Bellwether District Holdings, LLC
111 S. Wacker Drive, Suite 3000
Chicago, IL 60606

August 20, 2024

Via Electronic Mail and Certified Mail

Dr. Mohamad Mazid
PA Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19104

RE: Notification of Closure for the Point Breeze Hazardous Waste Container Storage Pad, the Girard Point Hazardous Waste Container Storage Pad, and the Two Girard Point Hazardous Waste Aboveground Storage Tanks (EPA ID #PAD049791098)

Dear Dr. Mazid:

Bellwether District Holdings, LLC ("BDH") formerly known as Philadelphia Energy Solutions Refining and Marketing LLC ("PESRM") hereby submits to the Pennsylvania Department of Environmental Protection ("Department") this Notification of Closure for the Point Breeze Hazardous Waste Container Storage Pad, the Girard Point Hazardous Waste Container Storage Pad, and the Two Girard Point Hazardous Waste Aboveground Storage Tanks[1] located at 3144 Passyunk Avenue, Philadelphia, PA 19145 and identified in the Resource Conservation and Recovery Act ("RCRA") Part B Permit #PAD049791098 (the "Permit"). This notice is made as required in Part II Section I of the Permit in accordance with the Code of Federal Regulations Title 40, Part 264.115.

BDH is pursuing closure of the three hazardous waste storage areas in accordance with the Permit. The Closure Plan and Management of Waste Containers and Tanks Procedures was submitted to PADEP on February 28, 2018. Part II.I of the Permit provides that "The Permittee shall close the facility as required by 40 CFR 264.111 and in accordance with the Closure Plan." On September 13, 2023, PESRM and the Department amended the January 15, 2020, Consent Order and Agreement ("CO&A") to clarify that the United States Environmental Protection Agency ("USEPA") has interpreted 40 CFR 264.111 to allow for a risk-based clean closure. This was documented in the Revised Supplement to the Closure Plan for the Point Breeze Hazardous Waste Container Storage Pad, the Girard Point Hazardous Waste Container Storage Pad, and the Two Girard Point Hazardous Waste Aboveground Storage Tanks (EPA ID #PAD049791098) dated February 9, 2024 (**Attachment A**).

The Point Breeze Hazardous Waste Container Storage Pad was cleaned and demolished in February 2022. A composite sample of the demolition debris was collected on February 28, 2022 and submitted to a certified laboratory for waste characterization. The results indicated the concrete debris was not hazardous. The following documents for the Point Breeze Hazardous Waste Container Storage Pad are included as **Attachment B**:

[1] The two Girard Point hazardous waste aboveground storage tanks are also referred to as Spent Caustic Tanks 1086 and 1087.

- PADEP General Information Form – Authorization Application
- PADEP Form HW-B – Professional Certification Hazardous Waste Facility Construction, Repair or Closure Activity
- Photographic log
- Waste Characterization Analysis of Concrete Debris
- Certificate of Decontamination

The Two Girard Point Hazardous Waste Aboveground Storage Tanks were cleaned and demolished in June 2022. The concrete containment for the two tanks was cleaned and demolished in October 2022. A composite sample of the demolition debris was collected on October 17, 2022 and submitted to a certified laboratory for waste characterization. The results indicated the concrete debris was not hazardous.

The Girard Point Hazardous Waste Container Storage Pad was cleaned and demolished in April 2023. A composite sample of the demolition debris was collected on May 2, 2023 and submitted to a certified laboratory for waste characterization. The results indicated the concrete debris was not hazardous.

The following documents for the two Girard Point Hazardous Waste Aboveground Storage Tanks and the Girard Point Hazardous Waste Container Storage Pad are included as **Attachment C**:

- PADEP General Information Form – Authorization Application
- PADEP Form HW-B – Professional Certification Hazardous Waste Facility Construction, Repair or Closure Activity
- Photographic log
- Waste Characterization Analysis of Concrete Debris
- Certificate of Decontamination

Following the demolition of the concrete pads in each storage area, PESRM collected samples of the underlying soil in accordance with PADEP-approved soil sampling plans submitted in December 2021 and August 2022. The samples were submitted for laboratory analysis to assess whether soil was impacted by previously unidentified releases to the environment from historic operations of the hazardous waste storage areas. The results of the sampling are summarized in the attached documents:

- Site Investigation Report Technical Memorandum for Point Breeze Hazardous Waste Container Storage Pad dated July 15, 2024 (**Attachment D**);
- Site Investigation Report Technical Memorandum for Girard Point Hazardous Waste Storage Pad dated July 15, 2024 (**Attachment E**);
- Site Investigation Report Technical Memorandum for Spent Caustic Tanks 1086 and 1087 dated July 15, 2024 (**Attachment F**).

BDH held a virtual public meeting on June 3, 2024 to update the public on the investigations and results for the Point Breeze Hazardous Waste Container Storage Pad, the Girard Point Hazardous Waste Container Storage Pad, and the Two Girard Point Hazardous Waste Aboveground Storage Tanks. A summary of the public notices for the meeting, the meeting presentation, a list of attendees and their addresses, and a summary of comments received from the public are attached (**Attachment G**) as outlined in the CO&A. A video recording of the meeting and the meeting presentation are also available on The Bellwether District website (https://www.thebellwetherdistrict.com/updates/community-meeting-06-3-24/).

If you have any questions or comments concerning the information presented in this letter, please do not hesitate to contact Julianna Connolly at (617)-240-8695 or via email at jconnolly@hilcoglobal.com. We appreciate the Department's consideration.

Sincerely,

Anne R. Garr
Assistant Secretary

cc: Sachin Shankar
Patrick Patterson
Shawn Mountain
Brian Glass
Julianna Connolly
Amy Piccone

Attachment A

Philadelphia Energy Solutions Refining and Marketing LLC
c/o Hilco Redevelopment Partners
111 South Wacker Drive, Suite 3000
Chicago, Illinois 60606

February 9, 2024

Via Electronic Mail

Dr. Mohamad Mazid
PA Department of Environmental Protection
South East Regional Office
2 East Main Street
Norristown, PA 19104

RE: Revised Supplement to the Closure Plan for the Point Breeze Hazardous Waste Container Storage Pad, the Girard Point Hazardous Waste Container Storage Pad, and the Two Girard Point Hazardous Waste Aboveground Storage Tanks (EPA ID #PAD049791098)

Dear Dr. Mazid:

Philadelphia Energy Solutions Refining and Marketing LLC ("PESRM") hereby submits to the Pennsylvania Department of Environmental Protection ("Department") this Supplement to the Closure Plan for the Point Breeze Hazardous Waste Container Storage Pad, the Girard Point Hazardous Waste Container Storage Pad, and the Two Girard Point Hazardous Waste Aboveground Storage Tanks located at 3144 Passyunk Avenue, Philadelphia, PA 19145 and identified in the Resource Conservation and Recovery Act ("RCRA") Part B Permit #PAD049791098 (the "Permit").

PESRM is pursuing closure of the hazardous waste storage areas in accordance with the Permit. Following the demolition of the concrete pads in each storage area, PESRM collected samples of the underlying soil in accordance with PADEP-approved soil sampling plans submitted in December 2021 and August 2022. The samples were submitted for laboratory analysis to assess whether soil has been impacted by previously unidentified releases to the environment from historic operations of the hazardous waste storage areas.

Part II.I of the Permit provides that "The Permittee shall close the facility as required by 40 CFR 264.111 and in accordance with the Closure Plan." On September 13, 2023, PESRM and the Department amended the January 15, 2020, Consent Order and Agreement ("CO&A") to clarify that the United States Environmental Protection Agency ("USEPA") has interpreted 40 CFR 264.111 to allow for a risk-based clean closure. The following describes how PESRM intends to evaluate the results of soil samples collected from the former hazardous waste storage areas and is provided as a Supplement to the Closure Plan for the Point Breeze Hazardous Waste Container Storage Pad, the Girard Point Hazardous Waste Container Storage Pad, and the Two Girard Point Hazardous Waste Aboveground Storage Tanks located at 3144 Passyunk Avenue, Philadelphia, PA 19145 and identified under RCRA Permit #PAD049791098:

(1) Chemical concentrations in soil will first be compared to PADEP Statewide Health Standard (SHS) Medium Specific Concentrations (MSCs) for non-residential soil direct contact and non-residential soil-to-groundwater (used aquifer) protection. If soil sampling results from a given storage area are less than or equal to MSCs, the area is considered to have met the requirements for risk-based clean closure.

(2) If the results from soil samples collected from a former hazardous waste storage area exceed these PADEP SHS MSCs, PESRM will pursue risk-based clean closure through performance of human health and ecological risk assessment in accordance with PADEP and USEPA risk assessment guidance:

a. The first step in the risk assessment will be identification of constituents of potential concern (COPC) associated with the hazardous waste storage areas. Because the hazardous waste storage areas are within Areas of Interest subject to environmental investigation and cleanup being conducted by Evergreen Resources Management Operations, a series of Evergreen Resources Group, LLC ("Evergreen") under PADEP Land Recycling Program (Act 2) and the One Cleanup Program, chemical concentrations in soil exceeding PADEP SHS MSCs may be the result of pre-existing contamination associated with historical refinery operations or the presence of historic fill and not with previously unidentified releases associated with operation of the hazardous waste storage areas. Data collected as part of the closure of the hazardous waste storage areas will be compared to data generated by Evergreen. Multiple lines of evidence will be used to evaluate whether MSC exceedances are associated with releases from hazardous waste storage areas or previously documented contamination. These lines of evidence may include comparison of the following characteristics between the hazardous waste storage area data set and the data set for Evergreen's broader AOI (1) which constituents are detected above MSC, (2) the magnitude of concentrations detected, (3) the spatial distribution of concentrations detected, and (4) forensics and/or fingerprinting data, if applicable.

b. Human health risk assessment will include evaluation of complete or potentially complete exposure pathways for COPCs associated with releases from hazardous waste storage areas using appropriate exposure factors and chemical-specific toxicity information to demonstrate that cumulative excess lifetime cancer risk (ELCR) and noncancer hazard index (HI) are less than or equal to risk management limits (ELCR $\leq 1x\ 10^{-6}$ and HI ≤ 1) in accordance with 25 Pa Code Section 250.402. Ecological risk assessments will be conducted in accordance with Section II.B.2.e of the Act 2 guidance to screen for potential impacts to ecological receptors identified in 25 Pa Code Section 250.311(a).

If the data from a given hazardous waste storage area indicate ELCR and/or HI estimates equal to or less than these risk management limits, the area is considered to have met the requirements for risk-based clean closure.

(3) If the data evaluation conducted in accordance with Items 1 and 2 above indicates that previously unidentified releases to the environment have resulted in an unacceptable risk to human health or the environment, remedial actions will be performed, and the data evaluation process will be repeated until the clean closure performance standard has been achieved.

In accordance with the CO&A between PESRM and the Department dated January 15, 2020, as amended, this Supplement to the Closure Plan will be published on PESRM's website. PESRM will hold a public meeting prior to June 30, 2024 to discuss the soil sampling results and the results from the data evaluation for each storage area. PESRM will provide public notice of the meeting at least 30 days prior to the meeting and will submit a summary of the meeting to the Department as part of its Request for Closure Certification for each hazardous waste storage area.

If you have any questions or comments concerning the information presented in this letter, please do not hesitate to contact Julianna Connolly at (617)-240-8695 or via email at jconnolly@hilcoglobal.com. We appreciate the Department's consideration.

Sincerely,

Anne R. Garr
Assistant Secretary

cc: Sachin Shankar
Patrick Patterson
Shawn Mountain
Brian Glass
Chuck Barksdale
Julianna Connolly
Amy Piccone
Erin Brooks

Attachment B

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

GENERAL INFORMATION FORM – AUTHORIZATION APPLICATION

Before completing this General Information Form (GIF), read the step-by-step instructions provided in this application package. This form is used by the Department of Environmental Protection (DEP) to inform our programs regarding what other DEP permits or authorizations may be needed for the proposed project or activity. This version of the General Information Form (GIF) must be completed and returned with any program-specific application being submitted to the DEP.

Related ID#s (If Known)				DEP USE ONLY
Client ID#	363633	**APS ID#**		Date Received & General Notes
Site ID#	850063	**Auth ID#**		
Facility ID#	645873			

CLIENT INFORMATION

DEP Client ID#	Client Type / Code	Dun & Bradstreet ID#
363633	LLC	

Legal Organization Name or Registered Fictitious Name	Employer ID# (EIN)	Is the EIN a SSN?
Philadelphia Energy Solutions Refining and Marketing LLC	61-1689574	☐ Yes ☒ NO

State of Incorporation or Registration of Fictious Name
DE

☐ Corporation ☒ LLC ☐ Partnership ☐ LLP ☐ LP
☐ Sole Proprietorship ☐ Association/Organization
☐ Estate/Trust ☐ Other

Individual Last Name	First Name	MI	Suffix

Additional Individual Last Name	First Name	MI	Suffix

Mailing Address Line 1	Mailing Address Line 2
3144 Passyunk Avenue	

Address Last Line – City	State	ZIP+4	Country
Philadelphia	PA	19145	USA

Client Contact Last Name	First Name	MI	Suffix
Eggert	Stephanie		

Client Contact Title	Phone	Ext	Cell Phone
PESRM Authorized Signatory	215-339-2366		

Email Address	FAX
seggert@hilcoglobal.com	

SITE INFORMATION

DEP Site ID#	Site Name
850063	Philadelphia Refining Complex

EPA ID# PAD049791098 **Estimated Number of Employees to be Present at Site** 100

Description of Site
Former Petroleum Refinery facility undergoing demolition

Tax Parcel ID(s):

County Name(s)	Municipality(ies)	City	Boro	Twp	State
Philadelphia	Philadelphia	☒	☐	☐	PA
		☐	☐	☐	
		☐	☐	☐	
		☐	☐	☐	

Site Location Line 1	Site Location Line 2
3144 Passyunk Avenue	

Site Location Last Line – City	State	ZIP+4
Philadelphia	PA	19145

Detailed Written Directions to Site
Take I-95 to Exit 13 to Island Avenue. Turn right onto Bartram Avenue, left onto Essington Avenue. Essington Avenue turns into Passyunk Avenue. Go over bridge taking first exit turning right onto Frontage Road. Refning compliex is on the left.

Site Contact Last Name	First Name	MI	Suffix
Eggert	Stephanie		

Site Contact Title	Site Contact Firm
PESRM Authorized Signatory	

Mailing Address Line 1	Mailing Address Line 2
3144 Passyunk Avenue	

Mailing Address Last Line – City	State	ZIP+4
Philadelphia	PA	19145

Phone	Ext	FAX	Email Address
215-339-2366			

NAICS Codes (Two- & Three-Digit Codes – List All That Apply) **6-Digit Code** (Optional)

Client to Site Relationship
OWN

FACILITY INFORMATION

Modification of Existing Facility	Yes	No
1. Will this project modify an existing facility, system, or activity?	☐	☒
2. Will this project involve an addition to an existing facility, system, or activity?	☐	☒

If "Yes", check all relevant facility types and provide DEP facility identification numbers below.

	Facility Type	DEP Fac ID#		Facility Type	DEP Fac ID#
☐	Air Emission Plant		☐	Industrial Minerals Mining Operation	
☐	Beneficial Use (water)		☐	Laboratory Location	
☐	Blasting Operation		☐	Land Recycling Cleanup Location	
☐	Captive Hazardous Waste Operation		☐	Mine Drainage Treatment / Land Recycling Project Location	
☐	Coal Ash Beneficial Use Operation		☐	Municipal Waste Operation	
☐	Coal Mining Operation		☐	Oil & Gas Encroachment Location	
☐	Coal Pillar Location		☐	Oil & Gas Location	
☐	Commercial Hazardous Waste Operation		☐	Oil & Gas Water Poll Control Facility	
☐	Dam Location		☐	Public Water Supply System	
☐	Deep Mine Safety Operation -Anthracite		☐	Radiation Facility	
☐	Deep Mine Safety Operation -Bituminous		☐	Residual Waste Operation	
☐	Deep Mine Safety Operation -Ind Minerals		☐	Storage Tank Location	
☐	Encroachment Location (water, wetland)		☐	Water Pollution Control Facility	
☐	Erosion & Sediment Control Facility		☐	Water Resource	
☐	Explosive Storage Location		☐	Other:	

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
Center of Project Area	39	55	13	75	11	52

Horizontal Accuracy Measure Feet 10 *--or--* Meters

Horizontal Reference Datum Code
☐ North American Datum of 1927
☒ North American Datum of 1983
☐ World Geodetic System of 1984

Horizontal Collection Method Code

Reference Point Code

Altitude Feet *--or--* Meters

Altitude Datum Name
☐ The National Geodetic Vertical Datum of 1929
☒ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code

Geometric Type Code POINT

Data Collection Date 11/2014

Source Map Scale Number NA Inch(es) = Feet
--or-- Centimeter(s) = Meters

PROJECT INFORMATION

Project Name Former Point Breeze Refinery Hazardous Waste Storage Pad			
Project Description Partial Closure of the Point Breeze Hazardous Waste Pad			
Project Consultant Last Name Rolison	**First Name** Kristen	**MI** A.S.	**Suffix**
Project Consultant Title Senior Associate	**Consulting Firm** Stantec Consulting, Inc.		
Mailing Address Line 1 1060 Andrew Drive, Suite 140	**Mailing Address Line 2**		
Address Last Line – City West Chester	**State** PA	**ZIP+4** 19380	
Phone 610-407-7909	**Ext**	**FAX**	**Email Address** kristen.rolison@stantec.com

Time Schedules	Project Milestone (Optional)

1. **Is the project located in or within a 0.5-mile radius of an Environmental Justice community as defined by DEP?** ☐ Yes ☐ No

   To determine if the project is located in or within a 0.5-mile radius of an environmental justice community, please use the online Environmental Justice Areas Viewer.

2. **Have you informed the surrounding community prior to submitting the application to the Department?** ☐ Yes ☐ No

   Method of notification: _____

3. **Have you addressed community concerns that were identified?** ☐ Yes ☐ No ☐ N/A

   If no, please briefly describe the community concerns that have been expressed and not addressed.

4. **Is your project funded by state or federal grants?** ☐ Yes ☐ No

   Note: If "Yes", specify what aspect of the project is related to the grant and provide the grant source, contact person and grant expiration date.

   Aspect of Project Related to Grant

   Grant Source: _____

   Grant Contact Person: _____

   Grant Expiration Date: _____

5. **Is this application for an authorization on Appendix A of the Land Use Policy? (For referenced list, see Appendix A of the Land Use Policy attached to GIF instructions)** ☐ Yes ☒ No

   Note: If "No" to Question 5, the application is not subject to the Land Use Policy.
   If "Yes" to Question 5, the application is subject to this policy and the Applicant should answer the additional questions in the **Land Use Information** section.

LAND USE INFORMATION

Note: Applicants should submit copies of local land use approvals or other evidence of compliance with local comprehensive plans and zoning ordinances.

1.	**Is there an adopted county or multi-county comprehensive plan?**	☐ Yes	☐ No
2.	**Is there a county stormwater management plan?**	☐ Yes	☐ No
3.	**Is there an adopted municipal or multi-municipal comprehensive plan?**	☐ Yes	☐ No
4.	**Is there an adopted county-wide zoning ordinance, municipal zoning ordinance or joint municipal zoning ordinance?** **Note:** If the Applicant answers "No" to either Questions 1, 3 or 4, the provisions of the PA MPC are not applicable and the Applicant does not need to respond to questions 5 and 6 below. If the Applicant answers "Yes" to questions 1, 3 and 4, the Applicant should respond to questions 5 and 6 below.	☐ Yes	☐ No
5.	**Does the proposed project meet the provisions of the zoning ordinance or does the proposed project have zoning approval?** If zoning approval has been received, attach documentation.	☐ Yes	☐ No
6.	**Have you attached Municipal and County Land Use Letters for the project?**	☐ Yes	☐ No

COORDINATION INFORMATION

Note: The PA Historical and Museum Commission must be notified of proposed projects in accordance with DEP Technical Guidance Document 012-0700-001 utilizing the Project Review Form.

If the activity will be a mining project (i.e., mining of coal or industrial minerals, coal refuse disposal and/or the operation of a coal or industrial minerals preparation/processing facility), respond to questions 1.0 through 2.5 below.

If the activity will not be a mining project, skip questions 1.0 through 2.5 and begin with question 3.0.

1.0	**Is this a coal mining project?** If "Yes", respond to 1.1-1.6. If "No", skip to Question 2.0.	☐ Yes	☐ No
1.1	**Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be equal to or greater than 200 tons/day?**	☐ Yes	☐ No
1.2	**Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be greater than 50,000 tons/year?**	☐ Yes	☐ No
1.3	**Will this coal mining project involve coal preparation/ processing activities in which thermal coal dryers or pneumatic coal cleaners will be used?**	☐ Yes	☐ No
1.4	**For this coal mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?**	☐ Yes	☐ No
1.5	**Will this coal mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?**	☐ Yes	☐ No
1.6	**Will this coal mining project involve underground coal mining to be conducted within 500 feet of an oil or gas well?**	☐ Yes	☐ No
2.0	**Is this a non-coal (industrial minerals) mining project?** If "Yes", respond to 2.1-2.6. If "No", skip to Question 3.0.	☐ Yes	☐ No
2.1	**Will this non-coal (industrial minerals) mining project involve the crushing and screening of non-coal minerals other than sand and gravel?**	☐ Yes	☐ No
2.2	**Will this non-coal (industrial minerals) mining project involve the crushing and/or screening of sand and gravel with the exception of wet sand and gravel operations (screening only) and dry sand and gravel operations with a capacity of less than 150 tons/hour of unconsolidated materials?**	☐ Yes	☐ No

2.3	**Will this non-coal (industrial minerals) mining project involve the construction, operation and/or modification of a portable non-metallic (i.e., non-coal) minerals processing plant under the authority of the General Permit for Portable Non-metallic Mineral Processing Plants (i.e., BAQ-PGPA/GP-3)?**	☐	Yes	☐	No
2.4	**For this non-coal (industrial minerals) mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?**	☐	Yes	☐	No
2.5	**Will this non-coal (industrial minerals) mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?**	☐	Yes	☐	No
3.0	**Will your project, activity, or authorization have anything to do with a well related to oil or gas production, have construction within 200 feet of, affect an oil or gas well, involve the waste from such a well, or string power lines above an oil or gas well?** If "Yes", respond to 3.1-3.3. If "No", skip to Question 4.0.	☐	Yes	☒	No
3.1	**Does the oil- or gas-related project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water (including wetlands)?**	☐	Yes	☐	No
3.2	**Will the oil- or gas-related project involve discharge of industrial wastewater or stormwater to a dry swale, surface water, ground water or an existing sanitary sewer system or storm water system?** If "Yes", discuss in *Project Description*.	☐	Yes	☐	No
3.3	**Will the oil- or gas-related project involve the construction and operation of industrial waste treatment facilities?**	☐	Yes	☐	No
4.0	**Will the project involve a construction activity that results in earth disturbance?** If "Yes", specify the total disturbed acreage.	☐	Yes	☒	No
	4.0.1 Total Disturbed Acreage				
	4.0.2 Will the project discharge or drain to a special protection water (EV or HQ) or an EV wetland?	☐	Yes	☐	No
	4.0.3 Will the project involve a construction activity that results in earth disturbance in the area of the earth disturbance that are contaminated at levels exceeding residential or non-residential medium-specific concentrations (MSCs) in 25 Pa. Code Chapter 250 at residential or non-residential construction sites, respectively?	☐	Yes	☐	No
5.0	**Does the project involve any of the following: water obstruction and/or encroachment, wetland impacts, or floodplain project by the Commonwealth/political subdivision or public utility?** If "Yes", respond to 5.1-5.7. If "No", skip to Question 6.0.	☐	Yes	☒	No
5.1	**Water Obstruction and Encroachment Projects – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water?**	☐	Yes	☐	No
5.2	**Wetland Impacts – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a wetland?**	☐	Yes	☐	No
5.3	**Floodplain Projects by the Commonwealth, a Political Subdivision of the Commonwealth or a Public Utility – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a floodplain?**	☐	Yes	☐	No
5.4	**Is your project an interstate transmission natural gas pipeline?**	☐	Yes	☐	No

5.5	**Does your project consist of linear construction activities which result in earth disturbance in two or more DEP regions AND three or more counties?**	☐	Yes	☐	No
5.6	**Does your project utilize Floodplain Restoration as a best management practice for Post Construction Stormwater Management?**	☐	Yes	☐	No
5.7	**Does your project utilize Class V Gravity / Injection Wells as a best management practice for Post Construction Stormwater Management?**	☐	Yes	☐	No
6.0	**Will the project involve discharge of construction related stormwater to a dry swale, surface water, ground water or separate storm water system?**	☐	Yes	☒	No
6.1	**Will the project involve discharge of industrial waste stormwater or wastewater from an industrial activity or sewage to a dry swale, surface water, ground water or an existing sanitary sewer system or separate storm water system?**	☐	Yes	☒	No
7.0	**Will the project involve the construction and operation of industrial waste treatment facilities?**	☐	Yes	☒	No
8.0	**Will the project involve construction of sewage treatment facilities, sanitary sewers, or sewage pumping stations?** If "Yes", indicate estimated proposed flow (gal/day). Also, discuss the sanitary sewer pipe sizes and the number of pumping stations/treatment facilities/name of downstream sewage facilities in the *Project Description*, where applicable. **8.0.1 Estimated Proposed Flow (gal/day)**	☐	Yes	☒	No
9.0	**Will the project involve the subdivision of land, or the generation of 800 gpd or more of sewage on an existing parcel of land or the generation of an additional 400 gpd of sewage on an already-developed parcel, or the generation of 800 gpd or more of industrial wastewater that would be discharged to an existing sanitary sewer system?**	☐	Yes	☒	No
	9.0.1 Was Act 537 sewage facilities planning submitted and approved by DEP? If "Yes" attach the approval letter. Approval required prior to 105/NPDES approval.	☐	Yes	☒	No
10.0	**Is this project for the beneficial use of biosolids for land application within Pennsylvania?** If "Yes" indicate how much (i.e. gallons or dry tons per year). **10.0.1 Gallons Per Year (residential septage)** _____ **10.0.2 Dry Tons Per Year (biosolids)**	☐	Yes	☒	No
11.0	**Does the project involve construction, modification or removal of a dam?** If "Yes", identify the dam. **11.0.1 Dam Name**	☐	Yes	☒	No
12.0	**Will the project interfere with the flow from, or otherwise impact, a dam?** If "Yes", identify the dam. **12.0.1 Dam Name**	☐	Yes	☒	No
13.0	**Will the project involve operations (excluding during the construction period) that produce air emissions (i.e., NOX, VOC, etc.)?**	☐	Yes	☒	No
	13.0.1 If "Yes", is the operation subject to the agricultural exemption in 35 P.S. § 4004.1?	☐	Yes	☐	No
	13.0.2 If the answer to 13.0.1 is "No", identify each type of emission followed by the estimated amount of that emission. **Enter all types & amounts of emissions; separate each set with semicolons.**				

14.0	**Does the project include the construction or modification of a drinking water supply to serve 15 or more connections or 25 or more people, at least 60 days out of the year?** If "Yes", check all proposed sub-facilities.	☐	Yes	☒	No
	14.0.1 Number of Persons Served _____				
	14.0.2 Number of Employee/Guests _____				
	14.0.3 Number of Connections _____				
	14.0.4 Sub-Fac: Distribution System	☐	Yes	☐	No
	14.0.5 Sub-Fac: Water Treatment Plant	☐	Yes	☐	No
	14.0.6 Sub-Fac: Source	☐	Yes	☐	No
	14.0.7 Sub-Fac: Pump Station	☐	Yes	☐	No
	14.0.8 Sub Fac: Transmission Main	☐	Yes	☐	No
	14.0.9 Sub-Fac: Storage Facility	☐	Yes	☐	No
15.0	**Will your project include infiltration of storm water or waste water to ground water within one-half mile of a public water supply well, spring or infiltration gallery?**	☐	Yes	☒	No
16.0	**Is your project to be served by an existing public water supply?** If "Yes", indicate name of supplier and attach letter from supplier stating that it will serve the project.	☐	Yes	☒	No
	16.0.1 Supplier's Name _____				
	16.0.2 Letter of Approval from Supplier is Attached	☐	Yes	☐	No
17.0	**Will this project be served by on-lot drinking water wells?**	☐	Yes	☒	No
18.0	**Will this project involve a new or increased drinking water withdrawal from a river, stream, spring, lake, well or other water bod(ies)?** If "Yes", reference Safe Drinking Water Program.	☐	Yes	☒	No
	18.0.1 Source Name				
19.0	**Will the construction or operation of this project involve treatment, storage, reuse, or disposal of waste?** If "Yes", indicate what type (i.e., hazardous, municipal (including infectious & chemotherapeutic), residual) and the amount to be treated, stored, re-used or disposed.	☒	Yes	☐	No
	19.0.1 Type & Amount Hazardous waste storage - see revised Part A application				
20.0	**Will your project involve the removal of coal, minerals, contaminated media, or solid waste as part of any earth disturbance activities?**	☐	Yes	☒	No
21.0	**Does your project involve installation of a field constructed underground storage tank?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit.	☐	Yes	☒	No
	21.0.1 Enter all substances & capacity of each; separate each set with semicolons.				
22.0	**Does your project involve installation of an aboveground storage tank greater than 21,000 gallons capacity at an existing facility?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit.	☐	Yes	☒	No
	22.0.1 Enter all substances & capacity of each; separate each set with semicolons.				
23.0	**Does your project involve installation of a tank greater than 1,100 gallons which will contain a highly hazardous substance as defined in DEP's Regulated Substances List, 2570-BK-DEP2724?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit.	☐	Yes	☒	No
	23.0.1 Enter all substances & capacity of each; separate each set with semicolons.				

24.0	**Does your project involve installation of a storage tank at a new facility with a total AST capacity greater than 21,000 gallons?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit. **24.0.1 Enter all substances & capacity of each; separate each set with semicolons.**	☐	Yes	☒	No

NOTE: If the project includes the installation of a regulated storage tank system, including diesel emergency generator systems, the project may require the use of a Department Certified Tank Handler. For a full list of regulated storage tanks and substances, please go to www.dep.pa.gov search term storage tanks

25.0	**Will the intended activity involve the use of a radiation source?**	☐	Yes	☒	No

CERTIFICATION

I certify that I have the authority to submit this application on behalf of the applicant named herein and that the information provided in this application is true and correct to the best of my knowledge and information.

For applicants supplying an EIN number: I am applying for a permit or authorization from the Pennsylvania Department of Environmental Protection (DEP). As part of this application, I will provide DEP with an accurate EIN number for the applicant entity. By filing this application with DEP, I hereby authorize DEP to confirm the accuracy of the EIN number provided with the Pennsylvania Department of Revenue. As applicant, I further consent to the Department of Revenue discussing the same with DEP prior to issuance of the Commonwealth permit or authorization.

Type or Print Name Stephanie Eggert

Stephanie Eggert	PESRM Authorized Signatory	5/02/2022
Signature	**Title**	**Date**

2510-FM-BWM0227 Rev. 8/2009

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

FORM HW-B
PROFESSIONAL CERTIFICATION
HAZARDOUS WASTE FACILITY CONSTRUCTION, REPAIR OR CLOSURE ACTIVITY OR APPLICATION OR PLAN SUBMITTAL/REVISION

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form HW-B, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: 40 CFR 264.115, 264.196(f), 264.227(d)(2)(ii), 270.11(b), (d), as incorporated by reference at 25 Pa. Code 264a.1 and 270a.1.

SECTION A. SITE IDENTIFIER

Applicant/Permittee: Philadelphia Energy Solutions Refining and Marketing LLC

Site Name: Philadelphia Energy Solutions Refining and Marketing LLC Former Refinery

Facility ID No.: PAD049791098

SECTION B. ACTIVITY

Hazardous Waste Storage/Treatment Facility

- ☐ 1. Secondary containment installation/repair
- ☐ 2. Tank system/component installation
- ☐ 3. Tank system repair
- ☐ 4. Containment building liner system
- ☐ 5. Incinerator component installation/repair
- ☐ 6. Drip pad installation/repair
- ☐ 7. Radioactive monitoring system/revision
- ☒ 8. Partial/Full closure (explain)* _____
- ☐ 9. Other (explain) _____

Hazardous Waste Disposal Facility

- ☐ 1. Groundwater monitoring system**
- ☐ 2. Subbase
- ☐ 3. Secondary liner
- ☐ 4. Leachate detection zone
- ☐ 5. Primary liner
- ☐ 6. Liner system repair
- ☐ 7. Leachate treatment/conveyance facilities
- ☐ 8. Erosion & sedimentation control structures
- ☐ 9. Radioactive monitoring system/revision
- ☐ 10. Roadways
- ☐ 11. Partial/Full closure (explain)* _____
- ☐ 12. Other (explain) _____

Complete the professional engineer certification included in Section D

* For closure certification, complete the professional engineer certification included in Section F. Note that an owner/operator certification meeting 40 CFR 264.115 is also required.

** Complete the professional geologist certification included in Section G for this activity.

A description of the activity and phase or sequence of construction involved included, along with appropriate as-built drawings, plans, photographs and related test results.

SECTION C. APPLICATION OR PLAN SUBMITTAL/REVISION

- ☐ 1. Initial permit application (type) _____
- ☐ 2. Class 1 permit modification request (explain) _____
- ☐ 3. Class 2 permit modification request (explain) _____
- ☐ 4. Class 3 permit modification request (explain) _____
- ☐ 5. Closure/Post-Closure plan modification request (explain) _____

Complete the professional engineer certification included in Section E. Complete the professional geologist certification in Section H as necessary.

SECTION D. PROFESSIONAL ENGINEER CERTIFICATION
For construction activity/repair work

I, _____ being a Registered Professional
(Name – print or type)
Engineer in accordance with the Pennsylvania Professional Engineer's Registration Law do hereby certify to the best of my knowledge, information and belief, that the construction activities and/or repair work noted in Section B of this form was completed in accordance with the documents, statements, designs and plans submitted as part of Permit No. _____ as approved by the Department of Environmental Protection. The construction activities and/or repair work were observed by me or a person under my direct supervision, in a manner consistent with the approved permit or plan. The information contained in the accompanying reports has been prepared in accordance with accepted practice of engineering, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature _____ Date _____
Address _____
_____
_____
_____
License Number _____
Telephone No. (___) _____ Email _____

Professional Seal

SECTION E. PROFESSIONAL ENGINEER CERTIFICATION
For application/plan submittal or revision

I, _____ being a Registered Professional
(Name – print or type)
Engineer in accordance with the Pennsylvania Professional Engineer's Registration Law do hereby certify to the best of my knowledge, information and belief, that the information contained in the accompanying application, plans, specifications and reports has been prepared in accordance with accepted practice of engineering, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature _____ Date _____
Address _____
_____
_____
_____
License Number _____
Telephone No. (___) _____ Email _____

Professional Seal

SECTION F. PROFESSIONAL ENGINEER CERTIFICATION
For closure activity

I, Kristen A.S. Rolison being a Registered Professional
(Name – print or type)
Engineer in accordance with the Pennsylvania Professional Engineer's Registration Law do hereby certify to the best of my knowledge, information and belief, that the closure activities noted in Section B of this form was completed in accordance with the facility's closure plan approved in writing by the Department of Environmental Protection on 11/24/2021 and the rules and regulations codified at 25 Pa. Code Chapters 264a and 265a. The closure work was observed by me or a person under my direct supervision, in a manner consistent with the approved closure plan. The information contained in the accompanying reports has been prepared in accordance with accepted practice of engineering, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature Kristen A.S. Rolison Date 04/27/2022
Address 1040 Andrew Drive
Suite 140
West Chester, PA 19380
License Number PE46706
Telephone No. (610) 407-7909 Email kristen.rolison@stantec.com

Professional Seal

SECTION G. PROFESSIONAL GEOLOGIST CERTIFICATION
For groundwater monitoring system installation or revision

I, _____ being a Registered Professional
(Name – print or type)
Geologist in accordance with the Pennsylvania Professional Geologist's Registration Law do hereby certify to the best of my knowledge, information and belief, that the groundwater monitoring system work noted in Section B of this form was completed in accordance with the documents, statements, designs and plans submitted as part of Permit or Plan No. _____ as approved by the Department of Environmental Protection. The work was observed by me or a person under my direct supervision, in a manner consistent with the approved permit or plan. The information contained in the accompanying reports has been prepared in accordance with accepted practice of geology, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature _____ Date _____
Address _____
_____
_____
_____
License Number _____
Telephone No. (___) _____ Email _____

Professional Seal

SECTION H. PROFESSIONAL GEOLOGIST CERTIFICATION
For application/plan submittal or revision

I, _____ being a Registered Professional
(Name – print or type)
Geologist in accordance with the Pennsylvania Professional Geologist's Registration Law do hereby certify to the best of my knowledge, information and belief, that the information contained in the accompanying application, plans, specifications and reports has been prepared in accordance with accepted practice of geology, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature _____ Date _____
Address _____
_____
_____
_____
License Number _____
Telephone No. (___) _____ Email _____

Professional Seal

Stantec

Photographic Log

Client:	**PESRM**	**Project:**	**Hazardous Waste Closure**
Site Name:	**Former Pt. Breeze Refinery, North Yard**	**Site Location:**	**Philadelphia, PA**

Photograph ID: 1

Photo Location:
Former Pt. Breeze Refinery Hazardous Waste Pad

Direction:
South

Survey Date:
7/1/2021

Comments:
View of locked entrance gate, entrance ramp, and stormwater collection basins which extended along the east side of the pad.

Photograph ID: 2

Photo Location:
Former Pt. Breeze Refinery Hazardous Waste Pad

Direction:
South

Survey Date:
7/1/2021

Comments:
View of the materials stored along the east side, a second gate, and the stormwater collection basins

Stantec

Photographic Log

Client:	**PESRM**	**Project:**	**Hazardous Waste Closure**
Site Name:	**Former Pt. Breeze Refinery, North Yard**	**Site Location:**	**Philadelphia, PA**

Photograph ID: 3

Photo Location:
Former Pt. Breeze Refinery Hazardous Waste Pad

Direction:
South

Survey Date:
7/1/2021

Comments:
View across the pad of the materials stored

Photograph ID: 4

Photo Location:
Former Pt. Breeze Refinery Hazardous Waste Pad

Direction:
West

Survey Date:
8/6/2024

Comments:
View of the area after the concrete pad was removed and the remaining stormwater catch basin

Stantec

Photographic Log

Client:	**PESRM**	**Project:**	**Hazardous Waste Closure**
Site Name:	**Former Pt. Breeze Refinery, North Yard**	**Site Location:**	**Philadelphia, PA**

Photograph ID: 5

Photo Location:
Former Pt. Breeze Refinery Hazardous Waste Pad

Direction:
West

Survey Date:
8/6/2024

Comments:
View of the demolished concrete pile and a remaining stormwater catch basin.

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 410-74446-1
Client Project/Site: NorthStar Sampling

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

Attn: Robert Armstrong

Authorized for release by:
3/15/2022 6:08:12 AM

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

LINKS

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Have a Question? Ask The Expert

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.

Amek Carter

Amek Carter
Project Manager
3/15/2022 6:08:13 AM

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Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
cn	Refer to Case Narrative for further detail
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

Metals

Qualifier	Qualifier Description
B	Analyte was found in the blank.
cn	Refer to Case Narrative for further detail
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.
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.
¤	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
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

Job ID: 410-74446-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative
410-74446-1

Receipt
The sample was received on 3/1/2022 5:54 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.7°C

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

Pesticides
Method 8081B: The following sample was diluted due to the nature of the sample matrix: PB-HAZPAD-CONCRETE-WC-1-2022-2-28 (410-74446-1). Elevated reporting limits (RLs) are provided.

Method 8081B: Tetrachloro-m-xylene (Surr) recovery in the LCS is outside the lower control limit. Since the recovery for the target analyte(s) is within limits, the data is reported.PB-HAZPAD-CONCRETE-WC-1-2022-2-28 (410-74446-1)

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 410-228998 contained Barium 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): PB-HAZPAD-CONCRETE-WC-1-2022-2-28 (410-74446-1)

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: 410-74446-1

Client Sample ID: PB-HAZPAD-CONCRETE-WC-1-2022-2-28 — Lab Sample ID: 410-74446-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.12	B cn	0.050	0.010	mg/L	1		6010C	TCLP
Chromium	0.025	J cn	0.15	0.016	mg/L	1		6010C	TCLP
Total Solids	99		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	1.3		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)	970		610	200	mg/Kg	1	☼	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	10.6		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
HEM (Oil & Grease)	1.7	J !	5.3	1.5	mg/L	1		1664B	ASTM Leach
Total Solids	510	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	510	!	42	14	mg/L	1		2540B-2011	ASTM Leach
Ammonia as N	0.073	J	0.10	0.050	mg/L	1		EPA 350.1	ASTM Leach

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

Job ID: 410-74446-1

Client Sample ID: PB-HAZPAD-CONCRETE-WC-1-2022-2-28

Lab Sample ID: 410-74446-1

Date Collected: 02/28/22 16:39
Matrix: Solid
Date Received: 03/01/22 17:54

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			03/07/22 17:37	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			03/07/22 17:37	20
Chlorobenzene	ND		0.020	0.0060	mg/L			03/07/22 17:37	20
Chloroform	ND		0.020	0.0060	mg/L			03/07/22 17:37	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			03/07/22 17:37	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			03/07/22 17:37	20
2-Butanone	ND		0.20	0.010	mg/L			03/07/22 17:37	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			03/07/22 17:37	20
Trichloroethene	ND		0.020	0.0060	mg/L			03/07/22 17:37	20
Vinyl chloride	ND		0.020	0.0040	mg/L			03/07/22 17:37	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*03/07/22 17:37*	*20*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*03/07/22 17:37*	*20*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*03/07/22 17:37*	*20*
Toluene-d8 (Surr)	*97*		*80 - 120*		*03/07/22 17:37*	*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		03/09/22 19:15	03/10/22 13:19	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		03/09/22 19:15	03/10/22 13:19	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		03/09/22 19:15	03/10/22 13:19	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		03/09/22 19:15	03/10/22 13:19	1
2-Methylphenol	ND		0.010	0.0025	mg/L		03/09/22 19:15	03/10/22 13:19	1
4-Methylphenol	ND		0.010	0.0025	mg/L		03/09/22 19:15	03/10/22 13:19	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		03/09/22 19:15	03/10/22 13:19	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		03/09/22 19:15	03/10/22 13:19	1
Hexachloroethane	ND		0.025	0.0025	mg/L		03/09/22 19:15	03/10/22 13:19	1
Nitrobenzene	ND		0.010	0.0025	mg/L		03/09/22 19:15	03/10/22 13:19	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		03/09/22 19:15	03/10/22 13:19	1
Pyridine	ND		0.025	0.010	mg/L		03/09/22 19:15	03/10/22 13:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*86*		*10 - 150*	*03/09/22 19:15*	*03/10/22 13:19*	*1*
2-Fluorobiphenyl (Surr)	*76*		*44 - 120*	*03/09/22 19:15*	*03/10/22 13:19*	*1*
2-Fluorophenol (Surr)	*44*		*10 - 120*	*03/09/22 19:15*	*03/10/22 13:19*	*1*
Nitrobenzene-d5 (Surr)	*84*		*25 - 125*	*03/09/22 19:15*	*03/10/22 13:19*	*1*
p-Terphenyl-d14 (Surr)	*61*		*37 - 120*	*03/09/22 19:15*	*03/10/22 13:19*	*1*
Phenol-d5 (Surr)	*30*		*10 - 120*	*03/09/22 19:15*	*03/10/22 13:19*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND	cn	0.0010	0.00040	mg/L		03/09/22 19:15	03/10/22 06:57	10
gamma-BHC (Lindane) (1C)	ND	cn	0.00050	0.00010	mg/L		03/09/22 19:15	03/10/22 06:57	10
Heptachlor (1C)	ND	cn	0.00050	0.00020	mg/L		03/09/22 19:15	03/10/22 06:57	10
Heptachlor epoxide (1C)	ND	cn	0.00050	0.00012	mg/L		03/09/22 19:15	03/10/22 06:57	10
Methoxychlor (1C)	ND	cn	0.0050	0.0015	mg/L		03/09/22 19:15	03/10/22 06:57	10
Toxaphene (1C)	ND	cn	0.15	0.050	mg/L		03/09/22 19:15	03/10/22 06:57	10
Chlordane (n.o.s.) (1C)	ND	cn	0.025	0.0080	mg/L		03/09/22 19:15	03/10/22 06:57	10

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

Job ID: 410-74446-1

Client Sample ID: PB-HAZPAD-CONCRETE-WC-1-2022-2-28

Lab Sample ID: 410-74446-1

Date Collected: 02/28/22 16:39

Matrix: Solid

Date Received: 03/01/22 17:54

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr) (2C)	*64*	*cn*	*21 - 130*	*03/09/22 19:15*	*03/10/22 06:57*	*10*
Tetrachloro-m-xylene (Surr) (2C)	*51*	*cn*	*39 - 139*	*03/09/22 19:15*	*03/10/22 06:57*	*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		03/10/22 20:48	03/11/22 16:56	1
2,4-D (1C)	ND		0.050	0.016	mg/L		03/10/22 20:48	03/11/22 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid (Surr) (1C)	*94*		*26 - 136*	*03/10/22 20:48*	*03/11/22 16:56*	*1*
2,4-Dichlorophenylacetic acid (Surr) (2C)	*74*		*26 - 136*	*03/10/22 20:48*	*03/11/22 16:56*	*1*

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	cn	0.30	0.16	mg/L		03/03/22 14:57	03/04/22 14:30	1
Barium	**0.12**	**B cn**	0.050	0.010	mg/L		03/03/22 14:57	03/04/22 14:30	1
Cadmium	ND	cn	0.050	0.010	mg/L		03/03/22 14:57	03/04/22 14:30	1
Chromium	**0.025**	**J cn**	0.15	0.016	mg/L		03/03/22 14:57	03/04/22 14:30	1
Lead	ND	cn	0.15	0.071	mg/L		03/03/22 14:57	03/04/22 14:30	1
Selenium	ND	cn	0.50	0.16	mg/L		03/03/22 14:57	03/04/22 14:30	1
Silver	ND	cn	0.10	0.050	mg/L		03/03/22 14:57	03/04/22 14:30	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		03/03/22 15:01	03/04/22 16:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	**99**		0.10	0.10	%			03/03/22 09:01	1
Total Volatile Solids	**1.3**		0.10	0.10	%			03/03/22 09:01	1
Percent Solids	**99**	**!**	0.10	0.10	%			03/03/22 09:01	1
Ignitable to Air	**No**		1.0	1.0	NONE			03/07/22 17:40	1
Ignitable to Flame	**No**		1.0	1.0	NONE			03/07/22 17:40	1
Ignitable to Friction	**No**		1.0	1.0	NONE			03/07/22 17:40	1
Ignitable to Water	**No**		1.0	1.0	NONE			03/07/22 17:40	1
Cyanide, Reactive	ND		59	20	mg/Kg		03/09/22 06:42	03/10/22 10:51	1
Sulfide, Reactive	ND		160	53	mg/Kg		03/09/22 06:42	03/09/22 12:13	1
Presence of Free Liquid	**No**				No Unit			03/07/22 17:40	1
Percent Moisture	**3.4**	**!**	1.0	1.0	%			03/02/22 10:14	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**10.6**		0.01	0.01	S.U.			03/07/22 13:20	1
Corrosivity	**No**		0.01	0.01	NONE			03/07/22 13:20	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	**1.7**	**J !**	5.3	1.5	mg/L			03/03/22 16:46	1
Total Solids	**510**	**!**	42	14	mg/L			03/07/22 09:30	1
Residue, Total	**510**	**!**	42	14	mg/L			03/07/22 09:30	1

Client Sample ID: PB-HAZPAD-CONCRETE-WC-1-2022-2-28

Lab Sample ID: 410-74446-1

Date Collected: 02/28/22 16:39

Matrix: Solid

Date Received: 03/01/22 17:54

General Chemistry - ASTM Leach (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND	!	75	25	mg/L			03/07/22 08:04	1
Ammonia as N	**0.073**	**J**	0.10	0.050	mg/L			03/10/22 14:33	1

Client Sample ID: PB-HAZPAD-CONCRETE-WC-1-2022-2-28

Lab Sample ID: 410-74446-1

Date Collected: 02/28/22 16:39

Matrix: Solid

Date Received: 03/01/22 17:54

Percent Solids: 96.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		260	26	ug/Kg	☼	03/02/22 15:49	03/04/22 17:07	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*54 - 135*	*03/02/22 15:49*	*03/04/22 17:07*	*50*
4-Bromofluorobenzene (Surr)	*91*		*50 - 131*	*03/02/22 15:49*	*03/04/22 17:07*	*50*
Dibromofluoromethane (Surr)	*92*		*50 - 141*	*03/02/22 15:49*	*03/04/22 17:07*	*50*
Toluene-d8 (Surr)	*95*		*52 - 141*	*03/02/22 15:49*	*03/04/22 17:07*	*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	5.5	ug/Kg	☼	03/10/22 18:14	03/11/22 08:53	1
PCB-1221 (1C)	ND		18	5.5	ug/Kg	☼	03/10/22 18:14	03/11/22 08:53	1
PCB-1232 (1C)	ND		18	5.5	ug/Kg	☼	03/10/22 18:14	03/11/22 08:53	1
PCB-1242 (1C)	ND		18	5.5	ug/Kg	☼	03/10/22 18:14	03/11/22 08:53	1
PCB-1248 (1C)	ND		18	5.5	ug/Kg	☼	03/10/22 18:14	03/11/22 08:53	1
PCB-1254 (1C)	ND		18	6.6	ug/Kg	☼	03/10/22 18:14	03/11/22 08:53	1
PCB-1260 (1C)	ND		18	6.6	ug/Kg	☼	03/10/22 18:14	03/11/22 08:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr) (1C)	*85*		*45 - 143*	*03/10/22 18:14*	*03/11/22 08:53*	*1*
DCB Decachlorobiphenyl (Surr) (2C)	*82*		*45 - 143*	*03/10/22 18:14*	*03/11/22 08:53*	*1*
Tetrachloro-m-xylene (1C)	*79*		*53 - 140*	*03/10/22 18:14*	*03/11/22 08:53*	*1*
Tetrachloro-m-xylene (2C)	*72*		*53 - 140*	*03/10/22 18:14*	*03/11/22 08:53*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	**970**		610	200	mg/Kg	☼	03/03/22 20:37	03/04/22 16:50	1

Surrogate Summary

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

Job ID: 410-74446-1

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(54-135)	(50-131)	(50-141)	(52-141)
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-20	110	91	92	95
LCS 410-230023/5	Lab Control Sample	96	87	92	86
LCSD 410-230023/6	Lab Control Sample Dup	97	86	91	85
MB 410-230023/8	Method Blank	107	90	98	93

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**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
LCS 410-230628/4	Lab Control Sample	100	99	101	99
MB 410-230628/6	Method Blank	100	100	102	99

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**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-20	97	97	101	97
410-74446-1 MS	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	102	99	102	97

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**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	TPHd14	PHL
Lab Sample ID	Client Sample ID	(10-150)	(44-120)	(10-120)	(25-125)	(37-120)	(10-120)
LCS 410-231851/2-A	Lab Control Sample	93	80	50	84	98	33
LCSD 410-231851/3-A	Lab Control Sample Dup	89	80	48	83	98	33
MB 410-231851/1-A	Method Blank	92	72	40	78	100	26

Surrogate Legend

Surrogate Summary

Client: NorthStar Contracting Group, Inc.
Job ID: 410-74446-1
Project/Site: NorthStar Sampling

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

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	TPHd14	PHL
Lab Sample ID	Client Sample ID	(10-150)	(44-120)	(10-120)	(25-125)	(37-120)	(10-120)
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-20	86	76	44	84	61	30

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**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCB2	TCX2
Lab Sample ID	Client Sample ID	(21-130)	(39-139)
LCS 410-231857/2-A	Lab Control Sample	61	31 S1-
LCSD 410-231857/3-A	Lab Control Sample Dup	65	59
MB 410-231857/1-A	Method Blank	57	54

Surrogate Legend

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

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCB2	TCX2
Lab Sample ID	Client Sample ID	(21-130)	(39-139)
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-20	64 cn	51 cn

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**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(45-143)	(45-143)	(53-140)	(53-140)
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-20	85	82	79	72
LCS 410-232334/2-A	Lab Control Sample	92	81	86	78
MB 410-232334/1-A	Method Blank	101	89	94	86

Surrogate Legend

Surrogate Summary

Client: NorthStar Contracting Group, Inc.
Job ID: 410-74446-1
Project/Site: NorthStar Sampling

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

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCPAA1	DCPAA2
Lab Sample ID	Client Sample ID	(26-136)	(26-136)
LCS 410-232422/4-A	Lab Control Sample	102	95
LCSD 410-232422/5-A	Lab Control Sample Dup	101	94
MB 410-232422/1-A	Method Blank	89	73
MB 410-232422/2-A	Method Blank	93	76
MB 410-232422/3-A	Method Blank	76	62

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid (Surr)

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCPAA1	DCPAA2
Lab Sample ID	Client Sample ID	(26-136)	(26-136)
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-20	94	74

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid (Surr)

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

Lab Sample ID: MB 410-230023/8
Matrix: Solid
Analysis Batch: 230023

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			03/04/22 10:34	50

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*54 - 135*		*03/04/22 10:34*	*50*
4-Bromofluorobenzene (Surr)	*90*		*50 - 131*		*03/04/22 10:34*	*50*
Dibromofluoromethane (Surr)	*98*		*50 - 141*		*03/04/22 10:34*	*50*
Toluene-d8 (Surr)	*93*		*52 - 141*		*03/04/22 10:34*	*50*

Lab Sample ID: LCS 410-230023/5
Matrix: Solid
Analysis Batch: 230023

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		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*54 - 135*
4-Bromofluorobenzene (Surr)	*87*		*50 - 131*
Dibromofluoromethane (Surr)	*92*		*50 - 141*
Toluene-d8 (Surr)	*86*		*52 - 141*

Lab Sample ID: LCSD 410-230023/6
Matrix: Solid
Analysis Batch: 230023

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	967		ug/Kg		97	80 - 120	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*54 - 135*
4-Bromofluorobenzene (Surr)	*86*		*50 - 131*
Dibromofluoromethane (Surr)	*91*		*50 - 141*
Toluene-d8 (Surr)	*85*		*52 - 141*

Lab Sample ID: MB 410-230628/6
Matrix: Solid
Analysis Batch: 230628

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			03/07/22 10:53	1
Carbon tetrachloride	ND		0.0010	0.00030	mg/L			03/07/22 10:53	1
Chlorobenzene	ND		0.0010	0.00030	mg/L			03/07/22 10:53	1
Chloroform	ND		0.0010	0.00030	mg/L			03/07/22 10:53	1
1,2-Dichloroethane	ND		0.0010	0.00030	mg/L			03/07/22 10:53	1
1,1-Dichloroethene	ND		0.0010	0.00030	mg/L			03/07/22 10:53	1
2-Butanone	ND		0.010	0.00050	mg/L			03/07/22 10:53	1
Tetrachloroethene	ND		0.0010	0.00030	mg/L			03/07/22 10:53	1
Trichloroethene	ND		0.0010	0.00030	mg/L			03/07/22 10:53	1

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

Lab Sample ID: MB 410-230628/6
Matrix: Solid
Analysis Batch: 230628

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.0010	0.00020	mg/L			03/07/22 10:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*03/07/22 10:53*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*03/07/22 10:53*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*03/07/22 10:53*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/07/22 10:53*	*1*

Lab Sample ID: LCS 410-230628/4
Matrix: Solid
Analysis Batch: 230628

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	0.0198		mg/L		99	80 - 120
1,2-Dichloroethane	0.0200	0.0200		mg/L		100	73 - 124
1,1-Dichloroethene	0.0200	0.0213		mg/L		106	80 - 131
2-Butanone	0.250	0.252		mg/L		101	59 - 135
Trichloroethene	0.0200	0.0201		mg/L		101	80 - 120
Vinyl chloride	0.0200	0.0198		mg/L		99	56 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: 410-74446-1 MS
Matrix: Solid
Analysis Batch: 230628

Client Sample ID: PB-HAZPAD-CONCRETE-WC-1-2022-2-28
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		0.400	0.446		mg/L		112	80 - 120
1,2-Dichloroethane	ND		0.400	0.433		mg/L		108	73 - 124
1,1-Dichloroethene	ND		0.400	0.503		mg/L		126	80 - 131
2-Butanone	ND		5.00	5.08		mg/L		102	59 - 135
Trichloroethene	ND		0.400	0.455		mg/L		114	80 - 120
Vinyl chloride	ND		0.400	0.416		mg/L		104	56 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*97*		*80 - 120*

QC Sample Results

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

Job ID: 410-74446-1

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

Lab Sample ID: MB 410-231851/1-A
Matrix: Solid
Analysis Batch: 232031

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 231851

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		03/09/22 19:15	03/10/22 10:22	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		03/09/22 19:15	03/10/22 10:22	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		03/09/22 19:15	03/10/22 10:22	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		03/09/22 19:15	03/10/22 10:22	1
2-Methylphenol	ND		0.010	0.0025	mg/L		03/09/22 19:15	03/10/22 10:22	1
4-Methylphenol	ND		0.010	0.0025	mg/L		03/09/22 19:15	03/10/22 10:22	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		03/09/22 19:15	03/10/22 10:22	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		03/09/22 19:15	03/10/22 10:22	1
Hexachloroethane	ND		0.025	0.0025	mg/L		03/09/22 19:15	03/10/22 10:22	1
Nitrobenzene	ND		0.010	0.0025	mg/L		03/09/22 19:15	03/10/22 10:22	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		03/09/22 19:15	03/10/22 10:22	1
Pyridine	ND		0.025	0.010	mg/L		03/09/22 19:15	03/10/22 10:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*92*		*10 - 150*	*03/09/22 19:15*	*03/10/22 10:22*	*1*
2-Fluorobiphenyl (Surr)	*72*		*44 - 120*	*03/09/22 19:15*	*03/10/22 10:22*	*1*
2-Fluorophenol (Surr)	*40*		*10 - 120*	*03/09/22 19:15*	*03/10/22 10:22*	*1*
Nitrobenzene-d5 (Surr)	*78*		*25 - 125*	*03/09/22 19:15*	*03/10/22 10:22*	*1*
p-Terphenyl-d14 (Surr)	*100*		*37 - 120*	*03/09/22 19:15*	*03/10/22 10:22*	*1*
Phenol-d5 (Surr)	*26*		*10 - 120*	*03/09/22 19:15*	*03/10/22 10:22*	*1*

Lab Sample ID: LCS 410-231851/2-A
Matrix: Solid
Analysis Batch: 232031

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 231851

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	0.250	0.191		mg/L		76	40 - 120
2,4,5-Trichlorophenol	0.250	0.264		mg/L		106	70 - 124
2,4,6-Trichlorophenol	0.250	0.262		mg/L		105	63 - 120
2,4-Dinitrotoluene	0.250	0.262		mg/L		105	71 - 124
2-Methylphenol	0.250	0.213		mg/L		85	58 - 120
4-Methylphenol	0.250	0.185		mg/L		74	49 - 120
Hexachlorobenzene	0.250	0.253		mg/L		101	65 - 120
Hexachlorobutadiene	0.250	0.200		mg/L		80	24 - 120
Hexachloroethane	0.250	0.176		mg/L		70	27 - 120
Nitrobenzene	0.250	0.232		mg/L		93	59 - 120
Pentachlorophenol	0.500	0.575		mg/L		115	56 - 135
Pyridine	0.500	0.296		mg/L		59	23 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*93*		*10 - 150*
2-Fluorobiphenyl (Surr)	*80*		*44 - 120*
2-Fluorophenol (Surr)	*50*		*10 - 120*
Nitrobenzene-d5 (Surr)	*84*		*25 - 125*
p-Terphenyl-d14 (Surr)	*98*		*37 - 120*
Phenol-d5 (Surr)	*33*		*10 - 120*

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

Lab Sample ID: LCSD 410-231851/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 232031 — **Prep Batch: 231851**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene	0.250	0.186		mg/L		74	40 - 120	3	30
2,4,5-Trichlorophenol	0.250	0.252		mg/L		101	70 - 124	5	30
2,4,6-Trichlorophenol	0.250	0.260		mg/L		104	63 - 120	1	30
2,4-Dinitrotoluene	0.250	0.253		mg/L		101	71 - 124	3	30
2-Methylphenol	0.250	0.201		mg/L		81	58 - 120	6	30
4-Methylphenol	0.250	0.183		mg/L		73	49 - 120	1	30
Hexachlorobenzene	0.250	0.250		mg/L		100	65 - 120	1	30
Hexachlorobutadiene	0.250	0.203		mg/L		81	24 - 120	1	30
Hexachloroethane	0.250	0.167		mg/L		67	27 - 120	5	30
Nitrobenzene	0.250	0.238		mg/L		95	59 - 120	3	30
Pentachlorophenol	0.500	0.545		mg/L		109	56 - 135	5	30
Pyridine	0.500	0.295		mg/L		59	23 - 120	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*89*		*10 - 150*
2-Fluorobiphenyl (Surr)	*80*		*44 - 120*
2-Fluorophenol (Surr)	*48*		*10 - 120*
Nitrobenzene-d5 (Surr)	*83*		*25 - 125*
p-Terphenyl-d14 (Surr)	*98*		*37 - 120*
Phenol-d5 (Surr)	*33*		*10 - 120*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 410-231857/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 231988 — **Prep Batch: 231857**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.00010	0.000040	mg/L		03/09/22 19:15	03/10/22 06:08	1
gamma-BHC (Lindane) (1C)	ND		0.000050	0.000010	mg/L		03/09/22 19:15	03/10/22 06:08	1
Heptachlor (1C)	ND		0.000050	0.000020	mg/L		03/09/22 19:15	03/10/22 06:08	1
Heptachlor epoxide (1C)	ND		0.000050	0.000012	mg/L		03/09/22 19:15	03/10/22 06:08	1
Methoxychlor (1C)	ND		0.00050	0.00015	mg/L		03/09/22 19:15	03/10/22 06:08	1
Toxaphene (1C)	ND		0.015	0.0050	mg/L		03/09/22 19:15	03/10/22 06:08	1
Chlordane (n.o.s.) (1C)	ND		0.0025	0.00080	mg/L		03/09/22 19:15	03/10/22 06:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr) (2C)	*57*		*21 - 130*	*03/09/22 19:15*	*03/10/22 06:08*	*1*
Tetrachloro-m-xylene (Surr) (2C)	*54*		*39 - 139*	*03/09/22 19:15*	*03/10/22 06:08*	*1*

Lab Sample ID: LCS 410-231857/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 231988 — **Prep Batch: 231857**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Endrin (1C)	0.000126	0.0000981	J	mg/L		78	60 - 151
gamma-BHC (Lindane) (1C)	0.000252	0.000179		mg/L		71	51 - 132
Heptachlor (1C)	0.000252	0.000152		mg/L		60	24 - 133

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

Lab Sample ID: LCS 410-231857/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 231988 — **Prep Batch: 231857**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Heptachlor epoxide (1C)			0.000377	0.000293		mg/L		78	56 - 132		
Methoxychlor (1C)			0.00100	0.00102		mg/L		101	58 - 165		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr) (2C)	*61*		*21 - 130*
Tetrachloro-m-xylene (Surr) (2C)	*31*	*S1-*	*39 - 139*

Lab Sample ID: LCSD 410-231857/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 231988 — **Prep Batch: 231857**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Endrin (1C)			0.000126	0.000115		mg/L		91	60 - 151	16	30
gamma-BHC (Lindane) (1C)			0.000252	0.000212		mg/L		84	51 - 132	17	30
Heptachlor (1C)			0.000252	0.000199		mg/L		79	24 - 133	27	30
Heptachlor epoxide (1C)			0.000377	0.000346		mg/L		92	56 - 132	17	30
Methoxychlor (1C)			0.00100	0.00118		mg/L		117	58 - 165	14	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr) (2C)	*65*		*21 - 130*
Tetrachloro-m-xylene (Surr) (2C)	*59*		*39 - 139*

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

Lab Sample ID: MB 410-232334/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 232628 — **Prep Batch: 232334**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		17	5.3	ug/Kg		03/10/22 18:14	03/11/22 08:01	1
PCB-1221 (1C)	ND		17	5.3	ug/Kg		03/10/22 18:14	03/11/22 08:01	1
PCB-1232 (1C)	ND		17	5.3	ug/Kg		03/10/22 18:14	03/11/22 08:01	1
PCB-1242 (1C)	ND		17	5.3	ug/Kg		03/10/22 18:14	03/11/22 08:01	1
PCB-1248 (1C)	ND		17	5.3	ug/Kg		03/10/22 18:14	03/11/22 08:01	1
PCB-1254 (1C)	ND		17	6.4	ug/Kg		03/10/22 18:14	03/11/22 08:01	1
PCB-1260 (1C)	ND		17	6.4	ug/Kg		03/10/22 18:14	03/11/22 08:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr) (1C)	*101*		*45 - 143*	*03/10/22 18:14*	*03/11/22 08:01*	*1*
DCB Decachlorobiphenyl (Surr) (2C)	*89*		*45 - 143*	*03/10/22 18:14*	*03/11/22 08:01*	*1*
Tetrachloro-m-xylene (1C)	*94*		*53 - 140*	*03/10/22 18:14*	*03/11/22 08:01*	*1*
Tetrachloro-m-xylene (2C)	*86*		*53 - 140*	*03/10/22 18:14*	*03/11/22 08:01*	*1*

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

Lab Sample ID: LCS 410-232334/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 232628 — **Prep Batch: 232334**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016 (1C)	167	139		ug/Kg		83	68 - 121
PCB-1260 (1C)	168	165		ug/Kg		98	75 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr) (1C)	*92*		*45 - 143*
DCB Decachlorobiphenyl (Surr) (2C)	*81*		*45 - 143*
Tetrachloro-m-xylene (1C)	*86*		*53 - 140*
Tetrachloro-m-xylene (2C)	*78*		*53 - 140*

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 410-232422/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 232520 — **Prep Batch: 232422**

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		03/10/22 20:15	03/11/22 09:52	1
2,4-D (1C)	ND		0.050	0.016	mg/L		03/10/22 20:15	03/11/22 09:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid (Surr) (1C)	*89*		*26 - 136*	*03/10/22 20:15*	*03/11/22 09:52*	*1*
2,4-Dichlorophenylacetic acid (Surr) (2C)	*73*		*26 - 136*	*03/10/22 20:15*	*03/11/22 09:52*	*1*

Lab Sample ID: MB 410-232422/2-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 232520 — **Prep Batch: 232422**

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		03/10/22 20:15	03/11/22 10:27	1
2,4-D (1C)	ND		0.050	0.016	mg/L		03/10/22 20:15	03/11/22 10:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid (Surr) (1C)	*93*		*26 - 136*	*03/10/22 20:15*	*03/11/22 10:27*	*1*
2,4-Dichlorophenylacetic acid (Surr) (2C)	*76*		*26 - 136*	*03/10/22 20:15*	*03/11/22 10:27*	*1*

Lab Sample ID: MB 410-232422/3-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 232520 — **Prep Batch: 232422**

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		03/10/22 20:15	03/11/22 11:03	1
2,4-D (1C)	ND		0.050	0.016	mg/L		03/10/22 20:15	03/11/22 11:03	1

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

Lab Sample ID: MB 410-232422/3-A
Matrix: Solid
Analysis Batch: 232520

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 232422

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid (Surr) (1C)	*76*		*26 - 136*	*03/10/22 20:15*	*03/11/22 11:03*	*1*
2,4-Dichlorophenylacetic acid (Surr) (2C)	*62*		*26 - 136*	*03/10/22 20:15*	*03/11/22 11:03*	*1*

Lab Sample ID: LCS 410-232422/4-A
Matrix: Solid
Analysis Batch: 232520

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 232422

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Silvex (2,4,5-TP) (2C)			0.00500	0.00558		mg/L		112	58 - 148		
2,4-D (2C)			0.0501	0.0484	J	mg/L		97	42 - 147		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid (Surr) (1C)	*102*		*26 - 136*
2,4-Dichlorophenylacetic acid (Surr) (2C)	*95*		*26 - 136*

Lab Sample ID: LCSD 410-232422/5-A
Matrix: Solid
Analysis Batch: 232520

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 232422

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silvex (2,4,5-TP) (2C)			0.00500	0.00556		mg/L		111	58 - 148	0	30
2,4-D (2C)			0.0501	0.0468	J	mg/L		93	42 - 147	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid (Surr) (1C)	*101*		*26 - 136*
2,4-Dichlorophenylacetic acid (Surr) (2C)	*94*		*26 - 136*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 410-229789/1-A
Matrix: Solid
Analysis Batch: 230273

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 229789

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.30	0.16	mg/L		03/03/22 14:57	03/04/22 13:46	1
Barium	ND		0.050	0.010	mg/L		03/03/22 14:57	03/04/22 13:46	1
Cadmium	ND		0.050	0.010	mg/L		03/03/22 14:57	03/04/22 13:46	1
Chromium	ND		0.15	0.016	mg/L		03/03/22 14:57	03/04/22 13:46	1
Lead	ND		0.15	0.071	mg/L		03/03/22 14:57	03/04/22 13:46	1
Selenium	ND		0.50	0.16	mg/L		03/03/22 14:57	03/04/22 13:46	1
Silver	ND		0.10	0.050	mg/L		03/03/22 14:57	03/04/22 13:46	1

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

Lab Sample ID: LCS 410-229789/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total Recoverable**
Analysis Batch: 230273 — **Prep Batch: 229789**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	5.00	5.10		mg/L		102	80 - 120
Barium	5.00	5.04		mg/L		101	80 - 120
Cadmium	0.500	0.504		mg/L		101	80 - 120
Chromium	5.00	5.11		mg/L		102	80 - 120
Lead	0.500	0.502		mg/L		100	80 - 120
Selenium	1.00	1.09		mg/L		109	80 - 120
Silver	0.500	0.523		mg/L		105	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 410-229792/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 230320 — **Prep Batch: 229792**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		03/03/22 15:01	03/04/22 14:38	1

Lab Sample ID: LCS 410-229792/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 230320 — **Prep Batch: 229792**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00100	0.000893		mg/L		89	80 - 118

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 410-229853/1 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 229853

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		5.0	1.4	mg/L			03/03/22 16:46	1

Lab Sample ID: LCS 410-229853/2 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 229853

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM (Oil & Grease)	40.0	33.9		mg/L		85	78 - 114

Lab Sample ID: LCSD 410-229853/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 229853

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	38.0		mg/L		95	78 - 114	11	13

Method: 1664B - HEM and SGT-HEM (Continued)

Lab Sample ID: LB 410-229016/1-D — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: ASTM Leach**
Analysis Batch: 229853

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		5.4	1.5	mg/L			03/03/22 16:46	1

Method: 2540B-2011 - Solids, Total

Lab Sample ID: MB 410-230738/1 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 230738

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	ND		42	14	mg/L			03/07/22 09:30	1
Residue, Total	ND		42	14	mg/L			03/07/22 09:30	1

Lab Sample ID: LCS 410-230738/2 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 230738

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Solids	200	207		mg/L		104	91 - 112
Residue, Total	200	207		mg/L		104	91 - 112

Lab Sample ID: LCSD 410-230738/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 230738

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Solids	200	206		mg/L		103	91 - 112	0	3
Residue, Total	200	206		mg/L		103	91 - 112	0	3

Lab Sample ID: LB 410-229016/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: ASTM Leach**
Analysis Batch: 230738

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	ND		42	14	mg/L			03/07/22 09:30	1
Residue, Total	ND		42	14	mg/L			03/07/22 09:30	1

Method: 2540G-2011 - Total, Fixed, and Volatile Solids

Lab Sample ID: LCS 410-229581/1 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 229581

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Solids	10.5	10.6		%		101	94 - 108
Percent Solids	10.5	10.6		%		101	94 - 108

QC Sample Results

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

Job ID: 410-74446-1

Method: 410.4 - COD

Lab Sample ID: MB 410-230783/4 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 230783

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		75	25	mg/L			03/07/22 08:04	1

Lab Sample ID: LCS 410-230783/5 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 230783

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	500	502		mg/L		100	94 - 110

Lab Sample ID: LCSD 410-230783/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 230783

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	500	504		mg/L		101	94 - 110	0	5

Lab Sample ID: LB 410-229016/1-B — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: ASTM Leach**
Analysis Batch: 230783

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		75	25	mg/L			03/07/22 08:04	1

Method: 9012 - Cyanide, Reactive

Lab Sample ID: MB 410-231544/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 232188 — **Prep Batch: 231544**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Reactive	ND		60	20	mg/Kg		03/09/22 06:42	03/10/22 10:44	1

Lab Sample ID: LCS 410-231544/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 232188 — **Prep Batch: 231544**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Reactive	965	ND		mg/Kg		2	0 - 5.14

Method: 9034 - Sulfide, Reactive

Lab Sample ID: MB 410-231544/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 231720 — **Prep Batch: 231544**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	ND		160	54	mg/Kg		03/09/22 06:42	03/09/22 12:13	1

Method: 9034 - Sulfide, Reactive (Continued)

Lab Sample ID: LCS 410-231544/25-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 231720 — **Prep Batch: 231544**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Reactive	539	431		mg/Kg		80	56 - 104

Method: 9045D - pH

Lab Sample ID: LCS 410-230785/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 230817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	6.9		S.U.		99	95 - 105

Method: 9095B - Paint Filter

Lab Sample ID: MB 410-230944/1 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 230944

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Presence of Free Liquid	No				No Unit			03/07/22 17:40	1

Method: EPA 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 410-232333/17 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 232333

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.10	0.050	mg/L			03/10/22 12:41	1

Lab Sample ID: MB 410-232333/52 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 232333

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.10	0.050	mg/L			03/10/22 13:54	1

Lab Sample ID: LCS 410-232333/50 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 232333

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	3.00	3.13		mg/L		104	90 - 110

Lab Sample ID: LCSD 410-232333/51 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 232333

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia as N	3.00	3.10		mg/L		103	90 - 110	1	15

QC Association Summary

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

Job ID: 410-74446-1

GC/MS VOA

Leach Batch: 229228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	1311	
410-74446-1 MS	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	1311	

Prep Batch: 229329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Total/NA	Solid	5030C	

Analysis Batch: 230023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Total/NA	Solid	8260C	229329
MB 410-230023/8	Method Blank	Total/NA	Solid	8260C	
LCS 410-230023/5	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 410-230023/6	Lab Control Sample Dup	Total/NA	Solid	8260C	

Analysis Batch: 230628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	8260C	229228
MB 410-230628/6	Method Blank	Total/NA	Solid	8260C	
LCS 410-230628/4	Lab Control Sample	Total/NA	Solid	8260C	
410-74446-1 MS	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	8260C	229228

GC/MS Semi VOA

Leach Batch: 228998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	1311	

Prep Batch: 231851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	3510C	228998
MB 410-231851/1-A	Method Blank	Total/NA	Solid	3510C	
LCS 410-231851/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 410-231851/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	

Analysis Batch: 232031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	8270D	231851
MB 410-231851/1-A	Method Blank	Total/NA	Solid	8270D	231851
LCS 410-231851/2-A	Lab Control Sample	Total/NA	Solid	8270D	231851
LCSD 410-231851/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	231851

GC Semi VOA

Leach Batch: 228998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	1311	

Prep Batch: 231857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	3510C	228998
MB 410-231857/1-A	Method Blank	Total/NA	Solid	3510C	
LCS 410-231857/2-A	Lab Control Sample	Total/NA	Solid	3510C	

GC Semi VOA (Continued)

Prep Batch: 231857 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 410-231857/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	

Analysis Batch: 231988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	8081B	231857
MB 410-231857/1-A	Method Blank	Total/NA	Solid	8081B	231857
LCS 410-231857/2-A	Lab Control Sample	Total/NA	Solid	8081B	231857
LCSD 410-231857/3-A	Lab Control Sample Dup	Total/NA	Solid	8081B	231857

