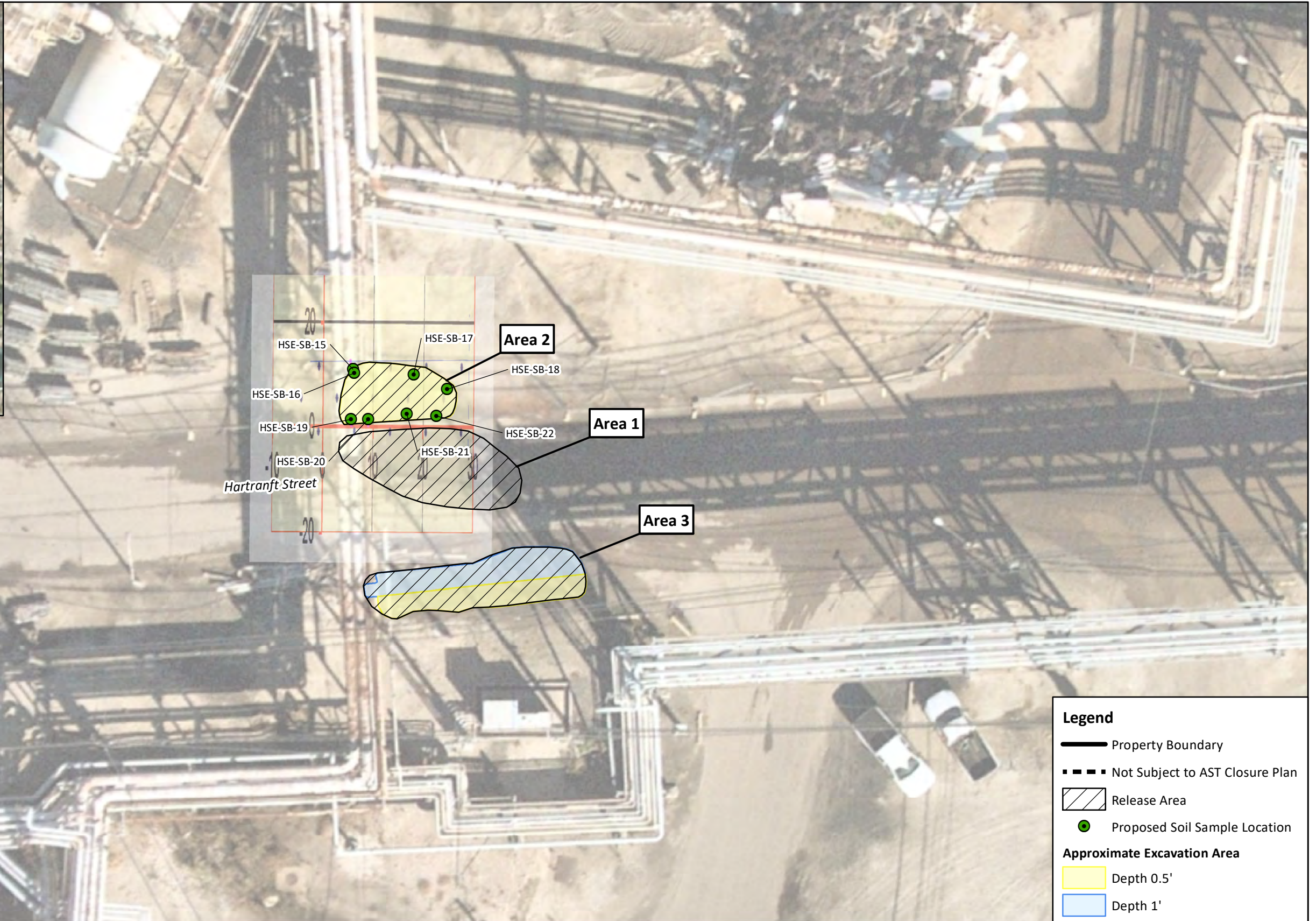
Notes:

1. Aerial imagery source NearMap October 14, 2021.
2. Since the release in Area 1 occurred on an impermeable roadway, there was no impact to soil and soil excavation was not completed in the area.

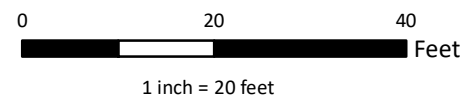


<p>SAFETY FIRST</p>	CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC	<p>Site Layout</p> <p>Figure 2</p>
	PROJECT: Pipeline Release at 860 Unit Cooling Tower	
PROJECT NUMBER: P044.001.004		

File: N:\GIS\PI\P044.001_PESRM-PES\XDS\Pipeline Release - 860 Unit Hartranft\ForRIR\Figure 3a - Proposed Attainment Sampling Locations - Area 2.mxd 11/1/2023 Created by: MLC Checked by: RWK Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

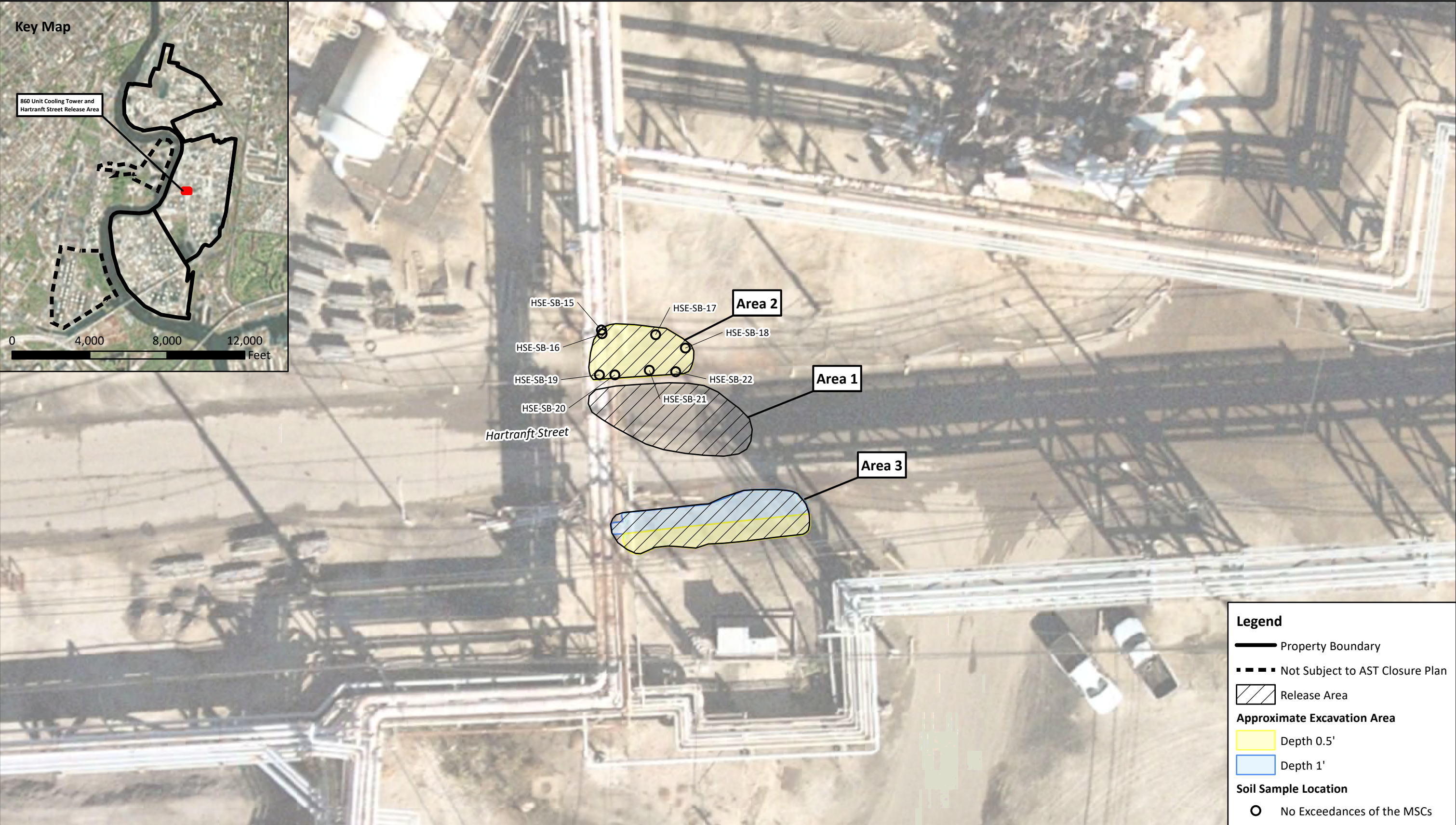


Notes:
 1. Aerial imagery source NearMap October 14, 2021.
 2. Since the release in Area 1 occurred on an impermeable roadway, there was no impact to soil and soil excavation was not completed in the area.

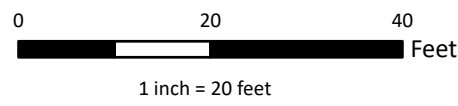


SAFETY FIRST 	CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC	Proposed Attainment Sampling Soil Sampling Locations Area 2 Figure 3a
	PROJECT: Pipeline Release at 860 Unit Cooling Tower	
PROJECT NUMBER: P044.001.004		

File: \\192.168.1.6\GIS\GIS\PR\044.001_PESRM\PE\WXD\A Pipeline Release - 860 Unit Hartranft\ForRIR\Figure 3b - Attainment Sampling Soil Sampling Results - Area 2.mxd 11/2/2023 Created by: MLC Checked by: RKW Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

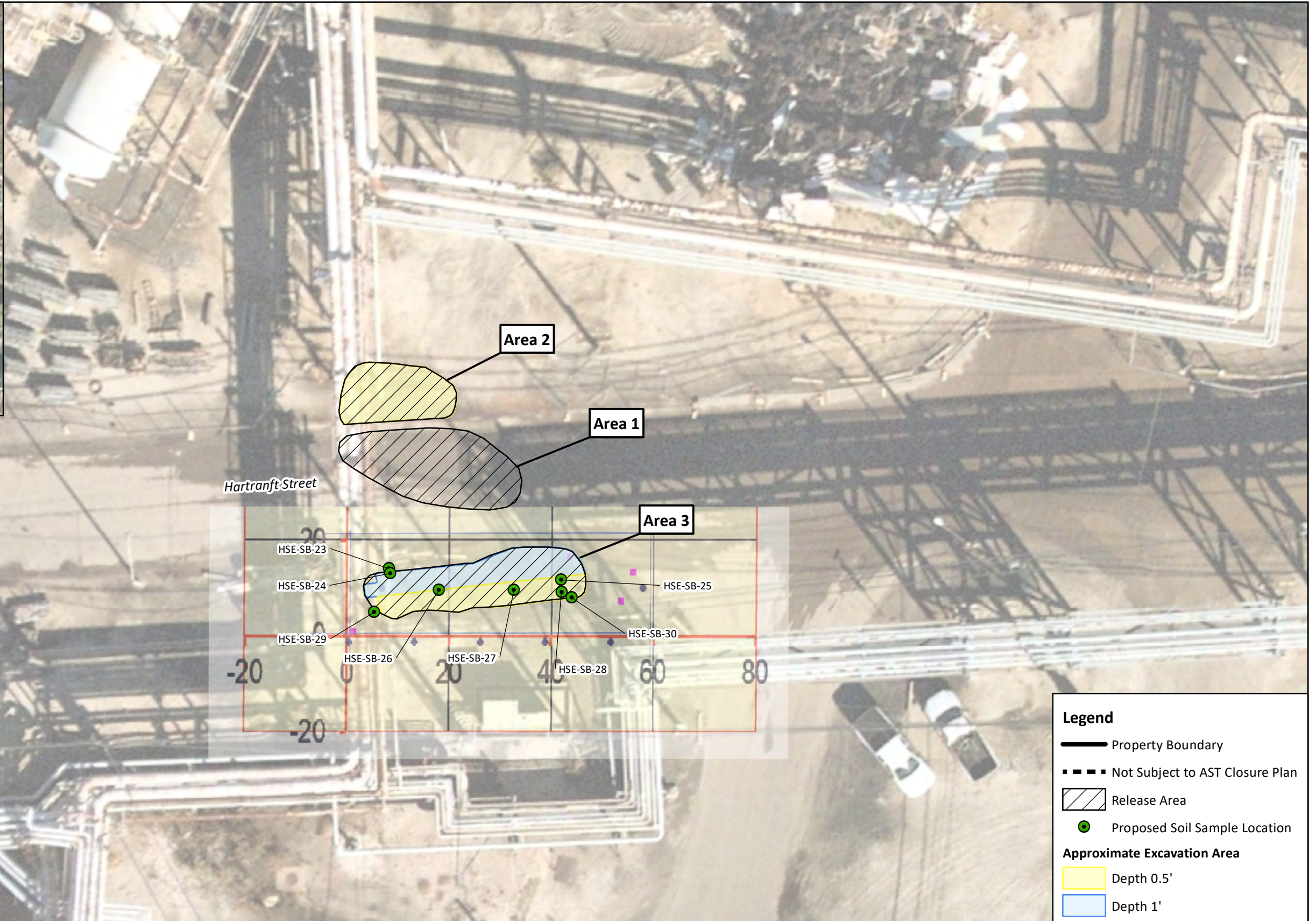


Notes:
 1. Aerial imagery source NearMap October 14, 2021.
 2. Since the release in Area 1 occurred on an impermeable roadway, there was no impact to soil and soil excavation was not completed in the area.



SAFETY FIRST 	CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC	Attainment Sampling Soil Sampling Results Area 2 Figure 3b
	PROJECT: Pipeline Release at 860 Unit Cooling Tower	
PROJECT NUMBER: P044.001.004		

File: N:\GIS\PI\P044.001_PESRM-PES\WXDS\Pipeline Release - 860 Unit Hartrant\ForRIR\Figure 4a - Proposed Attainment Sampling Locations - Area 3.mxd 11/1/2023 Created by: MLC Checked by: RWL Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet



Legend

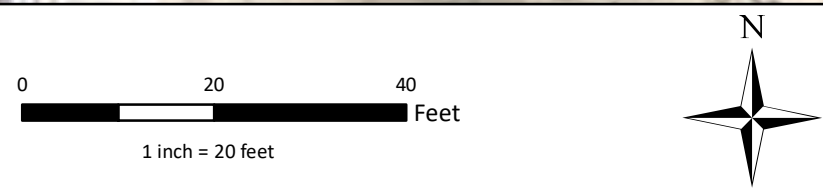
- Property Boundary
- Not Subject to AST Closure Plan
- Release Area
- Proposed Soil Sample Location

Approximate Excavation Area

- Depth 0.5'
- Depth 1'

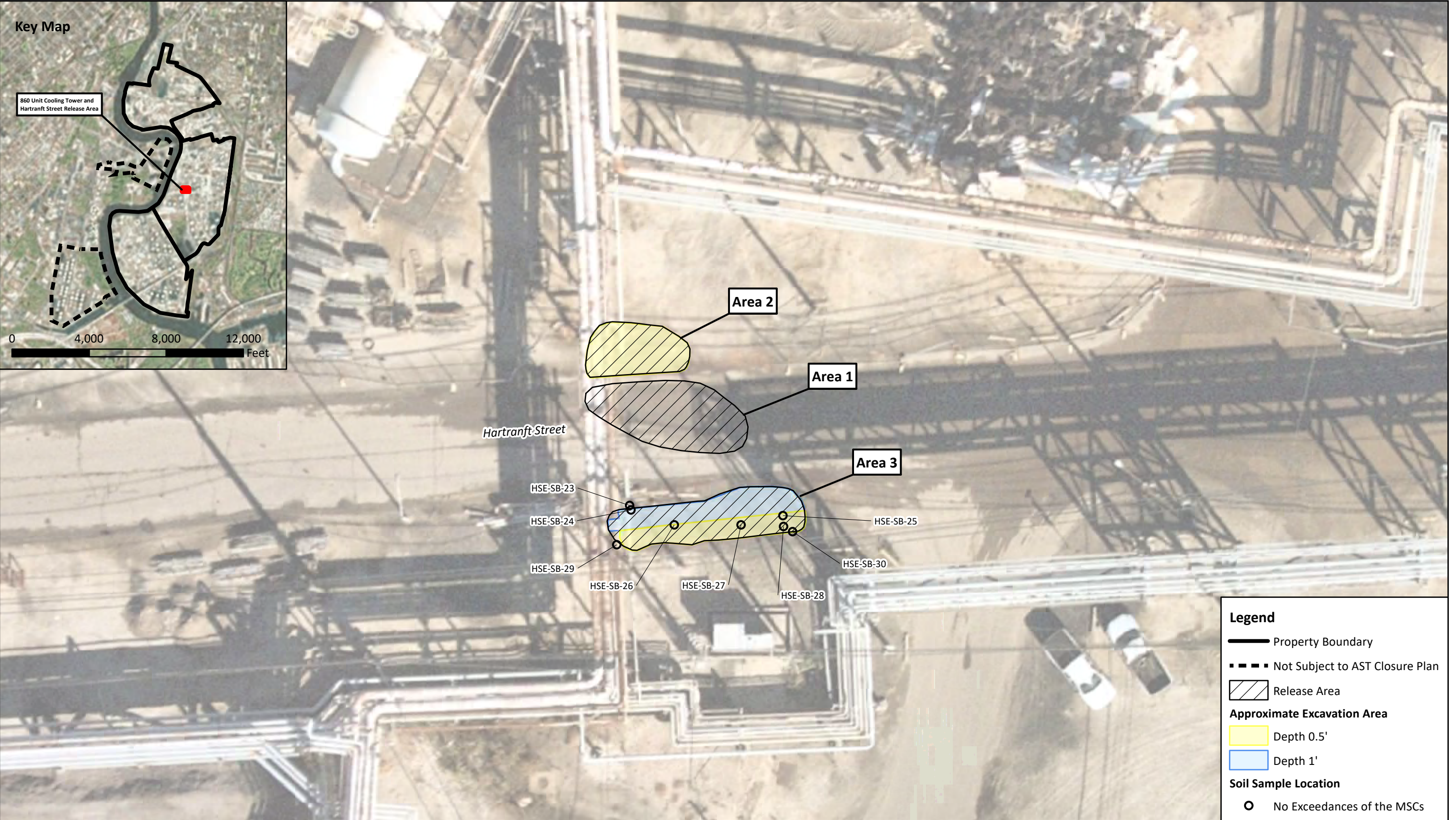
Notes:

1. Aerial imagery source NearMap October 14, 2021.
2. Since the release in Area 1 occurred on an impermeable roadway, there was no impact to soil and soil excavation was not completed in the area.



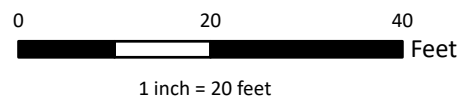
 	CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC	Proposed Attainment Sampling Soil Sampling Locations Area 3 Figure 4a
	PROJECT: Pipeline Release at 860 Unit Cooling Tower	
	PROJECT NUMBER: P044.001.004	

File: \\192.168.1.6\GIS\GIS\PA\044.001_PESRM\PE\WXD\A Pipeline Release - 860 Unit Hartranft\ForRIR\Figure 4b - Attainment Sampling Soil Sampling Results - Area 3.mxd 11/2/2023 Created by: MLC Checked by: RKW Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet



Notes:

1. Aerial imagery source NearMap October 14, 2021.
2. Since the release in Area 1 occurred on an impermeable roadway, there was no impact to soil and soil excavation was not completed in the area.



	CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC	Attainment Sampling Soil Sampling Results Area 3
	PROJECT: Pipeline Release at 860 Unit Cooling Tower	
PROJECT NUMBER: P044.001.004	Figure 4b	

Appendix A

Notice of Intent to Remediate and Final Report Submittal
Notification Documentation





March 1, 2022

Ms. Leigh Anne Rainford
Philadelphia Department of Public Health
Environmental Health Services
321 University Avenue – 2nd Floor
Philadelphia, PA 19104

sent via UPS, Proof of Delivery Requested

**Subject: Notice of Intent to Remediate
860 Unit Cooling Tower and Hartranft Street – Point Breeze South Yard
Former Philadelphia Energy Solutions Refinery
3144 Passyunk Avenue
Philadelphia, PA 19153**

Dear Ms. Rainford:

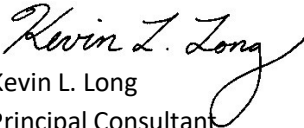
The Land Recycling and Environmental Remediation Standards Act (Act 2) requires that a Notice of Intent to Remediate (NIR) be provided to the municipality in which the site is located. In accordance with this provision of Act 2, Terraphase Engineering, Inc. (Terraphase), on behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), is formally notifying you of PESRM's intent to remediate the above-referenced site to the non-residential Statewide Health Standard. A copy of the Notice of Intent to Remediate, which will be sent to the Department of Environmental Protection (DEP), is enclosed. This notice will also be published in the Pennsylvania Bulletin, and a summary of the notice will be placed in a local newspaper.

Notice is hereby given that Terraphase, on behalf of PESRM, will submit a final report to the Department of Environmental Protection for the site known as the Former Philadelphia Energy Solutions Refinery located at 3144 Passyunk Avenue, Philadelphia, Pennsylvania. The report indicates that the remediation performed has attained compliance with the statewide health cleanup standard.

This notice is made under the provision of the Land Recycling and Environmental Standards Act, the Act of May 19, 1995, P.L. 4, No. 2. Should you have any questions or comments regarding the proposed remediation, please contact me at kevin.long@terraphase.com or 609-236-8171, ext. 93.

Sincerely,

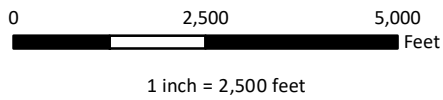
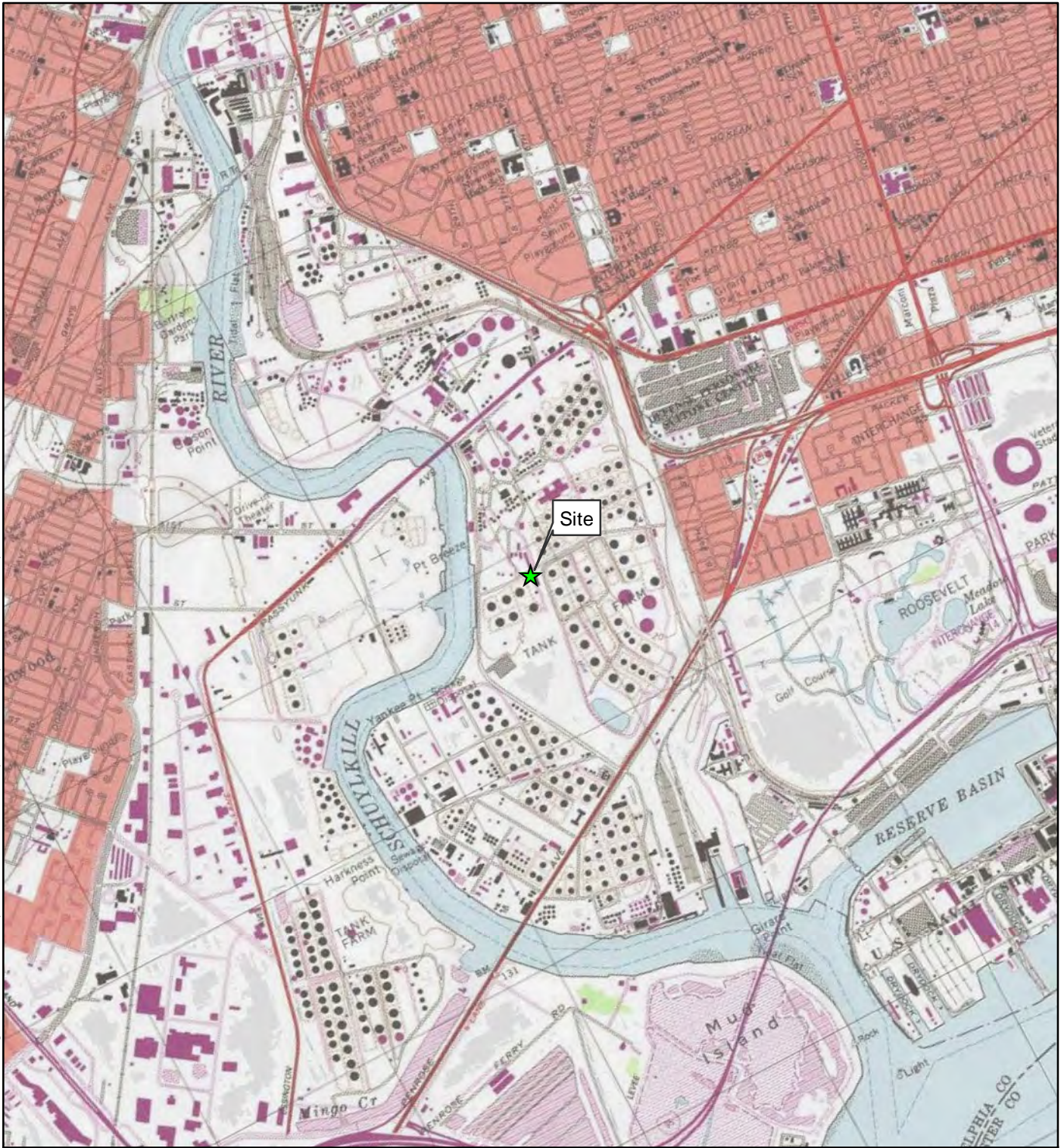
for Terraphase Engineering Inc.


Kevin L. Long
Principal Consultant

Enclosure: Notice of Intent to Remediate

KL:cs

cc: Julianna Connolly (jconnolly@hilcoglobal.com)
Joseph Jeray (ijeray@hilcoglobal.com)



Legend

★ Site Location

Base Map: USGS Philadelphia (1995) 7.5 Minute Quadrangle.

SAFETY FIRST



CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Pipeline Release at 860 Unit Cooling Tower

PROJECT NUMBER: P044.001.004

Site Location Map

FIGURE 1

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z75YA673094272907

Weight

0.50 LBS

Service

UPS Next Day Air Saver®

Shipped / Billed On

03/01/2022

Delivered On

03/02/2022 10:14 A.M.

Delivered To

PHILADELPHIA, PA, US

Received By

CD MONROE

Left At

Office

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 03/02/2022 11:10 A.M. EST

NOTICE OF INTENT TO REMEDIATE

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).

Property Name 860 Unit Cooling Tower and Hartranft Street – Point Breeze South Yard

Former Name(s) / AKA Former Philadelphia Energy Solutions Refinery

Address / Location 3144 Passyunk Avenue

City Philadelphia Zip Code 19153

Municipality(s) Philadelphia County(ies) Philadelphia County

Latitude 39 ° (deg). 54 ' (min) 44.037 " (sec) Longitude 75 ° (deg). 12 ' (min) 1.219 " (sec)

Horizontal Collection Method GIS

Horizontal Reference Datum NAD83 Reference Point see Figure 1 attached

Wish to participate in the DEP/EPA MOA. Contact the Land Recycling Program Manager at landrecycling@pa.gov for details.

EPA ID#, if known _____

DEP ID#(s), if known 51-33620

(i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)

Date Release Occurred (if known) October 11, 2021

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

A petroleum release occurred during the removal of overhead pipelines within the pipe rack located near the 860 Unit Cooling Tower and Hartranft Street. The pipeline that caused the release was an out of service line used to remove water from two aboveground storage tanks (ASTs) in the Point Breeze South Yard (i.e., PB 840 and PB843). Both ASTs were formerly used to store crude oil. The total area of the release was approximately 1,600 square feet, 1,200 square feet of which is comprised of an asphalt roadway. The remaining 400 square feet of the release occurred on soil where approximately 12 to 14 cubic yards of soil were removed and containerized in a roll-off container and disposed of off-site. The future use of the property is expected to be non-residential.

Provide a general description of proposed remediation measures.

A prompt interim response, including removal of 12 to 14 cubic yards of soil, was conducted immediately following discovery of the release. The soil was staged in a roll-off container and transported to Pure Soil Technologies in Jackson, NJ for recycling. Post excavation sampling has revealed no exceedances of the non-residential Statewide Health Standard.

Remediation Standard(s) planned (if known at this time):

- | | | |
|-------------------------------------------------------------------------------------------------------------|------------------------------------------|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Background Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Statewide Health - Residential Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health – Non-Residential Contaminants: petroleum constituents | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Site Specific Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Special Industrial Area* Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator		
Contact Person/Title <u>Anne Garr / Assistant Secretary</u>	eFACTS Client ID* _____	Facility No. <u>51-33620</u>
Relationship to Site <u>Owner</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>	
Phone Number <u>(312) 283-4469</u>	Email Address <u>agarr@hilcoglobal.com</u>	
Company Name <u>Philadelphia Energy Solutions Refining and Marketing LLC</u>	EIN or Federal ID # _____	
Address (street, city, state, zip) <u>111 S Wacker Dr, Suite 3000, Chicago, IL, 60606</u>		

Property Owner		
Contact Person/Title <u>Anne Garr / Assistant Secretary</u>	eFACTS Client ID* _____	Facility No. <u>51-33620</u>
Relationship to Site <u>Owner</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>	
Phone Number <u>(312) 283-4469</u>	Email Address <u>agarr@hilcoglobal.com</u>	
Company Name <u>Philadelphia Energy Solutions Refining and Marketing LLC</u>	EIN or Federal ID # _____	
Address (street, city, state, zip) <u>111 S Wacker Dr, Suite 3000, Chicago, IL, 60606</u>		

Consultant		
Contact Person/Title <u>Kevin Long / Principal Consultant</u>	eFACTS Client ID* _____	
Relationship to Site <u>Consultant</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Corporation</u>	
Phone Number <u>609-236-8171, ext 93</u>	Email Address <u>kevin.long@terrphase.com</u>	
Company Name <u>Terraphase Engineering Inc.</u>	EIN or Federal ID # <u>27-3543127</u>	
Address (street, city, state, zip) <u>100 Canal Pointe Blvd, Suite 108, Princeton, NJ 08540</u>		

*Include eFACTS Client ID (if known) – “Client Types” below:

- | | | |
|--------------------------|-------------------------------|---------------------|
| Association/Organization | Limited Liability company | Partnership-General |
| Authority | Limited Liability Partnership | Partnership-Limited |
| County | Municipality | School District |
| Estate/Trust | Non-Pennsylvania Government | Sole Proprietorship |
| Federal Agency | Other (Non-Government) | State Agency |
| Individual | Pennsylvania Corporation | |

Preparer of Notice of Intent to Remediate		
Name <u>Kevin Long / Principal Consultant</u>	Title <u>Principal Consultant</u>	
Phone Number <u>609-236-8171, ext 93</u>	Email Address <u>kevin.long@terrphase.com</u>	
Company Name <u>Terraphase Engineering Inc.</u>	eFACTS Client ID _____	

Address (street, city, state, zip) 100 Canal Pointe Blvd, Suite 108, Princeton, NJ 08540

**Notice of an Intent
to Remediate to an Environmental Standard
and Notification of Receipt of a Final Report (for Statewide health standard).
(Sections 302(e)(1)(ii), Sections 302(e)(2),
303(h)(1)(ii), 303(h)(2),
304(n)(1)(i), and 305(c)(1))**

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1995, P.L. 4, No. 1995-2., notice is hereby given that Philadelphia Energy Solutions Refining and Marketing LLC will submit to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 3144 Passyunk Avenue, Philadelphia. This Notice of Intent to Remediate states that the site is the Former Philadelphia Energy Solutions Refinery. The site has been found to be contaminated with petroleum constituents which has contaminated soil on the Site. Philadelphia Energy Solutions Refining and Marketing LLC has indicated the proposed remediation measures will consist of soil excavation and disposal. The proposed future use of the property will be non-residential for commercial/industrial use.

Notice is hereby given that Philadelphia Energy Solutions Refining and Marketing LLC will submit a final report to the Pennsylvania Department of Environmental Protection, Southeast Regional Office, to demonstrate attainment of the Statewide health standard for a site located at located at 3144 Passyunk Avenue, Philadelphia, Pennsylvania. Philadelphia Energy Solutions Refining and Marketing LLC has indicated that the remediation measures taken have attained compliance with the Statewide health clean up standard established under the Land Recycling and Environmental Remediation Standards Act.

This notice is made under the provision of the Land Recycling and Environmental Remediation Standards Act, the Act of May 19, 1995, P.L. #4, No. 2.

The Philadelphia Inquirer

801 MARKET STREET, SUITE 300, PHILADELPHIA, PA 19107

Affidavit of Publication

On Behalf of:
TERRAPHASE ENGINEERING
1100 E HECTOR ST
SUITE 416
CONSHOHOCKEN, PA 19428

STATE OF PENNSYLVANIA COUNTY OF PHILADELPHIA:

Before the undersigned authority personally appeared the undersigned who, on oath represented a and say: that I am an employee of The Philadelphia Inquirer, LLC, and am authorized to make this affidavit of publication, and being duly sworn, I depose and say:

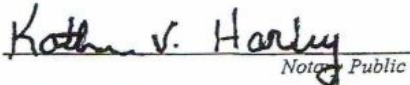
1. The Philadelphia Inquirer, LLC is the publisher of the Philadelphia Daily News, with its headquarters at 801 Market Street, Suite 300, Philadelphia, Pennsylvania 19107.
2. The Philadelphia Daily News is an edition of The Philadelphia Inquirer. The Philadelphia Daily News is continuously published and distributed Sunday-Friday in the City of Philadelphia, count and state aforesaid.
3. The printed notice or publication attached hereto set forth on attached hereto was published in all regular print editions of the Philadelphia Daily News on

Legal Notices

as published in Daily News Legals in the issue(s) of:

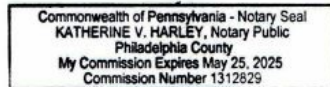
3/4/2022

4. Under oath, I state that the following is true and correct, and that neither I nor The Philadelphia Inquirer, LLC have any interest in the subject matter of the aforesaid notice or advertisement.



Notary Public

My Commission Expires:



Ad No: 98349
Customer No: 104799

COPY OF ADVERTISEMENT

Notice of an Intent to Remediate to an Environmental Standard and Notification of Receipt of a Final Report (for Statewide health standard). (Sections 302(e)(1)(ii), Sections 302(e)(2), 303(h)(1)(ii), 303(h)(2), 304(n)(1)(i), and 305(c)(1))

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1995, P.L. 4, No. 1995-2., notice is hereby given that Philadelphia Energy Solutions Refining and Marketing LLC will submit to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 3144 Passyunk Avenue, Philadelphia. This Notice of Intent to Remediate states that the site is the Former Philadelphia Energy Solutions Refinery. The site has been found to be contaminated with petroleum constituents which has contaminated soil on the Site. Philadelphia Energy Solutions Refining and Marketing LLC has indicated the proposed remediation measures will consist of soil excavation and disposal. The proposed future use of the property will be non-residential for commercial/industrial use. Notice is hereby given that Philadelphia Energy Solutions Refining and Marketing LLC will submit a final report to the Pennsylvania Department of Environmental Protection, Southeast Regional Office, to demonstrate attainment of the Statewide health standard for a site located at located at 3144 Passyunk Avenue, Philadelphia, Pennsylvania. Philadelphia Energy Solutions Refining and Marketing LLC has indicated that the remediation measures taken have attained compliance with the Statewide health clean up standard established under the Land Recycling and Environmental Remediation Standards Act. This notice is made under the provision of the Land Recycling and Environmental Remediation Standards Act, the Act of May 19, 1995, P.L. #4, No. 2.

FINAL REPORT SUMMARY

The Final Report Summary (FRS) is a brief report consisting of set of data required in addition to the Act 2 Final Report. The summary is used in part as a reference to the Final Report Approval Letter which conveys liability relief to the remediator and other applicable persons. It is of value long after the remediation to be used by the public and Department in understanding key information about the site and remediation.

This use is increased by the fact that it will ultimately be merged into the Department's eFACTS system, which allows the public to have the ease of computer access to environmental information at sites. For more information, see www.ahs.dep.pa.gov/eFACTSWeb/default.aspx. Finally, the summary will be used by the Department to help to better assess the status and the level of success of the program. In the past, numbers of sites remediated has been tracked. With the inclusion of this summary information, progress can be tracked in many specific ways, including identification of individual chemical constituents, and the mass treated, removed or managed safely in place.

Identification

Property Name 860 Unit Cooling Tower and Hartranft Street - Point Breeze South Yard

Property Descriptor Former Philadelphia Engergy Solutions Refinery

Address / Location

Address 3144 West Passyunk Ave

City Philadelphia Zip Code 19153

Municipality(s) _____ County(ies) Philadelphia County

Latitude 39 ° (deg). 54 ' (min) 44.037 " (sec) Longitude 75 ° (deg). 12 ' (min) 1.219 " (sec)

Horizontal Collection Method GIS

Horizontal Reference Datum NAD83 Reference Point See Figure 1 attached

Property Specifics

Size of Property 1,300-acre Number of Sites 1

Combined acreage of sites 0.037 acres

Remediation

Standards attained or special industrial area attainment. (Check all that apply. Can use multiple.)

Background Statewide Health Site-Specific Special Industrial Area

Proposed future property use - scenario for which the attainment of Statewide Health standard is demonstrated

Residential Non-residential

List of contaminants

Soils

Chemical Name	CAS Number	Mass Contaminant Treated or Removed (lbs.)	Mass Contaminant Managed on Site (lbs.)
Cumene	98-82-8	2.38E-02	
Ethyl Benzene	100-41-4	1.71E-03	
Naphthalene	91-20-3	1.95E-02	
1,2,4-Trimethylbenzene	95-63-6	7.62E-02	
1,3,5-Trimethylbenzene	108-67-8	2.90E-02	
Xylenes (Total)	1330-20-7	1.57E-02	
Anthracene	120-12-7	1.90E-01	
Benzo(a)anthracene	56-55-3	3.57E-01	
Benzo(a)pyrene	50-32-8	3.38E-01	
Benzo(b)fluoranthene	205-99-2	4.57E-01	

Groundwater

Chemical Name	CAS Number	Mass Contaminant Treated or Removed (lbs.)	Mass Contaminant Managed on Site (lbs.)
Soils Continued - Benzo(g,h,i)perylene	191-24-2	2.05E-01	
Chrysene	218-01-9	3.57E-01	
Fluorene	86-73-7	2.52E-01	
Phenanthrene	85-01-8	5.71E-01	
Pyrene	129-00-0	6.66E-01	

Remediation

Number of sampling rounds for groundwater attainment: NA

Special Features

Non-use aquifer approval date: NA

Area-wide background approval date: NA

Amount of waste removed other than soil or groundwater (cubic yards): NA

Municipal ordinance prohibiting groundwater use:

Post remediation care plan:

Other Programs

- Key Site
- Multi-site Agreement; Date: _____
- Enterprise Zone
- Keystone Opportunity Zone

Administrative

- Municipality request for public involvement plan

Deed notification

- Deed acknowledgment:

- Environmental covenant:

Cleanup cost (\$): 20,000

Jobs created/saved: N/A

Narrative: Provide property history and description, site characterization findings, site description, summary of remediation, summary of attainment demonstration, description of pathway elimination, engineering and institutional controls, and benefits of land reuse, when applicable.

A petroleum release occurred during the removal of overhead pipelines within the pipe rack located near the 860 Unit Cooling Tower and Hartranft Street. The pipeline that caused the release was an out of service line used to remove water from two aboveground storage tanks (ASTs) in the Point Breeze South Yard (i.e., PB 840 and PB843). Both ASTs were formerly used to store crude oil. The total area of the release was approximately 910 square feet, approximately 480 square feet of this area is an asphalt roadway. The remaining 430 square feet of the release occurred on soil where approximately 12 to 14 cubic yards of soil were removed and containerized in a roll-off container. Results of the subsequent attainment sampling indicate that several constituents of concern (COCs) have been detected; however, at concentrations below the applicable Statewide Health Standard (SHS) Medium Specific Concentrations (MSC) for non-residential direct contact and non-residential soil migration to groundwater.

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator

Contact Person/Title Anne R. Garr/Assistant Secretary eFACTS Client ID* Facility ID No. 51-33620, eFACTS 854903

Relationship to Site Owner Client Type* LLC
(e.g. owner, remediator, participant in cleanup, consultant, etc.)

Phone Number (312) 283-4469 Email Address agarr@hilcoglobal.com

Company Name Philadelphia Energy Solutions Refining and Marketing LLC EIN or Federal ID # _____

Street Address 3144 West Passyunk Avenue

City Philadelphia State PA Zip Code 19153

Property Owner

Contact Person/Title Anne Garr/Assistant Secretary eFACTS Client ID* Facility ID No. 51-33620, eFACTS 854903

Relationship to Site Owner Client Type* LLC
(e.g. owner, remediator, participant in cleanup, consultant, etc.)

Phone Number (312) 283-4469 Email Address agarr@hilcoglobal.com

Company Name Philadelphia Energy Solutions Refining and Marketing LLC EIN or Federal ID # _____

Street Address 3144 West Passyunk Avenue

City Philadelphia State PA Zip Code 19153

Consultant

Contact Person/Title Kevin Long / Principal Consultant eFACTS Client ID* _____

Relationship to Site Consultant Client Type* Corporation
(e.g. owner, remediator, participant in cleanup, consultant, etc.)

Phone Number 609-236-8171, ext 93 Email Address kevin.long@terrphase.com

Company Name Terraphase Engineering Inc. EIN or Federal ID # *27-3543127*

Street Address 100 Canal Pointe Blvd, Suite 110

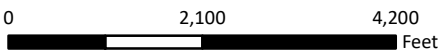
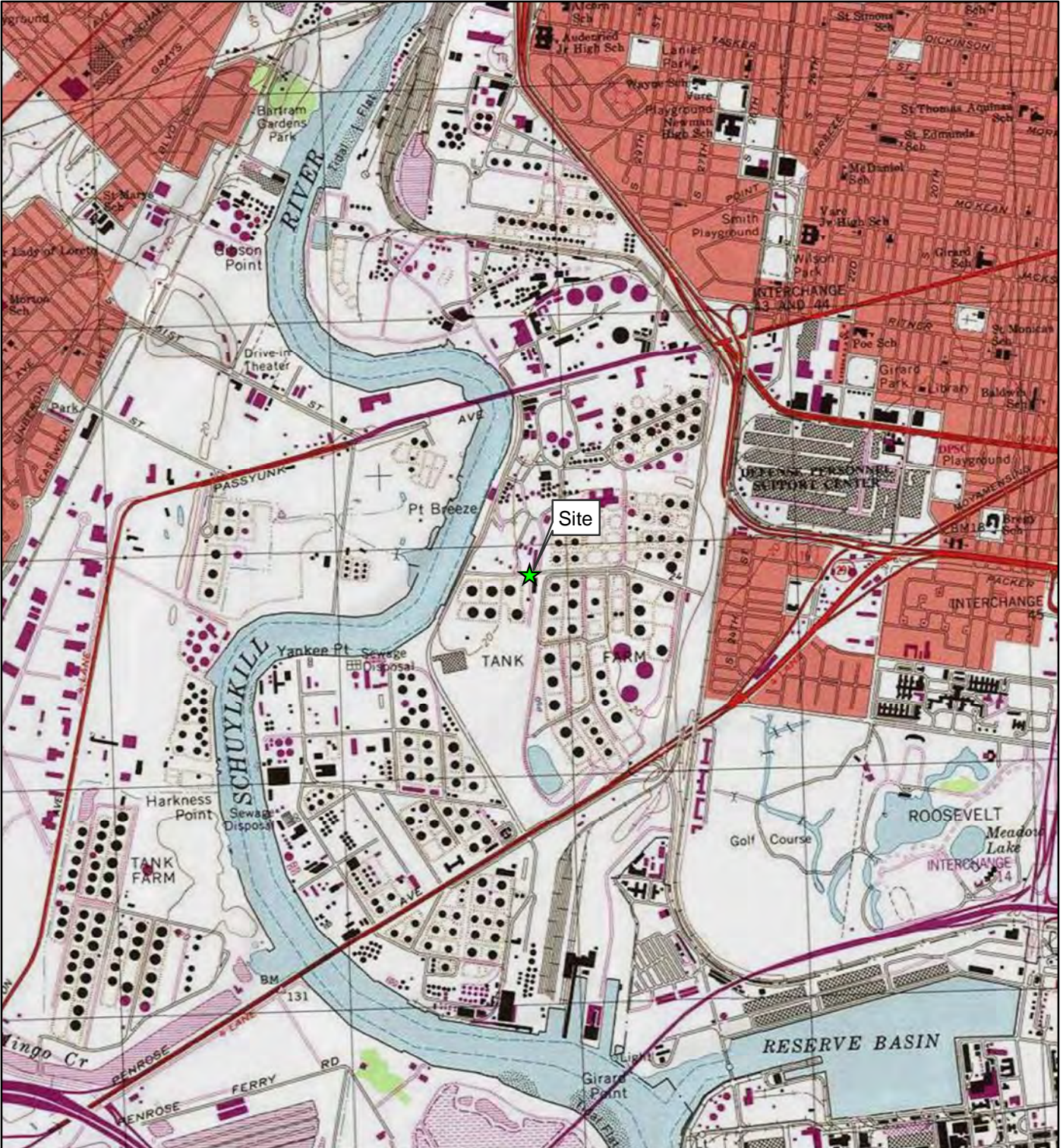
City Princeton State NJ Zip Code 08540

*Include eFACTS Client ID (if known) – “Client Types” below:

- | | | |
|--------------------------|-------------------------------|---------------------|
| Association/Organization | Limited Liability Company | Partnership-General |
| Authority | Limited Liability Partnership | Partnership-Limited |
| County | Municipality | School District |
| Estate/Trust | Non-Pennsylvania Government | Sole Proprietorship |
| Federal Agency | Other (Non-Government) | State Agency |
| Individual | Pennsylvania Corporation | |

Attachments: In addition to the data entered in this FRS, the Department requests scanned image(s) of a map view of the site indicating, at a minimum, the boundaries of the "site" relative to the locations of the adjacent property boundaries. The location of the site (as defined by Act 2) is that which will receive the liability relief conveyed by Act 2, Chapter 5. The maps may portray other features but should clearly show the Act 2 site boundaries. You may also attach other applicable image files or attachments. These files should be in Adobe Acrobat (*.pdf), GIF (*.gif) or JPEG file interchange format (*.jpg).

File: N:\GIS\Prj\044_001_PESRM-PE\WMDs\Pipeline Release - 860 Unit Hartrant\ForRIR\Figure 1 - Site Location Map.mxd 10/23/2023 Created by: Mia Coordinate System: NAD_1983_StatePlane_Pennsylvania_South_FIPS_3702_Feet



1 inch = 2,083 feet



Legend

★ Site Location

Base Map: USGS Philadelphia (1995) 7.5 Minute Quadrangle.

SAFETY FIRST



CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

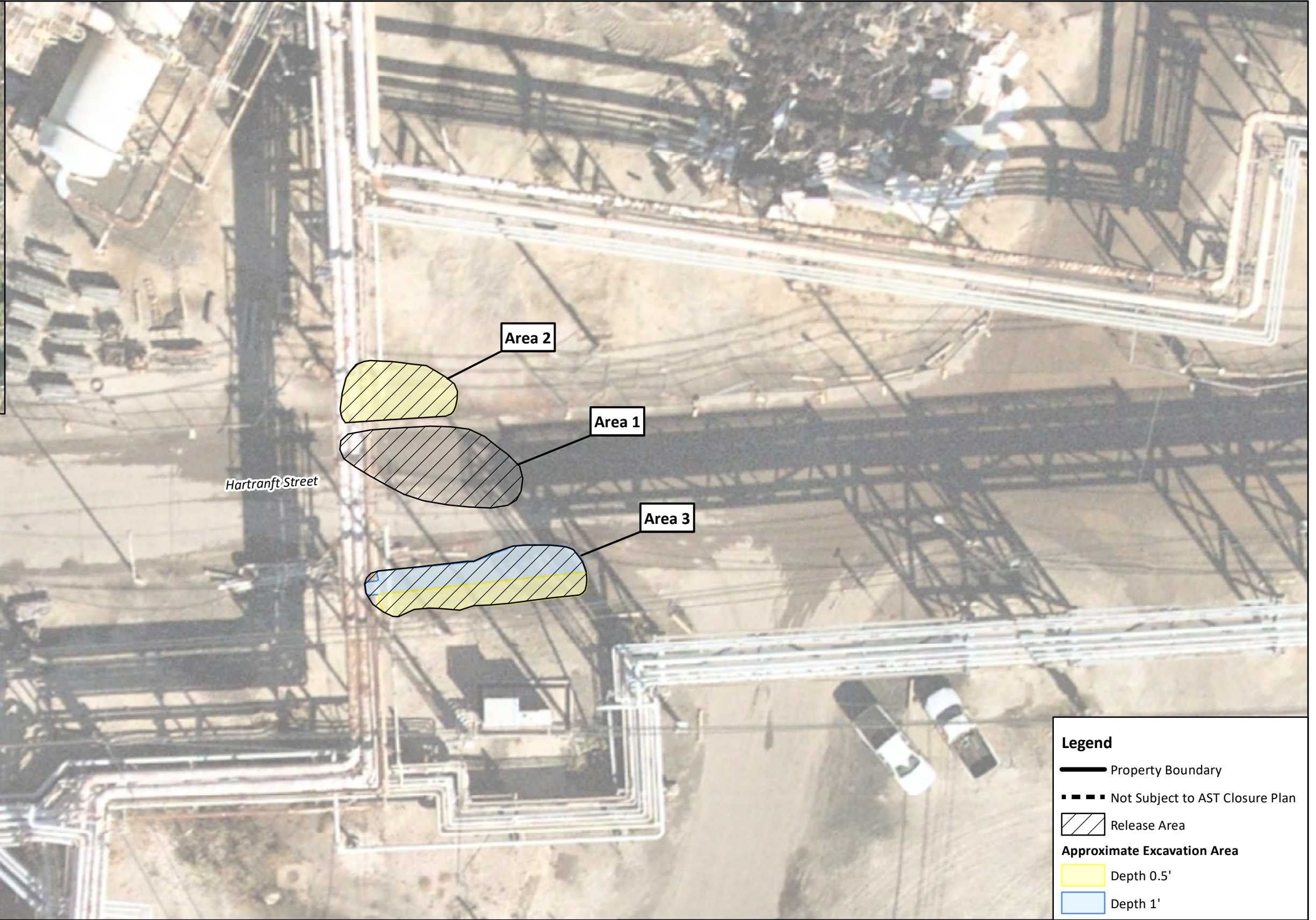
PROJECT: Pipeline Release at 860 Unit Cooling Tower

PROJECT NUMBER: P044.001.004

Site Location Map

FIGURE 1

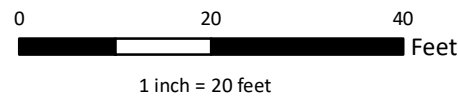
File: N:\GIS\PI\P044.001_PESRM-PES\XDS\Pipeline Release - 860 Unit Hartranft\ForRIR\Figure 2 - Site Layout.mxd 11/1/2023 Created by: MLC Checked by: RKW Coordinate System: NAD_1983_StatePlane_Pennsylvania_South_FIPS_3702_Feet



Legend	
	Property Boundary
	Not Subject to AST Closure Plan
	Release Area
Approximate Excavation Area	
	Depth 0.5'
	Depth 1'

Notes:

1. Aerial imagery source NearMap October 14, 2021.
2. Since the release in Area 1 occurred on an impermeable roadway, there was no impact to soil and soil excavation was not completed in the area.



 	CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC	Site Layout Figure 2
	PROJECT: Pipeline Release at 860 Unit Cooling Tower	
PROJECT NUMBER: P044.001.004		

**Notification of Receipt of a Final Report
(for Statewide health standard).
(Sections 302(e)(2), 303(h)(2))**

Notice is hereby given that Philadelphia Energy Solutions Refining and Marketing LLC will submit a final report to the Pennsylvania Department of Environmental Protection, Southeast Regional Office, to demonstrate attainment of the Statewide health standard for the 860 Unit and Hartranft Street Pipeline Release area (eFACTS 854903) within the Former Philadelphia Refinery located at 3144 West Passyunk Avenue, Philadelphia, Pennsylvania. Philadelphia Energy Solutions Refining and Marketing LLC has indicated that the remediation measures taken have attained compliance with the Statewide health clean up standard established under the Land Recycling and Environmental Remediation Standards Act.

This notice is made under the provision of the Land Recycling and Environmental Remediation Standards Act, the Act of May 19, 1995, P.L. #4, No. 2.

The Philadelphia Inquirer

100 S. INDEPENDENCE MALL W, STE 600, PHILADELPHIA, PA 19106

Affidavit of Publication

On Behalf of:
TERRAPHASE ENGINEERING
1100 E HECTOR ST
SUITE 416
CONSHOHOCKEN, PA 19428

STATE OF PENNSYLVANIA COUNTY OF PHILADELPHIA:

Before the undersigned authority personally appeared the undersigned who, on oath represented a and say: that I am an employee of The Philadelphia Inquirer, LLC, and am authorized to make this affidavit of publication, and being duly sworn, I depose and say:

1. The Philadelphia Inquirer, LLC is the publisher of the Philadelphia Inquirer, with its headquarters at 100 S. Independence Mall West, Suite 600, Philadelphia, PA 19106.
2. The Philadelphia Inquirer is a newspaper that which was established in in the year 1829, since which date said daily newspaper has been continuously published and distributed daily in the City of Philadelphia, count and state aforesaid.
3. The printed notice or publication attached hereto set forth on attached hereto was published in all regular print editions of The Philadelphia Inquirer on

Legal Notices

as published in Inquirer Legals in the issue(s) of:

2/29/2024

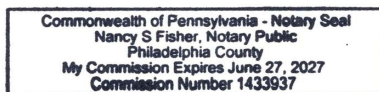
4. Under oath, I state that the following is true and correct, and that neither I nor The Philadelphia Inquirer, LLC have any interest in the subject matter of the aforesaid notice or advertisement.





Notary Public

My Commission Expires:



Ad No: 157049

Customer No: 104799

COPY OF ADVERTISEMENT

Notification of Receipt of a Final Report (for Statewide health standard). (Sections 302(e)(2), 303(h)(2))

Notice is hereby given that Philadelphia Energy Solutions Refining and Marketing LLC will submit a final report to the Pennsylvania Department of Environmental Protection, Southeast Regional Office, to demonstrate attainment of the Statewide health standard for the 860 Unit and Hartranft Street Pipeline Release area (eFACTS 854903) within the Former Philadelphia Refinery located at 3144 West Passyunk Avenue, Philadelphia, Pennsylvania. Philadelphia Energy Solutions Refining and Marketing LLC has indicated that the remediation measures taken have attained compliance with the Statewide health clean up standard established under the Land Recycling and Environmental Remediation Standards Act.

This notice is made under the provision of the Land Recycling and Environmental Remediation Standards Act, the Act of May 19, 1995, P.L. #4, No. 2.



February 28, 2024

Ms. Leigh Anne Rainford
Program Manager
Philadelphia Department of Public Health
Public Health Services
321 University Avenue – 2nd Floor
Philadelphia, PA 19104

sent via email to LeighAnne.Rainford@Phila.gov and UPS, Proof of Delivery Requested

**Subject: Notice of Final Report Submission (eFACTS 854903)
860 Unit Cooling Tower and Hartranft Street – Point Breeze South Yard
Former Philadelphia Energy Solutions Refinery
3144 West Passyunk Avenue
Philadelphia, PA 19153**

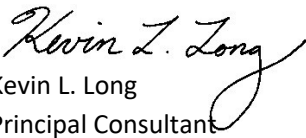
Dear Ms. Rainford:

This letter provides notice that Terraphase Engineering Inc. (Terraphase), on behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), will submit a final report to the Department of Environmental Protection for the 860 Unit and Hartranft Street Pipeline Release area (eFACTS 854903) within the Former Philadelphia Refinery located at 3144 West Passyunk Avenue, Philadelphia, Pennsylvania. The report indicates that the remediation performed has attained compliance with the Statewide health cleanup standard.

This notice is made under the provision of the Land Recycling and Environmental Remediation Standards Act, the Act of May 19, 1995, P.L. 4, No. 2.

Sincerely,

for Terraphase Engineering Inc.


Kevin L. Long
Principal Consultant

KL:cs

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

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z75YA670192897925

Weight

0.50 LBS

Service

UPS Next Day Air®

Shipped / Billed On

02/27/2024

Delivered On

02/29/2024 10:23 A.M.

Delivered To

PHILADELPHIA, PA, US
Received By

BROWN

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

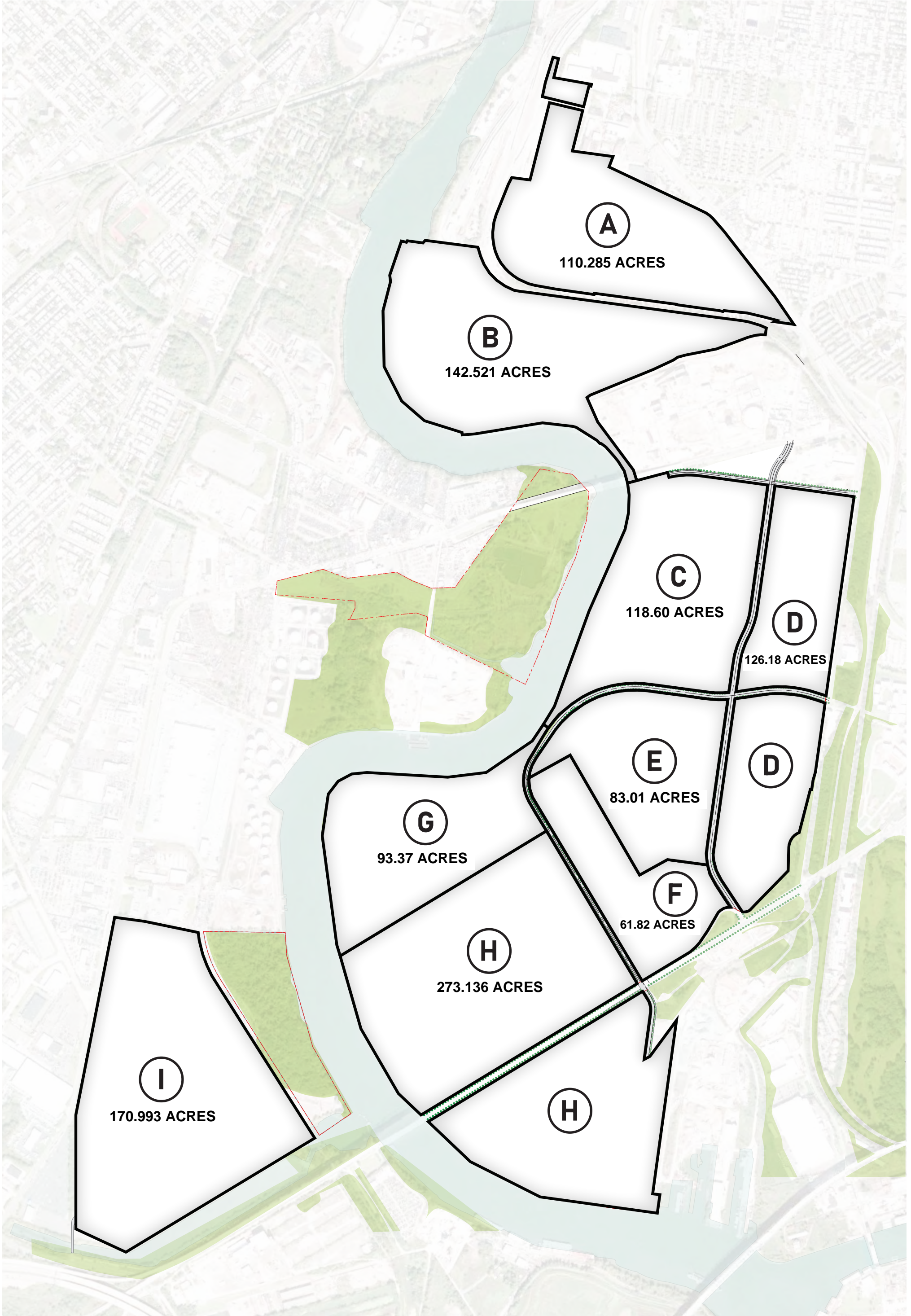
Tracking results provided by UPS: 02/29/2024 1:02 P.M. EST

Appendix B

Parcel Map



INDIVIDUAL PARCEL MAP



Appendix C

NorthStar Interim Response Documentation





ENVIRONMENTAL INCIDENT REPORT

Date of Incident: 10/11/2021

Time of Incident: 1030 hrs.

Date of Report: 10/11/2021 Updated 11/8/2021

Report Author: Robert Armstrong, Sr. Project Manager

Incident Location and Relevant Background Information:

The Incident occurred within the former PESRM Refinery where a pipe rack containing various process lines crosses the roadway near the 860 unit cooling tower and Hartranft Street. The scheduled removal of the pipe lines within this pipe rack were in progress at the time of the incident. The pipeline that caused the release was an out of service line used to remove water from AST's 840 & 843. The water was then directed to the Point Breeze BIO Plant for treatment. The location of the area affected by the release is just north and west of the CO2 spheres and AST's PB 840 & 843 (See figures & drawings tab for locations of key features). The total area affected by the release was roughly 1,600 square feet and 1,200 square feet of this area is an asphalt roadway. The remaining 400 square feet represents the impacted soil area and approx. 12 to 14 cy of soil were removed.

Causes & Corrective Actions: (If Applicable - Provide Recognition for Notable and/or Positive Actions that Occurred During the Incident)

Finding:	Residual oil and water in pipeline was trapped in low spot of the pipeline. Low spot was not visually obvious without close observation and comparison to
Potential Corrective Actions:	<p>a. If possible/practical determine existing low spots that may contain residual material and drain those areas prior to removal</p> <p>b. If low spots cannot be determined or identified or provide adequate containment for material to drain in order to prevent potential</p> <p>c. If access to drain areas of a pipeline suspected to contain residual material consider alternative methods such as a cold tap and divert or direct the flow to a vac truck or container.</p>
Positive Feedback:	At the time of the incident additional resources were immediately requested, resulting in preventing migration and reducing the environmental impact.

Release / Incident Information (check one):

Waste: _____ Petroleum: Residual Oil & Wash Water Other: _____
 Chemical: _____ Gas/Vapor: _____

Nuisance Complaints: N/A

Odor: _____ Fugitive Dust: _____ Noise: _____

Environmental Impact- sensitive receptors - (check all that apply):

Land: X Air: _____ Water: _____ Community: _____

Potential Impact to Gound Water: YES: _____ NO: X

Impact to Community: YES: _____ NO: X

Agency Notification Required: YES: X NO: _____

Notification Made: YES: X NO: _____

Time of Notification: 12:00 hrs. Agency Notified: The PADEP Agency Agency Answering service (follow-up call from K. Bauer @12:30)

Additional Comments:

N/A

Follow-up Remedial Actions:

Confirmatory sampling and Analysis to be performed in the affected soil area

Equipment Utilized During Corrective/Remedial Actions:

Quantity	Description
1	skid steer
1	Vacuum Truck
1	Roll-Off Box
1	Roll-off Truck

Quantity	Description
2	CY sacks of sorbent material

Personnel	Position
3	Operators
6	Laborer
2	Supervisor

Analytical Data (received 11/04/2021)


Incident Date	Laboratory	Sample ID	Sample Collection Date	COC Date	Matrix	Results Comparison to: PA Tables 3a & 4a Residential	Analyses Requested
10/11/2021	Eurofins Lancaster	See COC below: a total of 6 confirmation grab samples and were collected following the cleanup. An additional 2 grab samples and a composite were collected from the roll-off containing the remediated soil.	10/12/2021	1/13/2021	SOL	see attached: (Under review)	Full Waste Characterization (Additional Paramters Pending)

Waste Disposition:

Water and Oil collected was sent to the PB BIO Plant for treatment **(Completed)**


TSDF and DOT Shipping information: Contaminated soil in Roll-off # RB44062RT - Submitting profile request to WM week of 11/8/21 (soil will be classified as Non-Haz) and will be shipped upon approval from the landfill. **(In Progress)**

COC & Table A Parameters + Total Benzene



QC

CHAIN OF CUSTODY
Page 1 of 1



410-58999 Chain of Custody

MATRIX CODES

DW DRINKING WATER
GW GROUND WATER
WW WASTEWATER
SO SOIL
SL SLUDGE
OIL OIL
SOL NON SOIL SOLID
MI MISCELLANEOUS
X OTHER

702 Electronic Drive Phone: 215-355-3900
 Horsham, PA 19044-0962 Fax: 215-355-7231

Client/Acct. No. NorthStar Contracting Group, Inc
 Address 3144 Passyunk Ave
Philadelphia PA 19145
 City/State/Zip 440-228-1534
 Phone/Fax normstrong@northstar.com
 Client Contact e-mail:

Bil to/Report to (if different) _____

Sampling Site Address (if different) Include State _____

P.O. No. _____ PWSID # _____

Quote # _____

PROJECT	Collection		G R A B	C O M P	Matrix Code	Total	Number of Containers											ANALYSIS REQUESTED	Field pH, Temp (°C), DO, Cl2, Cond, etc.						
	Date	Military Time					H	I	S	C	O	N	A	C	H	A	C			T					
Hartman-10TH-CONF-SOIL-1-2021-10-12	10/12/21	1000	X		SO	5																		Total Benzene	Use caution
Hartman-10TH-CONF-SOIL-2-2021-10-12	10/12/21	1005	X		SO	5																		See attached Table A Parameters	when working with these samples.
Hartman-10TH-CONF-SOIL-3-2021-10-12	10/12/21	1007	X		SO	5																			
Hartman-10TH-CONF-SOIL-4-2021-10-12	10/12/21	1011	X		SO	5																			
Hartman-10TH-CONF-SOIL-5-2021-10-12	10/12/21	1012	X		SO	5																			
Hartman-10TH-CONF-SOIL-6-2021-10-12	10/12/21	1014	X		SO	5																			
Hartman-10TH-RB44062-RT-1-2021-10-12	10/12/21	1030	X		SO	5																			
Hartman-10TH-RB44062-RT-2-2021-10-12	10/12/21	1036	X		SO	5																			
Hartman-10TH-RB44062-RT-3-2021-10-12	10/12/21	1038	X		SO	5																			

SAMPLED BY: (Name/Company) Josh Suboye / NorthStar TAT: STANDARD (10 DAY) or DUE DATE ASAP

Report Format: Standard NJ-RDD SRP-RDD Standard + QC Forms EDD

Field Parameters Analyzed By: _____ Initials _____ Date/Time: _____

Please call for pricing and availability for rush (<10 day) turnaround and for all but standard reporting format.

SAMPLE CUSTODY EXCHANGES MUST BE DOCUMENTED BELOW. USE FULL LEGAL SIGNATURE, DATE AND MILITARY TIME (24 HOUR CLOCK, I.E. 8AM IS 0800, 4 PM IS 1600)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME	DELIVERY: <input type="checkbox"/> EOC COURIER <input type="checkbox"/> CLIENT <input type="checkbox"/> UPS <input type="checkbox"/> FEDEX <input type="checkbox"/> OTHER	Custody Seal Number
1. <u>JS</u>	10/12/21	1225	1. <u>[Signature]</u>	10/13/21	1225	Rec'd Temp: 1-3° Initials: <u>MR</u> Ice <input checked="" type="checkbox"/> N Location: _____	
2. <u>[Signature]</u>	10/12/21	1810	2. <u>[Signature]</u>			COMMENTS: 1-3°	
3. _____			3. _____				
4. _____			4. _____				
5. _____			5. <u>[Signature]</u>	10/13/21	1810	HAZARDOUS: yes/no	



TABLE A PARAMETERS



410-59999-02 Chain of Custody

	Parameter Name	Type	Category	Limits	Units	85% of Limit
<input type="checkbox"/>	Ignitibility	As Received		>140	F	
<input type="checkbox"/>	Oil & Grease	As Received			mg/kg	
<input type="checkbox"/>	Paint Filter Test	As Received		No free liquids		
<input type="checkbox"/>	PCBs	As Received		50		
<input type="checkbox"/>	pH	As Received		2 - 12.5	S.U.	
<input type="checkbox"/>	Reactive Cyanide	As Received		100		
<input type="checkbox"/>	Reactive Sulfide	As Received		500		
<input type="checkbox"/>	Total Solids	As Received				
<input type="checkbox"/>	Total Volatile Solids	As Received				
<input type="checkbox"/>	Ammonia-Nitrogen	ASTM		111111	mg/l	
<input type="checkbox"/>	Chemical Oxygen Demand	ASTM				
<input type="checkbox"/>	Oil & Grease	ASTM		88550	mg/l	
<input type="checkbox"/>	Total Solids	ASTM				
<input type="checkbox"/>	pH	TCLP				
<input type="checkbox"/>	Arsenic	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/>	Barium	TCLP	Metals	100	mg/l	85
<input type="checkbox"/>	Cadmium	TCLP	Metals	1	mg/l	0.85
<input type="checkbox"/>	Chromium	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/>	Copper	TCLP	Metals	187	mg/l	142
<input type="checkbox"/>	Lead	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/>	Mercury	TCLP	Metals	0.2	mg/l	0.17
<input type="checkbox"/>	Nickel	TCLP	Metals	242	mg/l	206
<input type="checkbox"/>	Selenium	TCLP	Metals	1	mg/l	0.85
<input type="checkbox"/>	Silver	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/>	Zinc	TCLP	Metals	1875	mg/l	1594
<input type="checkbox"/>	2,4-D	TCLP	Herb	10	mg/l	8.5
<input type="checkbox"/>	2,4,5-TP	TCLP	Herb	1	mg/l	0.85
<input type="checkbox"/>	Chlorfane	TCLP	Pest	0.03	mg/l	0.0255
<input type="checkbox"/>	Endrin	TCLP	Pest	0.02	mg/l	0.017
<input type="checkbox"/>	Heptachlor	TCLP	Pest	0.008	mg/l	0.0068
<input type="checkbox"/>	Heptachlor Epoxide	TCLP	Pest	0.008	mg/l	0.0068
<input type="checkbox"/>	Lindane	TCLP	Pest	0.4	mg/l	0.34
<input type="checkbox"/>	Methoxychlor	TCLP	Pest	10mg/l	8.5	
<input type="checkbox"/>	Toxaphene	TCLP	Pest	0.5	mg/l	0.425
<input type="checkbox"/>	2,4,5-trichlorophenol	TCLP	Acids	400	mg/l	340
<input type="checkbox"/>	2,4,6-trichlorophenol	TCLP	Acids	2	mg/l	1.7
<input type="checkbox"/>	m-cresol	TCLP	Acids	200	mg/l	170
<input type="checkbox"/>	o-cresol	TCLP	Acids	200	mg/l	170
<input type="checkbox"/>	p-cresol	TCLP	Acids	200	mg/l	170
<input type="checkbox"/>	Pentachlorophenol	TCLP	Acids	100	mg/l	85
<input type="checkbox"/>	2,4-dinitrotoluene	TCLP	Base/Neutral	0.13	mg/l	0.1105
<input type="checkbox"/>	Hexachlorobenzene	TCLP	Base/Neutral	0.13	mg/l	0.1105
<input type="checkbox"/>	Hexachlorobutadiene	TCLP	Base/Neutral	0.5	mg/l	0.425
<input type="checkbox"/>	Hexachloroethane	TCLP	Base/Neutral	3	mg/l	2.55

**TABLE A PARAMETERS**

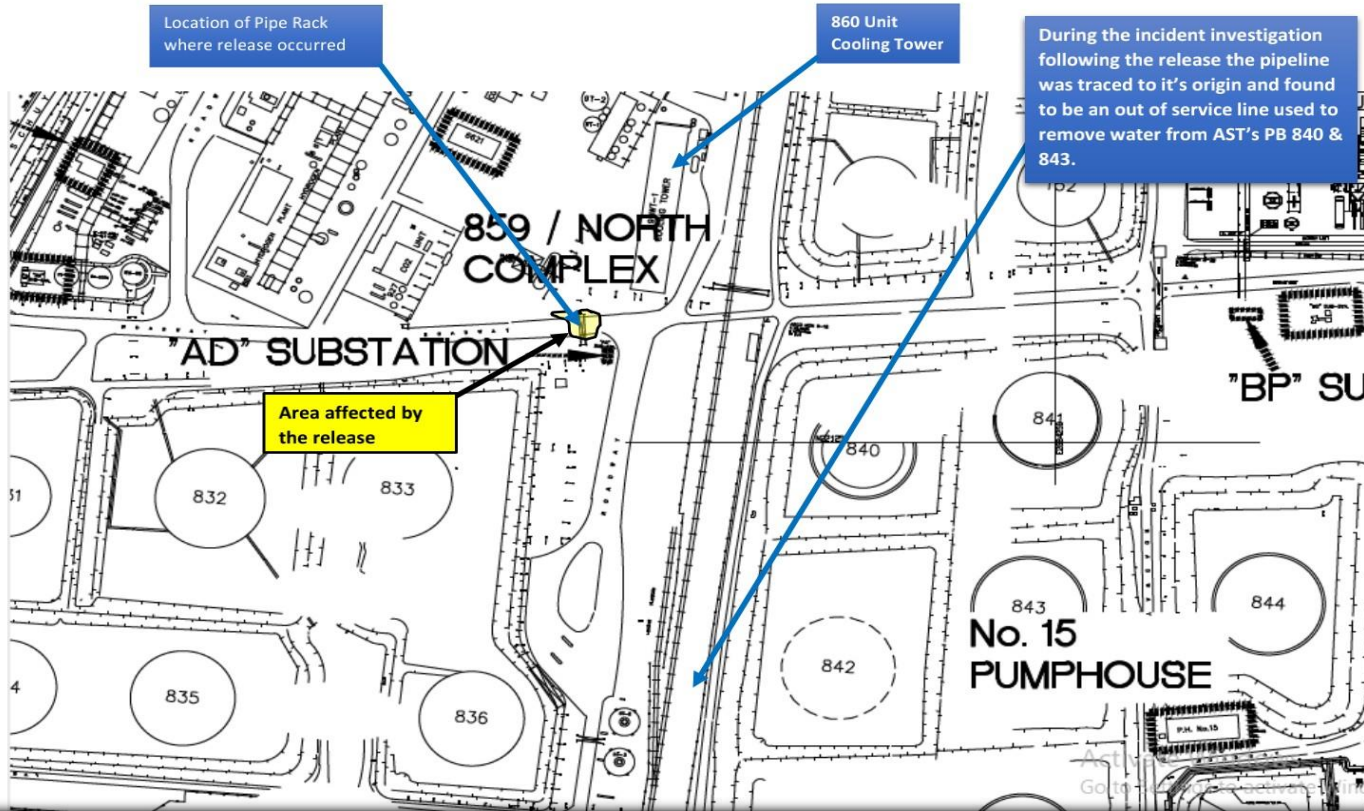
*Volatile Organic Compounds must be taken from discrete samples

	Parameter Name	Type	Category	Limits	Units	85% of Limit
<input type="checkbox"/>	Nitrobenzene	TCLP	Base/Neutral	2	mg/l	1.7
<input type="checkbox"/>	Pyridine	TCLP	Base/Neutral	5	mg/l	4.25
<input type="checkbox"/>	*1,1-dichloroethylene	TCLP	Volatiles	0.7	mg/l	0.595
<input type="checkbox"/>	*1,2-dichloroethane	TCLP	Volatiles	0.5	mg/l	0.425
<input type="checkbox"/>	*1,4-dichlorobenzene	TCLP	Volatiles	7.5	mg/l	6.375
<input type="checkbox"/>	*Benzene	TCLP	Volatiles	0.5	mg/l	0.425
<input type="checkbox"/>	*Carbon Tetrachloride	TCLP	Volatiles	0.5	mg/l	0.425
<input type="checkbox"/>	*Chlorobenzene	TCLP	Volatiles	100	mg/l	85
<input type="checkbox"/>	*Chloroform	TCLP	Volatiles	8	mg/l	6.8
<input type="checkbox"/>	*Methyl ethyl ketone	TCLP	Volatiles	200	mg/l	170
<input type="checkbox"/>	*Tetrachloroethylene	TCLP	Volatiles	0.7	mg/l	0.595
<input type="checkbox"/>	*Trichloroethylene	TCLP	Volatiles	0.5	mg/l	0.425
<input type="checkbox"/>	*Vinyl Chloride	TCLP	Volatiles	0.2	mg/l	0.17

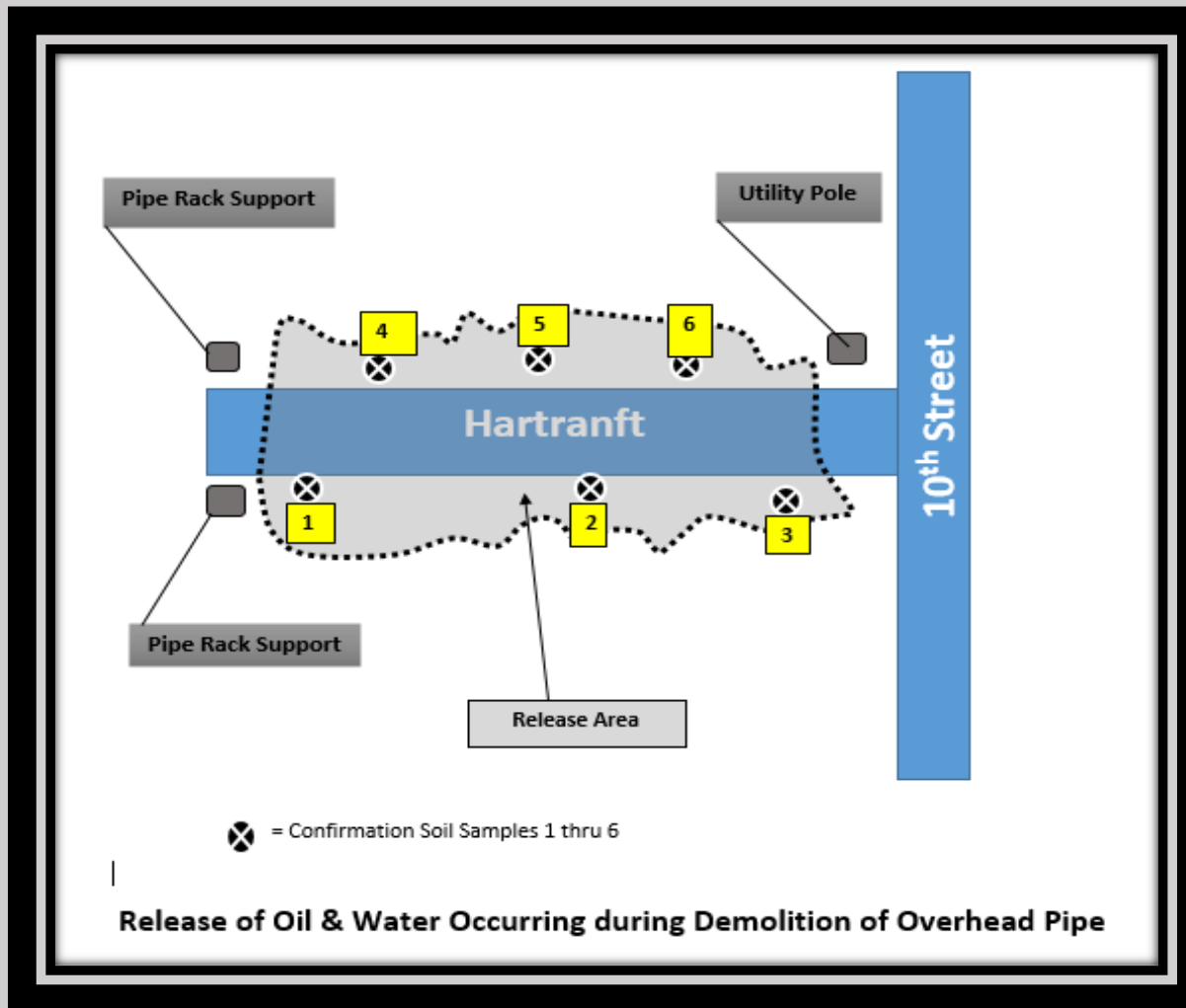
INCIDENT TIMELINE

DATE	TIME	ACTIVITY
10/11/2021	1015-1030	Demolition crew removing decommissioned pipes from pipe rack at 860 unit, a pipe previously flushed contained, but contained some residual oil and water in a low spot in the line. when the pipe was sheared it released residual water and oil directly to the road surface. the material then migrated to the curb areas making contact with soil.
	1030 - 1230	crews worked to vacuum the oil and water from curb areas and remove surface soil. Completed free liquid & soil removal at 1230hrs.
	1155 - 1210	Notification made to The PADEP. Message left with answering service. Answering service passed the information on to Mr. Kevin Bauer at the agency
	1230	Mr. Bauer returned the call and a brief summary of the incident was provided and he
	1255	Cleanup of the affected area to include the road surface is complete
10/12/2021	1000	Samples collected and prepared for pickup by lab
10/13/2021	1225	Samples transferred to custody of lab courier
11/4/2021	1120	Sample results received from Eurofins and under review.

INCIDENT LOCATION



Sample Locations: 6 grab confirmation samples (see COC for Sample ID's)







Vacuuming oil and wash water from Area 2 of the spill calculation Sheet. Water was decanted from the vacuum truck (estimated 500 gallons) and remaining oil placed in tank 272 slop oil tank for future sale.



Sorbent material and excavated soil being stockpiled while waiting for a lined roll-off to arrive from the empty container laydown area.



Looking east Area 3 on spill calculation Sheet (final excavation was 6" to 1' depth
From original grade) total cubic yards of soil removed from Area 3 is approx. 9 CY.

Area outlined in Blue = 1' Depth

Area Outlined in Yellow = 6" Depth



Looking northeast as sorbent material and excavated soil is stockpiled.



Roll-off # RB44062RT



View of sorbent material from roadway and excavated soil in Roll-off

Oct 11, 2021 at 12:53:49 PM
Philadelphia PA 19145
United States



Looking east at release area (Post Cleanup)

DATE **10/11/2021**

AREA **860 Unit at 10th Street & Hartranft**

ENTER NUMBERS IN THE BLUE HIGHLIGHTED CELLS

AREA 1 (Consists of Impermeable Roadway)

LENGTH in feet **16.00**
WIDTH in feet **30.00**
DEPTH in inches **0.0313**

FORMULA
LENGTH X WIDTH X DEPTH(IN) / 12 X 7.48 = GALLONS
16 X 30 X 0.002604167 X 7.48 = **9.35**

AREA 2 (Gravel and Soil Gutter of Roadway)

LENGTH in feet **40.00**
WIDTH in feet **4.15**
DEPTH in inches **0.1250**

FORMULA
LENGTH X WIDTH X DEPTH(IN) / 12 X 7.48 = GALLONS
40 X 4.15 X 0.010416667 X 7.48 = **12.93**

AREA 3 (Gravel and Soil Gutter of Roadway)

LENGTH in feet **50.00**
WIDTH in feet **5.25**
DEPTH in inches **0.0625**

FORMULA
LENGTH X WIDTH X DEPTH(IN) / 12 X 7.48 = GALLONS
50 X 5.25 X 0.005208333 X 7.48 = **10.23**

32.51 TOTAL GALLONS

0.77 TOTAL BBLs

ESTIMATE THE LENGTH AND WIDTH OF THE SPILL IN FEET

Dimensional Perspective

If dipping a known length (such as a ruler) into the liquid is not feasible the following information can be used as a reference for estimating the depth of liquid.

- 1/32 " = 0.03125" a film of hydrocarbons
- 1/16 " = 0.0625" thickness of a penny
- 3/16 " = 0.1875" width of a typical ball point pen
- 1/2 " = 0.5" length of a thumbnail

The soil areas were likely not impacted by 25 gal. of Oil (area # 1 is impermeable roadway)

Appendix D

Laboratory Reports



ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-58999-1
Client Project/Site: NorthStar Sampling
Revision: 1

For:
NorthStar Contracting Group, Inc.
2250 East Adams Avenue
Philadelphia, Pennsylvania 19124

Attn: Robert Armstrong



Authorized for release by:
11/17/2021 5:41:08 PM

Amek Carter, Project Manager
(717)556-7252
Loran.Carter@eurofinset.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
 - Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
 - Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
- Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied, except as otherwise agreed. We disclaim any other warranties, expressed or implied, including a warranty of fitness for particular purpose and warranty of merchantability. In no event shall Eurofins Lancaster Laboratories Environmental, LLC be liable for indirect, special, consequential, or incidental damages including, but not limited to, damages for loss of profit or goodwill regardless of (A) the negligence (either sole or concurrent) of Eurofins Lancaster Laboratories Environmental and (B) whether Eurofins Lancaster Laboratories Environmental has been informed of the possibility of such damages. We accept no legal responsibility for the purposes for which the client uses the test results. Except as otherwise agreed, no purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

A handwritten signature in black ink that reads "Amek Carter".

Amek Carter
Project Manager
11/17/2021 5:41:08 PM



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Definitions/Glossary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
^c	CCV Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
S1+	Surrogate recovery exceeds control limits, high biased.

Metals

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
B	Analyte was found in the blank.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
!	Laboratory is not accredited for this parameter.
*-	LCS and/or LCSD is outside acceptance limits, low biased.
B	Analyte was found in the blank.
F3	Duplicate RPD exceeds the control limit
FH	MS and/or MSD recovery above control limits.
FL	MS and/or MSD recovery below control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent

Definitions/Glossary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Job ID: 410-58999-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-58999-1

Revision

The report being provided is a revision of the original report sent on 11/4/2021. The report (revision 1) is being revised due to: Add additional Volatiles and Total Lead.

Receipt

The samples were received on 10/13/2021 6:10 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3°C and 2.3°C

GC/MS VOA

Method 8260C: The following samples were diluted due to the abundance of non-target analytes: Hartranft-10TH-CONF-SOIL-1-2021-10-12 (410-58999-1), Hartranft-10TH-CONF-SOIL-2-2021-10-12 (410-58999-2), Hartranft-10TH-CONF-SOIL-3-2021-10-12 (410-58999-3), Hartranft-10TH-CONF-SOIL-4-2021-10-12 (410-58999-4), Hartranft-10TH-CONF-SOIL-5-2021-10-12 (410-58999-5), Hartranft-10TH-CONF-SOIL-6-2021-10-12 (410-58999-6), Hartranft-10TH-RB44062-RT-1-2021-10-12 (410-58999-7), Hartranft-10TH-RB44062-RT-2-2021-10-12 (410-58999-8) and Hartranft-10TH-RB44062-RT-3-2021-10-12 (410-58999-9). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Herbicides

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

PCBs

Method 8082A: The continuing calibration verification (CCV) associated with batch 410-183531 recovered outside control limit (+/-20%D) for DCB Decachlorobiphenyl. This surrogate is used for control purposes and the CCV and samples associated with this CCV have surrogate %R well within acceptance criteria; therefore, the data have been reported. Hartranft-10TH-CONF-SOIL-2-2021-10-12 (410-58999-2), Hartranft-10TH-CONF-SOIL-3-2021-10-12 (410-58999-3) and Hartranft-10TH-CONF-SOIL-4-2021-10-12 (410-58999-4)

Method 8082A: The DCB Decachlorobiphenyl surrogate recovery for the following samples was outside acceptance limits (high biased) on the primary column due to matrix interference: Hartranft-10TH-CONF-SOIL-3-2021-10-12 (410-58999-3). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control.

Method 8082A: The continuing calibration verification (CCV) associated with batch 410-183928 recovered outside control limit (+/-20%D) for DCB Decachlorobiphenyl. This surrogate is used for control purposes and the CCV and samples associated with this CCV have surrogate %R well within acceptance criteria; therefore, the data have been reported. The associated samples are: Hartranft-10TH-CONF-SOIL-5-2021-10-12 (410-58999-5), Hartranft-10TH-CONF-SOIL-6-2021-10-12 (410-58999-6), Hartranft-10TH-RB44062-RT-1-2021-10-12 (410-58999-7), Hartranft-10TH-RB44062-RT-2-2021-10-12 (410-58999-8) and Hartranft-10TH-RB44062-RT-3-2021-10-12 (410-58999-9).

Method 8082A: The continuing calibration verification (CCV) associated with batch 410-184470 recovered outside acceptance criteria, high biased, for %D for DCB Decachlorobiphenyl (Surr) on one column. Results are confirmed on both columns and reported from the passing column. Since the associated sample was non-detect for this analyte, the data have been reported. Hartranft-10TH-CONF-SOIL-1-2021-10-12 (410-58999-1)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Pesticides

Method 8081B: The following samples were diluted due to the nature of the sample matrix: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Case Narrative

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Job ID: 410-58999-1 (Continued)

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Conti)

(410-58999-1), Hartranft-10TH-CONF-SOIL-2-2021-10-12 (410-58999-2), Hartranft-10TH-CONF-SOIL-3-2021-10-12 (410-58999-3), Hartranft-10TH-CONF-SOIL-4-2021-10-12 (410-58999-4), Hartranft-10TH-CONF-SOIL-5-2021-10-12 (410-58999-5), Hartranft-10TH-CONF-SOIL-6-2021-10-12 (410-58999-6), Hartranft-10TH-RB44062-RT-1-2021-10-12 (410-58999-7), Hartranft-10TH-RB44062-RT-2-2021-10-12 (410-58999-8) and Hartranft-10TH-RB44062-RT-3-2021-10-12 (410-58999-9). Elevated reporting limits (RLs) are provided.