Prep Batch: 232334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Total/NA	Solid	3546	
MB 410-232334/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-232334/2-A	Lab Control Sample	Total/NA	Solid	3546	

Prep Batch: 232422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	8151A	228998
MB 410-232422/1-A	Method Blank	Total/NA	Solid	8151A	
MB 410-232422/2-A	Method Blank	Total/NA	Solid	8151A	
MB 410-232422/3-A	Method Blank	Total/NA	Solid	8151A	
LCS 410-232422/4-A	Lab Control Sample	Total/NA	Solid	8151A	
LCSD 410-232422/5-A	Lab Control Sample Dup	Total/NA	Solid	8151A	

Analysis Batch: 232520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	8151A	232422
MB 410-232422/1-A	Method Blank	Total/NA	Solid	8151A	232422
MB 410-232422/2-A	Method Blank	Total/NA	Solid	8151A	232422
MB 410-232422/3-A	Method Blank	Total/NA	Solid	8151A	232422
LCS 410-232422/4-A	Lab Control Sample	Total/NA	Solid	8151A	232422
LCSD 410-232422/5-A	Lab Control Sample Dup	Total/NA	Solid	8151A	232422

Analysis Batch: 232628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Total/NA	Solid	8082A	232334
MB 410-232334/1-A	Method Blank	Total/NA	Solid	8082A	232334
LCS 410-232334/2-A	Lab Control Sample	Total/NA	Solid	8082A	232334

Metals

Leach Batch: 228998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	1311	

Prep Batch: 229789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	3005A	228998
MB 410-229789/1-A	Method Blank	Total Recoverable	Solid	3005A	
LCS 410-229789/2-A	Lab Control Sample	Total Recoverable	Solid	3005A	

QC Association Summary

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

Job ID: 410-74446-1

Metals

Prep Batch: 229792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	7470A	228998
MB 410-229792/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 410-229792/2-A	Lab Control Sample	Total/NA	Solid	7470A	

Analysis Batch: 230273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	6010C	229789
MB 410-229789/1-A	Method Blank	Total Recoverable	Solid	6010C	229789
LCS 410-229789/2-A	Lab Control Sample	Total Recoverable	Solid	6010C	229789

Analysis Batch: 230320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	TCLP	Solid	7470A	229792
MB 410-229792/1-A	Method Blank	Total/NA	Solid	7470A	229792
LCS 410-229792/2-A	Lab Control Sample	Total/NA	Solid	7470A	229792

General Chemistry

Leach Batch: 229016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	ASTM Leach	Solid	D3987-85	
LB 410-229016/1-A	Method Blank	ASTM Leach	Solid	D3987-85	
LB 410-229016/1-B	Method Blank	ASTM Leach	Solid	D3987-85	
LB 410-229016/1-D	Method Blank	ASTM Leach	Solid	D3987-85	

Analysis Batch: 229161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Total/NA	Solid	Moisture	

Analysis Batch: 229581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Total/NA	Solid	2540G-2011	
LCS 410-229581/1	Lab Control Sample	Total/NA	Solid	2540G-2011	

Analysis Batch: 229853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	ASTM Leach	Solid	1664B	229016
LB 410-229016/1-D	Method Blank	ASTM Leach	Solid	1664B	229016
MB 410-229853/1	Method Blank	Total/NA	Solid	1664B	
LCS 410-229853/2	Lab Control Sample	Total/NA	Solid	1664B	
LCSD 410-229853/3	Lab Control Sample Dup	Total/NA	Solid	1664B	

Prep Batch: 229927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Total/NA	Solid	9071B	

Analysis Batch: 230311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Total/NA	Solid	9071B	229927

QC Association Summary

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

Job ID: 410-74446-1

General Chemistry

Analysis Batch: 230738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	ASTM Leach	Solid	2540B-2011	229016
LB 410-229016/1-A	Method Blank	ASTM Leach	Solid	2540B-2011	229016
MB 410-230738/1	Method Blank	Total/NA	Solid	2540B-2011	
LCS 410-230738/2	Lab Control Sample	Total/NA	Solid	2540B-2011	
LCSD 410-230738/3	Lab Control Sample Dup	Total/NA	Solid	2540B-2011	

Analysis Batch: 230783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	ASTM Leach	Solid	410.4	229016
LB 410-229016/1-B	Method Blank	ASTM Leach	Solid	410.4	229016
MB 410-230783/4	Method Blank	Total/NA	Solid	410.4	
LCS 410-230783/5	Lab Control Sample	Total/NA	Solid	410.4	
LCSD 410-230783/6	Lab Control Sample Dup	Total/NA	Solid	410.4	

Leach Batch: 230785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Soluble	Solid	DI Leach	
LCS 410-230785/1-A	Lab Control Sample	Soluble	Solid	DI Leach	

Analysis Batch: 230817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Soluble	Solid	9045D	230785
LCS 410-230785/1-A	Lab Control Sample	Soluble	Solid	9045D	230785

Analysis Batch: 230942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Total/NA	Solid	261.21	

Analysis Batch: 230944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Total/NA	Solid	9095B	
MB 410-230944/1	Method Blank	Total/NA	Solid	9095B	

Prep Batch: 231544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Total/NA	Solid	7.3.4	
MB 410-231544/1-A	Method Blank	Total/NA	Solid	7.3.4	
LCS 410-231544/25-A	Lab Control Sample	Total/NA	Solid	7.3.4	
LCS 410-231544/2-A	Lab Control Sample	Total/NA	Solid	7.3.4	

Analysis Batch: 231720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Total/NA	Solid	9034	231544
MB 410-231544/1-A	Method Blank	Total/NA	Solid	9034	231544
LCS 410-231544/25-A	Lab Control Sample	Total/NA	Solid	9034	231544

Analysis Batch: 232188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Total/NA	Solid	9012	231544
MB 410-231544/1-A	Method Blank	Total/NA	Solid	9012	231544
LCS 410-231544/2-A	Lab Control Sample	Total/NA	Solid	9012	231544

QC Association Summary

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

Job ID: 410-74446-1

General Chemistry

Analysis Batch: 232333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	ASTM Leach	Solid	EPA 350.1	229016
MB 410-232333/17	Method Blank	Total/NA	Solid	EPA 350.1	
MB 410-232333/52	Method Blank	Total/NA	Solid	EPA 350.1	
LCS 410-232333/50	Lab Control Sample	Total/NA	Solid	EPA 350.1	
LCSD 410-232333/51	Lab Control Sample Dup	Total/NA	Solid	EPA 350.1	

Lab Chronicle

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

Job ID: 410-74446-1

Client Sample ID: PB-HAZPAD-CONCRETE-WC-1-2022-2-28

Lab Sample ID: 410-74446-1

Date Collected: 02/28/22 16:39
Matrix: Solid
Date Received: 03/01/22 17:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			229228	03/02/22 14:55	UNWS	ELLE
TCLP	Analysis	8260C		20	230628	03/07/22 17:37	ULCP	ELLE
TCLP	Leach	1311			228998	03/02/22 11:30	UNWS	ELLE
TCLP	Prep	3510C			231851	03/09/22 19:15	L2TS	ELLE
TCLP	Analysis	8270D		1	232031	03/10/22 13:19	DZ6A	ELLE
TCLP	Leach	1311			228998	03/02/22 11:30	UNWS	ELLE
TCLP	Prep	3510C			231857	03/09/22 19:15	L2TS	ELLE
TCLP	Analysis	8081B		10	231988	03/10/22 06:57	UAMZ	ELLE
TCLP	Leach	1311			228998	03/02/22 11:30	UNWS	ELLE
TCLP	Prep	8151A			232422	03/10/22 20:48	K2IL	ELLE
TCLP	Analysis	8151A		1	232520	03/11/22 16:56	UAMZ	ELLE
TCLP	Leach	1311			228998	03/02/22 11:30	UNWS	ELLE
TCLP	Prep	3005A			229789	03/03/22 14:57	UAMX	ELLE
TCLP	Analysis	6010C		1	230273	03/04/22 14:30	WBK6	ELLE
TCLP	Leach	1311			228998	03/02/22 11:30	UNWS	ELLE
TCLP	Prep	7470A			229792	03/03/22 15:01	N2PU	ELLE
TCLP	Analysis	7470A		1	230320	03/04/22 16:53	UEFS	ELLE
ASTM Leach	Leach	D3987-85			229016	03/02/22 11:30	UNWS	ELLE
ASTM Leach	Analysis	1664B		1	229853	03/03/22 16:46	QT6L	ELLE
ASTM Leach	Leach	D3987-85			229016	03/02/22 11:30	UNWS	ELLE
ASTM Leach	Analysis	2540B-2011		1	230738	03/07/22 09:30	M98K	ELLE
Total/NA	Analysis	2540G-2011		1	229581	03/03/22 09:01	M98K	ELLE
Total/NA	Analysis	261.21		1	230942	03/07/22 17:40	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			229016	03/02/22 11:30	UNWS	ELLE
ASTM Leach	Analysis	410.4		1	230783	03/07/22 08:04	USAE	ELLE
Total/NA	Prep	7.3.4			231544	03/09/22 06:42	USE1	ELLE
Total/NA	Analysis	9012		1	232188	03/10/22 10:51	JCG7	ELLE
Total/NA	Prep	7.3.4			231544	03/09/22 06:42	USE1	ELLE
Total/NA	Analysis	9034		1	231720	03/09/22 12:13	USE1	ELLE
Soluble	Leach	DI Leach			230785	03/07/22 11:06	F8TI	ELLE
Soluble	Analysis	9045D		1	230817	03/07/22 13:20	F8TI	ELLE
Total/NA	Analysis	9095B		1	230944	03/07/22 17:40	DI9Q	ELLE
ASTM Leach	Leach	D3987-85			229016	03/02/22 11:30	UNWS	ELLE
ASTM Leach	Analysis	EPA 350.1		1	232333	03/10/22 14:33	JCG7	ELLE
Total/NA	Analysis	Moisture		1	229161	03/02/22 10:14	UVJN	ELLE

Client Sample ID: PB-HAZPAD-CONCRETE-WC-1-2022-2-28

Lab Sample ID: 410-74446-1

Date Collected: 02/28/22 16:39
Matrix: Solid
Date Received: 03/01/22 17:54
Percent Solids: 96.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			229329	03/02/22 15:49	D8NM	ELLE
Total/NA	Analysis	8260C		50	230023	03/04/22 17:07	UCB5	ELLE
Total/NA	Prep	3546			232334	03/10/22 18:14	D7SW	ELLE
Total/NA	Analysis	8082A		1	232628	03/11/22 08:53	JC94	ELLE

Lab Chronicle

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

Job ID: 410-74446-1

Client Sample ID: PB-HAZPAD-CONCRETE-WC-1-2022-2-28

Lab Sample ID: 410-74446-1

Date Collected: 02/28/22 16:39

Matrix: Solid

Date Received: 03/01/22 17:54

Percent Solids: 96.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9071B			229927	03/03/22 20:37	QT6L	ELLE
Total/NA	Analysis	9071B		1	230311	03/04/22 16:50	QT6L	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: 410-74446-1

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	01-31-23

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
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: 410-74446-1

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
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: 410-74446-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-74446-1	PB-HAZPAD-CONCRETE-WC-1-2022-2-28	Solid	02/28/22 16:39	03/01/22 17:54

410-74446-01 Chain of Custody

CHAIN OF CUSTODY

Page 1 of 1

Lab LIMS No:

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:

LAB USE ONLY:

___ Ascorbic/HCL Vials # ___ HCl Vials
___ $Na_2S_2O_3$ ___
___ Na OH/Zn acetate pH ___
___ HNO_3 pH ___
___ H_2SO_4 pH ___
___ NaOH pH ___
___ Unpreserved
___ HCl # ___ NH4Cl # ___ MeOH
___ DI Water

MATRIX CODES

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 Date	Collection Military Time	GRAB	COMP	Matrix Code	Number of Containers Total	H_2SO_4	HCl	Vials	HNO_3	NaOH	ZnAc	UNPRE	BACT	ANALYSIS REQUESTED	Field pH, Temp (°C), DO, Cl2, Cond. etc.
PB-HAZPAD-CONCRETE-WC-1-2022-2-28	2/28/22	1639		X	SOL	5							X		Table A Parameters & Total Benzene	

SAMPLED BY: (Name/Company) Josh Suboyu / NorthStar
BCB Armstrong

TAT: ☑ STANDARD (10 DAY)
or DUE DATE ___/___/___

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

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

Field Parameters Analyzed By:
Initials | Date/Time:

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
1.	03/01/22	1249	1.	3/1/22	1249
RELINQUISHED BY 2.	DATE 3/1/22	TIME 1749	RECEIVED BY 2.	DATE	TIME
RELINQUISHED BY 3.	DATE	TIME	RECEIVED BY 3.	DATE	TIME
RELINQUISHED BY 4.	DATE	TIME	RECEIVED BY 4.	DATE	TIME
RELINQUISHED BY 5.	DATE	TIME	RECEIVED BY 5.	DATE 3/1/22	TIME 17:54

DELIVERY: ☐ EQC COURIER ☐ CLIENT ☐ UPS ☐ FEDEX ☐ OTHER ___

Custody Seal Number 140423

Rec'd Temp.: 0.7 Initials: CL Ice Y / N Location: ELLET

COMMENTS:

Hazardous: yes / no

KAM

WASTE MANAGEMENT

TABLE A PARAMETERS

410-74446-02 Chain of Custody

	Parameter Name	Type	Category	Limits	Units	85% of Limit
❑	Ignitibility	As Received		>140	F	
❑	Oil & Grease	As Received			mg/kg	
❑	Paint Filter Test	As Received		No free liquids		
❑	PCB's	As Received		50		
❑	pH	As Received		2 - 12.5	S.U.	
❑	Reactive Cyanide	As Received		100		
❑	Reactive Sulfide	As Received		500		
❑	Total Solids	As Received				
❑	Total Volatile Solids	As Received				
❑	Ammonia-Nitrogen	ASTM		111111	mg/l	
❑	Chemical Oxygen Demand	ASTM				
❑	Oil & Grease	ASTM		88550	mg/l	
❑	Total Solids	ASTM				
❑	pH	TCLP				
❑	Arsenic	TCLP	Metals	5	mg/l	4.25
❑	Barium	TCLP	Metals	100	mg/l	85
❑	Cadmium	TCLP	Metals	1	mg/l	0.85
❑	Chromium	TCLP	Metals	5	mg/l	4.25
❑	Copper	TCLP	Metals	167	mg/l	142
❑	Lead	TCLP	Metals	5	mg/l	4.25
❑	Mercury	TCLP	Metals	0.2	mg/l	0.17
❑	Nickel	TCLP	Metals	242	mg/l	206
❑	Selenium	TCLP	Metals	1	mg/l	0.85
❑	Silver	TCLP	Metals	5	mg/l	4.25
❑	Zinc	TCLP	Metals	1875	mg/l	1594
❑	2,4-D	TCLP	Herb	10	mg/l	8.5
❑	2,4,5-TP	TCLP	Herb	1	mg/l	0.85
❑	Chlordane	TCLP	Pest	0.03	mg/l	0.0255
❑	Endrin	TCLP	Pest	0.02	mg/l	0.017
❑	Heptachlor	TCLP	Pest	0.008	mg/l	0.0068
❑	Heptachlor Epoxide	TCLP	Pest	0.008	mg/l	0.0068
❑	Lindane	TCLP	Pest	0.4	mg/l	0.34
❑	Methoxychlor	TCLP	Pest	10mg/l	8.5	
❑	Toxaphene	TCLP	Pest	0.5	mg/l	0.425
❑	2,4,5-trichlorophenol	TCLP	Acids	400	mg/l	340
❑	2,4,6-trichlorophenol	TCLP	Acids	2	mg/l	1.7
❑	m-cresol	TCLP	Acids	200	mg/l	170
❑	o-cresol	TCLP	Acids	200	mg/l	170
❑	p-cresol	TCLP	Acids	200	mg/l	170
❑	Pentachlorophenol	TCLP	Acids	100	mg/l	85
❑	2,4-dinitrotoluene	TCLP	Base/Neutral	0.13	mg/l	0.1105
❑	Hexachlorobenzene	TCLP	Base/Neutral	0.13	mg/l	0.1105
❑	Hexachlorobutadiene	TCLP	Base/Neutral	0.5	mg/l	0.425
❑	Hexachloroethane	TCLP	Base/Neutral	3	mg/l	2.55

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TABLE A PARAMETERS

*Volatile Organic Compounds must be taken from discrete samples

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

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NorthStar I&E, Inc.

CERTIFICATE OF DECONTAMINATION

(✓ when complete)

DATE: 2/7/2022

NorthStar Contracting Group, Inc.
(Company Performing the Decontamination)

Equipment or Structure: (circle one)
The structure consists of a poured Concrete Pad with built-in liquid containment isolated via sumps, valves, piping that lead to an onsite
(Describe in detail the structure or Equipment to be decontaminated)

If a Structure answer the following:
Permitted: Yes / PAD049791098 (Yes or No) (If Yes List Permit #)
Decontamination Req'd for Closure: Yes (yes or no)

LOCATION: 3144 Passyunk Avenue, Philadelphia, PA 19145 - (LAT/LONG): 39°55'13"N - 75°11"52"W (NAD83)
(Provide address or coordinates for the site)

Facility Identification: Philadelphia Energy Solutions Refining & Marketing LLC - Facility # 645873 - Permit PAD049691098 ✓

Visual Inspection Conducted: Yes

Overall condition of structure is good with no evidence of any breaches in containment
(List Areas of Notable Discoloration, Any Pathways to Soil, Evidence of a Release, Etc..)

1. SE section of Pad showed light staining likely from tannin leaching out of wood pallets
2. Drum Storage Area showed light rust staining likely from metal drums
3. Light rust staining in several areas adjacent to metal grates over sumps
4. No evidence of any cracks or penetrations that would lead to soil contamination
5. No evidence of sumps or associated piping having leaked

(Attach Additional Pages If Needed)

Haz and Non-Haz Waste: Decon Solution & rinse water (Description of Waste)

Qty.	Container	UOM	Waste Code	Disposition
2,200	Vac Truck	Gal.	N/A	Treated onsite

Comments/Remarks:
Following a visual inspection the surface of Hazardous Waste Storage Pad located in the North Yard of Point Breeze was pressure washed and rinsed twice and the wash and rinse waters collected from the sumps and transferred via vac truck to totes and then drained to 2 Sep at the Girard Point Wastewater Treatment Plant at a controlled rate

List any Chemical Product Used: United 657 Zyme-Flow
(Attach applicable SDS's to this form) ✓

Decon Team Members:

(Print Name)	(Signature)	(date)
Gary Bowman		2/7/22
FRANK BALLINO		2/7/22

Project Env. Management

(Print Name)	(Title)	(date)
Robert Armstrong	Sr. Project Manager	2/8/2022

(Signature) ✓

NorthStar I&E, Inc.

CERTIFICATE OF DECONTAMINATION

(✓ when complete)

DATE: 2/7/2022

NorthStar Contracting Group, Inc.
(Company Performing the Decontamination)

Equipment or Structure: (circle one)

The structure consists of a poured Concrete Pad with built -in liquid containment isolated via sumps, valves, piping that lead to an onsite
(Describe in detail the structure or Equipment to be decontaminated)

If a Structure answer the following:

Permitted: Yes / PAD049791098
(Yes or No)
(If Yes List Permit #)

Decontamination Req'd for Closure: Yes
yes or no

LOCATION: 3144 Passyunk Avenue, Philadelphia, PA 19145 - (LAT/LONG): 39°55'13"N - 75°11'52"W (NAD83)
(Provide address or coordinates for the site)

Facility Identification: Philadelphia Energy Solutions Refining & Marketing LLC - Facility # 645873 - Permit PAD049691098 ✓

Visual Inspection Conducted: Yes

Overall condition of structure is good with no evidence of any breaches in containment
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5. No evidence of sumps or associated piping having leaked

(Attach Additional Pages If Needed)

Haz and Non-Haz Waste: Decon Solution & rinse water
(Description of Waste)

Qty.	Container	UOM	Waste Code	Disposition
2,200	Vac Truck	Gal.	N/A	Treated onsite

Comments/Remarks:
Following a visual inspection the surface of Hazardous Waste Storage Pad located in the North Yard of Point Breeze was pressure washed and rinsed twice and the wash and rinse waters collected from the sumps and transferred via vac truck to totes and then drained to 2 Sep at the Girard Point Wastewater Treatment Plant at a controlled rate

List any Chemical Product Used: United 657 Zyme-Flow
(Attach applicable SDS's to this form) ✓

Decon Team Members:

(Print Name)	(Signature)	(date)
Gary Bowman		2/7/22
FRANK BARINO		2/7/22

Project Env. Management

(Print Name)	(Title)	(date)
Robert Armstrong	Sr. Project Manager	2/8/2022

(Signature) ✓

Attachment C

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

GENERAL INFORMATION FORM – AUTHORIZATION APPLICATION

Before completing this General Information Form (GIF), read the step-by-step instructions provided in this application package. This form is used by the Department of Environmental Protection (DEP) to inform our programs regarding what other DEP permits or authorizations may be needed for the proposed project or activity. This version of the General Information Form (GIF) must be completed and returned with any program-specific application being submitted to the DEP.

Related ID#s (If Known)				DEP USE ONLY
Client ID#	363633	**APS ID#**		Date Received & General Notes
Site ID#	850063	**Auth ID#**		
Facility ID#	645873			

CLIENT INFORMATION

DEP Client ID#	Client Type / Code	Dun & Bradstreet ID#
363633	LLC	

Legal Organization Name or Registered Fictitious Name
Philadelphia Energy Solutions Refining and Marketing LLC
now known as Bellwether District Holdings, LLC

Employer ID# (EIN) 61-1689574

Is the EIN a SSN? ☐ Yes ☒ NO

State of Incorporation or Registration of Fictious Name
DE

☐ Corporation ☒ LLC ☐ Partnership ☐ LLP ☐ LP
☐ Sole Proprietorship ☐ Association/Organization
☐ Estate/Trust ☐ Other

Individual Last Name	First Name	MI	Suffix

Additional Individual Last Name	First Name	MI	Suffix

Mailing Address Line 1	Mailing Address Line 2
3144 Passyunk Avenue	

Address Last Line – City	State	ZIP+4	Country
Philadelphia	PA	19145	USA

Client Contact Last Name	First Name	MI	Suffix
Eggert	Stephanie		

Client Contact Title	Phone	Ext	Cell Phone
Authorized Signatory	215-339-2366		

Email Address	FAX
seggert@hilcoglobal.com	

SITE INFORMATION

DEP Site ID#	Site Name
850063	Former Philadelphia Refining Complex

EPA ID# PAD049791098 **Estimated Number of Employees to be Present at Site** 100

Description of Site
Former Petroleum Refinery facility undergoing demolition

Tax Parcel ID(s):

County Name(s)	Municipality(ies)	City	Boro	Twp	State
Philadelphia	Philadelphia	☒	☐	☐	PA
		☐	☐	☐	
		☐	☐	☐	
		☐	☐	☐	

Site Location Line 1	Site Location Line 2
3144 Passyunk Avenue	

Site Location Last Line – City	State	ZIP+4
Philadelphia	PA	19145

Detailed Written Directions to Site
Take I-95 to Exit 13 to Island Avenue. Turn right (east) onto Bartram Avenue, left (north) onto Essington Avenue. Essington Avenue turns into Passyunk Avenue. Cross the Passyunk Bridge and take the first exit immediately after the bridge turning right (west) onto Frontage Road. The former refining complex is on the left.

Site Contact Last Name	First Name	MI	Suffix
Eggert	Stephanie		

Site Contact Title	Site Contact Firm
Authorized Signatory	

Mailing Address Line 1	Mailing Address Line 2
3144 Passyunk Avenue	

Mailing Address Last Line – City	State	ZIP+4
Philadelphia	PA	19145

Phone	Ext	FAX	Email Address
215-339-2000			

NAICS Codes (Two- & Three-Digit Codes – List All That Apply) **6-Digit Code** (Optional)

Client to Site Relationship
OWN

FACILITY INFORMATION

Modification of Existing Facility

		Yes	No
1.	**Will this project modify an existing facility, system, or activity?**	☐	☒
2.	**Will this project involve an addition to an existing facility, system, or activity?**	☐	☒

If "Yes", check all relevant facility types and provide DEP facility identification numbers below.

	Facility Type	DEP Fac ID#		Facility Type	DEP Fac ID#
☐	Air Emission Plant		☐	Industrial Minerals Mining Operation	
☐	Beneficial Use (water)		☐	Laboratory Location	
☐	Blasting Operation		☐	Land Recycling Cleanup Location	
☐	Captive Hazardous Waste Operation		☐	Mine Drainage Treatment / Land Recycling Project Location	
☐	Coal Ash Beneficial Use Operation		☐	Municipal Waste Operation	
☐	Coal Mining Operation		☐	Oil & Gas Encroachment Location	
☐	Coal Pillar Location		☐	Oil & Gas Location	
☐	Commercial Hazardous Waste Operation		☐	Oil & Gas Water Poll Control Facility	
☐	Dam Location		☐	Public Water Supply System	
☐	Deep Mine Safety Operation -Anthracite		☐	Radiation Facility	
☐	Deep Mine Safety Operation -Bituminous		☐	Residual Waste Operation	
☐	Deep Mine Safety Operation -Ind Minerals		☐	Storage Tank Location	
☐	Encroachment Location (water, wetland)		☐	Water Pollution Control Facility	
☐	Erosion & Sediment Control Facility		☐	Water Resource	
☐	Explosive Storage Location		☐	Other:	

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
Center of Project Area	39	55	13	75	11	52

Horizontal Accuracy Measure	Feet 10 --or-- Meters
Horizontal Reference Datum Code	☐ North American Datum of 1927 ☒ North American Datum of 1983 ☐ World Geodetic System of 1984
Horizontal Collection Method Code	
Reference Point Code	
Altitude	Feet --or-- Meters
Altitude Datum Name	☐ The National Geodetic Vertical Datum of 1929 ☒ The North American Vertical Datum of 1988 (NAVD88)
Altitude (Vertical) Location Datum Collection Method Code	
Geometric Type Code	POINT
Data Collection Date	11/2014
Source Map Scale Number	NA Inch(es) = Feet
--or--	Centimeter(s) = Meters

PROJECT INFORMATION

Project Name
Former Girard Point Refinery RCRA Tanks and Hazardous Waste Storage Pad

Project Description
Closure of the Girard Point RCRA Tanks and Hazardous Waste Storage Pad

Project Consultant Last Name	First Name	MI	Suffix
Rolison	Kristen	A.S.	

Project Consultant Title	Consulting Firm
Senior Associate	Stantec Consulting, Inc.

Mailing Address Line 1	Mailing Address Line 2
1060 Andrew Drive, Suite 140	

Address Last Line – City	State	ZIP+4
West Chester	PA	19380

Phone	Ext	FAX	Email Address
610-407-7909			kristen.rolison@stantec.com

Time Schedules	Project Milestone (Optional)

1. Is the project located in or within a 0.5-mile radius of an Environmental Justice community as defined by DEP? ☒ Yes ☐ No

To determine if the project is located in or within a 0.5-mile radius of an environmental justice community, please use the online Environmental Justice Areas Viewer.

2. Have you informed the surrounding community prior to submitting the application to the Department? ☒ Yes ☐ No

Method of notification: _____

3. Have you addressed community concerns that were identified? ☒ Yes ☐ No ☐ N/A

If no, please briefly describe the community concerns that have been expressed and not addressed.

4. Is your project funded by state or federal grants? ☐ Yes ☒ No

Note: If "Yes", specify what aspect of the project is related to the grant and provide the grant source, contact person and grant expiration date.

Aspect of Project Related to Grant

Grant Source: _____

Grant Contact Person: _____

Grant Expiration Date: _____

5. Is this application for an authorization on Appendix A of the Land Use Policy? (For referenced list, see Appendix A of the Land Use Policy attached to GIF instructions) ☐ Yes ☒ No

Note: If "No" to Question 5, the application is not subject to the Land Use Policy.
If "Yes" to Question 5, the application is subject to this policy and the Applicant should answer the additional questions in the **Land Use Information** section.

LAND USE INFORMATION

Note: Applicants should submit copies of local land use approvals or other evidence of compliance with local comprehensive plans and zoning ordinances.

1.	**Is there an adopted county or multi-county comprehensive plan?**	☐	Yes	☐	No
2.	**Is there a county stormwater management plan?**	☐	Yes	☐	No
3.	**Is there an adopted municipal or multi-municipal comprehensive plan?**	☐	Yes	☐	No
4.	**Is there an adopted county-wide zoning ordinance, municipal zoning ordinance or joint municipal zoning ordinance?** **Note:** If the Applicant answers "No" to either Questions 1, 3 or 4, the provisions of the PA MPC are not applicable and the Applicant does not need to respond to questions 5 and 6 below. If the Applicant answers "Yes" to questions 1, 3 and 4, the Applicant should respond to questions 5 and 6 below.	☐	Yes	☐	No
5.	**Does the proposed project meet the provisions of the zoning ordinance or does the proposed project have zoning approval?** If zoning approval has been received, attach documentation.	☐	Yes	☐	No
6.	**Have you attached Municipal and County Land Use Letters for the project?**	☐	Yes	☐	No

COORDINATION INFORMATION

Note: The PA Historical and Museum Commission must be notified of proposed projects in accordance with DEP Technical Guidance Document 012-0700-001 utilizing the Project Review Form.

If the activity will be a mining project (i.e., mining of coal or industrial minerals, coal refuse disposal and/or the operation of a coal or industrial minerals preparation/processing facility), respond to questions 1.0 through 2.5 below.

If the activity will not be a mining project, skip questions 1.0 through 2.5 and begin with question 3.0.

1.0	**Is this a coal mining project?** If "Yes", respond to 1.1-1.6. If "No", skip to Question 2.0.	☐	Yes	☐	No
1.1	**Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be equal to or greater than 200 tons/day?**	☐	Yes	☐	No
1.2	**Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be greater than 50,000 tons/year?**	☐	Yes	☐	No
1.3	**Will this coal mining project involve coal preparation/ processing activities in which thermal coal dryers or pneumatic coal cleaners will be used?**	☐	Yes	☐	No
1.4	**For this coal mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?**	☐	Yes	☐	No
1.5	**Will this coal mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?**	☐	Yes	☐	No
1.6	**Will this coal mining project involve underground coal mining to be conducted within 500 feet of an oil or gas well?**	☐	Yes	☐	No
2.0	**Is this a non-coal (industrial minerals) mining project?** If "Yes", respond to 2.1-2.6. If "No", skip to Question 3.0.	☐	Yes	☐	No
2.1	**Will this non-coal (industrial minerals) mining project involve the crushing and screening of non-coal minerals other than sand and gravel?**	☐	Yes	☐	No
2.2	**Will this non-coal (industrial minerals) mining project involve the crushing and/or screening of sand and gravel with the exception of wet sand and gravel operations (screening only) and dry sand and gravel operations with a capacity of less than 150 tons/hour of unconsolidated materials?**	☐	Yes	☐	No

2.3	**Will this non-coal (industrial minerals) mining project involve the construction, operation and/or modification of a portable non-metallic (i.e., non-coal) minerals processing plant under the authority of the General Permit for Portable Non-metallic Mineral Processing Plants (i.e., BAQ-PGPA/GP-3)?**	☐	Yes	☐	No
2.4	**For this non-coal (industrial minerals) mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?**	☐	Yes	☐	No
2.5	**Will this non-coal (industrial minerals) mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?**	☐	Yes	☐	No
3.0	**Will your project, activity, or authorization have anything to do with a well related to oil or gas production, have construction within 200 feet of, affect an oil or gas well, involve the waste from such a well, or string power lines above an oil or gas well?** If "Yes", respond to 3.1-3.3. If "No", skip to Question 4.0.	☐	Yes	☒	No
3.1	**Does the oil- or gas-related project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water (including wetlands)?**	☐	Yes	☐	No
3.2	**Will the oil- or gas-related project involve discharge of industrial wastewater or stormwater to a dry swale, surface water, ground water or an existing sanitary sewer system or storm water system?** If "Yes", discuss in *Project Description*.	☐	Yes	☐	No
3.3	**Will the oil- or gas-related project involve the construction and operation of industrial waste treatment facilities?**	☐	Yes	☐	No
4.0	**Will the project involve a construction activity that results in earth disturbance?** If "Yes", specify the total disturbed acreage.	☒	Yes	☐	No
	4.0.1 Total Disturbed Acreage 0.3				
	4.0.2 Will the project discharge or drain to a special protection water (EV or HQ) or an EV wetland?	☐	Yes	☒	No
	4.0.3 Will the project involve a construction activity that results in earth disturbance in the area of the earth disturbance that are contaminated at levels exceeding residential or non-residential medium-specific concentrations (MSCs) in 25 Pa. Code Chapter 250 at residential or non-residential construction sites, respectively?	☐	Yes	☒	No
5.0	**Does the project involve any of the following: water obstruction and/or encroachment, wetland impacts, or floodplain project by the Commonwealth/political subdivision or public utility?** If "Yes", respond to 5.1-5.7. If "No", skip to Question 6.0.	☐	Yes	☒	No
5.1	**Water Obstruction and Encroachment Projects – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water?**	☐	Yes	☐	No
5.2	**Wetland Impacts – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a wetland?**	☐	Yes	☐	No
5.3	**Floodplain Projects by the Commonwealth, a Political Subdivision of the Commonwealth or a Public Utility – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a floodplain?**	☐	Yes	☐	No
5.4	**Is your project an interstate transmission natural gas pipeline?**	☐	Yes	☐	No

5.5	**Does your project consist of linear construction activities which result in earth disturbance in two or more DEP regions AND three or more counties?**	☐	Yes	☐	No
5.6	**Does your project utilize Floodplain Restoration as a best management practice for Post Construction Stormwater Management?**	☐	Yes	☐	No
5.7	**Does your project utilize Class V Gravity / Injection Wells as a best management practice for Post Construction Stormwater Management?**	☐	Yes	☐	No
6.0	**Will the project involve discharge of construction related stormwater to a dry swale, surface water, ground water or separate storm water system?**	☐	Yes	☒	No
6.1	**Will the project involve discharge of industrial waste stormwater or wastewater from an industrial activity or sewage to a dry swale, surface water, ground water or an existing sanitary sewer system or separate storm water system?**	☐	Yes	☒	No
7.0	**Will the project involve the construction and operation of industrial waste treatment facilities?**	☐	Yes	☒	No
8.0	**Will the project involve construction of sewage treatment facilities, sanitary sewers, or sewage pumping stations?** If "Yes", indicate estimated proposed flow (gal/day). Also, discuss the sanitary sewer pipe sizes and the number of pumping stations/treatment facilities/name of downstream sewage facilities in the *Project Description*, where applicable. **8.0.1 Estimated Proposed Flow (gal/day)**	☐	Yes	☒	No
9.0	**Will the project involve the subdivision of land, or the generation of 800 gpd or more of sewage on an existing parcel of land or the generation of an additional 400 gpd of sewage on an already-developed parcel, or the generation of 800 gpd or more of industrial wastewater that would be discharged to an existing sanitary sewer system?**	☐	Yes	☒	No
	9.0.1 Was Act 537 sewage facilities planning submitted and approved by DEP? If "Yes" attach the approval letter. Approval required prior to 105/NPDES approval.	☐	Yes	☒	No
10.0	**Is this project for the beneficial use of biosolids for land application within Pennsylvania?** If "Yes" indicate how much (i.e. gallons or dry tons per year). **10.0.1 Gallons Per Year (residential septage)** _____ **10.0.2 Dry Tons Per Year (biosolids)**	☐	Yes	☒	No
11.0	**Does the project involve construction, modification or removal of a dam?** If "Yes", identify the dam. **11.0.1 Dam Name**	☐	Yes	☒	No
12.0	**Will the project interfere with the flow from, or otherwise impact, a dam?** If "Yes", identify the dam. **12.0.1 Dam Name**	☐	Yes	☒	No
13.0	**Will the project involve operations (excluding during the construction period) that produce air emissions (i.e., NOX, VOC, etc.)?**	☐	Yes	☒	No
	13.0.1 If "Yes", is the operation subject to the agricultural exemption in 35 P.S. § 4004.1?	☐	Yes	☐	No
	13.0.2 If the answer to 13.0.1 is "No", identify each type of emission followed by the estimated amount of that emission. **Enter all types & amounts of emissions; separate each set with semicolons.**				

14.0	**Does the project include the construction or modification of a drinking water supply to serve 15 or more connections or 25 or more people, at least 60 days out of the year?** If "Yes", check all proposed sub-facilities.	☐	Yes	☒	No
	14.0.1 Number of Persons Served _____				
	14.0.2 Number of Employee/Guests _____				
	14.0.3 Number of Connections _____				
	14.0.4 Sub-Fac: Distribution System	☐	Yes	☐	No
	14.0.5 Sub-Fac: Water Treatment Plant	☐	Yes	☐	No
	14.0.6 Sub-Fac: Source	☐	Yes	☐	No
	14.0.7 Sub-Fac: Pump Station	☐	Yes	☐	No
	14.0.8 Sub Fac: Transmission Main	☐	Yes	☐	No
	14.0.9 Sub-Fac: Storage Facility	☐	Yes	☐	No
15.0	**Will your project include infiltration of storm water or waste water to ground water within one-half mile of a public water supply well, spring or infiltration gallery?**	☐	Yes	☒	No
16.0	**Is your project to be served by an existing public water supply?** If "Yes", indicate name of supplier and attach letter from supplier stating that it will serve the project.	☐	Yes	☒	No
	16.0.1 Supplier's Name _____				
	16.0.2 Letter of Approval from Supplier is Attached	☐	Yes	☐	No
17.0	**Will this project be served by on-lot drinking water wells?**	☐	Yes	☒	No
18.0	**Will this project involve a new or increased drinking water withdrawal from a river, stream, spring, lake, well or other water bod(ies)?** If "Yes", reference Safe Drinking Water Program.	☐	Yes	☒	No
	18.0.1 Source Name				
19.0	**Will the construction or operation of this project involve treatment, storage, reuse, or disposal of waste?** If "Yes", indicate what type (i.e., hazardous, municipal (including infectious & chemotherapeutic), residual) and the amount to be treated, stored, re-used or disposed.	☒	Yes	☐	No
	19.0.1 Type & Amount Removal of hazardous waste storage areas				
20.0	**Will your project involve the removal of coal, minerals, contaminated media, or solid waste as part of any earth disturbance activities?**	☐	Yes	☒	No
21.0	**Does your project involve installation of a field constructed underground storage tank?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit.	☐	Yes	☒	No
	21.0.1 Enter all substances & capacity of each; separate each set with semicolons.				
22.0	**Does your project involve installation of an aboveground storage tank greater than 21,000 gallons capacity at an existing facility?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit.	☐	Yes	☒	No
	22.0.1 Enter all substances & capacity of each; separate each set with semicolons.				
23.0	**Does your project involve installation of a tank greater than 1,100 gallons which will contain a highly hazardous substance as defined in DEP's Regulated Substances List, 2570-BK-DEP2724?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit.	☐	Yes	☒	No
	23.0.1 Enter all substances & capacity of each; separate each set with semicolons.				

24.0	**Does your project involve installation of a storage tank at a new facility with a total AST capacity greater than 21,000 gallons?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit. **24.0.1 Enter all substances & capacity of each; separate each set with semicolons.**	☐	Yes	☒	No

NOTE: If the project includes the installation of a regulated storage tank system, including diesel emergency generator systems, the project may require the use of a Department Certified Tank Handler. For a full list of regulated storage tanks and substances, please go to www.dep.pa.gov search term storage tanks

25.0	**Will the intended activity involve the use of a radiation source?**	☐	Yes	☒	No

CERTIFICATION

I certify that I have the authority to submit this application on behalf of the applicant named herein and that the information provided in this application is true and correct to the best of my knowledge and information.

For applicants supplying an EIN number: I am applying for a permit or authorization from the Pennsylvania Department of Environmental Protection (DEP). As part of this application, I will provide DEP with an accurate EIN number for the applicant entity. By filing this application with DEP, I hereby authorize DEP to confirm the accuracy of the EIN number provided with the Pennsylvania Department of Revenue. As applicant, I further consent to the Department of Revenue discussing the same with DEP prior to issuance of the Commonwealth permit or authorization.

Type or Print Name Stephanie Eggert

Stephanie Eggert	Authorized Signatory	7/26/2024
Signature	**Title**	**Date**

2510-FM-BWM0227 Rev. 8/2009

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

FORM HW-B
PROFESSIONAL CERTIFICATION
HAZARDOUS WASTE FACILITY CONSTRUCTION, REPAIR OR CLOSURE ACTIVITY OR APPLICATION OR PLAN SUBMITTAL/REVISION

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form HW-B, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: 40 CFR 264.115, 264.196(f), 264.227(d)(2)(ii), 270.11(b), (d), as incorporated by reference at 25 Pa. Code 264a.1 and 270a.1.

SECTION A. SITE IDENTIFIER

Applicant/Permittee: Philadelphia Energy Solutions Refining and Marketing LLC

Site Name: Former Philadelphia Refining Complex

Facility ID No.: PAD049791098

SECTION B. ACTIVITY

Hazardous Waste Storage/Treatment Facility

- ☐ 1. Secondary containment installation/repair
- ☐ 2. Tank system/component installation
- ☐ 3. Tank system repair
- ☐ 4. Containment building liner system
- ☐ 5. Incinerator component installation/repair
- ☐ 6. Drip pad installation/repair
- ☐ 7. Radioactive monitoring system/revision
- ☒ 8. Partial/Full closure (explain)* Closure of the Girard Point Spent Caustic Tanks 1086 and 1087, and the Girard Point Waste Container Storage Unit
- ☐ 9. Other (explain) _____

Hazardous Waste Disposal Facility

- ☐ 1. Groundwater monitoring system**
- ☐ 2. Subbase
- ☐ 3. Secondary liner
- ☐ 4. Leachate detection zone
- ☐ 5. Primary liner
- ☐ 6. Liner system repair
- ☐ 7. Leachate treatment/conveyance facilities
- ☐ 8. Erosion & sedimentation control structures
- ☐ 9. Radioactive monitoring system/revision
- ☐ 10. Roadways
- ☐ 11. Partial/Full closure (explain)* _____
- ☐ 12. Other (explain) _____

Complete the professional engineer certification included in Section D

* For closure certification, complete the professional engineer certification included in Section F. Note that an owner/operator certification meeting 40 CFR 264.115 is also required.

** Complete the professional geologist certification included in Section G for this activity.

A description of the activity and phase or sequence of construction involved included, along with appropriate as-built drawings, plans, photographs and related test results.

SECTION C. APPLICATION OR PLAN SUBMITTAL/REVISION

- ☐ 1. Initial permit application (type) _____
- ☐ 2. Class 1 permit modification request (explain) _____
- ☐ 3. Class 2 permit modification request (explain) _____
- ☐ 4. Class 3 permit modification request (explain) _____
- ☐ 5. Closure/Post-Closure plan modification request (explain) _____

Complete the professional engineer certification included in Section E. Complete the professional geologist certification in Section H as necessary.

SECTION D. PROFESSIONAL ENGINEER CERTIFICATION
For construction activity/repair work

I, _____ being a Registered Professional
(Name – print or type)
Engineer in accordance with the Pennsylvania Professional Engineer's Registration Law do hereby certify to the best of my knowledge, information and belief, that the construction activities and/or repair work noted in Section B of this form was completed in accordance with the documents, statements, designs and plans submitted as part of Permit No. _____ as approved by the Department of Environmental Protection. The construction activities and/or repair work were observed by me or a person under my direct supervision, in a manner consistent with the approved permit or plan. The information contained in the accompanying reports has been prepared in accordance with accepted practice of engineering, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature _____ Date _____
Address _____
Professional Seal
License Number _____
Telephone No. (___) _____ Email _____

SECTION E. PROFESSIONAL ENGINEER CERTIFICATION
For application/plan submittal or revision

I, _____ being a Registered Professional
(Name – print or type)
Engineer in accordance with the Pennsylvania Professional Engineer's Registration Law do hereby certify to the best of my knowledge, information and belief, that the information contained in the accompanying application, plans, specifications and reports has been prepared in accordance with accepted practice of engineering, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature _____ Date _____
Address _____
Professional Seal
License Number _____
Telephone No. (___) _____ Email _____

SECTION F. PROFESSIONAL ENGINEER CERTIFICATION
For closure activity

I, Kristen A.S. Rolison _____ being a Registered Professional
(Name – print or type)
Engineer in accordance with the Pennsylvania Professional Engineer's Registration Law do hereby certify to the best of my knowledge, information and belief, that the closure activities noted in Section B of this form was completed in accordance with the facility's closure plan approved in writing by the Department of Environmental Protection on 06/14/2022 and the rules and regulations codified at 25 Pa. Code Chapters 264a and 265a. The closure work was observed by me or a person under my direct supervision, in a manner consistent with the approved closure plan. The information contained in the accompanying reports has been prepared in accordance with accepted practice of engineering, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature Kristen A.S. Rolison Date 09/21/2023
Address 1040 Andrew Drive
Suite 140
West Chester, PA 19380
License Number PE46706
Telephone No. (610) 407-7909 Email kristen.rolison@stantec.com

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL SEAL
KRISTEN AS ROLISON
ENGINEER
PE070521

SECTION G. PROFESSIONAL GEOLOGIST CERTIFICATION
For groundwater monitoring system installation or revision

I, _____ being a Registered Professional
(Name – print or type)
Geologist in accordance with the Pennsylvania Professional Geologist's Registration Law do hereby certify to the best of my knowledge, information and belief, that the groundwater monitoring system work noted in Section B of this form was completed in accordance with the documents, statements, designs and plans submitted as part of Permit or Plan No. _____ as approved by the Department of Environmental Protection. The work was observed by me or a person under my direct supervision, in a manner consistent with the approved permit or plan. The information contained in the accompanying reports has been prepared in accordance with accepted practice of geology, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature _____ Date _____
Address _____
_____
_____
_____
License Number _____
Telephone No. (___) _____ Email _____

Professional Seal

SECTION H. PROFESSIONAL GEOLOGIST CERTIFICATION
For application/plan submittal or revision

I, _____ being a Registered Professional
(Name – print or type)
Geologist in accordance with the Pennsylvania Professional Geologist's Registration Law do hereby certify to the best of my knowledge, information and belief, that the information contained in the accompanying application, plans, specifications and reports has been prepared in accordance with accepted practice of geology, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature _____ Date _____
Address _____
_____
_____
_____
License Number _____
Telephone No. (___) _____ Email _____

Professional Seal

Girard Point Former Refinery
Spent Caustic Tanks 1086 and 1087

Stantec

Photographic Log

Client:	**PESRM**	**Project:**	**Hazardous Waste Closure**
Site Name:	**Former Girard Point Refinery**	**Site Location:**	**Philadelphia, PA**

Photograph ID: 1

Photo Location:
RCRA Tanks Spent Caustic Storage Area

Direction:
North

Survey Date:
6/15/2022

Comments:
View of Spent Caustic Tanks 1086 and 1087 prior to demolition

Photograph ID: 2

Photo Location:
RCRA Tanks Spent Caustic Storage Area

Direction:
West

Survey Date:
6/29/2022

Comments:
View of Spent Caustic Tanks 1086 and 1087 pads following tank removal

Stantec

Photographic Log

Client:	**PESRM**	**Project:**	**Hazardous Waste Closure**
Site Name:	**Former Girard Point Refinery**	**Site Location:**	**Philadelphia, PA**

Photograph ID: 3

Photo Location:
RCRA Tanks Spent Caustic Storage Area

Direction:
South

Survey Date:
10/17/2022

Comments:
View of Spent Caustic Tanks 1086 and 1087 concrete containment following demolition

eurofins | Environment Testing

ANALYTICAL REPORT

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

Laboratory Job ID: 410-102190-1
Client Project/Site: NorthStar Sampling

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

Attn: Robert Armstrong

Authorized for release by:
11/3/2022 2:53:54 PM

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

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

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.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

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.

Amek Carter

Amek Carter
Project Manager
11/3/2022 2:53:54 PM

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
^c	CCV Recovery is outside acceptance limits.
cn	Refer to Case Narrative for further detail

GC/MS Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
FL	MS and/or MSD recovery below control limits.

GC Semi VOA

Qualifier	Qualifier Description
B	Analyte was found in the blank.
cn	Refer to Case Narrative for further detail
F2	MS/MSD RPD exceeds control limits
FH	MS and/or MSD recovery above control 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, low biased.

Metals

Qualifier	Qualifier Description
^2	Calibration Blank (ICB and/or CCB) is outside acceptance 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.

General Chemistry

Qualifier	Qualifier Description
!	Laboratory is not accredited for this parameter.
F3	Duplicate RPD exceeds the control limit
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.
¤	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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
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

Job ID: 410-102190-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-102190-1

Receipt
The sample was received on 10/17/2022 4:33 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.9°C

GC/MS VOA
Method 8260C: The continuing calibration verification (CCV) associated with batch 410-310663 recovered above the upper control limit for Carbon tetrachloride. Non-detections of the affected analytes are reported. Any detections are considered estimated.

Method 8260C: The continuing calibration verification (CCV) analyzed on 410-310663 is compliant under 8260C/D method criteria for 1,1-Dichloroethene . The software does not display the % Drift data to the whole number as is listed in the method (i.e. limit of 20%). When applying the evaluation to a whole number, the check passes the criteria with a value of 20% Drift.

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 DCB Decachlorobiphenyl (Surr) and Tetrachloro-m-xylene surrogate recovery for the following samples was outside acceptance limits (low biased) on the primary column: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17 (410-102190-1). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control.

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

Pesticides
Method 8081B: The following sample was diluted due to the nature of the sample matrix: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17 (410-102190-1). 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.

Metals
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: 410-102190-1

Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17 — Lab Sample ID: 410-102190-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260 (1C)	7.1	J	17	6.4	ug/Kg	1	☼	8082A	Total/NA
Barium	0.24	^2 FL	0.050	0.010	mg/L	1		6010C	TCLP
Zinc	0.12	J	0.20	0.037	mg/L	1		6010C	TCLP
Total Solids	96		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	4.0		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)	510	J	610	200	mg/Kg	1	☼	9071B	Total/NA
Presence of Free Liquid	0.00				No Unit	1		9095B	Total/NA
pH	10.4		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	No		0.01	0.01	NONE	1		9045D	Soluble
Total Solids	260		42	14	mg/L	1		2540B-2011	ASTM Leach
Residue, Total	260		42	14	mg/L	1		2540B-2011	ASTM Leach
Chemical Oxygen Demand	28	J	75	25	mg/L	1		410.4	ASTM Leach

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

Job ID: 410-102190-1

Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17

Lab Sample ID: 410-102190-1

Date Collected: 10/17/22 09:50
Date Received: 10/17/22 16:33

Matrix: Solid

Method: SW846 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			10/26/22 22:50	20
Carbon tetrachloride	ND	^c cn	0.020	0.0060	mg/L			10/26/22 22:50	20
Chlorobenzene	ND		0.020	0.0060	mg/L			10/26/22 22:50	20
Chloroform	ND		0.020	0.0060	mg/L			10/26/22 22:50	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			10/26/22 22:50	20
1,1-Dichloroethene	ND	^c cn	0.020	0.0060	mg/L			10/26/22 22:50	20
2-Butanone	ND		0.20	0.010	mg/L			10/26/22 22:50	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			10/26/22 22:50	20
Trichloroethene	ND		0.020	0.0060	mg/L			10/26/22 22:50	20
Vinyl chloride	ND		0.020	0.0040	mg/L			10/26/22 22:50	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*10/26/22 22:50*	*20*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*10/26/22 22:50*	*20*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*10/26/22 22:50*	*20*
Toluene-d8 (Surr)	*93*		*80 - 120*		*10/26/22 22:50*	*20*

Method: SW846 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		10/27/22 15:39	10/28/22 01:41	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/27/22 15:39	10/28/22 01:41	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/27/22 15:39	10/28/22 01:41	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/27/22 15:39	10/28/22 01:41	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/27/22 15:39	10/28/22 01:41	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/27/22 15:39	10/28/22 01:41	1
Hexachlorobenzene	ND	FL	0.0025	0.00055	mg/L		10/27/22 15:39	10/28/22 01:41	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/27/22 15:39	10/28/22 01:41	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/27/22 15:39	10/28/22 01:41	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/27/22 15:39	10/28/22 01:41	1
Pentachlorophenol	ND	FL F2	0.025	0.0050	mg/L		10/27/22 15:39	10/28/22 01:41	1
Pyridine	ND		0.025	0.010	mg/L		10/27/22 15:39	10/28/22 01:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*10 - 150*	*10/27/22 15:39*	*10/28/22 01:41*	*1*
2-Fluorobiphenyl (Surr)	*72*		*44 - 120*	*10/27/22 15:39*	*10/28/22 01:41*	*1*
2-Fluorophenol (Surr)	*36*		*10 - 120*	*10/27/22 15:39*	*10/28/22 01:41*	*1*
Nitrobenzene-d5 (Surr)	*72*		*25 - 125*	*10/27/22 15:39*	*10/28/22 01:41*	*1*
p-Terphenyl-d14 (Surr)	*73*		*37 - 120*	*10/27/22 15:39*	*10/28/22 01:41*	*1*
Phenol-d5 (Surr)	*24*		*10 - 120*	*10/27/22 15:39*	*10/28/22 01:41*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND	cn	0.00060	0.00016	mg/L		10/27/22 15:44	10/28/22 06:40	10
gamma-BHC (Lindane) (1C)	ND	FH cn	0.00040	0.000040	mg/L		10/27/22 15:44	10/28/22 06:40	10
Heptachlor (1C)	ND	B FH F2 cn	0.00040	0.000040	mg/L		10/27/22 15:44	10/28/22 06:40	10
Heptachlor epoxide (1C)	ND	cn	0.00040	0.000046	mg/L		10/27/22 15:44	10/28/22 06:40	10
Methoxychlor (1C)	ND	cn	0.0022	0.00060	mg/L		10/27/22 15:44	10/28/22 06:40	10
Toxaphene (1C)	ND	cn	0.020	0.0060	mg/L		10/27/22 15:44	10/28/22 06:40	10
Chlordane (n.o.s.) (1C)	ND	cn	0.010	0.0032	mg/L		10/27/22 15:44	10/28/22 06:40	10

Client Sample Results

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

Job ID: 410-102190-1

Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17

Lab Sample ID: 410-102190-1

Date Collected: 10/17/22 09:50
Date Received: 10/17/22 16:33

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr) (1C)	*112*	*cn*	*21 - 130*	*10/27/22 15:44*	*10/28/22 06:40*	*10*
DCB Decachlorobiphenyl (Surr) (2C)	*113*	*cn*	*21 - 130*	*10/27/22 15:44*	*10/28/22 06:40*	*10*
Tetrachloro-m-xylene (Surr) (1C)	*123*	*cn*	*39 - 139*	*10/27/22 15:44*	*10/28/22 06:40*	*10*
Tetrachloro-m-xylene (Surr) (2C)	*89*	*cn*	*39 - 139*	*10/27/22 15:44*	*10/28/22 06:40*	*10*

Method: SW846 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		10/25/22 19:10	10/26/22 11:27	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/25/22 19:10	10/26/22 11:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid (Surr) (1C)	*55*		*26 - 136*	*10/25/22 19:10*	*10/26/22 11:27*	*1*
2,4-Dichlorophenylacetic acid (Surr) (2C)	*51*		*26 - 136*	*10/25/22 19:10*	*10/26/22 11:27*	*1*

Method: SW846 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.16	mg/L		10/25/22 05:08	10/30/22 16:47	1
Barium	**0.24**	**^2 FL**	0.050	0.010	mg/L		10/25/22 05:08	10/30/22 16:47	1
Cadmium	ND		0.050	0.010	mg/L		10/25/22 05:08	10/30/22 16:47	1
Chromium	ND		0.15	0.030	mg/L		10/25/22 05:08	10/30/22 16:47	1
Lead	ND		0.15	0.071	mg/L		10/25/22 05:08	10/30/22 16:47	1
Selenium	ND		0.50	0.16	mg/L		10/25/22 05:08	10/30/22 16:47	1
Silver	ND	FL	0.10	0.050	mg/L		10/25/22 05:08	10/30/22 16:47	1
Copper	ND		0.20	0.080	mg/L		10/25/22 05:08	10/30/22 16:47	1
Nickel	ND		0.10	0.021	mg/L		10/25/22 05:08	10/30/22 16:47	1
Zinc	**0.12**	**J**	0.20	0.037	mg/L		10/25/22 05:08	10/30/22 16:47	1

Method: SW846 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	FL	0.00020	0.000079	mg/L		10/25/22 05:13	10/25/22 15:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids (SM 2540G-2011)	**96**		0.10	0.10	%			10/24/22 09:49	1
Total Volatile Solids (SM 2540G-2011)	**4.0**		0.10	0.10	%			10/24/22 09:49	1
Percent Solids (SM 2540G-2011)	**96**		0.10	0.10	%			10/24/22 09:49	1
Ignitable to Air (40CFR261 261.21)	**No**		1.0	1.0	NONE			10/24/22 14:30	1
Ignitable to Flame (40CFR261 261.21)	**No**		1.0	1.0	NONE			10/24/22 14:30	1
Ignitable to Friction (40CFR261 261.21)	**No**		1.0	1.0	NONE			10/24/22 14:30	1
Ignitable to Water (40CFR261 261.21)	**No**		1.0	1.0	NONE			10/24/22 14:30	1
Cyanide, Reactive (SW846 9012)	ND		59	20	mg/Kg		10/25/22 08:27	11/02/22 11:47	1
Sulfide, Reactive (SW846 9034)	ND		160	52	mg/Kg		10/25/22 08:27	10/25/22 13:12	1
Presence of Free Liquid (SW846 9095B)	**0.00**				No Unit			10/22/22 10:58	1
Percent Moisture (EPA Moisture)	**1.8**	**!**	1.0	1.0	%			10/18/22 13:08	1

Client Sample Results

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

Job ID: 410-102190-1

Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17

Lab Sample ID: 410-102190-1

Date Collected: 10/17/22 09:50
Matrix: Solid
Date Received: 10/17/22 16:33

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 9045D)	**10.4**		0.01	0.01	S.U.			10/24/22 15:30	1
Corrosivity (SW846 9045D)	**No**		0.01	0.01	NONE			10/24/22 15:30	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664B)	ND		5.6	1.6	mg/L			11/01/22 18:02	1
Total Solids (SM 2540B-2011)	**260**		42	14	mg/L			10/31/22 08:19	1
Residue, Total (SM 2540B-2011)	**260**		42	14	mg/L			10/31/22 08:19	1
Chemical Oxygen Demand (MCAWW 410.4)	**28**	**J**	75	25	mg/L			10/31/22 08:27	1
Ammonia as N (EPA 350.1)	ND		0.10	0.050	mg/L			11/02/22 10:44	1

Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17

Lab Sample ID: 410-102190-1

Date Collected: 10/17/22 09:50
Matrix: Solid
Date Received: 10/17/22 16:33
Percent Solids: 98.2

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.1	0.51	ug/Kg	☼	10/18/22 18:13	10/21/22 01:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*54 - 135*	*10/18/22 18:13*	*10/21/22 01:44*	*1*
4-Bromofluorobenzene (Surr)	*96*		*50 - 131*	*10/18/22 18:13*	*10/21/22 01:44*	*1*
Dibromofluoromethane (Surr)	*103*		*50 - 141*	*10/18/22 18:13*	*10/21/22 01:44*	*1*
Toluene-d8 (Surr)	*96*		*52 - 141*	*10/18/22 18:13*	*10/21/22 01:44*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		17	5.3	ug/Kg	☼	10/20/22 16:30	10/20/22 23:11	1
PCB-1221 (1C)	ND		17	5.3	ug/Kg	☼	10/20/22 16:30	10/20/22 23:11	1
PCB-1232 (1C)	ND		17	5.3	ug/Kg	☼	10/20/22 16:30	10/20/22 23:11	1
PCB-1242 (1C)	ND		17	5.3	ug/Kg	☼	10/20/22 16:30	10/20/22 23:11	1
PCB-1248 (1C)	ND		17	5.3	ug/Kg	☼	10/20/22 16:30	10/20/22 23:11	1
PCB-1254 (1C)	ND		17	6.4	ug/Kg	☼	10/20/22 16:30	10/20/22 23:11	1
PCB-1260 (1C)	**7.1**	**J**	17	6.4	ug/Kg	☼	10/20/22 16:30	10/20/22 23:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr) (1C)	*61*	*S1- cn*	*66 - 130*	*10/20/22 16:30*	*10/20/22 23:11*	*1*
DCB Decachlorobiphenyl (Surr) (2C)	*78*	*cn*	*66 - 130*	*10/20/22 16:30*	*10/20/22 23:11*	*1*
Tetrachloro-m-xylene (1C)	*52*	*S1- cn*	*68 - 130*	*10/20/22 16:30*	*10/20/22 23:11*	*1*
Tetrachloro-m-xylene (2C)	*68*	*cn*	*68 - 130*	*10/20/22 16:30*	*10/20/22 23:11*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (SW846 9071B)	**510**	**J**	610	200	mg/Kg	☼	10/20/22 17:22	10/21/22 17:31	1

Surrogate Summary

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

Job ID: 410-102190-1

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(54-135)	(50-131)	(50-141)	(52-141)
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-:	108	96	103	96
LCS 410-308861/4	Lab Control Sample	102	99	100	98
LCSD 410-308861/5	Lab Control Sample Dup	101	99	100	99
MB 410-308861/7	Method Blank	104	96	101	96

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**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
LCS 410-310663/4	Lab Control Sample	104	97	106	95
LCSD 410-310663/5	Lab Control Sample Dup	103	95	106	95
MB 410-310663/7	Method Blank	101	97	106	95

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**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-:	102	96	104	93

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**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	TPHd14	PHL
Lab Sample ID	Client Sample ID	(10-150)	(44-120)	(10-120)	(25-125)	(37-120)	(10-120)
LCS 410-311379/3-A	Lab Control Sample	92	79	42	75	87	28
LCSD 410-311379/4-A	Lab Control Sample Dup	90	83	45	79	88	33
MB 410-311379/2-A	Method Blank	85	71	39	71	93	28

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)

Surrogate Summary

Client: NorthStar Contracting Group, Inc.
Job ID: 410-102190-1
Project/Site: NorthStar Sampling

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)
PHL = Phenol-d5 (Surr)

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

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	TPHd14	PHL
Lab Sample ID	Client Sample ID	(10-150)	(44-120)	(10-120)	(25-125)	(37-120)	(10-120)
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2	77	72	36	72	73	24
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	78	71	42	77	37	29
410-102190-1 MSD	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	75	73	37	74	70	25

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**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(21-130)	(21-130)	(39-139)	(39-139)
LCS 410-311387/2-A	Lab Control Sample	93	92	92	94
LCSD 410-311387/3-A	Lab Control Sample Dup	94	94	93	93
MB 410-311387/1-A	Method Blank	79	76	85	84

Surrogate Legend

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

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(21-130)	(21-130)	(39-139)	(39-139)
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2	112 cn	113 cn	123 cn	89 cn
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	114	110	117	88
410-102190-1 MSD	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	125	119	124	91

Surrogate Legend

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

Surrogate Summary

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

Job ID: 410-102190-1

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(66-130)	(66-130)	(68-130)	(68-130)
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2	61 S1- cn	78 cn	52 S1- cn	68 cn
LCS 410-308805/2-A	Lab Control Sample	84	92	89	98
MB 410-308805/1-A	Method Blank	85	89	92	97

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCPAA1	DCPAA2
Lab Sample ID	Client Sample ID	(26-136)	(26-136)
LCS 410-310466/3-A	Lab Control Sample	57	64
MB 410-310466/2-A	Method Blank	60	58

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid (Surr)

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCPAA1	DCPAA2
Lab Sample ID	Client Sample ID	(26-136)	(26-136)
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2	55	51
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	69	72
410-102190-1 MSD	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	62	64

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid (Surr)

QC Sample Results

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

Job ID: 410-102190-1

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

Lab Sample ID: MB 410-308861/7 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 308861

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.50	ug/Kg			10/20/22 19:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*54 - 135*		*10/20/22 19:09*	*1*
4-Bromofluorobenzene (Surr)	*96*		*50 - 131*		*10/20/22 19:09*	*1*
Dibromofluoromethane (Surr)	*101*		*50 - 141*		*10/20/22 19:09*	*1*
Toluene-d8 (Surr)	*96*		*52 - 141*		*10/20/22 19:09*	*1*

Lab Sample ID: LCS 410-308861/4 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 308861

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	17.9		ug/Kg		90	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*54 - 135*
4-Bromofluorobenzene (Surr)	*99*		*50 - 131*
Dibromofluoromethane (Surr)	*100*		*50 - 141*
Toluene-d8 (Surr)	*98*		*52 - 141*

Lab Sample ID: LCSD 410-308861/5 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 308861

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			20.0	17.9		ug/Kg		89	80 - 120	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*54 - 135*
4-Bromofluorobenzene (Surr)	*99*		*50 - 131*
Dibromofluoromethane (Surr)	*100*		*50 - 141*
Toluene-d8 (Surr)	*99*		*52 - 141*

Lab Sample ID: MB 410-310663/7 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 310663

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010	0.00030	mg/L			10/26/22 14:08	1
Carbon tetrachloride	ND		0.0010	0.00030	mg/L			10/26/22 14:08	1
Chlorobenzene	ND		0.0010	0.00030	mg/L			10/26/22 14:08	1
Chloroform	ND		0.0010	0.00030	mg/L			10/26/22 14:08	1
1,2-Dichloroethane	ND		0.0010	0.00030	mg/L			10/26/22 14:08	1
1,1-Dichloroethene	ND		0.0010	0.00030	mg/L			10/26/22 14:08	1
2-Butanone	ND		0.010	0.00050	mg/L			10/26/22 14:08	1
Tetrachloroethene	ND		0.0010	0.00030	mg/L			10/26/22 14:08	1
Trichloroethene	ND		0.0010	0.00030	mg/L			10/26/22 14:08	1

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

Lab Sample ID: MB 410-310663/7
Matrix: Solid
Analysis Batch: 310663

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.0010	0.00020	mg/L			10/26/22 14:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*10/26/22 14:08*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*10/26/22 14:08*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*10/26/22 14:08*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*10/26/22 14:08*	*1*

Lab Sample ID: LCS 410-310663/4
Matrix: Solid
Analysis Batch: 310663

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	0.0207		mg/L		103	80 - 120
1,2-Dichloroethane	0.0200	0.0198		mg/L		99	73 - 124
1,1-Dichloroethene	0.0200	0.0210		mg/L		105	80 - 131
2-Butanone	0.250	0.267		mg/L		107	59 - 135
Trichloroethene	0.0200	0.0197		mg/L		98	80 - 120
Vinyl chloride	0.0200	0.0171		mg/L		86	56 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Lab Sample ID: LCSD 410-310663/5
Matrix: Solid
Analysis Batch: 310663

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	0.0200	0.0204		mg/L		102	80 - 120	1	30
1,2-Dichloroethane	0.0200	0.0199		mg/L		99	73 - 124	0	30
1,1-Dichloroethene	0.0200	0.0202		mg/L		101	80 - 131	4	30
2-Butanone	0.250	0.269		mg/L		108	59 - 135	1	30
Trichloroethene	0.0200	0.0191		mg/L		95	80 - 120	3	30
Vinyl chloride	0.0200	0.0161		mg/L		81	56 - 120	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

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

Lab Sample ID: MB 410-311379/2-A
Matrix: Solid
Analysis Batch: 311444

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311379

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		10/27/22 15:39	10/27/22 22:21	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		10/27/22 15:39	10/27/22 22:21	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		10/27/22 15:39	10/27/22 22:21	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		10/27/22 15:39	10/27/22 22:21	1
2-Methylphenol	ND		0.010	0.0025	mg/L		10/27/22 15:39	10/27/22 22:21	1
4-Methylphenol	ND		0.010	0.0025	mg/L		10/27/22 15:39	10/27/22 22:21	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		10/27/22 15:39	10/27/22 22:21	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		10/27/22 15:39	10/27/22 22:21	1
Hexachloroethane	ND		0.025	0.0025	mg/L		10/27/22 15:39	10/27/22 22:21	1
Nitrobenzene	ND		0.010	0.0025	mg/L		10/27/22 15:39	10/27/22 22:21	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		10/27/22 15:39	10/27/22 22:21	1
Pyridine	ND		0.025	0.010	mg/L		10/27/22 15:39	10/27/22 22:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*10 - 150*	*10/27/22 15:39*	*10/27/22 22:21*	*1*
2-Fluorobiphenyl (Surr)	*71*		*44 - 120*	*10/27/22 15:39*	*10/27/22 22:21*	*1*
2-Fluorophenol (Surr)	*39*		*10 - 120*	*10/27/22 15:39*	*10/27/22 22:21*	*1*
Nitrobenzene-d5 (Surr)	*71*		*25 - 125*	*10/27/22 15:39*	*10/27/22 22:21*	*1*
p-Terphenyl-d14 (Surr)	*93*		*37 - 120*	*10/27/22 15:39*	*10/27/22 22:21*	*1*
Phenol-d5 (Surr)	*28*		*10 - 120*	*10/27/22 15:39*	*10/27/22 22:21*	*1*

Lab Sample ID: LCS 410-311379/3-A
Matrix: Solid
Analysis Batch: 311444

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311379

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dichlorobenzene	0.250	0.188		mg/L		75	40 - 120
2,4,5-Trichlorophenol	0.250	0.258		mg/L		103	70 - 124
2,4,6-Trichlorophenol	0.250	0.245		mg/L		98	63 - 120
2,4-Dinitrotoluene	0.250	0.258		mg/L		103	71 - 124
2-Methylphenol	0.250	0.182		mg/L		73	58 - 120
4-Methylphenol	0.250	0.169		mg/L		68	49 - 120
Hexachlorobenzene	0.250	0.210		mg/L		84	65 - 120
Hexachlorobutadiene	0.250	0.166		mg/L		66	24 - 120
Hexachloroethane	0.250	0.178		mg/L		71	27 - 120
Nitrobenzene	0.250	0.214		mg/L		86	59 - 120
Pentachlorophenol	0.500	0.575		mg/L		115	56 - 135
Pyridine	0.500	0.203		mg/L		41	23 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*92*		*10 - 150*
2-Fluorobiphenyl (Surr)	*79*		*44 - 120*
2-Fluorophenol (Surr)	*42*		*10 - 120*
Nitrobenzene-d5 (Surr)	*75*		*25 - 125*
p-Terphenyl-d14 (Surr)	*87*		*37 - 120*
Phenol-d5 (Surr)	*28*		*10 - 120*

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

Lab Sample ID: LCSD 410-311379/4-A
Matrix: Solid
Analysis Batch: 311444

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311379

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dichlorobenzene			0.250	0.196		mg/L		78	40 - 120	4	30
2,4,5-Trichlorophenol			0.250	0.248		mg/L		99	70 - 124	4	30
2,4,6-Trichlorophenol			0.250	0.245		mg/L		98	63 - 120	0	30
2,4-Dinitrotoluene			0.250	0.292		mg/L		117	71 - 124	12	30
2-Methylphenol			0.250	0.192		mg/L		77	58 - 120	5	30
4-Methylphenol			0.250	0.171		mg/L		68	49 - 120	1	30
Hexachlorobenzene			0.250	0.202		mg/L		81	65 - 120	4	30
Hexachlorobutadiene			0.250	0.162		mg/L		65	24 - 120	3	30
Hexachloroethane			0.250	0.183		mg/L		73	27 - 120	3	30
Nitrobenzene			0.250	0.232		mg/L		93	59 - 120	8	30
Pentachlorophenol			0.500	0.568		mg/L		114	56 - 135	1	30
Pyridine			0.500	0.239		mg/L		48	23 - 120	16	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*90*		*10 - 150*
2-Fluorobiphenyl (Surr)	*83*		*44 - 120*
2-Fluorophenol (Surr)	*45*		*10 - 120*
Nitrobenzene-d5 (Surr)	*79*		*25 - 125*
p-Terphenyl-d14 (Surr)	*88*		*37 - 120*
Phenol-d5 (Surr)	*33*		*10 - 120*

Lab Sample ID: 410-102190-1 MS
Matrix: Solid
Analysis Batch: 311444

Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17
Prep Type: TCLP
Prep Batch: 311379

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
1,4-Dichlorobenzene	ND		0.250	0.179		mg/L		72	40 - 120		
2,4,5-Trichlorophenol	ND		0.250	0.234		mg/L		94	70 - 124		
2,4,6-Trichlorophenol	ND		0.250	0.221		mg/L		88	63 - 120		
2,4-Dinitrotoluene	ND		0.250	0.276		mg/L		110	71 - 124		
2-Methylphenol	ND		0.250	0.179		mg/L		71	58 - 120		
4-Methylphenol	ND		0.250	0.163		mg/L		65	49 - 120		
Hexachlorobenzene	ND	FL	0.250	0.134	FL	mg/L		53	65 - 120		
Hexachlorobutadiene	ND		0.250	0.157		mg/L		63	24 - 120		
Hexachloroethane	ND		0.250	0.171		mg/L		68	27 - 120		
Nitrobenzene	ND		0.250	0.230		mg/L		92	59 - 120		
Pentachlorophenol	ND	FL F2	0.500	0.214	FL	mg/L		43	56 - 135		
Pyridine	ND		0.500	0.225		mg/L		45	23 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*78*		*10 - 150*
2-Fluorobiphenyl (Surr)	*71*		*44 - 120*
2-Fluorophenol (Surr)	*42*		*10 - 120*
Nitrobenzene-d5 (Surr)	*77*		*25 - 125*
p-Terphenyl-d14 (Surr)	*37*		*37 - 120*
Phenol-d5 (Surr)	*29*		*10 - 120*

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

Lab Sample ID: 410-102190-1 MSD — **Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 311444 — **Prep Batch: 311379**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dichlorobenzene	ND		0.250	0.165		mg/L		66	40 - 120	8	30
2,4,5-Trichlorophenol	ND		0.250	0.225		mg/L		90	70 - 124	4	30
2,4,6-Trichlorophenol	ND		0.250	0.218		mg/L		87	63 - 120	1	30
2,4-Dinitrotoluene	ND		0.250	0.252		mg/L		101	71 - 124	9	30
2-Methylphenol	ND		0.250	0.158		mg/L		63	58 - 120	12	30
4-Methylphenol	ND		0.250	0.141		mg/L		56	49 - 120	14	30
Hexachlorobenzene	ND	FL	0.250	0.180		mg/L		72	65 - 120	29	30
Hexachlorobutadiene	ND		0.250	0.153		mg/L		61	24 - 120	3	30
Hexachloroethane	ND		0.250	0.160		mg/L		64	27 - 120	7	30
Nitrobenzene	ND		0.250	0.210		mg/L		84	59 - 120	9	30
Pentachlorophenol	ND	FL F2	0.500	0.345	F2	mg/L		69	56 - 135	47	30
Pyridine	ND		0.500	0.188		mg/L		38	23 - 120	18	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*75*		*10 - 150*
2-Fluorobiphenyl (Surr)	*73*		*44 - 120*
2-Fluorophenol (Surr)	*37*		*10 - 120*
Nitrobenzene-d5 (Surr)	*74*		*25 - 125*
p-Terphenyl-d14 (Surr)	*70*		*37 - 120*
Phenol-d5 (Surr)	*25*		*10 - 120*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 410-311387/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 311505 — **Prep Batch: 311387**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.000060	0.000016	mg/L		10/27/22 15:44	10/28/22 05:45	1
gamma-BHC (Lindane) (1C)	ND		0.000040	0.0000040	mg/L		10/27/22 15:44	10/28/22 05:45	1
Heptachlor (2C)	ND		0.000040	0.0000040	mg/L		10/27/22 15:44	10/28/22 05:45	1
Heptachlor epoxide (1C)	ND		0.000040	0.0000046	mg/L		10/27/22 15:44	10/28/22 05:45	1
Methoxychlor (1C)	ND		0.00022	0.000060	mg/L		10/27/22 15:44	10/28/22 05:45	1
Toxaphene (1C)	ND		0.0020	0.00060	mg/L		10/27/22 15:44	10/28/22 05:45	1
Chlordane (n.o.s.) (1C)	ND		0.0010	0.00032	mg/L		10/27/22 15:44	10/28/22 05:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr) (1C)	*79*		*21 - 130*	*10/27/22 15:44*	*10/28/22 05:45*	*1*
DCB Decachlorobiphenyl (Surr) (2C)	*76*		*21 - 130*	*10/27/22 15:44*	*10/28/22 05:45*	*1*
Tetrachloro-m-xylene (Surr) (1C)	*85*		*39 - 139*	*10/27/22 15:44*	*10/28/22 05:45*	*1*
Tetrachloro-m-xylene (Surr) (2C)	*84*		*39 - 139*	*10/27/22 15:44*	*10/28/22 05:45*	*1*

Lab Sample ID: LCS 410-311387/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 311505 — **Prep Batch: 311387**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Endrin (1C)	0.000126	0.000138		mg/L		109	60 - 151

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

Lab Sample ID: LCS 410-311387/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 311505 — **Prep Batch: 311387**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
gamma-BHC (Lindane) (1C)			0.000252	0.000280		mg/L		111	51 - 132		
Heptachlor (1C)			0.000252	0.000271		mg/L		108	42 - 133		
Heptachlor epoxide (1C)			0.000377	0.000394		mg/L		105	56 - 132		
Methoxychlor (1C)			0.00100	0.00124		mg/L		124	58 - 165		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr) (1C)	*93*		*21 - 130*
DCB Decachlorobiphenyl (Surr) (2C)	*92*		*21 - 130*
Tetrachloro-m-xylene (Surr) (1C)	*92*		*39 - 139*
Tetrachloro-m-xylene (Surr) (2C)	*94*		*39 - 139*

Lab Sample ID: LCSD 410-311387/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 311505 — **Prep Batch: 311387**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Endrin (1C)			0.000126	0.000148		mg/L		118	60 - 151	7	30
gamma-BHC (Lindane) (1C)			0.000252	0.000297		mg/L		118	51 - 132	6	30
Heptachlor (1C)			0.000252	0.000284		mg/L		113	42 - 133	5	30
Heptachlor epoxide (1C)			0.000377	0.000417		mg/L		111	56 - 132	6	30
Methoxychlor (1C)			0.00100	0.00130		mg/L		129	58 - 165	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr) (1C)	*94*		*21 - 130*
DCB Decachlorobiphenyl (Surr) (2C)	*94*		*21 - 130*
Tetrachloro-m-xylene (Surr) (1C)	*93*		*39 - 139*
Tetrachloro-m-xylene (Surr) (2C)	*93*		*39 - 139*

Lab Sample ID: 410-102190-1 MS — **Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 311505 — **Prep Batch: 311387**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Endrin (1C)	ND	cn	0.000126	0.000174	J	mg/L		NC	60 - 151		
gamma-BHC (Lindane) (1C)	ND	FH cn	0.000252	0.000357	J FH	mg/L		142	51 - 132		
Heptachlor (2C)	ND	B FH F2 cn	0.000252	0.000259	J p	mg/L		103	42 - 133		
Heptachlor epoxide (1C)	ND	cn	0.000377	0.000472		mg/L		125	56 - 132		
Methoxychlor (1C)	ND	cn	0.00100	0.00161	J	mg/L		160	58 - 165		

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

Lab Sample ID: 410-102190-1 MS
Matrix: Solid
Analysis Batch: 311505

Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17
Prep Type: TCLP
Prep Batch: 311387

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr) (1C)	*114*		*21 - 130*
DCB Decachlorobiphenyl (Surr) (2C)	*110*		*21 - 130*
Tetrachloro-m-xylene (Surr) (1C)	*117*		*39 - 139*
Tetrachloro-m-xylene (Surr) (2C)	*88*		*39 - 139*

Lab Sample ID: 410-102190-1 MSD
Matrix: Solid
Analysis Batch: 311505

Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17
Prep Type: TCLP
Prep Batch: 311387

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Endrin (1C)	ND	cn	0.000126	0.000174	J	mg/L		NC	60 - 151	0	30
gamma-BHC (Lindane) (1C)	ND	FH cn	0.000252	0.000377	J FH	mg/L		150	51 - 132	5	30
Heptachlor (1C)	ND	B FH F2 cn	0.000252	0.000390	J FH F2	mg/L		155	42 - 133	40	30
Heptachlor epoxide (1C)	ND	cn	0.000377	0.000490		mg/L		130	56 - 132	4	30
Methoxychlor (1C)	ND	cn	0.00100	0.00166	J	mg/L		165	58 - 165	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr) (1C)	*125*		*21 - 130*
DCB Decachlorobiphenyl (Surr) (2C)	*119*		*21 - 130*
Tetrachloro-m-xylene (Surr) (1C)	*124*		*39 - 139*
Tetrachloro-m-xylene (Surr) (2C)	*91*		*39 - 139*

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

Lab Sample ID: MB 410-308805/1-A
Matrix: Solid
Analysis Batch: 308945

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308805

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		17	5.3	ug/Kg		10/20/22 16:30	10/20/22 21:47	1
PCB-1221 (1C)	ND		17	5.3	ug/Kg		10/20/22 16:30	10/20/22 21:47	1
PCB-1232 (1C)	ND		17	5.3	ug/Kg		10/20/22 16:30	10/20/22 21:47	1
PCB-1242 (1C)	ND		17	5.3	ug/Kg		10/20/22 16:30	10/20/22 21:47	1
PCB-1248 (1C)	ND		17	5.3	ug/Kg		10/20/22 16:30	10/20/22 21:47	1
PCB-1254 (1C)	ND		17	6.4	ug/Kg		10/20/22 16:30	10/20/22 21:47	1
PCB-1260 (1C)	ND		17	6.4	ug/Kg		10/20/22 16:30	10/20/22 21:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr) (1C)	*85*		*66 - 130*	*10/20/22 16:30*	*10/20/22 21:47*	*1*
DCB Decachlorobiphenyl (Surr) (2C)	*89*		*66 - 130*	*10/20/22 16:30*	*10/20/22 21:47*	*1*
Tetrachloro-m-xylene (1C)	*92*		*68 - 130*	*10/20/22 16:30*	*10/20/22 21:47*	*1*

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

Lab Sample ID: MB 410-308805/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 308945 — **Prep Batch: 308805**

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (2C)	97		68 - 130	10/20/22 16:30	10/20/22 21:47	1

Lab Sample ID: LCS 410-308805/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 308945 — **Prep Batch: 308805**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
PCB-1016 (1C)	167	144		ug/Kg		86	68 - 121
PCB-1260 (1C)	167	149		ug/Kg		89	75 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr) (1C)	84		66 - 130
DCB Decachlorobiphenyl (Surr) (2C)	92		66 - 130
Tetrachloro-m-xylene (1C)	89		68 - 130
Tetrachloro-m-xylene (2C)	98		68 - 130

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 410-310466/2-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 310489 — **Prep Batch: 310466**

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		10/25/22 19:10	10/26/22 06:19	1
2,4-D (1C)	ND		0.050	0.016	mg/L		10/25/22 19:10	10/26/22 06:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid (Surr) (1C)	60		26 - 136	10/25/22 19:10	10/26/22 06:19	1
2,4-Dichlorophenylacetic acid (Surr) (2C)	58		26 - 136	10/25/22 19:10	10/26/22 06:19	1

Lab Sample ID: LCS 410-310466/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 310489 — **Prep Batch: 310466**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Silvex (2,4,5-TP) (2C)	0.00500	0.00349	J	mg/L		70	58 - 148
2,4-D (2C)	0.0502	0.0360	J	mg/L		72	42 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid (Surr) (1C)	57		26 - 136
2,4-Dichlorophenylacetic acid (Surr) (2C)	64		26 - 136

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

Lab Sample ID: 410-102190-1 MS
Matrix: Solid
Analysis Batch: 310489

Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17
Prep Type: TCLP
Prep Batch: 310466

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Silvex (2,4,5-TP) (1C)	ND		0.00500	0.00360	J	mg/L		72	58 - 148
2,4-D (2C)	ND		0.0502	0.0402	J	mg/L		80	42 - 147

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid (Surr) (1C)	*69*		*26 - 136*
2,4-Dichlorophenylacetic acid (Surr) (2C)	*72*		*26 - 136*

Lab Sample ID: 410-102190-1 MSD
Matrix: Solid
Analysis Batch: 310489

Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17
Prep Type: TCLP
Prep Batch: 310466

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Silvex (2,4,5-TP) (1C)	ND		0.00500	0.00344	J	mg/L		69	58 - 148	4	30
2,4-D (2C)	ND		0.0502	0.0380	J	mg/L		76	42 - 147	6	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid (Surr) (1C)	*62*		*26 - 136*
2,4-Dichlorophenylacetic acid (Surr) (2C)	*64*		*26 - 136*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 410-310042/1-A
Matrix: Solid
Analysis Batch: 312169

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 310042

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.16	mg/L		10/25/22 05:08	10/30/22 15:44	1
Barium	ND		0.050	0.010	mg/L		10/25/22 05:08	10/30/22 15:44	1
Cadmium	ND		0.050	0.010	mg/L		10/25/22 05:08	10/30/22 15:44	1
Chromium	ND		0.15	0.030	mg/L		10/25/22 05:08	10/30/22 15:44	1
Lead	ND		0.15	0.071	mg/L		10/25/22 05:08	10/30/22 15:44	1
Selenium	ND		0.50	0.16	mg/L		10/25/22 05:08	10/30/22 15:44	1
Silver	ND		0.10	0.050	mg/L		10/25/22 05:08	10/30/22 15:44	1
Copper	ND		0.20	0.080	mg/L		10/25/22 05:08	10/30/22 15:44	1
Nickel	ND		0.10	0.021	mg/L		10/25/22 05:08	10/30/22 15:44	1
Zinc	ND		0.20	0.037	mg/L		10/25/22 05:08	10/30/22 15:44	1

Lab Sample ID: LCS 410-310042/2-A
Matrix: Solid
Analysis Batch: 312169

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 310042

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	5.00	5.07		mg/L		101	80 - 120
Barium	5.00	4.93		mg/L		99	80 - 120
Cadmium	0.500	0.517		mg/L		103	80 - 120

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

Lab Sample ID: LCS 410-310042/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total Recoverable**
Analysis Batch: 312169 — **Prep Batch: 310042**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	5.00	5.23		mg/L		105	80 - 120
Lead	0.500	0.494		mg/L		99	80 - 120
Selenium	1.00	1.05		mg/L		105	80 - 120
Silver	0.500	0.508		mg/L		102	80 - 120
Copper	5.00	4.88		mg/L		98	80 - 120
Nickel	5.00	5.20		mg/L		104	80 - 120
Zinc	5.00	5.00		mg/L		100	80 - 120

Lab Sample ID: LCSD 410-310042/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total Recoverable**
Analysis Batch: 312169 — **Prep Batch: 310042**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	5.00	5.08		mg/L		102	80 - 120	0	20
Barium	5.00	4.92		mg/L		98	80 - 120	0	20
Cadmium	0.500	0.506		mg/L		101	80 - 120	2	20
Chromium	5.00	5.12		mg/L		102	80 - 120	2	20
Lead	0.500	0.465		mg/L		93	80 - 120	6	20
Selenium	1.00	1.18		mg/L		118	80 - 120	11	20
Silver	0.500	0.510		mg/L		102	80 - 120	0	20
Copper	5.00	4.95		mg/L		99	80 - 120	2	20
Nickel	5.00	5.17		mg/L		103	80 - 120	1	20
Zinc	5.00	4.95		mg/L		99	80 - 120	1	20

Lab Sample ID: 410-102190-1 MS — **Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 312169 — **Prep Batch: 310042**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	ND		5.00	5.61		mg/L		112	75 - 125
Cadmium	ND		1.00	1.05		mg/L		105	75 - 125
Chromium	ND		5.00	5.41		mg/L		108	75 - 125
Lead	ND		5.00	4.53		mg/L		91	75 - 125
Selenium	ND		1.00	1.06		mg/L		106	75 - 125
Silver	ND	FL	5.00	3.49	FL	mg/L		70	75 - 125
Copper	ND		5.00	5.17		mg/L		103	75 - 125
Nickel	ND		5.00	5.35		mg/L		107	75 - 125
Zinc	0.12	J	5.00	5.28		mg/L		103	75 - 125

Lab Sample ID: 410-102190-1 MS — **Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 312169 — **Prep Batch: 310042**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.24	^2 FL	100	61.3	FL	mg/L		61	75 - 125

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 410-310043/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 310424 — **Prep Batch: 310043**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		10/25/22 05:13	10/25/22 14:09	1

Lab Sample ID: LCS 410-310043/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 310424 — **Prep Batch: 310043**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00100	0.000995		mg/L		99	80 - 118

Lab Sample ID: LCSD 410-310043/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 310424 — **Prep Batch: 310043**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00100	0.000949		mg/L		95	80 - 118	5	20

Lab Sample ID: 410-102190-1 MS — **Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 310424 — **Prep Batch: 310043**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND	FL	0.0200	0.00674	FL	mg/L		34	80 - 120

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 410-312826/1 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 312826

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		5.0	1.4	mg/L			11/01/22 18:02	1

Lab Sample ID: LCS 410-312826/2 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 312826

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	33.5		mg/L		84	78 - 114

Lab Sample ID: LCSD 410-312826/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 312826

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	32.7		mg/L		82	78 - 114	2	13

QC Sample Results

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

Job ID: 410-102190-1

Method: 2540B-2011 - Solids, Total

Lab Sample ID: MB 410-312152/1 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 312152

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	ND		42	14	mg/L			10/31/22 08:19	1
Residue, Total	ND		42	14	mg/L			10/31/22 08:19	1

Lab Sample ID: LCS 410-312152/2 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 312152

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Solids	200	189		mg/L		95	91 - 112
Residue, Total	200	189		mg/L		95	91 - 112

Lab Sample ID: LCSD 410-312152/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 312152

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Solids	200	184		mg/L		92	91 - 112	3	3
Residue, Total	200	184		mg/L		92	91 - 112	3	3

Lab Sample ID: LB 410-308055/1-C — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: ASTM Leach**
Analysis Batch: 312152

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	ND		42	14	mg/L			10/31/22 08:19	1
Residue, Total	ND		42	14	mg/L			10/31/22 08:19	1

Method: 2540G-2011 - Total, Fixed, and Volatile Solids

Lab Sample ID: 410-102190-1 DU — **Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 309749

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Solids	96		111	F3	%		15	5
Total Volatile Solids	4.0		2.30	F3	%		53	5
Percent Solids	96		111	F3	%		15	5

Method: 410.4 - COD

Lab Sample ID: MB 410-312233/4 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 312233

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		75	25	mg/L			10/31/22 08:27	1

Method: 410.4 - COD (Continued)

Lab Sample ID: LCS 410-312233/5 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 312233

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand	500	511		mg/L		102	94 - 110

Lab Sample ID: LB 410-308055/1-B — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: ASTM Leach**
Analysis Batch: 312233

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		75	25	mg/L			10/31/22 08:27	1

Method: 9034 - Sulfide, Reactive

Lab Sample ID: MB 410-310121/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 310261 — **Prep Batch: 310121**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	ND		160	54	mg/Kg		10/25/22 08:27	10/25/22 13:12	1

Lab Sample ID: LCS 410-310121/25-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 310261 — **Prep Batch: 310121**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide, Reactive	538	397		mg/Kg		74	56 - 104

Method: 9045D - pH

Lab Sample ID: LCS 410-309827/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 309874

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: 410-102190-1 DU — **Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 309874

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	10.4		10.6		S.U.		2	3

Method: 9071B - HEM and SGT-HEM

Lab Sample ID: MB 410-308873/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 309313 — **Prep Batch: 308873**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		600	200	mg/Kg		10/20/22 17:22	10/21/22 17:31	1

Method: 9071B - HEM and SGT-HEM (Continued)

Lab Sample ID: LCS 410-308873/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 309313 — **Prep Batch: 308873**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HEM (Oil & Grease)			4980	5360		mg/Kg		108	91 - 111		

Method: 9095B - Paint Filter

Lab Sample ID: MB 410-309463/1 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 309463

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Presence of Free Liquid	0.000				No Unit			10/22/22 10:58	1

Method: EPA 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 410-313150/17 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 313150

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.10	0.050	mg/L			11/02/22 10:36	1

Lab Sample ID: LCS 410-313150/15 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 313150

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia as N			2.99	3.11		mg/L		104	90 - 110		

Lab Sample ID: LCSD 410-313150/16 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 313150

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia as N			2.99	3.12		mg/L		104	90 - 110	0	15

QC Association Summary

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

Job ID: 410-102190-1

GC/MS VOA

Prep Batch: 307939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Total/NA	Solid	5030C	

Leach Batch: 308058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	1311	

Analysis Batch: 308861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Total/NA	Solid	8260C	307939
MB 410-308861/7	Method Blank	Total/NA	Solid	8260C	
LCS 410-308861/4	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 410-308861/5	Lab Control Sample Dup	Total/NA	Solid	8260C	

Analysis Batch: 310663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	8260C	308058
MB 410-310663/7	Method Blank	Total/NA	Solid	8260C	
LCS 410-310663/4	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 410-310663/5	Lab Control Sample Dup	Total/NA	Solid	8260C	

GC/MS Semi VOA

Leach Batch: 308054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	1311	
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	1311	
410-102190-1 MSD	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	1311	

Prep Batch: 311379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	3510C	308054
MB 410-311379/2-A	Method Blank	Total/NA	Solid	3510C	
LCS 410-311379/3-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 410-311379/4-A	Lab Control Sample Dup	Total/NA	Solid	3510C	
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	3510C	308054
410-102190-1 MSD	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	3510C	308054

Analysis Batch: 311444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	8270D	311379
MB 410-311379/2-A	Method Blank	Total/NA	Solid	8270D	311379
LCS 410-311379/3-A	Lab Control Sample	Total/NA	Solid	8270D	311379
LCSD 410-311379/4-A	Lab Control Sample Dup	Total/NA	Solid	8270D	311379
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	8270D	311379
410-102190-1 MSD	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	8270D	311379

GC Semi VOA

Leach Batch: 308054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	1311	
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	1311	

GC Semi VOA (Continued)

Leach Batch: 308054 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1 MSD	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	1311	

Prep Batch: 308805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Total/NA	Solid	3546	
MB 410-308805/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-308805/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 308945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Total/NA	Solid	8082A	308805
MB 410-308805/1-A	Method Blank	Total/NA	Solid	8082A	308805
LCS 410-308805/2-A	Lab Control Sample	Total/NA	Solid	8082A	308805

Prep Batch: 310466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	8151A	308054
MB 410-310466/2-A	Method Blank	Total/NA	Solid	8151A	
LCS 410-310466/3-A	Lab Control Sample	Total/NA	Solid	8151A	
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	8151A	308054
410-102190-1 MSD	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	8151A	308054

Analysis Batch: 310489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	8151A	310466
MB 410-310466/2-A	Method Blank	Total/NA	Solid	8151A	310466
LCS 410-310466/3-A	Lab Control Sample	Total/NA	Solid	8151A	310466
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	8151A	310466
410-102190-1 MSD	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	8151A	310466

Prep Batch: 311387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	3510C	308054
MB 410-311387/1-A	Method Blank	Total/NA	Solid	3510C	
LCS 410-311387/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 410-311387/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	3510C	308054
410-102190-1 MSD	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	3510C	308054

Analysis Batch: 311505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	8081B	311387
MB 410-311387/1-A	Method Blank	Total/NA	Solid	8081B	311387
LCS 410-311387/2-A	Lab Control Sample	Total/NA	Solid	8081B	311387
LCSD 410-311387/3-A	Lab Control Sample Dup	Total/NA	Solid	8081B	311387
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	8081B	311387
410-102190-1 MSD	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	8081B	311387

QC Association Summary

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

Job ID: 410-102190-1

Metals

Leach Batch: 308054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	1311	
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	1311	

Prep Batch: 310042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	3005A	308054
MB 410-310042/1-A	Method Blank	Total Recoverable	Solid	3005A	
LCS 410-310042/2-A	Lab Control Sample	Total Recoverable	Solid	3005A	
LCSD 410-310042/3-A	Lab Control Sample Dup	Total Recoverable	Solid	3005A	
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	3005A	308054

Prep Batch: 310043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	7470A	308054
MB 410-310043/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 410-310043/2-A	Lab Control Sample	Total/NA	Solid	7470A	
LCSD 410-310043/3-A	Lab Control Sample Dup	Total/NA	Solid	7470A	
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	7470A	308054

Analysis Batch: 310424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	7470A	310043
MB 410-310043/1-A	Method Blank	Total/NA	Solid	7470A	310043
LCS 410-310043/2-A	Lab Control Sample	Total/NA	Solid	7470A	310043
LCSD 410-310043/3-A	Lab Control Sample Dup	Total/NA	Solid	7470A	310043
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	7470A	310043

Analysis Batch: 312169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	6010C	310042
MB 410-310042/1-A	Method Blank	Total Recoverable	Solid	6010C	310042
LCS 410-310042/2-A	Lab Control Sample	Total Recoverable	Solid	6010C	310042
LCSD 410-310042/3-A	Lab Control Sample Dup	Total Recoverable	Solid	6010C	310042
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	6010C	310042
410-102190-1 MS	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	TCLP	Solid	6010C	310042

General Chemistry

Analysis Batch: 307843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Total/NA	Solid	Moisture	

Leach Batch: 308055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	ASTM Leach	Solid	D3987-85	
LB 410-308055/1-B	Method Blank	ASTM Leach	Solid	D3987-85	
LB 410-308055/1-C	Method Blank	ASTM Leach	Solid	D3987-85	

Prep Batch: 308873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Total/NA	Solid	9071B	

General Chemistry (Continued)

Prep Batch: 308873 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-308873/1-A	Method Blank	Total/NA	Solid	9071B	
LCS 410-308873/2-A	Lab Control Sample	Total/NA	Solid	9071B	

Analysis Batch: 309313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Total/NA	Solid	9071B	308873
MB 410-308873/1-A	Method Blank	Total/NA	Solid	9071B	308873
LCS 410-308873/2-A	Lab Control Sample	Total/NA	Solid	9071B	308873

Analysis Batch: 309463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Total/NA	Solid	9095B	
MB 410-309463/1	Method Blank	Total/NA	Solid	9095B	

Analysis Batch: 309749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Total/NA	Solid	2540G-2011	
410-102190-1 DU	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Total/NA	Solid	2540G-2011	

Leach Batch: 309827

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Soluble	Solid	DI Leach	
LCS 410-309827/1-A	Lab Control Sample	Soluble	Solid	DI Leach	
410-102190-1 DU	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Soluble	Solid	DI Leach	

Analysis Batch: 309873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Total/NA	Solid	261.21	

Analysis Batch: 309874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Soluble	Solid	9045D	309827
LCS 410-309827/1-A	Lab Control Sample	Soluble	Solid	9045D	309827
410-102190-1 DU	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Soluble	Solid	9045D	309827

Prep Batch: 310121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Total/NA	Solid	7.3.3	
MB 410-310121/1-A	Method Blank	Total/NA	Solid	7.3.3	
LCS 410-310121/25-A	Lab Control Sample	Total/NA	Solid	7.3.3	

Analysis Batch: 310261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Total/NA	Solid	9034	310121
MB 410-310121/1-A	Method Blank	Total/NA	Solid	9034	310121
LCS 410-310121/25-A	Lab Control Sample	Total/NA	Solid	9034	310121

Analysis Batch: 312152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	ASTM Leach	Solid	2540B-2011	308055
LB 410-308055/1-C	Method Blank	ASTM Leach	Solid	2540B-2011	308055

General Chemistry (Continued)

Analysis Batch: 312152 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-312152/1	Method Blank	Total/NA	Solid	2540B-2011	
LCS 410-312152/2	Lab Control Sample	Total/NA	Solid	2540B-2011	
LCSD 410-312152/3	Lab Control Sample Dup	Total/NA	Solid	2540B-2011	

Analysis Batch: 312233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	ASTM Leach	Solid	410.4	308055
LB 410-308055/1-B	Method Blank	ASTM Leach	Solid	410.4	308055
MB 410-312233/4	Method Blank	Total/NA	Solid	410.4	
LCS 410-312233/5	Lab Control Sample	Total/NA	Solid	410.4	

Analysis Batch: 312826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	ASTM Leach	Solid	1664B	308055
MB 410-312826/1	Method Blank	Total/NA	Solid	1664B	
LCS 410-312826/2	Lab Control Sample	Total/NA	Solid	1664B	
LCSD 410-312826/3	Lab Control Sample Dup	Total/NA	Solid	1664B	

Analysis Batch: 313150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	ASTM Leach	Solid	EPA 350.1	308055
MB 410-313150/17	Method Blank	Total/NA	Solid	EPA 350.1	
LCS 410-313150/15	Lab Control Sample	Total/NA	Solid	EPA 350.1	
LCSD 410-313150/16	Lab Control Sample Dup	Total/NA	Solid	EPA 350.1	

Analysis Batch: 313178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Total/NA	Solid	9012	310121

Lab Chronicle

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

Job ID: 410-102190-1

Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17

Lab Sample ID: 410-102190-1

Date Collected: 10/17/22 09:50
Matrix: Solid
Date Received: 10/17/22 16:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
TCLP	Leach	1311			308058	CZ7N	ELLE	10/20/22 16:20 - 10/21/22 09:20 [1]
TCLP	Analysis	8260C		20	310663	UKAD	ELLE	10/26/22 22:50
TCLP	Leach	1311			308054	CZ7N	ELLE	10/19/22 15:09 - 10/20/22 00:00 [1]
TCLP	Prep	3510C			311379	ZB3H	ELLE	10/27/22 15:39
TCLP	Analysis	8270D		1	311444	AH7C	ELLE	10/28/22 01:41
TCLP	Leach	1311			308054	CZ7N	ELLE	10/19/22 15:09 - 10/20/22 00:00 [1]
TCLP	Prep	3510C			311387	ZB3H	ELLE	10/27/22 15:44
TCLP	Analysis	8081B		10	311505	WN7O	ELLE	10/28/22 06:40
TCLP	Leach	1311			308054	CZ7N	ELLE	10/19/22 15:09 - 10/20/22 00:00 [1]
TCLP	Prep	8151A			310466	K2IL	ELLE	10/25/22 19:10
TCLP	Analysis	8151A		1	310489	UAMZ	ELLE	10/26/22 11:27
TCLP	Leach	1311			308054	CZ7N	ELLE	10/19/22 15:09 - 10/20/22 00:00 [1]
TCLP	Prep	3005A			310042	UAMX	ELLE	10/25/22 05:08
TCLP	Analysis	6010C		1	312169	VYB8	ELLE	10/30/22 16:47
TCLP	Leach	1311			308054	CZ7N	ELLE	10/19/22 15:09 - 10/20/22 00:00 [1]
TCLP	Prep	7470A			310043	UAMX	ELLE	10/25/22 05:13
TCLP	Analysis	7470A		1	310424	UEFS	ELLE	10/25/22 15:00
ASTM Leach	Leach	D3987-85			308055	CZ7N	ELLE	10/19/22 15:09 - 10/20/22 00:00 [1]
ASTM Leach	Analysis	1664B		1	312826	QT6L	ELLE	11/01/22 18:02
ASTM Leach	Leach	D3987-85			308055	CZ7N	ELLE	10/19/22 15:09 - 10/20/22 00:00 [1]
ASTM Leach	Analysis	2540B-2011		1	312152	M98K	ELLE	10/31/22 08:19
Total/NA	Analysis	2540G-2011		1	309749	M98K	ELLE	10/24/22 09:49
Total/NA	Analysis	261.21		1	309873	DI9Q	ELLE	10/24/22 14:30
ASTM Leach	Leach	D3987-85			308055	CZ7N	ELLE	10/19/22 15:09 - 10/20/22 00:00 [1]
ASTM Leach	Analysis	410.4		1	312233	USAE	ELLE	10/31/22 08:27
Total/NA	Prep	7.3.3			310121	USE1	ELLE	10/25/22 08:27
Total/NA	Analysis	9012		1	313178	JCG7	ELLE	11/02/22 11:47
Total/NA	Prep	7.3.3			310121	USE1	ELLE	10/25/22 08:27
Total/NA	Analysis	9034		1	310261	USE1	ELLE	10/25/22 13:12
Soluble	Leach	DI Leach			309827	F8TI	ELLE	10/24/22 12:38
Soluble	Analysis	9045D		1	309874	F8TI	ELLE	10/24/22 15:30
Total/NA	Analysis	9095B		1	309463	UDS7	ELLE	10/22/22 10:58
ASTM Leach	Leach	D3987-85			308055	CZ7N	ELLE	10/19/22 15:09 - 10/20/22 00:00 [1]
ASTM Leach	Analysis	EPA 350.1		1	313150	JCG7	ELLE	11/02/22 10:44
Total/NA	Analysis	Moisture		1	307843	X4C8	ELLE	10/18/22 13:08

Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17

Lab Sample ID: 410-102190-1

Date Collected: 10/17/22 09:50
Matrix: Solid
Date Received: 10/17/22 16:33
Percent Solids: 98.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			307939	D8NM	ELLE	10/18/22 18:13
Total/NA	Analysis	8260C		1	308861	L8QZ	ELLE	10/21/22 01:44
Total/NA	Prep	3546			308805	MD4W	ELLE	10/20/22 16:30
Total/NA	Analysis	8082A		1	308945	UAMZ	ELLE	10/20/22 23:11

Lab Chronicle

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

Job ID: 410-102190-1

Client Sample ID: GP-1086-1087-RCRA-PAD-WC-01-2022-10-17

Lab Sample ID: 410-102190-1

Date Collected: 10/17/22 09:50
Date Received: 10/17/22 16:33

Matrix: Solid
Percent Solids: 98.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	9071B			308873	QT6L	ELLE	10/20/22 17:22
Total/NA	Analysis	9071B		1	309313	QT6L	ELLE	10/21/22 17:31

[1] Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, 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: 410-102190-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, 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	01-31-23

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
261.21		Solid	Ignitable to Air
261.21		Solid	Ignitable to Flame
261.21		Solid	Ignitable to Friction
261.21		Solid	Ignitable to Water
9045D		Solid	Corrosivity
Moisture		Solid	Percent Moisture

Method Summary

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

Job ID: 410-102190-1

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
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 Environment Testing, 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: 410-102190-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-102190-1	GP-1086-1087-RCRA-PAD-WC-01-2022-10-17	Solid	10/17/22 09:50	10/17/22 16:33

State of Origin: PA

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CHAIN OF CUSTODY

Page 1 of 1

410-102190-01 Chain of Custody

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

Client/Acct. No. Northstar Contracting Group, Inc.
Address 3144 W 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:

___ $Na_2S_2O_3$
___ Na OH/Zn acetate pH
___ HNO_3 pH
___ H_2SO_4 pH
___ NaOH pH
___ Unpreserved
___ HCl # ___ NH4Cl # ___ MeOH
___ DI Water

MATRIX CODES
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 Date	Military Time	GRAB	COMP	Matrix Code	Total	H_2SO_4	HCl	Vials	HNO_3	NaOH	ZnAc	UNPRE	BACT	ANALYSIS REQUESTED	Field pH, Temp (°C), DO, Cl2, Cond. etc.
GP-1056-1057-RCRA-PAD-WC-01-2022-10-17	10/17/22	0950		X	SOL	5							X		Table A Parameters + Total Benzene	

SAMPLED BY: (Name/Company) Bob Armstrong / Northstar
Josh Suboyu

TAT: ☑ STANDARD (10 DAY)
or DUE DATE ___/___/___

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

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

Field Parameters Analyzed By:
Initials | Date/Time:

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
1.	10.17.22	1402	1.	10-17-22	1402
RELINQUISHED BY 2.	10.17.22	1633	RECEIVED BY 2.		
RELINQUISHED BY 3.			RECEIVED BY 3.		
RELINQUISHED BY 4.			RECEIVED BY 4.		
RELINQUISHED BY 5.			RECEIVED BY 5.	10/17/22	1633

DELIVERY: ☐ EQC COURIER ☐ CLIENT ☐ UPS ☐ FEDEX ☐ OTHER ___

Custody Seal Number 153219

Rec'd Temp.: 0.9 Initials: ___ Ice Y / N Location: ___
COMMENTS:

Hazardous: yes / no

TABLE A PARAMETERS

410-102190-02 Chain of Custody

	Parameter Name	Type	Category	Limits		
❑	Ignitibility	As Received		>140	F	
❑	Oil & Grease	As Received			mg/kg	
❑	Paint Filter Test	As Received		No free liquids		
❑	PCB's	As Received		50		
❑	pH	As Received		2 - 12.5	S.U.	
❑	Reactive Cyanide	As Received		100		
❑	Reactive Sulfide	As Received		500		
❑	Total Solids	As Received				
❑	Total Volatile Solids	As Received				
❑	Ammonia-Nitrogen	ASTM		111111	mg/l	
❑	Chemical Oxygen Demand	ASTM				
❑	Oil & Grease	ASTM		88550	mg/l	
❑	Total Solids	ASTM				
❑	pH	TCLP				
❑	Arsenic	TCLP	Metals	5	mg/l	4.25
❑	Barium	TCLP	Metals	100	mg/l	85
❑	Cadmium	TCLP	Metals	1	mg/l	0.85
❑	Chromium	TCLP	Metals	5	mg/l	4.25
❑	Copper	TCLP	Metals	167	mg/l	142
❑	Lead	TCLP	Metals	5	mg/l	4.25
❑	Mercury	TCLP	Metals	0.2	mg/l	0.17
❑	Nickel	TCLP	Metals	242	mg/l	206
❑	Selenium	TCLP	Metals	1	mg/l	0.85
❑	Silver	TCLP	Metals	5	mg/l	4.25
❑	Zinc	TCLP	Metals	1875	mg/l	1594
❑	2,4-D	TCLP	Herb	10	mg/l	8.5
❑	2,4,5-TP	TCLP	Herb	1	mg/l	0.85
❑	Chlordane	TCLP	Pest	0.03	mg/l	0.0255
❑	Endrin	TCLP	Pest	0.02	mg/l	0.017
❑	Heptachlor	TCLP	Pest	0.008	mg/l	0.0068
❑	Heptachlor Epoxide	TCLP	Pest	0.008	mg/l	0.0068
❑	Lindane	TCLP	Pest	0.4	mg/l	0.34
❑	Methoxychlor	TCLP	Pest	10mg/l	8.5	
❑	Toxaphene	TCLP	Pest	0.5	mg/l	0.425
❑	2,4,5-trichlorophenol	TCLP	Acids	400	mg/l	340
❑	2,4,6-trichlorophenol	TCLP	Acids	2	mg/l	1.7
❑	m-cresol	TCLP	Acids	200	mg/l	170
❑	o-cresol	TCLP	Acids	200	mg/l	170
❑	p-cresol	TCLP	Acids	200	mg/l	170
❑	Pentachlorophenol	TCLP	Acids	100	mg/l	85
❑	2,4-dinitrotoluene	TCLP	Base/Neutral	0.13	mg/l	0.1105
❑	Hexachlorobenzene	TCLP	Base/Neutral	0.13	mg/l	0.1105
❑	Hexachlorobutadiene	TCLP	Base/Neutral	0.5	mg/l	0.425
❑	Hexachloroethane	TCLP	Base/Neutral	3	mg/l	2.55

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TABLE A PARAMETERS

*Volatile Organic Compounds must be taken from discrete samples

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

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Login Sample Receipt Checklist

Client: NorthStar Contracting Group, Inc.

Job Number: 410-102190-1

Login Number: 102190
List Number: 1
Creator: Jeremiah, Cory T

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

Question	Answer	Comment
The cooler's custody seal is intact.	True	
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 (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, 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	Not present.
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

NorthStar I&E, Inc.

CERTIFICATE OF DECONTAMINATION

(✓ when complete)

DATE: 10/11/2022

NorthStar Contracting Group, Inc.
(Company Performing the Decontamination)

Equipment or Structure: (circle one)

The structure consists of two tank pads and poured concrete secondary containment with two points of ingress and egress.
(Describe in detail the structure or Equipment to be decontaminated)

If a Structure answer the following:

Permitted: Yes PAD049791098
(Yes or No)
(If Yes List Permit #)

Decontamination Req'd for Closure: Yes
yes or no

LOCATION: 3144 Passyunk Avenue, Philadelphia, PA 19145 - (LAT/LONG): 39°55'13"N - 75°11"52"W (NAD83)
(Provide address or coordinates for the site)

Facility Identification: Philadelphia Energy Solutions Refining & Marketing LLC - Facility # 645873 - Permit PAD049691098 ✓

Visual Inspection Conducted: Yes

Overall condition of the tank pads and containment was fair to good at the time of decon and demo
(List Areas of Notable Discoloration, Any Pathways to Soil, Evidence of a Release, Etc..)

1. The tank pad did not exhibit evidence of any major releases within the containment and no evidence on the exterior of the containment or surrounding soils
2. Light to moderate staining was observed and mainly appeared to originate from steel appurtenances exhibiting oxidation from exposure to precipitation.
3. several cracks were observed on the floor and walls of the containment but they had been repaired with epoxy in the past

(Attach Additional Pages if Needed)

Haz and Non-Haz Waste: Decon Solution & rinse water
(Description of Waste)

Qty.	Container	UOM	Waste Code	Disposition
1,900	Vac Truck	Gal.	N/A	Treated onsite

Comments/Remarks:
The interior of the containment walls and the floor were decontaminated with the same chemical used at the North Yard Hazardous waste storage pad. All washwater and rinseates were collected via vacuum truck and discharged into the #2 separator and subsequently into the surge tank (T-200) and eventually to the Girard Point on-site WWTP where it was treated and discharged.

List any Chemical Product Used: United 657 Zyme-Flow
(Attach applicable SDS's to this form) ✓

Decon Team Members:

(Print Name)	(Signature)	(date)
Carlos Sierra		10/11/2022
Sean Ford		4/13/2022
Joe Pepe		10/11/2022

Project Env. Management

(Print Name)	(Title)	(date)
Robert Armstrong	Sr. Project Manager	10/11/2022

(signature) ✓

Girard Point Former Refinery
Hazardous Waste Container Storage Unit

Stantec

Photographic Log

Client:	**PESRM**	**Project:**	**Hazardous Waste Closure**
Site Name:	**Former Girard Point Refinery**	**Site Location:**	**Philadelphia, PA**

Photograph ID: 1

Photo Location:
Hazardous Waste Storage Pad

Direction:
North

Survey Date:
5/24/2022

Comments:
View of Hazardous Waste STorage Pad while active

Photograph ID: 2

Photo Location:
Hazardous Waste Storage Pad

Direction:
South

Survey Date:
4/13/2023

Comments:
View of Hazardous Waste Storage Pad during decontamination

Stantec

Photographic Log

Client:	**PESRM**	**Project:**	**Hazardous Waste Closure**
Site Name:	**Former Girard Point Refinery**	**Site Location:**	**Philadelphia, PA**

Photograph ID: 3

Photo Location:
Hazardous Waste Storage Pad

Direction:
West

Survey Date:
4/14/2023

Comments:
View of Hazardous Waste Storage Pad prior to demolition

Photograph ID: 4

Photo Location:
Hazardous Waste Storage Pad

Direction:
South

Survey Date:
5/2/2023

Comments:
View of Hazardous Waste Storage Pad following demolition

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ANALYTICAL REPORT

PREPARED FOR

Attn: Robert Armstrong
NorthStar Contracting Group, Inc.
2250 East Adams Avenue
Philadelphia, Pennsylvania 19124

Generated 5/18/2023 7:50:59 AM

JOB DESCRIPTION

NorthStar Sampling

JOB NUMBER

410-125211-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

my EOL

Eurofins Lancaster Laboratories Environment Testing, LLC

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Generated
5/18/2023 7:50:59 AM

Authorized for release by
Amek Carter, Project Manager
Loran.Carter@et.eurofinsus.com
(717)556-7252

Compliance Statement

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.

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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
^c	CCV Recovery is outside acceptance limits.
B	Analyte was found in the blank.
cn	Refer to Case Narrative for further detail
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

Metals

Qualifier	Qualifier Description
B	Analyte was found in the blank.
cn	Refer to Case Narrative for further detail

General Chemistry

Qualifier	Qualifier Description
!	Laboratory is not accredited for this parameter.
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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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
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)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 410-125211-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-125211-1

Receipt
The sample was received on 5/3/2023 2:51 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.4°C

GC/MS VOA
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: Surrogate recovery for the following sample was outside control limits (low) : GP-HAZPAD-CONCRETE-WC-2023-5-2 (410-125211-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

Pesticides
Method 8081B: The continuing calibration verification (CCV) associated with batch 410-376640 recovered above the upper control limit for Chlordane (n.o.s.). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: GP-HAZPAD-CONCRETE-WC-2023-5-2 (410-125211-1).

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 410-375630 contained Barium above the method detection limit (MDL) and below the reporting limit (RL). This target analyte concentration was less than the TCLP Regulatory Hazard Limit. The associated samples were also below the TCLP Regulatory Hazard Limit for this analyte; therefore, re-extraction was not performed.

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: 410-125211-1

Client Sample ID: GP-HAZPAD-CONCRETE-WC-2023-5-2 — Lab Sample ID: 410-125211-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1248 (1C)	10	J cn	17	5.5	ug/Kg	1	☼	8082A	Total/NA
PCB-1254 (1C)	10	J cn	17	6.6	ug/Kg	1	☼	8082A	Total/NA
Barium	0.22	B cn	0.050	0.010	mg/L	1		6010C	TCLP
Total Solids	97		0.10	0.10	%	1		2540G-2011	Total/NA
Total Volatile Solids	1.6		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)	1900		620	210	mg/Kg	1	☼	9071B	Total/NA
Presence of Free Liquid	No				No Unit	1		9095B	Total/NA
pH	10.9		0.01	0.01	S.U.	1		9045D	Soluble
Corrosivity	no		0.01	0.01	NONE	1		9045D	Soluble
HEM (Oil & Grease)	1.5	J ! B	5.4	1.5	mg/L	1		1664B	ASTM Leach
Total Solids	120	!	42	14	mg/L	1		2540B-2015	ASTM Leach
Residue, Total	120	!	42	14	mg/L	1		2540B-2015	ASTM Leach

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

Job ID: 410-125211-1

Client Sample ID: GP-HAZPAD-CONCRETE-WC-2023-5-2

Lab Sample ID: 410-125211-1

Date Collected: 05/02/23 19:57
Matrix: Solid
Date Received: 05/03/23 14:51

Method: SW846 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			05/15/23 12:36	20
Carbon tetrachloride	ND		0.020	0.0060	mg/L			05/15/23 12:36	20
Chlorobenzene	ND		0.020	0.0060	mg/L			05/15/23 12:36	20
Chloroform	ND		0.020	0.0060	mg/L			05/15/23 12:36	20
1,2-Dichloroethane	ND		0.020	0.0060	mg/L			05/15/23 12:36	20
1,1-Dichloroethene	ND		0.020	0.0060	mg/L			05/15/23 12:36	20
2-Butanone	ND		0.20	0.010	mg/L			05/15/23 12:36	20
Tetrachloroethene	ND		0.020	0.0060	mg/L			05/15/23 12:36	20
Trichloroethene	ND		0.020	0.0060	mg/L			05/15/23 12:36	20
Vinyl chloride	ND		0.020	0.0040	mg/L			05/15/23 12:36	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*05/15/23 12:36*	*20*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*05/15/23 12:36*	*20*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*05/15/23 12:36*	*20*
Toluene-d8 (Surr)	*104*		*80 - 120*		*05/15/23 12:36*	*20*

Method: SW846 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		05/16/23 15:55	05/17/23 02:09	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		05/16/23 15:55	05/17/23 02:09	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		05/16/23 15:55	05/17/23 02:09	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		05/16/23 15:55	05/17/23 02:09	1
2-Methylphenol	ND		0.010	0.0025	mg/L		05/16/23 15:55	05/17/23 02:09	1
3,4-Methylphenol	ND		0.010	0.0025	mg/L		05/16/23 15:55	05/17/23 02:09	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		05/16/23 15:55	05/17/23 02:09	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		05/16/23 15:55	05/17/23 02:09	1
Hexachloroethane	ND		0.025	0.0025	mg/L		05/16/23 15:55	05/17/23 02:09	1
Nitrobenzene	ND		0.010	0.0025	mg/L		05/16/23 15:55	05/17/23 02:09	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		05/16/23 15:55	05/17/23 02:09	1
Pyridine	ND		0.025	0.010	mg/L		05/16/23 15:55	05/17/23 02:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*13 - 138*	*05/16/23 15:55*	*05/17/23 02:09*	*1*
2-Fluorobiphenyl (Surr)	*85*		*44 - 120*	*05/16/23 15:55*	*05/17/23 02:09*	*1*
2-Fluorophenol (Surr)	*48*		*10 - 120*	*05/16/23 15:55*	*05/17/23 02:09*	*1*
Nitrobenzene-d5 (Surr)	*82*		*31 - 120*	*05/16/23 15:55*	*05/17/23 02:09*	*1*
p-Terphenyl-d14 (Surr)	*54*		*30 - 125*	*05/16/23 15:55*	*05/17/23 02:09*	*1*
Phenol-d5 (Surr)	*31*		*10 - 120*	*05/16/23 15:55*	*05/17/23 02:09*	*1*

Method: SW846 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND	cn	0.00060	0.00016	mg/L		05/16/23 15:58	05/17/23 04:49	10
gamma-BHC (Lindane) (1C)	ND	B cn	0.00040	0.000040	mg/L		05/16/23 15:58	05/17/23 04:49	10
Heptachlor (1C)	ND	B cn	0.00040	0.000040	mg/L		05/16/23 15:58	05/17/23 04:49	10
Heptachlor epoxide (1C)	ND	cn	0.00040	0.000046	mg/L		05/16/23 15:58	05/17/23 04:49	10
Methoxychlor (1C)	ND	cn	0.0022	0.00060	mg/L		05/16/23 15:58	05/17/23 04:49	10
Toxaphene (1C)	ND	cn	0.020	0.0060	mg/L		05/16/23 15:58	05/17/23 04:49	10
Chlordane (n.o.s.) (1C)	ND	^c cn	0.010	0.0032	mg/L		05/16/23 15:58	05/17/23 04:49	10

Client Sample ID: GP-HAZPAD-CONCRETE-WC-2023-5-2

Lab Sample ID: 410-125211-1

Date Collected: 05/02/23 19:57

Matrix: Solid

Date Received: 05/03/23 14:51

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr) (1C)	*111*	*cn*	*21 - 130*	*05/16/23 15:58*	*05/17/23 04:49*	*10*
DCB Decachlorobiphenyl (Surr) (2C)	*122*	*cn*	*21 - 130*	*05/16/23 15:58*	*05/17/23 04:49*	*10*
Tetrachloro-m-xylene (Surr) (1C)	*93*	*cn*	*39 - 139*	*05/16/23 15:58*	*05/17/23 04:49*	*10*
Tetrachloro-m-xylene (Surr) (2C)	*88*	*cn*	*39 - 139*	*05/16/23 15:58*	*05/17/23 04:49*	*10*

Method: SW846 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (2C)	ND		0.0050	0.0010	mg/L		05/15/23 19:00	05/16/23 10:41	1
2,4-D (1C)	ND		0.050	0.016	mg/L		05/15/23 19:00	05/16/23 10:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid (Surr) (1C)	*66*		*26 - 136*	*05/15/23 19:00*	*05/16/23 10:41*	*1*
2,4-Dichlorophenylacetic acid (Surr) (2C)	*66*		*26 - 136*	*05/15/23 19:00*	*05/16/23 10:41*	*1*

Method: SW846 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	cn	0.50	0.16	mg/L		05/14/23 22:06	05/15/23 21:36	1
Barium	**0.22**	**B cn**	0.050	0.010	mg/L		05/14/23 22:06	05/15/23 21:36	1
Cadmium	ND	cn	0.050	0.010	mg/L		05/14/23 22:06	05/15/23 21:36	1
Chromium	ND	cn	0.15	0.030	mg/L		05/14/23 22:06	05/15/23 21:36	1
Lead	ND	cn	0.15	0.071	mg/L		05/14/23 22:06	05/15/23 21:36	1
Selenium	ND	cn	0.50	0.16	mg/L		05/14/23 22:06	05/15/23 21:36	1
Silver	ND	cn	0.10	0.050	mg/L		05/14/23 22:06	05/15/23 21:36	1
Copper	ND	cn	0.20	0.080	mg/L		05/14/23 22:06	05/15/23 21:36	1
Nickel	ND	cn	0.10	0.021	mg/L		05/14/23 22:06	05/15/23 21:36	1
Zinc	ND	cn	0.20	0.037	mg/L		05/14/23 22:06	05/15/23 21:36	1

Method: SW846 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		05/14/23 22:16	05/15/23 13:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids (SM 2540G-2011)	**97**		0.10	0.10	%			05/08/23 09:21	1
Total Volatile Solids (SM 2540G-2011)	**1.6**		0.10	0.10	%			05/08/23 09:21	1
Percent Solids (SM 2540G-2011)	**97**		0.10	0.10	%			05/08/23 09:21	1
Ignitable to Air (40CFR261 261.21)	**No**		1.0	1.0	NONE			05/08/23 19:25	1
Ignitable to Flame (40CFR261 261.21)	**No**		1.0	1.0	NONE			05/08/23 19:25	1
Ignitable to Friction (40CFR261 261.21)	**No**		1.0	1.0	NONE			05/08/23 19:25	1
Ignitable to Water (40CFR261 261.21)	**No**		1.0	1.0	NONE			05/08/23 19:25	1
Cyanide, Reactive (SW846 9012)	ND		60	20	mg/Kg		05/09/23 07:27	05/17/23 11:20	1
Sulfide, Reactive (SW846 9034)	ND		160	53	mg/Kg		05/09/23 07:27	05/09/23 12:02	1
Presence of Free Liquid (SW846 9095B)	**No**				No Unit			05/08/23 19:32	1
Percent Moisture (EPA Moisture)	**3.0**	**!**	1.0	1.0	%			05/03/23 21:14	1

Client Sample Results

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

Job ID: 410-125211-1

Client Sample ID: GP-HAZPAD-CONCRETE-WC-2023-5-2

Lab Sample ID: 410-125211-1
Date Collected: 05/02/23 19:57
Matrix: Solid
Date Received: 05/03/23 14:51

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 9045D)	10.9		0.01	0.01	S.U.			05/09/23 16:55	1
Corrosivity (SW846 9045D)	no		0.01	0.01	NONE			05/09/23 16:55	1

General Chemistry - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664B)	1.5	J ! B	5.4	1.5	mg/L			05/11/23 17:53	1
Total Solids (SM 2540B-2015)	120	!	42	14	mg/L			05/12/23 05:22	1
Residue, Total (SM 2540B-2015)	120	!	42	14	mg/L			05/12/23 05:22	1
Chemical Oxygen Demand (EPA 410.4)	ND	!	75	25	mg/L			05/12/23 10:08	1
Ammonia as N (EPA 350.1)	ND	!	0.10	0.050	mg/L			05/11/23 13:33	1

Client Sample ID: GP-HAZPAD-CONCRETE-WC-2023-5-2

Lab Sample ID: 410-125211-1
Date Collected: 05/02/23 19:57
Matrix: Solid
Date Received: 05/03/23 14:51
Percent Solids: 97.0

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.2	0.52	ug/Kg	☼	05/04/23 17:10	05/10/23 05:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*54 - 135*	*05/04/23 17:10*	*05/10/23 05:08*	*1*
4-Bromofluorobenzene (Surr)	*85*		*50 - 131*	*05/04/23 17:10*	*05/10/23 05:08*	*1*
Dibromofluoromethane (Surr)	*98*		*50 - 141*	*05/04/23 17:10*	*05/10/23 05:08*	*1*
Toluene-d8 (Surr)	*97*		*52 - 141*	*05/04/23 17:10*	*05/10/23 05:08*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND	cn	17	5.5	ug/Kg	☼	05/08/23 16:39	05/09/23 15:10	1
PCB-1221 (1C)	ND	cn	17	5.5	ug/Kg	☼	05/08/23 16:39	05/09/23 15:10	1
PCB-1232 (1C)	ND	cn	17	5.5	ug/Kg	☼	05/08/23 16:39	05/09/23 15:10	1
PCB-1242 (1C)	ND	cn	17	5.5	ug/Kg	☼	05/08/23 16:39	05/09/23 15:10	1
PCB-1248 (1C)	10	J cn	17	5.5	ug/Kg	☼	05/08/23 16:39	05/09/23 15:10	1
PCB-1254 (1C)	10	J cn	17	6.6	ug/Kg	☼	05/08/23 16:39	05/09/23 15:10	1
PCB-1260 (1C)	ND	cn	17	6.6	ug/Kg	☼	05/08/23 16:39	05/09/23 15:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr) (1C)	*51*	*S1- cn*	*66 - 130*	*05/08/23 16:39*	*05/09/23 15:10*	*1*
DCB Decachlorobiphenyl (Surr) (2C)	*70*	*cn*	*66 - 130*	*05/08/23 16:39*	*05/09/23 15:10*	*1*
Tetrachloro-m-xylene (1C)	*61*	*S1- cn*	*68 - 130*	*05/08/23 16:39*	*05/09/23 15:10*	*1*
Tetrachloro-m-xylene (2C)	*61*	*S1- cn*	*68 - 130*	*05/08/23 16:39*	*05/09/23 15:10*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (SW846 9071B)	1900		620	210	mg/Kg	☼	05/09/23 00:36	05/10/23 17:46	1

Surrogate Summary

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

Job ID: 410-125211-1

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(54-135)	(50-131)	(50-141)	(52-141)
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023	109	85	98	97
LCS 410-373902/4	Lab Control Sample	106	98	100	96
LCSD 410-373902/5	Lab Control Sample Dup	104	97	98	96
MB 410-373902/7	Method Blank	107	93	100	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**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
LCS 410-375738/4	Lab Control Sample	103	101	99	104
LCSD 410-375738/5	Lab Control Sample Dup	103	101	99	103
MB 410-375738/7	Method Blank	105	104	103	104

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**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)
MRL 410-375738/6	Lab Control Sample	107	101	101	102

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**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023	102	103	103	104
410-125211-1 MS	GP-HAZPAD-CONCRETE-WC-2023-5-2	106	103	101	105
410-125211-1 MSD	GP-HAZPAD-CONCRETE-WC-2023-5-2	100	101	99	105

Surrogate Summary

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

Job ID: 410-125211-1

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**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	TPHd14	PHL
Lab Sample ID	Client Sample ID	(13-138)	(44-120)	(10-120)	(31-120)	(30-125)	(10-120)
LCS 410-376473/4-A	Lab Control Sample	84	77	49	72	95	30
LCSD 410-376473/5-A	Lab Control Sample Dup	85	71	48	69	86	32
MB 410-376473/3-A	Method Blank	84	85	42	73	93	27

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

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	TPHd14	PHL
Lab Sample ID	Client Sample ID	(13-138)	(44-120)	(10-120)	(31-120)	(30-125)	(10-120)
410-125211-1	GP-HAZPAD-CONCRETE-WC-202	89	85	48	82	54	31

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**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(21-130)	(21-130)	(39-139)	(39-139)
LCS 410-376475/3-A	Lab Control Sample	53	55	68	69
LCSD 410-376475/4-A	Lab Control Sample Dup	53	51	65	63
MB 410-376475/1-A	Method Blank	94	94	91	92
MB 410-376475/2-A	Method Blank	87	84	76	74

Surrogate Legend

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

Surrogate Summary

Client: NorthStar Contracting Group, Inc.
Job ID: 410-125211-1
Project/Site: NorthStar Sampling

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(21-130)	(21-130)	(39-139)	(39-139)
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023	111 cn	122 cn	93 cn	88 cn

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**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(66-130)	(66-130)	(68-130)	(68-130)
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023	51 S1- cn	70 cn	61 S1- cn	61 S1- cn
LCS 410-373382/2-A	Lab Control Sample	79	84	86	84
MB 410-373382/1-A	Method Blank	88	86	86	84

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCPAA1	DCPAA2
Lab Sample ID	Client Sample ID	(26-136)	(26-136)
LCS 410-376059/3-A	Lab Control Sample	77	72
MB 410-376059/2-A	Method Blank	72	70

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid (Surr)

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCPAA1	DCPAA2
Lab Sample ID	Client Sample ID	(26-136)	(26-136)
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023	66	66

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid (Surr)

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

Lab Sample ID: MB 410-373902/7
Matrix: Solid
Analysis Batch: 373902

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.50	ug/Kg			05/09/23 22:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*54 - 135*		*05/09/23 22:38*	*1*
4-Bromofluorobenzene (Surr)	*93*		*50 - 131*		*05/09/23 22:38*	*1*
Dibromofluoromethane (Surr)	*100*		*50 - 141*		*05/09/23 22:38*	*1*
Toluene-d8 (Surr)	*94*		*52 - 141*		*05/09/23 22:38*	*1*

Lab Sample ID: LCS 410-373902/4
Matrix: Solid
Analysis Batch: 373902

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			20.0	18.9		ug/Kg		94	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*54 - 135*
4-Bromofluorobenzene (Surr)	*98*		*50 - 131*
Dibromofluoromethane (Surr)	*100*		*50 - 141*
Toluene-d8 (Surr)	*96*		*52 - 141*

Lab Sample ID: LCSD 410-373902/5
Matrix: Solid
Analysis Batch: 373902

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			20.0	18.9		ug/Kg		95	80 - 120	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*54 - 135*
4-Bromofluorobenzene (Surr)	*97*		*50 - 131*
Dibromofluoromethane (Surr)	*98*		*50 - 141*
Toluene-d8 (Surr)	*96*		*52 - 141*

Lab Sample ID: MB 410-375738/7
Matrix: Solid
Analysis Batch: 375738

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			05/15/23 10:44	1
Carbon tetrachloride	ND		0.0010	0.00030	mg/L			05/15/23 10:44	1
Chlorobenzene	ND		0.0010	0.00030	mg/L			05/15/23 10:44	1
Chloroform	ND		0.0010	0.00030	mg/L			05/15/23 10:44	1
1,2-Dichloroethane	ND		0.0010	0.00030	mg/L			05/15/23 10:44	1
1,1-Dichloroethene	ND		0.0010	0.00030	mg/L			05/15/23 10:44	1
2-Butanone	ND		0.010	0.00050	mg/L			05/15/23 10:44	1
Tetrachloroethene	ND		0.0010	0.00030	mg/L			05/15/23 10:44	1
Trichloroethene	ND		0.0010	0.00030	mg/L			05/15/23 10:44	1

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

Lab Sample ID: MB 410-375738/7
Matrix: Solid
Analysis Batch: 375738

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.0010	0.00020	mg/L			05/15/23 10:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*05/15/23 10:44*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*05/15/23 10:44*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*05/15/23 10:44*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*05/15/23 10:44*	*1*

Lab Sample ID: LCS 410-375738/4
Matrix: Solid
Analysis Batch: 375738

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	0.0206		mg/L		103	80 - 120
1,2-Dichloroethane	0.0200	0.0184		mg/L		92	73 - 124
1,1-Dichloroethene	0.0200	0.0198		mg/L		99	80 - 131
2-Butanone	0.250	0.266		mg/L		106	59 - 135
Trichloroethene	0.0200	0.0192		mg/L		96	80 - 120
Vinyl chloride	0.0200	0.0148		mg/L		74	56 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*104*		*80 - 120*

Lab Sample ID: LCSD 410-375738/5
Matrix: Solid
Analysis Batch: 375738

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	0.0200	0.0209		mg/L		104	80 - 120	1	30
1,2-Dichloroethane	0.0200	0.0185		mg/L		93	73 - 124	0	30
1,1-Dichloroethene	0.0200	0.0197		mg/L		99	80 - 131	0	30
2-Butanone	0.250	0.264		mg/L		105	59 - 135	1	30
Trichloroethene	0.0200	0.0193		mg/L		97	80 - 120	1	30
Vinyl chloride	0.0200	0.0151		mg/L		75	56 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*103*		*80 - 120*

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

Lab Sample ID: MRL 410-375738/6
Matrix: Solid
Analysis Batch: 375738

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.997	J	ug/L		100	50 - 150
1,2-Dichloroethane	1.00	1.10		ug/L		110	50 - 150
1,1-Dichloroethene	1.00	0.798	J	ug/L		80	50 - 150
2-Butanone	2.00	2.47	J	ug/L		124	50 - 150
Trichloroethene	1.00	0.880	J	ug/L		88	50 - 150
Vinyl chloride	1.00	0.789	J	ug/L		79	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*50 - 150*
4-Bromofluorobenzene (Surr)	*101*		*50 - 150*
Dibromofluoromethane (Surr)	*101*		*50 - 150*
Toluene-d8 (Surr)	*102*		*50 - 150*

Lab Sample ID: 410-125211-1 MS
Matrix: Solid
Analysis Batch: 375738

Client Sample ID: GP-HAZPAD-CONCRETE-WC-2023-5-2
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	ND		0.400	0.434		mg/L		108	80 - 120
1,2-Dichloroethane	ND		0.400	0.371		mg/L		93	73 - 124
1,1-Dichloroethene	ND		0.400	0.425		mg/L		106	80 - 131
2-Butanone	ND		5.00	5.08		mg/L		102	59 - 135
Trichloroethene	ND		0.400	0.396		mg/L		99	80 - 120
Vinyl chloride	ND		0.400	0.345		mg/L		86	56 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*105*		*80 - 120*

Lab Sample ID: 410-125211-1 MSD
Matrix: Solid
Analysis Batch: 375738

Client Sample ID: GP-HAZPAD-CONCRETE-WC-2023-5-2
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.400	0.425		mg/L		106	80 - 120	2	30
1,2-Dichloroethane	ND		0.400	0.365		mg/L		91	73 - 124	1	30
1,1-Dichloroethene	ND		0.400	0.424		mg/L		106	80 - 131	0	30
2-Butanone	ND		5.00	4.92		mg/L		98	59 - 135	3	30
Trichloroethene	ND		0.400	0.389		mg/L		97	80 - 120	2	30
Vinyl chloride	ND		0.400	0.362		mg/L		91	56 - 120	5	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*

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

Lab Sample ID: 410-125211-1 MSD
Matrix: Solid
Analysis Batch: 375738

Client Sample ID: GP-HAZPAD-CONCRETE-WC-2023-5-2
Prep Type: TCLP

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*105*		*80 - 120*

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

Lab Sample ID: MB 410-376473/3-A
Matrix: Solid
Analysis Batch: 376588

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 376473

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.010	0.0025	mg/L		05/16/23 15:55	05/17/23 00:04	1
2,4,5-Trichlorophenol	ND		0.010	0.0025	mg/L		05/16/23 15:55	05/17/23 00:04	1
2,4,6-Trichlorophenol	ND		0.010	0.0025	mg/L		05/16/23 15:55	05/17/23 00:04	1
2,4-Dinitrotoluene	ND		0.025	0.0050	mg/L		05/16/23 15:55	05/17/23 00:04	1
2-Methylphenol	ND		0.010	0.0025	mg/L		05/16/23 15:55	05/17/23 00:04	1
3,4-Methylphenol	ND		0.010	0.0025	mg/L		05/16/23 15:55	05/17/23 00:04	1
Hexachlorobenzene	ND		0.0025	0.00055	mg/L		05/16/23 15:55	05/17/23 00:04	1
Hexachlorobutadiene	ND		0.010	0.0025	mg/L		05/16/23 15:55	05/17/23 00:04	1
Hexachloroethane	ND		0.025	0.0025	mg/L		05/16/23 15:55	05/17/23 00:04	1
Nitrobenzene	ND		0.010	0.0025	mg/L		05/16/23 15:55	05/17/23 00:04	1
Pentachlorophenol	ND		0.025	0.0050	mg/L		05/16/23 15:55	05/17/23 00:04	1
Pyridine	ND		0.025	0.010	mg/L		05/16/23 15:55	05/17/23 00:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*84*		*13 - 138*	*05/16/23 15:55*	*05/17/23 00:04*	*1*
2-Fluorobiphenyl (Surr)	*85*		*44 - 120*	*05/16/23 15:55*	*05/17/23 00:04*	*1*
2-Fluorophenol (Surr)	*42*		*10 - 120*	*05/16/23 15:55*	*05/17/23 00:04*	*1*
Nitrobenzene-d5 (Surr)	*73*		*31 - 120*	*05/16/23 15:55*	*05/17/23 00:04*	*1*
p-Terphenyl-d14 (Surr)	*93*		*30 - 125*	*05/16/23 15:55*	*05/17/23 00:04*	*1*
Phenol-d5 (Surr)	*27*		*10 - 120*	*05/16/23 15:55*	*05/17/23 00:04*	*1*

Lab Sample ID: LCS 410-376473/4-A
Matrix: Solid
Analysis Batch: 376588

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 376473

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dichlorobenzene	0.250	0.196		mg/L		79	34 - 120
2,4,5-Trichlorophenol	0.250	0.236		mg/L		94	60 - 136
2,4,6-Trichlorophenol	0.250	0.221		mg/L		88	63 - 133
2,4-Dinitrotoluene	0.250	0.254		mg/L		101	66 - 131
2-Methylphenol	0.250	0.161		mg/L		64	58 - 120
3,4-Methylphenol	0.250	0.147		mg/L		59	49 - 120
Hexachlorobenzene	0.250	0.249		mg/L		100	61 - 126
Hexachlorobutadiene	0.250	0.185		mg/L		74	10 - 120
Hexachloroethane	0.250	0.166		mg/L		66	16 - 120
Nitrobenzene	0.250	0.205		mg/L		82	59 - 120
Pentachlorophenol	0.500	0.505		mg/L		101	51 - 138
Pyridine	0.500	0.228		mg/L		46	23 - 120

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

Lab Sample ID: LCS 410-376473/4-A
Matrix: Solid
Analysis Batch: 376588

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 376473

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	84		13 - 138
2-Fluorobiphenyl (Surr)	77		44 - 120
2-Fluorophenol (Surr)	49		10 - 120
Nitrobenzene-d5 (Surr)	72		31 - 120
p-Terphenyl-d14 (Surr)	95		30 - 125
Phenol-d5 (Surr)	30		10 - 120

Lab Sample ID: LCSD 410-376473/5-A
Matrix: Solid
Analysis Batch: 376588

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 376473

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dichlorobenzene	0.250	0.187		mg/L		75	34 - 120	5	30
2,4,5-Trichlorophenol	0.250	0.252		mg/L		101	60 - 136	6	30
2,4,6-Trichlorophenol	0.250	0.225		mg/L		90	63 - 133	2	30
2,4-Dinitrotoluene	0.250	0.247		mg/L		99	66 - 131	3	30
2-Methylphenol	0.250	0.176		mg/L		70	58 - 120	9	30
3,4-Methylphenol	0.250	0.159		mg/L		64	49 - 120	8	30
Hexachlorobenzene	0.250	0.236		mg/L		94	61 - 126	5	30
Hexachlorobutadiene	0.250	0.189		mg/L		75	10 - 120	2	30
Hexachloroethane	0.250	0.158		mg/L		63	16 - 120	5	30
Nitrobenzene	0.250	0.198		mg/L		79	59 - 120	3	30
Pentachlorophenol	0.500	0.485		mg/L		97	51 - 138	4	30
Pyridine	0.500	0.240		mg/L		48	23 - 120	5	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	85		13 - 138
2-Fluorobiphenyl (Surr)	71		44 - 120
2-Fluorophenol (Surr)	48		10 - 120
Nitrobenzene-d5 (Surr)	69		31 - 120
p-Terphenyl-d14 (Surr)	86		30 - 125
Phenol-d5 (Surr)	32		10 - 120

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 410-376475/1-A
Matrix: Solid
Analysis Batch: 376640

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 376475

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.000060	0.000016	mg/L		05/16/23 15:58	05/17/23 02:54	1
gamma-BHC (Lindane) (2C)	ND		0.000040	0.0000040	mg/L		05/16/23 15:58	05/17/23 02:54	1
Heptachlor (2C)	ND		0.000040	0.0000040	mg/L		05/16/23 15:58	05/17/23 02:54	1
Heptachlor epoxide (1C)	ND		0.000040	0.0000046	mg/L		05/16/23 15:58	05/17/23 02:54	1
Methoxychlor (1C)	ND		0.00022	0.000060	mg/L		05/16/23 15:58	05/17/23 02:54	1
Toxaphene (1C)	ND		0.0020	0.00060	mg/L		05/16/23 15:58	05/17/23 02:54	1
Chlordane (n.o.s.) (1C)	ND		0.0010	0.00032	mg/L		05/16/23 15:58	05/17/23 02:54	1

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

Lab Sample ID: MB 410-376475/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 376640 — **Prep Batch: 376475**

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	94		21 - 130	05/16/23 15:58	05/17/23 02:54	1
DCB Decachlorobiphenyl (Surr) (2C)	94		21 - 130	05/16/23 15:58	05/17/23 02:54	1
Tetrachloro-m-xylene (Surr) (1C)	91		39 - 139	05/16/23 15:58	05/17/23 02:54	1
Tetrachloro-m-xylene (Surr) (2C)	92		39 - 139	05/16/23 15:58	05/17/23 02:54	1

Lab Sample ID: MB 410-376475/2-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 376640 — **Prep Batch: 376475**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin (1C)	ND		0.000060	0.000016	mg/L		05/16/23 15:58	05/17/23 03:04	1
gamma-BHC (Lindane) (1C)	ND		0.000040	0.0000040	mg/L		05/16/23 15:58	05/17/23 03:04	1
Heptachlor (1C)	ND		0.000040	0.0000040	mg/L		05/16/23 15:58	05/17/23 03:04	1
Heptachlor epoxide (1C)	ND		0.000040	0.0000046	mg/L		05/16/23 15:58	05/17/23 03:04	1
Methoxychlor (1C)	ND		0.00022	0.000060	mg/L		05/16/23 15:58	05/17/23 03:04	1
Toxaphene (1C)	ND		0.0020	0.00060	mg/L		05/16/23 15:58	05/17/23 03:04	1
Chlordane (n.o.s.) (1C)	ND		0.0010	0.00032	mg/L		05/16/23 15:58	05/17/23 03:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	87		21 - 130	05/16/23 15:58	05/17/23 03:04	1
DCB Decachlorobiphenyl (Surr) (2C)	84		21 - 130	05/16/23 15:58	05/17/23 03:04	1
Tetrachloro-m-xylene (Surr) (1C)	76		39 - 139	05/16/23 15:58	05/17/23 03:04	1
Tetrachloro-m-xylene (Surr) (2C)	74		39 - 139	05/16/23 15:58	05/17/23 03:04	1

Lab Sample ID: LCS 410-376475/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 376640 — **Prep Batch: 376475**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Endrin (2C)	0.000126	0.000118		mg/L		94	60 - 151
gamma-BHC (Lindane) (1C)	0.000252	0.000226		mg/L		90	51 - 132
Heptachlor (1C)	0.000252	0.000209		mg/L		83	42 - 133
Heptachlor epoxide (1C)	0.000377	0.000314		mg/L		83	56 - 132
Methoxychlor (2C)	0.00100	0.00130		mg/L		130	58 - 165

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr) (1C)	53		21 - 130
DCB Decachlorobiphenyl (Surr) (2C)	55		21 - 130
Tetrachloro-m-xylene (Surr) (1C)	68		39 - 139
Tetrachloro-m-xylene (Surr) (2C)	69		39 - 139

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

Lab Sample ID: LCSD 410-376475/4-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 376640 — **Prep Batch: 376475**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Endrin (2C)			0.000126	0.000113		mg/L		89	60 - 151	5	30
gamma-BHC (Lindane) (1C)			0.000252	0.000206		mg/L		82	51 - 132	9	30
Heptachlor (1C)			0.000252	0.000196		mg/L		78	42 - 133	6	30
Heptachlor epoxide (1C)			0.000377	0.000303		mg/L		81	56 - 132	3	30
Methoxychlor (2C)			0.00100	0.00115		mg/L		114	58 - 165	13	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr) (1C)	*53*		*21 - 130*
DCB Decachlorobiphenyl (Surr) (2C)	*51*		*21 - 130*
Tetrachloro-m-xylene (Surr) (1C)	*65*		*39 - 139*
Tetrachloro-m-xylene (Surr) (2C)	*63*		*39 - 139*

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

Lab Sample ID: MB 410-373382/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 373670 — **Prep Batch: 373382**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016 (1C)	ND		17	5.3	ug/Kg		05/08/23 16:39	05/09/23 09:41	1
PCB-1221 (1C)	ND		17	5.3	ug/Kg		05/08/23 16:39	05/09/23 09:41	1
PCB-1232 (1C)	ND		17	5.3	ug/Kg		05/08/23 16:39	05/09/23 09:41	1
PCB-1242 (1C)	ND		17	5.3	ug/Kg		05/08/23 16:39	05/09/23 09:41	1
PCB-1248 (1C)	ND		17	5.3	ug/Kg		05/08/23 16:39	05/09/23 09:41	1
PCB-1254 (1C)	ND		17	6.4	ug/Kg		05/08/23 16:39	05/09/23 09:41	1
PCB-1260 (1C)	ND		17	6.4	ug/Kg		05/08/23 16:39	05/09/23 09:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr) (1C)	*88*		*66 - 130*	*05/08/23 16:39*	*05/09/23 09:41*	*1*
DCB Decachlorobiphenyl (Surr) (2C)	*86*		*66 - 130*	*05/08/23 16:39*	*05/09/23 09:41*	*1*
Tetrachloro-m-xylene (1C)	*86*		*68 - 130*	*05/08/23 16:39*	*05/09/23 09:41*	*1*
Tetrachloro-m-xylene (2C)	*84*		*68 - 130*	*05/08/23 16:39*	*05/09/23 09:41*	*1*

Lab Sample ID: LCS 410-373382/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 373670 — **Prep Batch: 373382**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
PCB-1016 (1C)			167	162		ug/Kg		97	68 - 121		
PCB-1260 (1C)			167	153		ug/Kg		91	75 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr) (1C)	*79*		*66 - 130*

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

Lab Sample ID: LCS 410-373382/2-A
Matrix: Solid
Analysis Batch: 373670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 373382

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr) (2C)	*84*		*66 - 130*
Tetrachloro-m-xylene (1C)	*86*		*68 - 130*
Tetrachloro-m-xylene (2C)	*84*		*68 - 130*

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 410-376059/2-A
Matrix: Solid
Analysis Batch: 376185

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 376059

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP) (2C)	ND		0.0050	0.0010	mg/L		05/15/23 19:00	05/16/23 09:33	1
2,4-D (1C)	ND		0.050	0.016	mg/L		05/15/23 19:00	05/16/23 09:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid (Surr) (1C)	*72*		*26 - 136*	*05/15/23 19:00*	*05/16/23 09:33*	*1*
2,4-Dichlorophenylacetic acid (Surr) (2C)	*70*		*26 - 136*	*05/15/23 19:00*	*05/16/23 09:33*	*1*

Lab Sample ID: LCS 410-376059/3-A
Matrix: Solid
Analysis Batch: 376185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 376059

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Silvex (2,4,5-TP) (2C)	0.00500	0.00454	J	mg/L		91	58 - 148
2,4-D (1C)	0.0502	0.0418	J	mg/L		83	42 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid (Surr) (1C)	*77*		*26 - 136*
2,4-Dichlorophenylacetic acid (Surr) (2C)	*72*		*26 - 136*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 410-375630/1-A
Matrix: Solid
Analysis Batch: 376102