Method 8081B: The continuing calibration verification (CCV) recovered above the upper control limit for Methoxychlor. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Hartranft-10TH-CONF-SOIL-1-2021-10-12 (410-58999-1), Hartranft-10TH-CONF-SOIL-2-2021-10-12 (410-58999-2), Hartranft-10TH-CONF-SOIL-3-2021-10-12 (410-58999-3), Hartranft-10TH-CONF-SOIL-4-2021-10-12 (410-58999-4), Hartranft-10TH-CONF-SOIL-5-2021-10-12 (410-58999-5), Hartranft-10TH-CONF-SOIL-6-2021-10-12 (410-58999-6), Hartranft-10TH-RB44062-RT-1-2021-10-12 (410-58999-7), Hartranft-10TH-RB44062-RT-2-2021-10-12 (410-58999-8) and Hartranft-10TH-RB44062-RT-3-2021-10-12 (410-58999-9).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

Method 6010C: The TCLP leachate blank for batch 410-183271 contained Barium, Nickel and Lead above the method detection limit (MDL) but below the reporting limit (RL). This target analyte concentration was less than the TCLP Regulatory Hazard Limit. The associated sample(s) were also below the TCLP Regulatory Hazard Limit for this analyte; therefore, re-extraction was not performed. Associated Sample(s): Hartranft-10TH-CONF-SOIL-1-2021-10-12 (410-58999-1), Hartranft-10TH-CONF-SOIL-2-2021-10-12 (410-58999-2), Hartranft-10TH-CONF-SOIL-3-2021-10-12 (410-58999-3), Hartranft-10TH-CONF-SOIL-4-2021-10-12 (410-58999-4), Hartranft-10TH-CONF-SOIL-5-2021-10-12 (410-58999-5), Hartranft-10TH-CONF-SOIL-6-2021-10-12 (410-58999-6), Hartranft-10TH-RB44062-RT-1-2021-10-12 (410-58999-7), Hartranft-10TH-RB44062-RT-2-2021-10-12 (410-58999-8) and Hartranft-10TH-RB44062-RT-3-2021-10-12 (410-58999-9)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	36	J	390	31	ug/Kg	50	✳	8260C	Total/NA
Xylenes, Total	250	J	780	110	ug/Kg	50	✳	8260C	Total/NA
1,2,4-Trimethylbenzene	890		390	39	ug/Kg	50	✳	8260C	Total/NA
Naphthalene	370	J	390	160	ug/Kg	50	✳	8260C	Total/NA
Isopropylbenzene	490		390	31	ug/Kg	50	✳	8260C	Total/NA
1,3,5-Trimethylbenzene	370	J	390	39	ug/Kg	50	✳	8260C	Total/NA
PCB-1254 (2C)	21	J	22	8.3	ug/Kg	1	✳	8082A	Total/NA
PCB-1260 (2C)	32		22	8.3	ug/Kg	1	✳	8082A	Total/NA
Lead	45		1.4	0.58	mg/Kg	1	✳	6010C	Total/NA
Barium	0.74	B	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	3.0		0.20	0.037	mg/L	1		6010C	TCLP
Nickel	0.022	J B	0.10	0.021	mg/L	1		6010C	TCLP
Total Solids	87		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	33		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	3600	FH	760	250	mg/Kg	1	✳	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	7.5		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
HEM (Oil & Grease)	2.7	J ! B	5.3	1.5	mg/L	1		1664B	ASTM Leach
Total Solids	100	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	100	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	45	J !	75	25	mg/L	1		410.4	ASTM Leach

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	63	J	310	31	ug/Kg	50	✳	8260C	Total/NA
PCB-1254 (2C)	9.1	J	19	7.1	ug/Kg	1	✳	8082A	Total/NA
PCB-1260 (2C)	10	J	19	7.1	ug/Kg	1	✳	8082A	Total/NA
Lead	19		1.5	0.62	mg/Kg	1	✳	6010C	Total/NA
Barium	0.28	B	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	0.069	J	0.20	0.037	mg/L	1		6010C	TCLP
Total Solids	89		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	2.2		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	1600		670	220	mg/Kg	1	✳	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	9.3		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
Total Solids	130	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	130	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	39	J !	75	25	mg/L	1		410.4	ASTM Leach

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	50	J	300	30	ug/Kg	50	✳	8260C	Total/NA
PCB-1254 (2C)	13	J p	19	7.2	ug/Kg	1	✳	8082A	Total/NA
PCB-1260 (2C)	47		19	7.2	ug/Kg	1	✳	8082A	Total/NA
Lead	21		1.6	0.64	mg/Kg	1	✳	6010C	Total/NA
Barium	0.43	B	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	0.86		0.20	0.037	mg/L	1		6010C	TCLP
Total Solids	14		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	97		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	2900		670	220	mg/Kg	1	✳	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	9.5		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
HEM (Oil & Grease)	2.1	J ! B	5.2	1.5	mg/L	1		1664B	ASTM Leach
Total Solids	56	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	56	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	63	J !	75	25	mg/L	1		410.4	ASTM Leach

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	63	J	300	24	ug/Kg	50	✳	8260C	Total/NA
Xylenes, Total	620		600	83	ug/Kg	50	✳	8260C	Total/NA
1,2,4-Trimethylbenzene	6000		300	30	ug/Kg	50	✳	8260C	Total/NA
Naphthalene	2900		300	120	ug/Kg	50	✳	8260C	Total/NA
Isopropylbenzene	150	J	300	24	ug/Kg	50	✳	8260C	Total/NA
1,3,5-Trimethylbenzene	1700		300	30	ug/Kg	50	✳	8260C	Total/NA
PCB-1254 (2C)	8.6	J	18	6.9	ug/Kg	1	✳	8082A	Total/NA
PCB-1260 (2C)	7.9	J	18	6.9	ug/Kg	1	✳	8082A	Total/NA
Lead	21		1.2	0.49	mg/Kg	1	✳	6010C	Total/NA
Barium	0.37	B	0.050	0.010	mg/L	1		6010C	TCLP
Chromium	0.018	J	0.15	0.016	mg/L	1		6010C	TCLP
Lead	0.35	B	0.15	0.071	mg/L	1		6010C	TCLP
Zinc	2.3		0.20	0.037	mg/L	1		6010C	TCLP
Nickel	0.057	J B	0.10	0.021	mg/L	1		6010C	TCLP
Total Solids	89		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	2.3		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	6500		650	220	mg/Kg	1	✳	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	8.0		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
Total Solids	110	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	110	!	42	14	mg/L	1		2540B-2011	ASTM Leach

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	76	J	280	28	ug/Kg	50	✳	8260C	Total/NA
PCB-1260 (2C)	9.2	J	18	6.8	ug/Kg	1	✳	8082A	Total/NA
Lead	20		1.4	0.54	mg/Kg	1	✳	6010C	Total/NA
Barium	0.27	B	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	1.9		0.20	0.037	mg/L	1		6010C	TCLP
Total Solids	93		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	2.9		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	950		630	210	mg/Kg	1	✳	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	8.7		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
HEM (Oil & Grease)	2.1	J ! B	5.3	1.5	mg/L	1		1664B	ASTM Leach
Total Solids	100	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	100	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	25	J !	75	25	mg/L	1		410.4	ASTM Leach

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	230	J	360	36	ug/Kg	50	✳	8260C	Total/NA
Naphthalene	650		360	140	ug/Kg	50	✳	8260C	Total/NA
Isopropylbenzene	39	J	360	29	ug/Kg	50	✳	8260C	Total/NA
1,3,5-Trimethylbenzene	75	J	360	36	ug/Kg	50	✳	8260C	Total/NA
PCB-1254 (2C)	23		21	7.8	ug/Kg	1	✳	8082A	Total/NA
Lead	32		1.8	0.72	mg/Kg	1	✳	6010C	Total/NA
Barium	0.40	B	0.050	0.010	mg/L	1		6010C	TCLP
Lead	0.15	B	0.15	0.071	mg/L	1		6010C	TCLP
Zinc	1.5		0.20	0.037	mg/L	1		6010C	TCLP
Total Solids	87		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	12		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	3300		710	240	mg/Kg	1	✳	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	7.6		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
HEM (Oil & Grease)	2.0	J ! B	5.3	1.5	mg/L	1		1664B	ASTM Leach
Total Solids	120	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	120	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	68	J !	75	25	mg/L	1		410.4	ASTM Leach

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	57	J	360	28	ug/Kg	50	✳	8260C	Total/NA
Xylenes, Total	430	J	710	100	ug/Kg	50	✳	8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12
(Continued)

Lab Sample ID: 410-58999-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	2100		360	36	ug/Kg	50	☼	8260C	Total/NA
Naphthalene	570		360	140	ug/Kg	50	☼	8260C	Total/NA
Isopropylbenzene	770		360	28	ug/Kg	50	☼	8260C	Total/NA
1,3,5-Trimethylbenzene	770		360	36	ug/Kg	50	☼	8260C	Total/NA
PCB-1254 (2C)	11	J	21	7.8	ug/Kg	1	☼	8082A	Total/NA
PCB-1260 (1C)	13	J	21	7.8	ug/Kg	1	☼	8082A	Total/NA
Lead	28		1.6	0.64	mg/Kg	1	☼	6010C	Total/NA
Barium	0.54	B	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	7.3		0.20	0.037	mg/L	1		6010C	TCLP
Nickel	0.11	B	0.10	0.021	mg/L	1		6010C	TCLP
Total Solids	80		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	8.7		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	5000		710	240	mg/Kg	1	☼	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	7.3		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
Total Solids	110	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	110	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	37	J!	75	25	mg/L	1		410.4	ASTM Leach

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	55	J	350	42	ug/Kg	50	☼	8260C	Total/NA
Ethylbenzene	160	J	350	28	ug/Kg	50	☼	8260C	Total/NA
Xylenes, Total	1300		700	99	ug/Kg	50	☼	8260C	Total/NA
1,2,4-Trimethylbenzene	3300		350	35	ug/Kg	50	☼	8260C	Total/NA
Naphthalene	790		350	140	ug/Kg	50	☼	8260C	Total/NA
Isopropylbenzene	1400		350	28	ug/Kg	50	☼	8260C	Total/NA
1,3,5-Trimethylbenzene	1200		350	35	ug/Kg	50	☼	8260C	Total/NA
PCB-1254 (2C)	11	J	20	7.7	ug/Kg	1	☼	8082A	Total/NA
PCB-1260 (2C)	16	J	20	7.7	ug/Kg	1	☼	8082A	Total/NA
Lead	25		1.6	0.66	mg/Kg	1	☼	6010C	Total/NA
Barium	0.52	B	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	3.5		0.20	0.037	mg/L	1		6010C	TCLP
Nickel	0.044	J B	0.10	0.021	mg/L	1		6010C	TCLP
Mercury	0.00016	J	0.00020	0.000079	mg/L	1		7470A	TCLP
Total Solids	81		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	8.8		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	6100		720	240	mg/Kg	1	☼	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	6.9		0.01	0.01	S.U.	1		9045D	Soluble

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12
(Continued)

Lab Sample ID: 410-58999-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
HEM (Oil & Grease)	2.7	J ! B	5.3	1.5	mg/L	1		1664B	ASTM Leach
Total Solids	92	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	92	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	68	J !	75	25	mg/L	1		410.4	ASTM Leach

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	36	J	350	28	ug/Kg	50	✳	8260C	Total/NA
Xylenes, Total	330	J	710	99	ug/Kg	50	✳	8260C	Total/NA
1,2,4-Trimethylbenzene	1600		350	35	ug/Kg	50	✳	8260C	Total/NA
Naphthalene	410		350	140	ug/Kg	50	✳	8260C	Total/NA
Isopropylbenzene	500		350	28	ug/Kg	50	✳	8260C	Total/NA
1,3,5-Trimethylbenzene	610		350	35	ug/Kg	50	✳	8260C	Total/NA
PCB-1254 (2C)	12	J	20	7.7	ug/Kg	1	✳	8082A	Total/NA
PCB-1260 (2C)	22		20	7.7	ug/Kg	1	✳	8082A	Total/NA
Lead	33		1.7	0.67	mg/Kg	1	✳	6010C	Total/NA
Barium	0.44	B	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	2.6		0.20	0.037	mg/L	1		6010C	TCLP
Nickel	0.11	B	0.10	0.021	mg/L	1		6010C	TCLP
Total Solids	81		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	6.3		0.10	0.10	%	1		2540G-2011	Total/NA
Ignitable to Air	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Flame	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Friction	No		1.0	1.0	NONE	1		261.21	Total/NA
Ignitable to Water	No		1.0	1.0	NONE	1		261.21	Total/NA
HEM (Oil & Grease)	3500		720	240	mg/Kg	1	✳	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	7.6		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
HEM (Oil & Grease)	1.9	J ! B	5.4	1.5	mg/L	1		1664B	ASTM Leach
Total Solids	73	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	73	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	35	J !	75	25	mg/L	1		410.4	ASTM Leach
Ammonia as N	0.061	J !	0.10	0.050	mg/L	1		EPA 350.1	ASTM Leach

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 03:08	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 03:08	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 03:08	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		10/20/21 03:08	20
4-Bromofluorobenzene (Surr)	95		80 - 120		10/20/21 03:08	20
Dibromofluoromethane (Surr)	102		80 - 120		10/20/21 03:08	20
Toluene-d8 (Surr)	104		80 - 120		10/20/21 03:08	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 14:53	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 14:53	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 14:53	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 14:53	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 14:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	66		10 - 150	10/19/21 17:40	10/20/21 14:53	1
2-Fluorobiphenyl (Surr)	71		35 - 100	10/19/21 17:40	10/20/21 14:53	1
2-Fluorophenol (Surr)	22		10 - 78	10/19/21 17:40	10/20/21 14:53	1
Nitrobenzene-d5 (Surr)	76		22 - 117	10/19/21 17:40	10/20/21 14:53	1
p-Terphenyl-d14 (Surr)	76		31 - 119	10/19/21 17:40	10/20/21 14:53	1
Phenol-d5 (Surr)	19		10 - 67	10/19/21 17:40	10/20/21 14:53	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 09:30	10
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 09:30	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 09:30	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 09:30	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 09:30	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 09:30	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 09:30	10

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	88		21 - 130	10/19/21 17:27	10/20/21 09:30	10
DCB Decachlorobiphenyl (Surr) (2C)	91		21 - 130	10/19/21 17:27	10/20/21 09:30	10
Tetrachloro-m-xylene (Surr) (1C)	75		39 - 139	10/19/21 17:27	10/20/21 09:30	10
Tetrachloro-m-xylene (Surr) (2C)	68		39 - 139	10/19/21 17:27	10/20/21 09:30	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/21/21 23:25	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/21/21 23:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	96		26 - 136	10/20/21 00:20	10/21/21 23:25	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	80		26 - 136	10/20/21 00:20	10/21/21 23:25	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 14:59	1
Barium	0.74	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 14:59	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 14:59	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 14:59	1
Lead	ND	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 14:59	1
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 14:59	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 14:59	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 14:59	1
Zinc	3.0		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 14:59	1
Nickel	0.022	J B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 14:59	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	87		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	33		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	87	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	57	19	mg/Kg		10/15/21 07:55	10/15/21 15:00	1
Sulfide, Reactive	ND	!	150	51	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	22.8	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	2.7	J ! B	5.3	1.5	mg/L			10/19/21 20:36	1
Total Solids	100	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	100	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	45	J !	75	25	mg/L			10/19/21 12:47	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 10:55	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 77.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		390	39	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
Toluene	ND		390	47	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
Ethylbenzene	36	J	390	31	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
Xylenes, Total	250	J	780	110	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
1,2,4-Trimethylbenzene	890		390	39	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
Naphthalene	370	J	390	160	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
Isopropylbenzene	490		390	31	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
1,3,5-Trimethylbenzene	370	J	390	39	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
1,2-Dibromoethane	ND		390	31	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
Methyl tertiary butyl ether	ND		390	39	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50
1,2-Dichloroethane	ND		390	47	ug/Kg	⊛	10/14/21 11:18	10/18/21 14:27	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		54 - 135	10/14/21 11:18	10/18/21 14:27	50
4-Bromofluorobenzene (Surr)	105		50 - 131	10/14/21 11:18	10/18/21 14:27	50
Dibromofluoromethane (Surr)	94		50 - 141	10/14/21 11:18	10/18/21 14:27	50
Toluene-d8 (Surr)	105		52 - 141	10/14/21 11:18	10/18/21 14:27	50

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (2C)	ND		22	6.8	ug/Kg	⊛	10/18/21 18:09	10/19/21 08:52	1
PCB-1221 (2C)	ND		22	6.8	ug/Kg	⊛	10/18/21 18:09	10/19/21 08:52	1
PCB-1232 (2C)	ND		22	6.8	ug/Kg	⊛	10/18/21 18:09	10/19/21 08:52	1
PCB-1242 (2C)	ND		22	6.8	ug/Kg	⊛	10/18/21 18:09	10/19/21 08:52	1
PCB-1248 (2C)	ND		22	6.8	ug/Kg	⊛	10/18/21 18:09	10/19/21 08:52	1
PCB-1254 (2C)	21	J	22	8.3	ug/Kg	⊛	10/18/21 18:09	10/19/21 08:52	1
PCB-1260 (2C)	32		22	8.3	ug/Kg	⊛	10/18/21 18:09	10/19/21 08:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	99	^c	45 - 143	10/18/21 18:09	10/19/21 08:52	1
DCB Decachlorobiphenyl (Surr) (2C)	91		45 - 143	10/18/21 18:09	10/19/21 08:52	1
Tetrachloro-m-xylene (1C)	61		53 - 140	10/18/21 18:09	10/19/21 08:52	1
Tetrachloro-m-xylene (2C)	58		53 - 140	10/18/21 18:09	10/19/21 08:52	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	45		1.4	0.58	mg/Kg	⊛	11/09/21 19:12	11/16/21 12:26	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 77.2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	3600	FH	760	250	mg/Kg	☼	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Date Collected: 10/12/21 10:05

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 03:54	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 03:54	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 03:54	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		10/20/21 03:54	20
4-Bromofluorobenzene (Surr)	94		80 - 120		10/20/21 03:54	20
Dibromofluoromethane (Surr)	102		80 - 120		10/20/21 03:54	20
Toluene-d8 (Surr)	103		80 - 120		10/20/21 03:54	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 15:21	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 15:21	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:21	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 15:21	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 15:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	85		10 - 150	10/19/21 17:40	10/20/21 15:21	1
2-Fluorobiphenyl (Surr)	69		35 - 100	10/19/21 17:40	10/20/21 15:21	1
2-Fluorophenol (Surr)	43		10 - 78	10/19/21 17:40	10/20/21 15:21	1
Nitrobenzene-d5 (Surr)	77		22 - 117	10/19/21 17:40	10/20/21 15:21	1
p-Terphenyl-d14 (Surr)	89		31 - 119	10/19/21 17:40	10/20/21 15:21	1
Phenol-d5 (Surr)	34		10 - 67	10/19/21 17:40	10/20/21 15:21	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 09:41	10

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Date Collected: 10/12/21 10:05

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8081B - Organochlorine Pesticides (GC) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 09:41	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 09:41	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 09:41	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 09:41	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 09:41	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 09:41	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	78		21 - 130	10/19/21 17:27	10/20/21 09:41	10
DCB Decachlorobiphenyl (Surr) (2C)	83		21 - 130	10/19/21 17:27	10/20/21 09:41	10
Tetrachloro-m-xylene (Surr) (1C)	69		39 - 139	10/19/21 17:27	10/20/21 09:41	10
Tetrachloro-m-xylene (Surr) (2C)	61		39 - 139	10/19/21 17:27	10/20/21 09:41	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 00:00	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 00:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	99		26 - 136	10/20/21 00:20	10/22/21 00:00	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	87		26 - 136	10/20/21 00:20	10/22/21 00:00	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:08	1
Barium	0.28	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:08	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:08	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:08	1
Lead	ND	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:08	1
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:08	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:08	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:08	1
Zinc	0.069	J	0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:08	1
Nickel	ND	B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:08	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	89		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	2.2		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	89	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	59	20	mg/Kg		10/15/21 07:55	10/15/21 14:32	1

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Date Collected: 10/12/21 10:05

Matrix: Solid

Date Received: 10/13/21 18:10

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	ND	! FL	160	53	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	10.8	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	9.3		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND	! B	5.2	1.5	mg/L			10/19/21 20:36	1
Total Solids	130	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	130	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	39	J !	75	25	mg/L			10/19/21 12:49	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 11:01	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Date Collected: 10/12/21 10:05

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 89.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		310	31	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
Toluene	ND		310	37	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
Ethylbenzene	ND		310	25	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
Xylenes, Total	ND		610	86	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
1,2,4-Trimethylbenzene	63	J	310	31	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
Naphthalene	ND		310	120	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
Isopropylbenzene	ND		310	25	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
1,3,5-Trimethylbenzene	ND		310	31	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
1,2-Dibromoethane	ND		310	25	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
Methyl tertiary butyl ether	ND		310	31	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50
1,2-Dichloroethane	ND		310	37	ug/Kg	✱	10/14/21 11:18	10/18/21 14:48	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		54 - 135	10/14/21 11:18	10/18/21 14:48	50
4-Bromofluorobenzene (Surr)	101		50 - 131	10/14/21 11:18	10/18/21 14:48	50
Dibromofluoromethane (Surr)	84		50 - 141	10/14/21 11:18	10/18/21 14:48	50
Toluene-d8 (Surr)	103		52 - 141	10/14/21 11:18	10/18/21 14:48	50

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (2C)	ND		19	5.9	ug/Kg	✱	10/15/21 09:45	10/15/21 19:17	1
PCB-1221 (2C)	ND		19	5.9	ug/Kg	✱	10/15/21 09:45	10/15/21 19:17	1
PCB-1232 (2C)	ND		19	5.9	ug/Kg	✱	10/15/21 09:45	10/15/21 19:17	1
PCB-1242 (2C)	ND		19	5.9	ug/Kg	✱	10/15/21 09:45	10/15/21 19:17	1
PCB-1248 (2C)	ND		19	5.9	ug/Kg	✱	10/15/21 09:45	10/15/21 19:17	1
PCB-1254 (2C)	9.1	J	19	7.1	ug/Kg	✱	10/15/21 09:45	10/15/21 19:17	1
PCB-1260 (2C)	10	J	19	7.1	ug/Kg	✱	10/15/21 09:45	10/15/21 19:17	1

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Date Collected: 10/12/21 10:05

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 89.2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	79	^c	45 - 143	10/15/21 09:45	10/15/21 19:17	1
DCB Decachlorobiphenyl (Surr) (2C)	68		45 - 143	10/15/21 09:45	10/15/21 19:17	1
Tetrachloro-m-xylene (1C)	65		53 - 140	10/15/21 09:45	10/15/21 19:17	1
Tetrachloro-m-xylene (2C)	60		53 - 140	10/15/21 09:45	10/15/21 19:17	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	19		1.5	0.62	mg/Kg	☆	11/09/21 19:12	11/16/21 12:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	1600		670	220	mg/Kg	☆	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 04:17	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 04:17	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 04:17	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		10/20/21 04:17	20
4-Bromofluorobenzene (Surr)	95		80 - 120		10/20/21 04:17	20
Dibromofluoromethane (Surr)	103		80 - 120		10/20/21 04:17	20
Toluene-d8 (Surr)	102		80 - 120		10/20/21 04:17	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 15:50	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 15:50	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 15:50	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 15:50	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 15:50	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	56		10 - 150	10/19/21 17:40	10/20/21 15:50	1
2-Fluorobiphenyl (Surr)	71		35 - 100	10/19/21 17:40	10/20/21 15:50	1
2-Fluorophenol (Surr)	11		10 - 78	10/19/21 17:40	10/20/21 15:50	1
Nitrobenzene-d5 (Surr)	76		22 - 117	10/19/21 17:40	10/20/21 15:50	1
p-Terphenyl-d14 (Surr)	89		31 - 119	10/19/21 17:40	10/20/21 15:50	1
Phenol-d5 (Surr)	11		10 - 67	10/19/21 17:40	10/20/21 15:50	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 09:53	10
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 09:53	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 09:53	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 09:53	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 09:53	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 09:53	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 09:53	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	90		21 - 130	10/19/21 17:27	10/20/21 09:53	10
DCB Decachlorobiphenyl (Surr) (2C)	92		21 - 130	10/19/21 17:27	10/20/21 09:53	10
Tetrachloro-m-xylene (Surr) (1C)	64		39 - 139	10/19/21 17:27	10/20/21 09:53	10
Tetrachloro-m-xylene (Surr) (2C)	58		39 - 139	10/19/21 17:27	10/20/21 09:53	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 00:36	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 00:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	98		26 - 136	10/20/21 00:20	10/22/21 00:36	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	86		26 - 136	10/20/21 00:20	10/22/21 00:36	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:11	1
Barium	0.43	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:11	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:11	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:11	1
Lead	ND	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:11	1
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:11	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:11	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:11	1
Zinc	0.86		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:11	1
Nickel	ND	B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:11	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:39	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	14		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	97		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	14	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	58	19	mg/Kg		10/15/21 07:55	10/15/21 14:39	1
Sulfide, Reactive	ND	!	160	52	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	11.3	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	9.5		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	2.1	J ! B	5.2	1.5	mg/L			10/19/21 20:36	1
Total Solids	56	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	56	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	63	J !	75	25	mg/L			10/19/21 12:51	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 11:03	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 88.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		300	30	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
Toluene	ND		300	37	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
Ethylbenzene	ND		300	24	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
Xylenes, Total	ND		610	85	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
1,2,4-Trimethylbenzene	50	J	300	30	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
Naphthalene	ND		300	120	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
Isopropylbenzene	ND		300	24	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
1,3,5-Trimethylbenzene	ND		300	30	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
1,2-Dibromoethane	ND		300	24	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
Methyl tertiary butyl ether	ND		300	30	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
1,2-Dichloroethane	ND		300	37	ug/Kg	✳	10/14/21 11:18	10/18/21 15:08	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		54 - 135				10/14/21 11:18	10/18/21 15:08	50
4-Bromofluorobenzene (Surr)	99		50 - 131				10/14/21 11:18	10/18/21 15:08	50
Dibromofluoromethane (Surr)	89		50 - 141				10/14/21 11:18	10/18/21 15:08	50
Toluene-d8 (Surr)	102		52 - 141				10/14/21 11:18	10/18/21 15:08	50

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 88.7

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (2C)	ND		19	5.9	ug/Kg	☼	10/15/21 09:45	10/15/21 19:28	1
PCB-1221 (2C)	ND		19	5.9	ug/Kg	☼	10/15/21 09:45	10/15/21 19:28	1
PCB-1232 (2C)	ND		19	5.9	ug/Kg	☼	10/15/21 09:45	10/15/21 19:28	1
PCB-1242 (2C)	ND		19	5.9	ug/Kg	☼	10/15/21 09:45	10/15/21 19:28	1
PCB-1248 (2C)	ND		19	5.9	ug/Kg	☼	10/15/21 09:45	10/15/21 19:28	1
PCB-1254 (2C)	13	J p	19	7.2	ug/Kg	☼	10/15/21 09:45	10/15/21 19:28	1
PCB-1260 (2C)	47		19	7.2	ug/Kg	☼	10/15/21 09:45	10/15/21 19:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	155	S1+ ^c	45 - 143	10/15/21 09:45	10/15/21 19:28	1
DCB Decachlorobiphenyl (Surr) (2C)	136		45 - 143	10/15/21 09:45	10/15/21 19:28	1
Tetrachloro-m-xylene (1C)	71		53 - 140	10/15/21 09:45	10/15/21 19:28	1
Tetrachloro-m-xylene (2C)	68		53 - 140	10/15/21 09:45	10/15/21 19:28	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	21		1.6	0.64	mg/Kg	☼	11/09/21 13:56	11/10/21 10:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	2900		670	220	mg/Kg	☼	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 04:40	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 04:40	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 04:40	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		10/20/21 04:40	20
4-Bromofluorobenzene (Surr)	94		80 - 120		10/20/21 04:40	20
Dibromofluoromethane (Surr)	102		80 - 120		10/20/21 04:40	20
Toluene-d8 (Surr)	103		80 - 120		10/20/21 04:40	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 16:19	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 16:19	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:19	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 16:19	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 16:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	72		10 - 150	10/19/21 17:40	10/20/21 16:19	1
2-Fluorobiphenyl (Surr)	69		35 - 100	10/19/21 17:40	10/20/21 16:19	1
2-Fluorophenol (Surr)	16		10 - 78	10/19/21 17:40	10/20/21 16:19	1
Nitrobenzene-d5 (Surr)	76		22 - 117	10/19/21 17:40	10/20/21 16:19	1
p-Terphenyl-d14 (Surr)	90		31 - 119	10/19/21 17:40	10/20/21 16:19	1
Phenol-d5 (Surr)	13		10 - 67	10/19/21 17:40	10/20/21 16:19	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 10:04	10
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 10:04	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 10:04	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 10:04	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 10:04	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 10:04	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 10:04	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	82		21 - 130	10/19/21 17:27	10/20/21 10:04	10
DCB Decachlorobiphenyl (Surr) (2C)	86		21 - 130	10/19/21 17:27	10/20/21 10:04	10
Tetrachloro-m-xylene (Surr) (1C)	60		39 - 139	10/19/21 17:27	10/20/21 10:04	10
Tetrachloro-m-xylene (Surr) (2C)	54		39 - 139	10/19/21 17:27	10/20/21 10:04	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 01:11	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 01:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	98		26 - 136	10/20/21 00:20	10/22/21 01:11	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	83		26 - 136	10/20/21 00:20	10/22/21 01:11	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:30	1
Barium	0.37	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:30	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:30	1
Chromium	0.018	J	0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:30	1
Lead	0.35	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:30	1

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 6010C - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:30	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:30	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:30	1
Zinc	2.3		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:30	1
Nickel	0.057	J B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:30	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	89		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	2.3		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	89	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	58	19	mg/Kg		10/15/21 07:55	10/15/21 14:41	1
Sulfide, Reactive	ND	!	160	52	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	8.3	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.0		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND	! B	5.6	1.6	mg/L			10/19/21 20:36	1
Total Solids	110	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	110	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	ND	!	75	25	mg/L			10/19/21 12:52	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 11:05	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 91.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		300	30	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50
Toluene	ND		300	36	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50
Ethylbenzene	63	J	300	24	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50
Xylenes, Total	620		600	83	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50
1,2,4-Trimethylbenzene	6000		300	30	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50
Naphthalene	2900		300	120	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50
Isopropylbenzene	150	J	300	24	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50
1,3,5-Trimethylbenzene	1700		300	30	ug/Kg	☆	10/14/21 11:18	10/18/21 15:29	50

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 91.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		300	24	ug/Kg	☼	10/14/21 11:18	10/18/21 15:29	50
Methyl tertiary butyl ether	ND		300	30	ug/Kg	☼	10/14/21 11:18	10/18/21 15:29	50
1,2-Dichloroethane	ND		300	36	ug/Kg	☼	10/14/21 11:18	10/18/21 15:29	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		54 - 135	10/14/21 11:18	10/18/21 15:29	50
4-Bromofluorobenzene (Surr)	105		50 - 131	10/14/21 11:18	10/18/21 15:29	50
Dibromofluoromethane (Surr)	92		50 - 141	10/14/21 11:18	10/18/21 15:29	50
Toluene-d8 (Surr)	100		52 - 141	10/14/21 11:18	10/18/21 15:29	50

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (2C)	ND		18	5.7	ug/Kg	☼	10/15/21 09:45	10/15/21 19:38	1
PCB-1221 (2C)	ND		18	5.7	ug/Kg	☼	10/15/21 09:45	10/15/21 19:38	1
PCB-1232 (2C)	ND		18	5.7	ug/Kg	☼	10/15/21 09:45	10/15/21 19:38	1
PCB-1242 (2C)	ND		18	5.7	ug/Kg	☼	10/15/21 09:45	10/15/21 19:38	1
PCB-1248 (2C)	ND		18	5.7	ug/Kg	☼	10/15/21 09:45	10/15/21 19:38	1
PCB-1254 (2C)	8.6	J	18	6.9	ug/Kg	☼	10/15/21 09:45	10/15/21 19:38	1
PCB-1260 (2C)	7.9	J	18	6.9	ug/Kg	☼	10/15/21 09:45	10/15/21 19:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	89	^c	45 - 143	10/15/21 09:45	10/15/21 19:38	1
DCB Decachlorobiphenyl (Surr) (2C)	78		45 - 143	10/15/21 09:45	10/15/21 19:38	1
Tetrachloro-m-xylene (1C)	62		53 - 140	10/15/21 09:45	10/15/21 19:38	1
Tetrachloro-m-xylene (2C)	63		53 - 140	10/15/21 09:45	10/15/21 19:38	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	21		1.2	0.49	mg/Kg	☼	11/09/21 19:12	11/16/21 12:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	6500		650	220	mg/Kg	☼	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Date Collected: 10/12/21 10:12

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 05:03	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:03	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 05:03	20

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Date Collected: 10/12/21 10:12

Matrix: Solid

Date Received: 10/13/21 18:10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		10/20/21 05:03	20
4-Bromofluorobenzene (Surr)	94		80 - 120		10/20/21 05:03	20
Dibromofluoromethane (Surr)	104		80 - 120		10/20/21 05:03	20
Toluene-d8 (Surr)	103		80 - 120		10/20/21 05:03	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 16:48	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 16:48	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 16:48	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 16:48	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 16:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	67		10 - 150	10/19/21 17:40	10/20/21 16:48	1
2-Fluorobiphenyl (Surr)	55		35 - 100	10/19/21 17:40	10/20/21 16:48	1
2-Fluorophenol (Surr)	17		10 - 78	10/19/21 17:40	10/20/21 16:48	1
Nitrobenzene-d5 (Surr)	56		22 - 117	10/19/21 17:40	10/20/21 16:48	1
p-Terphenyl-d14 (Surr)	74		31 - 119	10/19/21 17:40	10/20/21 16:48	1
Phenol-d5 (Surr)	15		10 - 67	10/19/21 17:40	10/20/21 16:48	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 10:15	10
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 10:15	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 10:15	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 10:15	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 10:15	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 10:15	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 10:15	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	80		21 - 130	10/19/21 17:27	10/20/21 10:15	10
DCB Decachlorobiphenyl (Surr) (2C)	90		21 - 130	10/19/21 17:27	10/20/21 10:15	10
Tetrachloro-m-xylene (Surr) (1C)	92		39 - 139	10/19/21 17:27	10/20/21 10:15	10
Tetrachloro-m-xylene (Surr) (2C)	82		39 - 139	10/19/21 17:27	10/20/21 10:15	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 01:47	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 01:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	99		26 - 136	10/20/21 00:20	10/22/21 01:47	1

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Date Collected: 10/12/21 10:12

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8151A - Herbicides (GC) - TCLP (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (2C)	95		26 - 136	10/20/21 00:20	10/22/21 01:47	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:15	1
Barium	0.27	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:15	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:15	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:15	1
Lead	ND	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:15	1
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:15	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:15	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:15	1
Zinc	1.9		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:15	1
Nickel	ND	B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:15	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	93		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	2.9		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	93	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	59	20	mg/Kg		10/15/21 07:55	10/15/21 14:42	1
Sulfide, Reactive	ND	!	160	53	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	6.2	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.7		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	2.1	J ! B	5.3	1.5	mg/L			10/19/21 20:36	1
Total Solids	100	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	100	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	25	J !	75	25	mg/L			10/19/21 12:53	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 11:07	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Date Collected: 10/12/21 10:12

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 93.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		280	28	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
Toluene	ND		280	34	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
Ethylbenzene	ND		280	23	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
Xylenes, Total	ND		570	80	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
1,2,4-Trimethylbenzene	76	J	280	28	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
Naphthalene	ND		280	110	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
Isopropylbenzene	ND		280	23	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
1,3,5-Trimethylbenzene	ND		280	28	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
1,2-Dibromoethane	ND		280	23	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
Methyl tertiary butyl ether	ND		280	28	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
1,2-Dichloroethane	ND		280	34	ug/Kg	☼	10/14/21 11:18	10/18/21 15:50	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		54 - 135				10/14/21 11:18	10/18/21 15:50	50
4-Bromofluorobenzene (Surr)	98		50 - 131				10/14/21 11:18	10/18/21 15:50	50
Dibromofluoromethane (Surr)	80		50 - 141				10/14/21 11:18	10/18/21 15:50	50
Toluene-d8 (Surr)	99		52 - 141				10/14/21 11:18	10/18/21 15:50	50

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		18	5.6	ug/Kg	☼	10/16/21 09:07	10/18/21 11:03	1
PCB-1221 (1C)	ND		18	5.6	ug/Kg	☼	10/16/21 09:07	10/18/21 11:03	1
PCB-1232 (1C)	ND		18	5.6	ug/Kg	☼	10/16/21 09:07	10/18/21 11:03	1
PCB-1242 (1C)	ND		18	5.6	ug/Kg	☼	10/16/21 09:07	10/18/21 11:03	1
PCB-1248 (1C)	ND		18	5.6	ug/Kg	☼	10/16/21 09:07	10/18/21 11:03	1
PCB-1254 (1C)	ND		18	6.8	ug/Kg	☼	10/16/21 09:07	10/18/21 11:03	1
PCB-1260 (2C)	9.2	J	18	6.8	ug/Kg	☼	10/16/21 09:07	10/18/21 11:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	121	^c	45 - 143				10/16/21 09:07	10/18/21 11:03	1
DCB Decachlorobiphenyl (Surr) (2C)	102		45 - 143				10/16/21 09:07	10/18/21 11:03	1
Tetrachloro-m-xylene (1C)	73		53 - 140				10/16/21 09:07	10/18/21 11:03	1
Tetrachloro-m-xylene (2C)	69		53 - 140				10/16/21 09:07	10/18/21 11:03	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	20		1.4	0.54	mg/Kg	☼	11/09/21 19:12	11/16/21 12:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	950		630	210	mg/Kg	☼	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 05:26	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 05:26	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 05:26	20

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 05:26	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 05:26	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:26	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 05:26	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:26	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:26	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 05:26	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		10/20/21 05:26	20
4-Bromofluorobenzene (Surr)	94		80 - 120		10/20/21 05:26	20
Dibromofluoromethane (Surr)	101		80 - 120		10/20/21 05:26	20
Toluene-d8 (Surr)	103		80 - 120		10/20/21 05:26	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 17:17	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 17:17	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:17	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 17:17	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 17:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	95		10 - 150	10/19/21 17:40	10/20/21 17:17	1
2-Fluorobiphenyl (Surr)	71		35 - 100	10/19/21 17:40	10/20/21 17:17	1
2-Fluorophenol (Surr)	49		10 - 78	10/19/21 17:40	10/20/21 17:17	1
Nitrobenzene-d5 (Surr)	77		22 - 117	10/19/21 17:40	10/20/21 17:17	1
p-Terphenyl-d14 (Surr)	82		31 - 119	10/19/21 17:40	10/20/21 17:17	1
Phenol-d5 (Surr)	39		10 - 67	10/19/21 17:40	10/20/21 17:17	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 10:26	10
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 10:26	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 10:26	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 10:26	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 10:26	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 10:26	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 10:26	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	63		21 - 130	10/19/21 17:27	10/20/21 10:26	10
DCB Decachlorobiphenyl (Surr) (2C)	69		21 - 130	10/19/21 17:27	10/20/21 10:26	10
Tetrachloro-m-xylene (Surr) (1C)	83		39 - 139	10/19/21 17:27	10/20/21 10:26	10

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8081B - Organochlorine Pesticides (GC) - TCLP (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr) (2C)	77		39 - 139	10/19/21 17:27	10/20/21 10:26	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 02:22	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 02:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	91		26 - 136	10/20/21 00:20	10/22/21 02:22	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	81		26 - 136	10/20/21 00:20	10/22/21 02:22	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:18	1
Barium	0.40	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:18	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:18	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:18	1
Lead	0.15	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:18	1
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:18	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:18	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:18	1
Zinc	1.5		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:18	1
Nickel	ND	B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:18	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	87		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	12		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	87	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	59	20	mg/Kg		10/15/21 07:55	10/15/21 14:43	1
Sulfide, Reactive	ND	!	160	53	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	18.1	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	2.0	J ! B	5.3	1.5	mg/L			10/19/21 20:36	1
Total Solids	120	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	120	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	68	J !	75	25	mg/L			10/19/21 12:54	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 11:09	1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 81.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		360	36	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
Toluene	ND		360	43	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
Ethylbenzene	ND		360	29	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
Xylenes, Total	ND		720	100	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
1,2,4-Trimethylbenzene	230	J	360	36	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
Naphthalene	650		360	140	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
Isopropylbenzene	39	J	360	29	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
1,3,5-Trimethylbenzene	75	J	360	36	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
1,2-Dibromoethane	ND		360	29	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
Methyl tertiary butyl ether	ND		360	36	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
1,2-Dichloroethane	ND		360	43	ug/Kg	✳	10/14/21 11:18	10/18/21 16:11	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		54 - 135				10/14/21 11:18	10/18/21 16:11	50
4-Bromofluorobenzene (Surr)	103		50 - 131				10/14/21 11:18	10/18/21 16:11	50
Dibromofluoromethane (Surr)	100		50 - 141				10/14/21 11:18	10/18/21 16:11	50
Toluene-d8 (Surr)	106		52 - 141				10/14/21 11:18	10/18/21 16:11	50

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		21	6.4	ug/Kg	✳	10/16/21 09:07	10/18/21 11:14	1
PCB-1221 (1C)	ND		21	6.4	ug/Kg	✳	10/16/21 09:07	10/18/21 11:14	1
PCB-1232 (1C)	ND		21	6.4	ug/Kg	✳	10/16/21 09:07	10/18/21 11:14	1
PCB-1242 (1C)	ND		21	6.4	ug/Kg	✳	10/16/21 09:07	10/18/21 11:14	1
PCB-1248 (1C)	ND		21	6.4	ug/Kg	✳	10/16/21 09:07	10/18/21 11:14	1
PCB-1254 (2C)	23		21	7.8	ug/Kg	✳	10/16/21 09:07	10/18/21 11:14	1
PCB-1260 (1C)	ND		21	7.8	ug/Kg	✳	10/16/21 09:07	10/18/21 11:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	97	^c	45 - 143				10/16/21 09:07	10/18/21 11:14	1
DCB Decachlorobiphenyl (Surr) (2C)	86		45 - 143				10/16/21 09:07	10/18/21 11:14	1
Tetrachloro-m-xylene (1C)	58		53 - 140				10/16/21 09:07	10/18/21 11:14	1
Tetrachloro-m-xylene (2C)	57		53 - 140				10/16/21 09:07	10/18/21 11:14	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	32		1.8	0.72	mg/Kg	✳	11/09/21 19:12	11/16/21 12:30	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 81.9

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	3300		710	240	mg/Kg	☼	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Date Collected: 10/12/21 10:30

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 05:49	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 05:49	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 05:49	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120		10/20/21 05:49	20
4-Bromofluorobenzene (Surr)	93		80 - 120		10/20/21 05:49	20
Dibromofluoromethane (Surr)	104		80 - 120		10/20/21 05:49	20
Toluene-d8 (Surr)	103		80 - 120		10/20/21 05:49	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 17:46	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 17:46	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 17:46	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 17:46	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 17:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	90		10 - 150	10/19/21 17:40	10/20/21 17:46	1
2-Fluorobiphenyl (Surr)	69		35 - 100	10/19/21 17:40	10/20/21 17:46	1
2-Fluorophenol (Surr)	41		10 - 78	10/19/21 17:40	10/20/21 17:46	1
Nitrobenzene-d5 (Surr)	77		22 - 117	10/19/21 17:40	10/20/21 17:46	1
p-Terphenyl-d14 (Surr)	83		31 - 119	10/19/21 17:40	10/20/21 17:46	1
Phenol-d5 (Surr)	34		10 - 67	10/19/21 17:40	10/20/21 17:46	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 10:37	10

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Date Collected: 10/12/21 10:30

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8081B - Organochlorine Pesticides (GC) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 10:37	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 10:37	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 10:37	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 10:37	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 10:37	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 10:37	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	95		21 - 130	10/19/21 17:27	10/20/21 10:37	10
DCB Decachlorobiphenyl (Surr) (2C)	100		21 - 130	10/19/21 17:27	10/20/21 10:37	10
Tetrachloro-m-xylene (Surr) (1C)	94		39 - 139	10/19/21 17:27	10/20/21 10:37	10
Tetrachloro-m-xylene (Surr) (2C)	88		39 - 139	10/19/21 17:27	10/20/21 10:37	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 02:57	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 02:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	98		26 - 136	10/20/21 00:20	10/22/21 02:57	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	82		26 - 136	10/20/21 00:20	10/22/21 02:57	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:27	1
Barium	0.54	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:27	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:27	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:27	1
Lead	ND	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:27	1
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:27	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:27	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:27	1
Zinc	7.3		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:27	1
Nickel	0.11	B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:27	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	80		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	8.7		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	80	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	58	19	mg/Kg		10/15/21 07:55	10/15/21 14:45	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Date Collected: 10/12/21 10:30

Matrix: Solid

Date Received: 10/13/21 18:10

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	ND	!	150	52	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	18.2	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND	! B	5.3	1.5	mg/L			10/19/21 20:36	1
Total Solids	110	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	110	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	37	J !	75	25	mg/L			10/19/21 12:48	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 11:18	1

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Date Collected: 10/12/21 10:30

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 81.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		360	36	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
Toluene	ND		360	43	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
Ethylbenzene	57	J	360	28	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
Xylenes, Total	430	J	710	100	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
1,2,4-Trimethylbenzene	2100		360	36	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
Naphthalene	570		360	140	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
Isopropylbenzene	770		360	28	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
1,3,5-Trimethylbenzene	770		360	36	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
1,2-Dibromoethane	ND		360	28	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
Methyl tertiary butyl ether	ND		360	36	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50
1,2-Dichloroethane	ND		360	43	ug/Kg	✱	10/14/21 11:18	10/18/21 16:31	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		54 - 135	10/14/21 11:18	10/18/21 16:31	50
4-Bromofluorobenzene (Surr)	108		50 - 131	10/14/21 11:18	10/18/21 16:31	50
Dibromofluoromethane (Surr)	92		50 - 141	10/14/21 11:18	10/18/21 16:31	50
Toluene-d8 (Surr)	107		52 - 141	10/14/21 11:18	10/18/21 16:31	50

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		21	6.4	ug/Kg	✱	10/16/21 09:07	10/18/21 11:24	1
PCB-1221 (1C)	ND		21	6.4	ug/Kg	✱	10/16/21 09:07	10/18/21 11:24	1
PCB-1232 (1C)	ND		21	6.4	ug/Kg	✱	10/16/21 09:07	10/18/21 11:24	1
PCB-1242 (1C)	ND		21	6.4	ug/Kg	✱	10/16/21 09:07	10/18/21 11:24	1
PCB-1248 (1C)	ND		21	6.4	ug/Kg	✱	10/16/21 09:07	10/18/21 11:24	1
PCB-1254 (2C)	11	J	21	7.8	ug/Kg	✱	10/16/21 09:07	10/18/21 11:24	1
PCB-1260 (1C)	13	J	21	7.8	ug/Kg	✱	10/16/21 09:07	10/18/21 11:24	1

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Date Collected: 10/12/21 10:30

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 81.8

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	95	^c	45 - 143	10/16/21 09:07	10/18/21 11:24	1
DCB Decachlorobiphenyl (Surr) (2C)	84		45 - 143	10/16/21 09:07	10/18/21 11:24	1
Tetrachloro-m-xylene (1C)	63		53 - 140	10/16/21 09:07	10/18/21 11:24	1
Tetrachloro-m-xylene (2C)	61		53 - 140	10/16/21 09:07	10/18/21 11:24	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	28		1.6	0.64	mg/Kg	☆	11/09/21 13:56	11/10/21 11:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	5000		710	240	mg/Kg	☆	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 06:12	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 06:12	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 06:12	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		10/20/21 06:12	20
4-Bromofluorobenzene (Surr)	93		80 - 120		10/20/21 06:12	20
Dibromofluoromethane (Surr)	103		80 - 120		10/20/21 06:12	20
Toluene-d8 (Surr)	103		80 - 120		10/20/21 06:12	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 18:15	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 18:15	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:15	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 18:15	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 18:15	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	82		10 - 150	10/19/21 17:40	10/20/21 18:15	1
2-Fluorobiphenyl (Surr)	70		35 - 100	10/19/21 17:40	10/20/21 18:15	1
2-Fluorophenol (Surr)	37		10 - 78	10/19/21 17:40	10/20/21 18:15	1
Nitrobenzene-d5 (Surr)	74		22 - 117	10/19/21 17:40	10/20/21 18:15	1
p-Terphenyl-d14 (Surr)	82		31 - 119	10/19/21 17:40	10/20/21 18:15	1
Phenol-d5 (Surr)	30		10 - 67	10/19/21 17:40	10/20/21 18:15	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 10:49	10
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 10:49	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 10:49	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 10:49	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 10:49	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 10:49	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 10:49	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	99		21 - 130	10/19/21 17:27	10/20/21 10:49	10
DCB Decachlorobiphenyl (Surr) (2C)	103		21 - 130	10/19/21 17:27	10/20/21 10:49	10
Tetrachloro-m-xylene (Surr) (1C)	60		39 - 139	10/19/21 17:27	10/20/21 10:49	10
Tetrachloro-m-xylene (Surr) (2C)	56		39 - 139	10/19/21 17:27	10/20/21 10:49	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 03:33	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 03:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	96		26 - 136	10/20/21 00:20	10/22/21 03:33	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	80		26 - 136	10/20/21 00:20	10/22/21 03:33	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:33	1
Barium	0.52	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:33	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:33	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:33	1
Lead	ND	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:33	1
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:33	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:33	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:33	1
Zinc	3.5		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:33	1
Nickel	0.044	J B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:33	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00016	J	0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:54	1

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	81		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	8.8		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	81	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	59	20	mg/Kg		10/15/21 07:55	10/15/21 14:46	1
Sulfide, Reactive	ND	!	160	53	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	17.3	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.9		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	2.7	J ! B	5.3	1.5	mg/L			10/19/21 20:36	1
Total Solids	92	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	92	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	68	J !	75	25	mg/L			10/19/21 12:52	1
Ammonia as N	ND	!	0.10	0.050	mg/L			11/02/21 11:20	1

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 82.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		350	35	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
Toluene	55	J	350	42	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
Ethylbenzene	160	J	350	28	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
Xylenes, Total	1300		700	99	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
1,2,4-Trimethylbenzene	3300		350	35	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
Naphthalene	790		350	140	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
Isopropylbenzene	1400		350	28	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
1,3,5-Trimethylbenzene	1200		350	35	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
1,2-Dibromoethane	ND		350	28	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
Methyl tertiary butyl ether	ND		350	35	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
1,2-Dichloroethane	ND		350	42	ug/Kg	✳	10/14/21 11:18	10/18/21 16:52	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		54 - 135				10/14/21 11:18	10/18/21 16:52	50
4-Bromofluorobenzene (Surr)	127		50 - 131				10/14/21 11:18	10/18/21 16:52	50
Dibromofluoromethane (Surr)	95		50 - 141				10/14/21 11:18	10/18/21 16:52	50
Toluene-d8 (Surr)	111		52 - 141				10/14/21 11:18	10/18/21 16:52	50

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 82.7

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		20	6.3	ug/Kg	☼	10/16/21 09:07	10/18/21 11:35	1
PCB-1221 (1C)	ND		20	6.3	ug/Kg	☼	10/16/21 09:07	10/18/21 11:35	1
PCB-1232 (1C)	ND		20	6.3	ug/Kg	☼	10/16/21 09:07	10/18/21 11:35	1
PCB-1242 (1C)	ND		20	6.3	ug/Kg	☼	10/16/21 09:07	10/18/21 11:35	1
PCB-1248 (1C)	ND		20	6.3	ug/Kg	☼	10/16/21 09:07	10/18/21 11:35	1
PCB-1254 (2C)	11	J	20	7.7	ug/Kg	☼	10/16/21 09:07	10/18/21 11:35	1
PCB-1260 (2C)	16	J	20	7.7	ug/Kg	☼	10/16/21 09:07	10/18/21 11:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	92	^c	45 - 143	10/16/21 09:07	10/18/21 11:35	1
DCB Decachlorobiphenyl (Surr) (2C)	89		45 - 143	10/16/21 09:07	10/18/21 11:35	1
Tetrachloro-m-xylene (1C)	65		53 - 140	10/16/21 09:07	10/18/21 11:35	1
Tetrachloro-m-xylene (2C)	63		53 - 140	10/16/21 09:07	10/18/21 11:35	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	25		1.6	0.66	mg/Kg	☼	11/09/21 19:12	11/16/21 12:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	6100		720	240	mg/Kg	☼	10/18/21 23:57	10/20/21 10:30	1

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
Chloroform	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
2-Butanone	ND		0.20	0.010	mg/L			10/20/21 06:35	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/20/21 06:35	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/20/21 06:35	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		10/20/21 06:35	20
4-Bromofluorobenzene (Surr)	94		80 - 120		10/20/21 06:35	20
Dibromofluoromethane (Surr)	104		80 - 120		10/20/21 06:35	20
Toluene-d8 (Surr)	103		80 - 120		10/20/21 06:35	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 18:44	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 18:44	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 18:44	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 18:44	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 18:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	77		10 - 150	10/19/21 17:40	10/20/21 18:44	1
2-Fluorobiphenyl (Surr)	70		35 - 100	10/19/21 17:40	10/20/21 18:44	1
2-Fluorophenol (Surr)	35		10 - 78	10/19/21 17:40	10/20/21 18:44	1
Nitrobenzene-d5 (Surr)	78		22 - 117	10/19/21 17:40	10/20/21 18:44	1
p-Terphenyl-d14 (Surr)	84		31 - 119	10/19/21 17:40	10/20/21 18:44	1
Phenol-d5 (Surr)	29		10 - 67	10/19/21 17:40	10/20/21 18:44	1

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.0010	0.00040	mg/L		10/19/21 17:27	10/20/21 11:00	10
gamma-BHC (Lindane) (1C)	ND	*1	0.00050	0.00010	mg/L		10/19/21 17:27	10/20/21 11:00	10
Heptachlor (1C)	ND		0.00050	0.00020	mg/L		10/19/21 17:27	10/20/21 11:00	10
Heptachlor epoxide (1C)	ND		0.00050	0.00012	mg/L		10/19/21 17:27	10/20/21 11:00	10
Methoxychlor (1C)	ND	^c	0.0050	0.0015	mg/L		10/19/21 17:27	10/20/21 11:00	10
Toxaphene (1C)	ND		0.15	0.050	mg/L		10/19/21 17:27	10/20/21 11:00	10
Chlordane (n.o.s.) (1C)	ND		0.025	0.0080	mg/L		10/19/21 17:27	10/20/21 11:00	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	86		21 - 130	10/19/21 17:27	10/20/21 11:00	10
DCB Decachlorobiphenyl (Surr) (2C)	93		21 - 130	10/19/21 17:27	10/20/21 11:00	10
Tetrachloro-m-xylene (Surr) (1C)	82		39 - 139	10/19/21 17:27	10/20/21 11:00	10
Tetrachloro-m-xylene (Surr) (2C)	78		39 - 139	10/19/21 17:27	10/20/21 11:00	10