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 375630

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.16	mg/L		05/14/23 22:06	05/15/23 21:17	1
Barium	ND		0.050	0.010	mg/L		05/14/23 22:06	05/15/23 21:17	1
Cadmium	ND		0.050	0.010	mg/L		05/14/23 22:06	05/15/23 21:17	1
Chromium	ND		0.15	0.030	mg/L		05/14/23 22:06	05/15/23 21:17	1
Lead	ND		0.15	0.071	mg/L		05/14/23 22:06	05/15/23 21:17	1
Selenium	ND		0.50	0.16	mg/L		05/14/23 22:06	05/15/23 21:17	1
Silver	ND		0.10	0.050	mg/L		05/14/23 22:06	05/15/23 21:17	1
Copper	ND		0.20	0.080	mg/L		05/14/23 22:06	05/15/23 21:17	1

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

Lab Sample ID: MB 410-375630/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total Recoverable**
Analysis Batch: 376102 — **Prep Batch: 375630**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	ND		0.10	0.021	mg/L		05/14/23 22:06	05/15/23 21:17	1
Zinc	ND		0.20	0.037	mg/L		05/14/23 22:06	05/15/23 21:17	1

Lab Sample ID: LCS 410-375630/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total Recoverable**
Analysis Batch: 376102 — **Prep Batch: 375630**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	5.00	5.15		mg/L		103	80 - 120
Barium	5.00	5.03		mg/L		101	80 - 120
Cadmium	0.500	0.524		mg/L		105	80 - 120
Chromium	5.00	5.16		mg/L		103	80 - 120
Lead	0.500	0.523		mg/L		105	80 - 120
Selenium	1.00	1.12		mg/L		112	80 - 120
Silver	0.500	0.534		mg/L		107	80 - 120
Copper	5.00	5.17		mg/L		103	80 - 120
Nickel	5.00	5.15		mg/L		103	80 - 120
Zinc	5.00	5.23		mg/L		105	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 410-375633/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 375909 — **Prep Batch: 375633**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000079	mg/L		05/14/23 22:16	05/15/23 13:43	1

Lab Sample ID: LCS 410-375633/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 375909 — **Prep Batch: 375633**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00100	0.00101		mg/L		101	80 - 118

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 410-374912/1 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 374912

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		5.0	1.4	mg/L			05/11/23 17:53	1

Lab Sample ID: LCS 410-374912/2 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 374912

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	35.4		mg/L		88	78 - 114

Method: 1664B - HEM and SGT-HEM (Continued)

Lab Sample ID: LCSD 410-374912/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 374912

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)			40.0	33.3		mg/L		83	78 - 114	6	13

Lab Sample ID: LB 410-373584/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: ASTM Leach**
Analysis Batch: 374912

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	1.68	J B	5.3	1.5	mg/L			05/11/23 17:53	1

Method: 2540B-2015 - Solids, Total

Lab Sample ID: MB 410-375029/1 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 375029

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	ND		42	14	mg/L			05/12/23 05:22	1
Residue, Total	ND		42	14	mg/L			05/12/23 05:22	1

Lab Sample ID: LCS 410-375029/2 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 375029

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Solids			200	200		mg/L		100	90 - 110		
Residue, Total			200	200		mg/L		100	90 - 110		

Lab Sample ID: LCSD 410-375029/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 375029

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Solids			200	202		mg/L		101	90 - 110	1	10
Residue, Total			200	202		mg/L		101	90 - 110	1	10

Lab Sample ID: LB 410-373584/1-F — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: ASTM Leach**
Analysis Batch: 375029

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	ND		42	14	mg/L			05/12/23 05:22	1
Residue, Total	ND		42	14	mg/L			05/12/23 05:22	1

QC Sample Results

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

Job ID: 410-125211-1

Method: 410.4 - COD

Lab Sample ID: MB 410-375670/4 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 375670

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		75	25	mg/L			05/12/23 10:06	1

Lab Sample ID: LCS 410-375670/5 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 375670

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand	500	504		mg/L		101	90 - 110

Lab Sample ID: LB 410-373584/1-E — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: ASTM Leach**
Analysis Batch: 375670

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		75	25	mg/L			05/12/23 10:08	1

Method: 9034 - Sulfide, Reactive

Lab Sample ID: MB 410-373571/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 373740 — **Prep Batch: 373571**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	ND		160	54	mg/Kg		05/09/23 07:27	05/09/23 12:02	1

Lab Sample ID: LCS 410-373571/25-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 373740 — **Prep Batch: 373571**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide, Reactive	538	466		mg/Kg		87	62 - 104

Method: 9045D - pH

Lab Sample ID: LCS 410-373783/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 373859

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: 410-125211-1 DU — **Client Sample ID: GP-HAZPAD-CONCRETE-WC-2023-5-2**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 373859

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	10.9		10.9		S.U.		0.3	3
Corrosivity	no		no		NONE		NaN	3

Method: 9071B - HEM and SGT-HEM

Lab Sample ID: MB 410-373520/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 374386 — **Prep Batch: 373520**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		600	200	mg/Kg		05/09/23 00:36	05/10/23 17:46	1

Lab Sample ID: LCS 410-373520/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 374386 — **Prep Batch: 373520**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	4960	5020		mg/Kg		101	89 - 113

Method: 9095B - Paint Filter

Lab Sample ID: MB 410-373478/1 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 373478

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Presence of Free Liquid	No				No Unit			05/08/23 19:32	1

Method: EPA 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 410-374787/114 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 374787

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.10	0.050	mg/L			05/11/23 13:18	1

Lab Sample ID: MB 410-374787/83 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 374787

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.10	0.050	mg/L			05/11/23 12:13	1

Lab Sample ID: LCS 410-374787/112 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 374787

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia as N	3.00	2.97		mg/L		99	90 - 110

Lab Sample ID: LCSD 410-374787/113 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 374787

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia as N	3.00	3.05		mg/L		102	90 - 110	3	15

Method: EPA 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LB 410-373584/1-D
Matrix: Solid
Analysis Batch: 374787

Client Sample ID: Method Blank
Prep Type: ASTM Leach

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.10	0.050	mg/L			05/11/23 13:31	1

QC Association Summary

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

Job ID: 410-125211-1

GC/MS VOA

Leach Batch: 372025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	1311	
410-125211-1 MS	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	1311	
410-125211-1 MSD	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	1311	

Prep Batch: 372188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Total/NA	Solid	5030C	

Analysis Batch: 373902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Total/NA	Solid	8260C	372188
MB 410-373902/7	Method Blank	Total/NA	Solid	8260C	
LCS 410-373902/4	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 410-373902/5	Lab Control Sample Dup	Total/NA	Solid	8260C	

Analysis Batch: 375738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	8260C	372025
MB 410-375738/7	Method Blank	Total/NA	Solid	8260C	
LCS 410-375738/4	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 410-375738/5	Lab Control Sample Dup	Total/NA	Solid	8260C	
MRL 410-375738/6	Lab Control Sample	Total/NA	Solid	8260C	
410-125211-1 MS	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	8260C	372025
410-125211-1 MSD	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	8260C	372025

GC/MS Semi VOA

Leach Batch: 373625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	1311	

Prep Batch: 376473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	3510C	373625
MB 410-376473/3-A	Method Blank	Total/NA	Solid	3510C	
LCS 410-376473/4-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 410-376473/5-A	Lab Control Sample Dup	Total/NA	Solid	3510C	

Analysis Batch: 376588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-376473/3-A	Method Blank	Total/NA	Solid	8270D	376473
LCS 410-376473/4-A	Lab Control Sample	Total/NA	Solid	8270D	376473
LCSD 410-376473/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	376473

Analysis Batch: 376603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	8270D	376473

GC Semi VOA

Prep Batch: 373382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Total/NA	Solid	3546	
MB 410-373382/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-373382/2-A	Lab Control Sample	Total/NA	Solid	3546	

Leach Batch: 373625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	1311	

Analysis Batch: 373670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Total/NA	Solid	8082A	373382
MB 410-373382/1-A	Method Blank	Total/NA	Solid	8082A	373382
LCS 410-373382/2-A	Lab Control Sample	Total/NA	Solid	8082A	373382

Prep Batch: 376059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	8151A	373625
MB 410-376059/2-A	Method Blank	Total/NA	Solid	8151A	
LCS 410-376059/3-A	Lab Control Sample	Total/NA	Solid	8151A	

Analysis Batch: 376185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	8151A	376059
MB 410-376059/2-A	Method Blank	Total/NA	Solid	8151A	376059
LCS 410-376059/3-A	Lab Control Sample	Total/NA	Solid	8151A	376059

Prep Batch: 376475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	3510C	373625
MB 410-376475/1-A	Method Blank	Total/NA	Solid	3510C	
MB 410-376475/2-A	Method Blank	Total/NA	Solid	3510C	
LCS 410-376475/3-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 410-376475/4-A	Lab Control Sample Dup	Total/NA	Solid	3510C	

Analysis Batch: 376640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	8081B	376475
MB 410-376475/1-A	Method Blank	Total/NA	Solid	8081B	376475
MB 410-376475/2-A	Method Blank	Total/NA	Solid	8081B	376475
LCS 410-376475/3-A	Lab Control Sample	Total/NA	Solid	8081B	376475
LCSD 410-376475/4-A	Lab Control Sample Dup	Total/NA	Solid	8081B	376475

Metals

Leach Batch: 373625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	1311	

Prep Batch: 375630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	3005A	373625

Metals (Continued)

Prep Batch: 375630 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-375630/1-A	Method Blank	Total Recoverable	Solid	3005A	
LCS 410-375630/2-A	Lab Control Sample	Total Recoverable	Solid	3005A	

Prep Batch: 375633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	7470A	373625
MB 410-375633/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 410-375633/2-A	Lab Control Sample	Total/NA	Solid	7470A	

Analysis Batch: 375909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	7470A	375633
MB 410-375633/1-A	Method Blank	Total/NA	Solid	7470A	375633
LCS 410-375633/2-A	Lab Control Sample	Total/NA	Solid	7470A	375633

Analysis Batch: 376102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	TCLP	Solid	6010C	375630
MB 410-375630/1-A	Method Blank	Total Recoverable	Solid	6010C	375630
LCS 410-375630/2-A	Lab Control Sample	Total Recoverable	Solid	6010C	375630

General Chemistry

Analysis Batch: 371882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Total/NA	Solid	Moisture	

Analysis Batch: 373191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Total/NA	Solid	2540G-2011	

Analysis Batch: 373478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Total/NA	Solid	9095B	
MB 410-373478/1	Method Blank	Total/NA	Solid	9095B	

Analysis Batch: 373488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Total/NA	Solid	261.21	

Prep Batch: 373520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Total/NA	Solid	9071B	
MB 410-373520/1-A	Method Blank	Total/NA	Solid	9071B	
LCS 410-373520/2-A	Lab Control Sample	Total/NA	Solid	9071B	

Prep Batch: 373571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Total/NA	Solid	7.3.3	
MB 410-373571/1-A	Method Blank	Total/NA	Solid	7.3.3	
LCS 410-373571/25-A	Lab Control Sample	Total/NA	Solid	7.3.3	

QC Association Summary

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

Job ID: 410-125211-1

General Chemistry

Leach Batch: 373584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	ASTM Leach	Solid	D3987-85	
LB 410-373584/1-A	Method Blank	ASTM Leach	Solid	D3987-85	
LB 410-373584/1-D	Method Blank	ASTM Leach	Solid	D3987-85	
LB 410-373584/1-E	Method Blank	ASTM Leach	Solid	D3987-85	
LB 410-373584/1-F	Method Blank	ASTM Leach	Solid	D3987-85	

Analysis Batch: 373740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Total/NA	Solid	9034	373571
MB 410-373571/1-A	Method Blank	Total/NA	Solid	9034	373571
LCS 410-373571/25-A	Lab Control Sample	Total/NA	Solid	9034	373571

Leach Batch: 373783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Soluble	Solid	DI Leach	
LCS 410-373783/1-A	Lab Control Sample	Soluble	Solid	DI Leach	
410-125211-1 DU	GP-HAZPAD-CONCRETE-WC-2023-5-2	Soluble	Solid	DI Leach	

Analysis Batch: 373859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Soluble	Solid	9045D	373783
LCS 410-373783/1-A	Lab Control Sample	Soluble	Solid	9045D	373783
410-125211-1 DU	GP-HAZPAD-CONCRETE-WC-2023-5-2	Soluble	Solid	9045D	373783

Analysis Batch: 374386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Total/NA	Solid	9071B	373520
MB 410-373520/1-A	Method Blank	Total/NA	Solid	9071B	373520
LCS 410-373520/2-A	Lab Control Sample	Total/NA	Solid	9071B	373520

Analysis Batch: 374787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	ASTM Leach	Solid	EPA 350.1	373584
LB 410-373584/1-D	Method Blank	ASTM Leach	Solid	EPA 350.1	373584
MB 410-374787/114	Method Blank	Total/NA	Solid	EPA 350.1	
MB 410-374787/83	Method Blank	Total/NA	Solid	EPA 350.1	
LCS 410-374787/112	Lab Control Sample	Total/NA	Solid	EPA 350.1	
LCSD 410-374787/113	Lab Control Sample Dup	Total/NA	Solid	EPA 350.1	

Analysis Batch: 374912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	ASTM Leach	Solid	1664B	373584
LB 410-373584/1-A	Method Blank	ASTM Leach	Solid	1664B	373584
MB 410-374912/1	Method Blank	Total/NA	Solid	1664B	
LCS 410-374912/2	Lab Control Sample	Total/NA	Solid	1664B	
LCSD 410-374912/3	Lab Control Sample Dup	Total/NA	Solid	1664B	

Analysis Batch: 375029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	ASTM Leach	Solid	2540B-2015	373584
LB 410-373584/1-F	Method Blank	ASTM Leach	Solid	2540B-2015	373584

General Chemistry (Continued)

Analysis Batch: 375029 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-375029/1	Method Blank	Total/NA	Solid	2540B-2015	
LCS 410-375029/2	Lab Control Sample	Total/NA	Solid	2540B-2015	
LCSD 410-375029/3	Lab Control Sample Dup	Total/NA	Solid	2540B-2015	

Analysis Batch: 375670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	ASTM Leach	Solid	410.4	373584
LB 410-373584/1-E	Method Blank	ASTM Leach	Solid	410.4	373584
MB 410-375670/4	Method Blank	Total/NA	Solid	410.4	
LCS 410-375670/5	Lab Control Sample	Total/NA	Solid	410.4	

Analysis Batch: 376825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Total/NA	Solid	9012	373571

Lab Chronicle

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

Job ID: 410-125211-1

Client Sample ID: GP-HAZPAD-CONCRETE-WC-2023-5-2

Lab Sample ID: 410-125211-1

Date Collected: 05/02/23 19:57
Matrix: Solid
Date Received: 05/03/23 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
TCLP	Leach	1311			372025	MB4Z	ELLE	05/04/23 15:10 - 05/05/23 08:00 [1]
TCLP	Analysis	8260C		20	375738	DVW2	ELLE	05/15/23 12:36
TCLP	Leach	1311			373625	UNWS	ELLE	05/09/23 12:52 - 05/10/23 00:00 [1]
TCLP	Prep	3510C			376473	T9CY	ELLE	05/16/23 15:55
TCLP	Analysis	8270D		1	376603	AH7C	ELLE	05/17/23 02:09
TCLP	Leach	1311			373625	UNWS	ELLE	05/09/23 12:52 - 05/10/23 00:00 [1]
TCLP	Prep	3510C			376475	QJZ6	ELLE	05/16/23 15:58
TCLP	Analysis	8081B		10	376640	UAMZ	ELLE	05/17/23 04:49
TCLP	Leach	1311			373625	UNWS	ELLE	05/09/23 12:52 - 05/10/23 00:00 [1]
TCLP	Prep	8151A			376059	K2IL	ELLE	05/15/23 19:00
TCLP	Analysis	8151A		1	376185	UAMZ	ELLE	05/16/23 10:41
TCLP	Leach	1311			373625	UNWS	ELLE	05/09/23 12:52 - 05/10/23 00:00 [1]
TCLP	Prep	3005A			375630	HUH3	ELLE	05/14/23 22:06
TCLP	Analysis	6010C		1	376102	MT26	ELLE	05/15/23 21:36
TCLP	Leach	1311			373625	UNWS	ELLE	05/09/23 12:52 - 05/10/23 00:00 [1]
TCLP	Prep	7470A			375633	HUH3	ELLE	05/14/23 22:16
TCLP	Analysis	7470A		1	375909	UEFS	ELLE	05/15/23 13:00
ASTM Leach	Leach	D3987-85			373584	UNWS	ELLE	05/09/23 14:35 - 05/10/23 08:20 [1]
ASTM Leach	Analysis	1664B		1	374912	QT6L	ELLE	05/11/23 17:53
ASTM Leach	Leach	D3987-85			373584	UNWS	ELLE	05/09/23 14:35 - 05/10/23 08:20 [1]
ASTM Leach	Analysis	2540B-2015		1	375029	M98K	ELLE	05/12/23 05:22
Total/NA	Analysis	2540G-2011		1	373191	M98K	ELLE	05/08/23 09:21 - 05/09/23 09:00 [1]
Total/NA	Analysis	261.21		1	373488	UDS7	ELLE	05/08/23 19:25
ASTM Leach	Leach	D3987-85			373584	UNWS	ELLE	05/09/23 14:35 - 05/10/23 08:20 [1]
ASTM Leach	Analysis	410.4		1	375670	USAE	ELLE	05/12/23 10:08
Total/NA	Prep	7.3.3			373571	USE1	ELLE	05/09/23 07:27
Total/NA	Analysis	9012		1	376825	JCG7	ELLE	05/17/23 11:20
Total/NA	Prep	7.3.3			373571	USE1	ELLE	05/09/23 07:27
Total/NA	Analysis	9034		1	373740	USE1	ELLE	05/09/23 12:02
Soluble	Leach	DI Leach			373783	AVC3	ELLE	05/09/23 14:51
Soluble	Analysis	9045D		1	373859	AVC3	ELLE	05/09/23 16:55
Total/NA	Analysis	9095B		1	373478	UDS7	ELLE	05/08/23 19:32
ASTM Leach	Leach	D3987-85			373584	UNWS	ELLE	05/09/23 14:35 - 05/10/23 08:20 [1]
ASTM Leach	Analysis	EPA 350.1		1	374787	JCG7	ELLE	05/11/23 13:33
Total/NA	Analysis	Moisture		1	371882	S9WT	ELLE	05/03/23 21:14

Client Sample ID: GP-HAZPAD-CONCRETE-WC-2023-5-2

Lab Sample ID: 410-125211-1

Date Collected: 05/02/23 19:57
Matrix: Solid
Date Received: 05/03/23 14:51
Percent Solids: 97.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			372188	MXX6	ELLE	05/04/23 17:10
Total/NA	Analysis	8260C		1	373902	L8QZ	ELLE	05/10/23 05:08
Total/NA	Prep	3546			373382	ZB3H	ELLE	05/08/23 16:39
Total/NA	Analysis	8082A		1	373670	E9VJ	ELLE	05/09/23 15:10

Lab Chronicle

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

Job ID: 410-125211-1

Client Sample ID: GP-HAZPAD-CONCRETE-WC-2023-5-2

Lab Sample ID: 410-125211-1

Date Collected: 05/02/23 19:57

Matrix: Solid

Date Received: 05/03/23 14:51

Percent Solids: 97.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	9071B			373520	QT6L	ELLE	05/09/23 00:36
Total/NA	Analysis	9071B		1	374386	QT6L	ELLE	05/10/23 17:46

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, 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: 410-125211-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, 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	01-31-24

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-2015		Solid	Residue, Total
2540B-2015		Solid	Total 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
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: 410-125211-1

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-2015	Solids, Total	SM	ELLE
2540G-2011	Total, Fixed, and Volatile Solids	SM	ELLE
261.21	Ignitability	40CFR261	ELLE
410.4	COD	EPA	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
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
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 Environment Testing, 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: 410-125211-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-125211-1	GP-HAZPAD-CONCRETE-WC-2023-5-2	Solid	05/02/23 19:57	05/03/23 14:51

'gin : PA

410-125211-01 Chain of Custody

eurofins | QC

CHAIN OF CUSTODY

Page 1 of 3

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

Client/Acct. No. Northstar Contracting Group, Inc
Address 3144 W Passyunk Ave.
Philadelphia, PA, 19145
City/State/Zip 440-228-1524
Phone/Fax rarmstrong@Northster.com
Client Contact:

Bill to/Report to (if different)

Sampling Site Address (if different) Include State

P.O. No. PWSID #:
Quote #
e-mail:

LAB USE ONLY:

___ Ascorbic/HCL Vials # ___ HCl Vials
___ $Na_2S_2O_3$ ___
___ Na OH/Zn acetate pH ___
___ HNO_3 pH ___
___ H_2SO_4 pH ___
___ NaOH pH ___
___ Unpreserved
___ HCl # ___ NH4Cl # ___ MeOH
___ DI Water

MATRIX CODES

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 Date	Military Time	GRAB	COMP	Matrix Code	Number of Containers: Total	H_2SO_4	HCl	Vials	HNO_3	NaOH	Zn Ac	UNPRE	BACT	ANALYSIS REQUESTED	Field pH, Temp (°C), DO, Cl2, Cond. etc.
GP-HAZPAD-CONCRETE-WC-2023-5-2	5/2/23	1957		X	SOL	5							X		Table A Parameters & Total Benzene	

SAMPLED BY: (Name/Company) Josh Suboyu and Robert Armstrong / Northster

TAT: ☑ STANDARD (10 DAY)
or DUE DATE ___/___/___

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

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

Field Parameters Analyzed By:
Initials | Date/Time:

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

RELINQUISHED BY SAMPLER	DATE	TIME	RECEIVED BY	DATE	TIME
1.	5/3/23	1200	1. Pierre	5/3/23	12:00
RELINQUISHED BY 2. Pierre	5/3/23	1451	RECEIVED BY 2.	DATE	TIME
RELINQUISHED BY 3.	DATE	TIME	RECEIVED BY 3.	DATE	TIME
RELINQUISHED BY 4.	DATE	TIME	RECEIVED BY 4.	DATE	TIME
RELINQUISHED BY 5.	DATE	TIME	RECEIVED BY 5. MC	DATE 5/3/23	TIME 1451

DELIVERY: ☐ EQC COURIER ☐ CLIENT ☐ UPS ☐ FEDEX ☐ OTHER ___

Custody Seal Number 150614

Rec'd Temp.: 4.4 °C Initials: SR Ice (Y) N Location: ELLET

COMMENTS:

Hazardous: yes / no

SR

5/18/2023

WASTE MANAGEMENT

TABLE A PARAMETERS

410-125211-02 Chain of Custody

	Parameter Name	Type	Category	Limits	Units	85% of Limit
❑	Ignitibility	As Received		>140	F	
❑	Oil & Grease	As Received			mg/kg	
❑	Paint Filter Test	As Received		No free liquids		
❑	PCB's	As Received		50		
❑	pH	As Received		2 - 12.5	S.U.	
❑	Reactive Cyanide	As Received		100		
❑	Reactive Sulfide	As Received		500		
❑	Total Solids	As Received				
❑	Total Volatile Solids	As Received				
❑	Ammonia-Nitrogen	ASTM		111111	mg/l	
❑	Chemical Oxygen Demand	ASTM				
❑	Oil & Grease	ASTM		88550	mg/l	
❑	Total Solids	ASTM				
❑	pH	TCLP				
❑	Arsenic	TCLP	Metals	5	mg/l	4.25
❑	Barium	TCLP	Metals	100	mg/l	85
❑	Cadmium	TCLP	Metals	1	mg/l	0.85
❑	Chromium	TCLP	Metals	5	mg/l	4.25
❑	Copper	TCLP	Metals	167	mg/l	142
❑	Lead	TCLP	Metals	5	mg/l	4.25
❑	Mercury	TCLP	Metals	0.2	mg/l	0.17
❑	Nickel	TCLP	Metals	242	mg/l	206
❑	Selenium	TCLP	Metals	1	mg/l	0.85
❑	Silver	TCLP	Metals	5	mg/l	4.25
❑	Zinc	TCLP	Metals	1875	mg/l	1594
❑	2,4-D	TCLP	Herb	10	mg/l	8.5
❑	2,4,5-TP	TCLP	Herb	1	mg/l	0.85
❑	Chlordane	TCLP	Pest	0.03	mg/l	0.0255
❑	Endrin	TCLP	Pest	0.02	mg/l	0.017
❑	Heptachlor	TCLP	Pest	0.008	mg/l	0.0068
❑	Heptachlor Epoxide	TCLP	Pest	0.008	mg/l	0.0068
❑	Lindane	TCLP	Pest	0.4	mg/l	0.34
❑	Methoxychlor	TCLP	Pest	10mg/l	8.5	
❑	Toxaphene	TCLP	Pest	0.5	mg/l	0.425
❑	2,4,5-trichlorophenol	TCLP	Acids	400	mg/l	340
❑	2,4,6-trichlorophenol	TCLP	Acids	2	mg/l	1.7
❑	m-cresol	TCLP	Acids	200	mg/l	170
❑	o-cresol	TCLP	Acids	200	mg/l	170
❑	p-cresol	TCLP	Acids	200	mg/l	170
❑	Pentachlorophenol	TCLP	Acids	100	mg/l	85
❑	2,4-dinitrotoluene	TCLP	Base/Neutral	0.13	mg/l	0.1105
❑	Hexachlorobenzene	TCLP	Base/Neutral	0.13	mg/l	0.1105
❑	Hexachlorobutadiene	TCLP	Base/Neutral	0.5	mg/l	0.425
❑	Hexachloroethane	TCLP	Base/Neutral	3	mg/l	2.55

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TABLE A PARAMETERS

*Volatile Organic Compounds must be taken from discrete samples

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

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Login Sample Receipt Checklist

Client: NorthStar Contracting Group, Inc.

Job Number: 410-125211-1

Login Number: 125211
List Number: 1
Creator: Roth, Stephanie

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

Question	Answer	Comment
The cooler's custody seal is intact.	True	
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 (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, 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	Not present.
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

NorthStar I&E, Inc.

CERTIFICATE OF DECONTAMINATION

(✓ when complete)

DATE: 4/13/2023

NorthStar Contracting Group, Inc.
(Company Performing the Decontamination)

Equipment or Structure: (circle one)

The structure consists of a poured Concrete Pad with built -in liquid containment. All sumps and piping lead to the onsite Treatment facility.
(Describe in detail the structure or Equipment to be decontaminated)

If a Structure answer the following:

Permitted: Yes PAD049791098
(Yes or No)
(If Yes List Permit #)

Decontamination Req'd for Closure: Yes
yes or no

LOCATION: 3144 Passyunk Avenue, Philadelphia, PA 19145 - (LAT/LONG): 39°55'13"N - 75°11"52"W (NAD83)
(Provide address or coordinates for the site)

Facility Identification: Philadelphia Energy Solutions Refining & Marketing LLC - Facility # 645873 - Permit PAD049691098

✓

Visual Inspection Conducted: Yes

Overall condition of the Staorage pad was very good at time of decon and demo (see photos of pad prior to petro-mat and asphalt addtition for prior surface condition)
(List Areas of Notable Discoloration, Any Pathways to Soil, Evidence of a Release, Etc..)

1. The storage pad did not exhibit evidence of chemical releases at the time of decon and demo
2. Light staining present from oxidation of steel drums, totes and containers of fresh carbon
3. No visible cracks or penetrations that would contribute to potential avenues for migration
4. see attached drawing and photos of pad before and after asphalt

(Attach Additional Pages if Needed)

Haz and Non-Haz Waste: Decon Solution & rinse water
(Description of Waste)

Qty.	Container	UOM	Waste Code	Disposition
1,600	Vac Truck	Gal.	N/A	Treated onsite

Comments/Remarks:
see attached drawing showing the installation of petro-mat and asphalt added prior to moving the chemicals from the PB haz-waste storage pad in the north yard to the GP Haz-waste storage pad near the #8 Separator. / The sump was isolated and all decon solution and risneates were collected from the sump, and discharged to the #2 separator to T-200 (level in T-200 31 ft.) providing adequate dilution before it is sent to the on-site GP waste water treatment plant.

List any Chemical Product Used: United 657 Zyme-Flow
(Attach applicable SDS's to this form)

✓

Decon Team Members:

Print Name	Signature	Date
Carlos Sierra		4/13/2023
Enrique Macias		4/13/2023
Enrique Sanchez		4/13/2023

Project Env. Management

Print Name	Title	Date
Robert Armstrong	Sr. Project Manager	4/13/2023

(signature)

✓

Attachment D

Technical Memorandum

To:	Mohamad M. Mazid, PhD, PE Chief Technical Services Department of Environmental Protection Southeast Regional Office Waste Management Program 2 East Main Street Norristown, PA 19401	From:	Kevin Long Nicholas J. Scala, PG, LSRP Terraphase Engineering Inc.
cc:	Amy Piccone, PESRM		
Date:	July 15, 2024	Project No.:	P044.001.010
Subject:	**Site Investigation Report – RCRA Permit PAD 049 791 098** **Point Breeze Hazardous Waste Container Storage Unit** **Philadelphia Energy Solutions Refining and Marketing LLC** **3144 West Passyunk Avenue, Philadelphia, PA 19153**		

Terraphase Engineering Inc. (Terraphase), on behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), has prepared this *Site Investigation Report* to document the results of soil sampling conducted in accordance with the *Soil Sampling Plan* (Terraphase 2021) for the Point Breeze Hazardous Waste Container Storage Unit (PB Waste Storage Unit or the Site), located within the Former Philadelphia Energy Solutions refinery facility (Facility). The soil sampling was performed to assess whether potential historical releases from the PB Waste Storage Unit have impacted soil beneath the storage area and ultimately, obtain closure of the storage area subject to the requirements of the Code of Federal Regulations (CFR) Title 40, Part 264 Subpart G (as incorporated by reference in 25 Pa. Code § 264(a)).

The Facility is undergoing closure activities in preparation for redevelopment and is located at 3144 West Passyunk Avenue, Philadelphia, Pennsylvania (**Figure 1**). The PB Waste Storage Unit is located along River Road within an area of the Facility referred to as the Point Breeze Refinery North Yard (North Yard; **Figure 2**). PESRM provided Notification of Intent to close the PB Waste Storage Unit to the Pennsylvania Department of Environmental Protection (PADEP) on July 2, 2021. NorthStar Contracting Group, Inc. completed closure activities of the PB Waste Storage Unit (i.e., removal of all containers on the pad, visual inspection, decontamination, and demolition of the pad) in accordance with approved *Closure Plan* for the Site (Permit No. PAD 049 791 098). Closure of the PB Waste Storage Unit was documented in the *Notification of Closure of the Point Breeze Hazardous Waste Storage Unit (EPA ID #PAD049791098)* submitted by PESRM to the PADEP on May 2, 2022. The May 2, 2022 notice was withdrawn at the request of PADEP as documented in the withdrawal letter submitted on November 1, 2023.

Following the removal of the concrete pad, soil sampling was conducted during March 2022 and August 2022, per the PADEP-approved *Soil Sampling Plan* (Terraphase 2021). The following sections summarize the relevant background information, detail the results of the soil sampling performed, and provide the conclusions. The data were evaluated in accordance with the *Revised Supplement to the Closure Plan for the Point Breeze Hazardous Waste Container Storage Pad, the Girard Point Hazardous Waste Container Storage Pad, and the Two Girard Point Hazardous Waste Aboveground Storage Tanks (EPA ID #PAD049791098)* dated February 9, 2024 (Closure Plan Supplement).

1 Site Setting

This section presents the site setting and includes a description of the Site, topography, geology, and hydrology, and the on-site and off-site land and groundwater use.

1.1 Site Description

The Site is located along River Road in the Point Breeze North Yard of the Facility and covered an area of 0.4 acres. The location of the PB Waste Storage Unit is depicted on **Figure 2**. During its operation, the Site was divided into two sections: 1) Northern Section (~ 40 by 100 feet [ft]) used to store hazardous waste in drums and 2) Southern Section (~ 125 by 100 ft) used to store hazardous waste in drums, Flo-bins/Composite Intermediate Bulk Containers and roll-off containers. **Figure 3** provides the layout of the Site prior to its demolition.

1.2 Topography

Topography at the Site is generally flat. Regional topography slopes gently to the west towards the Schuylkill River, the nearest water body to the Site. The PB Waste Storage Unit was graded to drain to the installed trenches located centrally in the Northern and Southern Section of the pad. These trenches drain to the east of the Site via drainage piping (**Figure 3**). The average ground surface elevation at the Site is approximately 29 ft above mean sea level.[1]

1.3 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

[1] North American Vertical Datum of 1988

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 property consists of a complex series of water-bearing sand units which can comprise one or more hydrostatic units. Historical 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; Stantec 2017).

1.4 Local Geology and Hydrogeology

During the investigation, soil was primarily investigated within the upper 8 ft bgs, although certain borings were advanced to a depth of 15 ft bgs. Fill up to 5 ft thick was observed in soil cores collected from some of the soil borings installed. The presence of fill in the area is consistent with the findings by Evergreen Resources Group, LLC (Evergreen[2]) during remedial investigation sampling performed within Area of Interest (AOI) 8 as part of their Act 2 efforts (Stantec 2017). PADEP acknowledged and agreed with Evergreen's documentation of the presence of fill in a 2018 technical memorandum issued in response to the *Remedial Investigation Report – Area of Interest 8* (AOI 8 RIR; Stantec 2017). Soil beneath the fill layer generally consists of brown to brownish red sand and silt.

Historically, unconfined aquifer groundwater has been first encountered in the area at a depth of approximately 16 ft bgs[3]. No saturated soil was identified in any of the soil borings installed by Ransom Consulting, LLC (Ransom) during the investigation of soil beneath the PB Waste Storage Unit. Based on Figure 5-5 of the AOI 8 RIR (Stantec 2017), provided in **Appendix A**, unconfined aquifer groundwater flow in the vicinity of the PB Waste Storage Unit appears to be directed toward a groundwater depression near the northern boundary of the PB North Yard.

[2] 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.

[3] 16 ft bgs is the average depth to groundwater at the adjacent groundwater well, N-11.

2 Site Investigation Results

This section discusses the soil sampling performed in accordance with the *Soil Sampling Plan* (Terraphase 2021), the applicable action levels proposed in the *Soil Sampling Plan* for use in helping to assess whether there could have been a potential release to the environment (see Section 2.2), and the evaluation of the data.

2.1 Overview

Based upon a review of engineering drawings provided by the Facility and the results of a site inspection performed by Ransom on November 1, 2021, prior to the removal of the concrete pad and relevant appurtenances, the *Soil Sampling Plan* (Terraphase 2021) was developed and submitted to PADEP for approval. The proposed soil sampling scope was conducted in March 2022 and August 2022 and included the installation of 46 soil borings and the collection/analysis of 55 soil samples.

Since there were no documented releases of hazardous waste to the environment from the PB Waste Storage Unit, soil sampling locations were targeted towards features designed to collect and contain fluids and/or stormwater in the event of a release and areas with visual evidence of deterioration of the concrete pad. Additional sample locations were identified by placing a 30-ft by 30-ft grid across the concrete pad and adding sampling locations into the center of the grid cells where sampling locations had not already been identified using the first approach. In total, PESRM's soil characterization included the installation of 40 soil borings and the collection of 40 soil samples in March 2022. Additional soil characterization sampling was completed in August 2022 to horizontally and vertically delineate the extent of soil concentrations of specific constituents identified in soil at concentrations greater than applicable PADEP Statewide Health (SHS) Media Specific Concentrations (MSCs; see Section 2.2) used to evaluate the results of the sampling. The supplemental sampling included the installation of 13 additional soil borings[4] and the collection/analysis of 15 additional soil samples.

Laboratory analytical services were provided by Alpha Analytical, Inc. of Westborough, Massachusetts and Eurofins of Edison, New Jersey, both of which are PADEP-certified laboratories. Samples were analyzed for the constituents listed in **Table 1**. As part of its work under Act 2, Evergreen worked with PADEP to develop a list of regulated substances that are the focal point of characterization and future remediation activities at the Site. The constituent list in **Table 1** includes the Evergreen and PADEP agreed upon site-specific list of regulated substances being investigated and remediated pursuant to Act 2. In addition, **Table 1** also includes additional constituents typically present in the permitted waste codes and the types of hazardous waste stored at the PB Waste Storage Unit.

2.2 Comparison to MSCs

Consistent with the *Closure Plan Supplement*, soil sampling results were compared to the following SHS MSCs:

[4] For 7 of the 13 borings, Terraphase returned to previous locations to collect samples at different intervals.

- 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 (S-GW) Numeric Values for Used Aquifers (TDS ≤ 2,500)

The results of the soil sampling performed in March and August 2022 are presented on **Table 2** and **Figure 4** and are summarized below:

- Non-Res DC MSCs
  - Benzo(a)anthracene (BaA), benzo(a)pyrene (BaP), and benzo(b)fluoranthene (BbF) were detected in surface soil at concentrations greater than the Non-Res DC MSCs for Surface Soil at one location (i.e., SB29).
  - Lead was detected in surface soil at concentrations greater than the Non-Res DC MSCs for Surface Soil at two locations (i.e., SB30 and SB32A).
  - No constituents were detected in soil at concentrations greater than the Non-Res DC MSCs for Subsurface Soil.
- Non-Res S-GW MSCs
  - BaP was detected in subsurface soil at concentrations greater than the Non-Res S-GW MSCs at two locations (i.e., SB28 and SB29).
  - Chrysene was detected in subsurface soil at concentrations greater than the Non-Res S-GW MSCs at one location (i.e., SB29).
  - Lead was detected in subsurface soil at concentrations greater than the Non-Res S-GW MSCs at three locations (i.e., SB30, SB32, and SB32A).

As demonstrated on **Figure 4**, these exceedances have been horizontally and vertically delineated to the applicable MSCs.

Copies of the laboratory results and boring logs are included in **Appendices B** and **C**, respectively.

3 Human Health Risk Assessment

Consistent with the *Closure Plan Supplement*, because select constituents were detected in soil at concentrations greater than SHS MSCs, Terraphase performed a risk assessment to evaluate the potential significance of human health exposures that could be attributable to former releases of hazardous constituents at the PB Waste Storage Unit. The methods used in the risk assessment are based upon PADEP and United States Environmental Protection Agency (USEPA) guidance.

3.1 Chemicals of Concern

In accordance with Section 250.602(c)(1), Terraphase evaluated the sampling results to identify chemicals of concern (COCs) which would be attributable to releases from the PB Waste Storage Unit. Constituents found in soil at concentration greater than applicable soil SHS MSCs include BaA, BaP, BbF, chrysene, and lead. However, as noted by PADEP (2018), the identification of some specific constituents

in soil at concentrations above MSCs in this area is not likely the result of releases from refinery related activities. Rather, the presence of metals (e.g., lead) and semivolatile organic compounds (e.g., BaP) is likely the result of fill which has been identified at the Facility to depths as much as 50 ft and is potentially not indicative of a release to the environment from the PB Waste Storage Unit.

> "*It is not feasible to associate the delineation of any one incident as they have likely compiled and overlapped each other in the 120+ years that the refinery has been active. Much of the property is covered by anthropogenic fill. Some of these fill areas measure as much as 50 feet deep. As a result, some the metal and semivolatile contamination may not be a result of releases from refinery related activities. Much of south Philadelphia is covered in similarly contaminated fills. It is difficult to delineate semivolatiles and metals at the AOI-8 for this reason.*" – PADEP (2018), emphasis added.

The identification of lead and polycyclic aromatic hydrocarbons (PAH; i.e., BaA, BaP, BbF, chrysene, 7,12-dimethylbenz(a)anthracene) in soil in this area is representative of historical placement of fill in and around the Site.[5]

Because no other constituents have been detected in soil at concentrations greater than MSCs, no COCs have been identified in the area that would be associated with release(s) to the environment from the PB Waste Storage Unit.

3.2 Exposure Assessment

As described in Section 3.1, there are no COCs associated with release(s) to the environment from the Site. As such, there are no complete exposure pathways between site-related contamination and human receptors.

3.3 Toxicity Assessment

As discussed in Section 3.1, there are no COCs associated with release(s) to the environment from the Site. As such, there is no need to compile toxicity values to support a risk assessment.

3.4 Risk Characterization

As discussed in Section 3.1, there are no COCs associated with release(s) to the environment from the Site. As a result, there are no unacceptable site-related risks to human health. Because there are no site-related unacceptable risks to human health following the removal of hazardous waste and the demolition of the Site, the PB Waste Storage Unit has met the closure performance standard under CFR Title 40, Part 264 Subpart G (as incorporated by reference in 25 Pa. Code § 264(a)).

[5] The PAH, 7,12-dimethylbenz(a)anthracene, does not have MSCs, which is why it was not discussed in Section 2.2. 7,12-dimethylbenz(a)anthracene was detected in 1 out of 40 samples collected in which other PAHs were detected at similar concentrations, indicating that its presence is representative of historical placement of fill like the other PAHs for which MSCs are available.

4 Ecological Risk Evaluation

This section presents the ecological risk evaluation performed for the PB Waste Storage Unit. The evaluation was conducted in accordance with 25 Pa. Code § 250.311(b)-(e) to screen for potential impacts to ecological receptors identified in 25 Pa. Code § 250.311(a)[6]. The purpose of the ecological screening is to quickly determine whether surface soil (or sediment if applicable) at a site "have the potential to pose substantial ecological impact or impacts requiring further evaluation." This determination is based on the outcome of several screening steps that include the types of contaminants present, the size of the site, land use considerations, presence or absence for species or habitats of concern, and the presence or absence of complete exposure pathways (See Figure II-16 of the Act 2 Guidance Document).

As discussed in Section 3.1, and consistent with the ecological screening process noted above, there are no constituents associated with release(s) to the environment from the Site. Therefore, no further ecological evaluation is required.

5 Summary and Conclusion

Terraphase has prepared this *Site Investigation Report*, on behalf of PESRM, to document the results of soil sampling conducted in accordance with the *Soil Sampling Plan* (Terraphase 2021) for the PB Waste Storage Unit. The soil sampling was performed to assess whether potential historical releases from the PB Waste Storage Unit have impacted soil beneath the storage area and ultimately, obtain closure of the storage area subject to the requirements of the CFR Title 40, Part 264 Subpart G (as incorporated by reference in 25 Pa. Code § 264(a)).

The soil sampling identified concentrations of BaA, BaP, BbF, chrysene, and lead in soil at concentrations greater than applicable soil SHS MSCs. Consistent with the *Closure Plan Supplement*, because results from soil samples exceed the applicable soil SHS MSCs, Terraphase prepared a human health risk assessment and ecological risk evaluation. The risk assessment concluded that there are no COCs associated with release(s) to the environment for the PB Waste Storage Unit area, and, therefore, there is no potential for unacceptable human health risks associated with release(s) to the environment from the PB Waste Storage Unit area. Similarly, the ecological screening evaluation presented in Section 4, concluded that no further ecological evaluation of the Site is required due to the absence of COCs associated with release(s) to the environment from the Site.

Because there is no evidence of release(s) to the environment from the PB Waste Storage Unit, the closure performance standard and requirements of CFR Title 40, Part 264 Subpart G (as incorporated by reference in 25 Pa. Code § 264(a)) for Clean Closure have been achieved.

[6] The receptors identified in 25 Pa. Code § 250.311(a) consist of (i) threatened and endangered as designated by the US Fish and Wildlife Service (ii) exceptional value wetlands as defined in Section 25 Pa. Code § 105.17 (iii) Habitats of concern, and (iv) Species of concern.

6 References

Pennsylvania Department of Environmental Protection (PADEP). 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.

Philadelphia Energy Solutions Refining and Marketing LLC (PESRM). 2021. *RE: Notification of Intent to Close the Point Breeze Hazardous Waste Container Storage Unit (EPA ID #PAD049791098).* July 2.

_ _ _. 2022. *RE: Notification of Closure of the Point Breeze Hazardous Waste Storage Unit (EPA ID #PAD049791098).* May 2.

_ _ _. 2024. *RE: Revised Supplement to the Closure Plan for the Point Breeze Hazardous Waste Container Storage Pad, the Girard Point Hazardous Waste Container Storage Pad, and the Two Girard Point Hazardous Waste Aboveground Storage Tanks (EPA ID #PAD049791098)*. February 9.

Stantec Consulting Services Inc. (Stantec). 2017. *Remedial Investigation Report, Area of Interest 8*. December 21.

Terraphase Engineering Inc. (Terraphase). 2021. *Soil Sampling Plan – RCRA Permit PAD 049 791 098, Point Breeze Hazardous Waste Container Storage Area*. September 9. Updated December 29.

Attachments (9):

- Table 1 - Constituents of Potential Concern
- Table 2 - Summary of Soil Analytical Results
- Figure 1 - Facility Location
- Figure 2 - Site Location
- Figure 3 - Site Layout
- Figure 4 - Soil Sample Results (PB Waste Storage Unit)
- Appendix A - Select Figure from AOI 8 RIR
- Appendix B - Laboratory Reports
- Appendix C - Boring Logs

Tables

1 Constituents of Potential Concern
2 Summary of Soil Analytical Results

Table 1
Constituents of Potential Concern
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	CASRN	Detected in Soil
VOC	Benzene	71-43-2	Y
VOC	Carbon Disulfide	75-15-0	N
VOC	Cumene	98-82-8	Y
VOC	1,2-Dibromoethane	106-93-4	N
VOC	1,2-Dichloroethane	107-06-2	N
VOC	Ethyl Benzene	100-41-4	Y
VOC	Methyl tert-butyl ether	1634-04-4	N
VOC	Toluene	108-88-3	Y
VOC	1,2,4-Trimethylbenzene	95-63-6	Y
VOC	1,3,5-Trimethylbenzene	108-67-8	Y
VOC	Xylenes (total)	1330-20-7	Y
SVOC	Acenaphthene	83-32-9	Y
SVOC	Anthracene	120-12-7	Y
SVOC	Benzo(a)anthracene	56-55-3	Y
SVOC	Benzo(a)pyrene	50-32-8	Y
SVOC	Benzo(b)fluoranthene	205-99-2	Y
SVOC	Benzo(g,h,i)perylene	191-24-2	Y
SVOC	Benzo(k)fluoranthene	207-08-9	Y
SVOC	Chrysene	218-01-9	Y
SVOC	Dibenz(a,h)anthracene	53-70-3	Y
SVOC	7,12-Dimethylbenz(a)anthracene	57-97-6	Y
SVOC	2,4-Dimethylphenol	105-67-9	N
SVOC	Fluorene	86-73-7	Y
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	Y
SVOC	3-Methylcholanthrene	56-49-5	N
SVOC	Methylphenol (total)	1319-77-3	N
SVOC	2-Methylphenol	95-48-7	N
SVOC	3-Methylphenol	108-39-4	N
SVOC	4-Methylphenol	106-44-5	N
SVOC	Naphthalene	91-20-3	Y
SVOC	Phenanthrene	85-01-8	Y
SVOC	Phenol	108-95-2	N
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	N
SVOC	Di-n-butylphthalate	84-74-2	N
SVOC	Pyrene	129-00-0	Y
INORG	Antimony	7440-36-0	Y
INORG	Arsenic	7440-38-2	Y
INORG	Chromium III	16065-83-1	Y
INORG	Chromium VI	18540-29-9	Y
INORG	Cyanide (total)	57-12-5	Y
INORG	Lead	7439-92-1	Y
INORG	Nickel	7440-02-0	Y
INORG	Vanadium	7440-62-2	Y

Notes:
Y - Detected.
N - Not Detected.

Table 2
Summary of Soil Analytical Results
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Field Sample ID Collection Depth (ft bgs) Sample Date Comments	Non-Res Direct Contact MSCs for Surface Soil (0-2 ft)	Non-Res Direct Contact MSCs for Subsurface Soil (2-15 ft)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC	SB01 HZP-SB01-SS01 2.5 - 3.0 3/16/2022	SB02 HZP-SB02-SS01 2.0 - 2.5 3/17/2022	SB03 HZP-SB03-SS01 1.0 - 1.5 3/17/2022	SB04 HZP-SB04-SS01 3.0 - 3.5 3/16/2022	SB05 HZP-SB05-SS01 1.5 - 2.0 3/16/2022	SB06 HZP-SB06-SS01 1.0 - 1.5 3/17/2022	SB07 HZP-SB07-SS01 4.0 - 4.5 3/17/2022	SB08 HZP-SB08-SS01 6.0 - 6.5 3/17/2022	SB09 HZP-SB09-SS01 1.5 - 2.0 3/16/2022	SB10 HZP-SB10-SS01 6.5 - 7.0 3/16/2022	SB11 HZP-SB11-SS01 2.5 - 3.0 3/17/2022
Volatile Organic Compounds														
Benzene	280	330	0.5	ND (0.00051)	ND (0.00042)	ND (0.00046)	ND (0.00048)	0.00039 J (0.00052)	ND (0.00044)	0.0018 (0.0006)	ND (0.00049)	ND (0.00048)	ND (0.00047)	ND (0.0005)
Carbon Disulfide	10000	10000	620	ND (0.01)	ND (0.0085)	ND (0.0091)	ND (0.0096)	ND (0.01)	ND (0.0087)	ND (0.012)	ND (0.0098)	ND (0.0097)	ND (0.0095)	ND (0.01)
Cumene	10000	10000	2500	ND (0.001)	ND (0.00085)	ND (0.00091)	ND (0.00096)	ND (0.001)	ND (0.00087)	ND (0.0012)	ND (0.00098)	ND (0.00097)	ND (0.00095)	ND (0.001)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00051)	ND (0.00042)	ND (0.00046)	ND (0.00048)	ND (0.00052)	ND (0.00044)	ND (0.0006)	ND (0.00049)	ND (0.00048)	ND (0.00047)	ND (0.0005)
1,2-Dichloroethane	85	98	0.5	ND (0.001)	ND (0.00085)	ND (0.00091)	ND (0.00096)	ND (0.001)	ND (0.00087)	ND (0.0012)	ND (0.00098)	ND (0.00097)	ND (0.00095)	ND (0.001)
Ethyl Benzene	880	1000	70	ND (0.001)	ND (0.00085)	ND (0.00091)	ND (0.00096)	ND (0.001)	ND (0.00087)	0.00025 J (0.0012)	ND (0.00098)	ND (0.00097)	ND (0.00095)	ND (0.001)
Methyl tert-butyl ether	8500	9800	2	ND (0.002)	ND (0.0017)	ND (0.0018)	ND (0.0019)	ND (0.0021)	ND (0.0017)	ND (0.0024)	ND (0.002)	ND (0.0019)	ND (0.0019)	ND (0.002)
Toluene	10000	10000	100	ND (0.001)	ND (0.00085)	ND (0.00091)	ND (0.00096)	ND (0.001)	ND (0.00087)	0.00066 J (0.0012)	ND (0.00098)	ND (0.00097)	ND (0.00095)	ND (0.001)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.002)	ND (0.0017)	ND (0.0018)	ND (0.0019)	ND (0.0021)	ND (0.0017)	ND (0.0024)	ND (0.002)	ND (0.0019)	ND (0.0019)	ND (0.002)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.002)	ND (0.0017)	ND (0.0018)	ND (0.0019)	ND (0.0021)	ND (0.0017)	ND (0.0024)	ND (0.002)	ND (0.0019)	ND (0.0019)	ND (0.002)
Xylenes (total)	7900	9100	1000	ND (0.001)	ND (0.00085)	ND (0.00091)	ND (0.00096)	ND (0.001)	ND (0.00087)	ND (0.0012)	ND (0.00098)	ND (0.00097)	ND (0.00095)	ND (0.001)
Semivolatile Organic Compounds														
Acenaphthene	190000	190000	4700	ND (0.98)	ND (0.2)	ND (0.2)	0.065 J (0.19)	0.59 J (1.9)	0.17 J (0.19)	ND (1.9)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)
Anthracene	190000	190000	350	ND (0.98)	ND (0.2)	ND (0.2)	0.18 J (0.19)	1.5 J (1.9)	0.36 (0.19)	ND (1.9)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)
Benzo(a)anthracene	130	190000	340	ND (0.98)	ND (0.2)	ND (0.2)	0.46 (0.19)	3.6 (1.9)	0.71 (0.19)	0.54 J (1.9)	ND (0.19)	0.13 J (0.19)	ND (0.19)	ND (0.19)
Benzo(a)pyrene	91	190000	46	ND (0.98)	ND (0.2)	ND (0.2)	0.36 (0.19)	3 (1.9)	0.49 (0.19)	0.97 J (1.9)	ND (0.19)	0.13 J (0.19)	ND (0.19)	ND (0.19)
Benzo(b)fluoranthene	76	190000	170	ND (0.98)	ND (0.2)	ND (0.2)	0.46 (0.19)	3.9 (1.9)	0.62 (0.19)	0.84 J (1.9)	ND (0.19)	0.19 (0.19)	ND (0.19)	ND (0.19)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.98)	ND (0.2)	ND (0.2)	0.21 (0.19)	2 (1.9)	0.23 (0.19)	1.4 J (1.9)	ND (0.19)	0.081 J (0.19)	ND (0.19)	ND (0.19)
Benzo(k)fluoranthene	76	190000	610	ND (0.98)	ND (0.2)	ND (0.2)	0.18 J (0.19)	1.6 J (1.9)	0.28 (0.19)	0.28 J (1.9)	ND (0.19)	0.071 J (0.19)	ND (0.19)	ND (0.19)
Chrysene	760	190000	230	ND (0.98)	ND (0.2)	ND (0.2)	0.44 (0.19)	3.3 (1.9)	0.61 (0.19)	0.66 J (1.9)	ND (0.19)	0.14 J (0.19)	ND (0.19)	ND (0.19)
Dibenz(a,h)anthracene	22	190000	270	ND (0.98)	ND (0.2)	ND (0.2)	0.1 J (0.19)	0.69 J (1.9)	0.1 J (0.19)	0.44 J (1.9)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)
7,12-Dimethylbenz(a)anthracene	--	--	--	ND (1.9)	ND (0.38)	ND (0.38)	ND (0.37)	ND (3.7)	ND (0.38)	ND (3.8)	ND (0.37)	ND (0.37)	ND (0.37)	ND (0.38)
2,4-Dimethylphenol	10000	10000	190	ND (0.98)	ND (0.2)	ND (0.2)	ND (0.19)	ND (1.9)	ND (0.19)	ND (1.9)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)
Fluorene	130000	190000	3800	ND (0.98)	ND (0.2)	ND (0.2)	0.073 J (0.19)	0.51 J (1.9)	0.18 J (0.19)	0.34 J (1.9)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.98)	ND (0.2)	ND (0.2)	0.25 (0.19)	2.3 (1.9)	0.32 (0.19)	1 J (1.9)	ND (0.19)	0.1 J (0.19)	ND (0.19)	ND (0.19)
3-Methylcholanthrene	--	--	--	ND (1.9)	ND (0.38)	ND (0.38)	ND (0.37)	ND (3.7)	ND (0.38)	ND (3.8)	ND (0.37)	ND (0.37)	ND (0.37)	ND (0.38)
Methylphenol (total)	10000	10000	530	ND (1.9)	ND (0.38)	ND (0.38)	ND (0.37)	ND (3.7)	ND (0.38)	ND (3.8)	ND (0.37)	ND (0.37)	ND (0.37)	ND (0.38)
2-Methylphenol	160000	190000	490	ND (0.98)	ND (0.2)	ND (0.2)	ND (0.19)	ND (1.9)	ND (0.19)	ND (1.9)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)
3-Methylphenol	10000	10000	490	ND (1.9)	ND (0.38)	ND (0.38)	ND (0.37)	ND (3.7)	ND (0.38)	ND (3.8)	ND (0.37)	ND (0.37)	ND (0.37)	ND (0.38)
4-Methylphenol	16000	190000	49	ND (1.9)	ND (0.38)	ND (0.38)	ND (0.37)	ND (3.7)	ND (0.38)	ND (3.8)	ND (0.37)	ND (0.37)	ND (0.37)	ND (0.38)
Naphthalene	66	77	25	ND (0.98)	ND (0.2)	ND (0.2)	ND (0.19)	ND (1.9)	ND (0.19)	ND (1.9)	ND (0.19)	0.029 J (0.19)	ND (0.19)	ND (0.19)
Phenanthrene	190000	190000	10000	ND (0.98)	ND (0.2)	ND (0.2)	0.71 (0.19)	4.5 (1.9)	1.4 (0.19)	0.8 J (1.9)	ND (0.19)	0.1 J (0.19)	ND (0.19)	ND (0.19)
Phenol	16000	18000	200	ND (0.98)	ND (0.2)	ND (0.2)	ND (0.19)	ND (1.9)	ND (0.19)	ND (1.9)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)
bis(2-Ethylhexyl)phthalate	6500	10000	130	ND (0.98)	ND (0.2)	ND (0.2)	ND (0.19)	ND (1.9)	ND (0.19)	ND (1.9)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)
Di-n-butylphthalate	10000	10000	4000	ND (0.98)	ND (0.2)	ND (0.2)	ND (0.19)	ND (1.9)	ND (0.19)	ND (1.9)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)
Pyrene	96000	190000	2200	ND (0.98)	ND (0.2)	ND (0.2)	0.69 (0.19)	5.1 (1.9)	1.1 (0.19)	0.97 J (1.9)	ND (0.19)	0.18 J (0.19)	ND (0.19)	ND (0.19)
Metals														
Antimony	1300	190000	27	ND (2.22)	ND (2.12)	ND (2.16)	0.259 J (2.2)	1.12 J (2.13)	ND (10.5)	2.08 J (2.13)	0.934 J (2)	ND (2.44)	ND (2.18)	ND (2.09)
Arsenic	61	190000	29	3.87 (0.445)	3.9 (0.424)	4.69 (0.433)	5.17 (0.439)	5.39 (0.427)	3.69 (2.1)	11.3 (0.426)	3.76 (0.401)	5.18 (0.487)	1.77 (0.437)	3.75 (0.419)
Chromium (total)	--	--	--	13.2 (0.445)	18 (0.424)	18.4 (0.433)	10.7 (0.439)	12 (0.427)	16.6 (2.1)	18.7 (0.426)	15.2 (0.401)	13.1 (0.487)	11 (0.437)	12.8 (0.419)
Chromium VI	180	140000	190	0.371 J (0.928)	0.54 J (0.901)	0.799 J (0.913)	0.503 J (0.936)	ND (0.903)	0.289 J (0.89)	ND (0.901)	1.11 (0.851)	ND (0.99)	ND (0.89)	0.855 J (0.888)
Cyanide (total)	--	--	--	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	0.33 J (1.1)	ND (1)	0.3 J (1)	ND (1)	ND (1.2)	ND (1.1)	ND (1)
Lead	1000	190000	450	7.1 (2.22)	9.82 (2.12)	8.15 (2.16)	56.1 (2.2)	59.4 (2.13)	46 (10.5)	141 (2.13)	6.52 (2)	35.8 (2.44)	7.52 (2.18)	6.84 (2.09)
Nickel	64000	190000	650	8.69 (1.11)	21.8 (1.06)	9.36 (1.08)	5.31 (1.1)	8.87 (1.07)	10.3 (5.24)	17.9 (1.06)	11 (1)	11.4 (1.22)	7.95 (1.09)	8.25 (1.05)
Vanadium	16000	190000	49000	21.8 (0.445)	24 (0.424)	24.9 (0.433)	15.7 (0.439)	16.8 (0.427)	19.6 (2.1)	16.6 (0.426)	16.9 (0.401)	18.9 (0.487)	11.3 (0.437)	18.8 (0.419)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Grey shaded concentrations exceed the Non-Res Direct Contact MSCs for Surface Soil or Subsurface Soil.
3 Underlined concentrations exceed the Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table 2
Summary of Soil Analytical Results
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Res Direct Contact MSCs for Surface Soil (0-2 ft)	Non-Res Direct Contact MSCs for Subsurface Soil (2-15 ft)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC	SB12	SB13	SB14	SB15	SB16	SB17	SB18	SB19	SB20	SB21	SB22
Field Sample ID				HZP-SB12-SS01	HZP-SB13-SS01	HZP-SB14-SS01	HZP-SB15-SS01	HZP-SB16-SS01	HZP-SB17-SS01	HZP-SB18-SS01	HZP-SB19-SS01	HZP-SB20-SS01	HZP-SB21-SS01	HZP-SB22-SS01
Collection Depth (ft bgs)				3.5 - 4.0	3.0 - 3.5	4.0 - 4.5	0.5 - 1.0	1.0 - 1.5	5.0 - 5.5	0.5 - 1.0	0.5 - 1.0	2.5 - 3.0	2.0 - 2.5	3.0 - 3.5
Sample Date				3/17/2022	3/16/2022	3/16/2022	3/16/2022	3/17/2022	3/17/2022	3/18/2022	3/18/2022	3/18/2022	3/18/2022	3/17/2022
Comments														
Volatile Organic Compounds														
Benzene	280	330	0.5	0.00035 J (0.00055)	ND (0.00049)	ND (0.00058)	ND (0.00047)	ND (0.00044)	ND (0.00042)	ND (0.00045)	ND (0.00045)	ND (0.00047)	ND (0.00051)	ND (0.00056)
Carbon Disulfide	10000	10000	620	ND (0.011)	ND (0.0098)	ND (0.012)	ND (0.0094)	ND (0.0088)	ND (0.0083)	ND (0.0091)	ND (0.009)	ND (0.0094)	ND (0.01)	ND (0.011)
Cumene	10000	10000	2500	ND (0.0011)	ND (0.00098)	ND (0.0012)	ND (0.00094)	ND (0.00088)	ND (0.00083)	ND (0.00091)	ND (0.0009)	ND (0.00094)	ND (0.001)	ND (0.0011)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00055)	ND (0.00049)	ND (0.00058)	ND (0.00047)	ND (0.00044)	ND (0.00042)	ND (0.00045)	ND (0.00045)	ND (0.00047)	ND (0.00051)	ND (0.00056)
1,2-Dichloroethane	85	98	0.5	ND (0.0011)	ND (0.00098)	ND (0.0012)	ND (0.00094)	ND (0.00088)	ND (0.00083)	ND (0.00091)	ND (0.0009)	ND (0.00094)	ND (0.001)	ND (0.0011)
Ethyl Benzene	880	1000	70	ND (0.0011)	ND (0.00098)	ND (0.0012)	ND (0.00094)	ND (0.00088)	ND (0.00083)	ND (0.00091)	ND (0.0009)	0.0006 J (0.00094)	ND (0.001)	ND (0.0011)
Methyl tert-butyl ether	8500	9800	2	ND (0.0022)	ND (0.002)	ND (0.0023)	ND (0.0019)	ND (0.0018)	ND (0.0017)	ND (0.0018)	ND (0.0018)	ND (0.0019)	ND (0.002)	ND (0.0022)
Toluene	10000	10000	100	ND (0.0011)	ND (0.00098)	ND (0.0012)	ND (0.00094)	ND (0.00088)	ND (0.00083)	ND (0.00091)	ND (0.0009)	ND (0.00094)	ND (0.001)	ND (0.0011)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0022)	ND (0.002)	ND (0.0023)	ND (0.0019)	ND (0.0018)	ND (0.0017)	ND (0.0018)	ND (0.0018)	0.0015 J (0.0019)	ND (0.002)	ND (0.0022)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0022)	ND (0.002)	ND (0.0023)	ND (0.0019)	ND (0.0018)	ND (0.0017)	ND (0.0018)	ND (0.0018)	0.00069 J (0.0019)	ND (0.002)	ND (0.0022)
Xylenes (total)	7900	9100	1000	ND (0.0011)	ND (0.00098)	ND (0.0012)	ND (0.00094)	ND (0.00088)	ND (0.00083)	ND (0.00091)	ND (0.0009)	0.0048 (0.00094)	ND (0.001)	ND (0.0011)
Semivolatile Organic Compounds														
Acenaphthene	190000	190000	4700	ND (0.2)	ND (0.92)	ND (0.19)	ND (1)	ND (0.98)	ND (0.2)	ND (1.1)	6.7 (1.9)	4.6 (4)	ND (0.19)	ND (2)
Anthracene	190000	190000	350	0.049 J (0.2)	ND (0.92)	ND (0.19)	0.27 J (1)	ND (0.98)	ND (0.2)	ND (1.1)	15 (1.9)	21 (4)	ND (0.19)	ND (2)
Benzo(a)anthracene	130	190000	340	0.45 (0.2)	0.24 J (0.92)	ND (0.19)	1.6 (1)	ND (0.98)	ND (0.2)	1.4 (1.1)	26 (1.9)	40 (4)	ND (0.19)	3.5 (2)
Benzo(a)pyrene	91	190000	46	0.41 (0.2)	0.28 J (0.92)	ND (0.19)	1.5 (1)	ND (0.98)	ND (0.2)	1.5 (1.1)	23 (1.9)	32 (4)	ND (0.19)	3.8 (2)
Benzo(b)fluoranthene	76	190000	170	0.66 (0.2)	0.34 J (0.92)	ND (0.19)	2 (1)	ND (0.98)	ND (0.2)	2.1 (1.1)	28 (1.9)	38 (4)	ND (0.19)	5 (2)
Benzo(g,h,i)perylene	190000	190000	180	0.25 (0.2)	0.25 J (0.92)	ND (0.19)	0.92 J (1)	ND (0.98)	ND (0.2)	1.1 (1.1)	15 (1.9)	19 (4)	ND (0.19)	2.5 (2)
Benzo(k)fluoranthene	76	190000	610	0.21 (0.2)	0.13 J (0.92)	ND (0.19)	0.87 J (1)	ND (0.98)	ND (0.2)	0.68 J (1.1)	12 (1.9)	14 (4)	ND (0.19)	2 (2)
Chrysene	760	190000	230	0.49 (0.2)	0.39 J (0.92)	ND (0.19)	1.5 (1)	ND (0.98)	ND (0.2)	1.6 (1.1)	26 (1.9)	38 (4)	ND (0.19)	3.5 (2)
Dibenz(a,h)anthracene	22	190000	270	0.1 J (0.2)	ND (0.92)	ND (0.19)	0.31 J (1)	ND (0.98)	ND (0.2)	0.32 J (1.1)	5.1 (1.9)	6.2 (4)	ND (0.19)	0.75 J (2)
7,12-Dimethylbenz(a)anthracene	--	--	--	ND (0.38)	0.39 J (1.8)	ND (0.38)	ND (2)	ND (1.9)	ND (0.38)	ND (2.1)	ND (3.7)	ND (7.8)	ND (0.37)	ND (3.8)
2,4-Dimethylphenol	10000	10000	190	ND (0.2)	ND (0.92)	ND (0.19)	ND (1)	ND (0.98)	ND (0.2)	ND (1.1)	ND (1.9)	ND (4)	ND (0.19)	ND (2)
Fluorene	130000	190000	3800	ND (0.2)	ND (0.92)	ND (0.19)	ND (1)	ND (0.98)	ND (0.2)	ND (1.1)	5.8 (1.9)	7.6 (4)	ND (0.19)	ND (2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.32 (0.2)	0.22 J (0.92)	ND (0.19)	1.2 (1)	ND (0.98)	ND (0.2)	1 J (1.1)	15 (1.9)	18 (4)	ND (0.19)	3.1 (2)
3-Methylcholanthrene	--	--	--	ND (0.38)	ND (1.8)	ND (0.38)	ND (2)	ND (1.9)	ND (0.38)	ND (2.1)	ND (3.7)	ND (7.8)	ND (0.37)	ND (3.8)
Methylphenol (total)	10000	10000	530	ND (0.38)	ND (1.8)	ND (0.38)	ND (2)	ND (1.9)	ND (0.38)	ND (2.1)	ND (3.7)	ND (7.8)	ND (0.37)	ND (3.8)
2-Methylphenol	160000	190000	490	ND (0.2)	ND (0.92)	ND (0.19)	ND (1)	ND (0.98)	ND (0.2)	ND (1.1)	ND (1.9)	ND (4)	ND (0.19)	ND (2)
3-Methylphenol	10000	10000	490	ND (0.38)	ND (1.8)	ND (0.38)	ND (2)	ND (1.9)	ND (0.38)	ND (2.1)	ND (3.7)	ND (7.8)	ND (0.37)	ND (3.8)
4-Methylphenol	16000	190000	49	ND (0.38)	ND (1.8)	ND (0.38)	ND (2)	ND (1.9)	ND (0.38)	ND (2.1)	ND (3.7)	ND (7.8)	ND (0.37)	ND (3.8)
Naphthalene	66	77	25	ND (0.2)	ND (0.92)	ND (0.19)	ND (1)	ND (0.98)	ND (0.2)	ND (1.1)	1.9 (1.9)	1.3 J (4)	ND (0.19)	ND (2)
Phenanthrene	190000	190000	10000	0.25 (0.2)	ND (0.92)	ND (0.19)	0.87 J (1)	ND (0.98)	ND (0.2)	0.93 J (1.1)	45 (1.9)	60 (4)	ND (0.19)	1.5 J (2)
Phenol	16000	18000	200	ND (0.2)	ND (0.92)	ND (0.19)	ND (1)	ND (0.98)	ND (0.2)	ND (1.1)	ND (1.9)	ND (4)	ND (0.19)	ND (2)
bis(2-Ethylhexyl)phthalate	6500	10000	130	ND (0.2)	ND (0.92)	ND (0.19)	ND (1)	ND (0.98)	ND (0.2)	ND (1.1)	ND (1.9)	ND (4)	ND (0.19)	ND (2)
Di-n-butylphthalate	10000	10000	4000	ND (0.2)	ND (0.92)	ND (0.19)	ND (1)	ND (0.98)	ND (0.2)	ND (1.1)	ND (1.9)	ND (4)	ND (0.19)	ND (2)
Pyrene	96000	190000	2200	0.53 (0.2)	0.31 J (0.92)	ND (0.19)	2.3 (1)	ND (0.98)	ND (0.2)	2.1 (1.1)	41 (1.9)	71 (4)	ND (0.19)	3.9 (2)
Metals														
Antimony	1300	190000	27	ND (2.18)	ND (2.22)	ND (2.08)	ND (2.26)	ND (2.26)	ND (2.17)	ND (2.18)	ND (2.26)	0.232 J (2.27)	ND (11.3)	ND (2.16)
Arsenic	61	190000	29	5.15 (0.436)	7.6 (0.444)	2.89 (0.415)	5.89 (0.452)	4.1 (0.451)	4.53 (0.434)	4.54 (0.436)	4.79 (0.452)	5.08 (0.455)	3.8 (2.26)	5.1 (0.432)
Chromium (total)	--	--	--	14 (0.436)	16.9 (0.444)	12.3 (0.415)	15.8 (0.452)	13 (0.451)	17.2 (0.434)	15.8 (0.436)	13.6 (0.452)	17.2 (0.455)	16.5 (2.26)	7.93 (0.432)
Chromium VI	180	140000	190	0.313 J (0.928)	ND (0.926)	0.409 J (0.884)	ND (0.92)	0.903 J (0.95)	ND (0.92)	0.229 J (0.916)	ND (0.914)	0.233 J (0.932)	ND (0.929)	ND (0.916)
Cyanide (total)	--	--	--	ND (1)	ND (1)	ND (1)	ND (1.1)	ND (1.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	0.52 J (1.1)
Lead	1000	190000	450	22.5 (2.18)	40.9 (2.22)	7.97 (2.08)	20.7 (2.26)	29.3 (2.26)	7.16 (2.17)	20.9 (2.18)	64.5 (2.26)	132 (2.27)	16 (11.3)	159 (2.16)
Nickel	64000	190000	650	35.6 (1.09)	63.6 (1.11)	13.6 (1.04)	10.8 (1.13)	7.54 (1.13)	9.48 (1.08)	9.6 (1.09)	25.2 (1.13)	16.6 (1.14)	9.02 (5.65)	9.06 (1.08)
Vanadium	16000	190000	49000	19.3 (0.436)	34.4 (0.444)	17.3 (0.415)	22.9 (0.452)	16.3 (0.451)	24.5 (0.434)	21.3 (0.436)	17.9 (0.452)	21.8 (0.455)	20.5 (2.26)	14.9 (0.432)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Grey shaded concentrations exceed the Non-Res Direct Contact MSCs for Surface Soil or Subsurface Soil.
3 Underlined concentrations exceed the Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table 2
Summary of Soil Analytical Results
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Res Direct Contact MSCs for Surface Soil (0-2 ft)	Non-Res Direct Contact MSCs for Subsurface Soil (2-15 ft)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC	SB23	SB24	SB25	SB26	SB26R	SB27	SB27R	SB28R	SB28	SB28R	SB28A
Field Sample ID				HZP-SB23-SS01	HZP-SB24-SS01	HZP-SB25-SS01	HZP-SB26-SS01	HZP-SB26R-3.0-3.5	HZP-SB27-SS01	HZP-SB27R-3.0-3.5	HZP-SB28R-0.5-1.0	HZP-SB28-SS01	HZP-SB28R-6.0-6.5	HZP-SB28A-3.0-3.5
Collection Depth (ft bgs)				0.5 - 1.0	0.5 - 1.0	0.5 - 1.0	0.5 - 1.0	3.0 - 3.5	0.5 - 1.0	3.0 - 3.5	0.5 - 1.0	3.0 - 3.5	6.0 - 6.5	3.0 - 3.5
Sample Date				3/16/2022	3/18/2022	3/18/2022	3/16/2022	8/3/2022	3/18/2022	8/3/2022	8/3/2022	3/16/2022	8/3/2022	8/3/2022
Comments														
Volatile Organic Compounds														
Benzene	280	330	0.5	ND (0.00046)	ND (0.00046)	ND (0.00046)	0.00087 (0.00057)	NA	ND (0.00046)	NA	NA	0.0005 J (0.00061)	NA	NA
Carbon Disulfide	10000	10000	620	ND (0.0093)	ND (0.0092)	ND (0.0092)	ND (0.011)	NA	ND (0.0091)	NA	NA	ND (0.012)	NA	NA
Cumene	10000	10000	2500	ND (0.00093)	ND (0.00092)	ND (0.00092)	ND (0.0011)	NA	ND (0.00091)	NA	NA	0.00027 J (0.0012)	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00046)	ND (0.00046)	ND (0.00046)	ND (0.00057)	NA	ND (0.00046)	NA	NA	ND (0.00061)	NA	NA
1,2-Dichloroethane	85	98	0.5	ND (0.00093)	ND (0.00092)	ND (0.00092)	ND (0.0011)	NA	ND (0.00091)	NA	NA	ND (0.0012)	NA	NA
Ethyl Benzene	880	1000	70	ND (0.00093)	ND (0.00092)	ND (0.00092)	0.00019 J (0.0011)	NA	ND (0.00091)	NA	NA	0.00031 J (0.0012)	NA	NA
Methyl tert-butyl ether	8500	9800	2	ND (0.0018)	ND (0.0018)	ND (0.0018)	ND (0.0023)	NA	ND (0.0018)	NA	NA	ND (0.0024)	NA	NA
Toluene	10000	10000	100	ND (0.00093)	ND (0.00092)	ND (0.00092)	ND (0.0011)	NA	ND (0.00091)	NA	NA	ND (0.0012)	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0018)	ND (0.0018)	ND (0.0018)	ND (0.0023)	NA	ND (0.0018)	NA	NA	0.0022 J (0.0024)	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0018)	ND (0.0018)	ND (0.0018)	ND (0.0023)	NA	ND (0.0018)	NA	NA	0.0024 (0.0024)	NA	NA
Xylenes (total)	7900	9100	1000	ND (0.00093)	ND (0.00092)	ND (0.00092)	ND (0.0011)	NA	ND (0.00091)	NA	NA	0.0014 J (0.0012)	NA	NA
Semivolatile Organic Compounds														
Acenaphthene	190000	190000	4700	0.035 J (0.19)	ND (0.93)	ND (0.18)	ND (3.7)	NA	0.26 J (0.99)	NA	NA	17 J (19)	NA	NA
Anthracene	190000	190000	350	0.13 J (0.19)	ND (0.93)	0.054 J (0.18)	0.95 J (3.7)	NA	0.52 J (0.99)	NA	NA	32 (19)	NA	NA
Benzo(a)anthracene	130	190000	340	0.78 (0.19)	1.2 (0.93)	0.35 (0.18)	4.5 (3.7)	NA	2 (0.99)	NA	NA	93 (19)	NA	NA
Benzo(a)pyrene	91	190000	46	0.71 (0.19)	1.3 (0.93)	0.39 (0.18)	4.2 (3.7)	0.16 J (0.17)	1.8 (0.99)	0.99 (0.15)	0.23 (0.17)	78 (19)	0.29 (0.14)	0.97 (0.15)
Benzo(b)fluoranthene	76	190000	170	1.1 (0.19)	1.7 (0.93)	0.45 (0.18)	5.8 (3.7)	0.18 (0.12)	2.3 (0.99)	1.1 (0.12)	0.27 (0.13)	100 (19)	0.38 (0.11)	1.1 (0.11)
Benzo(g,h,i)perylene	190000	190000	180	0.44 (0.19)	0.78 J (0.93)	0.3 (0.18)	2.4 J (3.7)	NA	1.4 (0.99)	NA	NA	38 (19)	NA	NA
Benzo(k)fluoranthene	76	190000	610	0.44 (0.19)	0.75 J (0.93)	0.27 (0.18)	2.2 J (3.7)	NA	0.95 J (0.99)	NA	NA	44 (19)	NA	NA
Chrysene	760	190000	230	0.82 (0.19)	1.3 (0.93)	0.41 (0.18)	4 (3.7)	NA	2.1 (0.99)	NA	NA	85 (19)	NA	NA
Dibenz(a,h)anthracene	22	190000	270	0.15 J (0.19)	0.28 J (0.93)	0.11 J (0.18)	0.75 J (3.7)	NA	0.43 J (0.99)	NA	NA	11 J (19)	NA	NA
7,12-Dimethylbenz(a)anthracene	--	--	--	ND (0.37)	ND (1.8)	ND (0.36)	ND (7.2)	NA	ND (1.9)	NA	NA	ND (37)	NA	NA
2,4-Dimethylphenol	10000	10000	190	ND (0.19)	ND (0.93)	ND (0.18)	ND (3.7)	NA	ND (0.99)	NA	NA	ND (19)	NA	NA
Fluorene	130000	190000	3800	0.043 J (0.19)	ND (0.93)	ND (0.18)	ND (3.7)	NA	0.2 J (0.99)	NA	NA	16 J (19)	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.63 (0.19)	0.8 J (0.93)	0.28 (0.18)	3.1 J (3.7)	NA	1.3 (0.99)	NA	NA	53 (19)	NA	NA
3-Methylcholanthrene	--	--	--	ND (0.37)	ND (1.8)	ND (0.36)	ND (7.2)	NA	ND (1.9)	NA	NA	ND (37)	NA	NA
Methylphenol (total)	10000	10000	530	ND (0.37)	ND (1.8)	ND (0.36)	ND (7.2)	NA	ND (1.9)	NA	NA	ND (37)	NA	NA
2-Methylphenol	160000	190000	490	ND (0.19)	ND (0.93)	ND (0.18)	ND (3.7)	NA	ND (0.99)	NA	NA	ND (19)	NA	NA
3-Methylphenol	10000	10000	490	ND (0.37)	ND (1.8)	ND (0.36)	ND (7.2)	NA	ND (1.9)	NA	NA	ND (37)	NA	NA
4-Methylphenol	16000	190000	49	ND (0.37)	ND (1.8)	ND (0.36)	ND (7.2)	NA	ND (1.9)	NA	NA	ND (37)	NA	NA
Naphthalene	66	77	25	ND (0.19)	ND (0.93)	ND (0.18)	ND (3.7)	NA	ND (0.99)	NA	NA	4.4 J (19)	NA	NA
Phenanthrene	190000	190000	10000	0.64 (0.19)	0.87 J (0.93)	0.19 (0.18)	3.8 (3.7)	NA	1.9 (0.99)	NA	NA	100 (19)	NA	NA
Phenol	16000	18000	200	ND (0.19)	ND (0.93)	ND (0.18)	ND (3.7)	NA	ND (0.99)	NA	NA	ND (19)	NA	NA
bis(2-Ethylhexyl)phthalate	6500	10000	130	ND (0.19)	ND (0.93)	ND (0.18)	ND (3.7)	NA	ND (0.99)	NA	NA	ND (19)	NA	NA
Di-n-butylphthalate	10000	10000	4000	ND (0.19)	ND (0.93)	ND (0.18)	ND (3.7)	NA	ND (0.99)	NA	NA	ND (19)	NA	NA
Pyrene	96000	190000	2200	1.1 (0.19)	1.7 (0.93)	0.59 (0.18)	7.2 (3.7)	NA	3.3 (0.99)	NA	NA	150 (19)	NA	NA
Metals														
Antimony	1300	190000	27	ND (2.19)	ND (2.14)	ND (2.22)	ND (2.09)	NA	ND (2.17)	NA	NA	0.693 J (2.26)	NA	NA
Arsenic	61	190000	29	5.33 (0.438)	3.82 (0.429)	2.5 (0.445)	5.06 (0.418)	NA	3.3 (0.435)	NA	NA	3.98 (0.453)	NA	NA
Chromium (total)	--	--	--	17.1 (0.438)	14.8 (0.429)	17.9 (0.445)	22.1 (0.418)	NA	14.2 (0.435)	NA	NA	31.6 (0.453)	NA	NA
Chromium VI	180	140000	190	ND (0.92)	ND (0.903)	0.23 J (0.922)	0.479 J (0.891)	NA	ND (0.899)	NA	NA	ND (0.932)	NA	NA
Cyanide (total)	--	--	--	ND (1.1)	ND (1.1)	ND (1.1)	ND (1)	NA	ND (1.1)	NA	NA	1.2 (1.1)	NA	NA
Lead	1000	190000	450	12.3 (2.19)	70 (2.14)	13.3 (2.22)	39.5 (2.09)	NA	10.8 (2.17)	NA	NA	115 (2.26)	NA	NA
Nickel	64000	190000	650	8.31 (1.1)	13 (1.07)	13 (1.11)	86.3 (1.04)	NA	16.4 (1.09)	NA	NA	14 (1.13)	NA	NA
Vanadium	16000	190000	49000	25.1 (0.438)	17.8 (0.429)	22.3 (0.445)	21.5 (0.418)	NA	19.9 (0.435)	NA	NA	22 (0.453)	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Grey shaded concentrations exceed the Non-Res Direct Contact MSCs for Surface Soil or Subsurface Soil.
3 Underlined concentrations exceed the Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table 2
Summary of Soil Analytical Results
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Field Sample ID Collection Depth (ft bgs) Sample Date Comments	Non-Res Direct Contact MSCs for Surface Soil (0-2 ft)	Non-Res Direct Contact MSCs for Subsurface Soil (2-15 ft)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC	SB28B HZP-SB28B-3.0-3.5 3.0 - 3.5 8/3/2022	SB29 HZP-SB29-SS01 0.5 - 1.0 3/18/2022	SB29R HZP-SB29R-3.0-3.5 3.0 - 3.5 8/3/2022	SB29A HZP-SB29A-0.5-1.0 0.5 - 1.0 8/3/2022	SB29B HZP-SB29B-0.5-1.0 0.5 - 1.0 8/3/2022	SB30 HZP-SB30-SS01 0.5 - 1.0 3/18/2022	SB30R HZP-SB30R-3.0-3.5 3.0 - 3.5 8/4/2022	SB31R HZP-SB31R-0.5-1.0 0.5 - 1.0 8/4/2022	SB31 HZP-SB31-SS01 2.0 - 2.5 3/17/2022	SB32 HZP-SB32-SS01 0.5 - 1.0 3/18/2022	SB32R HZP-SB32R-3.0-3.5 3.0 - 3.5 8/4/2022
Volatile Organic Compounds														
Benzene	280	330	0.5	NA	ND (0.00052)	NA	NA	NA	ND (0.00049)	NA	NA	ND (0.00047)	ND (0.00047)	NA
Carbon Disulfide	10000	10000	620	NA	ND (0.01)	NA	NA	NA	ND (0.0098)	NA	NA	ND (0.0094)	ND (0.0094)	NA
Cumene	10000	10000	2500	NA	ND (0.001)	NA	NA	NA	ND (0.00098)	NA	NA	ND (0.00094)	ND (0.00094)	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	ND (0.00052)	NA	NA	NA	ND (0.00049)	NA	NA	ND (0.00047)	ND (0.00047)	NA
1,2-Dichloroethane	85	98	0.5	NA	ND (0.001)	NA	NA	NA	ND (0.00098)	NA	NA	ND (0.00094)	ND (0.00094)	NA
Ethyl Benzene	880	1000	70	NA	ND (0.001)	NA	NA	NA	ND (0.00098)	NA	NA	ND (0.00094)	ND (0.00094)	NA
Methyl tert-butyl ether	8500	9800	2	NA	ND (0.0021)	NA	NA	NA	ND (0.002)	NA	NA	ND (0.0019)	ND (0.0019)	NA
Toluene	10000	10000	100	NA	ND (0.001)	NA	NA	NA	ND (0.00098)	NA	NA	ND (0.00094)	ND (0.00094)	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	ND (0.0021)	NA	NA	NA	ND (0.002)	NA	NA	ND (0.0019)	ND (0.0019)	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	ND (0.0021)	NA	NA	NA	ND (0.002)	NA	NA	ND (0.0019)	ND (0.0019)	NA
Xylenes (total)	7900	9100	1000	NA	ND (0.001)	NA	NA	NA	ND (0.00098)	NA	NA	ND (0.00094)	ND (0.00094)	NA
Semivolatile Organic Compounds														
Acenaphthene	190000	190000	4700	NA	12 (1.9)	NA	NA	NA	0.13 J (0.19)	NA	NA	ND (1.9)	ND (19)	NA
Anthracene	190000	190000	350	NA	180 (19)	NA	NA	NA	0.55 (0.19)	NA	NA	ND (1.9)	ND (19)	NA
Benzo(a)anthracene	130	190000	340	NA	220 (19)	2.5 (0.11)	0.034 J (0.12)	0.14 (0.13)	5.3 (0.19)	NA	NA	2.6 (1.9)	11 J (19)	NA
Benzo(a)pyrene	91	190000	46	0.29 (0.14)	110 (19)	3.2 (0.15)	ND (0.16)	0.17 J (0.18)	5.8 (0.19)	NA	NA	2.5 (1.9)	13 J (19)	NA
Benzo(b)fluoranthene	76	190000	170	0.38 (0.11)	170 (19)	4.2 (0.11)	0.052 J (0.12)	0.21 (0.13)	8.8 (0.96)	NA	NA	3.6 (1.9)	16 J (19)	NA
Benzo(g,h,i)perylene	190000	190000	180	NA	42 (1.9)	NA	NA	NA	3.2 (0.19)	NA	NA	1.5 J (1.9)	7.4 J (19)	NA
Benzo(k)fluoranthene	76	190000	610	NA	48 (1.9)	NA	NA	NA	3.5 (0.19)	NA	NA	1.3 J (1.9)	6 J (19)	NA
Chrysene	760	190000	230	NA	300 (19)	2.7 (0.11)	0.033 J (0.12)	0.15 (0.13)	6 (0.19)	NA	NA	2.8 (1.9)	13 J (19)	NA
Dibenz(a,h)anthracene	22	190000	270	NA	19 (1.9)	NA	NA	NA	1.3 (0.19)	NA	NA	0.47 J (1.9)	3.5 J (19)	NA
7,12-Dimethylbenz(a)anthracene	--	--	--	NA	ND (3.7)	NA	NA	NA	ND (0.37)	NA	NA	ND (3.8)	ND (37)	NA
2,4-Dimethylphenol	10000	10000	190	NA	ND (1.9)	NA	NA	NA	ND (0.19)	NA	NA	ND (1.9)	ND (19)	NA
Fluorene	130000	190000	3800	NA	25 (1.9)	NA	NA	NA	0.14 J (0.19)	NA	NA	ND (1.9)	ND (19)	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	42 (1.9)	NA	NA	NA	3.2 (0.19)	NA	NA	1.9 (1.9)	7.7 J (19)	NA
3-Methylcholanthrene	--	--	--	NA	ND (3.7)	NA	NA	NA	ND (0.37)	NA	NA	ND (3.8)	ND (37)	NA
Methylphenol (total)	10000	10000	530	NA	ND (3.7)	NA	NA	NA	ND (0.37)	NA	NA	ND (3.8)	ND (37)	NA
2-Methylphenol	160000	190000	490	NA	ND (1.9)	NA	NA	NA	ND (0.19)	NA	NA	ND (1.9)	ND (19)	NA
3-Methylphenol	10000	10000	490	NA	ND (3.7)	NA	NA	NA	ND (0.37)	NA	NA	ND (3.8)	ND (37)	NA
4-Methylphenol	16000	190000	49	NA	ND (3.7)	NA	NA	NA	ND (0.37)	NA	NA	ND (3.8)	ND (37)	NA
Naphthalene	66	77	25	NA	0.83 J (1.9)	NA	NA	NA	0.026 J (0.19)	NA	NA	ND (1.9)	ND (19)	NA
Phenanthrene	190000	190000	10000	NA	380 (19)	NA	NA	NA	2.5 (0.19)	NA	NA	2.1 (1.9)	8.5 J (19)	NA
Phenol	16000	18000	200	NA	ND (1.9)	NA	NA	NA	ND (0.19)	NA	NA	ND (1.9)	ND (19)	NA
bis(2-Ethylhexyl)phthalate	6500	10000	130	NA	ND (1.9)	NA	NA	NA	ND (0.19)	NA	NA	ND (1.9)	ND (19)	NA
Di-n-butylphthalate	10000	10000	4000	NA	ND (1.9)	NA	NA	NA	ND (0.19)	NA	NA	ND (1.9)	ND (19)	NA
Pyrene	96000	190000	2200	NA	380 (19)	NA	NA	NA	5.2 (0.19)	NA	NA	4 (1.9)	15 J (19)	NA
Metals														
Antimony	1300	190000	27	NA	ND (2.29)	NA	NA	NA	4.68 (2.18)	NA	NA	0.372 J (2.16)	1.38 J (2.2)	NA
Arsenic	61	190000	29	NA	5.21 (0.457)	NA	NA	NA	6.99 (0.436)	NA	NA	8.59 (0.433)	9.03 (0.439)	NA
Chromium (total)	--	--	--	NA	14.5 (0.457)	NA	NA	NA	21.2 (0.436)	NA	NA	11.3 (0.433)	83.7 (0.439)	NA
Chromium VI	180	140000	190	NA	ND (0.932)	NA	NA	NA	ND (0.9)	NA	NA	ND (0.92)	ND (0.929)	NA
Cyanide (total)	--	--	--	NA	ND (1.1)	NA	NA	NA	ND (1.1)	NA	NA	ND (1.1)	ND (1.2)	NA
Lead	1000	190000	450	NA	202 (2.29)	NA	6.8 (2.32)	NA	2220 (2.18)	34.1 (2.36)	90 (2.2)	62 (2.16)	729 (2.2)	66.1 (2.2)
Nickel	64000	190000	650	NA	11.8 (1.14)	NA	NA	NA	9.78 (1.09)	NA	NA	10.7 (1.08)	15.3 (1.1)	NA
Vanadium	16000	190000	49000	NA	20 (0.457)	NA	NA	NA	21.3 (0.436)	NA	NA	13.4 (0.433)	27 (0.439)	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Grey shaded concentrations exceed the Non-Res Direct Contact MSCs for Surface Soil or Subsurface Soil.
3 Underlined concentrations exceed the Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table 2
Summary of Soil Analytical Results
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

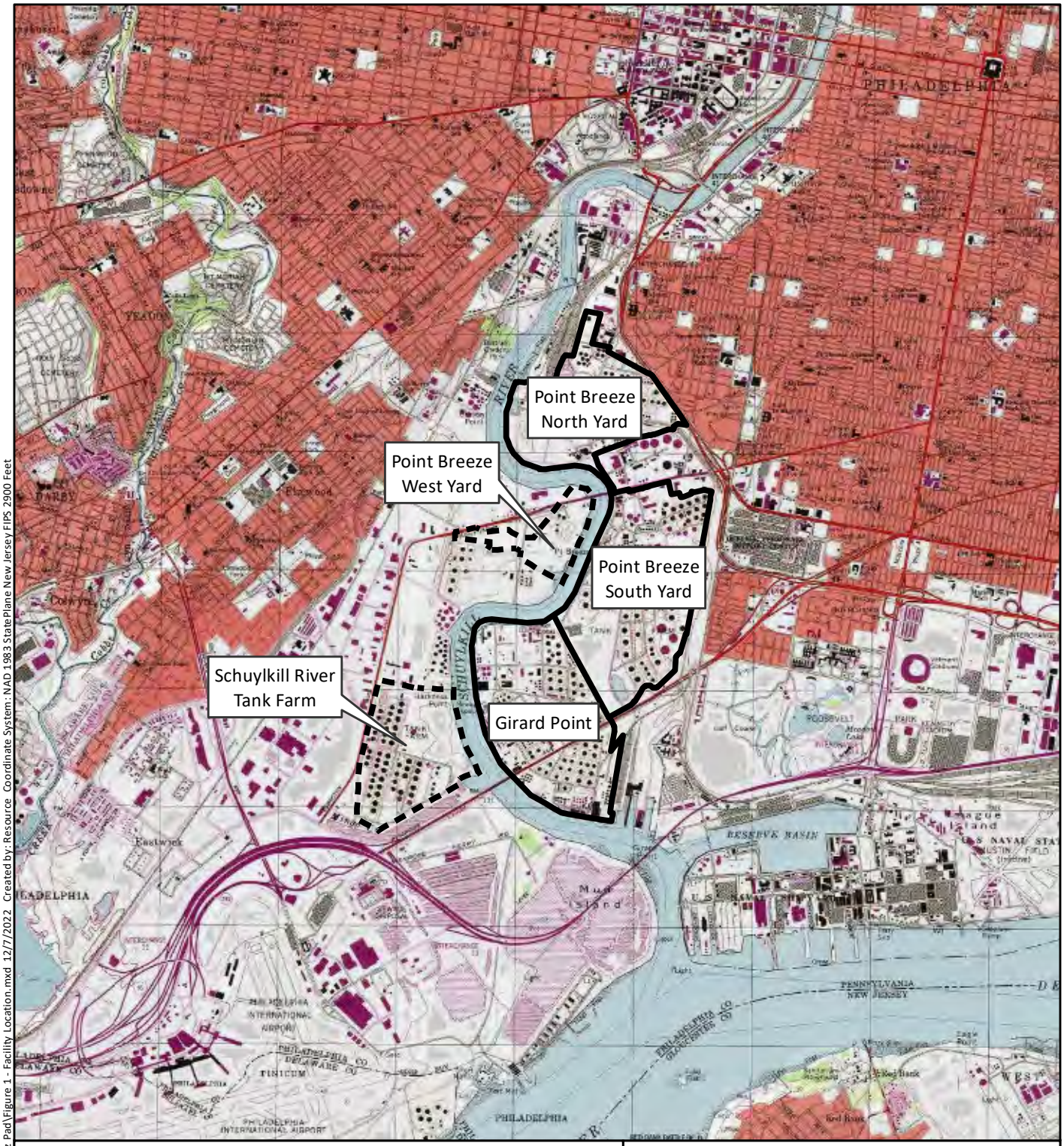
Location	Non-Res Direct Contact MSCs for Surface Soil (0-2 ft)	Non-Res Direct Contact MSCs for Subsurface Soil (2-15 ft)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC	SB32A	SB32A	SB32B	SB33	SB34	SB35	SB36	SB37	SB38	SB39	SB40
Field Sample ID				HZP-SB32A-0.5-1.0	HZP-SB32A-3.0-3.5	HZP-SB32B-0.5-1.0	HZP-SB33-SS01	HZP-SB34-SS01	HZP-SB35-SS01	HZP-SB36-SS01	HZP-SB37-SS01	HZP-SB38-SS01	HZP-SB39-SS01	HZP-SB40-SS01
Collection Depth (ft bgs)				0.5 - 1.0	3.0 - 3.5	0.5 - 1.0	0.5 - 1.0	2.5 - 3.0	0.5 - 1.0	1.5 - 2.0	2.0 - 2.5	0.5 - 1.0	2.0 - 2.5	2.5 - 3.0
Sample Date				8/4/2022	8/4/2022	8/4/2022	3/18/2022	3/17/2022	3/16/2022	3/17/2022	3/17/2022	3/16/2022	3/17/2022	3/18/2022
Comments														
Volatile Organic Compounds														
Benzene	280	330	0.5	NA	NA	NA	ND (0.00048)	ND (0.00046)	ND (0.00051)	ND (0.00048)	ND (0.0006)	0.00025 J (0.00048)	ND (0.0005)	ND (0.00046)
Carbon Disulfide	10000	10000	620	NA	NA	NA	ND (0.0096)	ND (0.0093)	ND (0.01)	ND (0.0097)	ND (0.012)	ND (0.0096)	ND (0.01)	ND (0.0091)
Cumene	10000	10000	2500	NA	NA	NA	ND (0.00096)	ND (0.00093)	ND (0.001)	ND (0.00097)	ND (0.0012)	ND (0.00096)	ND (0.001)	ND (0.00091)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	ND (0.00048)	ND (0.00046)	ND (0.00051)	ND (0.00048)	ND (0.0006)	ND (0.00048)	ND (0.0005)	ND (0.00046)
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	ND (0.00096)	ND (0.00093)	ND (0.001)	ND (0.00097)	ND (0.0012)	ND (0.00096)	ND (0.001)	ND (0.00091)
Ethyl Benzene	880	1000	70	NA	NA	NA	ND (0.00096)	ND (0.00093)	ND (0.001)	ND (0.00097)	ND (0.0012)	ND (0.00096)	ND (0.001)	ND (0.00091)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	ND (0.0019)	ND (0.0018)	ND (0.002)	ND (0.0019)	ND (0.0024)	ND (0.0019)	ND (0.002)	ND (0.0018)
Toluene	10000	10000	100	NA	NA	NA	ND (0.00096)	ND (0.00093)	ND (0.001)	ND (0.00097)	ND (0.0012)	ND (0.00096)	ND (0.001)	ND (0.00091)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	ND (0.0019)	ND (0.0018)	ND (0.002)	ND (0.0019)	ND (0.0024)	ND (0.0019)	ND (0.002)	ND (0.0018)
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	ND (0.0019)	ND (0.0018)	ND (0.002)	ND (0.0019)	ND (0.0024)	ND (0.0019)	ND (0.002)	ND (0.0018)
Xylenes (total)	7900	9100	1000	NA	NA	NA	ND (0.00096)	ND (0.00093)	ND (0.001)	ND (0.00097)	ND (0.0012)	ND (0.00096)	ND (0.001)	ND (0.00091)
Semivolatile Organic Compounds														
Acenaphthene	190000	190000	4700	NA	NA	NA	0.31 J (0.94)	ND (0.2)	ND (0.97)	ND (0.19)	ND (0.2)	ND (0.96)	ND (0.19)	0.078 J (0.19)
Anthracene	190000	190000	350	NA	NA	NA	1.2 (0.94)	ND (0.2)	ND (0.97)	ND (0.19)	ND (0.2)	0.37 J (0.96)	ND (0.19)	0.63 (0.19)
Benzo(a)anthracene	130	190000	340	NA	NA	NA	6.9 (0.94)	0.11 J (0.2)	1.9 (0.97)	ND (0.19)	0.051 J (0.2)	1.9 (0.96)	0.096 J (0.19)	5.9 (0.19)
Benzo(a)pyrene	91	190000	46	NA	NA	NA	6.7 (0.94)	0.1 J (0.2)	2 (0.97)	ND (0.19)	0.059 J (0.2)	1.9 (0.96)	0.1 J (0.19)	5.8 (0.19)
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	9 (0.94)	0.13 J (0.2)	2.8 (0.97)	ND (0.19)	0.077 J (0.2)	2.6 (0.96)	0.14 J (0.19)	8.4 (0.95)
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	3.2 (0.94)	0.062 J (0.2)	1.1 (0.97)	ND (0.19)	0.04 J (0.2)	0.95 J (0.96)	0.072 J (0.19)	3.2 (0.19)
Benzo(k)fluoranthene	76	190000	610	NA	NA	NA	3.7 (0.94)	0.056 J (0.2)	1 (0.97)	ND (0.19)	0.032 J (0.2)	1 (0.96)	0.046 J (0.19)	2.6 (0.19)
Chrysene	760	190000	230	NA	NA	NA	7.5 (0.94)	0.11 J (0.2)	2 (0.97)	ND (0.19)	0.054 J (0.2)	2 (0.96)	0.1 J (0.19)	6.6 (0.95)
Dibenz(a,h)anthracene	22	190000	270	NA	NA	NA	1.3 (0.94)	ND (0.2)	0.33 J (0.97)	ND (0.19)	ND (0.2)	0.36 J (0.96)	ND (0.19)	1.2 (0.19)
7,12-Dimethylbenz(a)anthracene	--	--	--	NA	NA	NA	ND (1.8)	ND (0.38)	ND (1.9)	ND (0.37)	ND (0.38)	ND (1.9)	ND (0.38)	ND (0.37)
2,4-Dimethylphenol	10000	10000	190	NA	NA	NA	ND (0.94)	ND (0.2)	ND (0.97)	ND (0.19)	ND (0.2)	ND (0.96)	ND (0.19)	ND (0.19)
Fluorene	130000	190000	3800	NA	NA	NA	0.35 J (0.94)	ND (0.2)	ND (0.97)	ND (0.19)	ND (0.2)	ND (0.96)	ND (0.19)	0.067 J (0.19)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	3.3 (0.94)	0.078 J (0.2)	1.5 (0.97)	ND (0.19)	0.041 J (0.2)	1.2 (0.96)	0.079 J (0.19)	3.1 (0.19)
3-Methylcholanthrene	--	--	--	NA	NA	NA	ND (1.8)	ND (0.38)	ND (1.9)	ND (0.37)	ND (0.38)	ND (1.9)	ND (0.38)	ND (0.37)
Methylphenol (total)	10000	10000	530	NA	NA	NA	ND (1.8)	ND (0.38)	ND (1.9)	ND (0.37)	ND (0.38)	ND (1.9)	ND (0.38)	ND (0.37)
2-Methylphenol	160000	190000	490	NA	NA	NA	ND (0.94)	ND (0.2)	ND (0.97)	ND (0.19)	ND (0.2)	ND (0.96)	ND (0.19)	ND (0.19)
3-Methylphenol	10000	10000	490	NA	NA	NA	ND (1.8)	ND (0.38)	ND (1.9)	ND (0.37)	ND (0.38)	ND (1.9)	ND (0.38)	ND (0.37)
4-Methylphenol	16000	190000	49	NA	NA	NA	ND (1.8)	ND (0.38)	ND (1.9)	ND (0.37)	ND (0.38)	ND (1.9)	ND (0.38)	ND (0.37)
Naphthalene	66	77	25	NA	NA	NA	ND (0.94)	ND (0.2)	ND (0.97)	ND (0.19)	ND (0.2)	ND (0.96)	ND (0.19)	ND (0.19)
Phenanthrene	190000	190000	10000	NA	NA	NA	5.2 (0.94)	0.16 J (0.2)	1 (0.97)	ND (0.19)	0.029 J (0.2)	1.6 (0.96)	0.081 J (0.19)	1.9 (0.19)
Phenol	16000	18000	200	NA	NA	NA	ND (0.94)	ND (0.2)	ND (0.97)	ND (0.19)	ND (0.2)	ND (0.96)	ND (0.19)	ND (0.19)
bis(2-Ethylhexyl)phthalate	6500	10000	130	NA	NA	NA	ND (0.94)	ND (0.2)	ND (0.97)	ND (0.19)	ND (0.2)	ND (0.96)	ND (0.19)	ND (0.19)
Di-n-butylphthalate	10000	10000	4000	NA	NA	NA	ND (0.94)	ND (0.2)	ND (0.97)	ND (0.19)	ND (0.2)	ND (0.96)	ND (0.19)	ND (0.19)
Pyrene	96000	190000	2200	NA	NA	NA	9 (0.94)	0.18 J (0.2)	2.3 (0.97)	ND (0.19)	0.069 J (0.2)	2.7 (0.96)	0.14 J (0.19)	8.5 (0.95)
Metals														
Antimony	1300	190000	27	NA	NA	NA	0.401 J (2.23)	1.25 J (2.24)	ND (2.27)	ND (2.2)	0.228 J (2.19)	ND (2.19)	0.424 J (2.18)	ND (2.17)
Arsenic	61	190000	29	NA	NA	NA	5.28 (0.446)	5.94 (0.448)	5.61 (0.454)	4 (0.441)	4.69 (0.438)	4.69 (0.438)	5.01 (0.437)	3.82 (0.435)
Chromium (total)	--	--	--	NA	NA	NA	13.2 (0.446)	19.9 (0.448)	19 (0.454)	14.2 (0.441)	43.7 (0.438)	12.8 (0.438)	13.7 (0.437)	13.4 (0.435)
Chromium VI	180	140000	190	NA	NA	NA	ND (0.916)	0.25 J (0.951)	0.444 J (0.934)	0.886 J (0.932)	0.5 J (0.93)	0.652 J (0.899)	ND (0.92)	ND (0.909)
Cyanide (total)	--	--	--	NA	NA	NA	ND (1.1)	ND (1.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)
Lead	1000	190000	450	1750 (2.2)	160 (2.22)	7.19 (2.22)	224 (2.23)	17.1 (2.24)	110 (2.27)	18.8 (2.2)	51.4 (2.19)	67.2 (2.19)	60.7 (2.18)	115 (2.17)
Nickel	64000	190000	650	NA	NA	NA	9.15 (1.11)	12.8 (1.12)	36.2 (1.13)	13.2 (1.1)	12.9 (1.1)	41 (1.09)	7.67 (1.09)	8.55 (1.09)
Vanadium	16000	190000	49000	NA	NA	NA	16.2 (0.446)	21 (0.448)	19.6 (0.454)	20.4 (0.441)	23.7 (0.438)	22.2 (0.438)	12.2 (0.437)	16.7 (0.435)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Grey shaded concentrations exceed the Non-Res Direct Contact MSCs for Surface Soil or Subsurface Soil.
3 Underlined concentrations exceed the Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Figures

1 Facility Location
2 Site Location
3 Site Layout
4 Soil Sample Results (PB Waste Storage Unit)



0 2,000 4,000 6,000 Feet

1 inch = 4,000 feet

N

Legend

Subject to AST Closure Plan

Not Subject to AST Closure Plan

Base Map: USGS Philadelphia 1994 7.5 Minute Quadrangle.

SAFETY FIRST

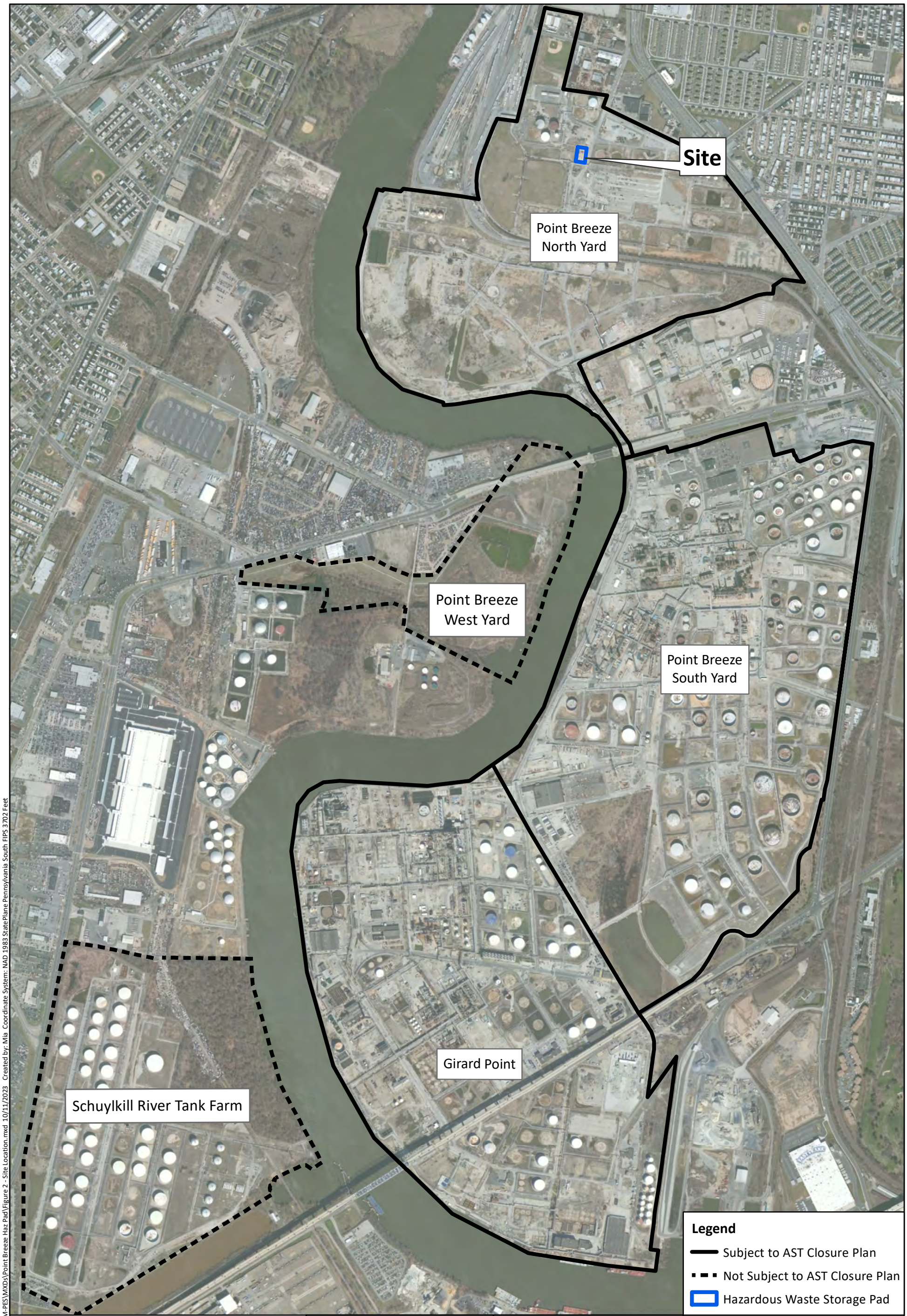
terraphase engineering

CLIENT:	Philadelphia Energy Solutions Refining and Marketing LLC
PROJECT:	Point Breeze Hazardous Waste Storage Containing Area
PROJECT NUMBER:	P044.001.010

Facility Location

Figure 1

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Point Breeze Haz Pad\Figure 1 - Facility Location.mxd 12/7/2022 Created by: Resource Coordinate System: NAD 1983 StatePlane New Jersey FIPS 2900 Feet



N

0 500 1,000 1,500 Feet

1 inch = 1,000 feet

Notes: Aerial imagery source Maxar 10/19/2019

SAFETY FIRST

terraphase engineering

CLIENT:	Philadelphia Energy Solutions Refining and Marketing LLC
PROJECT:	Point Breeze Hazardous Waste Storage Containing Area
PROJECT NUMBER:	P044.001.010

Site Location

Figure 2

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Point Breeze Haz Pad\Figure 2 - Site Location.mxd 10/11/2023 Created by: Mia Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Point Breeze Haz Pad\(20221212) Figure 3 - Site Layout.mxd 9/20/2023 Created by: MLC Checked by: RKW Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Note:
Aerial imagery source: Maxar (October 19, 2019)

0 25 50 Feet
1 inch = 25 feet

N

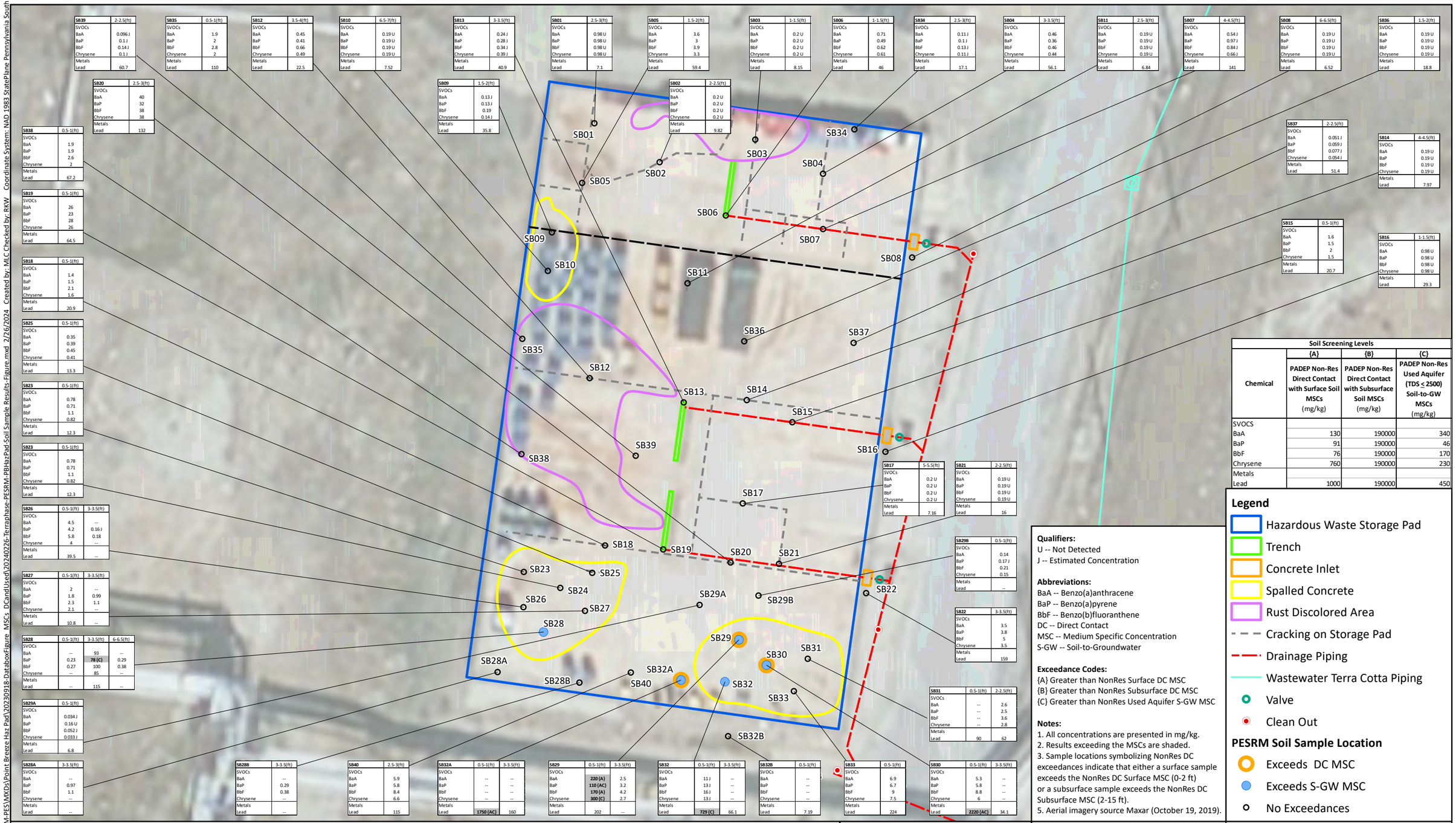
SAFETY FIRST

terraphase engineering

CLIENT:	Philadelphia Energy Solutions Refining and Marketing LLC
PROJECT:	Point Breeze Hazardous Waste Storage Containing Area
PROJECT NUMBER:	P044.001.010

Site Layout

Figure 3



SB39	2-2.5(ft)
SVOCs	
BaA	0.096 J
BaP	0.1 J
BbF	0.14 J
Chrysene	0.1 J
Metals	
Lead	60.7

SB35	0.5-1(ft)
SVOCs	
BaA	1.9
BaP	2
BbF	2.8
Chrysene	2
Metals	
Lead	110

SB12	3.5-4(ft)
SVOCs	
BaA	0.45
BaP	0.41
BbF	0.66
Chrysene	0.49
Metals	
Lead	22.5

SB10	6.5-7(ft)
SVOCs	
BaA	0.19 U
BaP	0.19 U
BbF	0.19 U
Chrysene	0.19 U
Metals	
Lead	7.52

SB13	3-3.5(ft)
SVOCs	
BaA	0.24 J
BaP	0.28 J
BbF	0.34 J
Chrysene	0.39 J
Metals	
Lead	40.9

SB01	2.5-3(ft)
SVOCs	
BaA	0.98 U
BaP	0.98 U
BbF	0.98 U
Chrysene	0.98 U
Metals	
Lead	7.1

SB05	1.5-2(ft)
SVOCs	
BaA	3.6
BaP	3
BbF	3.9
Chrysene	3.3
Metals	
Lead	59.4

SB03	1-1.5(ft)
SVOCs	
BaA	0.2 U
BaP	0.2 U
BbF	0.2 U
Chrysene	0.2 U
Metals	
Lead	8.15

SB06	1-1.5(ft)
SVOCs	
BaA	0.71
BaP	0.49
BbF	0.62
Chrysene	0.61
Metals	
Lead	46

SB34	2.5-3(ft)
SVOCs	
BaA	0.11 J
BaP	0.1 J
BbF	0.13 J
Chrysene	0.11 J
Metals	
Lead	17.1

SB04	3-3.5(ft)
SVOCs	
BaA	0.46
BaP	0.36
BbF	0.46
Chrysene	0.44
Metals	
Lead	56.1

SB11	2.5-3(ft)
SVOCs	
BaA	0.19 U
BaP	0.19 U
BbF	0.19 U
Chrysene	0.19 U
Metals	
Lead	6.84

SB07	4-4.5(ft)
SVOCs	
BaA	0.54 J
BaP	0.97 J
BbF	0.84 J
Chrysene	0.66 J
Metals	
Lead	141

SB08	6-6.5(ft)
SVOCs	
BaA	0.19 U
BaP	0.19 U
BbF	0.19 U
Chrysene	0.19 U
Metals	
Lead	6.52

SB36	1.5-2(ft)
SVOCs	
BaA	0.19 U
BaP	0.19 U
BbF	0.19 U
Chrysene	0.19 U
Metals	
Lead	18.8

SB20	2.5-3(ft)
SVOCs	
BaA	40
BaP	32
BbF	38
Chrysene	38
Metals	
Lead	132

SB09	1.5-2(ft)
SVOCs	
BaA	0.13 J
BaP	0.13 J
BbF	0.19
Chrysene	0.14 J
Metals	
Lead	35.8

SB02	2-2.5(ft)
SVOCs	
BaA	0.2 U
BaP	0.2 U
BbF	0.2 U
Chrysene	0.2 U
Metals	
Lead	9.82

SB37	2-2.5(ft)
SVOCs	
BaA	0.051 J
BaP	0.059 J
BbF	0.077 J
Chrysene	0.054 J
Metals	
Lead	51.4

SB14	4-4.5(ft)
SVOCs	
BaA	0.19 U
BaP	0.19 U
BbF	0.19 U
Chrysene	0.19 U
Metals	
Lead	7.97

SB38	0.5-1(ft)
SVOCs	
BaA	1.9
BaP	1.9
BbF	2.6
Chrysene	2
Metals	
Lead	67.2

SB19	0.5-1(ft)
SVOCs	
BaA	26
BaP	23
BbF	28
Chrysene	26
Metals	
Lead	64.5

SB15	0.5-1(ft)
SVOCs	
BaA	1.6
BaP	1.5
BbF	2
Chrysene	1.5
Metals	
Lead	20.7

SB16	1-1.5(ft)
SVOCs	
BaA	0.98 U
BaP	0.98 U
BbF	0.98 U
Chrysene	0.98 U
Metals	
Lead	29.3

SB18	0.5-1(ft)
SVOCs	
BaA	1.4
BaP	1.5
BbF	2.1
Chrysene	1.6
Metals	
Lead	20.9

SB25	0.5-1(ft)
SVOCs	
BaA	0.35
BaP	0.39
BbF	0.45
Chrysene	0.41
Metals	
Lead	13.3

SB23	0.5-1(ft)
SVOCs	
BaA	0.78
BaP	0.71
BbF	1.1
Chrysene	0.82
Metals	
Lead	12.3

SB23	0.5-1(ft)
SVOCs	
BaA	0.78
BaP	0.71
BbF	1.1
Chrysene	0.82
Metals	
Lead	12.3

SB26	0.5-1(ft)	3-3.5(ft)
SVOCs		
BaA	4.5	--
BaP	4.2	0.16 J
BbF	5.8	0.18
Chrysene	4	--
Metals		
Lead	39.5	--

SB27	0.5-1(ft)	3-3.5(ft)
SVOCs		
BaA	2	--
BaP	1.8	0.99
BbF	2.3	1.1
Chrysene	2.1	--
Metals		
Lead	10.8	--

SB28	0.5-1(ft)	3-3.5(ft)	6-6.5(ft)
SVOCs			
BaA	--	93	--
BaP	0.23	**78 (C)**	0.29
BbF	0.27	100	0.38
Chrysene	--	85	--
Metals			
Lead	--	115	--

SB29A	0.5-1(ft)
SVOCs	
BaA	0.034 J
BaP	0.16 U
BbF	0.052 J
Chrysene	0.033 J
Metals	
Lead	6.8

SB28A	3-3.5(ft)
SVOCs	
BaA	--
BaP	0.97
BbF	1.1
Chrysene	--
Metals	
Lead	--

SB17	5-5.5(ft)
SVOCs	
BaA	0.2 U
BaP	0.2 U
BbF	0.2 U
Chrysene	0.2 U
Metals	
Lead	7.16

SB21	2-2.5(ft)
SVOCs	
BaA	0.19 U
BaP	0.19 U
BbF	0.19 U
Chrysene	0.19 U
Metals	
Lead	16

SB29B	0.5-1(ft)
SVOCs	
BaA	0.14
BaP	0.17 J
BbF	0.21
Chrysene	0.15
Metals	
Lead	--

SB22	3-3.5(ft)
SVOCs	
BaA	3.5
BaP	3.8
BbF	5
Chrysene	3.5
Metals	
Lead	159

SB31	0.5-1(ft)	2-2.5(ft)
SVOCs		
BaA	--	2.6
BaP	--	2.5
BbF	--	3.6
Chrysene	--	2.8
Metals		
Lead	90	62

SB28B	3-3.5(ft)
SVOCs	
BaA	--
BaP	0.29
BbF	0.38
Chrysene	--
Metals	
Lead	--

SB40	2.5-3(ft)
SVOCs	
BaA	5.9
BaP	5.8
BbF	8.4
Chrysene	6.6
Metals	
Lead	115

SB32A	0.5-1(ft)	3-3.5(ft)
SVOCs		
BaA	--	--
BaP	--	--
BbF	--	--
Chrysene	--	--
Metals		
Lead	**1750 (AC)**	160

SB29	0.5-1(ft)	3-3.5(ft)
SVOCs		
BaA	**220 (A)**	2.5
BaP	**110 (AC)**	3.2
BbF	**170 (A)**	4.2
Chrysene	**300 (C)**	2.7
Metals		
Lead	202	--

SB32	0.5-1(ft)	3-3.5(ft)
SVOCs		
BaA	11 J	--
BaP	13 J	--
BbF	16 J	--
Chrysene	13 J	--
Metals		
Lead	**729 (C)**	66.1

SB32B	0.5-1(ft)
SVOCs	
BaA	--
BaP	--
BbF	--
Chrysene	--
Metals	
Lead	7.19

SB33	0.5-1(ft)
SVOCs	
BaA	6.9
BaP	6.7
BbF	9
Chrysene	7.5
Metals	
Lead	224

SB30	0.5-1(ft)	3-3.5(ft)
SVOCs		
BaA	5.3	--
BaP	5.8	--
BbF	8.8	--
Chrysene	6	--
Metals		
Lead	**2220 (AC)**	34.1

Soil Screening Levels

Chemical	{A} PADEP Non-Res Direct Contact with Surface Soil MSCs (mg/kg)	{B} PADEP Non-Res Direct Contact with Subsurface Soil MSCs (mg/kg)	{C} PADEP Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSCs (mg/kg)
SVOCS			
BaA	130	190000	340
BaP	91	190000	46
BbF	76	190000	170
Chrysene	760	190000	230
Metals			
Lead	1000	190000	450

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

Abbreviations:
BaA -- Benzo(a)anthracene
BaP -- Benzo(a)pyrene
BbF -- Benzo(b)fluoranthene
DC -- Direct Contact
MSC -- Medium Specific Concentration
S-GW -- Soil-to-Groundwater

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

Notes:
1. All concentrations are presented in mg/kg.
2. Results exceeding the MSCs are shaded.
3. Sample locations symbolizing NonRes DC exceedances indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5. Aerial imagery source Maxar (October 19, 2019).

Legend
- Hazardous Waste Storage Pad
- Trench
- Concrete Inlet
- Spalled Concrete
- Rust Discolored Area
- Cracking on Storage Pad
- Drainage Piping
- Wastewater Terra Cotta Piping
- Valve
- Clean Out

PESRM Soil Sample Location
- Exceeds DC MSC
- Exceeds S-GW MSC
- No Exceedances

SB32	0.5-1(ft)
SVOCs	
BaA	11 J
BaP	13 J
BbF	16 J
Chrysene	13 J
Metals	
Lead	**729 (C)**

Sample Location
Sampling Depth
Result
MSC Exceed

0 25 50 Feet
1 inch = 25 feet

N

SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Point Breeze Hazardous Waste Storage Containing Area

PROJECT NUMBER: P044.001.010

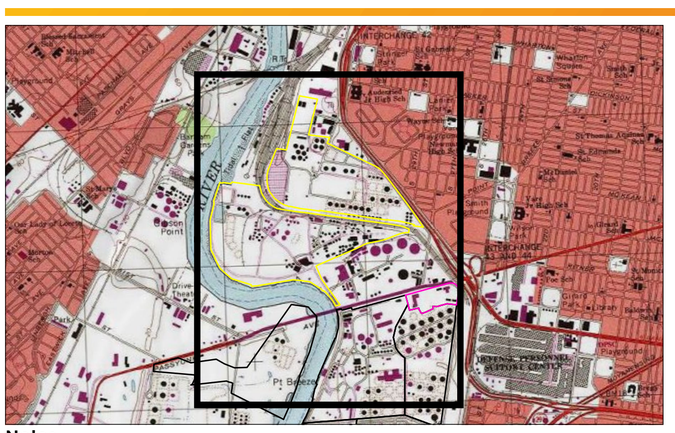
Soil Sample Results (PB Waste Storage Unit)

Figure 4

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Point Breeze Haz Pad\20230918-DataboxFigure_MSCs_DCandUsed\20240226-Terraphase-PESRM-PBHazPad-Soil Sample Results-Figure.mxd 2/26/2024 Created by: MLC Checked by: RKW Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Appendix A

Select Figure from AOI 8 RIR



LEGEND

- MAY 2017 WELL GAUGING DATA – WATER-TABLE (UNCONFINED) AQUIFER
- MAY 2017 WATER-TABLE ELEVATION (FEET NAVD 88)
- APPROXIMATE LOCATION OF PHILADELPHIA WATER DEPARTMENT SEWER
- APPROXIMATE LOCATION OF RAMBO CREEK PROCESS SEWER
- LIMITS OF WATER-TABLE WELL CONTROL
- PHILADELPHIA GAS WORKS (PGW) PASSYUNK FACILITY
- VERIZON SOUTH DISTRICT WORK CENTER (SDWC) PROPERTY
- AREA OF INTEREST (AOI) BOUNDARY
- AOI 8 BOUNDARY
- BELMONT TERMINAL
- 3.35' GROUNDWATER ELEVATION (FEET NAVD 88)
- NM WELL WAS NOT MEASURED

Notes

1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet North American Vertical Datum of 1988 (NAVD 88)
2. Sources: Stantec and Philadelphia Gas Works (PGW)
3. Callouts denote groundwater elevation in feet. Depth to groundwater was measured in each well to the nearest one-hundredth of a foot using an interface probe.
4. Contour Interval = 1 foot
5. Groundwater elevation data was interpolated using block kriging with a linear variogram model in Surfer.
6. Aerial & Topo © 2017 DigitalGlobe ©CNES (2017) Distribution Airbus DS © 2017 Microsoft Corporation
   Copyright:© 2013 National Geographic Society, i-cubed
   Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

0 250 500 Feet

1:3,300 (At original document size of 24x36)

N

Figure No.

5-5

Title

MAY 2017 WATER-TABLE ELEVATION

Client/Project

PHILADELPHIA REFINERY OPERATIONS, A SERIES OF
EVERGREEN RESOURCES GROUP, LLC
PHILADELPHIA REFINING COMPLEX
3144 PASSYUNK AVENUE, PHILADELPHIA, PA 19145

Project Location

City of Philadelphia,
Philadelphia County,
Pennsylvania

213402435

Prepared by GWC on 9/29/2017
Technical Review by ADK on 10/2/2017
Independent Review by JKD on 10/11/2017

Stantec

EVERGREEN

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Appendix B

Laboratory Reports

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-195872-1
Client Project/Site: L2213774

For:
Alpha Analytical Inc
8 Walkup Drive
Westboro, Massachusetts 01581

Attn: Ms. Nadine Yakes

Authorized for release by:
3/28/2022 5:08:19 PM

Steve Hartmann, Project Manager
(413)572-4000
Steve.Hartmann@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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.

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Definitions/Glossary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Qualifiers

GC/MS Semi 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.
S1-	Surrogate recovery exceeds control limits, low biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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
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

Job ID: 480-195872-1

Laboratory: Eurofins Buffalo

Narrative

Job Narrative
480-195872-1

Comments
No additional comments.

Receipt
The samples were received on 3/17/2022 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.9º C.

GC/MS Semi VOA
Method 8270D: The following samples were diluted due to color, appearance, and viscosity: SB01 (480-195872-1), SB05 (480-195872-3), SB13 (480-195872-6), SB26 (480-195872-10), SB28 (480-195872-11), SB35 (480-195872-12) and SB38 (480-195872-13). Elevated reporting limits (RL) are provided.

Method 8270D: The following samples were diluted due to the nature of the sample matrix: SB26 (480-195872-10) and SB28 (480-195872-11). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Method 8270D: The following sample was diluted due to color, appearance, and viscosity: SB15 (480-195872-8). Elevated reporting limits (RL) are provided.

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

Organic Prep
Method 3550C: Due to the matrix, the following sample could not be concentrated to the final method required volume: SB28 (480-195872-11). The reporting limits (RLs) are elevated proportionately.

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

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB01 — Lab Sample ID: 480-195872-1

No Detections.

Client Sample ID: SB04 — Lab Sample ID: 480-195872-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	65	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Anthracene	180	J	190	48	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	460		190	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	360		190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	460		190	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	210		190	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	180	J	190	25	ug/Kg	1	☼	8270D	Total/NA
Chrysene	440		190	43	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	100	J	190	34	ug/Kg	1	☼	8270D	Total/NA
Fluorene	73	J	190	23	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	250		190	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	710		190	28	ug/Kg	1	☼	8270D	Total/NA
Pyrene	690		190	23	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: SB05 — Lab Sample ID: 480-195872-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	590	J	1900	280	ug/Kg	10	☼	8270D	Total/NA
Anthracene	1500	J	1900	470	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]anthracene	3600		1900	190	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	3000		1900	280	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	3900		1900	300	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	2000		1900	200	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	1600	J	1900	250	ug/Kg	10	☼	8270D	Total/NA
Chrysene	3300		1900	420	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	690	J	1900	330	ug/Kg	10	☼	8270D	Total/NA
Fluorene	510	J	1900	220	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	2300		1900	230	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	4500		1900	280	ug/Kg	10	☼	8270D	Total/NA
Pyrene	5100		1900	220	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: SB09 — Lab Sample ID: 480-195872-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	130	J	190	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	130	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	190		190	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	81	J	190	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	71	J	190	25	ug/Kg	1	☼	8270D	Total/NA
Chrysene	140	J	190	43	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	100	J	190	24	ug/Kg	1	☼	8270D	Total/NA
Naphthalene	29	J	190	25	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	100	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Pyrene	180	J	190	23	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: SB10 — Lab Sample ID: 480-195872-5

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB13 — Lab Sample ID: 480-195872-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	240	J	920	92	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	280	J	920	130	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	340	J	920	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	250	J	920	97	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	130	J	920	120	ug/Kg	5	☼	8270D	Total/NA
7,12-Dimethylbenz(a)anthracene	390	J	1800	260	ug/Kg	5	☼	8270D	Total/NA
Chrysene	390	J	920	210	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	220	J	920	110	ug/Kg	5	☼	8270D	Total/NA
Pyrene	310	J	920	110	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB14 — Lab Sample ID: 480-195872-7

No Detections.

Client Sample ID: SB15 — Lab Sample ID: 480-195872-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	270	J	1000	250	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	1600		1000	100	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	1500		1000	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	2000		1000	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	920	J	1000	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	870	J	1000	130	ug/Kg	5	☼	8270D	Total/NA
Chrysene	1500		1000	220	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	310	J	1000	180	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1200		1000	120	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	870	J	1000	150	ug/Kg	5	☼	8270D	Total/NA
Pyrene	2300		1000	120	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB23 — Lab Sample ID: 480-195872-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	35	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Anthracene	130	J	190	48	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	780		190	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	710		190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	1100		190	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	440		190	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	440		190	25	ug/Kg	1	☼	8270D	Total/NA
Chrysene	820		190	43	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	150	J	190	34	ug/Kg	1	☼	8270D	Total/NA
Fluorene	43	J	190	23	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	630		190	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	640		190	28	ug/Kg	1	☼	8270D	Total/NA
Pyrene	1100		190	23	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: SB26 — Lab Sample ID: 480-195872-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	950	J	3700	920	ug/Kg	20	☼	8270D	Total/NA
Benzo[a]anthracene	4500		3700	370	ug/Kg	20	☼	8270D	Total/NA
Benzo[a]pyrene	4200		3700	550	ug/Kg	20	☼	8270D	Total/NA
Benzo[b]fluoranthene	5800		3700	590	ug/Kg	20	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SB26 (Continued) — Lab Sample ID: 480-195872-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[g,h,i]perylene	2400	J	3700	390	ug/Kg	20	☼	8270D	Total/NA
Benzo[k]fluoranthene	2200	J	3700	480	ug/Kg	20	☼	8270D	Total/NA
Chrysene	4000		3700	830	ug/Kg	20	☼	8270D	Total/NA
Dibenz(a,h)anthracene	750	J	3700	660	ug/Kg	20	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	3100	J	3700	460	ug/Kg	20	☼	8270D	Total/NA
Phenanthrene	3800		3700	550	ug/Kg	20	☼	8270D	Total/NA
Pyrene	7200		3700	440	ug/Kg	20	☼	8270D	Total/NA

Client Sample ID: SB28 — Lab Sample ID: 480-195872-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	17000	J	19000	2800	ug/Kg	10	☼	8270D	Total/NA
Anthracene	32000		19000	4700	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]anthracene	93000		19000	1900	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	78000		19000	2800	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	100000		19000	3000	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	38000		19000	2000	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	44000		19000	2500	ug/Kg	10	☼	8270D	Total/NA
Chrysene	85000		19000	4300	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	11000	J	19000	3400	ug/Kg	10	☼	8270D	Total/NA
Fluorene	16000	J	19000	2200	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	53000		19000	2300	ug/Kg	10	☼	8270D	Total/NA
Naphthalene	4400	J	19000	2500	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	100000		19000	2800	ug/Kg	10	☼	8270D	Total/NA
Pyrene	150000		19000	2200	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: SB35 — Lab Sample ID: 480-195872-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	1900		970	97	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	2000		970	140	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	2800		970	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	1100		970	100	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	1000		970	120	ug/Kg	5	☼	8270D	Total/NA
Chrysene	2000		970	220	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	330	J	970	170	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1500		970	120	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	1000		970	140	ug/Kg	5	☼	8270D	Total/NA
Pyrene	2300		970	110	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB38 — Lab Sample ID: 480-195872-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	370	J	960	240	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	1900		960	96	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	1900		960	140	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	2600		960	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	950	J	960	100	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	1000		960	120	ug/Kg	5	☼	8270D	Total/NA
Chrysene	2000		960	210	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	360	J	960	170	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1200		960	120	ug/Kg	5	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SB38 (Continued)

Lab Sample ID: 480-195872-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenanthrene	1600		960	140	ug/Kg	5	☼	8270D	Total/NA
Pyrene	2700		960	110	ug/Kg	5	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB01

Lab Sample ID: 480-195872-1

Date Collected: 03/16/22 09:40
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 86.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		980	140	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Anthracene	ND		980	240	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Benzo[a]anthracene	ND		980	98	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Benzo[a]pyrene	ND		980	140	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Benzo[b]fluoranthene	ND		980	160	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Benzo[g,h,i]perylene	ND		980	100	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Benzo[k]fluoranthene	ND		980	130	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Bis(2-ethylhexyl) phthalate	ND		980	330	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
2,4-Dimethylphenol	ND		980	240	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
7,12-Dimethylbenz(a)anthracene	ND		1900	280	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Chrysene	ND		980	220	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Dibenz(a,h)anthracene	ND		980	170	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Di-n-butyl phthalate	ND		980	170	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Fluorene	ND		980	120	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Indeno[1,2,3-cd]pyrene	ND		980	120	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Naphthalene	ND		980	130	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
2-Methylphenol	ND		980	120	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
3-Methylphenol	ND		1900	150	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
3-Methylcholanthrene	ND		1900	320	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
4-Methylphenol	ND		1900	120	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Phenanthrene	ND		980	140	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Phenol	ND		980	150	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Pyrene	ND		980	120	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Total Cresols	ND		1900	120	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*74*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:07*	*5*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*03/18/22 09:32*	*03/21/22 15:07*	*5*
2-Fluorophenol (Surr)	*77*		*52 - 120*	*03/18/22 09:32*	*03/21/22 15:07*	*5*
Phenol-d5 (Surr)	*80*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:07*	*5*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*03/18/22 09:32*	*03/21/22 15:07*	*5*
p-Terphenyl-d14 (Surr)	*88*		*79 - 130*	*03/18/22 09:32*	*03/21/22 15:07*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.7**		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	**86.3**		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB04

Lab Sample ID: 480-195872-2

Date Collected: 03/16/22 13:45
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 86.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**65**	**J**	190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Anthracene	**180**	**J**	190	48	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Benzo[a]anthracene	**460**		190	19	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Benzo[a]pyrene	**360**		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Benzo[b]fluoranthene	**460**		190	31	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Benzo[g,h,i]perylene	**210**		190	20	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1

Client Sample ID: SB04

Lab Sample ID: 480-195872-2

Date Collected: 03/16/22 13:45
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 86.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	180	J	190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
7,12-Dimethylbenz(a)anthracene	ND		370	56	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Chrysene	440		190	43	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Dibenz(a,h)anthracene	100	J	190	34	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Fluorene	73	J	190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Indeno[1,2,3-cd]pyrene	250		190	24	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Naphthalene	ND		190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
3-Methylphenol	ND		370	30	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Phenanthrene	710		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Phenol	ND		190	30	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Pyrene	690		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Total Cresols	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:24*	*1*
2-Fluorobiphenyl (Surr)	*86*		*60 - 120*	*03/18/22 09:32*	*03/21/22 15:24*	*1*
2-Fluorophenol (Surr)	*79*		*52 - 120*	*03/18/22 09:32*	*03/21/22 15:24*	*1*
Phenol-d5 (Surr)	*79*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:24*	*1*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*	*03/18/22 09:32*	*03/21/22 15:24*	*1*
p-Terphenyl-d14 (Surr)	*96*		*79 - 130*	*03/18/22 09:32*	*03/21/22 15:24*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13.8		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	86.2		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB05

Lab Sample ID: 480-195872-3

Date Collected: 03/16/22 10:05
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 88.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	590	J	1900	280	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Anthracene	1500	J	1900	470	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Benzo[a]anthracene	3600		1900	190	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Benzo[a]pyrene	3000		1900	280	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Benzo[b]fluoranthene	3900		1900	300	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Benzo[g,h,i]perylene	2000		1900	200	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Benzo[k]fluoranthene	1600	J	1900	250	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Bis(2-ethylhexyl) phthalate	ND		1900	650	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
2,4-Dimethylphenol	ND		1900	460	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
7,12-Dimethylbenz(a)anthracene	ND		3700	550	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Chrysene	3300		1900	420	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Dibenz(a,h)anthracene	690	J	1900	330	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10

Client Sample ID: SB05

Lab Sample ID: 480-195872-3

Date Collected: 03/16/22 10:05
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 88.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		1900	320	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Fluorene	**510**	**J**	1900	220	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Indeno[1,2,3-cd]pyrene	**2300**		1900	230	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Naphthalene	ND		1900	250	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
2-Methylphenol	ND		1900	220	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
3-Methylphenol	ND		3700	290	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
3-Methylcholanthrene	ND		3700	610	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
4-Methylphenol	ND		3700	220	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Phenanthrene	**4500**		1900	280	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Phenol	ND		1900	290	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Pyrene	**5100**		1900	220	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Total Cresols	ND		3700	220	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:41*	*10*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*03/18/22 09:32*	*03/21/22 15:41*	*10*
2-Fluorophenol (Surr)	*69*		*52 - 120*	*03/18/22 09:32*	*03/21/22 15:41*	*10*
Phenol-d5 (Surr)	*70*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:41*	*10*
Nitrobenzene-d5 (Surr)	*68*		*53 - 120*	*03/18/22 09:32*	*03/21/22 15:41*	*10*
p-Terphenyl-d14 (Surr)	*87*		*79 - 130*	*03/18/22 09:32*	*03/21/22 15:41*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**11.8**		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	**88.2**		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB09

Lab Sample ID: 480-195872-4

Date Collected: 03/16/22 10:25
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 86.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Anthracene	ND		190	48	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Benzo[a]anthracene	**130**	**J**	190	19	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Benzo[a]pyrene	**130**	**J**	190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Benzo[b]fluoranthene	**190**		190	31	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Benzo[g,h,i]perylene	**81**	**J**	190	20	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Benzo[k]fluoranthene	**71**	**J**	190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Chrysene	**140**	**J**	190	43	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Fluorene	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Indeno[1,2,3-cd]pyrene	**100**	**J**	190	24	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Naphthalene	**29**	**J**	190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
3-Methylphenol	ND		370	29	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1

Client Sample ID: SB09

Lab Sample ID: 480-195872-4

Date Collected: 03/16/22 10:25
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 86.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Phenanthrene	**100**	**J**	190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Phenol	ND		190	29	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Pyrene	**180**	**J**	190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Total Cresols	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*81*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:58*	*1*
2-Fluorobiphenyl (Surr)	*83*		*60 - 120*	*03/18/22 09:32*	*03/21/22 15:58*	*1*
2-Fluorophenol (Surr)	*81*		*52 - 120*	*03/18/22 09:32*	*03/21/22 15:58*	*1*
Phenol-d5 (Surr)	*80*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:58*	*1*
Nitrobenzene-d5 (Surr)	*80*		*53 - 120*	*03/18/22 09:32*	*03/21/22 15:58*	*1*
p-Terphenyl-d14 (Surr)	*98*		*79 - 130*	*03/18/22 09:32*	*03/21/22 15:58*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.8**		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	**86.2**		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB10

Lab Sample ID: 480-195872-5

Date Collected: 03/16/22 10:40
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 87.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Anthracene	ND		190	48	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
7,12-Dimethylbenz(a)anthracene	ND		370	56	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Chrysene	ND		190	43	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Fluorene	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Naphthalene	ND		190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
3-Methylphenol	ND		370	29	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Phenanthrene	ND		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Phenol	ND		190	29	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Pyrene	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Total Cresols	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1

Client Sample ID: SB10

Lab Sample ID: 480-195872-5

Date Collected: 03/16/22 10:40
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 87.6

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*71*		*54 - 120*	*03/18/22 09:32*	*03/21/22 13:25*	*1*
2-Fluorobiphenyl (Surr)	*83*		*60 - 120*	*03/18/22 09:32*	*03/21/22 13:25*	*1*
2-Fluorophenol (Surr)	*81*		*52 - 120*	*03/18/22 09:32*	*03/21/22 13:25*	*1*
Phenol-d5 (Surr)	*81*		*54 - 120*	*03/18/22 09:32*	*03/21/22 13:25*	*1*
Nitrobenzene-d5 (Surr)	*81*		*53 - 120*	*03/18/22 09:32*	*03/21/22 13:25*	*1*
p-Terphenyl-d14 (Surr)	*95*		*79 - 130*	*03/18/22 09:32*	*03/21/22 13:25*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**12.4**		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	**87.6**		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB13

Lab Sample ID: 480-195872-6

Date Collected: 03/16/22 12:50
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 90.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		920	130	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Anthracene	ND		920	230	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Benzo[a]anthracene	**240**	**J**	920	92	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Benzo[a]pyrene	**280**	**J**	920	130	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Benzo[b]fluoranthene	**340**	**J**	920	150	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Benzo[g,h,i]perylene	**250**	**J**	920	97	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Benzo[k]fluoranthene	**130**	**J**	920	120	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Bis(2-ethylhexyl) phthalate	ND		920	310	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
2,4-Dimethylphenol	ND		920	220	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
7,12-Dimethylbenz(a)anthracene	**390**	**J**	1800	260	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Chrysene	**390**	**J**	920	210	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Dibenz(a,h)anthracene	ND		920	160	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Di-n-butyl phthalate	ND		920	160	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Fluorene	ND		920	110	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Indeno[1,2,3-cd]pyrene	**220**	**J**	920	110	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Naphthalene	ND		920	120	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
2-Methylphenol	ND		920	110	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
3-Methylphenol	ND		1800	140	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
3-Methylcholanthrene	ND		1800	300	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
4-Methylphenol	ND		1800	110	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Phenanthrene	ND		920	130	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Phenol	ND		920	140	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Pyrene	**310**	**J**	920	110	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Total Cresols	ND		1800	110	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*	*03/18/22 09:32*	*03/21/22 16:15*	*5*
2-Fluorobiphenyl (Surr)	*85*		*60 - 120*	*03/18/22 09:32*	*03/21/22 16:15*	*5*
2-Fluorophenol (Surr)	*79*		*52 - 120*	*03/18/22 09:32*	*03/21/22 16:15*	*5*
Phenol-d5 (Surr)	*78*		*54 - 120*	*03/18/22 09:32*	*03/21/22 16:15*	*5*
Nitrobenzene-d5 (Surr)	*79*		*53 - 120*	*03/18/22 09:32*	*03/21/22 16:15*	*5*
p-Terphenyl-d14 (Surr)	*91*		*79 - 130*	*03/18/22 09:32*	*03/21/22 16:15*	*5*

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB13

Lab Sample ID: 480-195872-6
Date Collected: 03/16/22 12:50
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 90.6

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.4		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	90.6		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB14

Lab Sample ID: 480-195872-7
Date Collected: 03/16/22 13:10
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 85.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	29	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Anthracene	ND		190	48	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Benzo[a]pyrene	ND		190	29	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Benzo[g,h,i]perylene	ND		190	21	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Bis(2-ethylhexyl) phthalate	ND		190	67	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Chrysene	ND		190	44	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Fluorene	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Naphthalene	ND		190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Phenanthrene	ND		190	29	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Phenol	ND		190	30	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Pyrene	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Total Cresols	ND		380	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*54 - 120*	*03/18/22 09:32*	*03/21/22 16:32*	*1*
2-Fluorobiphenyl (Surr)	*85*		*60 - 120*	*03/18/22 09:32*	*03/21/22 16:32*	*1*
2-Fluorophenol (Surr)	*87*		*52 - 120*	*03/18/22 09:32*	*03/21/22 16:32*	*1*
Phenol-d5 (Surr)	*84*		*54 - 120*	*03/18/22 09:32*	*03/21/22 16:32*	*1*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*03/18/22 09:32*	*03/21/22 16:32*	*1*
p-Terphenyl-d14 (Surr)	*88*		*79 - 130*	*03/18/22 09:32*	*03/21/22 16:32*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	14.6		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	85.4		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB15

Lab Sample ID: 480-195872-8

Date Collected: 03/16/22 13:25
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 83.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	150	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Anthracene	**270**	**J**	1000	250	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Benzo[a]anthracene	**1600**		1000	100	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Benzo[a]pyrene	**1500**		1000	150	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Benzo[b]fluoranthene	**2000**		1000	160	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Benzo[g,h,i]perylene	**920**	**J**	1000	110	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Benzo[k]fluoranthene	**870**	**J**	1000	130	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Bis(2-ethylhexyl) phthalate	ND		1000	340	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
2,4-Dimethylphenol	ND		1000	240	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
7,12-Dimethylbenz(a)anthracene	ND		2000	290	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Chrysene	**1500**		1000	220	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Dibenz(a,h)anthracene	**310**	**J**	1000	180	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Di-n-butyl phthalate	ND		1000	170	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Fluorene	ND		1000	120	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Indeno[1,2,3-cd]pyrene	**1200**		1000	120	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Naphthalene	ND		1000	130	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
2-Methylphenol	ND		1000	120	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
3-Methylphenol	ND		2000	150	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
3-Methylcholanthrene	ND		2000	330	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
4-Methylphenol	ND		2000	120	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Phenanthrene	**870**	**J**	1000	150	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Phenol	ND		1000	150	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Pyrene	**2300**		1000	120	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Total Cresols	ND		2000	120	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*		*54 - 120*	*03/21/22 15:35*	*03/22/22 13:18*	*5*
2-Fluorobiphenyl (Surr)	*95*		*60 - 120*	*03/21/22 15:35*	*03/22/22 13:18*	*5*
2-Fluorophenol (Surr)	*88*		*52 - 120*	*03/21/22 15:35*	*03/22/22 13:18*	*5*
Phenol-d5 (Surr)	*88*		*54 - 120*	*03/21/22 15:35*	*03/22/22 13:18*	*5*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*03/21/22 15:35*	*03/22/22 13:18*	*5*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*03/21/22 15:35*	*03/22/22 13:18*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**16.9**		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	**83.1**		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB23

Lab Sample ID: 480-195872-9

Date Collected: 03/16/22 12:35
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 86.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**35**	**J**	190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Anthracene	**130**	**J**	190	48	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Benzo[a]anthracene	**780**		190	19	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Benzo[a]pyrene	**710**		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Benzo[b]fluoranthene	**1100**		190	31	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Benzo[g,h,i]perylene	**440**		190	20	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1

Client Sample ID: SB23

Lab Sample ID: 480-195872-9

Date Collected: 03/16/22 12:35
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 86.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	440		190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
7,12-Dimethylbenz(a)anthracene	ND		370	56	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Chrysene	820		190	43	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Dibenz(a,h)anthracene	150	J	190	34	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Fluorene	43	J	190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Indeno[1,2,3-cd]pyrene	630		190	24	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Naphthalene	ND		190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
3-Methylphenol	ND		370	30	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Phenanthrene	640		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Phenol	ND		190	30	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Pyrene	1100		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Total Cresols	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*86*		*54 - 120*	*03/18/22 09:32*	*03/21/22 16:50*	*1*
2-Fluorobiphenyl (Surr)	*99*		*60 - 120*	*03/18/22 09:32*	*03/21/22 16:50*	*1*
2-Fluorophenol (Surr)	*95*		*52 - 120*	*03/18/22 09:32*	*03/21/22 16:50*	*1*
Phenol-d5 (Surr)	*93*		*54 - 120*	*03/18/22 09:32*	*03/21/22 16:50*	*1*
Nitrobenzene-d5 (Surr)	*94*		*53 - 120*	*03/18/22 09:32*	*03/21/22 16:50*	*1*
p-Terphenyl-d14 (Surr)	*99*		*79 - 130*	*03/18/22 09:32*	*03/21/22 16:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13.2		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	86.8		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB26