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/22/21 04:08	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/22/21 04:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	96		26 - 136	10/20/21 00:20	10/22/21 04:08	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	80		26 - 136	10/20/21 00:20	10/22/21 04:08	1

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 15:52	1
Barium	0.44	B	0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:52	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 15:52	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 15:52	1
Lead	ND	B	0.15	0.071	mg/L		10/18/21 04:53	10/19/21 15:52	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Method: 6010C - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	*+	0.50	0.16	mg/L		10/18/21 04:53	10/19/21 15:52	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 15:52	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 15:52	1
Zinc	2.6		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 15:52	1
Nickel	0.11	B	0.10	0.021	mg/L		10/18/21 04:53	10/19/21 15:52	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 19:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	81		0.10	0.10	%			10/14/21 12:23	1
Total Volatile Solids	6.3		0.10	0.10	%			10/14/21 12:23	1
Percent Solids	81	!	0.10	0.10	%			10/14/21 12:23	1
Ignitable to Air	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Flame	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Friction	No		1.0	1.0	NONE			10/18/21 19:56	1
Ignitable to Water	No		1.0	1.0	NONE			10/18/21 19:56	1
Cyanide, Reactive	ND	*-	57	19	mg/Kg		10/15/21 07:55	10/15/21 14:48	1
Sulfide, Reactive	ND	!	150	51	mg/Kg		10/15/21 07:55	10/15/21 12:20	1
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1
Percent Moisture	17.5	!	1.0	1.0	%			10/14/21 12:07	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6		0.01	0.01	S.U.			10/15/21 18:30	1
Corrosivity	No		0.01	0.01	NONE			10/15/21 18:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	1.9	J ! B	5.4	1.5	mg/L			10/19/21 20:36	1
Total Solids	73	!	42	14	mg/L			10/18/21 06:25	1
Residue, Total	73	!	42	14	mg/L			10/18/21 06:25	1
Chemical Oxygen Demand	35	J !	75	25	mg/L			10/19/21 12:45	1
Ammonia as N	0.061	J !	0.10	0.050	mg/L			11/02/21 12:49	1

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 82.5

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		350	35	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50
Toluene	ND		350	42	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50
Ethylbenzene	36	J	350	28	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50
Xylenes, Total	330	J	710	99	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50
1,2,4-Trimethylbenzene	1600		350	35	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50
Naphthalene	410		350	140	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50
Isopropylbenzene	500		350	28	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50
1,3,5-Trimethylbenzene	610		350	35	ug/Kg	☆	10/14/21 11:18	10/18/21 17:13	50

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Client Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 82.5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		350	28	ug/Kg	⊛	10/14/21 11:18	10/18/21 17:13	50
Methyl tertiary butyl ether	ND		350	35	ug/Kg	⊛	10/14/21 11:18	10/18/21 17:13	50
1,2-Dichloroethane	ND		350	42	ug/Kg	⊛	10/14/21 11:18	10/18/21 17:13	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		54 - 135	10/14/21 11:18	10/18/21 17:13	50
4-Bromofluorobenzene (Surr)	109		50 - 131	10/14/21 11:18	10/18/21 17:13	50
Dibromofluoromethane (Surr)	98		50 - 141	10/14/21 11:18	10/18/21 17:13	50
Toluene-d8 (Surr)	108		52 - 141	10/14/21 11:18	10/18/21 17:13	50

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		20	6.3	ug/Kg	⊛	10/16/21 09:07	10/18/21 11:45	1
PCB-1221 (1C)	ND		20	6.3	ug/Kg	⊛	10/16/21 09:07	10/18/21 11:45	1
PCB-1232 (1C)	ND		20	6.3	ug/Kg	⊛	10/16/21 09:07	10/18/21 11:45	1
PCB-1242 (1C)	ND		20	6.3	ug/Kg	⊛	10/16/21 09:07	10/18/21 11:45	1
PCB-1248 (1C)	ND		20	6.3	ug/Kg	⊛	10/16/21 09:07	10/18/21 11:45	1
PCB-1254 (2C)	12	J	20	7.7	ug/Kg	⊛	10/16/21 09:07	10/18/21 11:45	1
PCB-1260 (2C)	22		20	7.7	ug/Kg	⊛	10/16/21 09:07	10/18/21 11:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	97	^c	45 - 143	10/16/21 09:07	10/18/21 11:45	1
DCB Decachlorobiphenyl (Surr) (2C)	87		45 - 143	10/16/21 09:07	10/18/21 11:45	1
Tetrachloro-m-xylene (1C)	63		53 - 140	10/16/21 09:07	10/18/21 11:45	1
Tetrachloro-m-xylene (2C)	62		53 - 140	10/16/21 09:07	10/18/21 11:45	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	33		1.7	0.67	mg/Kg	⊛	11/09/21 13:56	11/10/21 11:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	3500		720	240	mg/Kg	⊛	10/18/21 23:57	10/20/21 10:30	1

Surrogate Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (54-135)	BFB (50-131)	DBFM (50-141)	TOL (52-141)
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2	103	105	94	105
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2 021-10-12	107	101	84	103
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2 021-10-12	105	99	89	102
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2 021-10-12	106	105	92	100
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2 021-10-12	103	98	80	99
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2 021-10-12	108	103	100	106
410-58999-7	Hartranft-10TH-RB44062-RT-1- 2021-10-12	104	108	92	107
410-58999-8	Hartranft-10TH-RB44062-RT-2- 2021-10-12	104	127	95	111
410-58999-9	Hartranft-10TH-RB44062-RT-3- 2021-10-12	105	109	98	108
LCS 410-183894/4	Lab Control Sample	95	94	95	94
LCS 410-183894/5	Lab Control Sample Dup	96	95	94	95
MB 410-183894/7	Method Blank	97	92	93	94

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	BFB (80-120)	DBFM (80-120)	TOL (80-120)
LCS 410-184674/4	Lab Control Sample	102	96	103	104
MB 410-184674/6	Method Blank	103	93	105	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	BFB (80-120)	DBFM (80-120)	TOL (80-120)
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2	104	95	102	104
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2 021-10-12	105	94	102	103
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2 021-10-12	104	95	103	102

Surrogate Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	BFB (80-120)	DBFM (80-120)	TOL (80-120)
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2	105	94	102	103
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2	105	94	104	103
410-58999-6	021-10-12 Hartranft-10TH-CONF-SOIL-6-2	104	94	101	103
410-58999-7	021-10-12 Hartranft-10TH-RB44062-RT-1-	106	93	104	103
410-58999-8	2021-10-12 Hartranft-10TH-RB44062-RT-2-	103	93	103	103
410-58999-9	2021-10-12 Hartranft-10TH-RB44062-RT-3-	105	94	104	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
410-58999-1 MS	Hartranft-10TH-CONF-SOIL-1-2				

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (10-150)	FBP (35-100)	2FP (10-78)	NBZ (22-117)	TPHd14 (31-119)	PHL (10-67)
LCS 410-184616/2-A	Lab Control Sample	100	77	52	85	91	41
LCSD 410-184616/3-A	Lab Control Sample Dup	98	73	54	82	92	43
MB 410-184616/14-A	Method Blank	91	64	47	74	88	38

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)
PHL = Phenol-d5 (Surr)

Surrogate Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (10-150)	FBP (35-100)	2FP (10-78)	NBZ (22-117)	TPHd14 (31-119)	PHL (10-67)
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2	66	71	22	76	76	19
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2	85	69	43	77	89	34
410-58999-3	021-10-12 Hartranft-10TH-CONF-SOIL-3-2	56	71	11	76	89	11
410-58999-4	021-10-12 Hartranft-10TH-CONF-SOIL-4-2	72	69	16	76	90	13
410-58999-5	021-10-12 Hartranft-10TH-CONF-SOIL-5-2	67	55	17	56	74	15
410-58999-6	021-10-12 Hartranft-10TH-CONF-SOIL-6-2	95	71	49	77	82	39
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	90	69	41	77	83	34
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	82	70	37	74	82	30
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	77	70	35	78	84	29

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)
PHL = Phenol-d5 (Surr)

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCB1 (21-130)	DCB2 (21-130)	TCX1 (39-139)	TCX2 (39-139)
LCS 410-184649/2-A	Lab Control Sample	68	77	58	60
LCS 410-184649/2-A - RA	Lab Control Sample	85	77	84	81
LCSD 410-184649/3-A	Lab Control Sample Dup	61	69	60	63
LCSD 410-184649/3-A - RA	Lab Control Sample Dup	78	72	86	84
MB 410-184649/14-A	Method Blank	26	28	44	44
MB 410-184649/1-A	Method Blank	32	36	52	54

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene (Surr)

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCB1 (21-130)	DCB2 (21-130)	TCX1 (39-139)	TCX2 (39-139)
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2	88	91	75	68
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2	78	83	69	61
410-58999-3	021-10-12 Hartranft-10TH-CONF-SOIL-3-2	90	92	64	58
	021-10-12				

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Surrogate Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCB1 (21-130)	DCB2 (21-130)	TCX1 (39-139)	TCX2 (39-139)
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2	82	86	60	54
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2	80	90	92	82
410-58999-6	021-10-12 Hartranft-10TH-CONF-SOIL-6-2	63	69	83	77
410-58999-7	021-10-12 Hartranft-10TH-RB44062-RT-1-	95	100	94	88
410-58999-8	2021-10-12 Hartranft-10TH-RB44062-RT-2-	99	103	60	56
410-58999-9	2021-10-12 Hartranft-10TH-RB44062-RT-3-	86	93	82	78
Surrogate Legend					
DCB = DCB Decachlorobiphenyl (Surr)					
TCX = Tetrachloro-m-xylene (Surr)					

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCB1 (45-143)	DCB2 (45-143)	TCX1 (53-140)	TCX2 (53-140)
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2	99 ^c	91	61	58
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2	79 ^c	68	65	60
410-58999-3	021-10-12 Hartranft-10TH-CONF-SOIL-3-2	155 S1+	136	71	68
410-58999-4	021-10-12 Hartranft-10TH-CONF-SOIL-4-2	89 ^c	78	62	63
410-58999-5	021-10-12 Hartranft-10TH-CONF-SOIL-5-2	121 ^c	102	73	69
410-58999-6	021-10-12 Hartranft-10TH-CONF-SOIL-6-2	97 ^c	86	58	57
410-58999-7	Hartranft-10TH-RB44062-RT-1-	95 ^c	84	63	61
410-58999-8	2021-10-12 Hartranft-10TH-RB44062-RT-2-	92 ^c	89	65	63
410-58999-9	2021-10-12 Hartranft-10TH-RB44062-RT-3-	97 ^c	87	63	62
LCS 410-183168/2-A	Lab Control Sample	115	98	99	90
LCS 410-183581/2-A	Lab Control Sample	124	97	107	89
LCS 410-184122/2-A	Lab Control Sample	124	92	108	89
MB 410-183168/1-A	Method Blank	111	91	97	87
MB 410-183581/1-A	Method Blank	122	94	106	89
MB 410-184122/1-A	Method Blank	121	89	107	89
Surrogate Legend					
DCB = DCB Decachlorobiphenyl (Surr)					
TCX = Tetrachloro-m-xylene					

Surrogate Summary

Client: NorthStar Contracting Group, Inc.
 Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8151A - Herbicides (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCPAA1 (26-136)	DCPAA2 (26-136)
LCS 410-184800/2-A	Lab Control Sample	97	84
LCSD 410-184800/3-A	Lab Control Sample Dup	89	76
MB 410-184800/1-A	Method Blank	95	82

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid (Surr)

Method: 8151A - Herbicides (GC)

Matrix: Solid

Prep Type: TCLP

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCPAA1 (26-136)	DCPAA2 (26-136)
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2	96	80
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2 021-10-12	99	87
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2 021-10-12	98	86
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2 021-10-12	98	83
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2 021-10-12	99	95
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2 021-10-12	91	81
410-58999-7	Hartranft-10TH-RB44062-RT-1- 2021-10-12	98	82
410-58999-8	Hartranft-10TH-RB44062-RT-2- 2021-10-12	96	80
410-58999-9	Hartranft-10TH-RB44062-RT-3- 2021-10-12	96	80

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid (Surr)

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-183894/7
Matrix: Solid
Analysis Batch: 183894

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		250	25	ug/Kg			10/18/21 11:34	50
Toluene	ND		250	30	ug/Kg			10/18/21 11:34	50
Ethylbenzene	ND		250	20	ug/Kg			10/18/21 11:34	50
Xylenes, Total	ND		500	70	ug/Kg			10/18/21 11:34	50
1,2,4-Trimethylbenzene	ND		250	25	ug/Kg			10/18/21 11:34	50
Naphthalene	ND		250	100	ug/Kg			10/18/21 11:34	50
Isopropylbenzene	ND		250	20	ug/Kg			10/18/21 11:34	50
1,3,5-Trimethylbenzene	ND		250	25	ug/Kg			10/18/21 11:34	50
1,2-Dibromoethane	ND		250	20	ug/Kg			10/18/21 11:34	50
Methyl tertiary butyl ether	ND		250	25	ug/Kg			10/18/21 11:34	50
1,2-Dichloroethane	ND		250	30	ug/Kg			10/18/21 11:34	50

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		54 - 135		10/18/21 11:34	50
4-Bromofluorobenzene (Surr)	92		50 - 131		10/18/21 11:34	50
Dibromofluoromethane (Surr)	93		50 - 141		10/18/21 11:34	50
Toluene-d8 (Surr)	94		52 - 141		10/18/21 11:34	50

Lab Sample ID: LCS 410-183894/4
Matrix: Solid
Analysis Batch: 183894

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	1000	987		ug/Kg		99	80 - 120
Toluene	1000	983		ug/Kg		98	80 - 120
Ethylbenzene	1000	970		ug/Kg		97	78 - 120
Xylenes, Total	3000	2950		ug/Kg		98	75 - 120
1,2,4-Trimethylbenzene	1000	979		ug/Kg		98	73 - 120
Naphthalene	1000	872		ug/Kg		87	48 - 130
Isopropylbenzene	1000	1000		ug/Kg		100	77 - 120
1,3,5-Trimethylbenzene	1000	978		ug/Kg		98	73 - 120
1,2-Dibromoethane	1000	972		ug/Kg		97	76 - 120
Methyl tertiary butyl ether	1000	930		ug/Kg		93	72 - 120
1,2-Dichloroethane	1000	944		ug/Kg		94	71 - 128

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		54 - 135
4-Bromofluorobenzene (Surr)	94		50 - 131
Dibromofluoromethane (Surr)	95		50 - 141
Toluene-d8 (Surr)	94		52 - 141

Lab Sample ID: LCSD 410-183894/5
Matrix: Solid
Analysis Batch: 183894

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	1000	978		ug/Kg		98	80 - 120	1	30
Toluene	1000	984		ug/Kg		98	80 - 120	0	30

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 410-183894/5
Matrix: Solid
Analysis Batch: 183894

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	1000	967		ug/Kg		97	78 - 120	0	30
Xylenes, Total	3000	2940		ug/Kg		98	75 - 120	0	30
1,2,4-Trimethylbenzene	1000	975		ug/Kg		97	73 - 120	0	30
Naphthalene	1000	879		ug/Kg		88	48 - 130	1	30
Isopropylbenzene	1000	990		ug/Kg		99	77 - 120	1	30
1,3,5-Trimethylbenzene	1000	967		ug/Kg		97	73 - 120	1	30
1,2-Dibromoethane	1000	967		ug/Kg		97	76 - 120	1	30
Methyl tertiary butyl ether	1000	930		ug/Kg		93	72 - 120	0	30
1,2-Dichloroethane	1000	929		ug/Kg		93	71 - 128	2	30

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	96		54 - 135
4-Bromofluorobenzene (Surr)	95		50 - 131
Dibromofluoromethane (Surr)	94		50 - 141
Toluene-d8 (Surr)	95		52 - 141

Lab Sample ID: MB 410-184674/6
Matrix: Solid
Analysis Batch: 184674

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1
Carbon tetrachloride	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1
Chlorobenzene	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1
Chloroform	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1
1,1-Dichloroethene	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1
2-Butanone	ND		0.010	0.00050	mg/L			10/19/21 22:55	1
Tetrachloroethene	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1
Trichloroethene	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1
Vinyl chloride	ND		0.0010	0.00020	mg/L			10/19/21 22:55	1
1,2-Dichloroethane	ND		0.0010	0.00030	mg/L			10/19/21 22:55	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		10/19/21 22:55	1
4-Bromofluorobenzene (Surr)	93		80 - 120		10/19/21 22:55	1
Dibromofluoromethane (Surr)	105		80 - 120		10/19/21 22:55	1
Toluene-d8 (Surr)	103		80 - 120		10/19/21 22:55	1

Lab Sample ID: LCS 410-184674/4
Matrix: Solid
Analysis Batch: 184674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0200	0.0171		mg/L		85	80 - 120
1,1-Dichloroethene	0.0200	0.0171		mg/L		85	80 - 131
2-Butanone	0.250	0.205		mg/L		82	59 - 135
Trichloroethene	0.0200	0.0174		mg/L		87	80 - 120
Vinyl chloride	0.0200	0.0163		mg/L		81	56 - 120

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-184674/4
Matrix: Solid
Analysis Batch: 184674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	0.0200	0.0190		mg/L		95	73 - 124
Surrogate							
	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	102		80 - 120				
4-Bromofluorobenzene (Surr)	96		80 - 120				
Dibromofluoromethane (Surr)	103		80 - 120				
Toluene-d8 (Surr)	104		80 - 120				

Lab Sample ID: 410-58999-1 MS
Matrix: Solid
Analysis Batch: 184674

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		0.400	0.379		mg/L			
1,1-Dichloroethene	ND		0.400	0.403		mg/L			
2-Butanone	ND		5.00	3.97		mg/L			
Trichloroethene	ND		0.400	0.385		mg/L			
Vinyl chloride	ND		0.400	0.403		mg/L			
1,2-Dichloroethane	ND		0.400	0.398		mg/L			
Surrogate									
	%Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)									
4-Bromofluorobenzene (Surr)									
Dibromofluoromethane (Surr)									
Toluene-d8 (Surr)									

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-184616/14-A
Matrix: Solid
Analysis Batch: 184885

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184616

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 11:30	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/19/21 17:40	10/20/21 11:30	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/19/21 17:40	10/20/21 11:30	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/19/21 17:40	10/20/21 11:30	1
Pyridine	ND		0.025	0.010	mg/L		10/19/21 17:40	10/20/21 11:30	1
Surrogate									
	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol (Surr)	91		10 - 150	10/19/21 17:40	10/20/21 11:30	1			

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 410-184616/14-A
Matrix: Solid
Analysis Batch: 184885

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184616

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl (Surr)	64		35 - 100	10/19/21 17:40	10/20/21 11:30	1
2-Fluorophenol (Surr)	47		10 - 78	10/19/21 17:40	10/20/21 11:30	1
Nitrobenzene-d5 (Surr)	74		22 - 117	10/19/21 17:40	10/20/21 11:30	1
p-Terphenyl-d14 (Surr)	88		31 - 119	10/19/21 17:40	10/20/21 11:30	1
Phenol-d5 (Surr)	38		10 - 67	10/19/21 17:40	10/20/21 11:30	1

Lab Sample ID: LCS 410-184616/2-A
Matrix: Solid
Analysis Batch: 184885

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184616

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	0.250	0.234		mg/L		94	66 - 120
2,4,6-Trichlorophenol	0.250	0.234		mg/L		94	63 - 120
2,4-Dinitrotoluene	0.250	0.238		mg/L		95	71 - 120
2-Methylphenol	0.250	0.212		mg/L		85	51 - 120
4-Methylphenol	0.250	0.197		mg/L		79	44 - 120
Hexachlorobenzene	0.250	0.219		mg/L		88	65 - 120
Hexachlorobutadiene	0.250	0.165		mg/L		66	24 - 120
Hexachloroethane	0.250	0.160		mg/L		64	22 - 120
Nitrobenzene	0.250	0.217		mg/L		87	59 - 120
Pentachlorophenol	0.500	0.433		mg/L		87	48 - 123
Pyridine	0.500	0.242		mg/L		48	23 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	100		10 - 150
2-Fluorobiphenyl (Surr)	77		35 - 100
2-Fluorophenol (Surr)	52		10 - 78
Nitrobenzene-d5 (Surr)	85		22 - 117
p-Terphenyl-d14 (Surr)	91		31 - 119
Phenol-d5 (Surr)	41		10 - 67

Lab Sample ID: LCSD 410-184616/3-A
Matrix: Solid
Analysis Batch: 184885

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 184616

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,5-Trichlorophenol	0.250	0.236		mg/L		94	66 - 120	1	30
2,4,6-Trichlorophenol	0.250	0.236		mg/L		94	63 - 120	1	30
2,4-Dinitrotoluene	0.250	0.233		mg/L		93	71 - 120	2	30
2-Methylphenol	0.250	0.214		mg/L		86	51 - 120	1	30
4-Methylphenol	0.250	0.201		mg/L		81	44 - 120	2	30
Hexachlorobenzene	0.250	0.215		mg/L		86	65 - 120	2	30
Hexachlorobutadiene	0.250	0.158		mg/L		63	24 - 120	4	30
Hexachloroethane	0.250	0.149		mg/L		59	22 - 120	8	30
Nitrobenzene	0.250	0.213		mg/L		85	59 - 120	2	30
Pentachlorophenol	0.500	0.449		mg/L		90	48 - 123	4	30

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 410-184616/3-A
Matrix: Solid
Analysis Batch: 184885

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 184616

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Pyridine	0.500	0.246		mg/L		49	23 - 120	1	30
Surrogate	%Recovery	LCSD Qualifier	Limits						
2,4,6-Tribromophenol (Surr)	98		10 - 150						
2-Fluorobiphenyl (Surr)	73		35 - 100						
2-Fluorophenol (Surr)	54		10 - 78						
Nitrobenzene-d5 (Surr)	82		22 - 117						
p-Terphenyl-d14 (Surr)	92		31 - 119						
Phenol-d5 (Surr)	43		10 - 67						

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 410-184649/14-A
Matrix: Solid
Analysis Batch: 184818

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184649

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.00010	0.000040	mg/L		10/19/21 17:27	10/20/21 11:11	1
gamma-BHC (Lindane) (1C)	ND		0.000050	0.000010	mg/L		10/19/21 17:27	10/20/21 11:11	1
Heptachlor (1C)	ND		0.000050	0.000020	mg/L		10/19/21 17:27	10/20/21 11:11	1
Heptachlor epoxide (1C)	ND		0.000050	0.000012	mg/L		10/19/21 17:27	10/20/21 11:11	1
Methoxychlor (1C)	ND		0.000050	0.000015	mg/L		10/19/21 17:27	10/20/21 11:11	1
Toxaphene (1C)	ND		0.015	0.0050	mg/L		10/19/21 17:27	10/20/21 11:11	1
Chlordane (n.o.s.) (1C)	ND		0.0025	0.00080	mg/L		10/19/21 17:27	10/20/21 11:11	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	26		21 - 130				10/19/21 17:27	10/20/21 11:11	1
DCB Decachlorobiphenyl (Surr) (2C)	28		21 - 130				10/19/21 17:27	10/20/21 11:11	1
Tetrachloro-m-xylene (Surr) (1C)	44		39 - 139				10/19/21 17:27	10/20/21 11:11	1
Tetrachloro-m-xylene (Surr) (2C)	44		39 - 139				10/19/21 17:27	10/20/21 11:11	1

Lab Sample ID: MB 410-184649/1-A
Matrix: Solid
Analysis Batch: 184818

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184649

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.00010	0.000040	mg/L		10/19/21 17:27	10/20/21 08:00	1
gamma-BHC (Lindane) (1C)	ND		0.000050	0.000010	mg/L		10/19/21 17:27	10/20/21 08:00	1
Heptachlor (1C)	ND		0.000050	0.000020	mg/L		10/19/21 17:27	10/20/21 08:00	1
Heptachlor epoxide (1C)	ND		0.000050	0.000012	mg/L		10/19/21 17:27	10/20/21 08:00	1
Methoxychlor (1C)	ND		0.000050	0.000015	mg/L		10/19/21 17:27	10/20/21 08:00	1
Toxaphene (1C)	ND		0.015	0.0050	mg/L		10/19/21 17:27	10/20/21 08:00	1
Chlordane (n.o.s.) (1C)	ND		0.0025	0.00080	mg/L		10/19/21 17:27	10/20/21 08:00	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	32		21 - 130				10/19/21 17:27	10/20/21 08:00	1
DCB Decachlorobiphenyl (Surr) (2C)	36		21 - 130				10/19/21 17:27	10/20/21 08:00	1
Tetrachloro-m-xylene (Surr) (1C)	52		39 - 139				10/19/21 17:27	10/20/21 08:00	1

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 410-184649/1-A
Matrix: Solid
Analysis Batch: 184818

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184649

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene (Surr) (2C)	54		39 - 139	10/19/21 17:27	10/20/21 08:00	1

Lab Sample ID: LCS 410-184649/2-A
Matrix: Solid
Analysis Batch: 184818

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184649

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec.
gamma-BHC (Lindane) (2C)	0.000250	0.000226		mg/L		90	51 - 132	
Heptachlor (1C)	0.000250	0.000217		mg/L		87	24 - 133	
Heptachlor epoxide (2C)	0.000375	0.000366		mg/L		97	56 - 132	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr) (1C)	68		21 - 130
DCB Decachlorobiphenyl (Surr) (2C)	77		21 - 130
Tetrachloro-m-xylene (Surr) (1C)	58		39 - 139
Tetrachloro-m-xylene (Surr) (2C)	60		39 - 139

Lab Sample ID: LCSD 410-184649/3-A
Matrix: Solid
Analysis Batch: 184818

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 184649

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
gamma-BHC (Lindane) (2C)	0.000250	0.000200		mg/L		80	51 - 132	12	30
Heptachlor (1C)	0.000250	0.000212		mg/L		85	24 - 133	3	30
Heptachlor epoxide (1C)	0.000375	0.000330		mg/L		88	56 - 132	10	30

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr) (1C)	61		21 - 130
DCB Decachlorobiphenyl (Surr) (2C)	69		21 - 130
Tetrachloro-m-xylene (Surr) (1C)	60		39 - 139
Tetrachloro-m-xylene (Surr) (2C)	63		39 - 139

Method: 8081B - Organochlorine Pesticides (GC) - RA

Lab Sample ID: LCS 410-184649/2-A
Matrix: Solid
Analysis Batch: 185014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184649

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec.

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8081B - Organochlorine Pesticides (GC) - RA (Continued)

Lab Sample ID: LCS 410-184649/2-A
Matrix: Solid
Analysis Batch: 185014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184649

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr) (1C) - RA	85		21 - 130
DCB Decachlorobiphenyl (Surr) (2C) - RA	77		21 - 130
Tetrachloro-m-xylene (Surr) (1C) - RA	84		39 - 139
Tetrachloro-m-xylene (Surr) (2C) - RA	81		39 - 139

Lab Sample ID: LCSD 410-184649/3-A
Matrix: Solid
Analysis Batch: 185014

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 184649

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Methoxychlor (2C) - RA	0.00100	0.00143		mg/L		142	58 - 165	0	30	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr) (1C) - RA	78		21 - 130
DCB Decachlorobiphenyl (Surr) (2C) - RA	72		21 - 130
Tetrachloro-m-xylene (Surr) (1C) - RA	86		39 - 139
Tetrachloro-m-xylene (Surr) (2C) - RA	84		39 - 139

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 410-183168/1-A
Matrix: Solid
Analysis Batch: 183531

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183168

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (2C)	ND		17	5.3	ug/Kg		10/15/21 09:45	10/15/21 17:22	1
PCB-1221 (2C)	ND		17	5.3	ug/Kg		10/15/21 09:45	10/15/21 17:22	1
PCB-1232 (2C)	ND		17	5.3	ug/Kg		10/15/21 09:45	10/15/21 17:22	1
PCB-1242 (2C)	ND		17	5.3	ug/Kg		10/15/21 09:45	10/15/21 17:22	1
PCB-1248 (2C)	ND		17	5.3	ug/Kg		10/15/21 09:45	10/15/21 17:22	1
PCB-1254 (2C)	ND		17	6.4	ug/Kg		10/15/21 09:45	10/15/21 17:22	1
PCB-1260 (2C)	ND		17	6.4	ug/Kg		10/15/21 09:45	10/15/21 17:22	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
DCB Decachlorobiphenyl (Surr) (1C)	111		45 - 143	10/15/21 09:45	10/15/21 17:22	1
DCB Decachlorobiphenyl (Surr) (2C)	91		45 - 143	10/15/21 09:45	10/15/21 17:22	1
Tetrachloro-m-xylene (1C)	97		53 - 140	10/15/21 09:45	10/15/21 17:22	1
Tetrachloro-m-xylene (2C)	87		53 - 140	10/15/21 09:45	10/15/21 17:22	1

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 410-183168/2-A
Matrix: Solid
Analysis Batch: 183531

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183168

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016 (2C)	167	129		ug/Kg		77	68 - 121
PCB-1260 (2C)	168	157		ug/Kg		94	75 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr) (1C)	115		45 - 143
DCB Decachlorobiphenyl (Surr) (2C)	98		45 - 143
Tetrachloro-m-xylene (1C)	99		53 - 140
Tetrachloro-m-xylene (2C)	90		53 - 140

Lab Sample ID: MB 410-183581/1-A
Matrix: Solid
Analysis Batch: 183928

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183581

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		17	5.3	ug/Kg		10/16/21 09:07	10/18/21 10:22	1
PCB-1221 (1C)	ND		17	5.3	ug/Kg		10/16/21 09:07	10/18/21 10:22	1
PCB-1232 (1C)	ND		17	5.3	ug/Kg		10/16/21 09:07	10/18/21 10:22	1
PCB-1242 (1C)	ND		17	5.3	ug/Kg		10/16/21 09:07	10/18/21 10:22	1
PCB-1248 (1C)	ND		17	5.3	ug/Kg		10/16/21 09:07	10/18/21 10:22	1
PCB-1254 (1C)	ND		17	6.4	ug/Kg		10/16/21 09:07	10/18/21 10:22	1
PCB-1260 (1C)	ND		17	6.4	ug/Kg		10/16/21 09:07	10/18/21 10:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	122		45 - 143	10/16/21 09:07	10/18/21 10:22	1
DCB Decachlorobiphenyl (Surr) (2C)	94		45 - 143	10/16/21 09:07	10/18/21 10:22	1
Tetrachloro-m-xylene (1C)	106		53 - 140	10/16/21 09:07	10/18/21 10:22	1
Tetrachloro-m-xylene (2C)	89		53 - 140	10/16/21 09:07	10/18/21 10:22	1

Lab Sample ID: LCS 410-183581/2-A
Matrix: Solid
Analysis Batch: 183928

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183581

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016 (1C)	167	156		ug/Kg		93	68 - 121
PCB-1260 (1C)	168	196		ug/Kg		117	75 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr) (1C)	124		45 - 143
DCB Decachlorobiphenyl (Surr) (2C)	97		45 - 143
Tetrachloro-m-xylene (1C)	107		53 - 140
Tetrachloro-m-xylene (2C)	89		53 - 140

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 410-184122/1-A
Matrix: Solid
Analysis Batch: 184470

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184122

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (2C)	ND		17	5.3	ug/Kg		10/18/21 18:09	10/19/21 07:39	1
PCB-1221 (2C)	ND		17	5.3	ug/Kg		10/18/21 18:09	10/19/21 07:39	1
PCB-1232 (2C)	ND		17	5.3	ug/Kg		10/18/21 18:09	10/19/21 07:39	1
PCB-1242 (2C)	ND		17	5.3	ug/Kg		10/18/21 18:09	10/19/21 07:39	1
PCB-1248 (2C)	ND		17	5.3	ug/Kg		10/18/21 18:09	10/19/21 07:39	1
PCB-1254 (2C)	ND		17	6.4	ug/Kg		10/18/21 18:09	10/19/21 07:39	1
PCB-1260 (2C)	ND		17	6.4	ug/Kg		10/18/21 18:09	10/19/21 07:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	121		45 - 143	10/18/21 18:09	10/19/21 07:39	1
DCB Decachlorobiphenyl (Surr) (2C)	89		45 - 143	10/18/21 18:09	10/19/21 07:39	1
Tetrachloro-m-xylene (1C)	107		53 - 140	10/18/21 18:09	10/19/21 07:39	1
Tetrachloro-m-xylene (2C)	89		53 - 140	10/18/21 18:09	10/19/21 07:39	1

Lab Sample ID: LCS 410-184122/2-A
Matrix: Solid
Analysis Batch: 184470

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184122

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016 (2C)	167	122		ug/Kg		73	68 - 121
PCB-1260 (2C)	168	150		ug/Kg		89	75 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr) (1C)	124		45 - 143
DCB Decachlorobiphenyl (Surr) (2C)	92		45 - 143
Tetrachloro-m-xylene (1C)	108		53 - 140
Tetrachloro-m-xylene (2C)	89		53 - 140

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 410-184800/1-A
Matrix: Solid
Analysis Batch: 185345

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184800

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (1C)	ND		0.0050	0.0010	mg/L		10/20/21 00:20	10/21/21 21:04	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/20/21 00:20	10/21/21 21:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	95		26 - 136	10/20/21 00:20	10/21/21 21:04	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	82		26 - 136	10/20/21 00:20	10/21/21 21:04	1

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 410-184800/2-A
Matrix: Solid
Analysis Batch: 185345

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184800

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Silvex (2,4,5-TP) (2C)	0.0250	0.0297		mg/L		119	58 - 148
2,4-D (1C)	0.0250	0.0237	J	mg/L		95	42 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid (Surr) (1C)	97		26 - 136
2,4-Dichlorophenylacetic acid (Surr) (2C)	84		26 - 136

Lab Sample ID: LCSD 410-184800/3-A
Matrix: Solid
Analysis Batch: 185345

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 184800

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Silvex (2,4,5-TP) (2C)	0.0250	0.0278		mg/L		111	58 - 148	7	30
2,4-D (1C)	0.0250	0.0222	J	mg/L		89	42 - 147	7	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4-Dichlorophenylacetic acid (Surr) (1C)	89		26 - 136
2,4-Dichlorophenylacetic acid (Surr) (2C)	76		26 - 136

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 410-192546/1-A
Matrix: Solid
Analysis Batch: 193090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 192546

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		1.5	0.60	mg/Kg		11/09/21 11:21	11/10/21 10:41	1

Lab Sample ID: LCS 410-192546/2-A
Matrix: Solid
Analysis Batch: 193090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 192546

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	5.00	5.33		mg/Kg		107	80 - 120

Lab Sample ID: LCSD 410-192546/3-A
Matrix: Solid
Analysis Batch: 193090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 192546

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Lead	5.00	5.25		mg/Kg		105	80 - 120	2	20

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 410-192756/1-A
Matrix: Solid
Analysis Batch: 195357

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 192756

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		1.5	0.60	mg/Kg		11/09/21 19:12	11/16/21 11:54	1

Lab Sample ID: LCS 410-192756/2-A
Matrix: Solid
Analysis Batch: 195357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 192756

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	5.00	5.12		mg/Kg		102	80 - 120

Lab Sample ID: MB 410-183779/1-A
Matrix: Solid
Analysis Batch: 184654

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 183779

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	^3+	0.30	0.16	mg/L		10/18/21 04:53	10/19/21 14:50	1
Barium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 14:50	1
Cadmium	ND		0.050	0.010	mg/L		10/18/21 04:53	10/19/21 14:50	1
Chromium	ND		0.15	0.016	mg/L		10/18/21 04:53	10/19/21 14:50	1
Lead	ND		0.15	0.071	mg/L		10/18/21 04:53	10/19/21 14:50	1
Selenium	ND		0.50	0.16	mg/L		10/18/21 04:53	10/19/21 14:50	1
Silver	ND		0.10	0.050	mg/L		10/18/21 04:53	10/19/21 14:50	1
Copper	ND		0.20	0.12	mg/L		10/18/21 04:53	10/19/21 14:50	1
Zinc	ND		0.20	0.037	mg/L		10/18/21 04:53	10/19/21 14:50	1
Nickel	ND		0.10	0.021	mg/L		10/18/21 04:53	10/19/21 14:50	1

Lab Sample ID: LCS 410-183779/2-A
Matrix: Solid
Analysis Batch: 184654

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 183779

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	5.00	5.53	^3+	mg/L		111	80 - 120
Barium	5.00	5.04		mg/L		101	80 - 120
Cadmium	0.500	0.518		mg/L		104	80 - 120
Chromium	5.00	5.15		mg/L		103	80 - 120
Lead	0.500	0.530		mg/L		106	80 - 120
Selenium	1.00	1.25	*+	mg/L		125	80 - 120
Silver	0.499	0.534		mg/L		107	80 - 120
Copper	5.00	5.14		mg/L		103	80 - 120
Zinc	5.00	5.12		mg/L		102	80 - 120
Nickel	5.00	5.22		mg/L		104	80 - 120

Lab Sample ID: LCSD 410-183779/3-A
Matrix: Solid
Analysis Batch: 184654

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 183779

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	5.00	5.36	^3+	mg/L		107	80 - 120	3	20
Barium	5.00	4.98		mg/L		100	80 - 120	1	20
Cadmium	0.500	0.518		mg/L		104	80 - 120	0	20

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCSD 410-183779/3-A
Matrix: Solid
Analysis Batch: 184654

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 183779

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	5.00	5.09		mg/L		102	80 - 120	1	20
Lead	0.500	0.489		mg/L		98	80 - 120	8	20
Selenium	1.00	1.10		mg/L		110	80 - 120	12	20
Silver	0.499	0.529		mg/L		106	80 - 120	1	20
Copper	5.00	5.12		mg/L		102	80 - 120	1	20
Zinc	5.00	5.09		mg/L		102	80 - 120	1	20
Nickel	5.00	5.20		mg/L		104	80 - 120	0	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 410-183781/1-A
Matrix: Solid
Analysis Batch: 184228

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183781

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/18/21 05:04	10/18/21 18:29	1

Lab Sample ID: LCS 410-183781/2-A
Matrix: Solid
Analysis Batch: 184228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183781

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00100	0.000957		mg/L		96	80 - 118

Lab Sample ID: LCSD 410-183781/3-A
Matrix: Solid
Analysis Batch: 184228

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 183781

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00100	0.000976		mg/L		98	80 - 118	2	20

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 410-184745/1
Matrix: Solid
Analysis Batch: 184745

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		5.0	1.4	mg/L			10/19/21 20:36	1

Lab Sample ID: LCS 410-184745/2
Matrix: Solid
Analysis Batch: 184745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM (Oil & Grease)	40.0	34.4		mg/L		86	78 - 114

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 1664B - HEM and SGT-HEM (Continued)

Lab Sample ID: LCSD 410-184745/3
Matrix: Solid
Analysis Batch: 184745

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	35.0		mg/L		88	78 - 114	2	13

Lab Sample ID: LB 410-183273/1-B
Matrix: Solid
Analysis Batch: 184745

Client Sample ID: Method Blank
Prep Type: ASTM Leach

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	2.02	J B	5.3	1.5	mg/L			10/19/21 20:36	1

Method: 2540B-2011 - Solids, Total

Lab Sample ID: MB 410-183795/1
Matrix: Solid
Analysis Batch: 183795

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	ND		42	14	mg/L			10/18/21 06:25	1
Residue, Total	ND		42	14	mg/L			10/18/21 06:25	1

Lab Sample ID: LCS 410-183795/2
Matrix: Solid
Analysis Batch: 183795

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Solids	200	199		mg/L		99	91 - 112
Residue, Total	200	199		mg/L		99	91 - 112

Lab Sample ID: LCSD 410-183795/3
Matrix: Solid
Analysis Batch: 183795

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Solids	200	199		mg/L		99	91 - 112	0	3
Residue, Total	200	199		mg/L		99	91 - 112	0	3

Method: 2540G-2011 - Total, Fixed, and Volatile Solids

Lab Sample ID: LCS 410-182808/1
Matrix: Solid
Analysis Batch: 182808

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Solids	10.5	10.6		%		101	94 - 108

Lab Sample ID: 410-58999-2 DU
Matrix: Solid
Analysis Batch: 182808

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Solids	89		87.2		%		2	5

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 2540G-2011 - Total, Fixed, and Volatile Solids (Continued)

Lab Sample ID: 410-58999-2 DU

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 182808

Analyte	Sample Result	Sample Qualifier	DU	DU	Unit	D	RPD	RPD
			Result	Qualifier				Limit
Total Volatile Solids	2.2		2.76	F3	%		24	5
Percent Solids	89	!	87.2		%		2	5

Lab Sample ID: 410-58999-3 DU

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 182808

Analyte	Sample Result	Sample Qualifier	DU	DU	Unit	D	RPD	RPD
			Result	Qualifier				Limit
Total Solids	14		14.3		%		1	5
Total Volatile Solids	97		97.9		%		1	5
Percent Solids	14	!	14.3		%		1	5

Method: 410.4 - COD

Lab Sample ID: MB 410-184548/4

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 184548

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chemical Oxygen Demand	ND		75	25	mg/L			10/19/21 12:33	1

Lab Sample ID: LCS 410-184548/5

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 184548

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Chemical Oxygen Demand	500	515		mg/L		103	94 - 110

Lab Sample ID: 410-58999-9 MS

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Matrix: Solid

Prep Type: ASTM Leach

Analysis Batch: 184548

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
Chemical Oxygen Demand	35	J!	400	453		mg/L		104	94 - 110

Lab Sample ID: 410-58999-9 DU

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Matrix: Solid

Prep Type: ASTM Leach

Analysis Batch: 184548

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD
	Result	Qualifier		Result				Qualifier
Chemical Oxygen Demand	35	J!	37.9	J	mg/L		8	9

Method: 9012 - Cyanide, Reactive

Lab Sample ID: MB 410-183171/1-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 183419

Prep Batch: 183171

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cyanide, Reactive	ND		60	20	mg/Kg		10/15/21 07:55	10/15/21 14:26	1

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QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 9012 - Cyanide, Reactive (Continued)

Lab Sample ID: LCS 410-183171/2-A
Matrix: Solid
Analysis Batch: 183419

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183171
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Cyanide, Reactive	1000	ND	*-	mg/Kg		-0.5	0 - 5.14

Lab Sample ID: 410-58999-2 MS
Matrix: Solid
Analysis Batch: 183419

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12
Prep Type: Total/NA
Prep Batch: 183171
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Cyanide, Reactive	ND	*-	992	ND		mg/Kg		0	0 - 44

Lab Sample ID: 410-58999-2 MSD
Matrix: Solid
Analysis Batch: 183419

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12
Prep Type: Total/NA
Prep Batch: 183171
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cyanide, Reactive	ND	*-	986	ND		mg/Kg		0	0 - 44	NC	11

Method: 9034 - Sulfide, Reactive

Lab Sample ID: MB 410-183171/1-A
Matrix: Solid
Analysis Batch: 183334

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 183171

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	ND		160	54	mg/Kg		10/15/21 07:55	10/15/21 12:20	1

Lab Sample ID: LCS 410-183171/24-A
Matrix: Solid
Analysis Batch: 183334

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 183171
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Sulfide, Reactive	539	379		mg/Kg		70	56 - 104

Lab Sample ID: 410-58999-2 MS
Matrix: Solid
Analysis Batch: 183334

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12
Prep Type: Total/NA
Prep Batch: 183171
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Sulfide, Reactive	ND	! FL	535	269	FL	mg/Kg		50	56 - 104

Lab Sample ID: 410-58999-2 MSD
Matrix: Solid
Analysis Batch: 183334

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12
Prep Type: Total/NA
Prep Batch: 183171
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Sulfide, Reactive	ND	! FL	532	228	FL	mg/Kg		43	56 - 104	16	52

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 9045D - pH

Lab Sample ID: LCS 410-183472/1-A
Matrix: Solid
Analysis Batch: 183490

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		S.U.		100	95 - 105

Lab Sample ID: 410-58999-1 DU
Matrix: Solid
Analysis Batch: 183490

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.5		7.4		S.U.		0.9	3
Corrosivity	No		No		NONE		NaN	3

Method: 9071B - HEM and SGT-HEM

Lab Sample ID: MB 410-184235/1-A
Matrix: Solid
Analysis Batch: 185016

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184235

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		600	200	mg/Kg		10/18/21 23:57	10/20/21 10:30	1

Lab Sample ID: LCS 410-184235/2-A
Matrix: Solid
Analysis Batch: 185016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184235

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM (Oil & Grease)	4980	4860		mg/Kg		98	91 - 111

Lab Sample ID: 410-58999-1 MS
Matrix: Solid
Analysis Batch: 185016

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12
Prep Type: Total/NA
Prep Batch: 184235

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM (Oil & Grease)	3600	FH	6490	11400	FH	mg/Kg	☼	119	91 - 111

Lab Sample ID: 410-58999-1 MSD
Matrix: Solid
Analysis Batch: 185016

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12
Prep Type: Total/NA
Prep Batch: 184235

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM (Oil & Grease)	3600	FH	6290	11200	FH	mg/Kg	☼	121	91 - 111	1	26

Lab Sample ID: 410-58999-1 DU
Matrix: Solid
Analysis Batch: 185016

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12
Prep Type: Total/NA
Prep Batch: 184235

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
HEM (Oil & Grease)	3600	FH	3930		mg/Kg	☼	9	20

QC Sample Results

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method: 9095B - Paint Filter

Lab Sample ID: MB 410-184206/1
Matrix: Solid
Analysis Batch: 184206

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Presence of Free Liquid	No				No Unit			10/18/21 19:55	1

Method: EPA 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 410-189848/17
Matrix: Solid
Analysis Batch: 189848

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.10	0.050	mg/L			11/02/21 10:40	1

Lab Sample ID: LCS 410-189848/15
Matrix: Solid
Analysis Batch: 189848

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	3.00	2.92		mg/L		97	90 - 110

Lab Sample ID: LCSD 410-189848/16
Matrix: Solid
Analysis Batch: 189848

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia as N	3.00	2.97		mg/L		99	90 - 110	2	15

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

GC/MS VOA

Prep Batch: 182777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	5030C	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	5030C	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	5030C	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	5030C	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	5030C	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	5030C	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	5030C	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	5030C	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	5030C	

Leach Batch: 183239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	1311	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	1311	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	1311	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	1311	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	1311	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	1311	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	1311	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	1311	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	1311	
410-58999-1 MS	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	1311	

Analysis Batch: 183894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	8260C	182777
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	8260C	182777
MB 410-183894/7	Method Blank	Total/NA	Solid	8260C	
LCS 410-183894/4	Lab Control Sample	Total/NA	Solid	8260C	
LCS D 410-183894/5	Lab Control Sample Dup	Total/NA	Solid	8260C	

Analysis Batch: 184674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	8260C	183239
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	8260C	183239
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	8260C	183239
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	8260C	183239
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	8260C	183239
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	8260C	183239
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	8260C	183239
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	8260C	183239
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	8260C	183239
MB 410-184674/6	Method Blank	Total/NA	Solid	8260C	
LCS 410-184674/4	Lab Control Sample	Total/NA	Solid	8260C	

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

GC/MS VOA (Continued)

Analysis Batch: 184674 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1 MS	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	8260C	183239

GC/MS Semi VOA

Leach Batch: 183271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	1311	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	1311	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	1311	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	1311	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	1311	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	1311	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	1311	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	1311	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	1311	

Prep Batch: 184616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	3510C	183271
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	3510C	183271
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	3510C	183271
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	3510C	183271
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	3510C	183271
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	3510C	183271
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	3510C	183271
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	3510C	183271
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	3510C	183271
MB 410-184616/14-A	Method Blank	Total/NA	Solid	3510C	
LCS 410-184616/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 410-184616/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	

Analysis Batch: 184885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	8270D	184616
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	8270D	184616
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	8270D	184616
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	8270D	184616
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	8270D	184616
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	8270D	184616
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	8270D	184616
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	8270D	184616
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	8270D	184616
MB 410-184616/14-A	Method Blank	Total/NA	Solid	8270D	184616
LCS 410-184616/2-A	Lab Control Sample	Total/NA	Solid	8270D	184616
LCSD 410-184616/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	184616

GC Semi VOA

Prep Batch: 183168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	3546	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	3546	

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

GC Semi VOA (Continued)

Prep Batch: 183168 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	3546	
MB 410-183168/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-183168/2-A	Lab Control Sample	Total/NA	Solid	3546	

Leach Batch: 183271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	1311	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	1311	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	1311	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	1311	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	1311	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	1311	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	1311	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	1311	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	1311	

Analysis Batch: 183531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	8082A	183168
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	8082A	183168
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	8082A	183168
MB 410-183168/1-A	Method Blank	Total/NA	Solid	8082A	183168
LCS 410-183168/2-A	Lab Control Sample	Total/NA	Solid	8082A	183168

Prep Batch: 183581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	3546	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	3546	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	3546	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	3546	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	3546	
MB 410-183581/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-183581/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 183928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	8082A	183581
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	8082A	183581
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	8082A	183581
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	8082A	183581
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	8082A	183581
MB 410-183581/1-A	Method Blank	Total/NA	Solid	8082A	183581
LCS 410-183581/2-A	Lab Control Sample	Total/NA	Solid	8082A	183581

Prep Batch: 184122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	3546	
MB 410-184122/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-184122/2-A	Lab Control Sample	Total/NA	Solid	3546	

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

GC Semi VOA

Analysis Batch: 184470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	8082A	184122
MB 410-184122/1-A	Method Blank	Total/NA	Solid	8082A	184122
LCS 410-184122/2-A	Lab Control Sample	Total/NA	Solid	8082A	184122

Prep Batch: 184649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	3510C	183271
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	3510C	183271
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	3510C	183271
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	3510C	183271
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	3510C	183271
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	3510C	183271
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	3510C	183271
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	3510C	183271
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	3510C	183271
MB 410-184649/14-A	Method Blank	Total/NA	Solid	3510C	
MB 410-184649/1-A	Method Blank	Total/NA	Solid	3510C	
LCS 410-184649/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCS 410-184649/2-A - RA	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 410-184649/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	
LCSD 410-184649/3-A - RA	Lab Control Sample Dup	Total/NA	Solid	3510C	

Prep Batch: 184800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	8151A	183271
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	8151A	183271
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	8151A	183271
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	8151A	183271
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	8151A	183271
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	8151A	183271
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	8151A	183271
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	8151A	183271
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	8151A	183271
MB 410-184800/1-A	Method Blank	Total/NA	Solid	8151A	
LCS 410-184800/2-A	Lab Control Sample	Total/NA	Solid	8151A	
LCSD 410-184800/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	

Analysis Batch: 184818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	8081B	184649
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	8081B	184649
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	8081B	184649
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	8081B	184649
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	8081B	184649
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	8081B	184649
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	8081B	184649
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	8081B	184649
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	8081B	184649
MB 410-184649/14-A	Method Blank	Total/NA	Solid	8081B	184649
MB 410-184649/1-A	Method Blank	Total/NA	Solid	8081B	184649
LCS 410-184649/2-A	Lab Control Sample	Total/NA	Solid	8081B	184649

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QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

GC Semi VOA (Continued)

Analysis Batch: 184818 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 410-184649/3-A	Lab Control Sample Dup	Total/NA	Solid	8081B	184649

Analysis Batch: 185014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 410-184649/2-A - RA	Lab Control Sample	Total/NA	Solid	8081B	184649
LCSD 410-184649/3-A - RA	Lab Control Sample Dup	Total/NA	Solid	8081B	184649

Analysis Batch: 185345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	8151A	184800
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	8151A	184800
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	8151A	184800
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	8151A	184800
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	8151A	184800
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	8151A	184800
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	8151A	184800
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	8151A	184800
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	8151A	184800
MB 410-184800/1-A	Method Blank	Total/NA	Solid	8151A	184800
LCS 410-184800/2-A	Lab Control Sample	Total/NA	Solid	8151A	184800
LCSD 410-184800/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	184800

Metals

Leach Batch: 183271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	1311	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	1311	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	1311	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	1311	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	1311	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	1311	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	1311	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	1311	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	1311	

Prep Batch: 183779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	3005A	183271
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	3005A	183271
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	3005A	183271
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	3005A	183271
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	3005A	183271
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	3005A	183271
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	3005A	183271
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	3005A	183271
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	3005A	183271
MB 410-183779/1-A	Method Blank	Total Recoverable	Solid	3005A	
LCS 410-183779/2-A	Lab Control Sample	Total Recoverable	Solid	3005A	
LCSD 410-183779/3-A	Lab Control Sample Dup	Total Recoverable	Solid	3005A	

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Metals

Prep Batch: 183781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	7470A	183271
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	7470A	183271
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	7470A	183271
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	7470A	183271
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	7470A	183271
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	7470A	183271
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	7470A	183271
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	7470A	183271
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	7470A	183271
MB 410-183781/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 410-183781/2-A	Lab Control Sample	Total/NA	Solid	7470A	
LCSD 410-183781/3-A	Lab Control Sample Dup	Total/NA	Solid	7470A	

Analysis Batch: 184228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	7470A	183781
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	7470A	183781
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	7470A	183781
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	7470A	183781
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	7470A	183781
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	7470A	183781
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	7470A	183781
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	7470A	183781
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	7470A	183781
MB 410-183781/1-A	Method Blank	Total/NA	Solid	7470A	183781
LCS 410-183781/2-A	Lab Control Sample	Total/NA	Solid	7470A	183781
LCSD 410-183781/3-A	Lab Control Sample Dup	Total/NA	Solid	7470A	183781

Analysis Batch: 184654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	TCLP	Solid	6010C	183779
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	TCLP	Solid	6010C	183779
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	TCLP	Solid	6010C	183779
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	TCLP	Solid	6010C	183779
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	TCLP	Solid	6010C	183779
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	TCLP	Solid	6010C	183779
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	TCLP	Solid	6010C	183779
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	TCLP	Solid	6010C	183779
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	TCLP	Solid	6010C	183779
MB 410-183779/1-A	Method Blank	Total Recoverable	Solid	6010C	183779
LCS 410-183779/2-A	Lab Control Sample	Total Recoverable	Solid	6010C	183779
LCSD 410-183779/3-A	Lab Control Sample Dup	Total Recoverable	Solid	6010C	183779

Prep Batch: 192546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	3050B	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	3050B	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	3050B	
MB 410-192546/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 410-192546/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 410-192546/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Metals

Prep Batch: 192756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	3050B	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	3050B	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	3050B	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	3050B	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	3050B	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	3050B	
MB 410-192756/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 410-192756/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Analysis Batch: 193090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	6010C	192546
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	6010C	192546
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	6010C	192546
MB 410-192546/1-A	Method Blank	Total/NA	Solid	6010C	192546
LCS 410-192546/2-A	Lab Control Sample	Total/NA	Solid	6010C	192546
LCSD 410-192546/3-A	Lab Control Sample Dup	Total/NA	Solid	6010C	192546

Analysis Batch: 195357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	6010C	192756
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	6010C	192756
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	6010C	192756
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	6010C	192756
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	6010C	192756
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	6010C	192756
MB 410-192756/1-A	Method Blank	Total/NA	Solid	6010C	192756
LCS 410-192756/2-A	Lab Control Sample	Total/NA	Solid	6010C	192756

General Chemistry

Analysis Batch: 182800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	Moisture	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	Moisture	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	Moisture	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	Moisture	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	Moisture	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	Moisture	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	Moisture	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	Moisture	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	Moisture	

Analysis Batch: 182808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	2540G-2011	

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

General Chemistry (Continued)

Analysis Batch: 182808 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	2540G-2011	
LCS 410-182808/1	Lab Control Sample	Total/NA	Solid	2540G-2011	
410-58999-2 DU	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	2540G-2011	
410-58999-3 DU	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	2540G-2011	

Prep Batch: 183171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	7.3.3	
MB 410-183171/1-A	Method Blank	Total/NA	Solid	7.3.3	
LCS 410-183171/24-A	Lab Control Sample	Total/NA	Solid	7.3.3	
LCS 410-183171/2-A	Lab Control Sample	Total/NA	Solid	7.3.3	
410-58999-2 MS	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-2 MS	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-2 MSD	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	7.3.3	
410-58999-2 MSD	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	7.3.3	

Leach Batch: 183273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	D3987-85	
LB 410-183273/1-B	Method Blank	ASTM Leach	Solid	D3987-85	
410-58999-9 MS	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-9 DU	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	D3987-85	

Analysis Batch: 183334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9034	183171
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9034	183171
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	9034	183171
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	9034	183171
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	9034	183171
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	9034	183171
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	9034	183171
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	9034	183171

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

General Chemistry (Continued)

Analysis Batch: 183334 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	9034	183171
MB 410-183171/1-A	Method Blank	Total/NA	Solid	9034	183171
LCS 410-183171/24-A	Lab Control Sample	Total/NA	Solid	9034	183171
410-58999-2 MS	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9034	183171
410-58999-2 MSD	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9034	183171

Analysis Batch: 183419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9012	183171
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9012	183171
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	9012	183171
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	9012	183171
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	9012	183171
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	9012	183171
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	9012	183171
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	9012	183171
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	9012	183171
MB 410-183171/1-A	Method Blank	Total/NA	Solid	9012	183171
LCS 410-183171/2-A	Lab Control Sample	Total/NA	Solid	9012	183171
410-58999-2 MS	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9012	183171
410-58999-2 MSD	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9012	183171

Leach Batch: 183472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Soluble	Solid	DI Leach	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Soluble	Solid	DI Leach	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Soluble	Solid	DI Leach	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Soluble	Solid	DI Leach	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Soluble	Solid	DI Leach	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Soluble	Solid	DI Leach	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Soluble	Solid	DI Leach	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Soluble	Solid	DI Leach	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Soluble	Solid	DI Leach	
LCS 410-183472/1-A	Lab Control Sample	Soluble	Solid	DI Leach	
410-58999-1 DU	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Soluble	Solid	DI Leach	

Analysis Batch: 183490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Soluble	Solid	9045D	183472
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Soluble	Solid	9045D	183472
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Soluble	Solid	9045D	183472
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Soluble	Solid	9045D	183472
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Soluble	Solid	9045D	183472
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Soluble	Solid	9045D	183472
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Soluble	Solid	9045D	183472
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Soluble	Solid	9045D	183472
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Soluble	Solid	9045D	183472
LCS 410-183472/1-A	Lab Control Sample	Soluble	Solid	9045D	183472
410-58999-1 DU	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Soluble	Solid	9045D	183472

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

General Chemistry

Analysis Batch: 183795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	2540B-2011	183273
MB 410-183795/1	Method Blank	Total/NA	Solid	2540B-2011	
LCS 410-183795/2	Lab Control Sample	Total/NA	Solid	2540B-2011	
LCSD 410-183795/3	Lab Control Sample Dup	Total/NA	Solid	2540B-2011	

Analysis Batch: 184206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9095B	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9095B	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	9095B	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	9095B	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	9095B	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	9095B	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	9095B	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	9095B	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	9095B	
MB 410-184206/1	Method Blank	Total/NA	Solid	9095B	

Analysis Batch: 184207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	261.21	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	261.21	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	261.21	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	261.21	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	261.21	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	261.21	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	261.21	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	261.21	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	261.21	

Prep Batch: 184235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9071B	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	9071B	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	9071B	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	9071B	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	9071B	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	9071B	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	9071B	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	9071B	
MB 410-184235/1-A	Method Blank	Total/NA	Solid	9071B	
LCS 410-184235/2-A	Lab Control Sample	Total/NA	Solid	9071B	

Euofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

General Chemistry (Continued)

Prep Batch: 184235 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1 MS	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	
410-58999-1 MSD	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	
410-58999-1 DU	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	

Analysis Batch: 184548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	410.4	183273
MB 410-184548/4	Method Blank	Total/NA	Solid	410.4	
LCS 410-184548/5	Lab Control Sample	Total/NA	Solid	410.4	
410-58999-9 MS	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	410.4	183273
410-58999-9 DU	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	410.4	183273

Analysis Batch: 184745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	ASTM Leach	Solid	1664B	183273
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	1664B	183273
LB 410-183273/1-B	Method Blank	ASTM Leach	Solid	1664B	183273
MB 410-184745/1	Method Blank	Total/NA	Solid	1664B	
LCS 410-184745/2	Lab Control Sample	Total/NA	Solid	1664B	
LCSD 410-184745/3	Lab Control Sample Dup	Total/NA	Solid	1664B	

Analysis Batch: 185016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Total/NA	Solid	9071B	184235
MB 410-184235/1-A	Method Blank	Total/NA	Solid	9071B	184235
LCS 410-184235/2-A	Lab Control Sample	Total/NA	Solid	9071B	184235
410-58999-1 MS	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	184235
410-58999-1 MSD	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	184235

Eurofins Lancaster Laboratories Env, LLC

QC Association Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

General Chemistry (Continued)

Analysis Batch: 185016 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1 DU	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Total/NA	Solid	9071B	184235

Leach Batch: 186751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	ASTM Leach	Solid	D3987-85	
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	D3987-85	

Analysis Batch: 189848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	ASTM Leach	Solid	EPA 350.1	186751
MB 410-189848/17	Method Blank	Total/NA	Solid	EPA 350.1	
LCS 410-189848/15	Lab Control Sample	Total/NA	Solid	EPA 350.1	
LCSD 410-189848/16	Lab Control Sample Dup	Total/NA	Solid	EPA 350.1	

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 03:08	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 14:53	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 09:30	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/21/21 23:25	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 14:59	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:35	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:47	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 15:00	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 10:55	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 77.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 14:27	USEJ	ELLE
Total/NA	Prep	3546			184122	10/18/21 18:09	QQ3P	ELLE
Total/NA	Analysis	8082A		1	184470	10/19/21 08:52	JC94	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-1-2021-10-12

Lab Sample ID: 410-58999-1

Date Collected: 10/12/21 10:00

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 77.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			192756	11/09/21 19:12	UJLA	ELLE
Total/NA	Analysis	6010C		1	195357	11/16/21 12:26	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Date Collected: 10/12/21 10:05

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 03:54	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 15:21	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 09:41	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 00:00	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:08	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:37	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:49	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:32	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 11:01	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-2-2021-10-12

Lab Sample ID: 410-58999-2

Date Collected: 10/12/21 10:05

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 14:48	USEJ	ELLE
Total/NA	Prep	3546			183168	10/15/21 09:45	U9KU	ELLE
Total/NA	Analysis	8082A		1	183531	10/15/21 19:17	E9VJ	ELLE
Total/NA	Prep	3050B			192756	11/09/21 19:12	UJLA	ELLE
Total/NA	Analysis	6010C		1	195357	11/16/21 12:34	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 04:17	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 15:50	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 09:53	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 00:36	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:11	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:39	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:51	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:39	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 11:03	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-3-2021-10-12

Lab Sample ID: 410-58999-3

Date Collected: 10/12/21 10:07

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 88.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 15:08	USEJ	ELLE
Total/NA	Prep	3546			183168	10/15/21 09:45	U9KU	ELLE
Total/NA	Analysis	8082A		1	183531	10/15/21 19:28	E9VJ	ELLE
Total/NA	Prep	3050B			192546	11/09/21 13:56	UJLA	ELLE
Total/NA	Analysis	6010C		1	193090	11/10/21 10:53	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 04:40	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 16:19	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 10:04	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 01:11	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:30	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:47	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:52	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:41	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 11:05	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-4-2021-10-12

Lab Sample ID: 410-58999-4

Date Collected: 10/12/21 10:11

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 91.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 15:29	USEJ	ELLE
Total/NA	Prep	3546			183168	10/15/21 09:45	U9KU	ELLE
Total/NA	Analysis	8082A		1	183531	10/15/21 19:38	E9VJ	ELLE
Total/NA	Prep	3050B			192756	11/09/21 19:12	UJLA	ELLE
Total/NA	Analysis	6010C		1	195357	11/16/21 12:18	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Date Collected: 10/12/21 10:12

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 05:03	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 16:48	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 10:15	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 01:47	UAMZ	ELLE

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Date Collected: 10/12/21 10:12

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:15	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:41	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:53	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:42	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 11:07	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-5-2021-10-12

Lab Sample ID: 410-58999-5

Date Collected: 10/12/21 10:12

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 93.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 15:50	USEJ	ELLE
Total/NA	Prep	3546			183581	10/16/21 09:07	U9KU	ELLE
Total/NA	Analysis	8082A		1	183928	10/18/21 11:03	JC94	ELLE
Total/NA	Prep	3050B			192756	11/09/21 19:12	UJLA	ELLE
Total/NA	Analysis	6010C		1	195357	11/16/21 12:38	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 05:26	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 17:17	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 10:26	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 02:22	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:18	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:43	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:54	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:43	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 11:09	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 81.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 16:11	USEJ	ELLE
Total/NA	Prep	3546			183581	10/16/21 09:07	U9KU	ELLE
Total/NA	Analysis	8082A		1	183928	10/18/21 11:14	JC94	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-CONF-SOIL-6-2021-10-12

Lab Sample ID: 410-58999-6

Date Collected: 10/12/21 10:16

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 81.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			192756	11/09/21 19:12	UJLA	ELLE
Total/NA	Analysis	6010C		1	195357	11/16/21 12:30	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Date Collected: 10/12/21 10:30

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 05:49	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 17:46	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 10:37	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 02:57	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:27	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:45	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:48	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:45	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 11:18	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-1-2021-10-12

Lab Sample ID: 410-58999-7

Date Collected: 10/12/21 10:30

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 81.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 16:31	USEJ	ELLE
Total/NA	Prep	3546			183581	10/16/21 09:07	U9KU	ELLE
Total/NA	Analysis	8082A		1	183928	10/18/21 11:24	JC94	ELLE
Total/NA	Prep	3050B			192546	11/09/21 13:56	UJLA	ELLE
Total/NA	Analysis	6010C		1	193090	11/10/21 11:03	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 06:12	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 18:15	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 10:49	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 03:33	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:33	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 18:54	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:52	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:46	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE

Eurofins Lancaster Laboratories Env, LLC

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 11:20	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Client Sample ID: Hartranft-10TH-RB44062-RT-2-2021-10-12

Lab Sample ID: 410-58999-8

Date Collected: 10/12/21 10:36

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 82.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 16:52	USEJ	ELLE
Total/NA	Prep	3546			183581	10/16/21 09:07	U9KU	ELLE
Total/NA	Analysis	8082A		1	183928	10/18/21 11:35	JC94	ELLE
Total/NA	Prep	3050B			192756	11/09/21 19:12	UJLA	ELLE
Total/NA	Analysis	6010C		1	195357	11/16/21 12:22	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			183239	10/15/21 15:20	CZ7N	ELLE
TCLP	Analysis	8260C		20	184674	10/20/21 06:35	Y6ZN	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184616	10/19/21 17:40	QQ3P	ELLE
TCLP	Analysis	8270D		1	184885	10/20/21 18:44	UWHS	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3510C			184649	10/19/21 17:27	QQ3P	ELLE
TCLP	Analysis	8081B		10	184818	10/20/21 11:00	WN7O	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	8151A			184800	10/20/21 00:20	USL7	ELLE
TCLP	Analysis	8151A		1	185345	10/22/21 04:08	UAMZ	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	3005A			183779	10/18/21 04:53	UAMX	ELLE
TCLP	Analysis	6010C		1	184654	10/19/21 15:52	WJM9	ELLE
TCLP	Leach	1311			183271	10/15/21 15:14	CZ7N	ELLE
TCLP	Prep	7470A			183781	10/18/21 05:04	UAMX	ELLE
TCLP	Analysis	7470A		1	184228	10/18/21 19:04	UEFS	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	1664B		1	184745	10/19/21 20:36	QT6L	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	2540B-2011		1	183795	10/18/21 06:25	M98K	ELLE

Lab Chronicle

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G-2011		1	182808	10/14/21 12:23	M98K	ELLE
Total/NA	Analysis	261.21		1	184207	10/18/21 19:56	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			183273	10/15/21 15:14	CZ7N	ELLE
ASTM Leach	Analysis	410.4		1	184548	10/19/21 12:45	USAE	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9012		1	183419	10/15/21 14:48	JCG7	ELLE
Total/NA	Prep	7.3.3			183171	10/15/21 07:55	USE1	ELLE
Total/NA	Analysis	9034		1	183334	10/15/21 12:20	USE1	ELLE
Soluble	Leach	DI Leach			183472	10/15/21 16:25	F8TI	ELLE
Soluble	Analysis	9045D		1	183490	10/15/21 18:30	F8TI	ELLE
Total/NA	Analysis	9095B		1	184206	10/18/21 19:55	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			186751	10/25/21 15:55	CZ7N	ELLE
ASTM Leach	Analysis	EPA 350.1		1	189848	11/02/21 12:49	JCG7	ELLE
Total/NA	Analysis	Moisture		1	182800	10/14/21 12:07	UWC1	ELLE

Client Sample ID: Hartranft-10TH-RB44062-RT-3-2021-10-12

Lab Sample ID: 410-58999-9

Date Collected: 10/12/21 10:38

Matrix: Solid

Date Received: 10/13/21 18:10

Percent Solids: 82.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			182777	10/14/21 11:18	JJT8	ELLE
Total/NA	Analysis	8260C		50	183894	10/18/21 17:13	USEJ	ELLE
Total/NA	Prep	3546			183581	10/16/21 09:07	U9KU	ELLE
Total/NA	Analysis	8082A		1	183928	10/18/21 11:45	JC94	ELLE
Total/NA	Prep	3050B			192546	11/09/21 13:56	UJLA	ELLE
Total/NA	Analysis	6010C		1	193090	11/10/21 11:07	WJM9	ELLE
Total/NA	Prep	9071B			184235	10/18/21 23:57	QT6L	ELLE
Total/NA	Analysis	9071B		1	185016	10/20/21 10:30	UYB0	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: NorthStar Contracting Group, Inc.
 Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	36-00037	01-31-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1664B		Solid	HEM (Oil & Grease)
2540B-2011		Solid	Residue, Total
2540B-2011		Solid	Total Solids
2540G-2011		Solid	Percent Solids
261.21		Solid	Ignitable to Air
261.21		Solid	Ignitable to Flame
261.21		Solid	Ignitable to Friction
261.21		Solid	Ignitable to Water
410.4		Solid	Chemical Oxygen Demand
9034	7.3.3	Solid	Sulfide, Reactive
9045D		Solid	Corrosivity
EPA 350.1		Solid	Ammonia as N
Moisture		Solid	Percent Moisture



Method Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	ELLE
8081B	Organochlorine Pesticides (GC)	SW846	ELLE
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	ELLE
8151A	Herbicides (GC)	SW846	ELLE
6010C	Metals (ICP)	SW846	ELLE
7470A	Mercury (CVAA)	SW846	ELLE
1664B	HEM and SGT-HEM	1664B	ELLE
2540B-2011	Solids, Total	SM	ELLE
2540G-2011	Total, Fixed, and Volatile Solids	SM	ELLE
261.21	Ignitability	40CFR261	ELLE
410.4	COD	MCAWW	ELLE
9012	Cyanide, Reactive	SW846	ELLE
9034	Sulfide, Reactive	SW846	ELLE
9045D	pH	SW846	ELLE
9071B	HEM and SGT-HEM	SW846	ELLE
9095B	Paint Filter	SW846	ELLE
EPA 350.1	Nitrogen, Ammonia	EPA	ELLE
Moisture	Percent Moisture	EPA	ELLE
1311	TCLP Extraction	SW846	ELLE
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	ELLE
3050B	Preparation, Metals	SW846	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3546	Microwave Extraction	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
7.3.3	Cyanide, Reactive	SW846	ELLE
7.3.4	Sulfide, Reactive	SW846	ELLE
7470A	Preparation, Mercury	SW846	ELLE
8151A	Extraction (Herbicides)	SW846	ELLE
9071B	Preparation, HEM and SGT-HEM	SW846	ELLE
D3987-85	ASTM Leaching Procedure	ASTM	ELLE
DI Leach	Deionized Water Leaching Procedure	ASTM	ELLE

Protocol References:

1664B = EPA-821-98-002

40CFR261 = 40 CFR Part 261

ASTM = ASTM International

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: NorthStar Contracting Group, Inc.
Project/Site: NorthStar Sampling

Job ID: 410-58999-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-58999-1	Hartranft-10TH-CONF-SOIL-1-2021-10-12	Solid	10/12/21 10:00	10/13/21 18:10
410-58999-2	Hartranft-10TH-CONF-SOIL-2-2021-10-12	Solid	10/12/21 10:05	10/13/21 18:10
410-58999-3	Hartranft-10TH-CONF-SOIL-3-2021-10-12	Solid	10/12/21 10:07	10/13/21 18:10
410-58999-4	Hartranft-10TH-CONF-SOIL-4-2021-10-12	Solid	10/12/21 10:11	10/13/21 18:10
410-58999-5	Hartranft-10TH-CONF-SOIL-5-2021-10-12	Solid	10/12/21 10:12	10/13/21 18:10
410-58999-6	Hartranft-10TH-CONF-SOIL-6-2021-10-12	Solid	10/12/21 10:16	10/13/21 18:10
410-58999-7	Hartranft-10TH-RB44062-RT-1-2021-10-12	Solid	10/12/21 10:30	10/13/21 18:10
410-58999-8	Hartranft-10TH-RB44062-RT-2-2021-10-12	Solid	10/12/21 10:36	10/13/21 18:10
410-58999-9	Hartranft-10TH-RB44062-RT-3-2021-10-12	Solid	10/12/21 10:38	10/13/21 18:10

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- 13
- 14
- 15



QC

CHAIN OF CUSTODY
Page 1 of 1



410-58999 Chain of Custody

MATRIX CODES

702 Electronic Drive Phone: 215-355-3900
Horsham, PA 19044-0962 Fax 215-355-7231

Client/Acct. No. NorthStar Contracting Group, Inc
Address 3144 Passyunk Ave
Philadelphia PA, 19145

City/State/Zip 440-228-1524
Phone/Fax rarmstrong@northstar.com

Client Contact

Bill to/Report to (if different)

Sampling Site Address (if different) Include State

P.O. No. PWSID #

Quote #

e-mail:

Ascorbic/HCL Vials # HCl Vials

Na₂S₂O₃

Na OH/Zn acetate pH

HNO₃ pH

H₂SO₄ pH

NaOH pH

Unpreserved

HCl # NH₄Cl # MeOH

DI Water

- DW: DRINKING WATER
- GW: GROUND WATER
- WW: WASTEWATER
- SO: SOIL
- SL: SLUDGE
- OIL: OIL
- SOL: NON SOIL SOLID
- MI: MISCELLANEOUS
- X: OTHER

PROJECT FIELD ID	Collection		G R A B	C O M P	Matrix Code	Number of Containers															
	Date	Military Time				Total	H 2 S O 4	H C l	V i a l a	H N O 3	N a O H	Z n A c	U N P R E	B A C T							
Harttransf-10TH-CONF-SOIL-1-2021-10-12	10/12/21	1000	X		SO	5										5					
Harttransf-10TH-CONF-SOIL-2-2021-10-12	10/12/21	1005	X		SO	5										5					
Harttransf-10TH-CONF-SOIL-3-2021-10-12	10/12/21	1007	X		SO	5										5					
Harttransf-10TH-CONF-SOIL-4-2021-10-12	10/12/21	1011	X		SO	5										5					
Harttransf-10TH-CONF-SOIL-5-2021-10-12	10/12/21	1012	X		SO	5										5					
Harttransf-10TH-CONF-SOIL-6-2021-10-12	10/12/21	1016	X		SO	5										5					
Harttransf-10TH-RB44062-RT-1-2021-10-12	10/12/21	1030	X		SO	5										5					
Harttransf-10TH-RB44062-RT-2-2021-10-12	10/12/21	1036	X		SO	5										5					
Harttransf-10TH-RB44062PT-3-2021-10-12	10/12/21	1038		X	SO	7										7					

ANALYSIS REQUESTED

Total Benzene
See attached Table A
Parameters

Field pH, Temp (°C),
DO, Cl₂, Cond. etc.

~~Use caution
when working
with these
samples.~~

SAMPLED BY: (Name/Company)
Josh Suboye / North Star

TAT: STANDARD (10 DAY)
or DUE DATE ASAP 1

Report Format: Standard NJ-RDD SRP-RDD
 Standard + QC Forms EDD

Field Parameters Analyzed By:
Initials Date/Time:

Please call for pricing and availability for rush (<10 day) turnaround and for all but standard reporting format.

SAMPLE CUSTODY EXCHANGES MUST BE DOCUMENTED BELOW USE FULL LEGAL SIGNATURE, DATE AND MILITARY TIME (24 HOUR CLOCK, I.E. 8AM IS 0800, 4 PM IS 1600)

RELINQUISHED BY SAMPLER	DATE	TIME	RECEIVED BY	DATE	TIME	DELIVERY: <input type="checkbox"/> EQC COURIER <input type="checkbox"/> CLIENT <input type="checkbox"/> UPS <input type="checkbox"/> FEDEX <input type="checkbox"/> OTHER	Custody Seal Number
1. [Signature]	10.13.21	1225	[Signature]	10/13/21	1225		
2. [Signature]	10/13/21	1810	[Signature]			Rec'd Temp.: 1.3° COMMENTS: 2.3°	Initials: MR Ice (Y) N Location: _____
3.							
4.							
5.			[Signature]	10/13/21	1810		

Hazardous: yes / no



TABLE A PARAMETERS



410-58999-02 Chain of Custody

	Parameter Name	Type	Category	Limits	Units	85% of Limit
<input type="checkbox"/>	Ignitibility	As Received		>140	F	
<input type="checkbox"/>	Oil & Grease	As Received			mg/kg	
<input type="checkbox"/>	Paint Filter Test	As Received		No free liquids		
<input type="checkbox"/>	PCB's	As Received		50		
<input type="checkbox"/>	pH	As Received		2 - 12.5	S.U.	
<input type="checkbox"/>	Reactive Cyanide	As Received		100		
<input type="checkbox"/>	Reactive Sulfide	As Received		500		
<input type="checkbox"/>	Total Solids	As Received				
<input type="checkbox"/>	Total Volatile Solids	As Received				
<input type="checkbox"/>	Ammonia-Nitrogen	ASTM		111111	mg/l	
<input type="checkbox"/>	Chemical Oxygen Demand	ASTM				
<input type="checkbox"/>	Oil & Grease	ASTM		88550	mg/l	
<input type="checkbox"/>	Total Solids	ASTM				
<input type="checkbox"/>	pH	TCLP				
<input type="checkbox"/>	Arsenic	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/>	Barium	TCLP	Metals	100	mg/l	85
<input type="checkbox"/>	Cadmium	TCLP	Metals	1	mg/l	0.85
<input type="checkbox"/>	Chromium	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/>	Copper	TCLP	Metals	167	mg/l	142
<input type="checkbox"/>	Lead	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/>	Mercury	TCLP	Metals	0.2	mg/l	0.17
<input type="checkbox"/>	Nickel	TCLP	Metals	242	mg/l	206
<input type="checkbox"/>	Selenium	TCLP	Metals	1	mg/l	0.85
<input type="checkbox"/>	Silver	TCLP	Metals	5	mg/l	4.25
<input type="checkbox"/>	Zinc	TCLP	Metals	1875	mg/l	1594
<input type="checkbox"/>	2,4-D	TCLP	Herb	10	mg/l	8.5
<input type="checkbox"/>	2,4,5-TP	TCLP	Herb	1	mg/l	0.85
<input type="checkbox"/>	Chlordane	TCLP	Pest	0.03	mg/l	0.0255
<input type="checkbox"/>	Endrin	TCLP	Pest	0.02	mg/l	0.017
<input type="checkbox"/>	Heptachlor	TCLP	Pest	0.008	mg/l	0.0068
<input type="checkbox"/>	Heptachlor Epoxide	TCLP	Pest	0.008	mg/l	0.0068
<input type="checkbox"/>	Lindane	TCLP	Pest	0.4	mg/l	0.34
<input type="checkbox"/>	Methoxychlor	TCLP	Pest	10mg/l	8.5	
<input type="checkbox"/>	Toxaphene	TCLP	Pest	0.5	mg/l	0.425
<input type="checkbox"/>	2,4,5-trichlorophenol	TCLP	Acids	400	mg/l	340
<input type="checkbox"/>	2,4,6-trichlorophenol	TCLP	Acids	2	mg/l	1.7
<input type="checkbox"/>	m-cresol	TCLP	Acids	200	mg/l	170
<input type="checkbox"/>	o-cresol	TCLP	Acids	200	mg/l	170
<input type="checkbox"/>	p-cresol	TCLP	Acids	200	mg/l	170
<input type="checkbox"/>	Pentachlorophenol	TCLP	Acids	100	mg/l	85
<input type="checkbox"/>	2,4-dinitrotoluene	TCLP	Base/Neutral	0.13	mg/l	0.1105
<input type="checkbox"/>	Hexachlorobenzene	TCLP	Base/Neutral	0.13	mg/l	0.1105
<input type="checkbox"/>	Hexachlorobutadiene	TCLP	Base/Neutral	0.5	mg/l	0.425
<input type="checkbox"/>	Hexachloroethane	TCLP	Base/Neutral	3	mg/l	2.55





TABLE A PARAMETERS

*Volatile Organic Compounds must be taken from discrete samples

	Parameter Name	Type	Category	Limits	Units	85% of Limit
<input type="checkbox"/>	Nitrobenzene	TCLP	Base/Neutral	2	mg/l	1.7
<input type="checkbox"/>	Pyridine	TCLP	Base/Neutral	5	mg/l	4.25
<input type="checkbox"/>	* 1,1-dichloroethyene	TCLP	Volatiles	0.7	mg/l	0.595
<input type="checkbox"/>	* 1,2-dichloroethane	TCLP	Volatiles	0.5	mg/l	0.425
<input type="checkbox"/>	* 1,4-dichlorobenzene	TCLP	Volatiles	7.5	mg/l	6.375
<input type="checkbox"/>	* Benzene	TCLP	Volatiles	0.5	mg/l	0.425
<input type="checkbox"/>	* Carbon Tetrachloride	TCLP	Volatiles	0.5	mg/l	0.425
<input type="checkbox"/>	* Chlorobenzene	TCLP	Volatiles	100	mg/l	85
<input type="checkbox"/>	* Chloroform	TCLP	Volatiles	8	mg/l	6.8
<input type="checkbox"/>	* Methyl ethyl ketone	TCLP	Volatiles	200	mg/l	170
<input type="checkbox"/>	* Tetrachloroethylene	TCLP	Volatiles	0.7	mg/l	0.595
<input type="checkbox"/>	* Trichloroethylene	TCLP	Volatiles	0.5	mg/l	0.425
<input type="checkbox"/>	* Vinyl Chloride	TCLP	Volatiles	0.2	mg/l	0.17

Login Sample Receipt Checklist

Client: NorthStar Contracting Group, Inc.

Job Number: 410-58999-1

Login Number: 58999

List Source: Eurofins Lancaster Laboratories Env, LLC

List Number: 1

Creator: Renner, Melissa

Question	Answer	Comment
The cooler's custody seal is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	N/A	



ANALYTICAL REPORT

Lab Number:	L2165357
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PES REFINERY-860 RELEASE
Project Number:	200.00135.005.03
Report Date:	12/13/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: PES REFINERY-860 RELEASE**Project Number:** 200.00135.005.03**Lab Number:** L2165357**Report Date:** 12/13/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2165357-01	HARTRANFT-10TH-CONF- SOIL-1-2021-11-29	SOIL	PHILADELPHIA, PA	11/29/21 10:00	11/29/21
L2165357-02	HARTRANFT-10TH-CONF- SOIL-2-2021-11-29	SOIL	PHILADELPHIA, PA	11/29/21 10:20	11/29/21
L2165357-03	HARTRANFT-10TH-CONF- SOIL-3-2021-11-29	SOIL	PHILADELPHIA, PA	11/29/21 10:50	11/29/21
L2165357-04	HARTRANFT-10TH-CONF- SOIL-4-2021-11-29	SOIL	PHILADELPHIA, PA	11/29/21 11:00	11/29/21
L2165357-05	HARTRANFT-10TH-CONF- SOIL-5-2021-11-29	SOIL	PHILADELPHIA, PA	11/29/21 11:05	11/29/21
L2165357-06	HARTRANFT-10TH-CONF- SOIL-6-2021-11-29	SOIL	PHILADELPHIA, PA	11/29/21 11:15	11/29/21

Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Lab Number: L2165357
Report Date: 12/13/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Lab Number: L2165357
Report Date: 12/13/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Semivolatile Organics

L2165357-06D: The sample has elevated detection limits due to the dilution required by the sample matrix.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Sebastian Corbin

Title: Technical Director/Representative

Date: 12/13/21

ORGANICS

SEMIVOLATILES

Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Lab Number: L2165357
Report Date: 12/13/21

SAMPLE RESULTS

Lab ID: L2165357-01
 Client ID: HARTRANFT-10TH-CONF-SOIL-1-2021-11-29
 Sample Location: PHILADELPHIA, PA

Date Collected: 11/29/21 10:00
 Date Received: 11/29/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 12/07/21 11:58
 Analyst: JRW
 Percent Solids: 79%

Extraction Method: EPA 3546
 Extraction Date: 12/06/21 23:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.18	J	mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	0.071	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.091	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.071	J	mg/kg	0.12	0.023	1
Chrysene	0.072	J	mg/kg	0.12	0.022	1
Benzo(b)fluoranthene	0.12		mg/kg	0.12	0.035	1
Benzo(a)pyrene	0.090	J	mg/kg	0.16	0.050	1
Benzo(ghi)perylene	0.097	J	mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	66		18-120

Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Lab Number: L2165357
Report Date: 12/13/21

SAMPLE RESULTS

Lab ID: L2165357-02
 Client ID: HARTRANFT-10TH-CONF-SOIL-2-2021-11-29
 Sample Location: PHILADELPHIA, PA

Date Collected: 11/29/21 10:20
 Date Received: 11/29/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 12/07/21 14:23
 Analyst: JRW
 Percent Solids: 85%

Extraction Method: EPA 3546
 Extraction Date: 12/06/21 23:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.15	J	mg/kg	0.19	0.024	1
Fluorene	0.060	J	mg/kg	0.19	0.019	1
Phenanthrene	0.096	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.11	J	mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.078	J	mg/kg	0.12	0.022	1
Chrysene	0.068	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.089	J	mg/kg	0.12	0.033	1
Benzo(a)pyrene	0.073	J	mg/kg	0.16	0.047	1
Benzo(ghi)perylene	0.043	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	87		18-120

Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Lab Number: L2165357
Report Date: 12/13/21

SAMPLE RESULTS

Lab ID: L2165357-03
 Client ID: HARTRANFT-10TH-CONF-SOIL-3-2021-11-29
 Sample Location: PHILADELPHIA, PA

Date Collected: 11/29/21 10:50
 Date Received: 11/29/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 12/07/21 14:48
 Analyst: JRW
 Percent Solids: 92%

Extraction Method: EPA 3546
 Extraction Date: 12/06/21 23:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.47		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	0.48		mg/kg	0.11	0.022	1
Anthracene	0.14		mg/kg	0.11	0.035	1
Pyrene	0.75		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.45		mg/kg	0.11	0.020	1
Chrysene	0.43		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.56		mg/kg	0.11	0.030	1
Benzo(a)pyrene	0.45		mg/kg	0.14	0.044	1
Benzo(ghi)perylene	0.29		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	107		23-120
2-Fluorobiphenyl	68		30-120
4-Terphenyl-d14	71		18-120

Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Lab Number: L2165357
Report Date: 12/13/21

SAMPLE RESULTS

Lab ID: L2165357-04
 Client ID: HARTRANFT-10TH-CONF-SOIL-4-2021-11-29
 Sample Location: PHILADELPHIA, PA

Date Collected: 11/29/21 11:00
 Date Received: 11/29/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 12/07/21 15:12
 Analyst: JRW
 Percent Solids: 88%

Extraction Method: EPA 3546
 Extraction Date: 12/06/21 23:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	79		18-120

Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Lab Number: L2165357
Report Date: 12/13/21

SAMPLE RESULTS

Lab ID: L2165357-05
 Client ID: HARTRANFT-10TH-CONF-SOIL-5-2021-11-29
 Sample Location: PHILADELPHIA, PA

Date Collected: 11/29/21 11:05
 Date Received: 11/29/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 12/07/21 16:00
 Analyst: JRW
 Percent Solids: 92%

Extraction Method: EPA 3546
 Extraction Date: 12/06/21 23:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	0.028	J	mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.044	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	76		30-120
4-Terphenyl-d14	74		18-120

Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Lab Number: L2165357
Report Date: 12/13/21

SAMPLE RESULTS

Lab ID: L2165357-06 D
 Client ID: HARTRANFT-10TH-CONF-SOIL-6-2021-11-29
 Sample Location: PHILADELPHIA, PA

Date Collected: 11/29/21 11:15
 Date Received: 11/29/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 12/11/21 14:47
 Analyst: WR
 Percent Solids: 95%

Extraction Method: EPA 3546
 Extraction Date: 12/06/21 23:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	5.3		mg/kg	0.87	0.11	5
Fluorene	5.3		mg/kg	0.87	0.085	5
Phenanthrene	12.		mg/kg	0.52	0.10	5
Anthracene	4.0		mg/kg	0.52	0.17	5
Pyrene	14.		mg/kg	0.52	0.087	5
Benzo(a)anthracene	7.5		mg/kg	0.52	0.098	5
Chrysene	7.5		mg/kg	0.52	0.091	5
Benzo(b)fluoranthene	9.6		mg/kg	0.52	0.15	5
Benzo(a)pyrene	7.1		mg/kg	0.70	0.21	5
Benzo(ghi)perylene	4.3		mg/kg	0.70	0.10	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	120		23-120
2-Fluorobiphenyl	29	Q	30-120
4-Terphenyl-d14	29		18-120

Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Lab Number: L2165357
Report Date: 12/13/21

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270D
Analytical Date: 12/07/21 10:45
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 12/06/21 23:49

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1579872-1					
Naphthalene	ND		mg/kg	0.17	0.020
Fluorene	ND		mg/kg	0.17	0.016
Phenanthrene	ND		mg/kg	0.10	0.020
Anthracene	ND		mg/kg	0.10	0.032
Pyrene	ND		mg/kg	0.10	0.016
Benzo(a)anthracene	ND		mg/kg	0.10	0.019
Chrysene	ND		mg/kg	0.10	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.041
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	81		18-120

Lab Control Sample Analysis Batch Quality Control

Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Lab Number: L2165357
Report Date: 12/13/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1579872-2 WG1579872-3								
Naphthalene	64		63		40-140	2		50
Fluorene	71		74		40-140	4		50
Phenanthrene	68		71		40-140	4		50
Anthracene	68		72		40-140	6		50
Pyrene	71		73		35-142	3		50
Benzo(a)anthracene	72		72		40-140	0		50
Chrysene	68		67		40-140	1		50
Benzo(b)fluoranthene	72		69		40-140	4		50
Benzo(a)pyrene	64		64		40-140	0		50
Benzo(ghi)perylene	72		72		40-140	0		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	72		73		23-120
2-Fluorobiphenyl	67		68		30-120
4-Terphenyl-d14	72		73		18-120

INORGANICS & MISCELLANEOUS

Project Name: PES REFINERY-860 RELEASE**Lab Number:** L2165357**Project Number:** 200.00135.005.03**Report Date:** 12/13/21**SAMPLE RESULTS**

Lab ID: L2165357-01

Date Collected: 11/29/21 10:00

Client ID: HARTRANFT-10TH-CONF-SOIL-1-2021-11-29

Date Received: 11/29/21

Sample Location: PHILADELPHIA, PA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.3		%	0.100	NA	1	-	12/01/21 08:41	121,2540G	RI



Project Name: PES REFINERY-860 RELEASE**Lab Number:** L2165357**Project Number:** 200.00135.005.03**Report Date:** 12/13/21**SAMPLE RESULTS**

Lab ID: L2165357-02

Date Collected: 11/29/21 10:20

Client ID: HARTRANFT-10TH-CONF-SOIL-2-2021-11-29

Date Received: 11/29/21

Sample Location: PHILADELPHIA, PA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.0		%	0.100	NA	1	-	12/01/21 08:41	121,2540G	RI



Project Name: PES REFINERY-860 RELEASE**Lab Number:** L2165357**Project Number:** 200.00135.005.03**Report Date:** 12/13/21**SAMPLE RESULTS**

Lab ID: L2165357-03

Date Collected: 11/29/21 10:50

Client ID: HARTRANFT-10TH-CONF-SOIL-3-2021-11-29

Date Received: 11/29/21

Sample Location: PHILADELPHIA, PA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.3		%	0.100	NA	1	-	12/01/21 08:41	121,2540G	RI



Project Name: PES REFINERY-860 RELEASE**Lab Number:** L2165357**Project Number:** 200.00135.005.03**Report Date:** 12/13/21**SAMPLE RESULTS**

Lab ID: L2165357-04

Date Collected: 11/29/21 11:00

Client ID: HARTRANFT-10TH-CONF-SOIL-4-2021-11-29

Date Received: 11/29/21

Sample Location: PHILADELPHIA, PA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.2		%	0.100	NA	1	-	12/01/21 08:41	121,2540G	RI



Project Name: PES REFINERY-860 RELEASE**Lab Number:** L2165357**Project Number:** 200.00135.005.03**Report Date:** 12/13/21**SAMPLE RESULTS**

Lab ID: L2165357-05

Date Collected: 11/29/21 11:05

Client ID: HARTRANFT-10TH-CONF-SOIL-5-2021-11-29

Date Received: 11/29/21

Sample Location: PHILADELPHIA, PA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.0		%	0.100	NA	1	-	12/01/21 08:41	121,2540G	RI



Project Name: PES REFINERY-860 RELEASE**Lab Number:** L2165357**Project Number:** 200.00135.005.03**Report Date:** 12/13/21**SAMPLE RESULTS**

Lab ID: L2165357-06

Date Collected: 11/29/21 11:15

Client ID: HARTRANFT-10TH-CONF-SOIL-6-2021-11-29

Date Received: 11/29/21

Sample Location: PHILADELPHIA, PA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.9		%	0.100	NA	1	-	12/01/21 08:41	121,2540G	RI



Lab Duplicate Analysis
Batch Quality Control

Project Name: PES REFINERY-860 RELEASE

Project Number: 200.00135.005.03

Lab Number: L2165357

Report Date: 12/13/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1577527-1 QC Sample: L2165357-01 Client ID: HARTRANFT-10TH-CONF-SOIL-1-2021-11-29						
Solids, Total	79.3	80.8	%	2		20

Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Serial_No:12132112:13
Lab Number: L2165357
Report Date: 12/13/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler **Custody Seal**
A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2165357-01A	Vial MeOH preserved	A	NA		3.3	Y	Absent		HOLD-8260HLW(14)
L2165357-01B	Vial water preserved	A	NA		3.3	Y	Absent	30-NOV-21 09:11	HOLD-8260HLW(14)
L2165357-01C	Vial water preserved	A	NA		3.3	Y	Absent	30-NOV-21 09:11	HOLD-8260HLW(14)
L2165357-01D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)
L2165357-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		HOLD-METAL(180)
L2165357-01F	Glass 120ml/4oz unpreserved	A	NA		3.3	Y	Absent		PA-PAH(14)
L2165357-02A	Vial MeOH preserved	A	NA		3.3	Y	Absent		HOLD-8260HLW(14)
L2165357-02B	Vial water preserved	A	NA		3.3	Y	Absent	30-NOV-21 09:11	HOLD-8260HLW(14)
L2165357-02C	Vial water preserved	A	NA		3.3	Y	Absent	30-NOV-21 09:11	HOLD-8260HLW(14)
L2165357-02D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)
L2165357-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		HOLD-METAL(180)
L2165357-02F	Glass 120ml/4oz unpreserved	A	NA		3.3	Y	Absent		PA-PAH(14)
L2165357-03A	Vial MeOH preserved	A	NA		3.3	Y	Absent		HOLD-8260HLW(14)
L2165357-03B	Vial water preserved	A	NA		3.3	Y	Absent	30-NOV-21 09:11	HOLD-8260HLW(14)
L2165357-03C	Vial water preserved	A	NA		3.3	Y	Absent	30-NOV-21 09:11	HOLD-8260HLW(14)
L2165357-03D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)
L2165357-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		HOLD-METAL(180)
L2165357-03F	Glass 120ml/4oz unpreserved	A	NA		3.3	Y	Absent		PA-PAH(14)
L2165357-04A	Vial MeOH preserved	A	NA		3.3	Y	Absent		HOLD-8260HLW(14)
L2165357-04B	Vial water preserved	A	NA		3.3	Y	Absent	30-NOV-21 09:11	HOLD-8260HLW(14)
L2165357-04C	Vial water preserved	A	NA		3.3	Y	Absent	30-NOV-21 09:11	HOLD-8260HLW(14)
L2165357-04D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)
L2165357-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		HOLD-METAL(180)

*Values in parentheses indicate holding time in days



Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Serial_No:12132112:13
Lab Number: L2165357
Report Date: 12/13/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2165357-04F	Glass 120ml/4oz unpreserved	A	NA		3.3	Y	Absent		PA-PAH(14)
L2165357-05A	Vial MeOH preserved	A	NA		3.3	Y	Absent		HOLD-8260HLW(14)
L2165357-05B	Vial water preserved	A	NA		3.3	Y	Absent	30-NOV-21 09:11	HOLD-8260HLW(14)
L2165357-05C	Vial water preserved	A	NA		3.3	Y	Absent	30-NOV-21 09:11	HOLD-8260HLW(14)
L2165357-05D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)
L2165357-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		HOLD-METAL(180)
L2165357-05F	Glass 120ml/4oz unpreserved	A	NA		3.3	Y	Absent		PA-PAH(14)
L2165357-06A	Vial MeOH preserved	A	NA		3.3	Y	Absent		HOLD-8260HLW(14)
L2165357-06B	Vial water preserved	A	NA		3.3	Y	Absent	30-NOV-21 09:11	HOLD-8260HLW(14)
L2165357-06C	Vial water preserved	A	NA		3.3	Y	Absent	30-NOV-21 09:11	HOLD-8260HLW(14)
L2165357-06D	Plastic 2oz unpreserved for TS	A	NA		3.3	Y	Absent		TS(7)
L2165357-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.3	Y	Absent		HOLD-METAL(180)
L2165357-06F	Glass 120ml/4oz unpreserved	A	NA		3.3	Y	Absent		PA-PAH(14)

Project Name: PES REFINERY-860 RELEASE**Lab Number:** L2165357**Project Number:** 200.00135.005.03**Report Date:** 12/13/21

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Lab Number: L2165357
Report Date: 12/13/21

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Lab Number: L2165357
Report Date: 12/13/21

Data Qualifiers

- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: PES REFINERY-860 RELEASE
Project Number: 200.00135.005.03

Lab Number: L2165357
Report Date: 12/13/21

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



CHAIN OF CUSTODY

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Project Information

Project Name: PES Refinery - 860 Release

Project Location: Philadelphia, PA

Project #: 200.00135.005.03

Project Manager: William Schmidt

ALPHA Quote #: 13161

Turn-Around Time

Standard Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Westborough, MA Mansfield, MA
 TEL: 508-898-9220 TEL: 508-822-9300
 FAX: 508-898-9193 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

These samples have been Previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific (PADEP SVOC) analyte list per attached

Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

Date Rec'd in Lab: 1 11/30/21

ALPHA Job #: L2163357

Report Information Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program Criteria

ANALYSIS

PADEP Shortlist 1-5 (SVOC Portion)	ANALYSIS															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
01	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
02	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
03	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
05	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SAMPLE HANDLING
 Filtration
 Done
 Not Needed
 Lab to do
 Preservation
 Lab to do
 (Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
65357-01	Hartranft-10th-CONF-SOIL-1-204-4-29	11/28	1000	S	TS
-02	Hartranft-10th-CONF-SOIL-2-204-11-25	11/28	1020	S	TS
-03	Hartranft-10th-CONF-SOIL-3-204-11-25	11/28	1050	S	TS
-04	Hartranft-10th-CONF-SOIL-4-204-11-25	11/28	1100	S	TS
-05	Hartranft-10th-CONF-SOIL-5-204-11-25	11/28	1105	S	TS
-06	Hartranft-10th-CONF-SOIL-6-204-11-25	11/28	1115	S	TS

Container Type	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By: *[Signature]* Date/Time: 11/29/21 1650
 Received By: *[Signature]* Date/Time: 11/29/21 1650
 Paul Mazzeo 11/30/21 0050

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 91-011A(2) (Rev. 3-JAN-12)



ANALYTICAL REPORT

Lab Number:	L2331062
Client:	Terraphase Engineering Inc. 1100 East Hector Street Suite 400 Conshohocken, PA 19428
ATTN:	Michael McDonald
Phone:	(484) 513-4910
Project Name:	HARTRANFT STREET PIPELINE RELE
Project Number:	P044.001.004
Report Date:	06/21/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2331062-01	HSE-SB-07-1.5-2.0	SOIL	3144 W PASSYUNK AVE.	06/02/23 08:18	06/02/23
L2331062-02	HSE-SB-08-1.0-1.5	SOIL	3144 W PASSYUNK AVE.	06/02/23 08:40	06/02/23
L2331062-03	HSE-SB-09-1.5-2.0	SOIL	3144 W PASSYUNK AVE.	06/02/23 09:16	06/02/23
L2331062-04	HSE-SB-09-1.5-2.0D	SOIL	3144 W PASSYUNK AVE.	06/02/23 09:16	06/02/23
L2331062-05	HSE-SB-10-2.0-2.5	SOIL	3144 W PASSYUNK AVE.	06/02/23 09:42	06/02/23
L2331062-06	HSE-SB-11-0.0-0.5	SOIL	3144 W PASSYUNK AVE.	06/02/23 10:00	06/02/23
L2331062-07	HSE-SB-12-1.0-1.5	SOIL	3144 W PASSYUNK AVE.	06/02/23 10:12	06/02/23
L2331062-08	HSE-SB-13-0.0-0.5	SOIL	3144 W PASSYUNK AVE.	06/02/23 10:23	06/02/23
L2331062-09	HSE-SB-14-2.0-2.5	SOIL	3144 W PASSYUNK AVE.	06/02/23 10:37	06/02/23
L2331062-10	FB-230602	WATER	3144 W PASSYUNK AVE.	06/02/23 10:50	06/02/23
L2331062-11	TB-230602	WATER	3144 W PASSYUNK AVE.	06/02/23 11:08	06/02/23

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Case Narrative (continued)

Report Submission

June 21, 2023: This final report includes the results of all requested analyses.