Lab Sample ID: 480-195872-10

Date Collected: 03/16/22 12:15
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 91.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		3700	550	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Anthracene	950	J	3700	920	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Benzo[a]anthracene	4500		3700	370	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Benzo[a]pyrene	4200		3700	550	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Benzo[b]fluoranthene	5800		3700	590	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Benzo[g,h,i]perylene	2400	J	3700	390	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Benzo[k]fluoranthene	2200	J	3700	480	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Bis(2-ethylhexyl) phthalate	ND		3700	1300	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
2,4-Dimethylphenol	ND		3700	900	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
7,12-Dimethylbenz(a)anthracene	ND		7200	1100	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Chrysene	4000		3700	830	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Dibenz(a,h)anthracene	750	J	3700	660	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20

Client Sample ID: SB26

Lab Sample ID: 480-195872-10

Date Collected: 03/16/22 12:15
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 91.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		3700	630	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Fluorene	ND		3700	440	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Indeno[1,2,3-cd]pyrene	**3100**	**J**	3700	460	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Naphthalene	ND		3700	480	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
2-Methylphenol	ND		3700	440	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
3-Methylphenol	ND		7200	570	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
3-Methylcholanthrene	ND		7200	1200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
4-Methylphenol	ND		7200	440	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Phenanthrene	**3800**		3700	550	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Phenol	ND		3700	570	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Pyrene	**7200**		3700	440	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Total Cresols	ND		7200	440	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*0*	*S1-*	*54 - 120*	*03/18/22 09:32*	*03/21/22 17:07*	*20*
2-Fluorobiphenyl (Surr)	*82*		*60 - 120*	*03/18/22 09:32*	*03/21/22 17:07*	*20*
2-Fluorophenol (Surr)	*75*		*52 - 120*	*03/18/22 09:32*	*03/21/22 17:07*	*20*
Phenol-d5 (Surr)	*71*		*54 - 120*	*03/18/22 09:32*	*03/21/22 17:07*	*20*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*03/18/22 09:32*	*03/21/22 17:07*	*20*
p-Terphenyl-d14 (Surr)	*78*	*S1-*	*79 - 130*	*03/18/22 09:32*	*03/21/22 17:07*	*20*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**8.9**		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	**91.1**		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB28

Lab Sample ID: 480-195872-11

Date Collected: 03/16/22 11:55
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 88.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**17000**	**J**	19000	2800	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Anthracene	**32000**		19000	4700	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Benzo[a]anthracene	**93000**		19000	1900	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Benzo[a]pyrene	**78000**		19000	2800	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Benzo[b]fluoranthene	**100000**		19000	3000	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Benzo[g,h,i]perylene	**38000**		19000	2000	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Benzo[k]fluoranthene	**44000**		19000	2500	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Bis(2-ethylhexyl) phthalate	ND		19000	6500	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
2,4-Dimethylphenol	ND		19000	4600	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
7,12-Dimethylbenz(a)anthracene	ND		37000	5500	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Chrysene	**85000**		19000	4300	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Dibenz(a,h)anthracene	**11000**	**J**	19000	3400	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Di-n-butyl phthalate	ND		19000	3200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Fluorene	**16000**	**J**	19000	2200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Indeno[1,2,3-cd]pyrene	**53000**		19000	2300	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Naphthalene	**4400**	**J**	19000	2500	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
2-Methylphenol	ND		19000	2200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
3-Methylphenol	ND		37000	2900	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10

Client Sample ID: SB28

Lab Sample ID: 480-195872-11

Date Collected: 03/16/22 11:55
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 88.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Methylcholanthrene	ND		37000	6200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
4-Methylphenol	ND		37000	2200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Phenanthrene	**100000**		19000	2800	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Phenol	ND		19000	2900	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Pyrene	**150000**		19000	2200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Total Cresols	ND		37000	2200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*0*	*S1-*	*54 - 120*	*03/18/22 09:32*	*03/21/22 17:24*	*10*
2-Fluorobiphenyl (Surr)	*75*		*60 - 120*	*03/18/22 09:32*	*03/21/22 17:24*	*10*
2-Fluorophenol (Surr)	*62*		*52 - 120*	*03/18/22 09:32*	*03/21/22 17:24*	*10*
Phenol-d5 (Surr)	*79*		*54 - 120*	*03/18/22 09:32*	*03/21/22 17:24*	*10*
Nitrobenzene-d5 (Surr)	*74*		*53 - 120*	*03/18/22 09:32*	*03/21/22 17:24*	*10*
p-Terphenyl-d14 (Surr)	*94*		*79 - 130*	*03/18/22 09:32*	*03/21/22 17:24*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**11.2**		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	**88.8**		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB35

Lab Sample ID: 480-195872-12

Date Collected: 03/16/22 10:50
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 87.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		970	140	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Anthracene	ND		970	240	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Benzo[a]anthracene	**1900**		970	97	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Benzo[a]pyrene	**2000**		970	140	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Benzo[b]fluoranthene	**2800**		970	150	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Benzo[g,h,i]perylene	**1100**		970	100	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Benzo[k]fluoranthene	**1000**		970	120	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Bis(2-ethylhexyl) phthalate	ND		970	330	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
2,4-Dimethylphenol	ND		970	230	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
7,12-Dimethylbenz(a)anthracene	ND		1900	280	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Chrysene	**2000**		970	220	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Dibenz(a,h)anthracene	**330**	**J**	970	170	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Di-n-butyl phthalate	ND		970	160	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Fluorene	ND		970	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Indeno[1,2,3-cd]pyrene	**1500**		970	120	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Naphthalene	ND		970	120	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
2-Methylphenol	ND		970	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
3-Methylphenol	ND		1900	150	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
3-Methylcholanthrene	ND		1900	310	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
4-Methylphenol	ND		1900	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Phenanthrene	**1000**		970	140	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Phenol	ND		970	150	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Pyrene	**2300**		970	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Total Cresols	ND		1900	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB35

Lab Sample ID: 480-195872-12

Date Collected: 03/16/22 10:50
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 87.6

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*88*		*54 - 120*	*03/18/22 09:41*	*03/21/22 17:41*	*5*
2-Fluorobiphenyl (Surr)	*91*		*60 - 120*	*03/18/22 09:41*	*03/21/22 17:41*	*5*
2-Fluorophenol (Surr)	*87*		*52 - 120*	*03/18/22 09:41*	*03/21/22 17:41*	*5*
Phenol-d5 (Surr)	*84*		*54 - 120*	*03/18/22 09:41*	*03/21/22 17:41*	*5*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*03/18/22 09:41*	*03/21/22 17:41*	*5*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*03/18/22 09:41*	*03/21/22 17:41*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**12.4**		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	**87.6**		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB38

Lab Sample ID: 480-195872-13

Date Collected: 03/16/22 11:10
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 88.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		960	140	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Anthracene	**370**	**J**	960	240	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Benzo[a]anthracene	**1900**		960	96	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Benzo[a]pyrene	**1900**		960	140	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Benzo[b]fluoranthene	**2600**		960	150	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Benzo[g,h,i]perylene	**950**	**J**	960	100	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Benzo[k]fluoranthene	**1000**		960	120	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Bis(2-ethylhexyl) phthalate	ND		960	330	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
2,4-Dimethylphenol	ND		960	230	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
7,12-Dimethylbenz(a)anthracene	ND		1900	280	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Chrysene	**2000**		960	210	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Dibenz(a,h)anthracene	**360**	**J**	960	170	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Di-n-butyl phthalate	ND		960	160	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Fluorene	ND		960	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Indeno[1,2,3-cd]pyrene	**1200**		960	120	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Naphthalene	ND		960	120	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
2-Methylphenol	ND		960	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
3-Methylphenol	ND		1900	150	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
3-Methylcholanthrene	ND		1900	310	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
4-Methylphenol	ND		1900	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Phenanthrene	**1600**		960	140	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Phenol	ND		960	150	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Pyrene	**2700**		960	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Total Cresols	ND		1900	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*71*		*54 - 120*	*03/18/22 09:41*	*03/21/22 17:58*	*5*
2-Fluorobiphenyl (Surr)	*86*		*60 - 120*	*03/18/22 09:41*	*03/21/22 17:58*	*5*
2-Fluorophenol (Surr)	*79*		*52 - 120*	*03/18/22 09:41*	*03/21/22 17:58*	*5*
Phenol-d5 (Surr)	*76*		*54 - 120*	*03/18/22 09:41*	*03/21/22 17:58*	*5*
Nitrobenzene-d5 (Surr)	*76*		*53 - 120*	*03/18/22 09:41*	*03/21/22 17:58*	*5*
p-Terphenyl-d14 (Surr)	*89*		*79 - 130*	*03/18/22 09:41*	*03/21/22 17:58*	*5*

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB38

Lab Sample ID: 480-195872-13

Date Collected: 03/16/22 11:10

Matrix: Solid

Date Received: 03/17/22 10:30

Percent Solids: 88.0

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12.0		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	88.0		0.1	0.1	%			03/17/22 17:12	1

Surrogate Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	PHL	NBZ	TPHd14
Lab Sample ID	Client Sample ID	(54-120)	(60-120)	(52-120)	(54-120)	(53-120)	(79-130)
480-195872-1	SB01	74	81	77	80	77	88
480-195872-2	SB04	76	86	79	79	82	96
480-195872-3	SB05	80	81	69	70	68	87
480-195872-4	SB09	81	83	81	80	80	98
480-195872-5	SB10	71	83	81	81	81	95
480-195872-5 MS	SB10	80	91	90	90	90	97
480-195872-5 MSD	SB10	82	92	89	90	89	102
480-195872-6	SB13	83	85	79	78	79	91
480-195872-7	SB14	76	85	87	84	85	88
480-195872-8	SB15	80	95	88	88	85	101
480-195872-9	SB23	86	99	95	93	94	99
480-195872-10	SB26	0 S1-	82	75	71	83	78 S1-
480-195872-11	SB28	0 S1-	75	62	79	74	94
480-195872-12	SB35	88	91	87	84	85	101
480-195872-13	SB38	71	86	79	76	76	89
LCS 480-618324/2-A	Lab Control Sample	81	88	82	85	83	101
LCS 480-618538/2-A	Lab Control Sample	83	89	83	85	82	98
MB 480-618324/1-A	Method Blank	73	90	86	86	84	96
MB 480-618538/1-A	Method Blank	69	81	75	77	76	94

Surrogate Legend

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

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

Lab Sample ID: MB 480-618324/1-A
Matrix: Solid
Analysis Batch: 618474

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 618324

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		170	25	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Anthracene	ND		170	41	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Benzo[a]anthracene	ND		170	17	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Benzo[a]pyrene	ND		170	25	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Benzo[b]fluoranthene	ND		170	27	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Benzo[k]fluoranthene	ND		170	22	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Bis(2-ethylhexyl) phthalate	ND		170	57	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
2,4-Dimethylphenol	ND		170	40	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
7,12-Dimethylbenz(a)anthracene	ND		320	48	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Chrysene	ND		170	37	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Dibenz(a,h)anthracene	ND		170	29	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Di-n-butyl phthalate	ND		170	28	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Fluorene	ND		170	20	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Indeno[1,2,3-cd]pyrene	ND		170	21	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Naphthalene	ND		170	22	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
2-Methylphenol	ND		170	20	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
3-Methylphenol	ND		320	26	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
3-Methylcholanthrene	ND		320	54	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
4-Methylphenol	ND		320	20	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Phenanthrene	ND		170	25	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Phenol	ND		170	26	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Pyrene	ND		170	20	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Total Cresols	ND		320	20	ug/Kg		03/18/22 09:32	03/21/22 12:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*73*		*54 - 120*	*03/18/22 09:32*	*03/21/22 12:16*	*1*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*03/18/22 09:32*	*03/21/22 12:16*	*1*
2-Fluorophenol (Surr)	*86*		*52 - 120*	*03/18/22 09:32*	*03/21/22 12:16*	*1*
Phenol-d5 (Surr)	*86*		*54 - 120*	*03/18/22 09:32*	*03/21/22 12:16*	*1*
Nitrobenzene-d5 (Surr)	*84*		*53 - 120*	*03/18/22 09:32*	*03/21/22 12:16*	*1*
p-Terphenyl-d14 (Surr)	*96*		*79 - 130*	*03/18/22 09:32*	*03/21/22 12:16*	*1*

Lab Sample ID: LCS 480-618324/2-A
Matrix: Solid
Analysis Batch: 618474

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618324

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1640	1540		ug/Kg		94	62 - 120
Anthracene	1640	1620		ug/Kg		99	62 - 120
Benzo[a]anthracene	1640	1760		ug/Kg		108	65 - 120
Benzo[a]pyrene	1640	1590		ug/Kg		97	64 - 120
Benzo[b]fluoranthene	1640	1750		ug/Kg		107	64 - 120
Benzo[g,h,i]perylene	1640	1670		ug/Kg		102	45 - 145
Benzo[k]fluoranthene	1640	1750		ug/Kg		107	65 - 120
Bis(2-ethylhexyl) phthalate	1640	1880		ug/Kg		115	61 - 133
2,4-Dimethylphenol	1640	1550		ug/Kg		95	59 - 120
Chrysene	1640	1640		ug/Kg		100	64 - 120

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

Lab Sample ID: LCS 480-618324/2-A
Matrix: Solid
Analysis Batch: 618474

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618324

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenz(a,h)anthracene	1640	1760		ug/Kg		107	54 - 132
Di-n-butyl phthalate	1640	1730		ug/Kg		106	58 - 130
Fluorene	1640	1570		ug/Kg		96	63 - 120
Indeno[1,2,3-cd]pyrene	1640	1780		ug/Kg		109	56 - 134
Naphthalene	1640	1390		ug/Kg		85	55 - 120
2-Methylphenol	1640	1540		ug/Kg		94	54 - 120
3-Methylphenol	1640	1530		ug/Kg		93	55 - 120
4-Methylphenol	1640	1530		ug/Kg		93	55 - 120
Phenanthrene	1640	1610		ug/Kg		98	60 - 120
Phenol	1640	1460		ug/Kg		90	53 - 120
Pyrene	1640	1780		ug/Kg		109	61 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*81*		*54 - 120*
2-Fluorobiphenyl (Surr)	*88*		*60 - 120*
2-Fluorophenol (Surr)	*82*		*52 - 120*
Phenol-d5 (Surr)	*85*		*54 - 120*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*

Lab Sample ID: 480-195872-5 MS
Matrix: Solid
Analysis Batch: 618474

Client Sample ID: SB10
Prep Type: Total/NA
Prep Batch: 618324

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		1900	1790		ug/Kg	☼	94	60 - 120
Anthracene	ND		1900	1870		ug/Kg	☼	99	62 - 120
Benzo[a]anthracene	ND		1900	2000		ug/Kg	☼	105	65 - 120
Benzo[a]pyrene	ND		1900	1790		ug/Kg	☼	94	64 - 120
Benzo[b]fluoranthene	ND		1900	2010		ug/Kg	☼	106	10 - 150
Benzo[g,h,i]perylene	ND		1900	1870		ug/Kg	☼	99	45 - 145
Benzo[k]fluoranthene	ND		1900	1910		ug/Kg	☼	101	23 - 150
Bis(2-ethylhexyl) phthalate	ND		1900	2130		ug/Kg	☼	112	61 - 133
2,4-Dimethylphenol	ND		1900	1850		ug/Kg	☼	97	52 - 120
Chrysene	ND		1900	1840		ug/Kg	☼	97	64 - 120
Dibenz(a,h)anthracene	ND		1900	1960		ug/Kg	☼	103	54 - 132
Di-n-butyl phthalate	ND		1900	1930		ug/Kg	☼	102	58 - 130
Fluorene	ND		1900	1820		ug/Kg	☼	96	63 - 120
Indeno[1,2,3-cd]pyrene	ND		1900	2020		ug/Kg	☼	106	56 - 134
Naphthalene	ND		1900	1690		ug/Kg	☼	89	46 - 120
2-Methylphenol	ND		1900	1920		ug/Kg	☼	101	48 - 120
3-Methylphenol	ND		1900	1840		ug/Kg	☼	97	50 - 120
4-Methylphenol	ND		1900	1840		ug/Kg	☼	97	50 - 120
Phenanthrene	ND		1900	1810		ug/Kg	☼	95	60 - 122
Phenol	ND		1900	1730		ug/Kg	☼	91	50 - 120
Pyrene	ND		1900	1970		ug/Kg	☼	104	61 - 133

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

Lab Sample ID: 480-195872-5 MS
Matrix: Solid
Analysis Batch: 618474

Client Sample ID: SB10
Prep Type: Total/NA
Prep Batch: 618324

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	80		54 - 120
2-Fluorobiphenyl (Surr)	91		60 - 120
2-Fluorophenol (Surr)	90		52 - 120
Phenol-d5 (Surr)	90		54 - 120
Nitrobenzene-d5 (Surr)	90		53 - 120
p-Terphenyl-d14 (Surr)	97		79 - 130

Lab Sample ID: 480-195872-5 MSD
Matrix: Solid
Analysis Batch: 618474

Client Sample ID: SB10
Prep Type: Total/NA
Prep Batch: 618324

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		1900	1870		ug/Kg	☼	98	60 - 120	5	35
Anthracene	ND		1900	1950		ug/Kg	☼	102	62 - 120	4	15
Benzo[a]anthracene	ND		1900	2110		ug/Kg	☼	111	65 - 120	5	15
Benzo[a]pyrene	ND		1900	1880		ug/Kg	☼	99	64 - 120	5	15
Benzo[b]fluoranthene	ND		1900	2040		ug/Kg	☼	107	10 - 150	1	15
Benzo[g,h,i]perylene	ND		1900	1960		ug/Kg	☼	103	45 - 145	5	15
Benzo[k]fluoranthene	ND		1900	2150		ug/Kg	☼	113	23 - 150	12	22
Bis(2-ethylhexyl) phthalate	ND		1900	2230		ug/Kg	☼	117	61 - 133	5	15
2,4-Dimethylphenol	ND		1900	1890		ug/Kg	☼	100	52 - 120	2	42
Chrysene	ND		1900	1910		ug/Kg	☼	100	64 - 120	3	15
Dibenz(a,h)anthracene	ND		1900	2060		ug/Kg	☼	108	54 - 132	5	15
Di-n-butyl phthalate	ND		1900	2030		ug/Kg	☼	107	58 - 130	5	15
Fluorene	ND		1900	1880		ug/Kg	☼	99	63 - 120	3	15
Indeno[1,2,3-cd]pyrene	ND		1900	2120		ug/Kg	☼	112	56 - 134	5	15
Naphthalene	ND		1900	1680		ug/Kg	☼	89	46 - 120	1	29
2-Methylphenol	ND		1900	1880		ug/Kg	☼	99	48 - 120	2	27
3-Methylphenol	ND		1900	1860		ug/Kg	☼	98	50 - 120	1	24
4-Methylphenol	ND		1900	1860		ug/Kg	☼	98	50 - 120	1	24
Phenanthrene	ND		1900	1890		ug/Kg	☼	99	60 - 122	5	15
Phenol	ND		1900	1790		ug/Kg	☼	94	50 - 120	3	35
Pyrene	ND		1900	2110		ug/Kg	☼	111	61 - 133	7	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	82		54 - 120
2-Fluorobiphenyl (Surr)	92		60 - 120
2-Fluorophenol (Surr)	89		52 - 120
Phenol-d5 (Surr)	90		54 - 120
Nitrobenzene-d5 (Surr)	89		53 - 120
p-Terphenyl-d14 (Surr)	102		79 - 130

Lab Sample ID: MB 480-618538/1-A
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 618538

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		170	25	ug/Kg		03/21/22 15:35	03/22/22 11:52	1

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

Lab Sample ID: MB 480-618538/1-A
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 618538

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		170	42	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[a]anthracene	ND		170	17	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[a]pyrene	ND		170	25	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[b]fluoranthene	ND		170	27	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[k]fluoranthene	ND		170	22	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Bis(2-ethylhexyl) phthalate	ND		170	58	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
2,4-Dimethylphenol	ND		170	41	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
7,12-Dimethylbenz(a)anthracene	ND		330	49	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Chrysene	ND		170	38	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Dibenz(a,h)anthracene	ND		170	30	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Di-n-butyl phthalate	ND		170	29	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Fluorene	ND		170	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Indeno[1,2,3-cd]pyrene	ND		170	21	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Naphthalene	ND		170	22	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
2-Methylphenol	ND		170	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
3-Methylphenol	ND		330	26	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
3-Methylcholanthrene	ND		330	55	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
4-Methylphenol	ND		330	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Phenanthrene	ND		170	25	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Phenol	ND		170	26	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Pyrene	ND		170	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Total Cresols	ND		330	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*69*		*54 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
2-Fluorophenol (Surr)	*75*		*52 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
Phenol-d5 (Surr)	*77*		*54 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
Nitrobenzene-d5 (Surr)	*76*		*53 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
p-Terphenyl-d14 (Surr)	*94*		*79 - 130*	*03/21/22 15:35*	*03/22/22 11:52*	*1*

Lab Sample ID: LCS 480-618538/2-A
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618538

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1660	1500		ug/Kg		90	62 - 120
Anthracene	1660	1600		ug/Kg		96	62 - 120
Benzo[a]anthracene	1660	1640		ug/Kg		99	65 - 120
Benzo[a]pyrene	1660	1530		ug/Kg		92	64 - 120
Benzo[b]fluoranthene	1660	1720		ug/Kg		104	64 - 120
Benzo[g,h,i]perylene	1660	1680		ug/Kg		101	45 - 145
Benzo[k]fluoranthene	1660	1670		ug/Kg		101	65 - 120
Bis(2-ethylhexyl) phthalate	1660	1800		ug/Kg		109	61 - 133
2,4-Dimethylphenol	1660	1540		ug/Kg		93	59 - 120
Chrysene	1660	1610		ug/Kg		97	64 - 120
Dibenz(a,h)anthracene	1660	1700		ug/Kg		103	54 - 132

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

Lab Sample ID: LCS 480-618538/2-A
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618538

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Di-n-butyl phthalate	1660	1630		ug/Kg		98	58 - 130
Fluorene	1660	1550		ug/Kg		93	63 - 120
Indeno[1,2,3-cd]pyrene	1660	1810		ug/Kg		109	56 - 134
Naphthalene	1660	1380		ug/Kg		83	55 - 120
2-Methylphenol	1660	1500		ug/Kg		90	54 - 120
3-Methylphenol	1660	1500		ug/Kg		90	55 - 120
4-Methylphenol	1660	1500		ug/Kg		91	55 - 120
Phenanthrene	1660	1530		ug/Kg		93	60 - 120
Phenol	1660	1400		ug/Kg		84	53 - 120
Pyrene	1660	1680		ug/Kg		102	61 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*
2-Fluorophenol (Surr)	*83*		*52 - 120*
Phenol-d5 (Surr)	*85*		*54 - 120*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*
p-Terphenyl-d14 (Surr)	*98*		*79 - 130*

QC Association Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

GC/MS Semi VOA

Prep Batch: 618324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195872-1	SB01	Total/NA	Solid	3550C	
480-195872-2	SB04	Total/NA	Solid	3550C	
480-195872-3	SB05	Total/NA	Solid	3550C	
480-195872-4	SB09	Total/NA	Solid	3550C	
480-195872-5	SB10	Total/NA	Solid	3550C	
480-195872-6	SB13	Total/NA	Solid	3550C	
480-195872-7	SB14	Total/NA	Solid	3550C	
480-195872-9	SB23	Total/NA	Solid	3550C	
480-195872-10	SB26	Total/NA	Solid	3550C	
480-195872-11	SB28	Total/NA	Solid	3550C	
480-195872-12	SB35	Total/NA	Solid	3550C	
480-195872-13	SB38	Total/NA	Solid	3550C	
MB 480-618324/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-618324/2-A	Lab Control Sample	Total/NA	Solid	3550C	
480-195872-5 MS	SB10	Total/NA	Solid	3550C	
480-195872-5 MSD	SB10	Total/NA	Solid	3550C	

Analysis Batch: 618474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195872-1	SB01	Total/NA	Solid	8270D	618324
480-195872-2	SB04	Total/NA	Solid	8270D	618324
480-195872-3	SB05	Total/NA	Solid	8270D	618324
480-195872-4	SB09	Total/NA	Solid	8270D	618324
480-195872-5	SB10	Total/NA	Solid	8270D	618324
480-195872-6	SB13	Total/NA	Solid	8270D	618324
480-195872-7	SB14	Total/NA	Solid	8270D	618324
480-195872-9	SB23	Total/NA	Solid	8270D	618324
480-195872-10	SB26	Total/NA	Solid	8270D	618324
480-195872-11	SB28	Total/NA	Solid	8270D	618324
480-195872-12	SB35	Total/NA	Solid	8270D	618324
480-195872-13	SB38	Total/NA	Solid	8270D	618324
MB 480-618324/1-A	Method Blank	Total/NA	Solid	8270D	618324
LCS 480-618324/2-A	Lab Control Sample	Total/NA	Solid	8270D	618324
480-195872-5 MS	SB10	Total/NA	Solid	8270D	618324
480-195872-5 MSD	SB10	Total/NA	Solid	8270D	618324

Prep Batch: 618538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195872-8	SB15	Total/NA	Solid	3550C	
MB 480-618538/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-618538/2-A	Lab Control Sample	Total/NA	Solid	3550C	

Analysis Batch: 618598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195872-8	SB15	Total/NA	Solid	8270D	618538
MB 480-618538/1-A	Method Blank	Total/NA	Solid	8270D	618538
LCS 480-618538/2-A	Lab Control Sample	Total/NA	Solid	8270D	618538

QC Association Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

General Chemistry

Analysis Batch: 618285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195872-1	SB01	Total/NA	Solid	Moisture	
480-195872-2	SB04	Total/NA	Solid	Moisture	
480-195872-3	SB05	Total/NA	Solid	Moisture	
480-195872-4	SB09	Total/NA	Solid	Moisture	
480-195872-5	SB10	Total/NA	Solid	Moisture	
480-195872-6	SB13	Total/NA	Solid	Moisture	
480-195872-7	SB14	Total/NA	Solid	Moisture	
480-195872-8	SB15	Total/NA	Solid	Moisture	
480-195872-9	SB23	Total/NA	Solid	Moisture	
480-195872-10	SB26	Total/NA	Solid	Moisture	
480-195872-11	SB28	Total/NA	Solid	Moisture	
480-195872-12	SB35	Total/NA	Solid	Moisture	
480-195872-13	SB38	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB01 — Lab Sample ID: 480-195872-1

Date Collected: 03/16/22 09:40 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB01 — Lab Sample ID: 480-195872-1

Date Collected: 03/16/22 09:40 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 86.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618474	03/21/22 15:07	JMM	TAL BUF

Client Sample ID: SB04 — Lab Sample ID: 480-195872-2

Date Collected: 03/16/22 13:45 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB04 — Lab Sample ID: 480-195872-2

Date Collected: 03/16/22 13:45 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 86.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618474	03/21/22 15:24	JMM	TAL BUF

Client Sample ID: SB05 — Lab Sample ID: 480-195872-3

Date Collected: 03/16/22 10:05 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB05 — Lab Sample ID: 480-195872-3

Date Collected: 03/16/22 10:05 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 88.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618474	03/21/22 15:41	JMM	TAL BUF

Client Sample ID: SB09 — Lab Sample ID: 480-195872-4

Date Collected: 03/16/22 10:25 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB09 — Lab Sample ID: 480-195872-4

Date Collected: 03/16/22 10:25 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 86.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618474	03/21/22 15:58	JMM	TAL BUF

Client Sample ID: SB10 — Lab Sample ID: 480-195872-5

Date Collected: 03/16/22 10:40 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB10 — Lab Sample ID: 480-195872-5

Date Collected: 03/16/22 10:40 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 87.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618474	03/21/22 13:25	JMM	TAL BUF

Client Sample ID: SB13 — Lab Sample ID: 480-195872-6

Date Collected: 03/16/22 12:50 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB13 — Lab Sample ID: 480-195872-6

Date Collected: 03/16/22 12:50 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 90.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618474	03/21/22 16:15	JMM	TAL BUF

Client Sample ID: SB14 — Lab Sample ID: 480-195872-7

Date Collected: 03/16/22 13:10 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB14 — Lab Sample ID: 480-195872-7

Date Collected: 03/16/22 13:10 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 85.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618474	03/21/22 16:32	JMM	TAL BUF

Client Sample ID: SB15 — Lab Sample ID: 480-195872-8

Date Collected: 03/16/22 13:25 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB15 — Lab Sample ID: 480-195872-8

Date Collected: 03/16/22 13:25 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 83.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618598	03/22/22 13:18	JMM	TAL BUF

Client Sample ID: SB23 — Lab Sample ID: 480-195872-9

Date Collected: 03/16/22 12:35 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB23 — Lab Sample ID: 480-195872-9

Date Collected: 03/16/22 12:35 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 86.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618474	03/21/22 16:50	JMM	TAL BUF

Client Sample ID: SB26 — Lab Sample ID: 480-195872-10

Date Collected: 03/16/22 12:15 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB26 — Lab Sample ID: 480-195872-10

Date Collected: 03/16/22 12:15 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 91.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		20	618474	03/21/22 17:07	JMM	TAL BUF

Client Sample ID: SB28 — Lab Sample ID: 480-195872-11

Date Collected: 03/16/22 11:55 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB28 — Lab Sample ID: 480-195872-11

Date Collected: 03/16/22 11:55 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 88.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618474	03/21/22 17:24	JMM	TAL BUF

Client Sample ID: SB35 — Lab Sample ID: 480-195872-12

Date Collected: 03/16/22 10:50 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB35 — Lab Sample ID: 480-195872-12

Date Collected: 03/16/22 10:50 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 87.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:41	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618474	03/21/22 17:41	JMM	TAL BUF

Client Sample ID: SB38 — Lab Sample ID: 480-195872-13

Date Collected: 03/16/22 11:10 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB38

Date Collected: 03/16/22 11:10
Date Received: 03/17/22 10:30

Lab Sample ID: 480-195872-13

Matrix: Solid
Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:41	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618474	03/21/22 17:58	JMM	TAL BUF

Laboratory References:

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Laboratory: Eurofins Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	68-00281	07-31-22

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
8270D	3550C	Solid	Total Cresols
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF
3550C	Ultrasonic Extraction	SW846	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-195872-1	SB01	Solid	03/16/22 09:40	03/17/22 10:30
480-195872-2	SB04	Solid	03/16/22 13:45	03/17/22 10:30
480-195872-3	SB05	Solid	03/16/22 10:05	03/17/22 10:30
480-195872-4	SB09	Solid	03/16/22 10:25	03/17/22 10:30
480-195872-5	SB10	Solid	03/16/22 10:40	03/17/22 10:30
480-195872-6	SB13	Solid	03/16/22 12:50	03/17/22 10:30
480-195872-7	SB14	Solid	03/16/22 13:10	03/17/22 10:30
480-195872-8	SB15	Solid	03/16/22 13:25	03/17/22 10:30
480-195872-9	SB23	Solid	03/16/22 12:35	03/17/22 10:30
480-195872-10	SB26	Solid	03/16/22 12:15	03/17/22 10:30
480-195872-11	SB28	Solid	03/16/22 11:55	03/17/22 10:30
480-195872-12	SB35	Solid	03/16/22 10:50	03/17/22 10:30
480-195872-13	SB38	Solid	03/16/22 11:10	03/17/22 10:30

1/2

Subcontract Chain of Custody

Eurofins Northeast LLC
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2213774

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2213774

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	SB01	03-16-22 09:40	SOIL	8270	
	SB04	03-16-22 13:45	SOIL	8270	
	SB05	03-16-22 10:05	SOIL	8270	
	SB09	03-16-22 10:25	SOIL	8270	
	SB10	03-16-22 10:40	SOIL	8270	
	SB13	03-16-22 12:50	SOIL	8270	
	SB14	03-16-22 13:10	SOIL	8270	
	SB15	03-16-22 13:25	SOIL	8270	
	SB23	03-16-22 12:35	SOIL	8270	

480-195872 Chain of Custody

UPS

Relinquished By:	Date/Time:	Received By:	Date/Time:
Amica Jagliro	3/16/22 16:49	[illegible]	3/17/22 1030

Form No: AL_subcoc

2.9 #1 KE

2/2

Subcontract Chain of Custody

Eurofins Northeast LLC
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2213774

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2213774

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	SB26	03-16-22 12:15	SOIL	8270	
	SB28	03-16-22 11:55	SOIL	8270	
	SB35	03-16-22 10:50	SOIL	8270	
	SB38	03-16-22 11:10	SOIL	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[illegible]	3/16/22 12:49	[illegible]	3/17/22 1030

Form No: AL_subcoc

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ANALYTICAL REPORT

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-195922-1
Client Project/Site: L2214012

For:
Alpha Analytical Inc
8 Walkup Drive
Westboro, Massachusetts 01581

Attn: Ms. Nadine Yakes

Authorized for release by:
3/29/2022 3:50:56 PM

Steve Hartmann, Project Manager
(413)572-4000
Steve.Hartmann@Eurofinset.com

LINKS

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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.

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Definitions/Glossary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Qualifiers

GC/MS Semi 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.
S1-	Surrogate recovery exceeds control limits, low biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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
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

Job ID: 480-195922-1

Laboratory: Eurofins Buffalo

Narrative

Job Narrative
480-195922-1

Comments
No additional comments.

Receipt
The samples were received on 3/18/2022 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

GC/MS Semi VOA
Method 8270D: The following samples were diluted due to color, appearance, and viscosity: SB-07 (480-195922-4), SB-16 (480-195922-8), SB-22 (480-195922-10) and SB-31 (480-195922-11). Elevated reporting limits (RL) are provided.

Method 8270D: Surrogate recovery for the following sample was outside control limits: SB-31 (480-195922-11). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-02 — Lab Sample ID: 480-195922-1

No Detections.

Client Sample ID: SB-03 — Lab Sample ID: 480-195922-2

No Detections.

Client Sample ID: SB-06 — Lab Sample ID: 480-195922-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	170	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Anthracene	360		190	48	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	710		190	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	490		190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	620		190	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	230		190	21	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	280		190	25	ug/Kg	1	☼	8270D	Total/NA
Chrysene	610		190	43	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	100	J	190	34	ug/Kg	1	☼	8270D	Total/NA
Fluorene	180	J	190	23	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	320		190	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	1400		190	28	ug/Kg	1	☼	8270D	Total/NA
Pyrene	1100		190	23	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: SB-07 — Lab Sample ID: 480-195922-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	540	J	1900	190	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	970	J	1900	290	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	840	J	1900	310	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	1400	J	1900	210	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	280	J	1900	250	ug/Kg	10	☼	8270D	Total/NA
Chrysene	660	J	1900	430	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	440	J	1900	340	ug/Kg	10	☼	8270D	Total/NA
Fluorene	340	J	1900	230	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1000	J	1900	240	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	800	J	1900	290	ug/Kg	10	☼	8270D	Total/NA
Pyrene	970	J	1900	230	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: SB-08 — Lab Sample ID: 480-195922-5

No Detections.

Client Sample ID: SB-11 — Lab Sample ID: 480-195922-6

No Detections.

Client Sample ID: SB-12 — Lab Sample ID: 480-195922-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	49	J	200	49	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	450		200	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	410		200	29	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	660		200	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	250		200	21	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	210		200	26	ug/Kg	1	☼	8270D	Total/NA
Chrysene	490		200	44	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SB-12 (Continued) — Lab Sample ID: 480-195922-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dibenz(a,h)anthracene	100	J	200	35	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	320		200	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	250		200	29	ug/Kg	1	☼	8270D	Total/NA
Pyrene	530		200	23	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: SB-16 — Lab Sample ID: 480-195922-8

No Detections.

Client Sample ID: SB-17 — Lab Sample ID: 480-195922-9

No Detections.

Client Sample ID: SB-22 — Lab Sample ID: 480-195922-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	3500		2000	200	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	3800		2000	290	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	5000		2000	310	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	2500		2000	210	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	2000		2000	250	ug/Kg	10	☼	8270D	Total/NA
Chrysene	3500		2000	440	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	750	J	2000	340	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	3100		2000	240	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	1500	J	2000	290	ug/Kg	10	☼	8270D	Total/NA
Pyrene	3900		2000	230	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: SB-31 — Lab Sample ID: 480-195922-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	2600		1900	190	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	2500		1900	290	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	3600		1900	310	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	1500	J	1900	210	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	1300	J	1900	250	ug/Kg	10	☼	8270D	Total/NA
Chrysene	2800		1900	430	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	470	J	1900	340	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1900		1900	240	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	2100		1900	290	ug/Kg	10	☼	8270D	Total/NA
Pyrene	4000		1900	230	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: SB-34 — Lab Sample ID: 480-195922-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	110	J	200	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	100	J	200	29	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	130	J	200	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	62	J	200	21	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	56	J	200	26	ug/Kg	1	☼	8270D	Total/NA
Chrysene	110	J	200	44	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	78	J	200	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	160	J	200	29	ug/Kg	1	☼	8270D	Total/NA
Pyrene	180	J	200	23	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-36 — Lab Sample ID: 480-195922-13

No Detections.

Client Sample ID: SB-37 — Lab Sample ID: 480-195922-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	51	J	200	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	59	J	200	29	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	77	J	200	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	40	J	200	21	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	32	J	200	25	ug/Kg	1	☼	8270D	Total/NA
Chrysene	54	J	200	44	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	41	J	200	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	29	J	200	29	ug/Kg	1	☼	8270D	Total/NA
Pyrene	69	J	200	23	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: SB-39 — Lab Sample ID: 480-195922-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	96	J	190	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	100	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	140	J	190	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	72	J	190	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	46	J	190	25	ug/Kg	1	☼	8270D	Total/NA
Chrysene	100	J	190	43	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	79	J	190	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	81	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Pyrene	140	J	190	23	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-02

Lab Sample ID: 480-195922-1
Date Collected: 03/17/22 09:00
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 85.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Anthracene	ND		200	49	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Benzo[b]fluoranthene	ND		200	31	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Benzo[k]fluoranthene	ND		200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
2,4-Dimethylphenol	ND		200	47	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
7,12-Dimethylbenz(a)anthracene	ND		380	57	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Chrysene	ND		200	44	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Fluorene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Indeno[1,2,3-cd]pyrene	ND		200	24	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Naphthalene	ND		200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
2-Methylphenol	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
3-Methylcholanthrene	ND		380	64	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Phenanthrene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Phenol	ND		200	30	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Pyrene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*54 - 120*	*03/21/22 15:35*	*03/22/22 14:26*	*1*
2-Fluorobiphenyl (Surr)	*88*		*60 - 120*	*03/21/22 15:35*	*03/22/22 14:26*	*1*
2-Fluorophenol (Surr)	*77*		*52 - 120*	*03/21/22 15:35*	*03/22/22 14:26*	*1*
Phenol-d5 (Surr)	*80*		*54 - 120*	*03/21/22 15:35*	*03/22/22 14:26*	*1*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*03/21/22 15:35*	*03/22/22 14:26*	*1*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*03/21/22 15:35*	*03/22/22 14:26*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**14.5**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**85.5**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-03

Lab Sample ID: 480-195922-2
Date Collected: 03/17/22 08:40
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 86.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Anthracene	ND		200	48	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Benzo[b]fluoranthene	ND		200	31	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1

Client Sample ID: SB-03

Lab Sample ID: 480-195922-2

Date Collected: 03/17/22 08:40
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 86.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
2,4-Dimethylphenol	ND		200	47	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Chrysene	ND		200	44	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Dibenz(a,h)anthracene	ND		200	34	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Di-n-butyl phthalate	ND		200	33	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Fluorene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Indeno[1,2,3-cd]pyrene	ND		200	24	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Naphthalene	ND		200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
2-Methylphenol	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Phenanthrene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Phenol	ND		200	30	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Pyrene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*88*		*54 - 120*	*03/21/22 15:35*	*03/22/22 14:43*	*1*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*03/21/22 15:35*	*03/22/22 14:43*	*1*
2-Fluorophenol (Surr)	*84*		*52 - 120*	*03/21/22 15:35*	*03/22/22 14:43*	*1*
Phenol-d5 (Surr)	*86*		*54 - 120*	*03/21/22 15:35*	*03/22/22 14:43*	*1*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*03/21/22 15:35*	*03/22/22 14:43*	*1*
p-Terphenyl-d14 (Surr)	*100*		*79 - 130*	*03/21/22 15:35*	*03/22/22 14:43*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.5**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**86.5**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-06

Lab Sample ID: 480-195922-3

Date Collected: 03/17/22 09:25
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 86.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**170**	**J**	190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Anthracene	**360**		190	48	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Benzo[a]anthracene	**710**		190	19	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Benzo[a]pyrene	**490**		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Benzo[b]fluoranthene	**620**		190	31	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Benzo[g,h,i]perylene	**230**		190	21	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Benzo[k]fluoranthene	**280**		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Chrysene	**610**		190	43	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Dibenz(a,h)anthracene	**100**	**J**	190	34	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1

Client Sample ID: SB-06

Lab Sample ID: 480-195922-3

Date Collected: 03/17/22 09:25
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 86.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Fluorene	**180**	**J**	190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Indeno[1,2,3-cd]pyrene	**320**		190	24	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Naphthalene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Phenanthrene	**1400**		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Phenol	ND		190	30	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Pyrene	**1100**		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*87*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:00*	*1*
2-Fluorobiphenyl (Surr)	*91*		*60 - 120*	*03/21/22 15:35*	*03/22/22 15:00*	*1*
2-Fluorophenol (Surr)	*84*		*52 - 120*	*03/21/22 15:35*	*03/22/22 15:00*	*1*
Phenol-d5 (Surr)	*84*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:00*	*1*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*	*03/21/22 15:35*	*03/22/22 15:00*	*1*
p-Terphenyl-d14 (Surr)	*98*		*79 - 130*	*03/21/22 15:35*	*03/22/22 15:00*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.9**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**86.1**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-07

Lab Sample ID: 480-195922-4

Date Collected: 03/17/22 09:40
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 85.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1900	290	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Anthracene	ND		1900	480	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Benzo[a]anthracene	**540**	**J**	1900	190	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Benzo[a]pyrene	**970**	**J**	1900	290	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Benzo[b]fluoranthene	**840**	**J**	1900	310	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Benzo[g,h,i]perylene	**1400**	**J**	1900	210	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Benzo[k]fluoranthene	**280**	**J**	1900	250	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Bis(2-ethylhexyl) phthalate	ND		1900	660	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
2,4-Dimethylphenol	ND		1900	470	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
7,12-Dimethylbenz(a)anthracene	ND		3800	560	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Chrysene	**660**	**J**	1900	430	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Dibenz(a,h)anthracene	**440**	**J**	1900	340	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Di-n-butyl phthalate	ND		1900	330	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Fluorene	**340**	**J**	1900	230	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Indeno[1,2,3-cd]pyrene	**1000**	**J**	1900	240	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Naphthalene	ND		1900	250	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
2-Methylphenol	ND		1900	230	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
3-Methylphenol	ND		3800	300	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10

Client Sample ID: SB-07

Lab Sample ID: 480-195922-4

Date Collected: 03/17/22 09:40
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 85.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Methylcholanthrene	ND		3800	630	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
4-Methylphenol	ND		3800	230	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Phenanthrene	**800**	**J**	1900	290	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Phenol	ND		1900	300	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Pyrene	**970**	**J**	1900	230	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Total Cresols	ND		3800	230	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*97*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:18*	*10*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*	*03/21/22 15:35*	*03/22/22 15:18*	*10*
2-Fluorophenol (Surr)	*77*		*52 - 120*	*03/21/22 15:35*	*03/22/22 15:18*	*10*
Phenol-d5 (Surr)	*74*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:18*	*10*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*03/21/22 15:35*	*03/22/22 15:18*	*10*
p-Terphenyl-d14 (Surr)	*103*		*79 - 130*	*03/21/22 15:35*	*03/22/22 15:18*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**14.2**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**85.8**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-08

Lab Sample ID: 480-195922-5

Date Collected: 03/17/22 10:00
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 87.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Anthracene	ND		190	47	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Chrysene	ND		190	43	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Fluorene	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Naphthalene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
3-Methylphenol	ND		370	29	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Phenanthrene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Phenol	ND		190	29	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Pyrene	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Total Cresols	ND		370	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-08

Lab Sample ID: 480-195922-5

Date Collected: 03/17/22 10:00
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 87.8

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:35*	*1*
2-Fluorobiphenyl (Surr)	*93*		*60 - 120*	*03/21/22 15:35*	*03/22/22 15:35*	*1*
2-Fluorophenol (Surr)	*88*		*52 - 120*	*03/21/22 15:35*	*03/22/22 15:35*	*1*
Phenol-d5 (Surr)	*89*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:35*	*1*
Nitrobenzene-d5 (Surr)	*84*		*53 - 120*	*03/21/22 15:35*	*03/22/22 15:35*	*1*
p-Terphenyl-d14 (Surr)	*102*		*79 - 130*	*03/21/22 15:35*	*03/22/22 15:35*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**12.2**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**87.8**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-11

Lab Sample ID: 480-195922-6

Date Collected: 03/17/22 11:00
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 87.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Anthracene	ND		190	48	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Chrysene	ND		190	43	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Fluorene	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Naphthalene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Phenanthrene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Phenol	ND		190	30	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Pyrene	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:52*	*1*
2-Fluorobiphenyl (Surr)	*93*		*60 - 120*	*03/21/22 15:35*	*03/22/22 15:52*	*1*
2-Fluorophenol (Surr)	*86*		*52 - 120*	*03/21/22 15:35*	*03/22/22 15:52*	*1*
Phenol-d5 (Surr)	*87*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:52*	*1*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*03/21/22 15:35*	*03/22/22 15:52*	*1*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*03/21/22 15:35*	*03/22/22 15:52*	*1*

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-11

Lab Sample ID: 480-195922-6
Date Collected: 03/17/22 11:00
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 87.0

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13.0		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	87.0		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-12

Lab Sample ID: 480-195922-7
Date Collected: 03/17/22 11:25
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 85.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Anthracene	49	J	200	49	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Benzo[a]anthracene	450		200	20	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Benzo[a]pyrene	410		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Benzo[b]fluoranthene	660		200	31	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Benzo[g,h,i]perylene	250		200	21	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Benzo[k]fluoranthene	210		200	26	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
7,12-Dimethylbenz(a)anthracene	ND		380	57	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Chrysene	490		200	44	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Dibenz(a,h)anthracene	100	J	200	35	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Fluorene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Indeno[1,2,3-cd]pyrene	320		200	24	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Naphthalene	ND		200	26	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
2-Methylphenol	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
3-Methylcholanthrene	ND		380	64	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Phenanthrene	250		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Phenol	ND		200	30	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Pyrene	530		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*90*		*54 - 120*	*03/21/22 15:35*	*03/22/22 16:09*	*1*
2-Fluorobiphenyl (Surr)	*94*		*60 - 120*	*03/21/22 15:35*	*03/22/22 16:09*	*1*
2-Fluorophenol (Surr)	*86*		*52 - 120*	*03/21/22 15:35*	*03/22/22 16:09*	*1*
Phenol-d5 (Surr)	*86*		*54 - 120*	*03/21/22 15:35*	*03/22/22 16:09*	*1*
Nitrobenzene-d5 (Surr)	*86*		*53 - 120*	*03/21/22 15:35*	*03/22/22 16:09*	*1*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*03/21/22 15:35*	*03/22/22 16:09*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	14.9		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	85.1		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-16

Lab Sample ID: 480-195922-8

Date Collected: 03/17/22 12:35
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 85.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		980	140	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Anthracene	ND		980	240	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Benzo[a]anthracene	ND		980	98	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Benzo[a]pyrene	ND		980	140	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Benzo[b]fluoranthene	ND		980	160	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Benzo[g,h,i]perylene	ND		980	100	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Benzo[k]fluoranthene	ND		980	130	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Bis(2-ethylhexyl) phthalate	ND		980	330	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
2,4-Dimethylphenol	ND		980	240	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
7,12-Dimethylbenz(a)anthracene	ND		1900	280	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Chrysene	ND		980	220	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Dibenz(a,h)anthracene	ND		980	170	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Di-n-butyl phthalate	ND		980	170	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Fluorene	ND		980	120	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Indeno[1,2,3-cd]pyrene	ND		980	120	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Naphthalene	ND		980	130	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
2-Methylphenol	ND		980	120	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
3-Methylphenol	ND		1900	150	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
3-Methylcholanthrene	ND		1900	320	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
4-Methylphenol	ND		1900	120	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Phenanthrene	ND		980	140	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Phenol	ND		980	150	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Pyrene	ND		980	120	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Total Cresols	ND		1900	120	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*82*		*54 - 120*	*03/21/22 15:35*	*03/22/22 16:26*	*5*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*03/21/22 15:35*	*03/22/22 16:26*	*5*
2-Fluorophenol (Surr)	*79*		*52 - 120*	*03/21/22 15:35*	*03/22/22 16:26*	*5*
Phenol-d5 (Surr)	*79*		*54 - 120*	*03/21/22 15:35*	*03/22/22 16:26*	*5*
Nitrobenzene-d5 (Surr)	*78*		*53 - 120*	*03/21/22 15:35*	*03/22/22 16:26*	*5*
p-Terphenyl-d14 (Surr)	*94*		*79 - 130*	*03/21/22 15:35*	*03/22/22 16:26*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**14.6**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**85.4**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-17

Lab Sample ID: 480-195922-9

Date Collected: 03/17/22 12:15
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 84.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Anthracene	ND		200	48	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Benzo[b]fluoranthene	ND		200	31	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1

Client Sample ID: SB-17

Lab Sample ID: 480-195922-9

Date Collected: 03/17/22 12:15
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 84.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
2,4-Dimethylphenol	ND		200	47	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Chrysene	ND		200	44	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Di-n-butyl phthalate	ND		200	33	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Fluorene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Indeno[1,2,3-cd]pyrene	ND		200	24	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Naphthalene	ND		200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
2-Methylphenol	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Phenanthrene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Phenol	ND		200	30	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Pyrene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*54 - 120*	*03/21/22 15:35*	*03/22/22 16:43*	*1*
2-Fluorobiphenyl (Surr)	*93*		*60 - 120*	*03/21/22 15:35*	*03/22/22 16:43*	*1*
2-Fluorophenol (Surr)	*89*		*52 - 120*	*03/21/22 15:35*	*03/22/22 16:43*	*1*
Phenol-d5 (Surr)	*88*		*54 - 120*	*03/21/22 15:35*	*03/22/22 16:43*	*1*
Nitrobenzene-d5 (Surr)	*87*		*53 - 120*	*03/21/22 15:35*	*03/22/22 16:43*	*1*
p-Terphenyl-d14 (Surr)	*105*		*79 - 130*	*03/21/22 15:35*	*03/22/22 16:43*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**15.2**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**84.8**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-22

Lab Sample ID: 480-195922-10

Date Collected: 03/17/22 13:00
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 86.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		2000	290	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Anthracene	ND		2000	480	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Benzo[a]anthracene	**3500**		2000	200	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Benzo[a]pyrene	**3800**		2000	290	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Benzo[b]fluoranthene	**5000**		2000	310	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Benzo[g,h,i]perylene	**2500**		2000	210	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Benzo[k]fluoranthene	**2000**		2000	250	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Bis(2-ethylhexyl) phthalate	ND		2000	670	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
2,4-Dimethylphenol	ND		2000	470	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
7,12-Dimethylbenz(a)anthracene	ND		3800	560	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Chrysene	**3500**		2000	440	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Dibenz(a,h)anthracene	**750**	**J**	2000	340	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10

Client Sample ID: SB-22

Lab Sample ID: 480-195922-10

Date Collected: 03/17/22 13:00
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 86.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		2000	330	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Fluorene	ND		2000	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Indeno[1,2,3-cd]pyrene	**3100**		2000	240	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Naphthalene	ND		2000	250	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
2-Methylphenol	ND		2000	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
3-Methylphenol	ND		3800	300	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
3-Methylcholanthrene	ND		3800	630	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
4-Methylphenol	ND		3800	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Phenanthrene	**1500**	**J**	2000	290	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Phenol	ND		2000	300	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Pyrene	**3900**		2000	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Total Cresols	ND		3800	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*82*		*54 - 120*	*03/21/22 15:35*	*03/22/22 17:00*	*10*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*	*03/21/22 15:35*	*03/22/22 17:00*	*10*
2-Fluorophenol (Surr)	*82*		*52 - 120*	*03/21/22 15:35*	*03/22/22 17:00*	*10*
Phenol-d5 (Surr)	*77*		*54 - 120*	*03/21/22 15:35*	*03/22/22 17:00*	*10*
Nitrobenzene-d5 (Surr)	*81*		*53 - 120*	*03/21/22 15:35*	*03/22/22 17:00*	*10*
p-Terphenyl-d14 (Surr)	*98*		*79 - 130*	*03/21/22 15:35*	*03/22/22 17:00*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.6**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**86.4**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-31

Lab Sample ID: 480-195922-11

Date Collected: 03/17/22 13:40
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 86.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1900	290	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Anthracene	ND		1900	480	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Benzo[a]anthracene	**2600**		1900	190	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Benzo[a]pyrene	**2500**		1900	290	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Benzo[b]fluoranthene	**3600**		1900	310	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Benzo[g,h,i]perylene	**1500**	**J**	1900	210	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Benzo[k]fluoranthene	**1300**	**J**	1900	250	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Bis(2-ethylhexyl) phthalate	ND		1900	660	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
2,4-Dimethylphenol	ND		1900	470	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
7,12-Dimethylbenz(a)anthracene	ND		3800	560	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Chrysene	**2800**		1900	430	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Dibenz(a,h)anthracene	**470**	**J**	1900	340	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Di-n-butyl phthalate	ND		1900	330	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Fluorene	ND		1900	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Indeno[1,2,3-cd]pyrene	**1900**		1900	240	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Naphthalene	ND		1900	250	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
2-Methylphenol	ND		1900	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
3-Methylphenol	ND		3800	300	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10

Client Sample ID: SB-31

Lab Sample ID: 480-195922-11

Date Collected: 03/17/22 13:40
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 86.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Methylcholanthrene	ND		3800	630	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
4-Methylphenol	ND		3800	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Phenanthrene	**2100**		1900	290	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Phenol	ND		1900	300	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Pyrene	**4000**		1900	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Total Cresols	ND		3800	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*0*	*S1-*	*54 - 120*	*03/21/22 15:35*	*03/22/22 17:17*	*10*
2-Fluorobiphenyl (Surr)	*92*		*60 - 120*	*03/21/22 15:35*	*03/22/22 17:17*	*10*
2-Fluorophenol (Surr)	*67*		*52 - 120*	*03/21/22 15:35*	*03/22/22 17:17*	*10*
Phenol-d5 (Surr)	*79*		*54 - 120*	*03/21/22 15:35*	*03/22/22 17:17*	*10*
Nitrobenzene-d5 (Surr)	*84*		*53 - 120*	*03/21/22 15:35*	*03/22/22 17:17*	*10*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*03/21/22 15:35*	*03/22/22 17:17*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**14.0**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**86.0**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-34

Lab Sample ID: 480-195922-12

Date Collected: 03/17/22 08:25
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 84.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Anthracene	ND		200	49	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Benzo[a]anthracene	**110**	**J**	200	20	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Benzo[a]pyrene	**100**	**J**	200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Benzo[b]fluoranthene	**130**	**J**	200	31	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Benzo[g,h,i]perylene	**62**	**J**	200	21	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Benzo[k]fluoranthene	**56**	**J**	200	26	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
7,12-Dimethylbenz(a)anthracene	ND		380	57	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Chrysene	**110**	**J**	200	44	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Fluorene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Indeno[1,2,3-cd]pyrene	**78**	**J**	200	24	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Naphthalene	ND		200	26	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
2-Methylphenol	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
3-Methylcholanthrene	ND		380	64	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Phenanthrene	**160**	**J**	200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Phenol	ND		200	30	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Pyrene	**180**	**J**	200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-34

Lab Sample ID: 480-195922-12

Date Collected: 03/17/22 08:25
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 84.5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*54 - 120*	*03/21/22 15:35*	*03/22/22 17:34*	*1*
2-Fluorobiphenyl (Surr)	*91*		*60 - 120*	*03/21/22 15:35*	*03/22/22 17:34*	*1*
2-Fluorophenol (Surr)	*85*		*52 - 120*	*03/21/22 15:35*	*03/22/22 17:34*	*1*
Phenol-d5 (Surr)	*87*		*54 - 120*	*03/21/22 15:35*	*03/22/22 17:34*	*1*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*03/21/22 15:35*	*03/22/22 17:34*	*1*
p-Terphenyl-d14 (Surr)	*95*		*79 - 130*	*03/21/22 15:35*	*03/22/22 17:34*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**15.5**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**84.5**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-36

Lab Sample ID: 480-195922-13

Date Collected: 03/17/22 10:40
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 87.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Anthracene	ND		190	47	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Bis(2-ethylhexyl) phthalate	ND		190	65	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Chrysene	ND		190	43	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Fluorene	ND		190	22	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Naphthalene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
2-Methylphenol	ND		190	22	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
3-Methylphenol	ND		370	29	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
4-Methylphenol	ND		370	22	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Phenanthrene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Phenol	ND		190	29	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Pyrene	ND		190	22	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Total Cresols	ND		370	22	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*	*03/21/22 15:35*	*03/22/22 13:01*	*1*
2-Fluorobiphenyl (Surr)	*94*		*60 - 120*	*03/21/22 15:35*	*03/22/22 13:01*	*1*
2-Fluorophenol (Surr)	*89*		*52 - 120*	*03/21/22 15:35*	*03/22/22 13:01*	*1*
Phenol-d5 (Surr)	*88*		*54 - 120*	*03/21/22 15:35*	*03/22/22 13:01*	*1*
Nitrobenzene-d5 (Surr)	*88*		*53 - 120*	*03/21/22 15:35*	*03/22/22 13:01*	*1*
p-Terphenyl-d14 (Surr)	*104*		*79 - 130*	*03/21/22 15:35*	*03/22/22 13:01*	*1*

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-36

Lab Sample ID: 480-195922-13
Date Collected: 03/17/22 10:40
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 87.1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12.9		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	87.1		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-37

Lab Sample ID: 480-195922-14
Date Collected: 03/17/22 10:20
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 84.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Anthracene	ND		200	48	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Benzo[a]anthracene	51	J	200	20	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Benzo[a]pyrene	59	J	200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Benzo[b]fluoranthene	77	J	200	31	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Benzo[g,h,i]perylene	40	J	200	21	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Benzo[k]fluoranthene	32	J	200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
2,4-Dimethylphenol	ND		200	47	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
7,12-Dimethylbenz(a)anthracene	ND		380	57	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Chrysene	54	J	200	44	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Di-n-butyl phthalate	ND		200	33	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Fluorene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Indeno[1,2,3-cd]pyrene	41	J	200	24	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Naphthalene	ND		200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
2-Methylphenol	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
3-Methylcholanthrene	ND		380	64	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Phenanthrene	29	J	200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Phenol	ND		200	30	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Pyrene	69	J	200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*86*		*54 - 120*	*03/21/22 15:35*	*03/22/22 17:51*	*1*
2-Fluorobiphenyl (Surr)	*93*		*60 - 120*	*03/21/22 15:35*	*03/22/22 17:51*	*1*
2-Fluorophenol (Surr)	*88*		*52 - 120*	*03/21/22 15:35*	*03/22/22 17:51*	*1*
Phenol-d5 (Surr)	*88*		*54 - 120*	*03/21/22 15:35*	*03/22/22 17:51*	*1*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*03/21/22 15:35*	*03/22/22 17:51*	*1*
p-Terphenyl-d14 (Surr)	*99*		*79 - 130*	*03/21/22 15:35*	*03/22/22 17:51*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.2		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	84.8		0.1	0.1	%			03/18/22 16:17	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-39

Date Collected: 03/17/22 11:50
Date Received: 03/18/22 10:00

Lab Sample ID: 480-195922-15

Matrix: Solid
Percent Solids: 86.7

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Anthracene	ND		190	48	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Benzo[a]anthracene	**96**	**J**	190	19	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Benzo[a]pyrene	**100**	**J**	190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Benzo[b]fluoranthene	**140**	**J**	190	31	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Benzo[g,h,i]perylene	**72**	**J**	190	20	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Benzo[k]fluoranthene	**46**	**J**	190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Chrysene	**100**	**J**	190	43	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Fluorene	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Indeno[1,2,3-cd]pyrene	**79**	**J**	190	24	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Naphthalene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Phenanthrene	**81**	**J**	190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Phenol	ND		190	30	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Pyrene	**140**	**J**	190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*54 - 120*	*03/21/22 15:35*	*03/22/22 18:08*	*1*
2-Fluorobiphenyl (Surr)	*93*		*60 - 120*	*03/21/22 15:35*	*03/22/22 18:08*	*1*
2-Fluorophenol (Surr)	*86*		*52 - 120*	*03/21/22 15:35*	*03/22/22 18:08*	*1*
Phenol-d5 (Surr)	*86*		*54 - 120*	*03/21/22 15:35*	*03/22/22 18:08*	*1*
Nitrobenzene-d5 (Surr)	*84*		*53 - 120*	*03/21/22 15:35*	*03/22/22 18:08*	*1*
p-Terphenyl-d14 (Surr)	*99*		*79 - 130*	*03/21/22 15:35*	*03/22/22 18:08*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.3**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**86.7**		0.1	0.1	%			03/18/22 16:17	1

Surrogate Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	PHL	NBZ	TPHd14
Lab Sample ID	Client Sample ID	(54-120)	(60-120)	(52-120)	(54-120)	(53-120)	(79-130)
480-195922-1	SB-02	89	88	77	80	77	101
480-195922-2	SB-03	88	90	84	86	83	100
480-195922-3	SB-06	87	91	84	84	82	98
480-195922-4	SB-07	97	89	77	74	83	103
480-195922-5	SB-08	89	93	88	89	84	102
480-195922-6	SB-11	89	93	86	87	83	101
480-195922-7	SB-12	90	94	86	86	86	101
480-195922-8	SB-16	82	90	79	79	78	94
480-195922-9	SB-17	89	93	89	88	87	105
480-195922-10	SB-22	82	89	82	77	81	98
480-195922-11	SB-31	0 S1-	92	67	79	84	101
480-195922-12	SB-34	85	91	85	87	83	95
480-195922-13	SB-36	83	94	89	88	88	104
480-195922-13 MS	SB-36	86	96	89	91	87	107
480-195922-13 MSD	SB-36	86	89	80	83	82	95
480-195922-14	SB-37	86	93	88	88	83	99
480-195922-15	SB-39	85	93	86	86	84	99
LCS 480-618538/2-A	Lab Control Sample	83	89	83	85	82	98
MB 480-618538/1-A	Method Blank	69	81	75	77	76	94

Surrogate Legend

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

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

Lab Sample ID: MB 480-618538/1-A
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 618538

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		170	25	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Anthracene	ND		170	42	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[a]anthracene	ND		170	17	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[a]pyrene	ND		170	25	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[b]fluoranthene	ND		170	27	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[k]fluoranthene	ND		170	22	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Bis(2-ethylhexyl) phthalate	ND		170	58	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
2,4-Dimethylphenol	ND		170	41	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
7,12-Dimethylbenz(a)anthracene	ND		330	49	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Chrysene	ND		170	38	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Dibenz(a,h)anthracene	ND		170	30	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Di-n-butyl phthalate	ND		170	29	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Fluorene	ND		170	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Indeno[1,2,3-cd]pyrene	ND		170	21	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Naphthalene	ND		170	22	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
2-Methylphenol	ND		170	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
3-Methylphenol	ND		330	26	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
3-Methylcholanthrene	ND		330	55	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
4-Methylphenol	ND		330	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Phenanthrene	ND		170	25	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Phenol	ND		170	26	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Pyrene	ND		170	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Total Cresols	ND		330	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*69*		*54 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
2-Fluorophenol (Surr)	*75*		*52 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
Phenol-d5 (Surr)	*77*		*54 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
Nitrobenzene-d5 (Surr)	*76*		*53 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
p-Terphenyl-d14 (Surr)	*94*		*79 - 130*	*03/21/22 15:35*	*03/22/22 11:52*	*1*

Lab Sample ID: LCS 480-618538/2-A
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618538

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1660	1500		ug/Kg		90	62 - 120
Anthracene	1660	1600		ug/Kg		96	62 - 120
Benzo[a]anthracene	1660	1640		ug/Kg		99	65 - 120
Benzo[a]pyrene	1660	1530		ug/Kg		92	64 - 120
Benzo[b]fluoranthene	1660	1720		ug/Kg		104	64 - 120
Benzo[g,h,i]perylene	1660	1680		ug/Kg		101	45 - 145
Benzo[k]fluoranthene	1660	1670		ug/Kg		101	65 - 120
Bis(2-ethylhexyl) phthalate	1660	1800		ug/Kg		109	61 - 133
2,4-Dimethylphenol	1660	1540		ug/Kg		93	59 - 120
Chrysene	1660	1610		ug/Kg		97	64 - 120

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

Lab Sample ID: LCS 480-618538/2-A
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618538

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenz(a,h)anthracene	1660	1700		ug/Kg		103	54 - 132
Di-n-butyl phthalate	1660	1630		ug/Kg		98	58 - 130
Fluorene	1660	1550		ug/Kg		93	63 - 120
Indeno[1,2,3-cd]pyrene	1660	1810		ug/Kg		109	56 - 134
Naphthalene	1660	1380		ug/Kg		83	55 - 120
2-Methylphenol	1660	1500		ug/Kg		90	54 - 120
3-Methylphenol	1660	1500		ug/Kg		90	55 - 120
4-Methylphenol	1660	1500		ug/Kg		91	55 - 120
Phenanthrene	1660	1530		ug/Kg		93	60 - 120
Phenol	1660	1400		ug/Kg		84	53 - 120
Pyrene	1660	1680		ug/Kg		102	61 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*
2-Fluorophenol (Surr)	*83*		*52 - 120*
Phenol-d5 (Surr)	*85*		*54 - 120*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*
p-Terphenyl-d14 (Surr)	*98*		*79 - 130*

Lab Sample ID: 480-195922-13 MS
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: SB-36
Prep Type: Total/NA
Prep Batch: 618538

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		1900	1870		ug/Kg	☼	98	60 - 120
Anthracene	ND		1900	1950		ug/Kg	☼	102	62 - 120
Benzo[a]anthracene	ND		1900	2080		ug/Kg	☼	109	65 - 120
Benzo[a]pyrene	ND		1900	1920		ug/Kg	☼	101	64 - 120
Benzo[b]fluoranthene	ND		1900	2150		ug/Kg	☼	113	10 - 150
Benzo[g,h,i]perylene	ND		1900	2100		ug/Kg	☼	110	45 - 145
Benzo[k]fluoranthene	ND		1900	2040		ug/Kg	☼	107	23 - 150
Bis(2-ethylhexyl) phthalate	ND		1900	2200		ug/Kg	☼	116	61 - 133
2,4-Dimethylphenol	ND		1900	1850		ug/Kg	☼	97	52 - 120
Chrysene	ND		1900	2030		ug/Kg	☼	107	64 - 120
Dibenz(a,h)anthracene	ND		1900	2180		ug/Kg	☼	114	54 - 132
Di-n-butyl phthalate	ND		1900	1990		ug/Kg	☼	105	58 - 130
Fluorene	ND		1900	1910		ug/Kg	☼	100	63 - 120
Indeno[1,2,3-cd]pyrene	ND		1900	2240		ug/Kg	☼	118	56 - 134
Naphthalene	ND		1900	1640		ug/Kg	☼	86	46 - 120
2-Methylphenol	ND		1900	1850		ug/Kg	☼	97	48 - 120
3-Methylphenol	ND		1900	1840		ug/Kg	☼	97	50 - 120
4-Methylphenol	ND		1900	1840		ug/Kg	☼	97	50 - 120
Phenanthrene	ND		1900	1900		ug/Kg	☼	100	60 - 122
Phenol	ND		1900	1740		ug/Kg	☼	91	50 - 120
Pyrene	ND		1900	2090		ug/Kg	☼	110	61 - 133

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

Lab Sample ID: 480-195922-13 MS
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: SB-36
Prep Type: Total/NA
Prep Batch: 618538

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	86		54 - 120
2-Fluorobiphenyl (Surr)	96		60 - 120
2-Fluorophenol (Surr)	89		52 - 120
Phenol-d5 (Surr)	91		54 - 120
Nitrobenzene-d5 (Surr)	87		53 - 120
p-Terphenyl-d14 (Surr)	107		79 - 130

Lab Sample ID: 480-195922-13 MSD
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: SB-36
Prep Type: Total/NA
Prep Batch: 618538

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		1890	1740		ug/Kg	☼	92	60 - 120	7	35
Anthracene	ND		1890	1810		ug/Kg	☼	96	62 - 120	7	15
Benzo[a]anthracene	ND		1890	1890		ug/Kg	☼	100	65 - 120	10	15
Benzo[a]pyrene	ND		1890	1810		ug/Kg	☼	96	64 - 120	6	15
Benzo[b]fluoranthene	ND		1890	2010		ug/Kg	☼	107	10 - 150	7	15
Benzo[g,h,i]perylene	ND		1890	1960		ug/Kg	☼	104	45 - 145	7	15
Benzo[k]fluoranthene	ND		1890	1890		ug/Kg	☼	100	23 - 150	8	22
Bis(2-ethylhexyl) phthalate	ND		1890	1990		ug/Kg	☼	105	61 - 133	10	15
2,4-Dimethylphenol	ND		1890	1750		ug/Kg	☼	93	52 - 120	5	42
Chrysene	ND		1890	1810		ug/Kg	☼	96	64 - 120	11	15
Dibenz(a,h)anthracene	ND		1890	2010		ug/Kg	☼	107	54 - 132	8	15
Di-n-butyl phthalate	ND		1890	1820		ug/Kg	☼	97	58 - 130	9	15
Fluorene	ND		1890	1760		ug/Kg	☼	94	63 - 120	8	15
Indeno[1,2,3-cd]pyrene	ND		1890	2110		ug/Kg	☼	112	56 - 134	6	15
Naphthalene	ND		1890	1600		ug/Kg	☼	85	46 - 120	3	29
2-Methylphenol	ND		1890	1660		ug/Kg	☼	88	48 - 120	10	27
3-Methylphenol	ND		1890	1650		ug/Kg	☼	87	50 - 120	11	24
4-Methylphenol	ND		1890	1650		ug/Kg	☼	87	50 - 120	11	24
Phenanthrene	ND		1890	1830		ug/Kg	☼	97	60 - 122	4	15
Phenol	ND		1890	1600		ug/Kg	☼	85	50 - 120	9	35
Pyrene	ND		1890	1940		ug/Kg	☼	103	61 - 133	7	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	86		54 - 120
2-Fluorobiphenyl (Surr)	89		60 - 120
2-Fluorophenol (Surr)	80		52 - 120
Phenol-d5 (Surr)	83		54 - 120
Nitrobenzene-d5 (Surr)	82		53 - 120
p-Terphenyl-d14 (Surr)	95		79 - 130

QC Association Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

GC/MS Semi VOA

Prep Batch: 618538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195922-1	SB-02	Total/NA	Solid	3550C	
480-195922-2	SB-03	Total/NA	Solid	3550C	
480-195922-3	SB-06	Total/NA	Solid	3550C	
480-195922-4	SB-07	Total/NA	Solid	3550C	
480-195922-5	SB-08	Total/NA	Solid	3550C	
480-195922-6	SB-11	Total/NA	Solid	3550C	
480-195922-7	SB-12	Total/NA	Solid	3550C	
480-195922-8	SB-16	Total/NA	Solid	3550C	
480-195922-9	SB-17	Total/NA	Solid	3550C	
480-195922-10	SB-22	Total/NA	Solid	3550C	
480-195922-11	SB-31	Total/NA	Solid	3550C	
480-195922-12	SB-34	Total/NA	Solid	3550C	
480-195922-13	SB-36	Total/NA	Solid	3550C	
480-195922-14	SB-37	Total/NA	Solid	3550C	
480-195922-15	SB-39	Total/NA	Solid	3550C	
MB 480-618538/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-618538/2-A	Lab Control Sample	Total/NA	Solid	3550C	
480-195922-13 MS	SB-36	Total/NA	Solid	3550C	
480-195922-13 MSD	SB-36	Total/NA	Solid	3550C	

Analysis Batch: 618598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195922-1	SB-02	Total/NA	Solid	8270D	618538
480-195922-2	SB-03	Total/NA	Solid	8270D	618538
480-195922-3	SB-06	Total/NA	Solid	8270D	618538
480-195922-4	SB-07	Total/NA	Solid	8270D	618538
480-195922-5	SB-08	Total/NA	Solid	8270D	618538
480-195922-6	SB-11	Total/NA	Solid	8270D	618538
480-195922-7	SB-12	Total/NA	Solid	8270D	618538
480-195922-8	SB-16	Total/NA	Solid	8270D	618538
480-195922-9	SB-17	Total/NA	Solid	8270D	618538
480-195922-10	SB-22	Total/NA	Solid	8270D	618538
480-195922-11	SB-31	Total/NA	Solid	8270D	618538
480-195922-12	SB-34	Total/NA	Solid	8270D	618538
480-195922-13	SB-36	Total/NA	Solid	8270D	618538
480-195922-14	SB-37	Total/NA	Solid	8270D	618538
480-195922-15	SB-39	Total/NA	Solid	8270D	618538
MB 480-618538/1-A	Method Blank	Total/NA	Solid	8270D	618538
LCS 480-618538/2-A	Lab Control Sample	Total/NA	Solid	8270D	618538
480-195922-13 MS	SB-36	Total/NA	Solid	8270D	618538
480-195922-13 MSD	SB-36	Total/NA	Solid	8270D	618538

General Chemistry

Analysis Batch: 618390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195922-1	SB-02	Total/NA	Solid	Moisture	
480-195922-2	SB-03	Total/NA	Solid	Moisture	
480-195922-3	SB-06	Total/NA	Solid	Moisture	
480-195922-4	SB-07	Total/NA	Solid	Moisture	
480-195922-5	SB-08	Total/NA	Solid	Moisture	

General Chemistry (Continued)

Analysis Batch: 618390 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195922-6	SB-11	Total/NA	Solid	Moisture	
480-195922-7	SB-12	Total/NA	Solid	Moisture	
480-195922-8	SB-16	Total/NA	Solid	Moisture	
480-195922-9	SB-17	Total/NA	Solid	Moisture	
480-195922-10	SB-22	Total/NA	Solid	Moisture	
480-195922-11	SB-31	Total/NA	Solid	Moisture	
480-195922-12	SB-34	Total/NA	Solid	Moisture	
480-195922-13	SB-36	Total/NA	Solid	Moisture	
480-195922-14	SB-37	Total/NA	Solid	Moisture	
480-195922-15	SB-39	Total/NA	Solid	Moisture	
480-195922-15 MS	SB-39	Total/NA	Solid	Moisture	
480-195922-15 MSD	SB-39	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-02
Lab Sample ID: 480-195922-1
Date Collected: 03/17/22 09:00
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-02
Lab Sample ID: 480-195922-1
Date Collected: 03/17/22 09:00
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 85.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 14:26	JMM	TAL BUF

Client Sample ID: SB-03
Lab Sample ID: 480-195922-2
Date Collected: 03/17/22 08:40
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-03
Lab Sample ID: 480-195922-2
Date Collected: 03/17/22 08:40
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 86.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 14:43	JMM	TAL BUF

Client Sample ID: SB-06
Lab Sample ID: 480-195922-3
Date Collected: 03/17/22 09:25
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-06
Lab Sample ID: 480-195922-3
Date Collected: 03/17/22 09:25
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 15:00	JMM	TAL BUF

Client Sample ID: SB-07
Lab Sample ID: 480-195922-4
Date Collected: 03/17/22 09:40
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-07 — Lab Sample ID: 480-195922-4

Date Collected: 03/17/22 09:40 — **Matrix: Solid**
Date Received: 03/18/22 10:00 — **Percent Solids: 85.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618598	03/22/22 15:18	JMM	TAL BUF

Client Sample ID: SB-08 — Lab Sample ID: 480-195922-5

Date Collected: 03/17/22 10:00 — **Matrix: Solid**
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-08 — Lab Sample ID: 480-195922-5

Date Collected: 03/17/22 10:00 — **Matrix: Solid**
Date Received: 03/18/22 10:00 — **Percent Solids: 87.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 15:35	JMM	TAL BUF

Client Sample ID: SB-11 — Lab Sample ID: 480-195922-6

Date Collected: 03/17/22 11:00 — **Matrix: Solid**
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-11 — Lab Sample ID: 480-195922-6

Date Collected: 03/17/22 11:00 — **Matrix: Solid**
Date Received: 03/18/22 10:00 — **Percent Solids: 87.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 15:52	JMM	TAL BUF

Client Sample ID: SB-12 — Lab Sample ID: 480-195922-7

Date Collected: 03/17/22 11:25 — **Matrix: Solid**
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-12

Lab Sample ID: 480-195922-7
Date Collected: 03/17/22 11:25
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 85.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 16:09	JMM	TAL BUF

Client Sample ID: SB-16

Lab Sample ID: 480-195922-8
Date Collected: 03/17/22 12:35
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-16

Lab Sample ID: 480-195922-8
Date Collected: 03/17/22 12:35
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618598	03/22/22 16:26	JMM	TAL BUF

Client Sample ID: SB-17

Lab Sample ID: 480-195922-9
Date Collected: 03/17/22 12:15
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-17

Lab Sample ID: 480-195922-9
Date Collected: 03/17/22 12:15
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 16:43	JMM	TAL BUF

Client Sample ID: SB-22

Lab Sample ID: 480-195922-10
Date Collected: 03/17/22 13:00
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-22
Lab Sample ID: 480-195922-10
Date Collected: 03/17/22 13:00
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 86.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618598	03/22/22 17:00	JMM	TAL BUF

Client Sample ID: SB-31
Lab Sample ID: 480-195922-11
Date Collected: 03/17/22 13:40
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-31
Lab Sample ID: 480-195922-11
Date Collected: 03/17/22 13:40
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 86.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618598	03/22/22 17:17	JMM	TAL BUF

Client Sample ID: SB-34
Lab Sample ID: 480-195922-12
Date Collected: 03/17/22 08:25
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-34
Lab Sample ID: 480-195922-12
Date Collected: 03/17/22 08:25
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 84.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 17:34	JMM	TAL BUF

Client Sample ID: SB-36
Lab Sample ID: 480-195922-13
Date Collected: 03/17/22 10:40
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-36

Lab Sample ID: 480-195922-13
Date Collected: 03/17/22 10:40
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 87.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 13:01	JMM	TAL BUF

Client Sample ID: SB-37

Lab Sample ID: 480-195922-14
Date Collected: 03/17/22 10:20
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-37

Lab Sample ID: 480-195922-14
Date Collected: 03/17/22 10:20
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 17:51	JMM	TAL BUF

Client Sample ID: SB-39

Lab Sample ID: 480-195922-15
Date Collected: 03/17/22 11:50
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-39

Lab Sample ID: 480-195922-15
Date Collected: 03/17/22 11:50
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 86.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 18:08	JMM	TAL BUF

Laboratory References:

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Laboratory: Eurofins Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	68-00281	07-31-22

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
8270D	3550C	Solid	Total Cresols
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF
3550C	Ultrasonic Extraction	SW846	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-195922-1	SB-02	Solid	03/17/22 09:00	03/18/22 10:00
480-195922-2	SB-03	Solid	03/17/22 08:40	03/18/22 10:00
480-195922-3	SB-06	Solid	03/17/22 09:25	03/18/22 10:00
480-195922-4	SB-07	Solid	03/17/22 09:40	03/18/22 10:00
480-195922-5	SB-08	Solid	03/17/22 10:00	03/18/22 10:00
480-195922-6	SB-11	Solid	03/17/22 11:00	03/18/22 10:00
480-195922-7	SB-12	Solid	03/17/22 11:25	03/18/22 10:00
480-195922-8	SB-16	Solid	03/17/22 12:35	03/18/22 10:00
480-195922-9	SB-17	Solid	03/17/22 12:15	03/18/22 10:00
480-195922-10	SB-22	Solid	03/17/22 13:00	03/18/22 10:00
480-195922-11	SB-31	Solid	03/17/22 13:40	03/18/22 10:00
480-195922-12	SB-34	Solid	03/17/22 08:25	03/18/22 10:00
480-195922-13	SB-36	Solid	03/17/22 10:40	03/18/22 10:00
480-195922-14	SB-37	Solid	03/17/22 10:20	03/18/22 10:00
480-195922-15	SB-39	Solid	03/17/22 11:50	03/18/22 10:00

1/2

Subcontract Chain of Custody

Eurofins Northeast LLC
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2214012

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2214012

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	SB 02	03-17-22 09:00	SOIL	8270	
	SB 03	03-17-22 08:40	SOIL	8270	
	SB 06	03-17-22 09:25	SOIL	8270	
	SB 07	03-17-22 09:40	SOIL	8270	
	SB 08	03-17-22 10:00	SOIL	8270	
	SB 11	03-17-22 11:00	SOIL	8270	
	SB 12	03-17-22 11:25	SOIL	8270	
	SB 16	03-17-22 12:35	SOIL	8270	
	SB 17	03-17-22 12:15	SOIL	8270	

480-195922 Chain of Custody

Temp 2.4 #1±C12

Relinquished By:	Date/Time:	Received By:	Date/Time:
Amica Gaglio	3/17 17:05	Andrew Omolb	3/18/22 1000

Form No: AL_subcoc

2/2

Subcontract Chain of Custody

Eurofins Northeast LLC
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2214012

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2214012

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	SB 22	03-17-22 13:00	SOIL	8270	
	SB 31	03-17-22 13:40	SOIL	8270	
	SB 34	03-17-22 08:25	SOIL	8270	
	SB 36	03-17-22 10:40	SOIL	8270	
	SB 37	03-17-22 10:20	SOIL	8270	
	SB 39	03-17-22 11:50	SOIL	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[illegible]	3/17 15:045	PGI	

Form No: AL_subcoc

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ANALYTICAL REPORT

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-195963-1
Client Project/Site: L2214374

For:
Alpha Analytical Inc
8 Walkup Drive
Westboro, Massachusetts 01581

Attn: Ms. Nadine Yakes

Authorized for release by:
3/29/2022 4:00:18 PM

Steve Hartmann, Project Manager
(413)572-4000
Steve.Hartmann@Eurofinset.com

LINKS

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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.