June 20, 2023: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2331062-02: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (155%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2331062-02 and -09: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample.

L2331062-07: The sample was analyzed as a High Level Methanol based upon screen results. The sample was then analyzed as a Low Level in order to achieve lower reporting limits. The results of both analyses are reported. Differences were noted between the results of the analyses which have been attributed to vial discrepancies.

L2331062-09: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (139%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

WG1791200-6: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (149%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

WG1791200-7: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (151%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Case Narrative (continued)

Semivolatile Organics

L2331062-02D and WG1789791-4D/-5D: The sample has elevated detection limits due to the dilution required by the sample matrix.

Total Metals

The WG1792302-3 MS recovery, performed on L2331062-02, is outside the acceptance criteria for lead (166%). A post digestion spike was performed and was within acceptance criteria.

The WG1792302-3/-4 MS/MSD RPD for lead (23%), performed on L2331062-02, is above the acceptance criteria.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Kelly O'Neill

Title: Technical Director/Representative

Date: 06/21/23

ORGANICS

VOLATILES

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-01
 Client ID: HSE-SB-07-1.5-2.0
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 08:18
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 06/13/23 11:31
 Analyst: JIC
 Percent Solids: 72%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	0.00014	J	mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00086	0.00022	1
Toluene	ND		mg/kg	0.00086	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	0.00040	J	mg/kg	0.00086	0.00012	1
p/m-Xylene	0.0016	J	mg/kg	0.0017	0.00048	1
o-Xylene	0.0012		mg/kg	0.00086	0.00025	1
Xylenes, Total	0.0028	J	mg/kg	0.00086	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00086	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	95		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-02
 Client ID: HSE-SB-08-1.0-1.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 08:40
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 06/13/23 14:10
 Analyst: JIC
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	ND		mg/kg	0.029	0.0097	1
1,2-Dichloroethane	ND		mg/kg	0.058	0.015	1
Toluene	ND		mg/kg	0.058	0.032	1
1,2-Dibromoethane	ND		mg/kg	0.029	0.017	1
Ethylbenzene	0.012	J	mg/kg	0.058	0.0082	1
p/m-Xylene	ND		mg/kg	0.12	0.032	1
o-Xylene	0.042	J	mg/kg	0.058	0.017	1
Xylenes, Total	0.042	J	mg/kg	0.058	0.017	1
Isopropylbenzene	0.41		mg/kg	0.058	0.0063	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.12	0.011	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.12	0.019	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	155	Q	70-130
Dibromofluoromethane	92		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-03
 Client ID: HSE-SB-09-1.5-2.0
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 09:16
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 06/13/23 11:58
 Analyst: JIC
 Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	0.00073		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00060	1
o-Xylene	0.00070	J	mg/kg	0.0011	0.00031	1
Xylenes, Total	0.00070	J	mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	94		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-04
 Client ID: HSE-SB-09-1.5-2.0D
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 09:16
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 06/13/23 12:25
 Analyst: JIC
 Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.0010		mg/kg	0.00044	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00088	0.00023	1
Toluene	ND		mg/kg	0.00088	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00088	0.00012	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	0.00062	J	mg/kg	0.00088	0.00026	1
Xylenes, Total	0.00062	J	mg/kg	0.00088	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00088	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	92		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-05
 Client ID: HSE-SB-10-2.0-2.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 09:42
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 06/13/23 12:51
 Analyst: JIC
 Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	98		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-06
 Client ID: HSE-SB-11-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:00
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 06/13/23 13:17
 Analyst: JIC
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	0.00091		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00027	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	0.00062	J	mg/kg	0.0011	0.00015	1
p/m-Xylene	0.0025		mg/kg	0.0021	0.00060	1
o-Xylene	0.0016		mg/kg	0.0011	0.00031	1
Xylenes, Total	0.0041		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	94		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-07
Client ID: HSE-SB-12-1.0-1.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:12
Date Received: 06/02/23
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 06/13/23 14:36
Analyst: JIC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	2.4		mg/kg	0.032	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.064	0.016	1
Toluene	0.19		mg/kg	0.064	0.035	1
1,2-Dibromoethane	ND		mg/kg	0.032	0.019	1
Ethylbenzene	0.16		mg/kg	0.064	0.0090	1
p/m-Xylene	0.48		mg/kg	0.13	0.036	1
o-Xylene	0.10		mg/kg	0.064	0.019	1
Xylenes, Total	0.58		mg/kg	0.064	0.019	1
Isopropylbenzene	0.089		mg/kg	0.064	0.0070	1
1,3,5-Trimethylbenzene	0.10	J	mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	0.079	J	mg/kg	0.13	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	91		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-07
 Client ID: HSE-SB-12-1.0-1.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:12
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 06/15/23 10:39
 Analyst: AJK
 Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0028	0.00028	1
Benzene	0.0097		mg/kg	0.00070	0.00023	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00036	1
Toluene	ND		mg/kg	0.0014	0.00076	1
1,2-Dibromoethane	ND		mg/kg	0.00070	0.00041	1
Ethylbenzene	ND		mg/kg	0.0014	0.00020	1
p/m-Xylene	ND		mg/kg	0.0028	0.00078	1
o-Xylene	ND		mg/kg	0.0014	0.00041	1
Xylenes, Total	ND		mg/kg	0.0014	0.00041	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0028	0.00027	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0028	0.00047	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	101		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-08
 Client ID: HSE-SB-13-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:23
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 06/13/23 13:43
 Analyst: JIC
 Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00026	1
Benzene	0.00042	J	mg/kg	0.00064	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00033	1
Toluene	ND		mg/kg	0.0013	0.00069	1
1,2-Dibromoethane	ND		mg/kg	0.00064	0.00037	1
Ethylbenzene	0.0074		mg/kg	0.0013	0.00018	1
p/m-Xylene	0.038		mg/kg	0.0026	0.00071	1
o-Xylene	0.015		mg/kg	0.0013	0.00037	1
Xylenes, Total	0.053		mg/kg	0.0013	0.00037	1
Isopropylbenzene	0.00040	J	mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026	0.00025	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	99		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-09
 Client ID: HSE-SB-14-2.0-2.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:37
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 06/13/23 15:02
 Analyst: JIC
 Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.15	0.015	1
Benzene	0.018	J	mg/kg	0.038	0.012	1
1,2-Dichloroethane	ND		mg/kg	0.075	0.019	1
Toluene	0.12		mg/kg	0.075	0.041	1
1,2-Dibromoethane	ND		mg/kg	0.038	0.022	1
Ethylbenzene	0.028	J	mg/kg	0.075	0.011	1
p/m-Xylene	0.17		mg/kg	0.15	0.042	1
o-Xylene	0.069	J	mg/kg	0.075	0.022	1
Xylenes, Total	0.24	J	mg/kg	0.075	0.022	1
Isopropylbenzene	0.0089	J	mg/kg	0.075	0.0082	1
1,3,5-Trimethylbenzene	0.016	J	mg/kg	0.15	0.014	1
1,2,4-Trimethylbenzene	0.061	J	mg/kg	0.15	0.025	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	139	Q	70-130
Dibromofluoromethane	93		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-10
 Client ID: FB-230602
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:50
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 06/09/23 01:25
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	103		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-11
 Client ID: TB-230602
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 11:08
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 06/09/23 01:49
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	105		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 06/08/23 18:14
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 10-11 Batch: WG1789195-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
1,2-Dibromoethane	ND		ug/l	2.0	0.19
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	103		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260D
Analytical Date: 06/13/23 11:05
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,03-06,08 Batch: WG1791197-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	95		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 06/13/23 11:05
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02,07,09 Batch: WG1791200-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	95		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260D
Analytical Date: 06/15/23 09:21
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 07 Batch: WG1792145-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE

Lab Number: L2331062

Project Number: P044.001.004

Report Date: 06/21/23

Parameter	LCS		LCSD		%Recovery		RPD	RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual		Limits	
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 10-11 Batch: WG1789195-3 WG1789195-4									
Methyl tert butyl ether	92		96		63-130		4		20
Benzene	96		95		70-130		1		20
1,2-Dichloroethane	98		100		70-130		2		20
Toluene	95		92		70-130		3		20
1,2-Dibromoethane	94		97		70-130		3		20
Ethylbenzene	95		92		70-130		3		20
p/m-Xylene	100		95		70-130		5		20
o-Xylene	100		95		70-130		5		20
Isopropylbenzene	90		92		70-130		2		20
1,3,5-Trimethylbenzene	93		93		64-130		0		20
1,2,4-Trimethylbenzene	94		94		70-130		0		20

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
1,2-Dichloroethane-d4	105		107		70-130
Toluene-d8	101		99		70-130
4-Bromofluorobenzene	97		98		70-130
Dibromofluoromethane	103		104		70-130

Lab Control Sample Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,03-06,08 Batch: WG1791197-3 WG1791197-4								
Methyl tert butyl ether	92		92		66-130	0		30
Benzene	86		86		70-130	0		30
1,2-Dichloroethane	86		86		70-130	0		30
Toluene	98		98		70-130	0		30
1,2-Dibromoethane	105		105		70-130	0		30
Ethylbenzene	96		97		70-130	1		30
p/m-Xylene	103		102		70-130	1		30
o-Xylene	94		93		70-130	1		30
Isopropylbenzene	101		102		70-130	1		30
1,3,5-Trimethylbenzene	99		101		70-130	2		30
1,2,4-Trimethylbenzene	102		104		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		91		70-130
Toluene-d8	106		107		70-130
4-Bromofluorobenzene	104		104		70-130
Dibromofluoromethane	98		97		70-130



Lab Control Sample Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 02,07,09 Batch: WG1791200-3 WG1791200-4								
Methyl tert butyl ether	92		92		66-130	0		30
Benzene	86		86		70-130	0		30
1,2-Dichloroethane	86		86		70-130	0		30
Toluene	98		98		70-130	0		30
1,2-Dibromoethane	105		105		70-130	0		30
Ethylbenzene	96		97		70-130	1		30
p/m-Xylene	103		102		70-130	1		30
o-Xylene	94		93		70-130	1		30
Isopropylbenzene	101		102		70-130	1		30
1,3,5-Trimethylbenzene	99		101		70-130	2		30
1,2,4-Trimethylbenzene	102		104		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		91		70-130
Toluene-d8	106		107		70-130
4-Bromofluorobenzene	104		104		70-130
Dibromofluoromethane	98		97		70-130

Lab Control Sample Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 07 Batch: WG1792145-3 WG1792145-4								
Methyl tert butyl ether	95		95		66-130	0		30
Benzene	91		87		70-130	4		30
1,2-Dichloroethane	93		92		70-130	1		30
Toluene	94		90		70-130	4		30
1,2-Dibromoethane	94		94		70-130	0		30
Ethylbenzene	96		92		70-130	4		30
p/m-Xylene	100		95		70-130	5		30
o-Xylene	101		97		70-130	4		30
Isopropylbenzene	101		95		70-130	6		30
1,3,5-Trimethylbenzene	103		97		70-130	6		30
1,2,4-Trimethylbenzene	104		98		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		99		70-130
Toluene-d8	102		102		70-130
4-Bromofluorobenzene	101		102		70-130
Dibromofluoromethane	100		98		70-130



Matrix Spike Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 02,07,09 QC Batch ID: WG1791200-6 WG1791200-7 QC Sample: L2331062-02 Client ID: HSE-SB-08-1.0-1.5												
Methyl tert butyl ether	ND	5.05	4.5	90		6.0	120		66-130	28		30
Benzene	ND	5.05	4.2	83		5.5	109		70-130	27		30
1,2-Dichloroethane	ND	5.05	4.1	81		5.3	106		70-130	27		30
Toluene	ND	5.05	4.2	84		5.6	111		70-130	28		30
1,2-Dibromoethane	ND	5.05	4.6	91		6.2	122		70-130	29		30
Ethylbenzene	0.012J	5.05	3.7	74		5.1	102		70-130	32	Q	30
p/m-Xylene	ND	10.1	7.6	76		11	106		70-130	33	Q	30
o-Xylene	0.042J	10.1	7.3	72		10	99		70-130	31	Q	30
Isopropylbenzene	0.41	5.05	3.8	67	Q	5.3	96		70-130	32	Q	30
1,3,5-Trimethylbenzene	ND	5.05	3.2	63	Q	4.6	91		70-130	37	Q	30
1,2,4-Trimethylbenzene	ND	5.05	3.3	65	Q	4.8	96		70-130	39	Q	30

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
1,2-Dichloroethane-d4	91		93		70-130
4-Bromofluorobenzene	149	Q	151	Q	70-130
Dibromofluoromethane	97		98		70-130
Toluene-d8	103		103		70-130

SEMIVOLATILES

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-01
 Client ID: HSE-SB-07-1.5-2.0
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 08:18
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 06/13/23 01:32
 Analyst: EJJ
 Percent Solids: 72%

Extraction Method: EPA 3546
 Extraction Date: 06/11/23 01:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.035	J	mg/kg	0.046	0.028	1
Fluorene	0.023	J	mg/kg	0.23	0.022	1
Phenanthrene	0.22		mg/kg	0.14	0.028	1
Anthracene	0.050	J	mg/kg	0.14	0.045	1
Pyrene	0.35		mg/kg	0.14	0.023	1
Benzo(a)anthracene	0.24		mg/kg	0.14	0.026	1
Chrysene	0.25		mg/kg	0.14	0.024	1
Benzo(b)fluoranthene	0.31		mg/kg	0.14	0.038	1
Benzo(a)pyrene	0.31		mg/kg	0.18	0.056	1
Benzo(ghi)perylene	0.32		mg/kg	0.18	0.027	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	57		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-02 D
 Client ID: HSE-SB-08-1.0-1.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 08:40
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 06/13/23 01:08
 Analyst: EJJ
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 06/11/23 01:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.94		mg/kg	0.19	0.12	5
Fluorene	0.52	J	mg/kg	0.94	0.092	5
Phenanthrene	2.0		mg/kg	0.57	0.11	5
Anthracene	0.58		mg/kg	0.57	0.18	5
Pyrene	2.9		mg/kg	0.57	0.094	5
Benzo(a)anthracene	1.8		mg/kg	0.57	0.11	5
Chrysene	1.8		mg/kg	0.57	0.098	5
Benzo(b)fluoranthene	2.2		mg/kg	0.57	0.16	5
Benzo(a)pyrene	1.8		mg/kg	0.76	0.23	5
Benzo(ghi)perylene	1.1		mg/kg	0.76	0.11	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	61		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-03
 Client ID: HSE-SB-09-1.5-2.0
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 09:16
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 06/13/23 01:56
 Analyst: EJL
 Percent Solids: 88%

Extraction Method: EPA 3546
 Extraction Date: 06/11/23 01:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.18		mg/kg	0.037	0.022	1
Fluorene	0.12	J	mg/kg	0.18	0.018	1
Phenanthrene	0.92		mg/kg	0.11	0.022	1
Anthracene	0.28		mg/kg	0.11	0.036	1
Pyrene	1.4		mg/kg	0.11	0.018	1
Benzo(a)anthracene	1.2		mg/kg	0.11	0.021	1
Chrysene	1.2		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	1.4		mg/kg	0.11	0.031	1
Benzo(a)pyrene	1.2		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	0.72		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	65		30-120
4-Terphenyl-d14	49		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-04
 Client ID: HSE-SB-09-1.5-2.0D
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 09:16
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 06/13/23 02:20
 Analyst: EJJ
 Percent Solids: 89%

Extraction Method: EPA 3546
 Extraction Date: 06/11/23 01:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.15		mg/kg	0.037	0.022	1
Fluorene	0.089	J	mg/kg	0.18	0.018	1
Phenanthrene	0.69		mg/kg	0.11	0.022	1
Anthracene	0.20		mg/kg	0.11	0.036	1
Pyrene	1.2		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.83		mg/kg	0.11	0.021	1
Chrysene	0.84		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	1.1		mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.93		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	0.55		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	48		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-05
 Client ID: HSE-SB-10-2.0-2.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 09:42
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 06/13/23 02:45
 Analyst: EJJ
 Percent Solids: 91%

Extraction Method: EPA 3546
 Extraction Date: 06/11/23 01:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.026	J	mg/kg	0.036	0.022	1
Fluorene	0.022	J	mg/kg	0.18	0.018	1
Phenanthrene	0.16		mg/kg	0.11	0.022	1
Anthracene	0.061	J	mg/kg	0.11	0.035	1
Pyrene	0.20		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.14		mg/kg	0.11	0.020	1
Chrysene	0.14		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.21		mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.15		mg/kg	0.14	0.044	1
Benzo(ghi)perylene	0.11	J	mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	54		23-120
2-Fluorobiphenyl	55		30-120
4-Terphenyl-d14	42		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-06
 Client ID: HSE-SB-11-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:00
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 06/13/23 03:09
 Analyst: EJJ
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 06/11/23 01:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.12		mg/kg	0.037	0.023	1
Fluorene	0.067	J	mg/kg	0.19	0.018	1
Phenanthrene	0.94		mg/kg	0.11	0.023	1
Anthracene	0.56		mg/kg	0.11	0.036	1
Pyrene	1.7		mg/kg	0.11	0.018	1
Benzo(a)anthracene	1.3		mg/kg	0.11	0.021	1
Chrysene	1.2		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	1.5		mg/kg	0.11	0.032	1
Benzo(a)pyrene	1.2		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	0.61		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	65		30-120
4-Terphenyl-d14	46		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-07
 Client ID: HSE-SB-12-1.0-1.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:12
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 06/13/23 03:33
 Analyst: EJL
 Percent Solids: 88%

Extraction Method: EPA 3546
 Extraction Date: 06/11/23 01:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.16		mg/kg	0.037	0.023	1
Fluorene	0.030	J	mg/kg	0.19	0.018	1
Phenanthrene	0.35		mg/kg	0.11	0.023	1
Anthracene	0.10	J	mg/kg	0.11	0.036	1
Pyrene	0.44		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.34		mg/kg	0.11	0.021	1
Chrysene	0.73		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.60		mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.35		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	0.58		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	51		23-120
2-Fluorobiphenyl	64		30-120
4-Terphenyl-d14	51		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-08
 Client ID: HSE-SB-13-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:23
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 06/17/23 15:27
 Analyst: CMM
 Percent Solids: 88%

Extraction Method: EPA 3546
 Extraction Date: 06/11/23 01:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.15		mg/kg	0.037	0.022	1
Fluorene	0.073	J	mg/kg	0.18	0.018	1
Phenanthrene	0.21		mg/kg	0.11	0.022	1
Anthracene	0.080	J	mg/kg	0.11	0.036	1
Pyrene	0.32		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.30		mg/kg	0.11	0.021	1
Chrysene	0.39		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.48		mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.39		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	0.50		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	95		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	63		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-09
 Client ID: HSE-SB-14-2.0-2.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:37
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 06/13/23 05:58
 Analyst: EJJ
 Percent Solids: 97%

Extraction Method: EPA 3546
 Extraction Date: 06/11/23 01:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.037		mg/kg	0.034	0.021	1
Fluorene	0.047	J	mg/kg	0.17	0.016	1
Phenanthrene	0.073	J	mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	0.064	J	mg/kg	0.10	0.017	1
Benzo(a)anthracene	0.046	J	mg/kg	0.10	0.019	1
Chrysene	0.047	J	mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	0.059	J	mg/kg	0.10	0.028	1
Benzo(a)pyrene	0.048	J	mg/kg	0.14	0.041	1
Benzo(ghi)perylene	0.034	J	mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	52		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	59		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-10
 Client ID: FB-230602
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:50
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8270E-SIM
 Analytical Date: 06/07/23 12:31
 Analyst: RP

Extraction Method: EPA 3510C
 Extraction Date: 06/06/23 12:17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.03	J	ug/l	0.05	0.02	1
Chrysene	0.01	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.02	J	ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	78		15-120
4-Terphenyl-d14	83		41-149

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270E-SIM
Analytical Date: 06/07/23 12:14
Analyst: CMM

Extraction Method: EPA 3510C
Extraction Date: 06/06/23 12:17

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 10 Batch: WG1787792-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	88		15-120
4-Terphenyl-d14	91		41-149

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270E
Analytical Date: 06/12/23 21:31
Analyst: EJL

Extraction Method: EPA 3546
Extraction Date: 06/11/23 01:41

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-09 Batch: WG1789791-1					
Naphthalene	ND		mg/kg	0.033	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	73		18-120

Lab Control Sample Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 10 Batch: WG1787792-2 WG1787792-3								
Naphthalene	45		64		40-140	35		40
Fluorene	54		73		40-140	30		40
Phenanthrene	52		69		40-140	28		40
Anthracene	56		74		40-140	28		40
Pyrene	62		79		26-127	24		40
Benzo(a)anthracene	63		79		40-140	23		40
Chrysene	58		79		40-140	31		40
Benzo(b)fluoranthene	70		83		40-140	17		40
Benzo(a)pyrene	66		88		40-140	29		40
Benzo(ghi)perylene	66		82		40-140	22		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	48		70		23-120
2-Fluorobiphenyl	55		78		15-120
4-Terphenyl-d14	66		85		41-149

Lab Control Sample Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-09 Batch: WG1789791-2 WG1789791-3								
Naphthalene	75		75		40-140	0		50
Fluorene	80		77		40-140	4		50
Phenanthrene	77		74		40-140	4		50
Anthracene	81		78		40-140	4		50
Pyrene	78		78		35-142	0		50
Benzo(a)anthracene	80		76		40-140	5		50
Chrysene	76		74		40-140	3		50
Benzo(b)fluoranthene	80		79		40-140	1		50
Benzo(a)pyrene	82		80		40-140	2		50
Benzo(ghi)perylene	71		71		40-140	0		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	73		75		23-120
2-Fluorobiphenyl	79		78		30-120
4-Terphenyl-d14	78		77		18-120



Matrix Spike Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-09 QC Batch ID: WG1789791-4 WG1789791-5 QC Sample: L2331062-02 Client ID: HSE-SB-08-1.0-1.5												
Naphthalene	0.94	1.5	1.7	50		2.6	110		40-140	42		50
Fluorene	0.52J	1.5	1.4	93		2.0	130		40-140	35		50
Phenanthrene	2.0	1.5	3.1	73		4.0	130		40-140	25		50
Anthracene	0.58	1.5	1.6	68		2.1	100		40-140	27		50
Pyrene	2.9	1.5	3.7	53		4.8	120		35-142	26		50
Benzo(a)anthracene	1.8	1.5	2.7	60		3.7	120		40-140	31		50
Chrysene	1.8	1.5	2.7	60		3.7	120		40-140	31		50
Benzo(b)fluoranthene	2.2	1.5	3.2	66		4.1	120		40-140	25		50
Benzo(a)pyrene	1.8	1.5	2.7	60		3.7	120		40-140	31		50
Benzo(ghi)perylene	1.1	1.5	1.9	53		2.5	92		40-140	27		50

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
2-Fluorobiphenyl	62		90		30-120
4-Terphenyl-d14	53		78		18-120
Nitrobenzene-d5	79		111		23-120

METALS

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-01
 Client ID: HSE-SB-07-1.5-2.0
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 08:18
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 72%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	332		mg/kg	2.63	0.141	1	06/16/23 14:33	06/18/23 13:09	EPA 3050B	1,6010D	DHL



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-02
 Client ID: HSE-SB-08-1.0-1.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 08:40
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	74.5		mg/kg	2.25	0.121	1	06/16/23 14:33	06/18/23 13:24	EPA 3050B	1,6010D	DHL



Project Name: HARTRANFT STREET PIPELINE RELE**Lab Number:** L2331062**Project Number:** P044.001.004**Report Date:** 06/21/23**SAMPLE RESULTS**

Lab ID: L2331062-03

Date Collected: 06/02/23 09:16

Client ID: HSE-SB-09-1.5-2.0

Date Received: 06/02/23

Sample Location: 3144 W PASSYUNK AVE.

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	91.8		mg/kg	2.19	0.117	1	06/16/23 14:33	06/18/23 13:14	EPA 3050B	1,6010D	DHL



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-04
 Client ID: HSE-SB-09-1.5-2.0D
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 09:16
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	186		mg/kg	2.13	0.114	1	06/16/23 14:33	06/18/23 13:19	EPA 3050B	1,6010D	DHL



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-05
 Client ID: HSE-SB-10-2.0-2.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 09:42
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	532		mg/kg	2.13	0.114	1	06/16/23 14:33	06/18/23 14:51	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-06
 Client ID: HSE-SB-11-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:00
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	341		mg/kg	2.24	0.120	1	06/16/23 14:33	06/18/23 14:56	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-07
 Client ID: HSE-SB-12-1.0-1.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:12
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	512		mg/kg	2.23	0.120	1	06/16/23 14:33	06/18/23 15:01	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-08
 Client ID: HSE-SB-13-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:23
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2270		mg/kg	2.24	0.120	1	06/16/23 14:33	06/18/23 15:06	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-09
 Client ID: HSE-SB-14-2.0-2.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:37
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	62.8		mg/kg	2.05	0.110	1	06/16/23 14:33	06/18/23 15:10	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-10
 Client ID: FB-230602
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:50
 Date Received: 06/02/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	06/15/23 10:39	06/19/23 20:01	EPA 3005A	1,6020B	SMV



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 10 Batch: WG1790765-1									
Lead, Total	ND	ug/l	1.000	0.3430	1	06/15/23 10:39	06/19/23 18:54	1,6020B	WKP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-09 Batch: WG1792302-1									
Lead, Total	ND	mg/kg	2.00	0.107	1	06/16/23 14:33	06/18/23 13:00	1,6010D	DHL

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARTRANFT STREET PIPELINE RELE**Lab Number:** L2331062**Project Number:** P044.001.004**Report Date:** 06/21/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 10 Batch: WG1790765-2								
Lead, Total	105		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-09 Batch: WG1792302-2 SRM Lot Number: D119-540								
Lead, Total	102		-		82-118	-		

Matrix Spike Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 10 QC Batch ID: WG1790765-3 QC Sample: L2330843-01 Client ID: MS Sample												
Lead, Total	ND	530	555.2	105		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG1792302-3 WG1792302-4 QC Sample: L2331062-02 Client ID: HSE-SB-08-1.0-1.5												
Lead, Total	74.5	46	151	166	Q	120	95		75-125	23	Q	20

INORGANICS & MISCELLANEOUS

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-01
Client ID: HSE-SB-07-1.5-2.0
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 08:18
Date Received: 06/02/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	72.0		%	0.100	NA	1	-	06/03/23 10:07	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-02
Client ID: HSE-SB-08-1.0-1.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 08:40
Date Received: 06/02/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.6		%	0.100	NA	1	-	06/03/23 10:07	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-03
Client ID: HSE-SB-09-1.5-2.0
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 09:16
Date Received: 06/02/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.2		%	0.100	NA	1	-	06/03/23 10:07	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-04
Client ID: HSE-SB-09-1.5-2.0D
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 09:16
Date Received: 06/02/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.9		%	0.100	NA	1	-	06/03/23 10:07	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-05
Client ID: HSE-SB-10-2.0-2.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 09:42
Date Received: 06/02/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.7		%	0.100	NA	1	-	06/03/23 10:07	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-06
Client ID: HSE-SB-11-0.0-0.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:00
Date Received: 06/02/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.4		%	0.100	NA	1	-	06/03/23 10:07	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-07
Client ID: HSE-SB-12-1.0-1.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:12
Date Received: 06/02/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.1		%	0.100	NA	1	-	06/03/23 10:07	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-08
Client ID: HSE-SB-13-0.0-0.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:23
Date Received: 06/02/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.3		%	0.100	NA	1	-	06/03/23 10:07	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

SAMPLE RESULTS

Lab ID: L2331062-09
Client ID: HSE-SB-14-2.0-2.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 06/02/23 10:37
Date Received: 06/02/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.8		%	0.100	NA	1	-	06/03/23 10:07	121,2540G	ROI



Lab Duplicate Analysis
Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-09 QC Batch ID: WG1786749-1 QC Sample: L2331062-02 Client ID: HSE-SB-08-1.0-1.5						
Solids, Total	86.6	90.1	%	4		20

Project Name: HARTRANFT STREET PIPELINE RELE**Lab Number:** L2331062**Project Number:** P044.001.004**Report Date:** 06/21/23**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent
E	Absent
F	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2331062-01A	Vial MeOH preserved	A	NA		4.3	Y	Absent		PA-8260HLW(14)
L2331062-01B	Vial water preserved	A	NA		4.3	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-01C	Vial water preserved	A	NA		4.3	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-01D	Plastic 120ml unpreserved	A	NA		4.3	Y	Absent		TS(7)
L2331062-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.3	Y	Absent		PB-TI(180)
L2331062-01F	Glass 120ml/4oz unpreserved	A	NA		4.3	Y	Absent		PA-PAH(14)
L2331062-02A	Vial MeOH preserved	A	NA		4.3	Y	Absent		PA-8260HLW(14)
L2331062-02A1	Vial MeOH preserved	A	NA		4.3	Y	Absent		PA-8260HLW(14)
L2331062-02A2	Vial MeOH preserved	B	NA		2.8	Y	Absent		PA-8260HLW(14)
L2331062-02B	Vial water preserved	A	NA		4.3	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-02B1	Vial water preserved	A	NA		4.3	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-02B2	Vial water preserved	B	NA		2.8	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-02C	Vial water preserved	A	NA		4.3	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-02C1	Vial water preserved	A	NA		4.3	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-02C2	Vial water preserved	B	NA		2.8	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-02D	Plastic 120ml unpreserved	A	NA		4.3	Y	Absent		TS(7)
L2331062-02D1	Plastic 120ml unpreserved	A	NA		4.3	Y	Absent		TS(7)

Project Name: HARTRANFT STREET PIPELINE RELE**Lab Number:** L2331062**Project Number:** P044.001.004**Report Date:** 06/21/23**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2331062-02D2	Plastic 120ml unpreserved	B	NA		2.8	Y	Absent		TS(7)
L2331062-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.3	Y	Absent		PB-TI(180)
L2331062-02E1	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.3	Y	Absent		PB-TI(180)
L2331062-02E2	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		PB-TI(180)
L2331062-02F	Glass 120ml/4oz unpreserved	A	NA		4.3	Y	Absent		PA-PAH(14)
L2331062-02F1	Glass 120ml/4oz unpreserved	A	NA		4.3	Y	Absent		PA-PAH(14)
L2331062-02F2	Glass 120ml/4oz unpreserved	B	NA		2.8	Y	Absent		PA-PAH(14)
L2331062-03A	Vial MeOH preserved	A	NA		4.3	Y	Absent		PA-8260HLW(14)
L2331062-03B	Vial water preserved	A	NA		4.3	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-03C	Vial water preserved	A	NA		4.3	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-03D	Plastic 120ml unpreserved	A	NA		4.3	Y	Absent		TS(7)
L2331062-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.3	Y	Absent		PB-TI(180)
L2331062-03F	Glass 120ml/4oz unpreserved	A	NA		4.3	Y	Absent		PA-PAH(14)
L2331062-04A	Vial MeOH preserved	A	NA		4.3	Y	Absent		PA-8260HLW(14)
L2331062-04B	Vial water preserved	A	NA		4.3	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-04C	Vial water preserved	A	NA		4.3	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-04D	Plastic 120ml unpreserved	A	NA		4.3	Y	Absent		TS(7)
L2331062-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.3	Y	Absent		PB-TI(180)
L2331062-04F	Glass 120ml/4oz unpreserved	A	NA		4.3	Y	Absent		PA-PAH(14)
L2331062-05A	Vial MeOH preserved	B	NA		2.8	Y	Absent		PA-8260HLW(14)
L2331062-05B	Vial water preserved	B	NA		2.8	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-05C	Vial water preserved	B	NA		2.8	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-05D	Plastic 120ml unpreserved	B	NA		2.8	Y	Absent		TS(7)
L2331062-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		PB-TI(180)
L2331062-05F	Glass 120ml/4oz unpreserved	B	NA		2.8	Y	Absent		PA-PAH(14)
L2331062-06A	Vial MeOH preserved	B	NA		2.8	Y	Absent		PA-8260HLW(14)
L2331062-06B	Vial water preserved	B	NA		2.8	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-06C	Vial water preserved	B	NA		2.8	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)

Project Name: HARTRANFT STREET PIPELINE RELE**Lab Number:** L2331062**Project Number:** P044.001.004**Report Date:** 06/21/23**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2331062-06D	Plastic 120ml unpreserved	B	NA		2.8	Y	Absent		TS(7)
L2331062-06E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		PB-TI(180)
L2331062-06F	Glass 120ml/4oz unpreserved	B	NA		2.8	Y	Absent		PA-PAH(14)
L2331062-07A	Vial MeOH preserved	B	NA		2.8	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2331062-07B	Vial water preserved	B	NA		2.8	Y	Absent	03-JUN-23 04:36	PA-8260H(14),PA-8260HLW(14)
L2331062-07C	Vial water preserved	B	NA		2.8	Y	Absent	03-JUN-23 04:36	PA-8260H(14),PA-8260HLW(14)
L2331062-07D	Plastic 120ml unpreserved	B	NA		2.8	Y	Absent		TS(7)
L2331062-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		PB-TI(180)
L2331062-07F	Glass 120ml/4oz unpreserved	B	NA		2.8	Y	Absent		PA-PAH(14)
L2331062-08A	Vial MeOH preserved	A	NA		4.3	Y	Absent		PA-8260HLW(14)
L2331062-08B	Vial water preserved	A	NA		4.3	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-08C	Vial water preserved	A	NA		4.3	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-08D	Plastic 120ml unpreserved	A	NA		4.3	Y	Absent		TS(7)
L2331062-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.3	Y	Absent		PB-TI(180)
L2331062-08F	Glass 120ml/4oz unpreserved	A	NA		4.3	Y	Absent		PA-PAH(14)
L2331062-09A	Vial MeOH preserved	B	NA		2.8	Y	Absent		PA-8260HLW(14)
L2331062-09B	Vial water preserved	B	NA		2.8	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-09C	Vial water preserved	B	NA		2.8	Y	Absent	03-JUN-23 04:36	PA-8260HLW(14)
L2331062-09D	Plastic 120ml unpreserved	B	NA		2.8	Y	Absent		TS(7)
L2331062-09E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		PB-TI(180)
L2331062-09F	Glass 120ml/4oz unpreserved	B	NA		2.8	Y	Absent		PA-PAH(14)
L2331062-10A	Vial HCl preserved	F	NA		4.5	Y	Absent		PA-8260(7)
L2331062-10B	Vial HCl preserved	F	NA		4.5	Y	Absent		PA-8260(7)
L2331062-10C	Vial HCl preserved	F	NA		4.5	Y	Absent		PA-8260(7)
L2331062-10D	Plastic 250ml HNO3 preserved	F	<2	<2	4.5	Y	Absent		PB-6020T-PPB(180)
L2331062-10E	Amber 250ml unpreserved	F	7	7	4.5	Y	Absent		PA-PAHSIM-LVI(7)
L2331062-10F	Amber 250ml unpreserved	F	7	7	4.5	Y	Absent		PA-PAHSIM-LVI(7)
L2331062-10G	Vial Na2S2O3 preserved	F	NA		4.5	Y	Absent		PA-8260(7)

Project Name: HARTRANFT STREET PIPELINE RELE**Lab Number:** L2331062**Project Number:** P044.001.004**Report Date:** 06/21/23**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2331062-10H	Vial Na2S2O3 preserved	F	NA		4.5	Y	Absent		PA-8260(7)
L2331062-11A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(7)
L2331062-11B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(7)
L2331062-11C	Vial HCl preserved	F	NA		4.5	Y	Absent		PA-8260(7)
L2331062-11D	Vial HCl preserved	F	NA		4.5	Y	Absent		PA-8260(7)
L2331062-11E	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		PA-8260(7)
L2331062-11F	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		PA-8260(7)

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2331062
Report Date: 06/21/23

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625.1: alpha-Terpineol

EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables).

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



CHAIN OF CUSTODY

PAGE 1 OF 2

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 6/3/23

ALPHA Job #: L2331062

Project Information

Project Name: Hartranft Street Pipeline Release

Project Location: 3144 W. Passyunk Ave.

Project #: P044.001.004

Project Manager: Michael McDonald

ALPHA Quote #: 22704

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: Time:

Report Information - Data Deliverables

FAX EMAIL

ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: Terraphase Engineering, Inc.

Address: 1100 East Hector Street

Suite 400, Conshohocken, PA 19428

Phone: 484-513-4910

Fax:

Email: michael.mcdonald@terraphase.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:
Please send to EDD@terraphase.com
TEI Equis EPD

Regulatory Requirements/Report Limits

State/Fed Program Criteria

ANALYSIS

VOCs on PADEP Short Lists 1-5 (\$250)

SVOCs on PADEP Short Lists 1-5 (\$270)

Lead (6010)

SAMPLE HANDLING

Filtration _____

Done

Not needed

Lab to do Preservation

Lab to do

(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS			Sample Specific Comments
		Date	Time			VOCs on PADEP Short Lists 1-5 (\$250)	SVOCs on PADEP Short Lists 1-5 (\$270)	Lead (6010)	
31062-01	HSE-SB-07-1.5-2.0	6/2/2023	818	So	EEJ	X	X	X	
02	HSE-SB-08-1.0-1.5	6/2/2023	840	So	EEJ	X	X	X	
	HSE-SB-08-1.0-1.5 MS	6/2/2023	840	So	EEJ	X	X	X	
	HSE-SB-08-1.0-1.5 MSD	6/2/2023	840	So	EEJ	X	X	X	
03	HSE-SB-09-1.5-2.0	6/2/2023	916	So	EEJ	X	X	X	
04	HSE-SB-09-1.5-2.0 D	6/2/2023	916	So	EEJ	X	X	X	
05	HSE-SB-10-2.0-2.5	6/2/2023	942	So	EEJ	X	X	X	
06	HSE-SB-11-0.0-0.5	6/2/2023	1000	So	EEJ	X	X	X	
07	HSE-SB-12-1.0-1.5	6/2/2023	1012	So	EEJ	X	X	X	
08	HSE-SB-13-0.0-0.5	6/2/2023	1023	So	EEJ	X	X	X	

6/3/23 0215
6/3/23 0215

Relinquished By:		Date/Time	Received By:		Date/Time
Ellie Johnston		6/2/2023 1556	[Signature]		6/2/2023 1556
[Signature]		6/2/2023 1800	[Signature]		6/2/2023 1800
[Signature]		6/2/2023 2100	[Signature]		6/2/2023 2100

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.



CHAIN OF CUSTODY

PAGE 2 OF 2

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 6/3/23

ALPHA Job #: 62331062

Project Information

Project Name: Hartranft Street Pipeline Release

Project Location: 344 W. Passunk Ave. Phila, PA

Project #: P044.001.004

Project Manager: Michael McDonald

ALPHA Quote #: 22704

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: _____ Time: _____

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #: _____

Client Information

Client: Terraphase Engineering, Inc.