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Qualifiers

GC/MS Semi 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.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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
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

Job ID: 480-195963-1

Laboratory: Eurofins Buffalo

Narrative

Job Narrative
480-195963-1

Comments
No additional comments.

Receipt
The samples were received on 3/19/2022 11:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.9º C.

GC/MS Semi VOA
Method 8270D: The following samples were diluted due to color and appearance: SB 18 (480-195963-1), SB 19 (480-195963-2), SB 27 (480-195963-7), SB 29 (480-195963-8), SB 32 (480-195963-10) and SB 33 (480-195963-11). Elevated reporting limits (RL) are provided.

Method 8270D: The following sample was diluted due to color, appearance and viscosity: SB 20 (480-195963-3). Elevated reporting limits (RL) are provided.

Method 8270D: The following sample was diluted due to sample matrix interfering with internal standard recoveries: SB 24 (480-195963-5). Elevated reporting limits (RLs) are provided.

Method 8270D: The following samples were diluted to bring the concentration of target analytes within the calibration range: SB 29 (480-195963-8), SB 30 (480-195963-9) and SB 40 (480-195963-12). 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.

Organic Prep
Method 3550C: The following sample: SB 18 (480-195963-1) was decanted prior to preparation

Method 3550C: Due to the matrix, the following sample could not be concentrated to the final method required volume: SB 32 (480-195963-10). The reporting limits (RLs) are elevated proportionately.

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

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 18 — Lab Sample ID: 480-195963-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	1400		1100	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	1500		1100	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	2100		1100	180	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	1100		1100	120	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	680	J	1100	140	ug/Kg	5	☼	8270D	Total/NA
Chrysene	1600		1100	250	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	320	J	1100	190	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1000	J	1100	140	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	930	J	1100	160	ug/Kg	5	☼	8270D	Total/NA
Pyrene	2100		1100	130	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB 19 — Lab Sample ID: 480-195963-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	6700		1900	280	ug/Kg	10	☼	8270D	Total/NA
Anthracene	15000		1900	470	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]anthracene	26000		1900	190	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	23000		1900	280	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	28000		1900	300	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	15000		1900	200	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	12000		1900	250	ug/Kg	10	☼	8270D	Total/NA
Chrysene	26000		1900	430	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	5100		1900	340	ug/Kg	10	☼	8270D	Total/NA
Fluorene	5800		1900	220	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	15000		1900	240	ug/Kg	10	☼	8270D	Total/NA
Naphthalene	1900		1900	250	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	45000		1900	280	ug/Kg	10	☼	8270D	Total/NA
Pyrene	41000		1900	220	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: SB 20 — Lab Sample ID: 480-195963-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	4600		4000	590	ug/Kg	20	☼	8270D	Total/NA
Anthracene	21000		4000	990	ug/Kg	20	☼	8270D	Total/NA
Benzo[a]anthracene	40000		4000	400	ug/Kg	20	☼	8270D	Total/NA
Benzo[a]pyrene	32000		4000	590	ug/Kg	20	☼	8270D	Total/NA
Benzo[b]fluoranthene	38000		4000	630	ug/Kg	20	☼	8270D	Total/NA
Benzo[g,h,i]perylene	19000		4000	420	ug/Kg	20	☼	8270D	Total/NA
Benzo[k]fluoranthene	14000		4000	520	ug/Kg	20	☼	8270D	Total/NA
Chrysene	38000		4000	890	ug/Kg	20	☼	8270D	Total/NA
Dibenz(a,h)anthracene	6200		4000	710	ug/Kg	20	☼	8270D	Total/NA
Fluorene	7600		4000	470	ug/Kg	20	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	18000		4000	490	ug/Kg	20	☼	8270D	Total/NA
Naphthalene	1300	J	4000	520	ug/Kg	20	☼	8270D	Total/NA
Phenanthrene	60000		4000	590	ug/Kg	20	☼	8270D	Total/NA
Pyrene	71000		4000	470	ug/Kg	20	☼	8270D	Total/NA

Client Sample ID: SB 21 — Lab Sample ID: 480-195963-4

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 24 — Lab Sample ID: 480-195963-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	1200		930	93	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	1300		930	140	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	1700		930	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	780	J	930	98	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	750	J	930	120	ug/Kg	5	☼	8270D	Total/NA
Chrysene	1300		930	210	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	280	J	930	160	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	800	J	930	110	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	870	J	930	140	ug/Kg	5	☼	8270D	Total/NA
Pyrene	1700		930	110	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB 25 — Lab Sample ID: 480-195963-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	54	J	180	45	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	350		180	18	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	390		180	27	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	450		180	29	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	300		180	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	270		180	24	ug/Kg	1	☼	8270D	Total/NA
Chrysene	410		180	41	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	110	J	180	32	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	280		180	23	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	190		180	27	ug/Kg	1	☼	8270D	Total/NA
Pyrene	590		180	22	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: SB 27 — Lab Sample ID: 480-195963-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	260	J	990	150	ug/Kg	5	☼	8270D	Total/NA
Anthracene	520	J	990	240	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	2000		990	99	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	1800		990	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	2300		990	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	1400		990	100	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	950	J	990	130	ug/Kg	5	☼	8270D	Total/NA
Chrysene	2100		990	220	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	430	J	990	170	ug/Kg	5	☼	8270D	Total/NA
Fluorene	200	J	990	120	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1300		990	120	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	1900		990	150	ug/Kg	5	☼	8270D	Total/NA
Pyrene	3300		990	120	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB 29 — Lab Sample ID: 480-195963-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	12000		1900	280	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	42000		1900	200	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	48000		1900	250	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	19000		1900	340	ug/Kg	10	☼	8270D	Total/NA
Fluorene	25000		1900	220	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	42000		1900	240	ug/Kg	10	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SB 29 (Continued) — Lab Sample ID: 480-195963-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	830	J	1900	250	ug/Kg	10	☼	8270D	Total/NA
Anthracene - DL	180000		19000	4700	ug/Kg	100	☼	8270D	Total/NA
Benzo[a]anthracene - DL	220000		19000	1900	ug/Kg	100	☼	8270D	Total/NA
Benzo[a]pyrene - DL	110000		19000	2800	ug/Kg	100	☼	8270D	Total/NA
Benzo[b]fluoranthene - DL	170000		19000	3000	ug/Kg	100	☼	8270D	Total/NA
Chrysene - DL	300000		19000	4300	ug/Kg	100	☼	8270D	Total/NA
Phenanthrene - DL	380000		19000	2800	ug/Kg	100	☼	8270D	Total/NA
Pyrene - DL	380000		19000	2200	ug/Kg	100	☼	8270D	Total/NA

Client Sample ID: SB 30 — Lab Sample ID: 480-195963-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	130	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Anthracene	550		190	48	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	5300		190	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	5800		190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	3200		190	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	3500		190	25	ug/Kg	1	☼	8270D	Total/NA
Chrysene	6000		190	43	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	1300		190	34	ug/Kg	1	☼	8270D	Total/NA
Fluorene	140	J	190	23	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	3200		190	24	ug/Kg	1	☼	8270D	Total/NA
Naphthalene	26	J	190	25	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	2500		190	28	ug/Kg	1	☼	8270D	Total/NA
Pyrene	5200		190	23	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene - DL	8800		960	150	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB 32 — Lab Sample ID: 480-195963-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	11000	J	19000	1900	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	13000	J	19000	2800	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	16000	J	19000	3100	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	7400	J	19000	2000	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	6000	J	19000	2500	ug/Kg	10	☼	8270D	Total/NA
Chrysene	13000	J	19000	4300	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	3500	J	19000	3400	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	7700	J	19000	2400	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	8500	J	19000	2800	ug/Kg	10	☼	8270D	Total/NA
Pyrene	15000	J	19000	2300	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: SB 33 — Lab Sample ID: 480-195963-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	310	J	940	140	ug/Kg	5	☼	8270D	Total/NA
Anthracene	1200		940	230	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	6900		940	94	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	6700		940	140	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	9000		940	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	3200		940	100	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	3700		940	120	ug/Kg	5	☼	8270D	Total/NA
Chrysene	7500		940	210	ug/Kg	5	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 33 (Continued) — Lab Sample ID: 480-195963-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dibenz(a,h)anthracene	1300		940	170	ug/Kg	5	☼	8270D	Total/NA
Fluorene	350	J	940	110	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	3300		940	120	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	5200		940	140	ug/Kg	5	☼	8270D	Total/NA
Pyrene	9000		940	110	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB 40 — Lab Sample ID: 480-195963-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	78	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Anthracene	630		190	47	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	5900		190	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	5800		190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	3200		190	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	2600		190	25	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	1200		190	34	ug/Kg	1	☼	8270D	Total/NA
Fluorene	67	J	190	22	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	3100		190	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	1900		190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene - DL	8400		950	150	ug/Kg	5	☼	8270D	Total/NA
Chrysene - DL	6600		950	210	ug/Kg	5	☼	8270D	Total/NA
Pyrene - DL	8500		950	110	ug/Kg	5	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 18

Lab Sample ID: 480-195963-1

Date Collected: 03/18/22 11:05
Date Received: 03/19/22 11:00

Matrix: Solid
Percent Solids: 76.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	160	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Anthracene	ND		1100	270	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Benzo[a]anthracene	**1400**		1100	110	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Benzo[a]pyrene	**1500**		1100	160	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Benzo[b]fluoranthene	**2100**		1100	180	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Benzo[g,h,i]perylene	**1100**		1100	120	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Benzo[k]fluoranthene	**680**	**J**	1100	140	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Bis(2-ethylhexyl) phthalate	ND		1100	380	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
2,4-Dimethylphenol	ND		1100	270	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
7,12-Dimethylbenz(a)anthracene	ND		2100	320	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Chrysene	**1600**		1100	250	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Dibenz(a,h)anthracene	**320**	**J**	1100	190	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Di-n-butyl phthalate	ND		1100	190	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Fluorene	ND		1100	130	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Indeno[1,2,3-cd]pyrene	**1000**	**J**	1100	140	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Naphthalene	ND		1100	140	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
2-Methylphenol	ND		1100	130	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
3-Methylphenol	ND		2100	170	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
3-Methylcholanthrene	ND		2100	360	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
4-Methylphenol	ND		2100	130	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Phenanthrene	**930**	**J**	1100	160	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Phenol	ND		1100	170	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Pyrene	**2100**		1100	130	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Total Cresols	ND		2100	130	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*87*		*54 - 120*	*03/22/22 15:35*	*03/23/22 19:33*	*5*
2-Fluorobiphenyl (Surr)	*100*		*60 - 120*	*03/22/22 15:35*	*03/23/22 19:33*	*5*
2-Fluorophenol (Surr)	*76*		*52 - 120*	*03/22/22 15:35*	*03/23/22 19:33*	*5*
Phenol-d5 (Surr)	*81*		*54 - 120*	*03/22/22 15:35*	*03/23/22 19:33*	*5*
Nitrobenzene-d5 (Surr)	*92*		*53 - 120*	*03/22/22 15:35*	*03/23/22 19:33*	*5*
p-Terphenyl-d14 (Surr)	*97*		*79 - 130*	*03/22/22 15:35*	*03/23/22 19:33*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**24.0**		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	**76.0**		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 19

Lab Sample ID: 480-195963-2

Date Collected: 03/18/22 11:25
Date Received: 03/19/22 11:00

Matrix: Solid
Percent Solids: 86.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**6700**		1900	280	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Anthracene	**15000**		1900	470	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Benzo[a]anthracene	**26000**		1900	190	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Benzo[a]pyrene	**23000**		1900	280	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Benzo[b]fluoranthene	**28000**		1900	300	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Benzo[g,h,i]perylene	**15000**		1900	200	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10

Client Sample ID: SB 19

Lab Sample ID: 480-195963-2

Date Collected: 03/18/22 11:25
Date Received: 03/19/22 11:00

Matrix: Solid
Percent Solids: 86.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	12000		1900	250	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Bis(2-ethylhexyl) phthalate	ND		1900	650	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
2,4-Dimethylphenol	ND		1900	460	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
7,12-Dimethylbenz(a)anthracene	ND		3700	550	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Chrysene	26000		1900	430	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Dibenz(a,h)anthracene	5100		1900	340	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Di-n-butyl phthalate	ND		1900	330	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Fluorene	5800		1900	220	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Indeno[1,2,3-cd]pyrene	15000		1900	240	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Naphthalene	1900		1900	250	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
2-Methylphenol	ND		1900	220	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
3-Methylphenol	ND		3700	290	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
3-Methylcholanthrene	ND		3700	620	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
4-Methylphenol	ND		3700	220	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Phenanthrene	45000		1900	280	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Phenol	ND		1900	290	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Pyrene	41000		1900	220	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Total Cresols	ND		3700	220	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*99*		*54 - 120*	*03/22/22 15:35*	*03/23/22 19:57*	*10*
2-Fluorobiphenyl (Surr)	*99*		*60 - 120*	*03/22/22 15:35*	*03/23/22 19:57*	*10*
2-Fluorophenol (Surr)	*77*		*52 - 120*	*03/22/22 15:35*	*03/23/22 19:57*	*10*
Phenol-d5 (Surr)	*75*		*54 - 120*	*03/22/22 15:35*	*03/23/22 19:57*	*10*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*	*03/22/22 15:35*	*03/23/22 19:57*	*10*
p-Terphenyl-d14 (Surr)	*92*		*79 - 130*	*03/22/22 15:35*	*03/23/22 19:57*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13.4		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	86.6		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 20

Lab Sample ID: 480-195963-3

Date Collected: 03/18/22 11:45
Date Received: 03/19/22 11:00

Matrix: Solid
Percent Solids: 84.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	4600		4000	590	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Anthracene	21000		4000	990	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Benzo[a]anthracene	40000		4000	400	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Benzo[a]pyrene	32000		4000	590	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Benzo[b]fluoranthene	38000		4000	630	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Benzo[g,h,i]perylene	19000		4000	420	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Benzo[k]fluoranthene	14000		4000	520	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Bis(2-ethylhexyl) phthalate	ND		4000	1400	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
2,4-Dimethylphenol	ND		4000	960	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
7,12-Dimethylbenz(a)anthracene	ND		7800	1200	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Chrysene	38000		4000	890	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Dibenz(a,h)anthracene	6200		4000	710	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20

Client Sample ID: SB 20

Lab Sample ID: 480-195963-3

Date Collected: 03/18/22 11:45
Date Received: 03/19/22 11:00

Matrix: Solid
Percent Solids: 84.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		4000	680	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Fluorene	**7600**		4000	470	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Indeno[1,2,3-cd]pyrene	**18000**		4000	490	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Naphthalene	**1300**	**J**	4000	520	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
2-Methylphenol	ND		4000	470	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
3-Methylphenol	ND		7800	610	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
3-Methylcholanthrene	ND		7800	1300	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
4-Methylphenol	ND		7800	470	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Phenanthrene	**60000**		4000	590	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Phenol	ND		4000	610	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Pyrene	**71000**		4000	470	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Total Cresols	ND		7800	470	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*96*		*54 - 120*	*03/22/22 15:35*	*03/23/22 20:20*	*20*
2-Fluorobiphenyl (Surr)	*78*		*60 - 120*	*03/22/22 15:35*	*03/23/22 20:20*	*20*
2-Fluorophenol (Surr)	*68*		*52 - 120*	*03/22/22 15:35*	*03/23/22 20:20*	*20*
Phenol-d5 (Surr)	*75*		*54 - 120*	*03/22/22 15:35*	*03/23/22 20:20*	*20*
Nitrobenzene-d5 (Surr)	*69*		*53 - 120*	*03/22/22 15:35*	*03/23/22 20:20*	*20*
p-Terphenyl-d14 (Surr)	*79*		*79 - 130*	*03/22/22 15:35*	*03/23/22 20:20*	*20*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**15.8**		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	**84.2**		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 21

Lab Sample ID: 480-195963-4

Date Collected: 03/18/22 12:10
Date Received: 03/19/22 11:00

Matrix: Solid
Percent Solids: 86.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Anthracene	ND		190	48	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
7,12-Dimethylbenz(a)anthracene	ND		370	56	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Chrysene	ND		190	43	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Fluorene	ND		190	23	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Naphthalene	ND		190	25	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
3-Methylphenol	ND		370	30	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1

Client Sample ID: SB 21

Lab Sample ID: 480-195963-4

Date Collected: 03/18/22 12:10
Date Received: 03/19/22 11:00

Matrix: Solid
Percent Solids: 86.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Phenanthrene	ND		190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Phenol	ND		190	30	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Pyrene	ND		190	23	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Total Cresols	ND		370	23	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*	*03/22/22 15:35*	*03/23/22 20:44*	*1*
2-Fluorobiphenyl (Surr)	*85*		*60 - 120*	*03/22/22 15:35*	*03/23/22 20:44*	*1*
2-Fluorophenol (Surr)	*66*		*52 - 120*	*03/22/22 15:35*	*03/23/22 20:44*	*1*
Phenol-d5 (Surr)	*69*		*54 - 120*	*03/22/22 15:35*	*03/23/22 20:44*	*1*
Nitrobenzene-d5 (Surr)	*73*		*53 - 120*	*03/22/22 15:35*	*03/23/22 20:44*	*1*
p-Terphenyl-d14 (Surr)	*95*		*79 - 130*	*03/22/22 15:35*	*03/23/22 20:44*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.8**		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	**86.2**		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 24

Lab Sample ID: 480-195963-5

Date Collected: 03/18/22 10:25
Date Received: 03/19/22 11:00

Matrix: Solid
Percent Solids: 91.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		930	140	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Anthracene	ND		930	230	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Benzo[a]anthracene	**1200**		930	93	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Benzo[a]pyrene	**1300**		930	140	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Benzo[b]fluoranthene	**1700**		930	150	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Benzo[g,h,i]perylene	**780**	**J**	930	98	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Benzo[k]fluoranthene	**750**	**J**	930	120	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Bis(2-ethylhexyl) phthalate	ND		930	320	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
2,4-Dimethylphenol	ND		930	220	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
7,12-Dimethylbenz(a)anthracene	ND		1800	270	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Chrysene	**1300**		930	210	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Dibenz(a,h)anthracene	**280**	**J**	930	160	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Di-n-butyl phthalate	ND		930	160	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Fluorene	ND		930	110	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Indeno[1,2,3-cd]pyrene	**800**	**J**	930	110	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Naphthalene	ND		930	120	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
2-Methylphenol	ND		930	110	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
3-Methylphenol	ND		1800	140	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
3-Methylcholanthrene	ND		1800	300	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
4-Methylphenol	ND		1800	110	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Phenanthrene	**870**	**J**	930	140	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Phenol	ND		930	140	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Pyrene	**1700**		930	110	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Total Cresols	ND		1800	110	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 24

Lab Sample ID: 480-195963-5
Date Collected: 03/18/22 10:25
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 91.3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	79		54 - 120	03/22/22 15:35	03/24/22 17:17	5
2-Fluorobiphenyl (Surr)	100		60 - 120	03/22/22 15:35	03/24/22 17:17	5
2-Fluorophenol (Surr)	85		52 - 120	03/22/22 15:35	03/24/22 17:17	5
Phenol-d5 (Surr)	87		54 - 120	03/22/22 15:35	03/24/22 17:17	5
Nitrobenzene-d5 (Surr)	79		53 - 120	03/22/22 15:35	03/24/22 17:17	5
p-Terphenyl-d14 (Surr)	95		79 - 130	03/22/22 15:35	03/24/22 17:17	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.7		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	91.3		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 25

Lab Sample ID: 480-195963-6
Date Collected: 03/18/22 10:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 91.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		180	27	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Anthracene	54	J	180	45	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Benzo[a]anthracene	350		180	18	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Benzo[a]pyrene	390		180	27	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Benzo[b]fluoranthene	450		180	29	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Benzo[g,h,i]perylene	300		180	19	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Benzo[k]fluoranthene	270		180	24	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Bis(2-ethylhexyl) phthalate	ND		180	62	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
2,4-Dimethylphenol	ND		180	44	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
7,12-Dimethylbenz(a)anthracene	ND		360	53	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Chrysene	410		180	41	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Dibenz(a,h)anthracene	110	J	180	32	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Di-n-butyl phthalate	ND		180	31	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Fluorene	ND		180	22	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Indeno[1,2,3-cd]pyrene	280		180	23	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Naphthalene	ND		180	24	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
2-Methylphenol	ND		180	22	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
3-Methylphenol	ND		360	28	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
3-Methylcholanthrene	ND		360	59	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
4-Methylphenol	ND		360	22	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Phenanthrene	190		180	27	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Phenol	ND		180	28	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Pyrene	590		180	22	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Total Cresols	ND		360	22	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	95		54 - 120	03/22/22 15:35	03/23/22 21:32	1
2-Fluorobiphenyl (Surr)	110		60 - 120	03/22/22 15:35	03/23/22 21:32	1
2-Fluorophenol (Surr)	77		52 - 120	03/22/22 15:35	03/23/22 21:32	1
Phenol-d5 (Surr)	81		54 - 120	03/22/22 15:35	03/23/22 21:32	1
Nitrobenzene-d5 (Surr)	89		53 - 120	03/22/22 15:35	03/23/22 21:32	1
p-Terphenyl-d14 (Surr)	110		79 - 130	03/22/22 15:35	03/23/22 21:32	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 25

Lab Sample ID: 480-195963-6
Date Collected: 03/18/22 10:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 91.5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.5		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	91.5		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 27

Lab Sample ID: 480-195963-7
Date Collected: 03/18/22 10:05
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 85.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	260	J	990	150	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Anthracene	520	J	990	240	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Benzo[a]anthracene	2000		990	99	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Benzo[a]pyrene	1800		990	150	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Benzo[b]fluoranthene	2300		990	160	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Benzo[g,h,i]perylene	1400		990	100	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Benzo[k]fluoranthene	950	J	990	130	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Bis(2-ethylhexyl) phthalate	ND		990	340	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
2,4-Dimethylphenol	ND		990	240	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
7,12-Dimethylbenz(a)anthracene	ND		1900	280	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Chrysene	2100		990	220	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Dibenz(a,h)anthracene	430	J	990	170	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Di-n-butyl phthalate	ND		990	170	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Fluorene	200	J	990	120	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Indeno[1,2,3-cd]pyrene	1300		990	120	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Naphthalene	ND		990	130	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
2-Methylphenol	ND		990	120	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
3-Methylphenol	ND		1900	150	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
3-Methylcholanthrene	ND		1900	320	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
4-Methylphenol	ND		1900	120	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Phenanthrene	1900		990	150	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Phenol	ND		990	150	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Pyrene	3300		990	120	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Total Cresols	ND		1900	120	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*	*03/22/22 15:35*	*03/23/22 21:56*	*5*
2-Fluorobiphenyl (Surr)	*91*		*60 - 120*	*03/22/22 15:35*	*03/23/22 21:56*	*5*
2-Fluorophenol (Surr)	*82*		*52 - 120*	*03/22/22 15:35*	*03/23/22 21:56*	*5*
Phenol-d5 (Surr)	*85*		*54 - 120*	*03/22/22 15:35*	*03/23/22 21:56*	*5*
Nitrobenzene-d5 (Surr)	*79*		*53 - 120*	*03/22/22 15:35*	*03/23/22 21:56*	*5*
p-Terphenyl-d14 (Surr)	*104*		*79 - 130*	*03/22/22 15:35*	*03/23/22 21:56*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	14.8		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	85.2		0.1	0.1	%			03/21/22 14:55	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 29

Date Collected: 03/18/22 09:25
Date Received: 03/19/22 11:00

Lab Sample ID: 480-195963-8

Matrix: Solid
Percent Solids: 87.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**12000**		1900	280	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Benzo[g,h,i]perylene	**42000**		1900	200	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Benzo[k]fluoranthene	**48000**		1900	250	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Bis(2-ethylhexyl) phthalate	ND		1900	650	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
2,4-Dimethylphenol	ND		1900	460	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
7,12-Dimethylbenz(a)anthracene	ND		3700	550	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Dibenz(a,h)anthracene	**19000**		1900	340	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Di-n-butyl phthalate	ND		1900	330	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Fluorene	**25000**		1900	220	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Indeno[1,2,3-cd]pyrene	**42000**		1900	240	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Naphthalene	**830**	**J**	1900	250	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
2-Methylphenol	ND		1900	220	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
3-Methylphenol	ND		3700	290	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
3-Methylcholanthrene	ND		3700	620	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
4-Methylphenol	ND		3700	220	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Phenol	ND		1900	290	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Total Cresols	ND		3700	220	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*54 - 120*	*03/22/22 15:35*	*03/23/22 22:20*	*10*
2-Fluorobiphenyl (Surr)	*100*		*60 - 120*	*03/22/22 15:35*	*03/23/22 22:20*	*10*
2-Fluorophenol (Surr)	*83*		*52 - 120*	*03/22/22 15:35*	*03/23/22 22:20*	*10*
Phenol-d5 (Surr)	*79*		*54 - 120*	*03/22/22 15:35*	*03/23/22 22:20*	*10*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*03/22/22 15:35*	*03/23/22 22:20*	*10*
p-Terphenyl-d14 (Surr)	*95*		*79 - 130*	*03/22/22 15:35*	*03/23/22 22:20*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	**180000**		19000	4700	ug/Kg	☼	03/22/22 15:35	03/24/22 17:41	100
Benzo[a]anthracene	**220000**		19000	1900	ug/Kg	☼	03/22/22 15:35	03/24/22 17:41	100
Benzo[a]pyrene	**110000**		19000	2800	ug/Kg	☼	03/22/22 15:35	03/24/22 17:41	100
Benzo[b]fluoranthene	**170000**		19000	3000	ug/Kg	☼	03/22/22 15:35	03/24/22 17:41	100
Chrysene	**300000**		19000	4300	ug/Kg	☼	03/22/22 15:35	03/24/22 17:41	100
Phenanthrene	**380000**		19000	2800	ug/Kg	☼	03/22/22 15:35	03/24/22 17:41	100
Pyrene	**380000**		19000	2200	ug/Kg	☼	03/22/22 15:35	03/24/22 17:41	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*169*	*S1+*	*54 - 120*	*03/22/22 15:35*	*03/24/22 17:41*	*100*
2-Fluorobiphenyl (Surr)	*114*		*60 - 120*	*03/22/22 15:35*	*03/24/22 17:41*	*100*
2-Fluorophenol (Surr)	*0*	*S1-*	*52 - 120*	*03/22/22 15:35*	*03/24/22 17:41*	*100*
Phenol-d5 (Surr)	*104*		*54 - 120*	*03/22/22 15:35*	*03/24/22 17:41*	*100*
Nitrobenzene-d5 (Surr)	*0*	*S1-*	*53 - 120*	*03/22/22 15:35*	*03/24/22 17:41*	*100*
p-Terphenyl-d14 (Surr)	*94*		*79 - 130*	*03/22/22 15:35*	*03/24/22 17:41*	*100*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**12.6**		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	**87.4**		0.1	0.1	%			03/21/22 14:55	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 30

Date Collected: 03/18/22 08:45
Date Received: 03/19/22 11:00

Lab Sample ID: 480-195963-9

Matrix: Solid
Percent Solids: 87.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**130**	**J**	190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Anthracene	**550**		190	48	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Benzo[a]anthracene	**5300**		190	19	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Benzo[a]pyrene	**5800**		190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Benzo[g,h,i]perylene	**3200**		190	20	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Benzo[k]fluoranthene	**3500**		190	25	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
7,12-Dimethylbenz(a)anthracene	ND		370	56	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Chrysene	**6000**		190	43	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Dibenz(a,h)anthracene	**1300**		190	34	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Fluorene	**140**	**J**	190	23	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Indeno[1,2,3-cd]pyrene	**3200**		190	24	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Naphthalene	**26**	**J**	190	25	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
3-Methylphenol	ND		370	29	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Phenanthrene	**2500**		190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Phenol	ND		190	29	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Pyrene	**5200**		190	23	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Total Cresols	ND		370	23	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*110*		*54 - 120*	*03/22/22 15:35*	*03/23/22 22:44*	*1*
2-Fluorobiphenyl (Surr)	*112*		*60 - 120*	*03/22/22 15:35*	*03/23/22 22:44*	*1*
2-Fluorophenol (Surr)	*80*		*52 - 120*	*03/22/22 15:35*	*03/23/22 22:44*	*1*
Phenol-d5 (Surr)	*79*		*54 - 120*	*03/22/22 15:35*	*03/23/22 22:44*	*1*
Nitrobenzene-d5 (Surr)	*97*		*53 - 120*	*03/22/22 15:35*	*03/23/22 22:44*	*1*
p-Terphenyl-d14 (Surr)	*94*		*79 - 130*	*03/22/22 15:35*	*03/23/22 22:44*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**8800**		960	150	ug/Kg	☼	03/22/22 15:35	03/24/22 18:05	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*	*03/22/22 15:35*	*03/24/22 18:05*	*5*
2-Fluorobiphenyl (Surr)	*97*		*60 - 120*	*03/22/22 15:35*	*03/24/22 18:05*	*5*
2-Fluorophenol (Surr)	*88*		*52 - 120*	*03/22/22 15:35*	*03/24/22 18:05*	*5*
Phenol-d5 (Surr)	*91*		*54 - 120*	*03/22/22 15:35*	*03/24/22 18:05*	*5*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*	*03/22/22 15:35*	*03/24/22 18:05*	*5*
p-Terphenyl-d14 (Surr)	*106*		*79 - 130*	*03/22/22 15:35*	*03/24/22 18:05*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**12.7**		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	**87.3**		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 32

Lab Sample ID: 480-195963-10

Date Collected: 03/18/22 09:05
Date Received: 03/19/22 11:00

Matrix: Solid
Percent Solids: 87.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		19000	2800	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Anthracene	ND		19000	4800	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Benzo[a]anthracene	**11000**	**J**	19000	1900	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Benzo[a]pyrene	**13000**	**J**	19000	2800	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Benzo[b]fluoranthene	**16000**	**J**	19000	3100	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Benzo[g,h,i]perylene	**7400**	**J**	19000	2000	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Benzo[k]fluoranthene	**6000**	**J**	19000	2500	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Bis(2-ethylhexyl) phthalate	ND		19000	6600	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
2,4-Dimethylphenol	ND		19000	4700	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
7,12-Dimethylbenz(a)anthracene	ND		37000	5600	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Chrysene	**13000**	**J**	19000	4300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Dibenz(a,h)anthracene	**3500**	**J**	19000	3400	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Di-n-butyl phthalate	ND		19000	3300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Fluorene	ND		19000	2300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Indeno[1,2,3-cd]pyrene	**7700**	**J**	19000	2400	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Naphthalene	ND		19000	2500	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
2-Methylphenol	ND		19000	2300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
3-Methylphenol	ND		37000	2900	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
3-Methylcholanthrene	ND		37000	6200	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
4-Methylphenol	ND		37000	2300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Phenanthrene	**8500**	**J**	19000	2800	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Phenol	ND		19000	2900	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Pyrene	**15000**	**J**	19000	2300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Total Cresols	ND		37000	2300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*0*	*S1-*	*54 - 120*	*03/22/22 15:35*	*03/23/22 23:08*	*10*
2-Fluorobiphenyl (Surr)	*107*		*60 - 120*	*03/22/22 15:35*	*03/23/22 23:08*	*10*
2-Fluorophenol (Surr)	*89*		*52 - 120*	*03/22/22 15:35*	*03/23/22 23:08*	*10*
Phenol-d5 (Surr)	*81*		*54 - 120*	*03/22/22 15:35*	*03/23/22 23:08*	*10*
Nitrobenzene-d5 (Surr)	*91*		*53 - 120*	*03/22/22 15:35*	*03/23/22 23:08*	*10*
p-Terphenyl-d14 (Surr)	*104*		*79 - 130*	*03/22/22 15:35*	*03/23/22 23:08*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.0**		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	**87.0**		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 33

Lab Sample ID: 480-195963-11

Date Collected: 03/18/22 08:30
Date Received: 03/19/22 11:00

Matrix: Solid
Percent Solids: 87.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**310**	**J**	940	140	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Anthracene	**1200**		940	230	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Benzo[a]anthracene	**6900**		940	94	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Benzo[a]pyrene	**6700**		940	140	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Benzo[b]fluoranthene	**9000**		940	150	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Benzo[g,h,i]perylene	**3200**		940	100	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5

Client Sample ID: SB 33

Lab Sample ID: 480-195963-11

Date Collected: 03/18/22 08:30
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	3700		940	120	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Bis(2-ethylhexyl) phthalate	ND		940	320	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
2,4-Dimethylphenol	ND		940	230	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
7,12-Dimethylbenz(a)anthracene	ND		1800	270	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Chrysene	7500		940	210	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Dibenz(a,h)anthracene	1300		940	170	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Di-n-butyl phthalate	ND		940	160	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Fluorene	350	J	940	110	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Indeno[1,2,3-cd]pyrene	3300		940	120	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Naphthalene	ND		940	120	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
2-Methylphenol	ND		940	110	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
3-Methylphenol	ND		1800	140	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
3-Methylcholanthrene	ND		1800	300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
4-Methylphenol	ND		1800	110	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Phenanthrene	5200		940	140	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Phenol	ND		940	140	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Pyrene	9000		940	110	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Total Cresols	ND		1800	110	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*84*		*54 - 120*	*03/22/22 15:35*	*03/23/22 23:32*	*5*
2-Fluorobiphenyl (Surr)	*88*		*60 - 120*	*03/22/22 15:35*	*03/23/22 23:32*	*5*
2-Fluorophenol (Surr)	*73*		*52 - 120*	*03/22/22 15:35*	*03/23/22 23:32*	*5*
Phenol-d5 (Surr)	*70*		*54 - 120*	*03/22/22 15:35*	*03/23/22 23:32*	*5*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*03/22/22 15:35*	*03/23/22 23:32*	*5*
p-Terphenyl-d14 (Surr)	*86*		*79 - 130*	*03/22/22 15:35*	*03/23/22 23:32*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12.4		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	87.6		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 40

Lab Sample ID: 480-195963-12

Date Collected: 03/18/22 09:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	78	J	190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Anthracene	630		190	47	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Benzo[a]anthracene	5900		190	19	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Benzo[a]pyrene	5800		190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Benzo[g,h,i]perylene	3200		190	20	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Benzo[k]fluoranthene	2600		190	25	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Bis(2-ethylhexyl) phthalate	ND		190	65	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Dibenz(a,h)anthracene	1200		190	34	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Fluorene	67	J	190	22	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 40

Date Collected: 03/18/22 09:45
Date Received: 03/19/22 11:00

Lab Sample ID: 480-195963-12

Matrix: Solid
Percent Solids: 87.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	**3100**		190	24	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Naphthalene	ND		190	25	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
2-Methylphenol	ND		190	22	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
3-Methylphenol	ND		370	29	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
4-Methylphenol	ND		370	22	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Phenanthrene	**1900**		190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Phenol	ND		190	29	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Total Cresols	ND		370	22	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*111*		*54 - 120*	*03/22/22 15:35*	*03/23/22 23:56*	*1*
2-Fluorobiphenyl (Surr)	*110*		*60 - 120*	*03/22/22 15:35*	*03/23/22 23:56*	*1*
2-Fluorophenol (Surr)	*82*		*52 - 120*	*03/22/22 15:35*	*03/23/22 23:56*	*1*
Phenol-d5 (Surr)	*83*		*54 - 120*	*03/22/22 15:35*	*03/23/22 23:56*	*1*
Nitrobenzene-d5 (Surr)	*95*		*53 - 120*	*03/22/22 15:35*	*03/23/22 23:56*	*1*
p-Terphenyl-d14 (Surr)	*92*		*79 - 130*	*03/22/22 15:35*	*03/23/22 23:56*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**8400**		950	150	ug/Kg	☼	03/22/22 15:35	03/24/22 18:29	5
Chrysene	**6600**		950	210	ug/Kg	☼	03/22/22 15:35	03/24/22 18:29	5
Pyrene	**8500**		950	110	ug/Kg	☼	03/22/22 15:35	03/24/22 18:29	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*91*		*54 - 120*	*03/22/22 15:35*	*03/24/22 18:29*	*5*
2-Fluorobiphenyl (Surr)	*102*		*60 - 120*	*03/22/22 15:35*	*03/24/22 18:29*	*5*
2-Fluorophenol (Surr)	*82*		*52 - 120*	*03/22/22 15:35*	*03/24/22 18:29*	*5*
Phenol-d5 (Surr)	*90*		*54 - 120*	*03/22/22 15:35*	*03/24/22 18:29*	*5*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*03/22/22 15:35*	*03/24/22 18:29*	*5*
p-Terphenyl-d14 (Surr)	*110*		*79 - 130*	*03/22/22 15:35*	*03/24/22 18:29*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**12.7**		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	**87.3**		0.1	0.1	%			03/21/22 14:55	1

Surrogate Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	PHL	NBZ	TPHd14
Lab Sample ID	Client Sample ID	(54-120)	(60-120)	(52-120)	(54-120)	(53-120)	(79-130)
480-195963-1	SB 18	87	100	76	81	92	97
480-195963-2	SB 19	99	99	77	75	82	92
480-195963-3	SB 20	96	78	68	75	69	79
480-195963-4	SB 21	83	85	66	69	73	95
480-195963-5	SB 24	79	100	85	87	79	95
480-195963-6	SB 25	95	110	77	81	89	110
480-195963-7	SB 27	83	91	82	85	79	104
480-195963-8	SB 29	85	100	83	79	85	95
480-195963-8 - DL	SB 29	169 S1+	114	0 S1-	104	0 S1-	94
480-195963-9	SB 30	110	112	80	79	97	94
480-195963-9 - DL	SB 30	83	97	88	91	82	106
480-195963-10	SB 32	0 S1-	107	89	81	91	104
480-195963-11	SB 33	84	88	73	70	83	86
480-195963-12	SB 40	111	110	82	83	95	92
480-195963-12 - DL	SB 40	91	102	82	90	85	110
LCS 480-618672/2-A	Lab Control Sample	102	100	79	79	90	118
MB 480-618672/1-A	Method Blank	84	81	71	72	77	102

Surrogate Legend

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

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

Lab Sample ID: MB 480-618672/1-A
Matrix: Solid
Analysis Batch: 618807

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 618672

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		170	24	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Anthracene	ND		170	41	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Benzo[a]anthracene	ND		170	17	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Benzo[a]pyrene	ND		170	24	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Benzo[b]fluoranthene	ND		170	26	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Benzo[k]fluoranthene	ND		170	22	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Bis(2-ethylhexyl) phthalate	ND		170	57	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
2,4-Dimethylphenol	ND		170	40	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
7,12-Dimethylbenz(a)anthracene	ND		320	48	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Chrysene	ND		170	37	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Dibenz(a,h)anthracene	ND		170	29	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Di-n-butyl phthalate	ND		170	28	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Fluorene	ND		170	20	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Indeno[1,2,3-cd]pyrene	ND		170	21	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Naphthalene	ND		170	22	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
2-Methylphenol	ND		170	20	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
3-Methylphenol	ND		320	25	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
3-Methylcholanthrene	ND		320	54	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
4-Methylphenol	ND		320	20	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Phenanthrene	ND		170	24	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Phenol	ND		170	25	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Pyrene	ND		170	20	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Total Cresols	ND		320	20	ug/Kg		03/22/22 15:35	03/23/22 15:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*84*		*54 - 120*	*03/22/22 15:35*	*03/23/22 15:56*	*1*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*03/22/22 15:35*	*03/23/22 15:56*	*1*
2-Fluorophenol (Surr)	*71*		*52 - 120*	*03/22/22 15:35*	*03/23/22 15:56*	*1*
Phenol-d5 (Surr)	*72*		*54 - 120*	*03/22/22 15:35*	*03/23/22 15:56*	*1*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*03/22/22 15:35*	*03/23/22 15:56*	*1*
p-Terphenyl-d14 (Surr)	*102*		*79 - 130*	*03/22/22 15:35*	*03/23/22 15:56*	*1*

Lab Sample ID: LCS 480-618672/2-A
Matrix: Solid
Analysis Batch: 618807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618672

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1620	1590		ug/Kg		98	62 - 120
Anthracene	1620	1590		ug/Kg		98	62 - 120
Benzo[a]anthracene	1620	1670		ug/Kg		103	65 - 120
Benzo[a]pyrene	1620	1510		ug/Kg		93	64 - 120
Benzo[b]fluoranthene	1620	1630		ug/Kg		101	64 - 120
Benzo[g,h,i]perylene	1620	1540		ug/Kg		95	45 - 145
Benzo[k]fluoranthene	1620	1680		ug/Kg		104	65 - 120
Bis(2-ethylhexyl) phthalate	1620	1820		ug/Kg		113	61 - 133
2,4-Dimethylphenol	1620	1470		ug/Kg		91	59 - 120
Chrysene	1620	1550		ug/Kg		96	64 - 120

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

Lab Sample ID: LCS 480-618672/2-A
Matrix: Solid
Analysis Batch: 618807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618672

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenz(a,h)anthracene	1620	1560		ug/Kg		96	54 - 132
Di-n-butyl phthalate	1620	1790		ug/Kg		110	58 - 130
Fluorene	1620	1580		ug/Kg		98	63 - 120
Indeno[1,2,3-cd]pyrene	1620	1520		ug/Kg		94	56 - 134
Naphthalene	1620	1400		ug/Kg		87	55 - 120
2-Methylphenol	1620	1330		ug/Kg		82	54 - 120
3-Methylphenol	1620	1250		ug/Kg		77	55 - 120
4-Methylphenol	1620	1250		ug/Kg		77	55 - 120
Phenanthrene	1620	1590		ug/Kg		98	60 - 120
Phenol	1620	1270		ug/Kg		78	53 - 120
Pyrene	1620	1950		ug/Kg		120	61 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*102*		*54 - 120*
2-Fluorobiphenyl (Surr)	*100*		*60 - 120*
2-Fluorophenol (Surr)	*79*		*52 - 120*
Phenol-d5 (Surr)	*79*		*54 - 120*
Nitrobenzene-d5 (Surr)	*90*		*53 - 120*
p-Terphenyl-d14 (Surr)	*118*		*79 - 130*

QC Association Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

GC/MS Semi VOA

Prep Batch: 618672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195963-1	SB 18	Total/NA	Solid	3550C	
480-195963-2	SB 19	Total/NA	Solid	3550C	
480-195963-3	SB 20	Total/NA	Solid	3550C	
480-195963-4	SB 21	Total/NA	Solid	3550C	
480-195963-5	SB 24	Total/NA	Solid	3550C	
480-195963-6	SB 25	Total/NA	Solid	3550C	
480-195963-7	SB 27	Total/NA	Solid	3550C	
480-195963-8	SB 29	Total/NA	Solid	3550C	
480-195963-8 - DL	SB 29	Total/NA	Solid	3550C	
480-195963-9	SB 30	Total/NA	Solid	3550C	
480-195963-9 - DL	SB 30	Total/NA	Solid	3550C	
480-195963-10	SB 32	Total/NA	Solid	3550C	
480-195963-11	SB 33	Total/NA	Solid	3550C	
480-195963-12 - DL	SB 40	Total/NA	Solid	3550C	
480-195963-12	SB 40	Total/NA	Solid	3550C	
MB 480-618672/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-618672/2-A	Lab Control Sample	Total/NA	Solid	3550C	

Analysis Batch: 618807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195963-1	SB 18	Total/NA	Solid	8270D	618672
480-195963-2	SB 19	Total/NA	Solid	8270D	618672
480-195963-3	SB 20	Total/NA	Solid	8270D	618672
480-195963-4	SB 21	Total/NA	Solid	8270D	618672
480-195963-6	SB 25	Total/NA	Solid	8270D	618672
480-195963-7	SB 27	Total/NA	Solid	8270D	618672
480-195963-8	SB 29	Total/NA	Solid	8270D	618672
480-195963-9	SB 30	Total/NA	Solid	8270D	618672
480-195963-10	SB 32	Total/NA	Solid	8270D	618672
480-195963-11	SB 33	Total/NA	Solid	8270D	618672
480-195963-12	SB 40	Total/NA	Solid	8270D	618672
MB 480-618672/1-A	Method Blank	Total/NA	Solid	8270D	618672
LCS 480-618672/2-A	Lab Control Sample	Total/NA	Solid	8270D	618672

Analysis Batch: 618977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195963-5	SB 24	Total/NA	Solid	8270D	618672
480-195963-8 - DL	SB 29	Total/NA	Solid	8270D	618672
480-195963-9 - DL	SB 30	Total/NA	Solid	8270D	618672
480-195963-12 - DL	SB 40	Total/NA	Solid	8270D	618672

General Chemistry

Analysis Batch: 618528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195963-1	SB 18	Total/NA	Solid	Moisture	
480-195963-2	SB 19	Total/NA	Solid	Moisture	
480-195963-3	SB 20	Total/NA	Solid	Moisture	
480-195963-4	SB 21	Total/NA	Solid	Moisture	
480-195963-5	SB 24	Total/NA	Solid	Moisture	
480-195963-6	SB 25	Total/NA	Solid	Moisture	

General Chemistry (Continued)

Analysis Batch: 618528 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195963-7	SB 27	Total/NA	Solid	Moisture	
480-195963-8	SB 29	Total/NA	Solid	Moisture	
480-195963-9	SB 30	Total/NA	Solid	Moisture	
480-195963-10	SB 32	Total/NA	Solid	Moisture	
480-195963-11	SB 33	Total/NA	Solid	Moisture	
480-195963-12	SB 40	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 18
Lab Sample ID: 480-195963-1
Date Collected: 03/18/22 11:05
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 18
Lab Sample ID: 480-195963-1
Date Collected: 03/18/22 11:05
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 76.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618807	03/23/22 19:33	PJQ	TAL BUF

Client Sample ID: SB 19
Lab Sample ID: 480-195963-2
Date Collected: 03/18/22 11:25
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 19
Lab Sample ID: 480-195963-2
Date Collected: 03/18/22 11:25
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 86.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618807	03/23/22 19:57	PJQ	TAL BUF

Client Sample ID: SB 20
Lab Sample ID: 480-195963-3
Date Collected: 03/18/22 11:45
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 20
Lab Sample ID: 480-195963-3
Date Collected: 03/18/22 11:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 84.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		20	618807	03/23/22 20:20	PJQ	TAL BUF

Client Sample ID: SB 21
Lab Sample ID: 480-195963-4
Date Collected: 03/18/22 12:10
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 21

Lab Sample ID: 480-195963-4
Date Collected: 03/18/22 12:10
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 86.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618807	03/23/22 20:44	PJQ	TAL BUF

Client Sample ID: SB 24

Lab Sample ID: 480-195963-5
Date Collected: 03/18/22 10:25
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 24

Lab Sample ID: 480-195963-5
Date Collected: 03/18/22 10:25
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 91.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618977	03/24/22 17:17	PJQ	TAL BUF

Client Sample ID: SB 25

Lab Sample ID: 480-195963-6
Date Collected: 03/18/22 10:45
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 25

Lab Sample ID: 480-195963-6
Date Collected: 03/18/22 10:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 91.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618807	03/23/22 21:32	PJQ	TAL BUF

Client Sample ID: SB 27

Lab Sample ID: 480-195963-7
Date Collected: 03/18/22 10:05
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 27

Lab Sample ID: 480-195963-7
Date Collected: 03/18/22 10:05
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 85.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618807	03/23/22 21:56	PJQ	TAL BUF

Client Sample ID: SB 29

Lab Sample ID: 480-195963-8
Date Collected: 03/18/22 09:25
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 29

Lab Sample ID: 480-195963-8
Date Collected: 03/18/22 09:25
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618807	03/23/22 22:20	PJQ	TAL BUF
Total/NA	Prep	3550C	DL		618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D	DL	100	618977	03/24/22 17:41	PJQ	TAL BUF

Client Sample ID: SB 30

Lab Sample ID: 480-195963-9
Date Collected: 03/18/22 08:45
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 30

Lab Sample ID: 480-195963-9
Date Collected: 03/18/22 08:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618807	03/23/22 22:44	PJQ	TAL BUF
Total/NA	Prep	3550C	DL		618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D	DL	5	618977	03/24/22 18:05	PJQ	TAL BUF

Client Sample ID: SB 32

Lab Sample ID: 480-195963-10
Date Collected: 03/18/22 09:05
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 32

Lab Sample ID: 480-195963-10
Date Collected: 03/18/22 09:05
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618807	03/23/22 23:08	PJQ	TAL BUF

Client Sample ID: SB 33

Lab Sample ID: 480-195963-11
Date Collected: 03/18/22 08:30
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 33

Lab Sample ID: 480-195963-11
Date Collected: 03/18/22 08:30
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618807	03/23/22 23:32	PJQ	TAL BUF

Client Sample ID: SB 40

Lab Sample ID: 480-195963-12
Date Collected: 03/18/22 09:45
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 40

Lab Sample ID: 480-195963-12
Date Collected: 03/18/22 09:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618807	03/23/22 23:56	PJQ	TAL BUF
Total/NA	Prep	3550C	DL		618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D	DL	5	618977	03/24/22 18:29	PJQ	TAL BUF

Laboratory References:

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Laboratory: Eurofins Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	68-00281	07-31-22

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
8270D	3550C	Solid	Total Cresols
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF
3550C	Ultrasonic Extraction	SW846	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-195963-1	SB 18	Solid	03/18/22 11:05	03/19/22 11:00
480-195963-2	SB 19	Solid	03/18/22 11:25	03/19/22 11:00
480-195963-3	SB 20	Solid	03/18/22 11:45	03/19/22 11:00
480-195963-4	SB 21	Solid	03/18/22 12:10	03/19/22 11:00
480-195963-5	SB 24	Solid	03/18/22 10:25	03/19/22 11:00
480-195963-6	SB 25	Solid	03/18/22 10:45	03/19/22 11:00
480-195963-7	SB 27	Solid	03/18/22 10:05	03/19/22 11:00
480-195963-8	SB 29	Solid	03/18/22 09:25	03/19/22 11:00
480-195963-9	SB 30	Solid	03/18/22 08:45	03/19/22 11:00
480-195963-10	SB 32	Solid	03/18/22 09:05	03/19/22 11:00
480-195963-11	SB 33	Solid	03/18/22 08:30	03/19/22 11:00
480-195963-12	SB 40	Solid	03/18/22 09:45	03/19/22 11:00

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Subcontract Chain of Custody

Eurofins Northeast LLC
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2214374

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2214374

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com proj # 48025001

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	SB 18	03-18-22 11:05	SOIL	8270	
	SB 19	03-18-22 11:25	SOIL	8270	
	SB 20	03-18-22 11:45	SOIL	8270	
	SB 21	03-18-22 12:10	SOIL	8270	
	SB 24	03-18-22 10:25	SOIL	8270	
	SB 25	03-18-22 10:45	SOIL	8270	
	SB 27	03-18-22 10:05	SOIL	8270	
	SB 29	03-18-22 09:25	SOIL	8270	
	SB 30	03-18-22 08:45	SOIL	8270	

480-195963 Chain of Custody

Temp 2.9 #1 ICE UPS

Relinquished By:	Date/Time:	Received By:	Date/Time:
Amica Jagiello	3/18/22 16:22	Ann Kow Cirkolb	3/19/22 1100

Form No: AL_subcoc

2/2

Subcontract Chain of Custody

Eurofins Northeast LLC
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2214374

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2214374

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com proj # 48025001

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	SB 32	03-18-22 09:05	SOIL	8270	
	SB 33	03-18-22 08:30	SOIL	8270	
	SB 40	03-18-22 09:45	SOIL	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
Amica Yaglier	3/18/22 16:22	PGI	

Form No: AL_subcoc

Login Sample Receipt Checklist

Client: Alpha Analytical Inc

Job Number: 480-195963-1

Login Number: 195963

List Source: Eurofins Buffalo

List Number: 1

Creator: Sabuda, Brendan D

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
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.	True	
Cooler Temperature is recorded.	True	2.9 #1 ice
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	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	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

ANALYTICAL REPORT

Lab Number:	L2213774
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	RCRA PAD CLOSURE - PHIL REF
Project Number:	200.00135.007
Report Date:	03/30/22

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: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2213774-01	SB01	SOIL	PHILADELPHIA, PA	03/16/22 09:40	03/16/22
L2213774-02	SB04	SOIL	PHILADELPHIA, PA	03/16/22 13:45	03/16/22
L2213774-03	SB05	SOIL	PHILADELPHIA, PA	03/16/22 10:05	03/16/22
L2213774-04	SB09	SOIL	PHILADELPHIA, PA	03/16/22 10:25	03/16/22
L2213774-05	SB10	SOIL	PHILADELPHIA, PA	03/16/22 10:40	03/16/22
L2213774-06	SB13	SOIL	PHILADELPHIA, PA	03/16/22 12:50	03/16/22
L2213774-07	SB14	SOIL	PHILADELPHIA, PA	03/16/22 13:10	03/16/22
L2213774-08	SB15	SOIL	PHILADELPHIA, PA	03/16/22 13:25	03/16/22
L2213774-09	SB23	SOIL	PHILADELPHIA, PA	03/16/22 12:35	03/16/22
L2213774-10	SB26	SOIL	PHILADELPHIA, PA	03/16/22 12:15	03/16/22
L2213774-11	SB28	SOIL	PHILADELPHIA, PA	03/16/22 11:55	03/16/22
L2213774-12	SB35	SOIL	PHILADELPHIA, PA	03/16/22 10:50	03/16/22
L2213774-13	SB38	SOIL	PHILADELPHIA, PA	03/16/22 11:10	03/16/22
L2213774-14	TRIP BLANK	WATER	PHILADELPHIA, PA	03/14/22 08:33	03/16/22

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2213774
Project Number:	200.00135.007	**Report Date:**	03/30/22

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2213774
Project Number:	200.00135.007	**Report Date:**	03/30/22

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.

The analysis of Semivolatile Organic Compounds was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

Sample Receipt

The project name and project number were specified by the client.

Volatile Organics

L2213774-14: The pH was greater than two; however, the sample was analyzed within the method required holding time.

The WG1617962-5 Method Blank, associated with L2213774-01, -02, -03, -04, -05, -07, -08, -09, -10, -11, and -13, has a concentration above the reporting limit for toluene. Since the associated sample concentrations are either greater than 10x the blank concentration or non-detect to the RL for this target analyte, no corrective action is required. Any results detected below the reporting limit are qualified with a "B".

Total Metals

The WG1617270-3 MS recoveries, performed on L2213774-01, are outside the acceptance criteria for antimony (40%), lead (70%) and nickel (73%). A post digestion spike was performed and yielded unacceptable recoveries for antimony (73%), lead (68%) and nickel (65%). The serial dilution recoveries were not applicable; therefore, these elements fail the matrix test and the results reported in the native sample should be considered estimated.

Cyanide, Total

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2213774
Project Number:	200.00135.007	**Report Date:**	03/30/22

Case Narrative (continued)

The WG1620500-2 LCS recovery for cyanide, total (72%), associated with L2213774-11 through -13, is outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

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: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 03/30/22

ORGANICS

VOLATILES

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-01
Client ID: SB01
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 09:40
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/18/22 13:20
Analyst: AJK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.010	0.0046	1
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	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	0.00055	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	109		70-130
Toluene-d8	88		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	113		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-02
Client ID: SB04
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 13:45
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/18/22 08:35
Analyst: AJK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0096	0.0044	1
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00096	0.00025	1
Toluene	ND		mg/kg	0.00096	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00096	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00096	0.00028	1
Xylenes, Total	ND		mg/kg	0.00096	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00096	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	113		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-03
Client ID: SB05
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 10:05
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/18/22 09:01
Analyst: AJK
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.010	0.0048	1
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	0.00039	J	mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	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	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	114		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-04
Client ID: SB09
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 10:25
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/18/22 09:27
Analyst: AJK
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0097	0.0044	1
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00097	0.00025	1
Toluene	ND		mg/kg	0.00097	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00097	0.00028	1
Xylenes, Total	ND		mg/kg	0.00097	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00097	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	112		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-05
Client ID: SB10
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 10:40
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/18/22 09:53
Analyst: AJK
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0095	0.0043	1
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	0.00052	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	110		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	113		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-06
Client ID: SB13
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 12:50
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 14:45
Analyst: LAC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0098	0.0045	1
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	114		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-07
Client ID: SB14
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 13:10
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/18/22 10:19
Analyst: AJK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.012	0.0052	1
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0012	0.00033	1
Xylenes, Total	ND		mg/kg	0.0012	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	112		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-08
Client ID: SB15
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 13:25
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/18/22 11:11
Analyst: AJK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0094	0.0043	1
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	0.00028	1
Xylenes, Total	ND		mg/kg	0.00094	0.00028	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	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	113		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-09
Client ID: SB23
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 12:35
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/18/22 11:37
Analyst: AJK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0093	0.0042	1
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00019	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00093	0.00024	1
Toluene	ND		mg/kg	0.00093	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00093	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00052	1
o-Xylene	ND		mg/kg	0.00093	0.00027	1
Xylenes, Total	ND		mg/kg	0.00093	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00093	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	111		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-10
Client ID: SB26
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 12:15
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/18/22 12:03
Analyst: AJK
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.011	0.0052	1
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	0.00087		mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00033	1
Ethylbenzene	0.00019	J	mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00064	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	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	94		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-11
Client ID: SB28
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 11:55
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/18/22 13:46
Analyst: AJK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.012	0.0056	1
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00025	1
Benzene	0.00050	J	mg/kg	0.00061	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	0.00061	0.00036	1
Ethylbenzene	0.00031	J	mg/kg	0.0012	0.00017	1
p/m-Xylene	0.00075	J	mg/kg	0.0024	0.00069	1
o-Xylene	0.00062	J	mg/kg	0.0012	0.00036	1
Xylenes, Total	0.0014	J	mg/kg	0.0012	0.00036	1
Isopropylbenzene	0.00027	J	mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	0.0024		mg/kg	0.0024	0.00024	1
1,2,4-Trimethylbenzene	0.0022	J	mg/kg	0.0024	0.00041	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	129		70-130
Dibromofluoromethane	103		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-12
Client ID: SB35
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 10:50
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 14:26
Analyst: LAC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.010	0.0046	1
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	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	0.00055	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	106		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	106		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-13
Client ID: SB38
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 11:10
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/18/22 12:55
Analyst: AJK
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0096	0.0044	1
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	0.00025	J	mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00096	0.00025	1
Toluene	ND		mg/kg	0.00096	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00096	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00096	0.00028	1
Xylenes, Total	ND		mg/kg	0.00096	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00096	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	112		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	114		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF

Lab Number: L2213774

Project Number: 200.00135.007

Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-14
Client ID: TRIP BLANK
Sample Location: PHILADELPHIA, PA

Date Collected: 03/14/22 08:33
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 03/22/22 19:02
Analyst: GT

Extraction Method: EPA 8011
Extraction Date: 03/22/22 15:15

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: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-14
Client ID: TRIP BLANK
Sample Location: PHILADELPHIA, PA

Date Collected: 03/14/22 08:33
Date Received: 03/16/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 03/18/22 11:11
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Carbon disulfide	ND		ug/l	5.0	0.30	1
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	97		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	96		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/18/22 08:09
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-05,07-11,13 Batch: WG1617962-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	0.0012		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	0.00018	J	mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	0.00030	J	mg/kg	0.0010	0.00029
Xylenes, Total	0.00030	J	mg/kg	0.0010	0.00029
Isopropylbenzene	0.00016	J	mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	0.00020	J	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	109		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	111		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/18/22 10:25
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 14 Batch: WG1617967-5					
Carbon disulfide	ND		ug/l	5.0	0.30
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	93		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	100		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 03/22/22 16:55
Analyst: GT

Extraction Method: EPA 8011
Extraction Date: 03/22/22 15:15

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 14 Batch: WG1618463-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/23/22 08:19
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 06,12 Batch: WG1619213-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	108		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2213774
Report Date: 03/30/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-05,07-11,13 Batch: WG1617962-3 WG1617962-4								
Carbon disulfide	112		109		59-130	3		30
Methyl tert butyl ether	124		128		66-130	3		30
Benzene	116		114		70-130	2		30
1,2-Dichloroethane	119		122		70-130	2		30
Toluene	104		102		70-130	2		30
1,2-Dibromoethane	108		110		70-130	2		30
Ethylbenzene	103		101		70-130	2		30
p/m-Xylene	104		102		70-130	2		30
o-Xylene	104		102		70-130	2		30
Isopropylbenzene	100		98		70-130	2		30
1,3,5-Trimethylbenzene	101		99		70-130	2		30
1,2,4-Trimethylbenzene	102		100		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	104		105		70-130
Toluene-d8	92		91		70-130
4-Bromofluorobenzene	100		100		70-130
Dibromofluoromethane	105		106		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 14 Batch: WG1617967-3 WG1617967-4								
Carbon disulfide	97		96		51-130	1		20
Methyl tert butyl ether	80		90		63-130	12		20
Benzene	110		110		70-130	0		20
1,2-Dichloroethane	94		99		70-130	5		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	105		105		70-130	0		20
Isopropylbenzene	120		110		70-130	9		20
1,3,5-Trimethylbenzene	110		110		64-130	0		20
1,2,4-Trimethylbenzene	110		110		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	90		95		70-130
Toluene-d8	97		96		70-130
4-Bromofluorobenzene	99		97		70-130
Dibromofluoromethane	98		100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2213774

Report Date: 03/30/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 14 Batch: WG1618463-2									
1,2-Dibromoethane	116		-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 06,12 Batch: WG1619213-3 WG1619213-4								
Carbon disulfide	86		87		59-130	1		30
Methyl tert butyl ether	83		83		66-130	0		30
Benzene	85		86		70-130	1		30
1,2-Dichloroethane	80		82		70-130	2		30
Toluene	80		81		70-130	1		30
1,2-Dibromoethane	87		88		70-130	1		30
Ethylbenzene	87		88		70-130	1		30
p/m-Xylene	88		89		70-130	1		30
o-Xylene	88		89		70-130	1		30
Isopropylbenzene	89		89		70-130	0		30
1,3,5-Trimethylbenzene	88		88		70-130	0		30
1,2,4-Trimethylbenzene	87		87		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		96		70-130
Toluene-d8	101		101		70-130
4-Bromofluorobenzene	100		100		70-130
Dibromofluoromethane	98		98		70-130

METALS

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2213774
Project Number: 200.00135.007
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-01
Client ID: SB01
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 09:40
Date Received: 03/16/22
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											
Antimony, Total	ND		mg/kg	2.22	0.169	1	03/20/22 10:50	03/29/22 22:45	EPA 3050B	1,6010D	EW
Arsenic, Total	3.87		mg/kg	0.445	0.093	1	03/20/22 10:50	03/29/22 22:45	EPA 3050B	1,6010D	EW
Chromium, Total	13.2		mg/kg	0.445	0.043	1	03/20/22 10:50	03/29/22 22:45	EPA 3050B	1,6010D	EW
Lead, Total	7.10		mg/kg	2.22	0.119	1	03/20/22 10:50	03/29/22 22:45	EPA 3050B	1,6010D	EW
Nickel, Total	8.69		mg/kg	1.11	0.108	1	03/20/22 10:50	03/29/22 22:45	EPA 3050B	1,6010D	EW
Vanadium, Total	21.8		mg/kg	0.445	0.090	1	03/20/22 10:50	03/29/22 22:45	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2213774
Project Number: 200.00135.007
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-02
Client ID: SB04
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 13:45
Date Received: 03/16/22
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											
Antimony, Total	0.259	J	mg/kg	2.20	0.167	1	03/20/22 10:50	03/29/22 23:26	EPA 3050B	1,6010D	EW
Arsenic, Total	5.17		mg/kg	0.439	0.091	1	03/20/22 10:50	03/29/22 23:26	EPA 3050B	1,6010D	EW
Chromium, Total	10.7		mg/kg	0.439	0.042	1	03/20/22 10:50	03/29/22 23:26	EPA 3050B	1,6010D	EW
Lead, Total	56.1		mg/kg	2.20	0.118	1	03/20/22 10:50	03/29/22 23:26	EPA 3050B	1,6010D	EW
Nickel, Total	5.31		mg/kg	1.10	0.106	1	03/20/22 10:50	03/29/22 23:26	EPA 3050B	1,6010D	EW
Vanadium, Total	15.7		mg/kg	0.439	0.089	1	03/20/22 10:50	03/29/22 23:26	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2213774
Project Number: 200.00135.007
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-03
Client ID: SB05
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 10:05
Date Received: 03/16/22
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											
Antimony, Total	1.12	J	mg/kg	2.13	0.162	1	03/20/22 10:50	03/29/22 23:30	EPA 3050B	1,6010D	EW
Arsenic, Total	5.39		mg/kg	0.427	0.089	1	03/20/22 10:50	03/29/22 23:30	EPA 3050B	1,6010D	EW
Chromium, Total	12.0		mg/kg	0.427	0.041	1	03/20/22 10:50	03/29/22 23:30	EPA 3050B	1,6010D	EW
Lead, Total	59.4		mg/kg	2.13	0.114	1	03/20/22 10:50	03/29/22 23:30	EPA 3050B	1,6010D	EW
Nickel, Total	8.87		mg/kg	1.07	0.103	1	03/20/22 10:50	03/29/22 23:30	EPA 3050B	1,6010D	EW
Vanadium, Total	16.8		mg/kg	0.427	0.087	1	03/20/22 10:50	03/29/22 23:30	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-04 Date Collected: 03/16/22 10:25

Client ID: SB09 Date Received: 03/16/22

Sample Location: PHILADELPHIA, PA 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											
Antimony, Total	ND		mg/kg	2.44	0.185	1	03/20/22 10:50	03/29/22 23:35	EPA 3050B	1,6010D	EW
Arsenic, Total	5.18		mg/kg	0.487	0.101	1	03/20/22 10:50	03/29/22 23:35	EPA 3050B	1,6010D	EW
Chromium, Total	13.1		mg/kg	0.487	0.047	1	03/20/22 10:50	03/29/22 23:35	EPA 3050B	1,6010D	EW
Lead, Total	35.8		mg/kg	2.44	0.130	1	03/20/22 10:50	03/29/22 23:35	EPA 3050B	1,6010D	EW
Nickel, Total	11.4		mg/kg	1.22	0.118	1	03/20/22 10:50	03/29/22 23:35	EPA 3050B	1,6010D	EW
Vanadium, Total	18.9		mg/kg	0.487	0.099	1	03/20/22 10:50	03/29/22 23:35	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-05 Date Collected: 03/16/22 10:40

Client ID: SB10 Date Received: 03/16/22

Sample Location: PHILADELPHIA, PA 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											
Antimony, Total	ND		mg/kg	2.18	0.166	1	03/20/22 10:50	03/29/22 23:39	EPA 3050B	1,6010D	EW
Arsenic, Total	1.77		mg/kg	0.437	0.091	1	03/20/22 10:50	03/29/22 23:39	EPA 3050B	1,6010D	EW
Chromium, Total	11.0		mg/kg	0.437	0.042	1	03/20/22 10:50	03/29/22 23:39	EPA 3050B	1,6010D	EW
Lead, Total	7.52		mg/kg	2.18	0.117	1	03/20/22 10:50	03/29/22 23:39	EPA 3050B	1,6010D	EW
Nickel, Total	7.95		mg/kg	1.09	0.106	1	03/20/22 10:50	03/29/22 23:39	EPA 3050B	1,6010D	EW
Vanadium, Total	11.3		mg/kg	0.437	0.089	1	03/20/22 10:50	03/29/22 23:39	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2213774
Project Number: 200.00135.007
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-06
Client ID: SB13
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 12:50
Date Received: 03/16/22
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											
Antimony, Total	ND		mg/kg	2.22	0.169	1	03/20/22 10:50	03/29/22 23:43	EPA 3050B	1,6010D	EW
Arsenic, Total	7.60		mg/kg	0.444	0.092	1	03/20/22 10:50	03/29/22 23:43	EPA 3050B	1,6010D	EW
Chromium, Total	16.9		mg/kg	0.444	0.043	1	03/20/22 10:50	03/29/22 23:43	EPA 3050B	1,6010D	EW
Lead, Total	40.9		mg/kg	2.22	0.119	1	03/20/22 10:50	03/29/22 23:43	EPA 3050B	1,6010D	EW
Nickel, Total	63.6		mg/kg	1.11	0.107	1	03/20/22 10:50	03/29/22 23:43	EPA 3050B	1,6010D	EW
Vanadium, Total	34.4		mg/kg	0.444	0.090	1	03/20/22 10:50	03/29/22 23:43	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-07 Date Collected: 03/16/22 13:10