Address: 1100 E. Hector Street Ste. 400

Conshohocken, PA 19428

Phone: 484-513-4910

Fax: _____

Email: michael.mcdonald@terrphase.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

Please email EDD@terrphase.com

TEI Equis EDP

Regulatory Requirements/Report Limits

State /Fed Program _____ Criteria _____

ANALYSIS
Voice on PAPER sheet
SVOCs 1-5 (8280)
LISTS on PAPER sheet
LEAD (6010)

SAMPLE HANDLING
Filtration _____
 Done
 Not needed
 Lab to do
Preservation
 Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials															
		Date	Time																	
31062-09	HSE-SB-14-2.0-2.5	6/2/2023	1037	So	EEJ	X	X	X												
10	FB-230602	6/2/2023	1050	W	EEJ	X	X	X												
11	TB-230602	6/2/2023	1108	W	EEJ	X														

SR 6/3/23 0215
6/3/23 0215

Container Type	
Preservative	

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

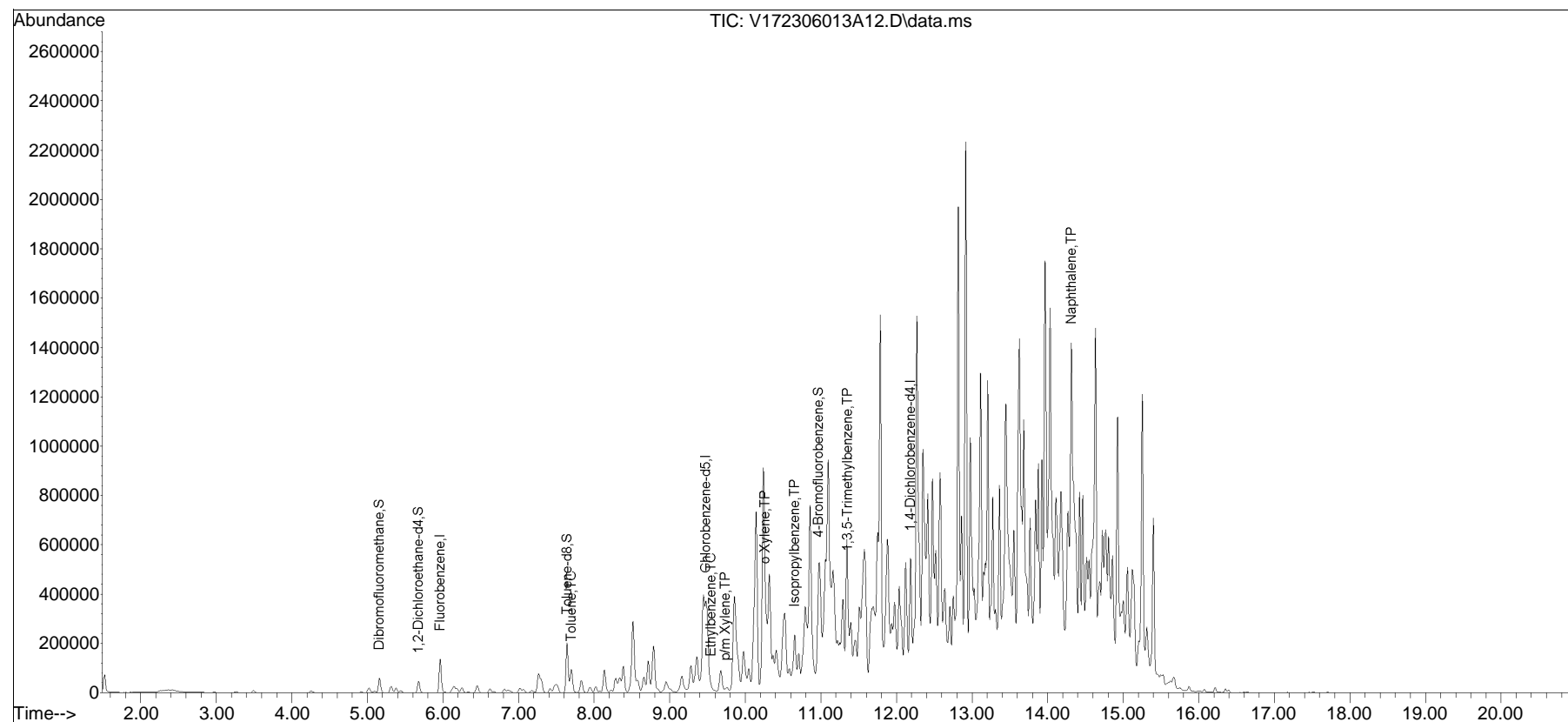
Relinquished By:	Date/Time	Received By:	Date/Time
<u>Ellie Johnston</u>	<u>6/2/2023 1556</u>	<u>[Signature]</u>	<u>6/2/23 1556</u>
<u>[Signature]</u>	<u>6/2/23 1800</u>	<u>[Signature]</u>	<u>6/2/23 1800</u>
<u>[Signature]</u>	<u>6/2/23 2100</u>	<u>[Signature]</u>	<u>6/2 2100</u>

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA117\2023\2306013A\
Data File : V172306013A12.D
Acq On : 13 Jun 2023 02:10 pm
Operator : VOA117:JIC
Sample : 12331062-02,31h,5.72,5,0.100,,a
Misc : WG1791200,ICAL20046
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jun 14 11:44:11 2023
Quant Method : I:\VOLATILES\VOA117\2023\2306013A\V117_230526N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Sat May 27 09:25:07 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list013A\V172306013A01.D•

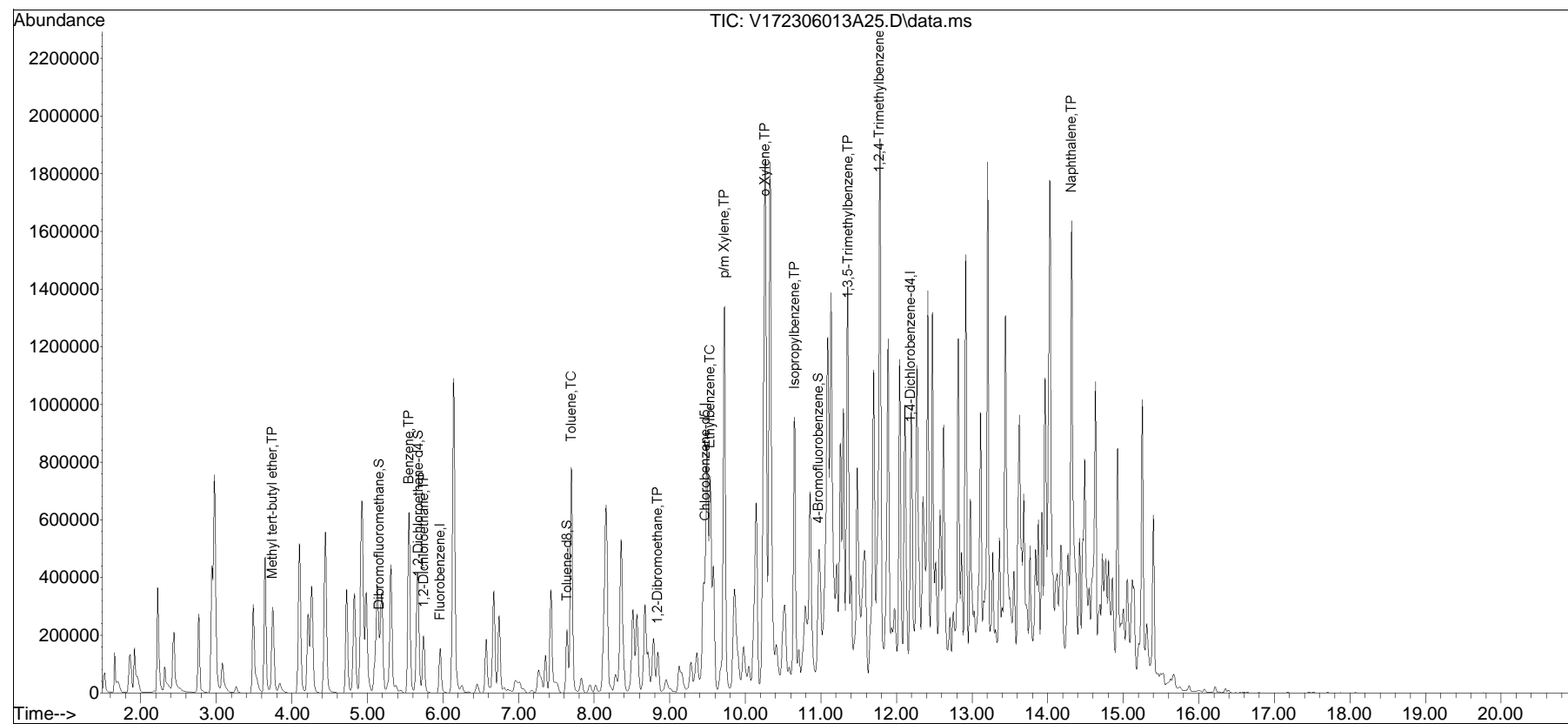


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA117\2023\2306013A\
Data File : V172306013A25.D
Acq On : 13 Jun 2023 07:53 pm
Operator : VOA117:JIC
Sample : WG1791200-6,31h,5.72,5,0.100,,a
Misc : WG1791200,ICAL20046
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jun 14 11:16:16 2023
Quant Method : I:\VOLATILES\VOA117\2023\2306013A\V117_230526N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Sat May 27 09:25:07 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list013A\V172306013A01.D•

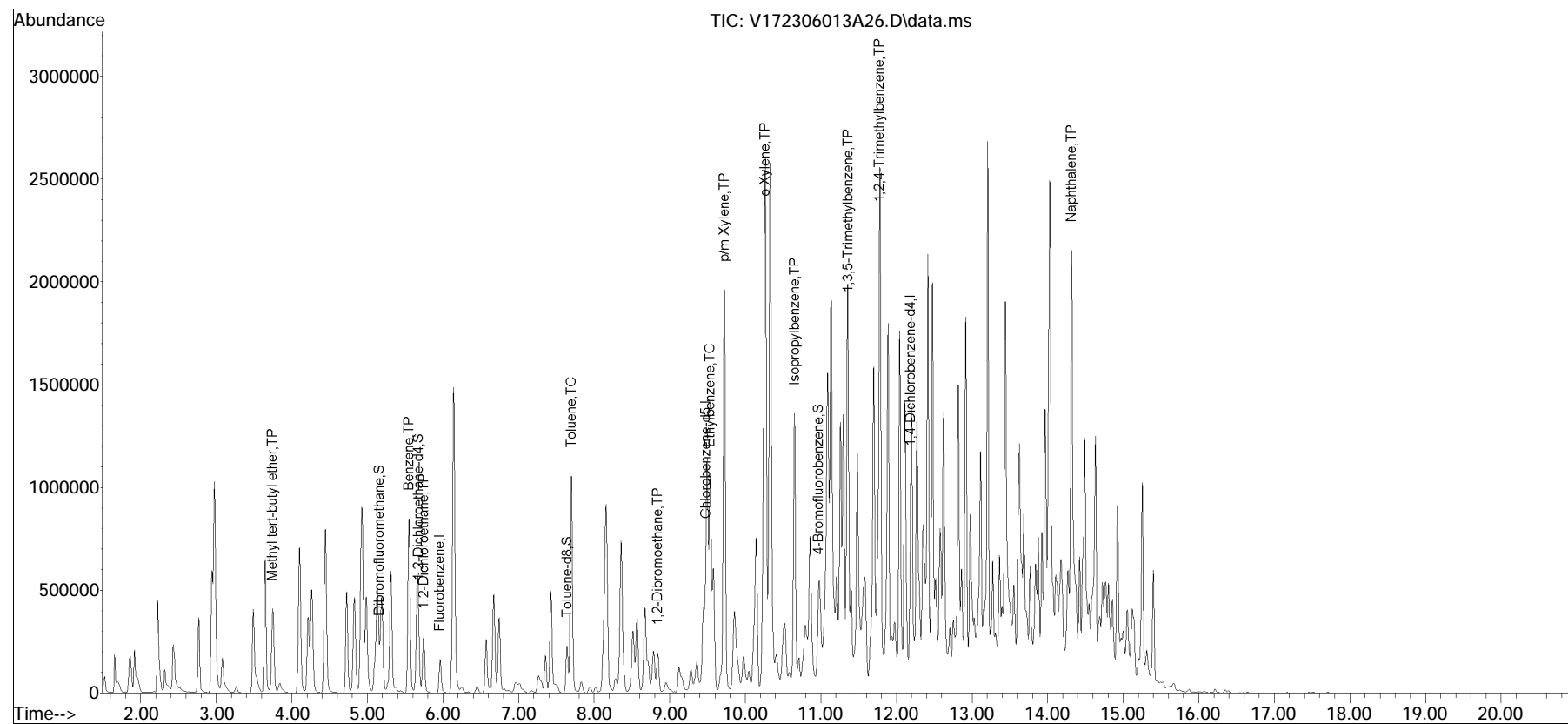


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA117\2023\2306013A\
Data File : V172306013A26.D
Acq On : 13 Jun 2023 08:19 pm
Operator : VOA117:JIC
Sample : WG1791200-7,31h,5.72,5,0.100,,a
Misc : WG1791200,ICAL20046
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jun 14 11:16:37 2023
Quant Method : I:\VOLATILES\VOA117\2023\2306013A\V117_230526N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Sat May 27 09:25:07 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list013A\V172306013A01.D•

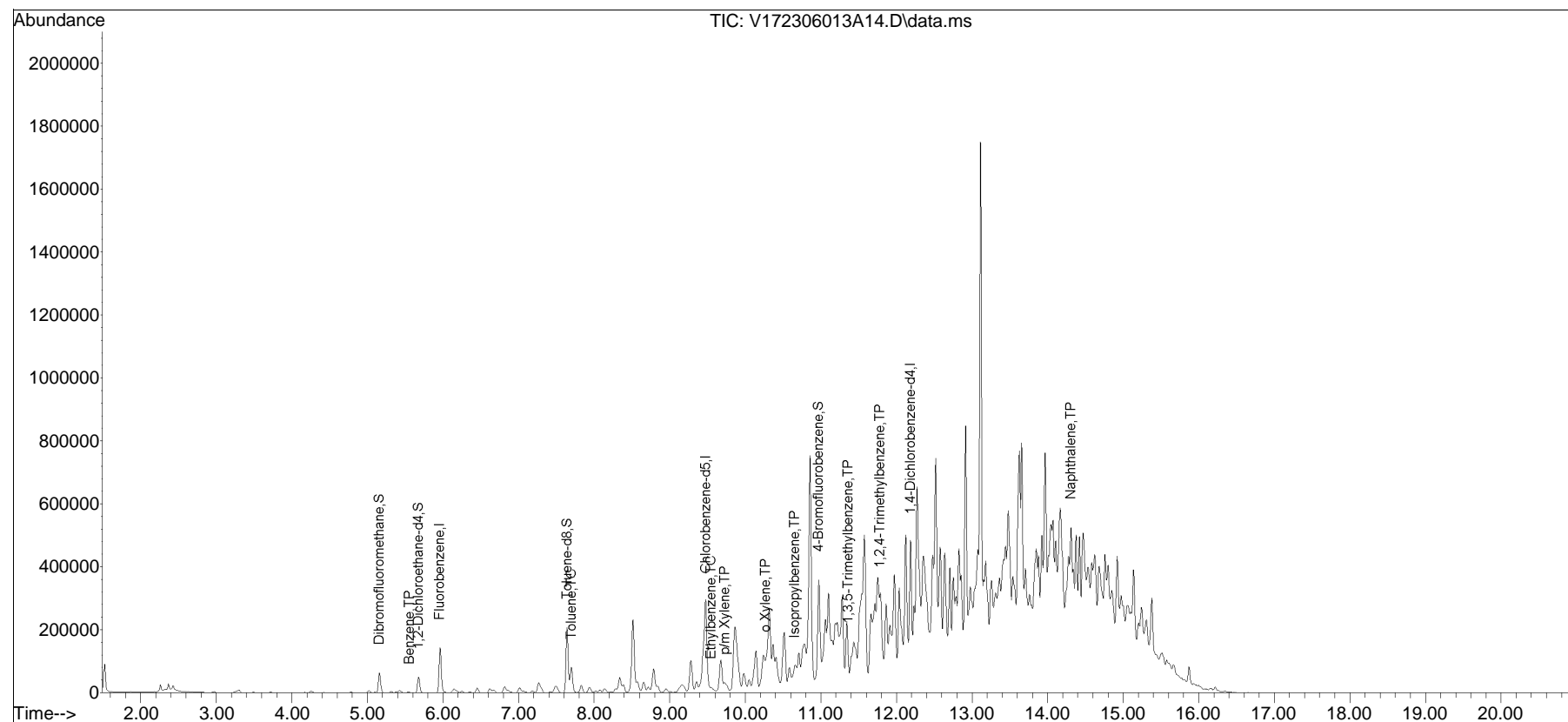


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA117\2023\2306013A\
Data File : V172306013A14.D
Acq On : 13 Jun 2023 03:02 pm
Operator : VOA117:JIC
Sample : 12331062-09,31h,3.51,5,0.100,,a
Misc : WG1791200,ICAL20046
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jun 14 09:53:05 2023
Quant Method : I:\VOLATILES\VOA117\2023\2306013A\V117_230526N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Sat May 27 09:25:07 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list013A\V172306013A01.D•





Note: Results for 1,2-dibromoethane, 1,2-dichloroethane, methyl tert-butyl ether, and lead are provided in the lab report. However, because these chemicals would not be present in a release involving crude oil or water in contact with crud oil, they were excluded from analysis in the remedial investigation and final report.

ANALYTICAL REPORT

Lab Number: L2358872

Client: Terraphase Engineering Inc.
1100 East Hector Street
Suite 400
Conshohocken, PA 19428

ATTN: Alexander Strohl

Phone: (215) 297-3502

Project Name: HARTRANFT STREET PIPELINE RELE

Project Number: P044.001.004

Report Date: 10/12/23

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2358872-01	HSE-SB-18-0.0-0.5	SOIL	3144 W PASSYUNK AVE.	10/05/23 08:15	10/05/23
L2358872-02	HSE-SB-22-0.0-0.5	SOIL	3144 W PASSYUNK AVE.	10/05/23 08:20	10/05/23
L2358872-03	HSE-SB-17-0.0-0.5	SOIL	3144 W PASSYUNK AVE.	10/05/23 08:35	10/05/23
L2358872-04	HSE-SB-16-0.0-0.5	SOIL	3144 W PASSYUNK AVE.	10/05/23 08:52	10/05/23
L2358872-05	HSE-SB-15-0.0-0.5	SOIL	3144 W PASSYUNK AVE.	10/05/23 09:15	10/05/23
L2358872-06	HSE-SB-19-0.0-0.5	SOIL	3144 W PASSYUNK AVE.	10/05/23 09:20	10/05/23
L2358872-07	HSE-SB-20-0.0-0.5	SOIL	3144 W PASSYUNK AVE.	10/05/23 09:40	10/05/23
L2358872-08	HSE-SB-20-0.0-0.5D	SOIL	3144 W PASSYUNK AVE.	10/05/23 09:40	10/05/23
L2358872-09	HSE-SB-21-0.0-0.5	SOIL	3144 W PASSYUNK AVE.	10/05/23 09:48	10/05/23
L2358872-10	HSE-SB-29-0.0-0.5	SOIL	3144 W PASSYUNK AVE.	10/05/23 10:00	10/05/23
L2358872-11	HSE-SB-23-0.0-0.5	SOIL	3144 W PASSYUNK AVE.	10/05/23 10:30	10/05/23
L2358872-12	HSE-SB-24-1.0-1.5	SOIL	3144 W PASSYUNK AVE.	10/05/23 10:38	10/05/23
L2358872-13	HSE-SB-26-0.5-1.0	SOIL	3144 W PASSYUNK AVE.	10/05/23 10:58	10/05/23
L2358872-14	HSE-SB-27-0.5-1.0	SOIL	3144 W PASSYUNK AVE.	10/05/23 11:10	10/05/23
L2358872-15	HSE-SB-28-0.5-1.0	SOIL	3144 W PASSYUNK AVE.	10/05/23 11:22	10/05/23
L2358872-16	HSE-SB-30-0.0-0.5	SOIL	3144 W PASSYUNK AVE.	10/05/23 11:35	10/05/23
L2358872-17	HSE-SB-25-1.0-1.5	SOIL	3144 W PASSYUNK AVE.	10/05/23 11:45	10/05/23
L2358872-18	FB-231005	WATER	3144 W PASSYUNK AVE.	10/05/23 12:30	10/05/23
L2358872-19	TB-231005	WATER	3144 W PASSYUNK AVE.	10/05/23 12:35	10/05/23

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

The analyses performed were specified by the client.

L2358872-02: The Client ID was specified by the client.

Total Metals

The WG1836525-3 MS recovery for lead (0%), performed on L2358872-01, does not apply because the sample concentration is greater than four times the spike amount added.

The WG1836525-4 Laboratory Duplicate RPD for lead (22%), performed on L2358872-01, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Kelly O'Neill

Title: Technical Director/Representative

Date: 10/12/23

ORGANICS

VOLATILES

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-01
 Client ID: HSE-SB-18-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 08:15
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/10/23 22:36
 Analyst: MKS
 Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	0.00038	J	mg/kg	0.00056	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	102		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-02
 Client ID: HSE-SB-22-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 08:20
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/10/23 23:06
 Analyst: MKS
 Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	0.00060		mg/kg	0.00056	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	102		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-03
 Client ID: HSE-SB-17-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 08:35
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/10/23 23:37
 Analyst: MKS
 Percent Solids: 75%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00059	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	102		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-04
 Client ID: HSE-SB-16-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 08:52
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/11/23 00:07
 Analyst: MKS
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00047	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00094	0.00024	1
Toluene	ND		mg/kg	0.00094	0.00051	1
1,2-Dibromoethane	ND		mg/kg	0.00047	0.00028	1
Ethylbenzene	ND		mg/kg	0.00094	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00094	0.00027	1
Xylenes, Total	ND		mg/kg	0.00094	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00094	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	104		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-05
 Client ID: HSE-SB-15-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:15
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/11/23 00:37
 Analyst: MKS
 Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00065	1
1,2-Dibromoethane	ND		mg/kg	0.00060	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00067	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	106		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-06
 Client ID: HSE-SB-19-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:20
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/11/23 01:08
 Analyst: MKS
 Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	0.00086		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	105		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-07
 Client ID: HSE-SB-20-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:40
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/11/23 01:38
 Analyst: MKS
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00025	1
Benzene	0.00062		mg/kg	0.00062	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00032	1
Toluene	ND		mg/kg	0.0012	0.00067	1
1,2-Dibromoethane	ND		mg/kg	0.00062	0.00036	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0025	0.00069	1
o-Xylene	ND		mg/kg	0.0012	0.00036	1
Xylenes, Total	ND		mg/kg	0.0012	0.00036	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0025	0.00041	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	107		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-08
 Client ID: HSE-SB-20-0.0-0.5D
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:40
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/11/23 18:37
 Analyst: JIC
 Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatiles Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	0.00034	J	mg/kg	0.00059	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	102		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-09
 Client ID: HSE-SB-21-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:48
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/11/23 18:06
 Analyst: JIC
 Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00021	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	99		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-10
 Client ID: HSE-SB-29-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 10:00
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/11/23 03:09
 Analyst: MKS
 Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00086	0.00022	1
Toluene	ND		mg/kg	0.00086	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00086	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00048	1
o-Xylene	0.00056	J	mg/kg	0.00086	0.00025	1
Xylenes, Total	0.00056	J	mg/kg	0.00086	0.00025	1
Isopropylbenzene	0.00012	J	mg/kg	0.00086	0.00009	1
1,3,5-Trimethylbenzene	0.0034		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	0.0011	J	mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	127		70-130
Dibromofluoromethane	107		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-11
 Client ID: HSE-SB-23-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 10:30
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/11/23 17:36
 Analyst: JIC
 Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00021	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	101		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-12
 Client ID: HSE-SB-24-1.0-1.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 10:38
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/11/23 04:09
 Analyst: MKS
 Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	0.00018	J	mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	105		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-13
 Client ID: HSE-SB-26-0.5-1.0
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 10:58
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/11/23 23:48
 Analyst: AJK
 Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.11	0.012	1
Benzene	0.017	J	mg/kg	0.029	0.0095	1
1,2-Dichloroethane	ND		mg/kg	0.057	0.015	1
Toluene	ND		mg/kg	0.057	0.031	1
1,2-Dibromoethane	ND		mg/kg	0.029	0.017	1
Ethylbenzene	0.13		mg/kg	0.057	0.0081	1
p/m-Xylene	0.40		mg/kg	0.11	0.032	1
o-Xylene	0.42		mg/kg	0.057	0.017	1
Xylenes, Total	0.82		mg/kg	0.057	0.017	1
Isopropylbenzene	0.21		mg/kg	0.057	0.0062	1
1,3,5-Trimethylbenzene	1.2		mg/kg	0.11	0.011	1
1,2,4-Trimethylbenzene	3.0		mg/kg	0.11	0.019	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	120		70-130
Dibromofluoromethane	91		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-14
 Client ID: HSE-SB-27-0.5-1.0
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:10
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/12/23 10:01
 Analyst: JIC
 Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.00029	J	mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00023	1
Toluene	ND		mg/kg	0.00091	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	0.00076	J	mg/kg	0.00091	0.00013	1
p/m-Xylene	0.0042		mg/kg	0.0018	0.00051	1
o-Xylene	0.0091		mg/kg	0.00091	0.00026	1
Xylenes, Total	0.013		mg/kg	0.00091	0.00026	1
Isopropylbenzene	0.0017		mg/kg	0.00091	0.00010	1
1,3,5-Trimethylbenzene	0.017		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	0.024		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	92		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-15
 Client ID: HSE-SB-28-0.5-1.0
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:22
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/11/23 17:06
 Analyst: JIC
 Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00047	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00051	1
1,2-Dibromoethane	ND		mg/kg	0.00047	0.00028	1
Ethylbenzene	ND		mg/kg	0.00095	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00095	0.00028	1
Xylenes, Total	ND		mg/kg	0.00095	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	99		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-16
 Client ID: HSE-SB-30-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:35
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/12/23 00:38
 Analyst: AJK
 Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	0.00021	J	mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	92		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-17
 Client ID: HSE-SB-25-1.0-1.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:45
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 10/12/23 01:03
 Analyst: AJK
 Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.00021	J	mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	94		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-18
 Client ID: FB-231005
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 12:30
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8011
 Analytical Date: 10/09/23 14:19
 Analyst: JKH

Extraction Method: EPA 8011
 Extraction Date: 10/09/23 12:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-18
 Client ID: FB-231005
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 12:30
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 10/11/23 09:34
 Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	95		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-19
 Client ID: TB-231005
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 12:35
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8011
 Analytical Date: 10/09/23 14:27
 Analyst: JKH

Extraction Method: EPA 8011
 Extraction Date: 10/09/23 12:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-19
 Client ID: TB-231005
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 12:35
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 10/11/23 09:58
 Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	96		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 10/09/23 13:46
Analyst: JKH

Extraction Method: EPA 8011
Extraction Date: 10/09/23 12:38

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 18-19 Batch: WG1837359-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260D
Analytical Date: 10/10/23 20:04
Analyst: SLS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-07,10,12 Batch: WG1838341-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	103		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260D
Analytical Date: 10/11/23 09:30
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 08-09,11,15 Batch: WG1838586-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	102		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260D
Analytical Date: 10/11/23 09:10
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 18-19 Batch: WG1838849-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	95		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260D
Analytical Date: 10/11/23 20:00
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 13 Batch: WG1838955-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	91		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260D
Analytical Date: 10/11/23 20:00
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 16-17 Batch: WG1838956-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	91		70-130

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260D
Analytical Date: 10/12/23 09:10
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 14 Batch: WG1838989-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	90		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 18-19 Batch: WG1837359-2									
1,2-Dibromoethane	107		-		80-120	-		20	A

Lab Control Sample Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-07,10,12 Batch: WG1838341-3 WG1838341-4								
Methyl tert butyl ether	79		77		66-130	3		30
Benzene	93		90		70-130	3		30
1,2-Dichloroethane	96		94		70-130	2		30
Toluene	96		92		70-130	4		30
1,2-Dibromoethane	106		102		70-130	4		30
Ethylbenzene	93		90		70-130	3		30
p/m-Xylene	99		96		70-130	3		30
o-Xylene	103		99		70-130	4		30
Isopropylbenzene	94		91		70-130	3		30
1,3,5-Trimethylbenzene	99		95		70-130	4		30
1,2,4-Trimethylbenzene	99		96		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	102		100		70-130
4-Bromofluorobenzene	95		94		70-130
Dibromofluoromethane	98		100		70-130



Lab Control Sample Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Parameter	LCS		LCSD		%Recovery Limits	RPD	RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 08-09,11,15 Batch: WG1838586-3 WG1838586-4								
Methyl tert butyl ether	73		71		66-130	3		30
Benzene	82		77		70-130	6		30
1,2-Dichloroethane	87		84		70-130	4		30
Toluene	88		84		70-130	5		30
1,2-Dibromoethane	98		97		70-130	1		30
Ethylbenzene	87		84		70-130	4		30
p/m-Xylene	93		90		70-130	3		30
o-Xylene	96		93		70-130	3		30
Isopropylbenzene	91		86		70-130	6		30
1,3,5-Trimethylbenzene	96		90		70-130	6		30
1,2,4-Trimethylbenzene	96		91		70-130	5		30

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
1,2-Dichloroethane-d4	98		98		70-130
Toluene-d8	101		101		70-130
4-Bromofluorobenzene	92		89		70-130
Dibromofluoromethane	98		98		70-130



Lab Control Sample Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Parameter	LCS		LCSD		%Recovery Limits	RPD	RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 18-19 Batch: WG1838849-3 WG1838849-4								
Methyl tert butyl ether	85		83		63-130	2		20
Benzene	92		91		70-130	1		20
1,2-Dichloroethane	88		87		70-130	1		20
Toluene	94		94		70-130	0		20
Ethylbenzene	90		90		70-130	0		20
p/m-Xylene	95		90		70-130	5		20
o-Xylene	90		90		70-130	0		20
Isopropylbenzene	92		90		70-130	2		20
1,3,5-Trimethylbenzene	93		90		64-130	3		20
1,2,4-Trimethylbenzene	92		91		70-130	1		20

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
1,2-Dichloroethane-d4	95		94		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	101		99		70-130
Dibromofluoromethane	96		97		70-130



Lab Control Sample Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Parameter	LCS		LCSD		%Recovery Limits	RPD	RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 13 Batch: WG1838955-3 WG1838955-4								
Methyl tert butyl ether	74		72		66-130	3		30
Benzene	98		96		70-130	2		30
1,2-Dichloroethane	94		92		70-130	2		30
Toluene	100		100		70-130	0		30
1,2-Dibromoethane	91		90		70-130	1		30
Ethylbenzene	103		103		70-130	0		30
p/m-Xylene	99		99		70-130	0		30
o-Xylene	99		100		70-130	1		30
Isopropylbenzene	105		104		70-130	1		30
1,3,5-Trimethylbenzene	108		108		70-130	0		30
1,2,4-Trimethylbenzene	107		107		70-130	0		30

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
1,2-Dichloroethane-d4	95		93		70-130
Toluene-d8	104		105		70-130
4-Bromofluorobenzene	105		104		70-130
Dibromofluoromethane	93		94		70-130



Lab Control Sample Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Parameter	LCS		LCSD		%Recovery Limits	RPD	RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 16-17 Batch: WG1838956-3 WG1838956-4								
Methyl tert butyl ether	74		72		66-130	3		30
Benzene	98		96		70-130	2		30
1,2-Dichloroethane	94		92		70-130	2		30
Toluene	100		100		70-130	0		30
1,2-Dibromoethane	91		90		70-130	1		30
Ethylbenzene	103		103		70-130	0		30
p/m-Xylene	99		99		70-130	0		30
o-Xylene	99		100		70-130	1		30
Isopropylbenzene	105		104		70-130	1		30
1,3,5-Trimethylbenzene	108		108		70-130	0		30
1,2,4-Trimethylbenzene	107		107		70-130	0		30

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
1,2-Dichloroethane-d4	95		93		70-130
Toluene-d8	104		105		70-130
4-Bromofluorobenzene	105		104		70-130
Dibromofluoromethane	93		93		70-130



Lab Control Sample Analysis

Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Parameter	LCS		LCSD		%Recovery Limits	RPD	RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 14 Batch: WG1838989-3 WG1838989-4								
Methyl tert butyl ether	67		66		66-130	2		30
Benzene	98		93		70-130	5		30
1,2-Dichloroethane	89		87		70-130	2		30
Toluene	104		99		70-130	5		30
1,2-Dibromoethane	86		85		70-130	1		30
Ethylbenzene	107		101		70-130	6		30
p/m-Xylene	103		98		70-130	5		30
o-Xylene	101		96		70-130	5		30
Isopropylbenzene	109		102		70-130	7		30
1,3,5-Trimethylbenzene	111		103		70-130	7		30
1,2,4-Trimethylbenzene	110		103		70-130	7		30

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
1,2-Dichloroethane-d4	92		92		70-130
Toluene-d8	108		107		70-130
4-Bromofluorobenzene	105		104		70-130
Dibromofluoromethane	93		91		70-130

SEMIVOLATILES

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-01
 Client ID: HSE-SB-18-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 08:15
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 09:52
 Analyst: CMM
 Percent Solids: 90%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.12		mg/kg	0.036	0.022	1
Fluorene	0.033	J	mg/kg	0.18	0.018	1
Phenanthrene	0.33		mg/kg	0.11	0.022	1
Anthracene	0.091	J	mg/kg	0.11	0.036	1
Pyrene	0.42		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.31		mg/kg	0.11	0.020	1
Chrysene	0.35		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.42		mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.37		mg/kg	0.15	0.044	1
Benzo(ghi)perylene	0.32		mg/kg	0.15	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	68		30-120
4-Terphenyl-d14	74		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-02
 Client ID: HSE-SB-22-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 08:20
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 10:10
 Analyst: CMM
 Percent Solids: 89%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.19		mg/kg	0.036	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	0.070	J	mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	0.095	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.075	J	mg/kg	0.11	0.020	1
Chrysene	0.086	J	mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.11		mg/kg	0.11	0.030	1
Benzo(a)pyrene	0.086	J	mg/kg	0.14	0.044	1
Benzo(ghi)perylene	0.086	J	mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	52		30-120
4-Terphenyl-d14	41		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-03
 Client ID: HSE-SB-17-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 08:35
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 10:28
 Analyst: CMM
 Percent Solids: 75%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.10		mg/kg	0.043	0.026	1
Fluorene	0.028	J	mg/kg	0.22	0.021	1
Phenanthrene	0.36		mg/kg	0.13	0.026	1
Anthracene	0.074	J	mg/kg	0.13	0.042	1
Pyrene	0.38		mg/kg	0.13	0.022	1
Benzo(a)anthracene	0.31		mg/kg	0.13	0.024	1
Chrysene	0.40		mg/kg	0.13	0.022	1
Benzo(b)fluoranthene	0.47		mg/kg	0.13	0.036	1
Benzo(a)pyrene	0.44		mg/kg	0.17	0.053	1
Benzo(ghi)perylene	0.49		mg/kg	0.17	0.026	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	71		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-04
 Client ID: HSE-SB-16-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 08:52
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 10:46
 Analyst: CMM
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.11		mg/kg	0.037	0.023	1
Fluorene	0.021	J	mg/kg	0.18	0.018	1
Phenanthrene	0.19		mg/kg	0.11	0.022	1
Anthracene	0.048	J	mg/kg	0.11	0.036	1
Pyrene	0.23		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.16		mg/kg	0.11	0.021	1
Chrysene	0.21		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.23		mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.19		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	0.19		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	81		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-05
 Client ID: HSE-SB-15-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:15
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 11:04
 Analyst: CMM
 Percent Solids: 86%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.19		mg/kg	0.038	0.023	1
Fluorene	0.046	J	mg/kg	0.19	0.019	1
Phenanthrene	0.38		mg/kg	0.12	0.023	1
Anthracene	0.10	J	mg/kg	0.12	0.037	1
Pyrene	0.32		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.31		mg/kg	0.12	0.022	1
Chrysene	0.35		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.41		mg/kg	0.12	0.032	1
Benzo(a)pyrene	0.39		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	0.34		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	71		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-06
 Client ID: HSE-SB-19-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:20
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 11:22
 Analyst: CMM
 Percent Solids: 86%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.25		mg/kg	0.038	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	0.095	J	mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	0.091	J	mg/kg	0.11	0.019	1
Benzo(a)anthracene	0.071	J	mg/kg	0.11	0.021	1
Chrysene	0.081	J	mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	0.11		mg/kg	0.11	0.032	1
Benzo(a)pyrene	0.10	J	mg/kg	0.15	0.046	1
Benzo(ghi)perylene	0.11	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	73		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-07
 Client ID: HSE-SB-20-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:40
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 11:40
 Analyst: CMM
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.35		mg/kg	0.038	0.023	1
Fluorene	0.035	J	mg/kg	0.19	0.018	1
Phenanthrene	0.18		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	0.12		mg/kg	0.11	0.019	1
Benzo(a)anthracene	0.091	J	mg/kg	0.11	0.021	1
Chrysene	0.11		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	0.13		mg/kg	0.11	0.032	1
Benzo(a)pyrene	0.12	J	mg/kg	0.15	0.046	1
Benzo(ghi)perylene	0.12	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	59		30-120
4-Terphenyl-d14	49		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-08
 Client ID: HSE-SB-20-0.0-0.5D
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:40
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 11:58
 Analyst: CMM
 Percent Solids: 89%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.19		mg/kg	0.036	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	0.10	J	mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	0.10	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.087	J	mg/kg	0.11	0.020	1
Chrysene	0.094	J	mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.13		mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.12	J	mg/kg	0.15	0.045	1
Benzo(ghi)perylene	0.12	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	73		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-09
 Client ID: HSE-SB-21-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:48
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 12:16
 Analyst: CMM
 Percent Solids: 91%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.042		mg/kg	0.036	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	0.10	J	mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	0.16		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.11		mg/kg	0.11	0.020	1
Chrysene	0.13		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.15		mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.13	J	mg/kg	0.14	0.044	1
Benzo(ghi)perylene	0.13	J	mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	59		30-120
4-Terphenyl-d14	58		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-10
 Client ID: HSE-SB-29-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 10:00
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 12:34
 Analyst: CMM
 Percent Solids: 86%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.043		mg/kg	0.038	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	0.079	J	mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	0.10	J	mg/kg	0.11	0.019	1
Benzo(a)anthracene	0.070	J	mg/kg	0.11	0.021	1
Chrysene	0.085	J	mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	0.11		mg/kg	0.11	0.032	1
Benzo(a)pyrene	0.094	J	mg/kg	0.15	0.046	1
Benzo(ghi)perylene	0.082	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	69		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-11
 Client ID: HSE-SB-23-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 10:30
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 12:52
 Analyst: CMM
 Percent Solids: 81%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.19		mg/kg	0.040	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	0.053	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	0.048	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.079	J	mg/kg	0.12	0.022	1
Chrysene	0.096	J	mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.14		mg/kg	0.12	0.034	1
Benzo(a)pyrene	0.11	J	mg/kg	0.16	0.049	1
Benzo(ghi)perylene	0.076	J	mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	76		30-120
4-Terphenyl-d14	79		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-12
 Client ID: HSE-SB-24-1.0-1.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 10:38
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 13:09
 Analyst: CMM
 Percent Solids: 81%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.053		mg/kg	0.040	0.024	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	0.097	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	0.14		mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.12		mg/kg	0.12	0.023	1
Chrysene	0.12		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.21		mg/kg	0.12	0.034	1
Benzo(a)pyrene	0.17		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	0.11	J	mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	65		30-120
4-Terphenyl-d14	63		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-13
 Client ID: HSE-SB-26-0.5-1.0
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 10:58
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 13:27
 Analyst: CMM
 Percent Solids: 86%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.10		mg/kg	0.038	0.023	1
Fluorene	0.034	J	mg/kg	0.19	0.018	1
Phenanthrene	0.21		mg/kg	0.11	0.023	1
Anthracene	0.057	J	mg/kg	0.11	0.037	1
Pyrene	0.29		mg/kg	0.11	0.019	1
Benzo(a)anthracene	0.22		mg/kg	0.11	0.021	1
Chrysene	0.24		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	0.34		mg/kg	0.11	0.032	1
Benzo(a)pyrene	0.29		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	0.19		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	62		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-14
 Client ID: HSE-SB-27-0.5-1.0
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:10
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 13:45
 Analyst: CMM
 Percent Solids: 89%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.048		mg/kg	0.036	0.022	1
Fluorene	0.018	J	mg/kg	0.18	0.018	1
Phenanthrene	0.13		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	0.19		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.14		mg/kg	0.11	0.020	1
Chrysene	0.15		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.20		mg/kg	0.11	0.030	1
Benzo(a)pyrene	0.17		mg/kg	0.14	0.044	1
Benzo(ghi)perylene	0.11	J	mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	51		30-120
4-Terphenyl-d14	46		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-15
 Client ID: HSE-SB-28-0.5-1.0
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:22
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 14:03
 Analyst: CMM
 Percent Solids: 84%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.030	J	mg/kg	0.039	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	0.11	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.16		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.10	J	mg/kg	0.12	0.022	1
Chrysene	0.12		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.13		mg/kg	0.12	0.033	1
Benzo(a)pyrene	0.11	J	mg/kg	0.16	0.048	1
Benzo(ghi)perylene	0.077	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	57		30-120
4-Terphenyl-d14	48		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-16
 Client ID: HSE-SB-30-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:35
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 14:21
 Analyst: CMM
 Percent Solids: 79%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.045		mg/kg	0.041	0.025	1
Fluorene	0.045	J	mg/kg	0.20	0.020	1
Phenanthrene	0.10	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.089	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.056	J	mg/kg	0.12	0.023	1
Chrysene	0.071	J	mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.085	J	mg/kg	0.12	0.034	1
Benzo(a)pyrene	0.064	J	mg/kg	0.16	0.050	1
Benzo(ghi)perylene	0.056	J	mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	55		30-120
4-Terphenyl-d14	43		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-17
 Client ID: HSE-SB-25-1.0-1.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:45
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 10/07/23 14:39
 Analyst: CMM
 Percent Solids: 84%

Extraction Method: EPA 3546
 Extraction Date: 10/06/23 21:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.026	J	mg/kg	0.040	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	0.083	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	0.13		mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.088	J	mg/kg	0.12	0.022	1
Chrysene	0.095	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.094	J	mg/kg	0.12	0.033	1
Benzo(a)pyrene	0.096	J	mg/kg	0.16	0.048	1
Benzo(ghi)perylene	0.061	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	58		23-120
2-Fluorobiphenyl	50		30-120
4-Terphenyl-d14	42		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-18
 Client ID: FB-231005
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 12:30
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8270E-SIM
 Analytical Date: 10/12/23 16:20
 Analyst: RP

Extraction Method: EPA 3510C
 Extraction Date: 10/12/23 11:19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	67		15-120
4-Terphenyl-d14	70		41-149

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270E
Analytical Date: 10/07/23 07:48
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 10/06/23 21:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-17 Batch: WG1836707-1					
Naphthalene	ND		mg/kg	0.033	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.099	0.020
Anthracene	ND		mg/kg	0.099	0.032
Pyrene	ND		mg/kg	0.099	0.016
Benzo(a)anthracene	ND		mg/kg	0.099	0.019
Chrysene	ND		mg/kg	0.099	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.099	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	91		18-120

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270E-SIM
Analytical Date: 10/12/23 16:04
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 10/12/23 11:19

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 18 Batch: WG1838948-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	74		15-120
4-Terphenyl-d14	77		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Parameter	LCS		LCSD		%Recovery Limits	RPD	RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-17 Batch: WG1836707-2 WG1836707-3								
Naphthalene	76		78		40-140	3		50
Fluorene	82		78		40-140	5		50
Phenanthrene	84		80		40-140	5		50
Anthracene	86		83		40-140	4		50
Pyrene	80		77		35-142	4		50
Benzo(a)anthracene	88		86		40-140	2		50
Chrysene	89		86		40-140	3		50
Benzo(b)fluoranthene	86		80		40-140	7		50
Benzo(a)pyrene	93		90		40-140	3		50
Benzo(ghi)perylene	88		84		40-140	5		50

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
Nitrobenzene-d5	84		87		23-120
2-Fluorobiphenyl	72		71		30-120
4-Terphenyl-d14	76		77		18-120

Lab Control Sample Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 18 Batch: WG1838948-2 WG1838948-3								
Naphthalene	66		67		40-140	2		40
Fluorene	68		68		40-140	0		40
Phenanthrene	72		70		40-140	3		40
Anthracene	76		74		40-140	3		40
Pyrene	75		74		26-127	1		40
Benzo(a)anthracene	71		70		40-140	1		40
Chrysene	73		73		40-140	0		40
Benzo(b)fluoranthene	80		79		40-140	1		40
Benzo(a)pyrene	81		80		40-140	1		40
Benzo(ghi)perylene	76		71		40-140	7		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	76		75		23-120
2-Fluorobiphenyl	65		66		15-120
4-Terphenyl-d14	68		68		41-149



METALS

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-01
 Client ID: HSE-SB-18-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 08:15
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	623		mg/kg	2.15	0.115	1	10/06/23 22:00	10/08/23 17:13	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE

Lab Number: L2358872

Project Number: P044.001.004

Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-02

Date Collected: 10/05/23 08:20

Client ID: HSE-SB-22-0.0-0.5

Date Received: 10/05/23

Sample Location: 3144 W PASSYUNK AVE.

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	298		mg/kg	2.23	0.120	1	10/06/23 22:00	10/08/23 17:38	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-03
 Client ID: HSE-SB-17-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 08:35
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 75%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	572		mg/kg	2.52	0.135	1	10/06/23 22:00	10/08/23 17:43	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE

Lab Number: L2358872

Project Number: P044.001.004

Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-04

Date Collected: 10/05/23 08:52

Client ID: HSE-SB-16-0.0-0.5

Date Received: 10/05/23

Sample Location: 3144 W PASSYUNK AVE.

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	386		mg/kg	2.21	0.119	1	10/06/23 22:00	10/08/23 17:47	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-05
 Client ID: HSE-SB-15-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:15
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1220		mg/kg	2.29	0.123	1	10/06/23 22:00	10/08/23 18:01	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-06
 Client ID: HSE-SB-19-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:20
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	311		mg/kg	2.26	0.121	1	10/06/23 22:00	10/08/23 18:06	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-07
 Client ID: HSE-SB-20-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:40
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	296		mg/kg	2.26	0.121	1	10/06/23 22:00	10/08/23 18:11	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-08
 Client ID: HSE-SB-20-0.0-0.5D
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:40
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	354		mg/kg	2.15	0.115	1	10/06/23 22:00	10/08/23 18:16	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE

Lab Number: L2358872

Project Number: P044.001.004

Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-09

Date Collected: 10/05/23 09:48

Client ID: HSE-SB-21-0.0-0.5

Date Received: 10/05/23

Sample Location: 3144 W PASSYUNK AVE.

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	59.5		mg/kg	2.09	0.112	1	10/06/23 22:00	10/08/23 18:21	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-10
 Client ID: HSE-SB-29-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 10:00
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	51.8		mg/kg	2.22	0.119	1	10/06/23 22:00	10/08/23 18:25	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE

Lab Number: L2358872

Project Number: P044.001.004

Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-11

Date Collected: 10/05/23 10:30

Client ID: HSE-SB-23-0.0-0.5

Date Received: 10/05/23

Sample Location: 3144 W PASSYUNK AVE.

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	213		mg/kg	2.36	0.127	1	10/06/23 22:00	10/08/23 18:30	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-12
 Client ID: HSE-SB-24-1.0-1.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 10:38
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	36.7		mg/kg	2.44	0.131	1	10/06/23 22:00	10/08/23 18:35	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE

Lab Number: L2358872

Project Number: P044.001.004

Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-13

Date Collected: 10/05/23 10:58

Client ID: HSE-SB-26-0.5-1.0

Date Received: 10/05/23

Sample Location: 3144 W PASSYUNK AVE.

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	86.7		mg/kg	2.30	0.123	1	10/06/23 22:00	10/08/23 18:40	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-14
 Client ID: HSE-SB-27-0.5-1.0
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:10
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	59.1		mg/kg	2.09	0.112	1	10/06/23 22:00	10/08/23 18:45	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE

Lab Number: L2358872

Project Number: P044.001.004

Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-15

Date Collected: 10/05/23 11:22

Client ID: HSE-SB-28-0.5-1.0

Date Received: 10/05/23

Sample Location: 3144 W PASSYUNK AVE.

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	64.5		mg/kg	2.25	0.121	1	10/06/23 22:00	10/08/23 18:58	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-16
 Client ID: HSE-SB-30-0.0-0.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:35
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	156		mg/kg	2.40	0.129	1	10/06/23 22:00	10/08/23 19:03	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-17
 Client ID: HSE-SB-25-1.0-1.5
 Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:45
 Date Received: 10/05/23
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	118		mg/kg	2.32	0.124	1	10/06/23 22:00	10/08/23 19:08	EPA 3050B	1,6010D	AMW



Project Name: HARTRANFT STREET PIPELINE RELE

Lab Number: L2358872

Project Number: P044.001.004

Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-18

Date Collected: 10/05/23 12:30

Client ID: FB-231005

Date Received: 10/05/23

Sample Location: 3144 W PASSYUNK AVE.

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	10.0	2.70	1	10/10/23 06:31	10/11/23 09:46	EPA 3005A	1,6010D	DHL



Project Name: HARTRANFT STREET PIPELINE RELE

Lab Number: L2358872

Project Number: P044.001.004

Report Date: 10/12/23

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-17 Batch: WG1836525-1									
Lead, Total	ND	mg/kg	2.00	0.107	1	10/06/23 22:00	10/08/23 17:04	1,6010D	AMW

Prep Information

Digestion Method: EPA 3050B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 18 Batch: WG1837443-1									
Lead, Total	ND	ug/l	10.0	2.70	1	10/10/23 06:31	10/11/23 09:37	1,6010D	DHL

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE

Lab Number: L2358872

Project Number: P044.001.004

Report Date: 10/12/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-17 Batch: WG1836525-2 SRM Lot Number: D119-540								
Lead, Total	109		-		82-118	-		
Total Metals - Mansfield Lab Associated sample(s): 18 Batch: WG1837443-2								
Lead, Total	104		-		80-120	-		

Matrix Spike Analysis Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-17 QC Batch ID: WG1836525-3 QC Sample: L2358872-01 Client ID: HSE-SB-18-0.0-0.5												
Lead, Total	623	44.7	521	0	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 18 QC Batch ID: WG1837443-3 QC Sample: L2358310-21 Client ID: MS Sample												
Lead, Total	ND	530	527	99		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE

Project Number: P044.001.004

Lab Number: L2358872

Report Date: 10/12/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-17 QC Batch ID: WG1836525-4 QC Sample: L2358872-01 Client ID: HSE-SB-18-0.0-0.5						
Lead, Total	623	780	mg/kg	22	Q	20

INORGANICS & MISCELLANEOUS

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-01
Client ID: HSE-SB-18-0.0-0.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 08:15
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.7		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-02
Client ID: HSE-SB-22-0.0-0.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 08:20
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.3		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-03
Client ID: HSE-SB-17-0.0-0.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 08:35
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	74.8		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-04
Client ID: HSE-SB-16-0.0-0.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 08:52
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.4		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-05
Client ID: HSE-SB-15-0.0-0.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:15
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.5		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-06
Client ID: HSE-SB-19-0.0-0.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:20
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-07
Client ID: HSE-SB-20-0.0-0.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:40
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.0		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-08
Client ID: HSE-SB-20-0.0-0.5D
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:40
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.6		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-09
Client ID: HSE-SB-21-0.0-0.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 09:48
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.8		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-10
Client ID: HSE-SB-29-0.0-0.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 10:00
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.7		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-11
Client ID: HSE-SB-23-0.0-0.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 10:30
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.2		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-12
Client ID: HSE-SB-24-1.0-1.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 10:38
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.2		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-13
Client ID: HSE-SB-26-0.5-1.0
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 10:58
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.2		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-14
Client ID: HSE-SB-27-0.5-1.0
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:10
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.4		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-15
Client ID: HSE-SB-28-0.5-1.0
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:22
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.3		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-16
Client ID: HSE-SB-30-0.0-0.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:35
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.2		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

SAMPLE RESULTS

Lab ID: L2358872-17
Client ID: HSE-SB-25-1.0-1.5
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 10/05/23 11:45
Date Received: 10/05/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.8		%	0.100	NA	1	-	10/06/23 10:18	121,2540G	ROI



Lab Duplicate Analysis

Batch Quality Control

Project Name: HARTRANFT STREET PIPELINE RELE

Project Number: P044.001.004

Lab Number: L2358872

Report Date: 10/12/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-17 QC Batch ID: WG1836434-1 QC Sample: L2358872-01 Client ID: HSE-SB-18-0.0-0.5						
Solids, Total	89.7	90.8	%	1		20

Project Name: HARTRANFT STREET PIPELINE RELE**Lab Number:** L2358872**Project Number:** P044.001.004**Report Date:** 10/12/23**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2358872-01A	Vial MeOH preserved	C	NA		3.8	Y	Absent		PA-8260HLW(14)
L2358872-01B	Vial water preserved	C	NA		3.8	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-01C	Vial water preserved	C	NA		3.8	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-01D	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.8	Y	Absent		PB-TI(180)
L2358872-01E	Glass 120ml/4oz unpreserved	C	NA		3.8	Y	Absent		PA-PAH(14)
L2358872-01F	Plastic 120ml unpreserved	C	NA		3.8	Y	Absent		TS(7)
L2358872-02A	Vial MeOH preserved	A	NA		4.7	Y	Absent		PA-8260HLW(14)
L2358872-02B	Vial water preserved	A	NA		4.7	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-02C	Vial water preserved	A	NA		4.7	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-02D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.7	Y	Absent		PB-TI(180)
L2358872-02E	Glass 120ml/4oz unpreserved	A	NA		4.7	Y	Absent		PA-PAH(14)
L2358872-02F	Plastic 120ml unpreserved	A	NA		4.7	Y	Absent		TS(7)
L2358872-03A	Vial MeOH preserved	C	NA		3.8	Y	Absent		PA-8260HLW(14)
L2358872-03B	Vial water preserved	C	NA		3.8	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-03C	Vial water preserved	C	NA		3.8	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-03D	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.8	Y	Absent		PB-TI(180)
L2358872-03E	Glass 120ml/4oz unpreserved	C	NA		3.8	Y	Absent		PA-PAH(14)
L2358872-03F	Plastic 120ml unpreserved	C	NA		3.8	Y	Absent		TS(7)
L2358872-04A	Vial MeOH preserved	C	NA		3.8	Y	Absent		PA-8260HLW(14)
L2358872-04B	Vial water preserved	C	NA		3.8	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-04C	Vial water preserved	C	NA		3.8	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)

Project Name: HARTRANFT STREET PIPELINE RELE**Lab Number:** L2358872**Project Number:** P044.001.004**Report Date:** 10/12/23**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2358872-04D	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.8	Y	Absent		PB-TI(180)
L2358872-04E	Glass 120ml/4oz unpreserved	C	NA		3.8	Y	Absent		PA-PAH(14)
L2358872-04F	Plastic 120ml unpreserved	C	NA		3.8	Y	Absent		TS(7)
L2358872-05A	Vial MeOH preserved	A	NA		4.7	Y	Absent		PA-8260HLW(14)
L2358872-05B	Vial water preserved	A	NA		4.7	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-05C	Vial water preserved	A	NA		4.7	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-05D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.7	Y	Absent		PB-TI(180)
L2358872-05E	Glass 120ml/4oz unpreserved	A	NA		4.7	Y	Absent		PA-PAH(14)
L2358872-05F	Plastic 120ml unpreserved	A	NA		4.7	Y	Absent		TS(7)
L2358872-06A	Vial MeOH preserved	A	NA		4.7	Y	Absent		PA-8260HLW(14)
L2358872-06B	Vial water preserved	A	NA		4.7	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-06C	Vial water preserved	A	NA		4.7	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-06D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.7	Y	Absent		PB-TI(180)
L2358872-06E	Glass 120ml/4oz unpreserved	A	NA		4.7	Y	Absent		PA-PAH(14)
L2358872-06F	Plastic 120ml unpreserved	A	NA		4.7	Y	Absent		TS(7)
L2358872-07A	Vial MeOH preserved	C	NA		3.8	Y	Absent		PA-8260HLW(14)
L2358872-07B	Vial water preserved	C	NA		3.8	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-07C	Vial water preserved	C	NA		3.8	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-07D	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.8	Y	Absent		PB-TI(180)
L2358872-07E	Glass 120ml/4oz unpreserved	C	NA		3.8	Y	Absent		PA-PAH(14)
L2358872-07F	Plastic 120ml unpreserved	C	NA		3.8	Y	Absent		TS(7)
L2358872-08A	Vial MeOH preserved	C	NA		3.8	Y	Absent		PA-8260HLW(14)
L2358872-08B	Vial water preserved	C	NA		3.8	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-08C	Vial water preserved	C	NA		3.8	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-08D	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.8	Y	Absent		PB-TI(180)
L2358872-08E	Glass 120ml/4oz unpreserved	C	NA		3.8	Y	Absent		PA-PAH(14)
L2358872-08F	Plastic 120ml unpreserved	C	NA		3.8	Y	Absent		TS(7)
L2358872-09A	Vial MeOH preserved	C	NA		3.8	Y	Absent		PA-8260HLW(14)

Project Name: HARTRANFT STREET PIPELINE RELE**Lab Number:** L2358872**Project Number:** P044.001.004**Report Date:** 10/12/23**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2358872-09B	Vial water preserved	C	NA		3.8	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-09C	Vial water preserved	C	NA		3.8	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-09D	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.8	Y	Absent		PB-TI(180)
L2358872-09E	Glass 120ml/4oz unpreserved	C	NA		3.8	Y	Absent		PA-PAH(14)
L2358872-09F	Plastic 120ml unpreserved	C	NA		3.8	Y	Absent		TS(7)
L2358872-10A	Vial MeOH preserved	A	NA		4.7	Y	Absent		PA-8260HLW(14)
L2358872-10B	Vial water preserved	A	NA		4.7	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-10C	Vial water preserved	A	NA		4.7	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-10D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.7	Y	Absent		PB-TI(180)
L2358872-10E	Glass 120ml/4oz unpreserved	A	NA		4.7	Y	Absent		PA-PAH(14)
L2358872-10F	Plastic 120ml unpreserved	A	NA		4.7	Y	Absent		TS(7)
L2358872-11A	Vial MeOH preserved	B	NA		4.6	Y	Absent		PA-8260HLW(14)
L2358872-11B	Vial water preserved	B	NA		4.6	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-11C	Vial water preserved	B	NA		4.6	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-11D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.6	Y	Absent		PB-TI(180)
L2358872-11E	Glass 120ml/4oz unpreserved	B	NA		4.6	Y	Absent		PA-PAH(14)
L2358872-11F	Plastic 120ml unpreserved	B	NA		4.6	Y	Absent		TS(7)
L2358872-12A	Vial MeOH preserved	B	NA		4.6	Y	Absent		PA-8260HLW(14)
L2358872-12B	Vial water preserved	B	NA		4.6	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-12C	Vial water preserved	B	NA		4.6	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-12D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.6	Y	Absent		PB-TI(180)
L2358872-12E	Glass 120ml/4oz unpreserved	B	NA		4.6	Y	Absent		PA-PAH(14)
L2358872-12F	Plastic 120ml unpreserved	B	NA		4.6	Y	Absent		TS(7)
L2358872-13A	Vial MeOH preserved	A	NA		4.7	Y	Absent		PA-8260HLW(14)
L2358872-13B	Vial water preserved	A	NA		4.7	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-13C	Vial water preserved	A	NA		4.7	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-13D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.7	Y	Absent		PB-TI(180)
L2358872-13E	Glass 120ml/4oz unpreserved	A	NA		4.7	Y	Absent		PA-PAH(14)

Project Name: HARTRANFT STREET PIPELINE RELE**Lab Number:** L2358872**Project Number:** P044.001.004**Report Date:** 10/12/23**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2358872-13F	Plastic 120ml unpreserved	A	NA		4.7	Y	Absent		TS(7)
L2358872-14A	Vial MeOH preserved	B	NA		4.6	Y	Absent		PA-8260HLW(14)
L2358872-14B	Vial water preserved	B	NA		4.6	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-14C	Vial water preserved	B	NA		4.6	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-14D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.6	Y	Absent		PB-TI(180)
L2358872-14E	Glass 120ml/4oz unpreserved	B	NA		4.6	Y	Absent		PA-PAH(14)
L2358872-14F	Plastic 120ml unpreserved	B	NA		4.6	Y	Absent		TS(7)
L2358872-15A	Vial MeOH preserved	B	NA		4.6	Y	Absent		PA-8260HLW(14)
L2358872-15B	Vial water preserved	B	NA		4.6	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-15C	Vial water preserved	B	NA		4.6	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-15D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.6	Y	Absent		PB-TI(180)
L2358872-15E	Glass 120ml/4oz unpreserved	B	NA		4.6	Y	Absent		PA-PAH(14)
L2358872-15F	Plastic 120ml unpreserved	B	NA		4.6	Y	Absent		TS(7)
L2358872-16A	Vial MeOH preserved	B	NA		4.6	Y	Absent		PA-8260HLW(14)
L2358872-16B	Vial water preserved	B	NA		4.6	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-16C	Vial water preserved	B	NA		4.6	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-16D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.6	Y	Absent		PB-TI(180)
L2358872-16E	Glass 120ml/4oz unpreserved	B	NA		4.6	Y	Absent		PA-PAH(14)
L2358872-16F	Plastic 120ml unpreserved	B	NA		4.6	Y	Absent		TS(7)
L2358872-17A	Vial MeOH preserved	B	NA		4.6	Y	Absent		PA-8260HLW(14)
L2358872-17B	Vial water preserved	B	NA		4.6	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-17C	Vial water preserved	B	NA		4.6	Y	Absent	06-OCT-23 06:12	PA-8260HLW(14)
L2358872-17D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.6	Y	Absent		PB-TI(180)
L2358872-17E	Glass 120ml/4oz unpreserved	B	NA		4.6	Y	Absent		PA-PAH(14)
L2358872-17F	Plastic 120ml unpreserved	B	NA		4.6	Y	Absent		TS(7)
L2358872-18A	Vial HCl preserved	A	NA		4.7	Y	Absent		PA-8260(14)
L2358872-18B	Vial HCl preserved	A	NA		4.7	Y	Absent		PA-8260(14)
L2358872-18C	Vial HCl preserved	A	NA		4.7	Y	Absent		PA-8260(14)

Project Name: HARTRANFT STREET PIPELINE RELE**Lab Number:** L2358872**Project Number:** P044.001.004**Report Date:** 10/12/23**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2358872-18D	Vial Na2S2O3 preserved	A	NA		4.7	Y	Absent		8011(14)
L2358872-18E	Vial Na2S2O3 preserved	A	NA		4.7	Y	Absent		8011(14)
L2358872-18F	Amber 250ml unpreserved	A	7	7	4.7	Y	Absent		PA-PAHSIM-LVI(7)
L2358872-18G	Amber 250ml unpreserved	A	7	7	4.7	Y	Absent		PA-PAHSIM-LVI(7)
L2358872-18H	Plastic 250ml HNO3 preserved	A	<2	<2	4.7	Y	Absent		PB-TI-PPB(180)
L2358872-19A	Vial HCl preserved	A	NA		4.7	Y	Absent		PA-8260(14)
L2358872-19B	Vial HCl preserved	A	NA		4.7	Y	Absent		PA-8260(14)
L2358872-19C	Vial Na2S2O3 preserved	NA	NA			Y	Absent		8011(14)
L2358872-19D	Vial Na2S2O3 preserved	A	NA		4.7	Y	Absent		8011(14)

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: HARTRANFT STREET PIPELINE RELE
Project Number: P044.001.004

Lab Number: L2358872
Report Date: 10/12/23

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625.1: alpha-Terpineol

EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables).

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 10/6/23

ALPHA Job #: L2358872

Client Information
Client: Terraphase Engineering
Address: 1100 E. Hector St., Ste. 400
Conshohocken, PA 19428
Phone: 570-447-0558
Fax:
Email: alexander.strohl@terrphase.com
 These samples have been previously analyzed by Alpha

Project Information
Project Name: Hartranft Pipeline Release
Project Location: 3144 W. Passyunk Ave.
Project #: P044.001.004
Project Manager: Alexander Strohl
ALPHA Quote #: 23807

Turn-Around Time
 Standard RUSH (only confirmed if pre-approved!)
TEI Standard
Date Due: _____ Time: _____

Report Information - Data Deliverables
 FAX EMAIL
 ADEX Add'l Deliverables

Billing Information
 Same as Client info PO #: P044.001.004

Regulatory Requirements/Report Limits
State /Fed Program _____ Criteria _____

Other Project Specific Requirements/Comments/Detection Limits:
Please send Terraphase Equis EDD to EDD@terrphase.com

ANALYSIS
VOCs via 8260 - see list
SVOCs via 8270 - see list
Lead via 6010

SAMPLE HANDLING
Filtration _____
 Done
 Not needed
 Lab to do
 Preservation
 Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Analysis			Sample Specific Comments	TOTAL # BOTTLES
		Date	Time			VOCs	SVOCs	Lead		
58872-01	HSE-SB-18-0.0-0.5	10/5/23	815	So	EEJ	X	X	X		
02	HSE-SB-12-0.0-0.5	10/5/23	820	So	EEJ	X	X	X		
03	HSE-SB-17-0.0-0.5	10/5/23	835	So	EEJ	X	X	X		
04	HSE-SB-16-0.0-0.5	10/5/23	852	So	EEJ	X	X	X		
05	HSE-SB-15-0.0-0.5	10/5/23	915	So	EET	X	X	X		
06	HSE-SB-19-0.0-0.5	10/5/23	920	So	EEJ	X	X	X		
07	HSE-SB-20-0.0-0.5	10/5/23	940	So	EEJ	X	X	X		
08	HSE-SB-20-0.0-0.5 D	10/5/23	940	So	EEJ	X	X	X		
09	HSE-SB-21-0.0-0.5	10/5/23	948	So	EEJ	X	X	X		
10	HSE-SB-29-0.0-0.5	10/5/23	1000	So	EEJ	X	X	X		

10/6/23 0015

Container Type	
Preservative	

Relinquished By:	Date/Time	Received By:	Date/Time
<u>Ellie Johnston</u> TEI	<u>10/5/23 1330</u>	<u>C. Bunn</u> AAL	<u>10/5/23 1330</u>
<u>D. Bunn</u>	<u>10/5/23 1800</u>	<u>[Signature]</u>	<u>10/5/23</u>
<u>[Signature]</u>	<u>10-5-23 18:50</u>	<u>[Signature]</u>	<u>10/5/23 18:50</u>

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

CHAIN OF CUSTODY

PAGE 2 OF 2



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 10/6/23

ALPHA Job #: L2358872

Project Information

Project Name: Hartranft Pipeline Release

Project Location: 3144 W. Passyunk Ave.

Project #: P044.001.004

Project Manager: Alexander Strohl

ALPHA Quote #: 23807

Report Information - Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client info PO #: P044.001.004

Client Information

Client: Terraphase Engineering

Address: 1100 E. Hector St, ste 400
Conshohocken, PA 19428

Phone: 570-447-0558

Fax:

Email: alexander.strohl@terrphase.com

These samples have been previously analyzed by Alpha

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)
TEI Standard
Date Due: _____ Time: _____

Other Project Specific Requirements/Comments/Detection Limits:

Please send Terraphase Equis EDD to EDD@terrphase.com

ANALYSIS
VOCs via 8260: see list
SVOCs via 8270: see list
Lead via 6010

SAMPLE HANDLING

Filtration _____
 Done
 Not needed
 Lab to do
Preservation
 Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials				Sample Specific Comments
		Date	Time						
58872-11	HSE-SB-23-0.0-0.5	10/5/23	1030	So	EEJ	X	X	X	
12	HSE-SB-24-1.0-1.5	10/5/23	1038	So	EEJ	X	X	X	
13	HSE-SB-26-0.5-1.0	10/5/23	1058	So	EEJ	X	X	X	
14	HSE-SB-27-0.5-1.0	10/5/23	1110	So	EEJ	X	X	X	
15	HSE-SB-28-0.5-1.0	10/5/23	1122	So	EEJ	X	X	X	
16	HSE-SB-30-0.0-0.5	10/5/23	1135	So	EEJ	X	X	X	
17	HSE-SB-25-1.0-1.5	10/5/23	1145	So	EEJ	X	X	X	
18	FB-231005	10/5/23	1230	QAQC	EEJ	X	X	X	
19	TB-231005	10/5/23	1235	QAQC	EEJ	X			
					<u>Ellie Johnston</u>				

10/6/23 0015

Container Type

Preservative

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time
<u>Ellie Johnston</u> TEI	<u>10/5/23 1330</u>	<u>O.B. [Signature]</u> AAL	<u>10/5/23 1330</u>
<u>O.B. [Signature]</u>	<u>10/5/23 1330</u>	<u>[Signature]</u>	<u>10-5-23</u>
<u>[Signature]</u>	<u>10-5-23 8:30</u>	<u>[Signature]</u>	<u>10/5/23 13:50</u>

Appendix E

Disposal Documentation





PURE SOIL TECHNOLOGIES

P.O. Drawer 43
Farmingdale, NJ 07727
Phone: 732.308.1113 Fax: 732.462.9626

151245

Weigh Scale Ticket #
escala de boleto

NON-HAZARDOUS MATERIAL MANIFEST

You must return 4 copies of this manifest upon delivery.

SITE INFORMATION

Site Name: PES

Address: 1144 PASSYUNK AVE

City, State, Zip: PHILADELPHIA, PA 19145

AGENT / CONSULTANT

Name: R&B DERRIS LLC

Contact Name: PATRICK DURIA

Phone: (609) 361-4036

<p>Approval Number</p> <p><u>2112037</u></p>	<p>Description of Material</p> <p>Non-Haz Contaminated Soil</p> <p><u>1870864 FT</u></p>	<p>** Must be Initialed By Authorized Agent.</p> <table border="1"> <thead> <tr> <th></th> <th>SITE</th> <th>**INITIALS</th> </tr> </thead> <tbody> <tr> <td>Time Arrive:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Time Depart:</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>		SITE	**INITIALS	Time Arrive:	_____	_____	Time Depart:	_____	_____
	SITE	**INITIALS									
Time Arrive:	_____	_____									
Time Depart:	_____	_____									

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Authorized Agent for PES RMA LLC
Robert Duria

Generator/Authorized Agent Name (Print)

[Signature]

Signature

1/6/2022

Shipment Date

TRANSPORTER

Transporter Name: Liberty Waste & Recycling

Address: 576 W. ...

City, State, Zip: PHILADELPHIA, PA 19102

Driver Name (Print): Steve Day

Vehicle License No/State/EPA No.: _____

Truck Number: 81

I hereby certify that the above named material was picked up at the generator site listed above.

I hereby certify that the above named material was delivered without incident to the destination listed below.

[Signature]

Driver Signature

01/06/2022

Date

Driver Signature

Date

DESTINATION

Site Name: PURE SOIL TECHNOLOGIES

Address: 655 SOUTH HOPE CHAPEL ROAD, JACKSON, NJ 08027

Phone: (732) 657-8561

Business hours are: Monday through Friday 7 AM to 5 PM. Saturday By Appointment Only.

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent

Signature

Receipt Date

Form: PST CB

AGENT/GC COPY



PURE SOIL TECHNOLOGIES

P.O. Drawer 48
Farmingdale, NJ 07727
Phone: 732.308.1113 Fax: 732.462.9826

151245

NON-HAZARDOUS MATERIAL MANIFEST

You must return 4 copies of this manifest upon delivery.

Weigh Scale Ticket #
escala de boleta

SITE INFORMATION

Site Name: PES
Address: 144 PASSYUNK AVE
City, State, Zip: PHILADELPHIA PA 19146

AGENT / CONSULTANT

Name: R&B DERRIS LLC
Contact Name: PATRICK DERRIS
Phone: (800) 261-8038

Approval Number	Description of Material	** Must be Initialed By Authorized Agent.	
2112037	Non-Haz Contaminated Soil	SITE	INITIALS
	F B 70864 FT	Time Arrive:	
		Time Depart:	

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Authorized Agent for PES Rm, LLC
Generator/Authorized Agent Name (Print): Patrick Derris Signature: [Signature] Shipment Date: 1/16/2022

TRANSPORTER

Transporter Name: Liberty Truck & Repair Co Driver Name (Print): Steve Day
Address: 776 U. 100th St Vehicle License No/State/EPA No.: AUG25P
City, State, Zip: WILMINGTON DE 19807 Truck Number: 81

I hereby certify that the above named material was picked up at the generator site listed above.

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature: [Signature] Date: 1/16/2022 Driver Signature: [Signature] Date: 1/16/2022

DESTINATION

Site Name: PURE SOIL TECHNOLOGIES Phone: 732.462.9826
Address: 668 SOUTH HOPE CHAPEL ROAD, JACKSON NJ 08527

Business hours are: Monday through Friday 7 AM to 5 PM, Saturday By Appointment Only.

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent: _____ Signature: _____ Receipt Date: 1/16/22



Pure Soil Technologies
855 SOUTH HOPE CHAPEL RD
JACKSON, NJ 08527
732-657-8551

CUSTOMER:
R&B DEBRIS LLC
5900 SYLON BLVD
HAINESPORT NJ 08060
609-261-8036

CUSTOMER NO: 3880
TICKET NO: 298875
DATE: 01/06/22
TIME: 10:39 AM

JOB NAME:
PES
3144 PASSYUNK AVE
PHILADELPHIA PA 19146

JOB NO: 2112037
QUOTE NO: 2112-039
MANIFEST NO: 151245
PRODUCT: JR86
JR86 SOIL

CARRIER: LIBERTY WASTE
TRUCK NO: LIB81
LIC. PLATE: AU625T

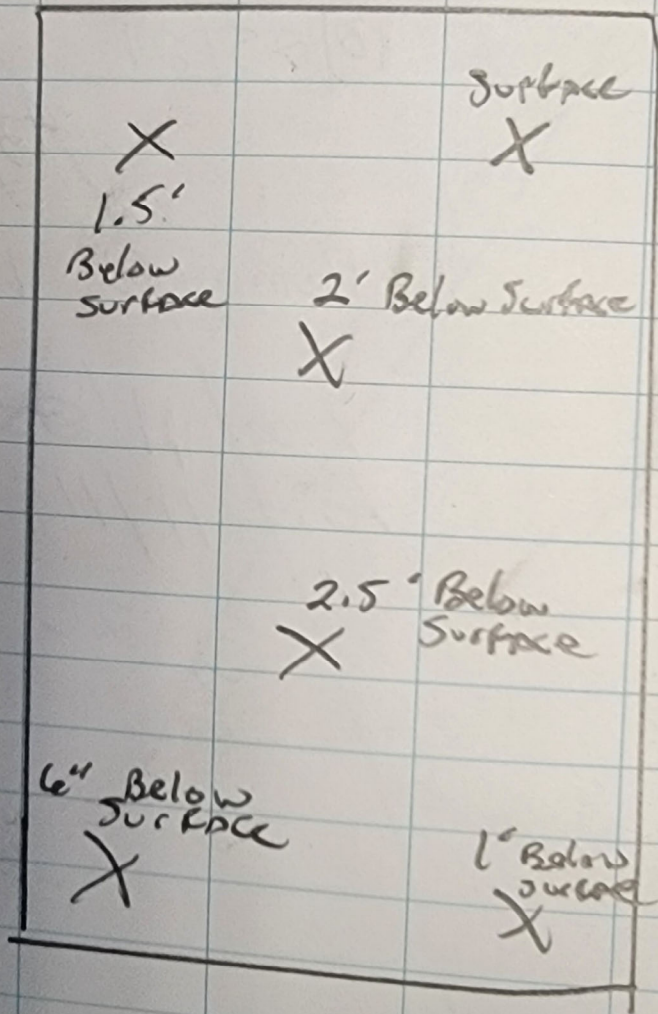
<u>DAILY LOADS</u>	<u>METRIC</u>	<u>TONNAGE</u>	<u>METRIC (MG)</u>	<u>ENGLISH (TN)</u>
1	14.79	16.30	32.33 Mg	GROSS 35.64 TN
<u>TO-DATE LOADS</u>	<u>METRIC</u>	<u>TONNAGE</u>	<u>METRIC (MG)</u>	<u>TARE</u>
1	14.79	16.30	17.55 Mg	19.34 TN
			14.79 Mg	NET 16.30 TN

RATE: \$0.00
TAX: \$0.00
TOTAL: \$0.00

RECIEVED BY:
WEIGHMASTER: JAMES MATTHEWS NJWMS #31489

* manual weight

Rolloff RB44062BT



6 grab samples collected
Samples homogenized
One composite sent for
Waste Characterization

SUBCONTRACTOR NAME: ACV CHARLES DICKERSON

DATE: 10/11/21

TIME: 1150

MATERIAL TYPE: LIQUID SOLID RECOVERED OIL/WATER

DESCRIPTION OF WASTE: OIL AND WATER MIXED

VOLUME

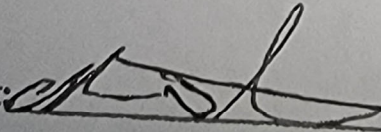
<u>500</u>	GALLONS		TONS		CY		OTHER-SPECIFY
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ESTIMATE

<u>5</u>	% OIL	<u>95</u>	% WATER		% SOLIDS		% EMULSION
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SOURCE OF WASTE: 10TH/HARTRAFT (SPILL)

DISPOSAL POINT: BIO TANK SEWER

SIGNATURE: 

DATE: 10/11/21

Appendix F

Field Notes



By: Ellie Johnston


Date	10/05/2023	Contractor	MB Drilling
Staff On-Site	ellie johnston	Crew	Dan Petley, Andre laws
Staff From Time	06:25	From Time	07:00
Staff To Time	14:20	To Time	12:15
Weather	Sunny	Tailgate Meeting?	YES
Equipment	7720 DT	Remarks	

Work Summary

Conduct attainment soil sampling in Hartranft area

Time	Notes
------	-------

06:25 E. Johnston departs for site



Picture taken at: 10:36

Caption:


Latitude: 39.91299245480172

Longitude: -75.20076383416574

06:54 Arrive at Wawa to meet MB Drillers

07:01 Meet MB at Wawa and mobilize to Hartranft area

07:12 Conduct H&S tailgate



Picture taken at: 07:19

Caption:

Latitude: 39.91288717937871


Longitude: -75.20070694094899

Time Notes


gmsj 10/5/23
gmsj 10/5/23
AndriLaws
 10/5/23

Picture taken at: 11:24
 Caption:
 Latitude: 39.91298492277471
 Longitude: -75.20072300836704

07:22 Calibrate PID. See picture for lot and serial number
 Zero cal- 0.0 ppm
 Span cal- 100.0 ppm



Picture taken at: 07:23
 Caption:
 Latitude: 39.91226196289062
 Longitude: -75.19963587275014



Picture taken at: 07:23
 Caption:
 Latitude: 39.91290523002528
 Longitude: -75.20073660478955

07:43 Begin hand clearing boring HSE-SB-18

Time Notes



Picture taken at: 08:06
Caption:
Latitude: 39.91292005151058
Longitude: -75.20075132924619

08:15 Sample HSE-SB-18-0.0-0.5

08:20 Sample HSE-SB-12-0.0-0.5

08:35 Sample HSE-SB-17-0.0-0.5



Picture taken at: 08:34
Caption:
Latitude: 39.91293106812109
Longitude: -75.20076067473676

08:52 Sample HSE-SB-16-0.0-0.5



Picture taken at: 08:53
Caption:
Latitude: 39.91295872547549
Longitude: -75.20077137551995

09:15 Sample HSE-SB-15-0.0-0.5

Time Notes



Picture taken at: 09:07
Caption:
Latitude: 39.91294106361131
Longitude: -75.20077026062597

09:20 Sample HSE-SB-19-0.0-0.5



Picture taken at: 09:15
Caption:
Latitude: 39.91298267208548
Longitude: -75.20076814241109

09:40 sample HSE-SB-20-0.0-0.5 and sample HSE-SB-20-0.0-0.5D



Picture taken at: 09:31
Caption:
Latitude: 39.9129719854586
Longitude: -75.20075818158641

09:48 sample HSE-SB-21-0.0-0.5

10:00 sample HSE-SB-29-0.0-0.5

Time Notes



Picture taken at: 09:59
Caption:
Latitude: 39.91296052149217
Longitude: -75.20074269034056



Picture taken at: 10:05
Caption:
Latitude: 39.91290512915008
Longitude: -75.20056280460771







Picture taken at: 10:30
Caption:
Latitude: 39.91297097970536
Longitude: -75.2007832781788

10:30 Sample HSE-SB-23-0.0-0.5

10:38 Sample HSE-SB-24-1.0-1.5

10:58 Sample HSE-SB-26-0.5-1.0

11:10 Sample HSE-SB-27-0.5-1.0

Time	Notes
	 <p>Picture taken at: 11:11 Caption: Latitude: 39.91299223099505 Longitude: -75.20078204150943</p>
	 <p>Picture taken at: 11:21 Caption: Latitude: 39.91298675278362 Longitude: -75.20076523548742</p>
11:22	Sample HSE-SB-28-0.5-1.0
11:35	Sample HSE-SB-30-0.0-0.5
	 <p>Picture taken at: 11:29 Caption: Latitude: 39.91295881187161 Longitude: -75.20076828705193</p>
	 <p>Picture taken at: 11:41 Caption: Latitude: 39.91297282644987 Longitude: -75.20076514627947</p>

Time	Notes
11:45	Sample HSE-SB-25-1.0-1.5
11:52	Cleanup and fill borings
12:15	All off site
12:30	Collect FB-231005
12:35	Relabel TB-231005
12:55	Complete COC, depart for Alpha analytical Holmes facility to drop off samples
13:30	Relinquish samples to Alpha Analytical Holmes facility and depart for office
14:30	Return to office

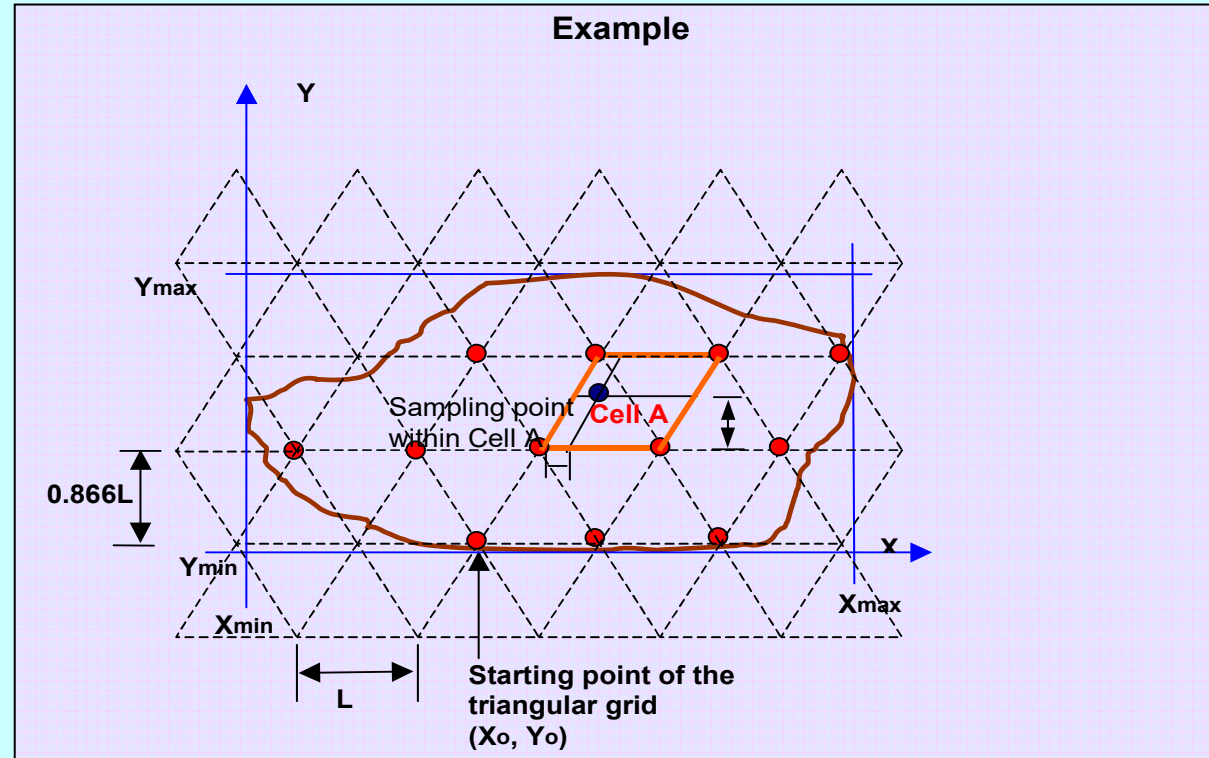
Appendix G

Systematic Random Sampling Grid



Systematic Random Sampling Workbook

Area of Contamination (Sq. feet.):	350
Depth Zone (feet.):	0 - 0
Volume of Contaminated Soil (Cubic Yards):	0
Number of Soil Samples: (If you are applying 75%/10X or 75%/2X rule, the spreadsheet will determine the minimum number of samples for you. Otherwise, please specify the number of samples here. Limitations: The maximum number of samples per row is ten. The maximum number of rows is ten. ----->)	
Number of Soil Samples:	8
L= Cell Spacing (feet):	7.1
0.866*L(feet):	6.1
Xmin (feet):	0
Xmax (feet):	28
Ymin (feet):	0
Ymax (feet):	12.5
Xo (feet):	4.6
Yo (feet):	2.2



Triangular Grid Node Coordinate Pairs

	0th Row (Xi, Yi)	1st Row (Xi, Yi)	2nd Row (Xi, Yi)	3rd Row (Xi, Yi)	4th Row (Xi, Yi)
Starting Point ---->	-2.5 2.2 4.6 2.2 11.7 2.2 18.8 2.2 25.9 2.2	-6.05 8.3 1.05 8.3 8.15 8.3 15.25 8.3 22.35 8.3			
		-1st Row (Xi, Yi) -6.05 -3.9 1.05 -3.9 8.15 -3.9 15.25 -3.9 22.35 -3.9	-2nd Row (Xi, Yi)	-3rd Row (Xi, Yi)	-4th Row (Xi, Yi)

Appendix G
Systematic Random Sampling Grid - Area 2

5th Row (Xi, Yi)

-5th Row (Xi, Yi)

6th Row
(Xi, Yi)

7th Row
(Xi, Yi)

8th Row
(Xi, Yi)

9th Row
(Xi, Yi)

10th Row
(Xi, Yi)

-6th Row
(Xi, Yi)

-7th Row
(Xi, Yi)

-8th Row
(Xi, Yi)

-9th Row
(Xi, Yi)

-10th Row
(Xi, Yi)

Coordinates of 3-D Systematic Random Sampling Points

Note: Sampling points that are not within the area of contamination should be discarded. You will need to generate another group of data sets if the number of valid data sets in a c

0th Row		
Xi,	Yi	Zi
5.6	4.0	0.0
12.1	4.3	0.0
16.9	3.6	0.0
23.9	6.8	0.0

1st Row		
Xi,	Yi	Zi
6.5	8.4	0.0
10.8	11.0	0.0
25.4	9.0	0.0

2nd Row		
Xi,	Yi	Zi

3rd Row		
Xi,	Yi	Zi

-1st Row		
Xi,	Yi	Zi
18.3	0.7	0.0

-2nd Row		
Xi,	Yi	Zi

-3rd Row		
Xi,	Yi	Zi

group is less than the minimum number of samples otherwise required.

4th Row		
Xi,	Yi	Zi

5th Row		
Xi,	Yi	Zi

6th Row		
Xi,	Yi	Zi

7th Row		
Xi,	Yi	Zi

-4th Row		
Xi,	Yi	Zi

-5th Row		
Xi,	Yi	Zi

-6th Row		
Xi,	Yi	Zi

-7th Row		
Xi,	Yi	Zi

Appendix G
Systematic Random Sampling Grid - Area 2

8th Row		
Xi,	Yi	Zi

9th Row		
Xi,	Yi	Zi

10th Row		
Xi,	Yi	Zi

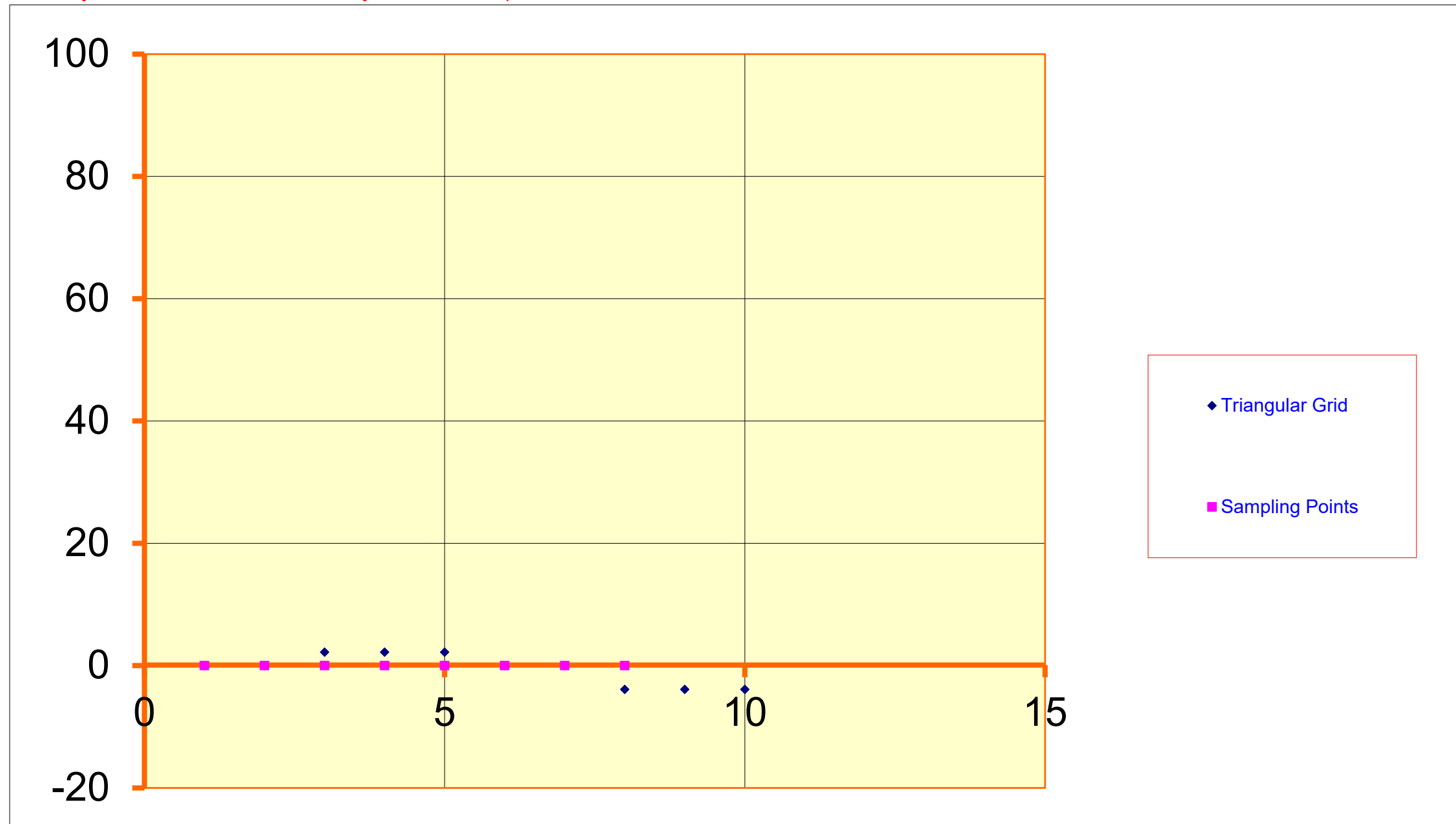
-8th Row		
Xi,	Yi	Zi

-9th Row		
Xi,	Yi	Zi

-10th Row		
Xi,	Yi	Zi

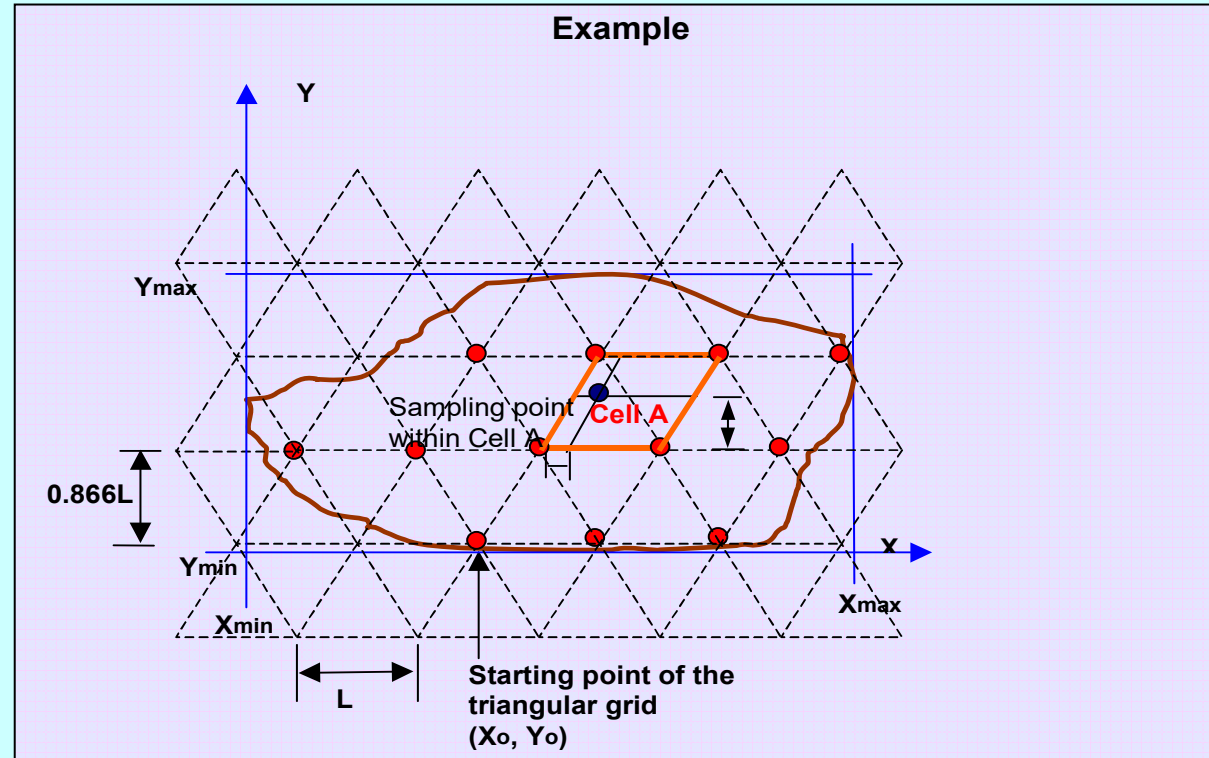
Appendix G
Systematic Random Sampling Grid - Area 2

Note: The 'Source Data' may need to be adjusted manually in order to allow the triangular grid pattern and sampling points to appear.
Move the mouse pointer to the center of the plot area and then right-click the mouse. Select 'Source Data' from the menu.
Select 'Series' tab. Click collapse dialog buttons at the right end of X Values and Y Values boxes to adjust for the appropriate ranges of source data.
You may need to hold the "Control" key to select multiple columns of data.



Systematic Random Sampling Workbook

Area of Contamination (Sq. feet.):	1131
Depth Zone (feet.):	0 - 1
Volume of Contaminated Soil (Cubic Yards):	42
Number of Soil Samples: (If you are applying 75%/10X or 75%/2X rule, the spreadsheet will determine the minimum number of samples for you. Otherwise, please specify the number of samples here. Limitations: The maximum number of samples per row is ten. The maximum number of rows is ten. ----->)	
Number of Soil Samples:	8
L= Cell Spacing (feet):	12.8
0.866*L(feet):	11.1
Xmin (feet):	0
Xmax (feet):	59.5
Ymin (feet):	0
Ymax (feet):	21
Xo (feet):	4.9
Yo (feet):	6.0



5th Row
(Xi, Yi)

6th Row
(Xi, Yi)

7th Row
(Xi, Yi)

8th Row
(Xi, Yi)

9th Row
(Xi, Yi)

10th Row
(Xi, Yi)

-5th Row
(Xi, Yi)

-6th Row
(Xi, Yi)

-7th Row
(Xi, Yi)

-8th Row
(Xi, Yi)

-9th Row
(Xi, Yi)

-10th Row
(Xi, Yi)

Coordinates of 3-D Systematic Random Sampling Points

Note: Sampling points that are not within the area of contamination should be discarded. You will need to generate another group of data sets if the number of valid data sets in a c

0th Row		
Xi,	Yi	Zi
1.5	14.9	0.2
20.2	14.2	0.6
23.5	13.8	0.2
31.9	7.2	0.1
49.2	6.1	0.2

1st Row		
Xi,	Yi	Zi
5.5	18.6	0.5
12.4	18.7	0.7
39.9	17.5	0.8

2nd Row		
Xi,	Yi	Zi

3rd Row		
Xi,	Yi	Zi

-1st Row		
Xi,	Yi	Zi
15.5	2.5	0.6
55.1	2.0	0.6

-2nd Row		
Xi,	Yi	Zi

-3rd Row		
Xi,	Yi	Zi

Appendix G
Systematic Random Sampling Grid - Area 3

8th Row		
Xi,	Yi	Zi

9th Row		
Xi,	Yi	Zi

10th Row		
Xi,	Yi	Zi

-8th Row		
Xi,	Yi	Zi

-9th Row		
Xi,	Yi	Zi

-10th Row		
Xi,	Yi	Zi

Appendix G
Systematic Random Sampling Grid - Area 3

Note: The 'Source Data' may need to be adjusted manually in order to allow the triangular grid pattern and sampling points to appear.
Move the mouse pointer to the center of the plot area and then right-click the mouse. Select 'Source Data' from the menu.
Select 'Series' tab. Click collapse dialog buttons at the right end of X Values and Y Values boxes to adjust for the appropriate ranges of source data.
You may need to hold the "Control" key to select multiple columns of data.