Client ID: SB14 Date Received: 03/16/22

Sample Location: PHILADELPHIA, PA 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											
Antimony, Total	ND		mg/kg	2.08	0.158	1	03/20/22 10:50	03/29/22 23:48	EPA 3050B	1,6010D	EW
Arsenic, Total	2.89		mg/kg	0.415	0.086	1	03/20/22 10:50	03/29/22 23:48	EPA 3050B	1,6010D	EW
Chromium, Total	12.3		mg/kg	0.415	0.040	1	03/20/22 10:50	03/29/22 23:48	EPA 3050B	1,6010D	EW
Lead, Total	7.97		mg/kg	2.08	0.111	1	03/20/22 10:50	03/29/22 23:48	EPA 3050B	1,6010D	EW
Nickel, Total	13.6		mg/kg	1.04	0.100	1	03/20/22 10:50	03/29/22 23:48	EPA 3050B	1,6010D	EW
Vanadium, Total	17.3		mg/kg	0.415	0.084	1	03/20/22 10:50	03/29/22 23:48	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2213774
Project Number: 200.00135.007
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-08
Client ID: SB15
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 13:25
Date Received: 03/16/22
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											
Antimony, Total	ND		mg/kg	2.26	0.172	1	03/20/22 10:50	03/29/22 23:52	EPA 3050B	1,6010D	EW
Arsenic, Total	5.89		mg/kg	0.452	0.094	1	03/20/22 10:50	03/29/22 23:52	EPA 3050B	1,6010D	EW
Chromium, Total	15.8		mg/kg	0.452	0.043	1	03/20/22 10:50	03/29/22 23:52	EPA 3050B	1,6010D	EW
Lead, Total	20.7		mg/kg	2.26	0.121	1	03/20/22 10:50	03/29/22 23:52	EPA 3050B	1,6010D	EW
Nickel, Total	10.8		mg/kg	1.13	0.110	1	03/20/22 10:50	03/29/22 23:52	EPA 3050B	1,6010D	EW
Vanadium, Total	22.9		mg/kg	0.452	0.092	1	03/20/22 10:50	03/29/22 23:52	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2213774
Project Number: 200.00135.007
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-09
Client ID: SB23
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 12:35
Date Received: 03/16/22
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											
Antimony, Total	ND		mg/kg	2.19	0.166	1	03/20/22 10:50	03/29/22 23:57	EPA 3050B	1,6010D	EW
Arsenic, Total	5.33		mg/kg	0.438	0.091	1	03/20/22 10:50	03/29/22 23:57	EPA 3050B	1,6010D	EW
Chromium, Total	17.1		mg/kg	0.438	0.042	1	03/20/22 10:50	03/29/22 23:57	EPA 3050B	1,6010D	EW
Lead, Total	12.3		mg/kg	2.19	0.117	1	03/20/22 10:50	03/29/22 23:57	EPA 3050B	1,6010D	EW
Nickel, Total	8.31		mg/kg	1.10	0.106	1	03/20/22 10:50	03/29/22 23:57	EPA 3050B	1,6010D	EW
Vanadium, Total	25.1		mg/kg	0.438	0.089	1	03/20/22 10:50	03/29/22 23:57	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2213774
Project Number: 200.00135.007
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-10
Client ID: SB26
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 12:15
Date Received: 03/16/22
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											
Antimony, Total	ND		mg/kg	2.09	0.159	1	03/20/22 10:50	03/30/22 00:01	EPA 3050B	1,6010D	EW
Arsenic, Total	5.06		mg/kg	0.418	0.087	1	03/20/22 10:50	03/30/22 00:01	EPA 3050B	1,6010D	EW
Chromium, Total	22.1		mg/kg	0.418	0.040	1	03/20/22 10:50	03/30/22 00:01	EPA 3050B	1,6010D	EW
Lead, Total	39.5		mg/kg	2.09	0.112	1	03/20/22 10:50	03/30/22 00:01	EPA 3050B	1,6010D	EW
Nickel, Total	86.3		mg/kg	1.04	0.101	1	03/20/22 10:50	03/30/22 00:01	EPA 3050B	1,6010D	EW
Vanadium, Total	21.5		mg/kg	0.418	0.085	1	03/20/22 10:50	03/30/22 00:01	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-11 Date Collected: 03/16/22 11:55

Client ID: SB28 Date Received: 03/16/22

Sample Location: PHILADELPHIA, PA 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											
Antimony, Total	0.693	J	mg/kg	2.26	0.172	1	03/20/22 10:50	03/30/22 00:20	EPA 3050B	1,6010D	EW
Arsenic, Total	3.98		mg/kg	0.453	0.094	1	03/20/22 10:50	03/30/22 00:20	EPA 3050B	1,6010D	EW
Chromium, Total	31.6		mg/kg	0.453	0.044	1	03/20/22 10:50	03/30/22 00:20	EPA 3050B	1,6010D	EW
Lead, Total	115		mg/kg	2.26	0.121	1	03/20/22 10:50	03/30/22 00:20	EPA 3050B	1,6010D	EW
Nickel, Total	14.0		mg/kg	1.13	0.110	1	03/20/22 10:50	03/30/22 00:20	EPA 3050B	1,6010D	EW
Vanadium, Total	22.0		mg/kg	0.453	0.092	1	03/20/22 10:50	03/30/22 00:20	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-12 Date Collected: 03/16/22 10:50

Client ID: SB35 Date Received: 03/16/22

Sample Location: PHILADELPHIA, PA 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											
Antimony, Total	ND		mg/kg	2.27	0.172	1	03/20/22 10:50	03/30/22 00:24	EPA 3050B	1,6010D	EW
Arsenic, Total	5.61		mg/kg	0.454	0.094	1	03/20/22 10:50	03/30/22 00:24	EPA 3050B	1,6010D	EW
Chromium, Total	19.0		mg/kg	0.454	0.044	1	03/20/22 10:50	03/30/22 00:24	EPA 3050B	1,6010D	EW
Lead, Total	110		mg/kg	2.27	0.122	1	03/20/22 10:50	03/30/22 00:24	EPA 3050B	1,6010D	EW
Nickel, Total	36.2		mg/kg	1.13	0.110	1	03/20/22 10:50	03/30/22 00:24	EPA 3050B	1,6010D	EW
Vanadium, Total	19.6		mg/kg	0.454	0.092	1	03/20/22 10:50	03/30/22 00:24	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-13 Date Collected: 03/16/22 11:10

Client ID: SB38 Date Received: 03/16/22

Sample Location: PHILADELPHIA, PA 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											
Antimony, Total	ND		mg/kg	2.19	0.166	1	03/20/22 10:50	03/30/22 00:29	EPA 3050B	1,6010D	EW
Arsenic, Total	4.69		mg/kg	0.438	0.091	1	03/20/22 10:50	03/30/22 00:29	EPA 3050B	1,6010D	EW
Chromium, Total	12.8		mg/kg	0.438	0.042	1	03/20/22 10:50	03/30/22 00:29	EPA 3050B	1,6010D	EW
Lead, Total	67.2		mg/kg	2.19	0.117	1	03/20/22 10:50	03/30/22 00:29	EPA 3050B	1,6010D	EW
Nickel, Total	41.0		mg/kg	1.09	0.106	1	03/20/22 10:50	03/30/22 00:29	EPA 3050B	1,6010D	EW
Vanadium, Total	22.2		mg/kg	0.438	0.089	1	03/20/22 10:50	03/30/22 00:29	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

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): 01-13 Batch: WG1617270-1										
Antimony, Total	ND		mg/kg	2.00	0.152	1	03/20/22 10:50	03/29/22 22:32	1,6010D	EW
Arsenic, Total	ND		mg/kg	0.400	0.083	1	03/20/22 10:50	03/29/22 22:32	1,6010D	EW
Chromium, Total	ND		mg/kg	0.400	0.038	1	03/20/22 10:50	03/29/22 22:32	1,6010D	EW
Lead, Total	ND		mg/kg	2.00	0.107	1	03/20/22 10:50	03/29/22 22:32	1,6010D	EW
Nickel, Total	ND		mg/kg	1.00	0.097	1	03/20/22 10:50	03/29/22 22:32	1,6010D	EW
Vanadium, Total	ND		mg/kg	0.400	0.081	1	03/20/22 10:50	03/29/22 22:32	1,6010D	EW

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2213774

Report Date: 03/30/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-13 Batch: WG1617270-2 SRM Lot Number: D113-540								
Antimony, Total	118		-		20-250	-		
Arsenic, Total	89		-		70-130	-		
Chromium, Total	82		-		70-130	-		
Lead, Total	83		-		72-128	-		
Nickel, Total	83		-		70-130	-		
Vanadium, Total	82		-		74-126	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

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): 01-13 QC Batch ID: WG1617270-3 QC Sample: L2213774-01 Client ID: SB01												
Antimony, Total	ND	43.9	17.6	**40**	Q	-	-		75-125	-		20
Arsenic, Total	3.87	10.5	11.9	76		-	-		75-125	-		20
Chromium, Total	13.2	17.6	28.3	86		-	-		75-125	-		20
Lead, Total	7.10	46.5	39.7	**70**	Q	-	-		75-125	-		20
Nickel, Total	8.69	43.9	40.7	**73**	Q	-	-		75-125	-		20
Vanadium, Total	21.8	43.9	56.7	80		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2213774

Report Date: 03/30/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-13 QC Batch ID: WG1617270-4 QC Sample: L2213774-01 Client ID: SB01						
Antimony, Total	ND	ND	mg/kg	NC		20
Arsenic, Total	3.87	3.80	mg/kg	2		20
Chromium, Total	13.2	14.1	mg/kg	7		20
Lead, Total	7.10	6.51	mg/kg	9		20
Nickel, Total	8.69	9.50	mg/kg	9		20
Vanadium, Total	21.8	22.2	mg/kg	2		20

INORGANICS
&
MISCELLANEOUS

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-01
Client ID: SB01
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 09:40
Date Received: 03/16/22
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	-	03/17/22 11:19	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	03/28/22 14:05	03/29/22 08:53	1,9010C/9012B	CS
Chromium, Hexavalent	0.371	J	mg/kg	0.928	0.186	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-02
Client ID: SB04
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 13:45
Date Received: 03/16/22
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	-	03/17/22 11:19	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	03/28/22 14:05	03/29/22 09:06	1,9010C/9012B	CS
Chromium, Hexavalent	0.503	J	mg/kg	0.936	0.187	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-03
Client ID: SB05
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 10:05
Date Received: 03/16/22
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	-	03/17/22 11:19	121,2540G	RI
Cyanide, Total	0.33	J	mg/kg	1.1	0.23	1	03/28/22 14:05	03/29/22 09:07	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.903	0.180	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-04
Client ID: SB09
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 10:25
Date Received: 03/16/22
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	80.8		%	0.100	NA	1	-	03/17/22 11:19	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.2	0.26	1	03/28/22 14:05	03/29/22 09:08	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.990	0.198	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-05
Client ID: SB10
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 10:40
Date Received: 03/16/22
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	89.9		%	0.100	NA	1	-	03/17/22 11:19	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	03/28/22 14:05	03/29/22 09:09	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.890	0.178	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-06
Client ID: SB13
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 12:50
Date Received: 03/16/22
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	86.4		%	0.100	NA	1	-	03/17/22 11:19	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.0	0.22	1	03/28/22 14:05	03/29/22 09:10	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.926	0.185	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-07
Client ID: SB14
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 13:10
Date Received: 03/16/22
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	90.5		%	0.100	NA	1	-	03/17/22 11:19	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.0	0.21	1	03/28/22 14:05	03/29/22 09:11	1,9010C/9012B	CS
Chromium, Hexavalent	0.409	J	mg/kg	0.884	0.177	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-08
Client ID: SB15
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 13:25
Date Received: 03/16/22
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	-	03/17/22 11:19	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	03/28/22 14:05	03/29/22 09:12	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.920	0.184	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-09
Client ID: SB23
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 12:35
Date Received: 03/16/22
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	-	03/17/22 11:19	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	03/28/22 14:05	03/29/22 09:13	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.920	0.184	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-10
Client ID: SB26
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 12:15
Date Received: 03/16/22
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	89.8		%	0.100	NA	1	-	03/17/22 11:19	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.0	0.22	1	03/28/22 14:05	03/29/22 09:16	1,9010C/9012B	CS
Chromium, Hexavalent	0.479	J	mg/kg	0.891	0.178	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-11
Client ID: SB28
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 11:55
Date Received: 03/16/22
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	85.8		%	0.100	NA	1	-	03/17/22 11:19	121,2540G	RI
Cyanide, Total	1.2		mg/kg	1.1	0.24	1	03/28/22 14:05	03/29/22 09:40	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.932	0.186	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-12
Client ID: SB35
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 10:50
Date Received: 03/16/22
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	85.6		%	0.100	NA	1	-	03/17/22 11:19	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	03/28/22 14:05	03/29/22 09:41	1,9010C/9012B	CS
Chromium, Hexavalent	0.444	J	mg/kg	0.934	0.187	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

SAMPLE RESULTS

Lab ID: L2213774-13
Client ID: SB38
Sample Location: PHILADELPHIA, PA

Date Collected: 03/16/22 11:10
Date Received: 03/16/22
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	89.0		%	0.100	NA	1	-	03/17/22 11:19	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	03/28/22 14:05	03/29/22 09:42	1,9010C/9012B	CS
Chromium, Hexavalent	0.652	J	mg/kg	0.899	0.180	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2213774

Project Number: 200.00135.007 **Report Date:** 03/30/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-08 Batch: WG1618860-1										
Chromium, Hexavalent	ND		mg/kg	0.800	0.160	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL
General Chemistry - Westborough Lab for sample(s): 09-13 Batch: WG1618866-1										
Chromium, Hexavalent	ND		mg/kg	0.800	0.160	1	03/23/22 15:30	03/24/22 16:32	1,7196A	NL
General Chemistry - Westborough Lab for sample(s): 01-10 Batch: WG1620499-1										
Cyanide, Total	ND		mg/kg	0.89	0.19	1	03/28/22 14:05	03/29/22 08:34	1,9010C/9012B	CS
General Chemistry - Westborough Lab for sample(s): 11-13 Batch: WG1620500-1										
Cyanide, Total	ND		mg/kg	0.95	0.20	1	03/28/22 14:05	03/29/22 09:17	1,9010C/9012B	CS

Lab Control Sample Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2213774

Report Date: 03/30/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08 Batch: WG1618860-2								
Chromium, Hexavalent	92		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 09-13 Batch: WG1618866-2								
Chromium, Hexavalent	92		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-10 Batch: WG1620499-2 WG1620499-3								
Cyanide, Total	84		100		80-120	17		35
General Chemistry - Westborough Lab Associated sample(s): 11-13 Batch: WG1620500-2 WG1620500-3								
Cyanide, Total	**72**	Q	96		80-120	15		35

Matrix Spike Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2213774
Report Date: 03/30/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1618860-4 QC Sample: L2213774-07 Client ID: SB14												
Chromium, Hexavalent	0.409J	909	992	109		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 09-13 QC Batch ID: WG1618866-4 QC Sample: L2213774-09 Client ID: SB23												
Chromium, Hexavalent	ND	931	724	78		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG1620499-4 WG1620499-5 QC Sample: L2213774-01 Client ID: SB01												
Cyanide, Total	ND	11	11	99		11	98		75-125	0		35
General Chemistry - Westborough Lab Associated sample(s): 11-13 QC Batch ID: WG1620500-4 WG1620500-5 QC Sample: L2213695-03 Client ID: MS Sample												
Cyanide, Total	ND	12	12	100		13	110		75-125	8		35

Lab Duplicate Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2213774

Report Date: 03/30/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-13 QC Batch ID: WG1616747-1 QC Sample: L2213774-01 Client ID: SB01						
Solids, Total	86.2	87.5	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1618860-6 QC Sample: L2213774-07 Client ID: SB14						
Chromium, Hexavalent	0.409J	ND	mg/kg	NC		20
General Chemistry - Westborough Lab Associated sample(s): 09-13 QC Batch ID: WG1618866-6 QC Sample: L2213774-09 Client ID: SB23						
Chromium, Hexavalent	ND	0.310J	mg/kg	NC		20

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

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(*)
L2213774-01A	Vial MeOH preserved	A	NA		2.5	Y	Absent		PA-8260HLW(14)
L2213774-01B	Vial water preserved	A	NA		2.5	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-01C	Vial water preserved	A	NA		2.5	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-01D	Plastic 2oz unpreserved for TS	A	NA		2.5	Y	Absent		TS(7)
L2213774-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.5	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2213774-01F	Glass 120ml/4oz unpreserved	A	NA		2.5	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2213774-02A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2213774-02B	Vial water preserved	C	NA		2.6	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-02C	Vial water preserved	C	NA		2.6	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-02D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2213774-02E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2213774-02F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2213774-03A	Vial MeOH preserved	A	NA		2.5	Y	Absent		PA-8260HLW(14)
L2213774-03B	Vial water preserved	A	NA		2.5	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-03C	Vial water preserved	A	NA		2.5	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-03D	Plastic 2oz unpreserved for TS	A	NA		2.5	Y	Absent		TS(7)
L2213774-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.5	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2213774-03F	Glass 120ml/4oz unpreserved	A	NA		2.5	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2213774-04A	Vial MeOH preserved	B	NA		2.8	Y	Absent		PA-8260HLW(14)
L2213774-04B	Vial water preserved	B	NA		2.8	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2213774-04C	Vial water preserved	B	NA		2.8	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-04D	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		TS(7)
L2213774-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2213774-04F	Glass 120ml/4oz unpreserved	B	NA		2.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2213774-05A	Vial MeOH preserved	A	NA		2.5	Y	Absent		PA-8260HLW(14)
L2213774-05B	Vial water preserved	A	NA		2.5	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-05C	Vial water preserved	A	NA		2.5	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-05D	Plastic 2oz unpreserved for TS	A	NA		2.5	Y	Absent		TS(7)
L2213774-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.5	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2213774-05F	Glass 120ml/4oz unpreserved	A	NA		2.5	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2213774-06A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2213774-06B	Vial water preserved	C	NA		2.6	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-06C	Vial water preserved	C	NA		2.6	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-06D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2213774-06E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2213774-06F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2213774-07A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2213774-07B	Vial water preserved	C	NA		2.6	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-07C	Vial water preserved	C	NA		2.6	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-07D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2213774-07E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2213774-07F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2213774-08A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2213774-08B	Vial water preserved	C	NA		2.6	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-08C	Vial water preserved	C	NA		2.6	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-08D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2213774-08E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2213774-08F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2213774-09A	Vial MeOH preserved	B	NA		2.8	Y	Absent		PA-8260HLW(14)
L2213774-09B	Vial water preserved	B	NA		2.8	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-09C	Vial water preserved	B	NA		2.8	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-09D	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		TS(7)
L2213774-09E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2213774-09F	Glass 120ml/4oz unpreserved	B	NA		2.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2213774-10A	Vial MeOH preserved	B	NA		2.8	Y	Absent		PA-8260HLW(14)
L2213774-10B	Vial water preserved	B	NA		2.8	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-10C	Vial water preserved	B	NA		2.8	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-10D	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		TS(7)
L2213774-10E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2213774-10F	Glass 120ml/4oz unpreserved	B	NA		2.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2213774-11A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2213774-11B	Vial water preserved	C	NA		2.6	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-11C	Vial water preserved	C	NA		2.6	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-11D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2213774-11E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2213774-11F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2213774-12A	Vial MeOH preserved	A	NA		2.5	Y	Absent		PA-8260HLW(14)
L2213774-12B	Vial water preserved	A	NA		2.5	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-12C	Vial water preserved	A	NA		2.5	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-12D	Plastic 2oz unpreserved for TS	A	NA		2.5	Y	Absent		TS(7)
L2213774-12E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.5	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2213774-12F	Glass 120ml/4oz unpreserved	A	NA		2.5	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2213774-13A	Vial MeOH preserved	B	NA		2.8	Y	Absent		PA-8260HLW(14)
L2213774-13B	Vial water preserved	B	NA		2.8	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2213774
Report Date: 03/30/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2213774-13C	Vial water preserved	B	NA		2.8	Y	Absent	17-MAR-22 10:58	PA-8260HLW(14)
L2213774-13D	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		TS(7)
L2213774-13E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2213774-13F	Glass 120ml/4oz unpreserved	B	NA		2.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2213774-14A	Vial Na2S2O3 preserved	B	NA		2.8	Y	Absent		8011(14)
L2213774-14B	Vial Na2S2O3 preserved	B	NA		2.8	Y	Absent		PA-8260(7)

*Values in parentheses indicate holding time in days

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2213774
Project Number:	200.00135.007	**Report Date:**	03/30/22

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2213774
Project Number:	200.00135.007	**Report Date:**	03/30/22

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2213774
Project Number:	200.00135.007	**Report Date:**	03/30/22

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2213774
Project Number:	200.00135.007	**Report Date:**	03/30/22

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, SM4500Cl-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, **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), **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

PAGE 1 OF 2

Date Rec'd in Lab: 3/17/22

ALPHA Job #: L2213774

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609.584.0090
Fax: 609.584.1190
Email: william.schmidt@ransomenv.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 17833

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 #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs *	SVOCs *	Metals *	Sample Specific Comments	TOTAL # BOTTLES
13774-01	SB01	3.16.22	9:40	S	TR	✓	✓	✓		
-02	SB04		13:45		TR	✓	✓	✓		
-03	SB05		10:05		TR	✓	✓	✓		
-04	SB09		10:25		TR	✓	✓	✓		
-05	SB10		10:40		TR	✓	✓	✓		
-06	SB13		12:50		TR	✓	✓	✓		
-07	SB14		13:10		TR	✓	✓	✓		
-08	SB15		13:25		TR	✓	✓	✓		
-09	SB23		12:35		TR	✓	✓	✓		
-10	SB26		12:15		TR	✓	✓	✓		

* See Table 1 (previously provided) for specific compounds

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
[signature]	3/16 1522	STM AAL	3/16/22 15:22
ST	3/16/22 1730	[signature]	3-16 1730
[signature]	3/16 2030	[signature] AAL	3/16/22 21:00

[signature] 3/17/22

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 3/17/22

ALPHA Job #: L2213774

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609.584.0090
Fax: 609.584.1190
Email: william.schmidt@ransomenv.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135-006
Project Manager: William Schmidt
ALPHA Quote #: 17833

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 #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs *	SVOCs *	Metals *	Sample Specific Comments	TOTAL # BOTTLES
13774-11	SB28	3.16.22	11:55	S	TR	✓	✓	✓		
-12	SB35	3.16.22	10:50	S	TR	✓	✓	✓		
-13	SB38	3.16.22	11:10	S	TR	✓	✓	✓		
-14	Trip blank	3.14.22	8:33	TB		✓				

* See Table 1 for specific compounds

Container Type
Preservative

Reid 3/17/22 0330

3/17/22 0330

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	3/16 1522	STL AAL	3/16/22 15:22
ST	3/16/22 1780	[signature]	3/16 1780
[signature]	3/16 2030	[signature] AAL	3/16/22 21:00

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.

FORM NO. 01-01 (rev. 14-OCT-07)

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-195872-1
Client Project/Site: L2213774

For:
Alpha Analytical Inc
8 Walkup Drive
Westboro, Massachusetts 01581

Attn: Ms. Nadine Yakes

Authorized for release by:
3/28/2022 5:08:19 PM

Steve Hartmann, Project Manager
(413)572-4000
Steve.Hartmann@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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.

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Definitions/Glossary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Qualifiers

GC/MS Semi 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.
S1-	Surrogate recovery exceeds control limits, low biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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
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

Case Narrative

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Job ID: 480-195872-1

Laboratory: Eurofins Buffalo

Narrative

Job Narrative
480-195872-1

Comments
No additional comments.

Receipt
The samples were received on 3/17/2022 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.9º C.

GC/MS Semi VOA
Method 8270D: The following samples were diluted due to color, appearance, and viscosity: SB01 (480-195872-1), SB05 (480-195872-3), SB13 (480-195872-6), SB26 (480-195872-10), SB28 (480-195872-11), SB35 (480-195872-12) and SB38 (480-195872-13). Elevated reporting limits (RL) are provided.

Method 8270D: The following samples were diluted due to the nature of the sample matrix: SB26 (480-195872-10) and SB28 (480-195872-11). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Method 8270D: The following sample was diluted due to color, appearance, and viscosity: SB15 (480-195872-8). Elevated reporting limits (RL) are provided.

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

Organic Prep
Method 3550C: Due to the matrix, the following sample could not be concentrated to the final method required volume: SB28 (480-195872-11). The reporting limits (RLs) are elevated proportionately.

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

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB01 — Lab Sample ID: 480-195872-1

No Detections.

Client Sample ID: SB04 — Lab Sample ID: 480-195872-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	65	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Anthracene	180	J	190	48	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	460		190	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	360		190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	460		190	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	210		190	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	180	J	190	25	ug/Kg	1	☼	8270D	Total/NA
Chrysene	440		190	43	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	100	J	190	34	ug/Kg	1	☼	8270D	Total/NA
Fluorene	73	J	190	23	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	250		190	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	710		190	28	ug/Kg	1	☼	8270D	Total/NA
Pyrene	690		190	23	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: SB05 — Lab Sample ID: 480-195872-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	590	J	1900	280	ug/Kg	10	☼	8270D	Total/NA
Anthracene	1500	J	1900	470	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]anthracene	3600		1900	190	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	3000		1900	280	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	3900		1900	300	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	2000		1900	200	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	1600	J	1900	250	ug/Kg	10	☼	8270D	Total/NA
Chrysene	3300		1900	420	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	690	J	1900	330	ug/Kg	10	☼	8270D	Total/NA
Fluorene	510	J	1900	220	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	2300		1900	230	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	4500		1900	280	ug/Kg	10	☼	8270D	Total/NA
Pyrene	5100		1900	220	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: SB09 — Lab Sample ID: 480-195872-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	130	J	190	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	130	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	190		190	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	81	J	190	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	71	J	190	25	ug/Kg	1	☼	8270D	Total/NA
Chrysene	140	J	190	43	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	100	J	190	24	ug/Kg	1	☼	8270D	Total/NA
Naphthalene	29	J	190	25	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	100	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Pyrene	180	J	190	23	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: SB10 — Lab Sample ID: 480-195872-5

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB13 — Lab Sample ID: 480-195872-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	240	J	920	92	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	280	J	920	130	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	340	J	920	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	250	J	920	97	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	130	J	920	120	ug/Kg	5	☼	8270D	Total/NA
7,12-Dimethylbenz(a)anthracene	390	J	1800	260	ug/Kg	5	☼	8270D	Total/NA
Chrysene	390	J	920	210	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	220	J	920	110	ug/Kg	5	☼	8270D	Total/NA
Pyrene	310	J	920	110	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB14 — Lab Sample ID: 480-195872-7

No Detections.

Client Sample ID: SB15 — Lab Sample ID: 480-195872-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	270	J	1000	250	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	1600		1000	100	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	1500		1000	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	2000		1000	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	920	J	1000	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	870	J	1000	130	ug/Kg	5	☼	8270D	Total/NA
Chrysene	1500		1000	220	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	310	J	1000	180	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1200		1000	120	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	870	J	1000	150	ug/Kg	5	☼	8270D	Total/NA
Pyrene	2300		1000	120	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB23 — Lab Sample ID: 480-195872-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	35	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Anthracene	130	J	190	48	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	780		190	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	710		190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	1100		190	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	440		190	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	440		190	25	ug/Kg	1	☼	8270D	Total/NA
Chrysene	820		190	43	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	150	J	190	34	ug/Kg	1	☼	8270D	Total/NA
Fluorene	43	J	190	23	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	630		190	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	640		190	28	ug/Kg	1	☼	8270D	Total/NA
Pyrene	1100		190	23	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: SB26 — Lab Sample ID: 480-195872-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	950	J	3700	920	ug/Kg	20	☼	8270D	Total/NA
Benzo[a]anthracene	4500		3700	370	ug/Kg	20	☼	8270D	Total/NA
Benzo[a]pyrene	4200		3700	550	ug/Kg	20	☼	8270D	Total/NA
Benzo[b]fluoranthene	5800		3700	590	ug/Kg	20	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB26 (Continued) — Lab Sample ID: 480-195872-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[g,h,i]perylene	2400	J	3700	390	ug/Kg	20	☼	8270D	Total/NA
Benzo[k]fluoranthene	2200	J	3700	480	ug/Kg	20	☼	8270D	Total/NA
Chrysene	4000		3700	830	ug/Kg	20	☼	8270D	Total/NA
Dibenz(a,h)anthracene	750	J	3700	660	ug/Kg	20	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	3100	J	3700	460	ug/Kg	20	☼	8270D	Total/NA
Phenanthrene	3800		3700	550	ug/Kg	20	☼	8270D	Total/NA
Pyrene	7200		3700	440	ug/Kg	20	☼	8270D	Total/NA

Client Sample ID: SB28 — Lab Sample ID: 480-195872-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	17000	J	19000	2800	ug/Kg	10	☼	8270D	Total/NA
Anthracene	32000		19000	4700	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]anthracene	93000		19000	1900	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	78000		19000	2800	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	100000		19000	3000	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	38000		19000	2000	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	44000		19000	2500	ug/Kg	10	☼	8270D	Total/NA
Chrysene	85000		19000	4300	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	11000	J	19000	3400	ug/Kg	10	☼	8270D	Total/NA
Fluorene	16000	J	19000	2200	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	53000		19000	2300	ug/Kg	10	☼	8270D	Total/NA
Naphthalene	4400	J	19000	2500	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	100000		19000	2800	ug/Kg	10	☼	8270D	Total/NA
Pyrene	150000		19000	2200	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: SB35 — Lab Sample ID: 480-195872-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	1900		970	97	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	2000		970	140	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	2800		970	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	1100		970	100	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	1000		970	120	ug/Kg	5	☼	8270D	Total/NA
Chrysene	2000		970	220	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	330	J	970	170	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1500		970	120	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	1000		970	140	ug/Kg	5	☼	8270D	Total/NA
Pyrene	2300		970	110	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB38 — Lab Sample ID: 480-195872-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	370	J	960	240	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	1900		960	96	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	1900		960	140	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	2600		960	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	950	J	960	100	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	1000		960	120	ug/Kg	5	☼	8270D	Total/NA
Chrysene	2000		960	210	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	360	J	960	170	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1200		960	120	ug/Kg	5	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB38 (Continued)

Lab Sample ID: 480-195872-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenanthrene	1600		960	140	ug/Kg	5	☼	8270D	Total/NA
Pyrene	2700		960	110	ug/Kg	5	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB01

Lab Sample ID: 480-195872-1

Date Collected: 03/16/22 09:40
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 86.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		980	140	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Anthracene	ND		980	240	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Benzo[a]anthracene	ND		980	98	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Benzo[a]pyrene	ND		980	140	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Benzo[b]fluoranthene	ND		980	160	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Benzo[g,h,i]perylene	ND		980	100	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Benzo[k]fluoranthene	ND		980	130	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Bis(2-ethylhexyl) phthalate	ND		980	330	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
2,4-Dimethylphenol	ND		980	240	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
7,12-Dimethylbenz(a)anthracene	ND		1900	280	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Chrysene	ND		980	220	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Dibenz(a,h)anthracene	ND		980	170	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Di-n-butyl phthalate	ND		980	170	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Fluorene	ND		980	120	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Indeno[1,2,3-cd]pyrene	ND		980	120	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Naphthalene	ND		980	130	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
2-Methylphenol	ND		980	120	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
3-Methylphenol	ND		1900	150	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
3-Methylcholanthrene	ND		1900	320	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
4-Methylphenol	ND		1900	120	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Phenanthrene	ND		980	140	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Phenol	ND		980	150	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Pyrene	ND		980	120	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5
Total Cresols	ND		1900	120	ug/Kg	☼	03/18/22 09:32	03/21/22 15:07	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*74*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:07*	*5*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*03/18/22 09:32*	*03/21/22 15:07*	*5*
2-Fluorophenol (Surr)	*77*		*52 - 120*	*03/18/22 09:32*	*03/21/22 15:07*	*5*
Phenol-d5 (Surr)	*80*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:07*	*5*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*03/18/22 09:32*	*03/21/22 15:07*	*5*
p-Terphenyl-d14 (Surr)	*88*		*79 - 130*	*03/18/22 09:32*	*03/21/22 15:07*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.7**		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	**86.3**		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB04

Lab Sample ID: 480-195872-2

Date Collected: 03/16/22 13:45
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 86.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**65**	**J**	190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Anthracene	**180**	**J**	190	48	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Benzo[a]anthracene	**460**		190	19	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Benzo[a]pyrene	**360**		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Benzo[b]fluoranthene	**460**		190	31	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Benzo[g,h,i]perylene	**210**		190	20	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB04

Lab Sample ID: 480-195872-2
Date Collected: 03/16/22 13:45
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 86.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	180	J	190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
7,12-Dimethylbenz(a)anthracene	ND		370	56	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Chrysene	440		190	43	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Dibenz(a,h)anthracene	100	J	190	34	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Fluorene	73	J	190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Indeno[1,2,3-cd]pyrene	250		190	24	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Naphthalene	ND		190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
3-Methylphenol	ND		370	30	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Phenanthrene	710		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Phenol	ND		190	30	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Pyrene	690		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1
Total Cresols	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:24*	*1*
2-Fluorobiphenyl (Surr)	*86*		*60 - 120*	*03/18/22 09:32*	*03/21/22 15:24*	*1*
2-Fluorophenol (Surr)	*79*		*52 - 120*	*03/18/22 09:32*	*03/21/22 15:24*	*1*
Phenol-d5 (Surr)	*79*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:24*	*1*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*	*03/18/22 09:32*	*03/21/22 15:24*	*1*
p-Terphenyl-d14 (Surr)	*96*		*79 - 130*	*03/18/22 09:32*	*03/21/22 15:24*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13.8		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	86.2		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB05

Lab Sample ID: 480-195872-3
Date Collected: 03/16/22 10:05
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 88.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	590	J	1900	280	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Anthracene	1500	J	1900	470	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Benzo[a]anthracene	3600		1900	190	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Benzo[a]pyrene	3000		1900	280	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Benzo[b]fluoranthene	3900		1900	300	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Benzo[g,h,i]perylene	2000		1900	200	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Benzo[k]fluoranthene	1600	J	1900	250	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Bis(2-ethylhexyl) phthalate	ND		1900	650	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
2,4-Dimethylphenol	ND		1900	460	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
7,12-Dimethylbenz(a)anthracene	ND		3700	550	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Chrysene	3300		1900	420	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Dibenz(a,h)anthracene	690	J	1900	330	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB05

Lab Sample ID: 480-195872-3
Date Collected: 03/16/22 10:05
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 88.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		1900	320	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Fluorene	**510**	**J**	1900	220	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Indeno[1,2,3-cd]pyrene	**2300**		1900	230	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Naphthalene	ND		1900	250	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
2-Methylphenol	ND		1900	220	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
3-Methylphenol	ND		3700	290	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
3-Methylcholanthrene	ND		3700	610	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
4-Methylphenol	ND		3700	220	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Phenanthrene	**4500**		1900	280	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Phenol	ND		1900	290	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Pyrene	**5100**		1900	220	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10
Total Cresols	ND		3700	220	ug/Kg	☼	03/18/22 09:32	03/21/22 15:41	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:41*	*10*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*03/18/22 09:32*	*03/21/22 15:41*	*10*
2-Fluorophenol (Surr)	*69*		*52 - 120*	*03/18/22 09:32*	*03/21/22 15:41*	*10*
Phenol-d5 (Surr)	*70*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:41*	*10*
Nitrobenzene-d5 (Surr)	*68*		*53 - 120*	*03/18/22 09:32*	*03/21/22 15:41*	*10*
p-Terphenyl-d14 (Surr)	*87*		*79 - 130*	*03/18/22 09:32*	*03/21/22 15:41*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**11.8**		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	**88.2**		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB09

Lab Sample ID: 480-195872-4
Date Collected: 03/16/22 10:25
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 86.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Anthracene	ND		190	48	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Benzo[a]anthracene	**130**	**J**	190	19	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Benzo[a]pyrene	**130**	**J**	190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Benzo[b]fluoranthene	**190**		190	31	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Benzo[g,h,i]perylene	**81**	**J**	190	20	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Benzo[k]fluoranthene	**71**	**J**	190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Chrysene	**140**	**J**	190	43	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Fluorene	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Indeno[1,2,3-cd]pyrene	**100**	**J**	190	24	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Naphthalene	**29**	**J**	190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
3-Methylphenol	ND		370	29	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB09

Lab Sample ID: 480-195872-4

Date Collected: 03/16/22 10:25
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 86.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Phenanthrene	**100**	**J**	190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Phenol	ND		190	29	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Pyrene	**180**	**J**	190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1
Total Cresols	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 15:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*81*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:58*	*1*
2-Fluorobiphenyl (Surr)	*83*		*60 - 120*	*03/18/22 09:32*	*03/21/22 15:58*	*1*
2-Fluorophenol (Surr)	*81*		*52 - 120*	*03/18/22 09:32*	*03/21/22 15:58*	*1*
Phenol-d5 (Surr)	*80*		*54 - 120*	*03/18/22 09:32*	*03/21/22 15:58*	*1*
Nitrobenzene-d5 (Surr)	*80*		*53 - 120*	*03/18/22 09:32*	*03/21/22 15:58*	*1*
p-Terphenyl-d14 (Surr)	*98*		*79 - 130*	*03/18/22 09:32*	*03/21/22 15:58*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.8**		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	**86.2**		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB10

Lab Sample ID: 480-195872-5

Date Collected: 03/16/22 10:40
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 87.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Anthracene	ND		190	48	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
7,12-Dimethylbenz(a)anthracene	ND		370	56	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Chrysene	ND		190	43	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Fluorene	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Naphthalene	ND		190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
3-Methylphenol	ND		370	29	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Phenanthrene	ND		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Phenol	ND		190	29	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Pyrene	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1
Total Cresols	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 13:25	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB10

Lab Sample ID: 480-195872-5
Date Collected: 03/16/22 10:40
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 87.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	71		54 - 120	03/18/22 09:32	03/21/22 13:25	1
2-Fluorobiphenyl (Surr)	83		60 - 120	03/18/22 09:32	03/21/22 13:25	1
2-Fluorophenol (Surr)	81		52 - 120	03/18/22 09:32	03/21/22 13:25	1
Phenol-d5 (Surr)	81		54 - 120	03/18/22 09:32	03/21/22 13:25	1
Nitrobenzene-d5 (Surr)	81		53 - 120	03/18/22 09:32	03/21/22 13:25	1
p-Terphenyl-d14 (Surr)	95		79 - 130	03/18/22 09:32	03/21/22 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12.4		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	87.6		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB13

Lab Sample ID: 480-195872-6
Date Collected: 03/16/22 12:50
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 90.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		920	130	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Anthracene	ND		920	230	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Benzo[a]anthracene	240	J	920	92	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Benzo[a]pyrene	280	J	920	130	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Benzo[b]fluoranthene	340	J	920	150	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Benzo[g,h,i]perylene	250	J	920	97	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Benzo[k]fluoranthene	130	J	920	120	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Bis(2-ethylhexyl) phthalate	ND		920	310	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
2,4-Dimethylphenol	ND		920	220	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
7,12-Dimethylbenz(a)anthracene	390	J	1800	260	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Chrysene	390	J	920	210	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Dibenz(a,h)anthracene	ND		920	160	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Di-n-butyl phthalate	ND		920	160	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Fluorene	ND		920	110	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Indeno[1,2,3-cd]pyrene	220	J	920	110	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Naphthalene	ND		920	120	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
2-Methylphenol	ND		920	110	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
3-Methylphenol	ND		1800	140	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
3-Methylcholanthrene	ND		1800	300	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
4-Methylphenol	ND		1800	110	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Phenanthrene	ND		920	130	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Phenol	ND		920	140	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Pyrene	310	J	920	110	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5
Total Cresols	ND		1800	110	ug/Kg	☼	03/18/22 09:32	03/21/22 16:15	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	83		54 - 120	03/18/22 09:32	03/21/22 16:15	5
2-Fluorobiphenyl (Surr)	85		60 - 120	03/18/22 09:32	03/21/22 16:15	5
2-Fluorophenol (Surr)	79		52 - 120	03/18/22 09:32	03/21/22 16:15	5
Phenol-d5 (Surr)	78		54 - 120	03/18/22 09:32	03/21/22 16:15	5
Nitrobenzene-d5 (Surr)	79		53 - 120	03/18/22 09:32	03/21/22 16:15	5
p-Terphenyl-d14 (Surr)	91		79 - 130	03/18/22 09:32	03/21/22 16:15	5

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB13

Lab Sample ID: 480-195872-6
Date Collected: 03/16/22 12:50
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 90.6

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.4		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	90.6		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB14

Lab Sample ID: 480-195872-7
Date Collected: 03/16/22 13:10
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 85.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	29	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Anthracene	ND		190	48	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Benzo[a]pyrene	ND		190	29	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Benzo[g,h,i]perylene	ND		190	21	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Bis(2-ethylhexyl) phthalate	ND		190	67	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Chrysene	ND		190	44	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Fluorene	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Naphthalene	ND		190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Phenanthrene	ND		190	29	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Phenol	ND		190	30	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Pyrene	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1
Total Cresols	ND		380	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*54 - 120*	*03/18/22 09:32*	*03/21/22 16:32*	*1*
2-Fluorobiphenyl (Surr)	*85*		*60 - 120*	*03/18/22 09:32*	*03/21/22 16:32*	*1*
2-Fluorophenol (Surr)	*87*		*52 - 120*	*03/18/22 09:32*	*03/21/22 16:32*	*1*
Phenol-d5 (Surr)	*84*		*54 - 120*	*03/18/22 09:32*	*03/21/22 16:32*	*1*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*03/18/22 09:32*	*03/21/22 16:32*	*1*
p-Terphenyl-d14 (Surr)	*88*		*79 - 130*	*03/18/22 09:32*	*03/21/22 16:32*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	14.6		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	85.4		0.1	0.1	%			03/17/22 17:12	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB15

Lab Sample ID: 480-195872-8
Date Collected: 03/16/22 13:25
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 83.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	150	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Anthracene	**270**	**J**	1000	250	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Benzo[a]anthracene	**1600**		1000	100	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Benzo[a]pyrene	**1500**		1000	150	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Benzo[b]fluoranthene	**2000**		1000	160	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Benzo[g,h,i]perylene	**920**	**J**	1000	110	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Benzo[k]fluoranthene	**870**	**J**	1000	130	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Bis(2-ethylhexyl) phthalate	ND		1000	340	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
2,4-Dimethylphenol	ND		1000	240	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
7,12-Dimethylbenz(a)anthracene	ND		2000	290	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Chrysene	**1500**		1000	220	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Dibenz(a,h)anthracene	**310**	**J**	1000	180	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Di-n-butyl phthalate	ND		1000	170	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Fluorene	ND		1000	120	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Indeno[1,2,3-cd]pyrene	**1200**		1000	120	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Naphthalene	ND		1000	130	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
2-Methylphenol	ND		1000	120	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
3-Methylphenol	ND		2000	150	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
3-Methylcholanthrene	ND		2000	330	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
4-Methylphenol	ND		2000	120	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Phenanthrene	**870**	**J**	1000	150	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Phenol	ND		1000	150	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Pyrene	**2300**		1000	120	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5
Total Cresols	ND		2000	120	ug/Kg	☼	03/21/22 15:35	03/22/22 13:18	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*		*54 - 120*	*03/21/22 15:35*	*03/22/22 13:18*	*5*
2-Fluorobiphenyl (Surr)	*95*		*60 - 120*	*03/21/22 15:35*	*03/22/22 13:18*	*5*
2-Fluorophenol (Surr)	*88*		*52 - 120*	*03/21/22 15:35*	*03/22/22 13:18*	*5*
Phenol-d5 (Surr)	*88*		*54 - 120*	*03/21/22 15:35*	*03/22/22 13:18*	*5*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*03/21/22 15:35*	*03/22/22 13:18*	*5*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*03/21/22 15:35*	*03/22/22 13:18*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**16.9**		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	**83.1**		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB23

Lab Sample ID: 480-195872-9
Date Collected: 03/16/22 12:35
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 86.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**35**	**J**	190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Anthracene	**130**	**J**	190	48	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Benzo[a]anthracene	**780**		190	19	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Benzo[a]pyrene	**710**		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Benzo[b]fluoranthene	**1100**		190	31	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Benzo[g,h,i]perylene	**440**		190	20	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB23

Lab Sample ID: 480-195872-9
Date Collected: 03/16/22 12:35
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 86.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	440		190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
7,12-Dimethylbenz(a)anthracene	ND		370	56	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Chrysene	820		190	43	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Dibenz(a,h)anthracene	150	J	190	34	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Fluorene	43	J	190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Indeno[1,2,3-cd]pyrene	630		190	24	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Naphthalene	ND		190	25	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
3-Methylphenol	ND		370	30	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Phenanthrene	640		190	28	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Phenol	ND		190	30	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Pyrene	1100		190	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1
Total Cresols	ND		370	23	ug/Kg	☼	03/18/22 09:32	03/21/22 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*86*		*54 - 120*	*03/18/22 09:32*	*03/21/22 16:50*	*1*
2-Fluorobiphenyl (Surr)	*99*		*60 - 120*	*03/18/22 09:32*	*03/21/22 16:50*	*1*
2-Fluorophenol (Surr)	*95*		*52 - 120*	*03/18/22 09:32*	*03/21/22 16:50*	*1*
Phenol-d5 (Surr)	*93*		*54 - 120*	*03/18/22 09:32*	*03/21/22 16:50*	*1*
Nitrobenzene-d5 (Surr)	*94*		*53 - 120*	*03/18/22 09:32*	*03/21/22 16:50*	*1*
p-Terphenyl-d14 (Surr)	*99*		*79 - 130*	*03/18/22 09:32*	*03/21/22 16:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13.2		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	86.8		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB26

Lab Sample ID: 480-195872-10
Date Collected: 03/16/22 12:15
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 91.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		3700	550	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Anthracene	950	J	3700	920	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Benzo[a]anthracene	4500		3700	370	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Benzo[a]pyrene	4200		3700	550	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Benzo[b]fluoranthene	5800		3700	590	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Benzo[g,h,i]perylene	2400	J	3700	390	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Benzo[k]fluoranthene	2200	J	3700	480	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Bis(2-ethylhexyl) phthalate	ND		3700	1300	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
2,4-Dimethylphenol	ND		3700	900	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
7,12-Dimethylbenz(a)anthracene	ND		7200	1100	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Chrysene	4000		3700	830	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Dibenz(a,h)anthracene	750	J	3700	660	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB26

Date Collected: 03/16/22 12:15
Date Received: 03/17/22 10:30

Lab Sample ID: 480-195872-10

Matrix: Solid
Percent Solids: 91.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		3700	630	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Fluorene	ND		3700	440	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Indeno[1,2,3-cd]pyrene	**3100**	**J**	3700	460	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Naphthalene	ND		3700	480	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
2-Methylphenol	ND		3700	440	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
3-Methylphenol	ND		7200	570	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
3-Methylcholanthrene	ND		7200	1200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
4-Methylphenol	ND		7200	440	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Phenanthrene	**3800**		3700	550	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Phenol	ND		3700	570	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Pyrene	**7200**		3700	440	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20
Total Cresols	ND		7200	440	ug/Kg	☼	03/18/22 09:32	03/21/22 17:07	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*0*	*S1-*	*54 - 120*	*03/18/22 09:32*	*03/21/22 17:07*	*20*
2-Fluorobiphenyl (Surr)	*82*		*60 - 120*	*03/18/22 09:32*	*03/21/22 17:07*	*20*
2-Fluorophenol (Surr)	*75*		*52 - 120*	*03/18/22 09:32*	*03/21/22 17:07*	*20*
Phenol-d5 (Surr)	*71*		*54 - 120*	*03/18/22 09:32*	*03/21/22 17:07*	*20*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*03/18/22 09:32*	*03/21/22 17:07*	*20*
p-Terphenyl-d14 (Surr)	*78*	*S1-*	*79 - 130*	*03/18/22 09:32*	*03/21/22 17:07*	*20*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**8.9**		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	**91.1**		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB28

Date Collected: 03/16/22 11:55
Date Received: 03/17/22 10:30

Lab Sample ID: 480-195872-11

Matrix: Solid
Percent Solids: 88.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**17000**	**J**	19000	2800	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Anthracene	**32000**		19000	4700	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Benzo[a]anthracene	**93000**		19000	1900	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Benzo[a]pyrene	**78000**		19000	2800	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Benzo[b]fluoranthene	**100000**		19000	3000	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Benzo[g,h,i]perylene	**38000**		19000	2000	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Benzo[k]fluoranthene	**44000**		19000	2500	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Bis(2-ethylhexyl) phthalate	ND		19000	6500	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
2,4-Dimethylphenol	ND		19000	4600	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
7,12-Dimethylbenz(a)anthracene	ND		37000	5500	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Chrysene	**85000**		19000	4300	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Dibenz(a,h)anthracene	**11000**	**J**	19000	3400	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Di-n-butyl phthalate	ND		19000	3200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Fluorene	**16000**	**J**	19000	2200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Indeno[1,2,3-cd]pyrene	**53000**		19000	2300	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Naphthalene	**4400**	**J**	19000	2500	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
2-Methylphenol	ND		19000	2200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
3-Methylphenol	ND		37000	2900	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB28

Lab Sample ID: 480-195872-11

Date Collected: 03/16/22 11:55
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 88.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Methylcholanthrene	ND		37000	6200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
4-Methylphenol	ND		37000	2200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Phenanthrene	**100000**		19000	2800	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Phenol	ND		19000	2900	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Pyrene	**150000**		19000	2200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10
Total Cresols	ND		37000	2200	ug/Kg	☼	03/18/22 09:32	03/21/22 17:24	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*0*	*S1-*	*54 - 120*	*03/18/22 09:32*	*03/21/22 17:24*	*10*
2-Fluorobiphenyl (Surr)	*75*		*60 - 120*	*03/18/22 09:32*	*03/21/22 17:24*	*10*
2-Fluorophenol (Surr)	*62*		*52 - 120*	*03/18/22 09:32*	*03/21/22 17:24*	*10*
Phenol-d5 (Surr)	*79*		*54 - 120*	*03/18/22 09:32*	*03/21/22 17:24*	*10*
Nitrobenzene-d5 (Surr)	*74*		*53 - 120*	*03/18/22 09:32*	*03/21/22 17:24*	*10*
p-Terphenyl-d14 (Surr)	*94*		*79 - 130*	*03/18/22 09:32*	*03/21/22 17:24*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**11.2**		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	**88.8**		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB35

Lab Sample ID: 480-195872-12

Date Collected: 03/16/22 10:50
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 87.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		970	140	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Anthracene	ND		970	240	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Benzo[a]anthracene	**1900**		970	97	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Benzo[a]pyrene	**2000**		970	140	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Benzo[b]fluoranthene	**2800**		970	150	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Benzo[g,h,i]perylene	**1100**		970	100	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Benzo[k]fluoranthene	**1000**		970	120	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Bis(2-ethylhexyl) phthalate	ND		970	330	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
2,4-Dimethylphenol	ND		970	230	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
7,12-Dimethylbenz(a)anthracene	ND		1900	280	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Chrysene	**2000**		970	220	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Dibenz(a,h)anthracene	**330**	**J**	970	170	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Di-n-butyl phthalate	ND		970	160	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Fluorene	ND		970	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Indeno[1,2,3-cd]pyrene	**1500**		970	120	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Naphthalene	ND		970	120	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
2-Methylphenol	ND		970	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
3-Methylphenol	ND		1900	150	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
3-Methylcholanthrene	ND		1900	310	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
4-Methylphenol	ND		1900	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Phenanthrene	**1000**		970	140	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Phenol	ND		970	150	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Pyrene	**2300**		970	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5
Total Cresols	ND		1900	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:41	5

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB35

Lab Sample ID: 480-195872-12

Date Collected: 03/16/22 10:50
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 87.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	88		54 - 120	03/18/22 09:41	03/21/22 17:41	5
2-Fluorobiphenyl (Surr)	91		60 - 120	03/18/22 09:41	03/21/22 17:41	5
2-Fluorophenol (Surr)	87		52 - 120	03/18/22 09:41	03/21/22 17:41	5
Phenol-d5 (Surr)	84		54 - 120	03/18/22 09:41	03/21/22 17:41	5
Nitrobenzene-d5 (Surr)	85		53 - 120	03/18/22 09:41	03/21/22 17:41	5
p-Terphenyl-d14 (Surr)	101		79 - 130	03/18/22 09:41	03/21/22 17:41	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12.4		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	87.6		0.1	0.1	%			03/17/22 17:12	1

Client Sample ID: SB38

Lab Sample ID: 480-195872-13

Date Collected: 03/16/22 11:10
Date Received: 03/17/22 10:30

Matrix: Solid
Percent Solids: 88.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		960	140	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Anthracene	370	J	960	240	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Benzo[a]anthracene	1900		960	96	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Benzo[a]pyrene	1900		960	140	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Benzo[b]fluoranthene	2600		960	150	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Benzo[g,h,i]perylene	950	J	960	100	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Benzo[k]fluoranthene	1000		960	120	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Bis(2-ethylhexyl) phthalate	ND		960	330	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
2,4-Dimethylphenol	ND		960	230	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
7,12-Dimethylbenz(a)anthracene	ND		1900	280	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Chrysene	2000		960	210	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Dibenz(a,h)anthracene	360	J	960	170	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Di-n-butyl phthalate	ND		960	160	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Fluorene	ND		960	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Indeno[1,2,3-cd]pyrene	1200		960	120	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Naphthalene	ND		960	120	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
2-Methylphenol	ND		960	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
3-Methylphenol	ND		1900	150	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
3-Methylcholanthrene	ND		1900	310	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
4-Methylphenol	ND		1900	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Phenanthrene	1600		960	140	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Phenol	ND		960	150	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Pyrene	2700		960	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5
Total Cresols	ND		1900	110	ug/Kg	☼	03/18/22 09:41	03/21/22 17:58	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	71		54 - 120	03/18/22 09:41	03/21/22 17:58	5
2-Fluorobiphenyl (Surr)	86		60 - 120	03/18/22 09:41	03/21/22 17:58	5
2-Fluorophenol (Surr)	79		52 - 120	03/18/22 09:41	03/21/22 17:58	5
Phenol-d5 (Surr)	76		54 - 120	03/18/22 09:41	03/21/22 17:58	5
Nitrobenzene-d5 (Surr)	76		53 - 120	03/18/22 09:41	03/21/22 17:58	5
p-Terphenyl-d14 (Surr)	89		79 - 130	03/18/22 09:41	03/21/22 17:58	5

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB38

Lab Sample ID: 480-195872-13

Date Collected: 03/16/22 11:10
Matrix: Solid
Date Received: 03/17/22 10:30
Percent Solids: 88.0

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12.0		0.1	0.1	%			03/17/22 17:12	1
Percent Solids	88.0		0.1	0.1	%			03/17/22 17:12	1

Surrogate Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	PHL	NBZ	TPHd14
Lab Sample ID	Client Sample ID	(54-120)	(60-120)	(52-120)	(54-120)	(53-120)	(79-130)
480-195872-1	SB01	74	81	77	80	77	88
480-195872-2	SB04	76	86	79	79	82	96
480-195872-3	SB05	80	81	69	70	68	87
480-195872-4	SB09	81	83	81	80	80	98
480-195872-5	SB10	71	83	81	81	81	95
480-195872-5 MS	SB10	80	91	90	90	90	97
480-195872-5 MSD	SB10	82	92	89	90	89	102
480-195872-6	SB13	83	85	79	78	79	91
480-195872-7	SB14	76	85	87	84	85	88
480-195872-8	SB15	80	95	88	88	85	101
480-195872-9	SB23	86	99	95	93	94	99
480-195872-10	SB26	0 S1-	82	75	71	83	78 S1-
480-195872-11	SB28	0 S1-	75	62	79	74	94
480-195872-12	SB35	88	91	87	84	85	101
480-195872-13	SB38	71	86	79	76	76	89
LCS 480-618324/2-A	Lab Control Sample	81	88	82	85	83	101
LCS 480-618538/2-A	Lab Control Sample	83	89	83	85	82	98
MB 480-618324/1-A	Method Blank	73	90	86	86	84	96
MB 480-618538/1-A	Method Blank	69	81	75	77	76	94

Surrogate Legend

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

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

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

Lab Sample ID: MB 480-618324/1-A
Matrix: Solid
Analysis Batch: 618474

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 618324

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		170	25	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Anthracene	ND		170	41	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Benzo[a]anthracene	ND		170	17	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Benzo[a]pyrene	ND		170	25	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Benzo[b]fluoranthene	ND		170	27	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Benzo[k]fluoranthene	ND		170	22	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Bis(2-ethylhexyl) phthalate	ND		170	57	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
2,4-Dimethylphenol	ND		170	40	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
7,12-Dimethylbenz(a)anthracene	ND		320	48	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Chrysene	ND		170	37	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Dibenz(a,h)anthracene	ND		170	29	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Di-n-butyl phthalate	ND		170	28	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Fluorene	ND		170	20	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Indeno[1,2,3-cd]pyrene	ND		170	21	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Naphthalene	ND		170	22	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
2-Methylphenol	ND		170	20	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
3-Methylphenol	ND		320	26	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
3-Methylcholanthrene	ND		320	54	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
4-Methylphenol	ND		320	20	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Phenanthrene	ND		170	25	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Phenol	ND		170	26	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Pyrene	ND		170	20	ug/Kg		03/18/22 09:32	03/21/22 12:16	1
Total Cresols	ND		320	20	ug/Kg		03/18/22 09:32	03/21/22 12:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*73*		*54 - 120*	*03/18/22 09:32*	*03/21/22 12:16*	*1*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*03/18/22 09:32*	*03/21/22 12:16*	*1*
2-Fluorophenol (Surr)	*86*		*52 - 120*	*03/18/22 09:32*	*03/21/22 12:16*	*1*
Phenol-d5 (Surr)	*86*		*54 - 120*	*03/18/22 09:32*	*03/21/22 12:16*	*1*
Nitrobenzene-d5 (Surr)	*84*		*53 - 120*	*03/18/22 09:32*	*03/21/22 12:16*	*1*
p-Terphenyl-d14 (Surr)	*96*		*79 - 130*	*03/18/22 09:32*	*03/21/22 12:16*	*1*

Lab Sample ID: LCS 480-618324/2-A
Matrix: Solid
Analysis Batch: 618474

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618324

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1640	1540		ug/Kg		94	62 - 120
Anthracene	1640	1620		ug/Kg		99	62 - 120
Benzo[a]anthracene	1640	1760		ug/Kg		108	65 - 120
Benzo[a]pyrene	1640	1590		ug/Kg		97	64 - 120
Benzo[b]fluoranthene	1640	1750		ug/Kg		107	64 - 120
Benzo[g,h,i]perylene	1640	1670		ug/Kg		102	45 - 145
Benzo[k]fluoranthene	1640	1750		ug/Kg		107	65 - 120
Bis(2-ethylhexyl) phthalate	1640	1880		ug/Kg		115	61 - 133
2,4-Dimethylphenol	1640	1550		ug/Kg		95	59 - 120
Chrysene	1640	1640		ug/Kg		100	64 - 120

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

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

Lab Sample ID: LCS 480-618324/2-A
Matrix: Solid
Analysis Batch: 618474

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618324

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenz(a,h)anthracene	1640	1760		ug/Kg		107	54 - 132
Di-n-butyl phthalate	1640	1730		ug/Kg		106	58 - 130
Fluorene	1640	1570		ug/Kg		96	63 - 120
Indeno[1,2,3-cd]pyrene	1640	1780		ug/Kg		109	56 - 134
Naphthalene	1640	1390		ug/Kg		85	55 - 120
2-Methylphenol	1640	1540		ug/Kg		94	54 - 120
3-Methylphenol	1640	1530		ug/Kg		93	55 - 120
4-Methylphenol	1640	1530		ug/Kg		93	55 - 120
Phenanthrene	1640	1610		ug/Kg		98	60 - 120
Phenol	1640	1460		ug/Kg		90	53 - 120
Pyrene	1640	1780		ug/Kg		109	61 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*81*		*54 - 120*
2-Fluorobiphenyl (Surr)	*88*		*60 - 120*
2-Fluorophenol (Surr)	*82*		*52 - 120*
Phenol-d5 (Surr)	*85*		*54 - 120*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*

Lab Sample ID: 480-195872-5 MS
Matrix: Solid
Analysis Batch: 618474

Client Sample ID: SB10
Prep Type: Total/NA
Prep Batch: 618324

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		1900	1790		ug/Kg	☼	94	60 - 120
Anthracene	ND		1900	1870		ug/Kg	☼	99	62 - 120
Benzo[a]anthracene	ND		1900	2000		ug/Kg	☼	105	65 - 120
Benzo[a]pyrene	ND		1900	1790		ug/Kg	☼	94	64 - 120
Benzo[b]fluoranthene	ND		1900	2010		ug/Kg	☼	106	10 - 150
Benzo[g,h,i]perylene	ND		1900	1870		ug/Kg	☼	99	45 - 145
Benzo[k]fluoranthene	ND		1900	1910		ug/Kg	☼	101	23 - 150
Bis(2-ethylhexyl) phthalate	ND		1900	2130		ug/Kg	☼	112	61 - 133
2,4-Dimethylphenol	ND		1900	1850		ug/Kg	☼	97	52 - 120
Chrysene	ND		1900	1840		ug/Kg	☼	97	64 - 120
Dibenz(a,h)anthracene	ND		1900	1960		ug/Kg	☼	103	54 - 132
Di-n-butyl phthalate	ND		1900	1930		ug/Kg	☼	102	58 - 130
Fluorene	ND		1900	1820		ug/Kg	☼	96	63 - 120
Indeno[1,2,3-cd]pyrene	ND		1900	2020		ug/Kg	☼	106	56 - 134
Naphthalene	ND		1900	1690		ug/Kg	☼	89	46 - 120
2-Methylphenol	ND		1900	1920		ug/Kg	☼	101	48 - 120
3-Methylphenol	ND		1900	1840		ug/Kg	☼	97	50 - 120
4-Methylphenol	ND		1900	1840		ug/Kg	☼	97	50 - 120
Phenanthrene	ND		1900	1810		ug/Kg	☼	95	60 - 122
Phenol	ND		1900	1730		ug/Kg	☼	91	50 - 120
Pyrene	ND		1900	1970		ug/Kg	☼	104	61 - 133

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

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

Lab Sample ID: 480-195872-5 MS
Matrix: Solid
Analysis Batch: 618474

Client Sample ID: SB10
Prep Type: Total/NA
Prep Batch: 618324

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	80		54 - 120
2-Fluorobiphenyl (Surr)	91		60 - 120
2-Fluorophenol (Surr)	90		52 - 120
Phenol-d5 (Surr)	90		54 - 120
Nitrobenzene-d5 (Surr)	90		53 - 120
p-Terphenyl-d14 (Surr)	97		79 - 130

Lab Sample ID: 480-195872-5 MSD
Matrix: Solid
Analysis Batch: 618474

Client Sample ID: SB10
Prep Type: Total/NA
Prep Batch: 618324

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		1900	1870		ug/Kg	☼	98	60 - 120	5	35
Anthracene	ND		1900	1950		ug/Kg	☼	102	62 - 120	4	15
Benzo[a]anthracene	ND		1900	2110		ug/Kg	☼	111	65 - 120	5	15
Benzo[a]pyrene	ND		1900	1880		ug/Kg	☼	99	64 - 120	5	15
Benzo[b]fluoranthene	ND		1900	2040		ug/Kg	☼	107	10 - 150	1	15
Benzo[g,h,i]perylene	ND		1900	1960		ug/Kg	☼	103	45 - 145	5	15
Benzo[k]fluoranthene	ND		1900	2150		ug/Kg	☼	113	23 - 150	12	22
Bis(2-ethylhexyl) phthalate	ND		1900	2230		ug/Kg	☼	117	61 - 133	5	15
2,4-Dimethylphenol	ND		1900	1890		ug/Kg	☼	100	52 - 120	2	42
Chrysene	ND		1900	1910		ug/Kg	☼	100	64 - 120	3	15
Dibenz(a,h)anthracene	ND		1900	2060		ug/Kg	☼	108	54 - 132	5	15
Di-n-butyl phthalate	ND		1900	2030		ug/Kg	☼	107	58 - 130	5	15
Fluorene	ND		1900	1880		ug/Kg	☼	99	63 - 120	3	15
Indeno[1,2,3-cd]pyrene	ND		1900	2120		ug/Kg	☼	112	56 - 134	5	15
Naphthalene	ND		1900	1680		ug/Kg	☼	89	46 - 120	1	29
2-Methylphenol	ND		1900	1880		ug/Kg	☼	99	48 - 120	2	27
3-Methylphenol	ND		1900	1860		ug/Kg	☼	98	50 - 120	1	24
4-Methylphenol	ND		1900	1860		ug/Kg	☼	98	50 - 120	1	24
Phenanthrene	ND		1900	1890		ug/Kg	☼	99	60 - 122	5	15
Phenol	ND		1900	1790		ug/Kg	☼	94	50 - 120	3	35
Pyrene	ND		1900	2110		ug/Kg	☼	111	61 - 133	7	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	82		54 - 120
2-Fluorobiphenyl (Surr)	92		60 - 120
2-Fluorophenol (Surr)	89		52 - 120
Phenol-d5 (Surr)	90		54 - 120
Nitrobenzene-d5 (Surr)	89		53 - 120
p-Terphenyl-d14 (Surr)	102		79 - 130

Lab Sample ID: MB 480-618538/1-A
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 618538

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		170	25	ug/Kg		03/21/22 15:35	03/22/22 11:52	1

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

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

Lab Sample ID: MB 480-618538/1-A
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 618538

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		170	42	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[a]anthracene	ND		170	17	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[a]pyrene	ND		170	25	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[b]fluoranthene	ND		170	27	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[k]fluoranthene	ND		170	22	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Bis(2-ethylhexyl) phthalate	ND		170	58	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
2,4-Dimethylphenol	ND		170	41	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
7,12-Dimethylbenz(a)anthracene	ND		330	49	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Chrysene	ND		170	38	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Dibenz(a,h)anthracene	ND		170	30	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Di-n-butyl phthalate	ND		170	29	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Fluorene	ND		170	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Indeno[1,2,3-cd]pyrene	ND		170	21	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Naphthalene	ND		170	22	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
2-Methylphenol	ND		170	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
3-Methylphenol	ND		330	26	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
3-Methylcholanthrene	ND		330	55	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
4-Methylphenol	ND		330	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Phenanthrene	ND		170	25	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Phenol	ND		170	26	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Pyrene	ND		170	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Total Cresols	ND		330	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*69*		*54 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
2-Fluorophenol (Surr)	*75*		*52 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
Phenol-d5 (Surr)	*77*		*54 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
Nitrobenzene-d5 (Surr)	*76*		*53 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
p-Terphenyl-d14 (Surr)	*94*		*79 - 130*	*03/21/22 15:35*	*03/22/22 11:52*	*1*

Lab Sample ID: LCS 480-618538/2-A
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618538

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1660	1500		ug/Kg		90	62 - 120
Anthracene	1660	1600		ug/Kg		96	62 - 120
Benzo[a]anthracene	1660	1640		ug/Kg		99	65 - 120
Benzo[a]pyrene	1660	1530		ug/Kg		92	64 - 120
Benzo[b]fluoranthene	1660	1720		ug/Kg		104	64 - 120
Benzo[g,h,i]perylene	1660	1680		ug/Kg		101	45 - 145
Benzo[k]fluoranthene	1660	1670		ug/Kg		101	65 - 120
Bis(2-ethylhexyl) phthalate	1660	1800		ug/Kg		109	61 - 133
2,4-Dimethylphenol	1660	1540		ug/Kg		93	59 - 120
Chrysene	1660	1610		ug/Kg		97	64 - 120
Dibenz(a,h)anthracene	1660	1700		ug/Kg		103	54 - 132

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

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

Lab Sample ID: LCS 480-618538/2-A
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618538

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Di-n-butyl phthalate	1660	1630		ug/Kg		98	58 - 130
Fluorene	1660	1550		ug/Kg		93	63 - 120
Indeno[1,2,3-cd]pyrene	1660	1810		ug/Kg		109	56 - 134
Naphthalene	1660	1380		ug/Kg		83	55 - 120
2-Methylphenol	1660	1500		ug/Kg		90	54 - 120
3-Methylphenol	1660	1500		ug/Kg		90	55 - 120
4-Methylphenol	1660	1500		ug/Kg		91	55 - 120
Phenanthrene	1660	1530		ug/Kg		93	60 - 120
Phenol	1660	1400		ug/Kg		84	53 - 120
Pyrene	1660	1680		ug/Kg		102	61 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*
2-Fluorophenol (Surr)	*83*		*52 - 120*
Phenol-d5 (Surr)	*85*		*54 - 120*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*
p-Terphenyl-d14 (Surr)	*98*		*79 - 130*

QC Association Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

GC/MS Semi VOA

Prep Batch: 618324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195872-1	SB01	Total/NA	Solid	3550C	
480-195872-2	SB04	Total/NA	Solid	3550C	
480-195872-3	SB05	Total/NA	Solid	3550C	
480-195872-4	SB09	Total/NA	Solid	3550C	
480-195872-5	SB10	Total/NA	Solid	3550C	
480-195872-6	SB13	Total/NA	Solid	3550C	
480-195872-7	SB14	Total/NA	Solid	3550C	
480-195872-9	SB23	Total/NA	Solid	3550C	
480-195872-10	SB26	Total/NA	Solid	3550C	
480-195872-11	SB28	Total/NA	Solid	3550C	
480-195872-12	SB35	Total/NA	Solid	3550C	
480-195872-13	SB38	Total/NA	Solid	3550C	
MB 480-618324/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-618324/2-A	Lab Control Sample	Total/NA	Solid	3550C	
480-195872-5 MS	SB10	Total/NA	Solid	3550C	
480-195872-5 MSD	SB10	Total/NA	Solid	3550C	

Analysis Batch: 618474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195872-1	SB01	Total/NA	Solid	8270D	618324
480-195872-2	SB04	Total/NA	Solid	8270D	618324
480-195872-3	SB05	Total/NA	Solid	8270D	618324
480-195872-4	SB09	Total/NA	Solid	8270D	618324
480-195872-5	SB10	Total/NA	Solid	8270D	618324
480-195872-6	SB13	Total/NA	Solid	8270D	618324
480-195872-7	SB14	Total/NA	Solid	8270D	618324
480-195872-9	SB23	Total/NA	Solid	8270D	618324
480-195872-10	SB26	Total/NA	Solid	8270D	618324
480-195872-11	SB28	Total/NA	Solid	8270D	618324
480-195872-12	SB35	Total/NA	Solid	8270D	618324
480-195872-13	SB38	Total/NA	Solid	8270D	618324
MB 480-618324/1-A	Method Blank	Total/NA	Solid	8270D	618324
LCS 480-618324/2-A	Lab Control Sample	Total/NA	Solid	8270D	618324
480-195872-5 MS	SB10	Total/NA	Solid	8270D	618324
480-195872-5 MSD	SB10	Total/NA	Solid	8270D	618324

Prep Batch: 618538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195872-8	SB15	Total/NA	Solid	3550C	
MB 480-618538/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-618538/2-A	Lab Control Sample	Total/NA	Solid	3550C	

Analysis Batch: 618598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195872-8	SB15	Total/NA	Solid	8270D	618538
MB 480-618538/1-A	Method Blank	Total/NA	Solid	8270D	618538
LCS 480-618538/2-A	Lab Control Sample	Total/NA	Solid	8270D	618538

QC Association Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

General Chemistry

Analysis Batch: 618285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195872-1	SB01	Total/NA	Solid	Moisture	
480-195872-2	SB04	Total/NA	Solid	Moisture	
480-195872-3	SB05	Total/NA	Solid	Moisture	
480-195872-4	SB09	Total/NA	Solid	Moisture	
480-195872-5	SB10	Total/NA	Solid	Moisture	
480-195872-6	SB13	Total/NA	Solid	Moisture	
480-195872-7	SB14	Total/NA	Solid	Moisture	
480-195872-8	SB15	Total/NA	Solid	Moisture	
480-195872-9	SB23	Total/NA	Solid	Moisture	
480-195872-10	SB26	Total/NA	Solid	Moisture	
480-195872-11	SB28	Total/NA	Solid	Moisture	
480-195872-12	SB35	Total/NA	Solid	Moisture	
480-195872-13	SB38	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB01 — Lab Sample ID: 480-195872-1

Date Collected: 03/16/22 09:40 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB01 — Lab Sample ID: 480-195872-1

Date Collected: 03/16/22 09:40 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 86.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618474	03/21/22 15:07	JMM	TAL BUF

Client Sample ID: SB04 — Lab Sample ID: 480-195872-2

Date Collected: 03/16/22 13:45 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB04 — Lab Sample ID: 480-195872-2

Date Collected: 03/16/22 13:45 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 86.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618474	03/21/22 15:24	JMM	TAL BUF

Client Sample ID: SB05 — Lab Sample ID: 480-195872-3

Date Collected: 03/16/22 10:05 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB05 — Lab Sample ID: 480-195872-3

Date Collected: 03/16/22 10:05 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 88.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618474	03/21/22 15:41	JMM	TAL BUF

Client Sample ID: SB09 — Lab Sample ID: 480-195872-4

Date Collected: 03/16/22 10:25 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB09 — Lab Sample ID: 480-195872-4

Date Collected: 03/16/22 10:25 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 86.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618474	03/21/22 15:58	JMM	TAL BUF

Client Sample ID: SB10 — Lab Sample ID: 480-195872-5

Date Collected: 03/16/22 10:40 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB10 — Lab Sample ID: 480-195872-5

Date Collected: 03/16/22 10:40 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 87.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618474	03/21/22 13:25	JMM	TAL BUF

Client Sample ID: SB13 — Lab Sample ID: 480-195872-6

Date Collected: 03/16/22 12:50 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB13 — Lab Sample ID: 480-195872-6

Date Collected: 03/16/22 12:50 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 90.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618474	03/21/22 16:15	JMM	TAL BUF

Client Sample ID: SB14 — Lab Sample ID: 480-195872-7

Date Collected: 03/16/22 13:10 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB14 — Lab Sample ID: 480-195872-7

Date Collected: 03/16/22 13:10 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 85.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618474	03/21/22 16:32	JMM	TAL BUF

Client Sample ID: SB15 — Lab Sample ID: 480-195872-8

Date Collected: 03/16/22 13:25 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB15 — Lab Sample ID: 480-195872-8

Date Collected: 03/16/22 13:25 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 83.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618598	03/22/22 13:18	JMM	TAL BUF

Client Sample ID: SB23 — Lab Sample ID: 480-195872-9

Date Collected: 03/16/22 12:35 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB23 — Lab Sample ID: 480-195872-9

Date Collected: 03/16/22 12:35 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 86.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618474	03/21/22 16:50	JMM	TAL BUF

Client Sample ID: SB26 — Lab Sample ID: 480-195872-10

Date Collected: 03/16/22 12:15 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB26 — Lab Sample ID: 480-195872-10

Date Collected: 03/16/22 12:15 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 91.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		20	618474	03/21/22 17:07	JMM	TAL BUF

Client Sample ID: SB28 — Lab Sample ID: 480-195872-11

Date Collected: 03/16/22 11:55 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB28 — Lab Sample ID: 480-195872-11

Date Collected: 03/16/22 11:55 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 88.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:32	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618474	03/21/22 17:24	JMM	TAL BUF

Client Sample ID: SB35 — Lab Sample ID: 480-195872-12

Date Collected: 03/16/22 10:50 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Client Sample ID: SB35 — Lab Sample ID: 480-195872-12

Date Collected: 03/16/22 10:50 — **Matrix: Solid**
Date Received: 03/17/22 10:30 — **Percent Solids: 87.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:41	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618474	03/21/22 17:41	JMM	TAL BUF

Client Sample ID: SB38 — Lab Sample ID: 480-195872-13

Date Collected: 03/16/22 11:10 — **Matrix: Solid**
Date Received: 03/17/22 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618285	03/17/22 17:12	DSC	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Client Sample ID: SB38

Date Collected: 03/16/22 11:10
Date Received: 03/17/22 10:30

Lab Sample ID: 480-195872-13

Matrix: Solid
Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618324	03/18/22 09:41	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618474	03/21/22 17:58	JMM	TAL BUF

Laboratory References:

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Laboratory: Eurofins Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	68-00281	07-31-22

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
8270D	3550C	Solid	Total Cresols
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF
3550C	Ultrasonic Extraction	SW846	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Alpha Analytical Inc
Project/Site: L2213774

Job ID: 480-195872-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-195872-1	SB01	Solid	03/16/22 09:40	03/17/22 10:30
480-195872-2	SB04	Solid	03/16/22 13:45	03/17/22 10:30
480-195872-3	SB05	Solid	03/16/22 10:05	03/17/22 10:30
480-195872-4	SB09	Solid	03/16/22 10:25	03/17/22 10:30
480-195872-5	SB10	Solid	03/16/22 10:40	03/17/22 10:30
480-195872-6	SB13	Solid	03/16/22 12:50	03/17/22 10:30
480-195872-7	SB14	Solid	03/16/22 13:10	03/17/22 10:30
480-195872-8	SB15	Solid	03/16/22 13:25	03/17/22 10:30
480-195872-9	SB23	Solid	03/16/22 12:35	03/17/22 10:30
480-195872-10	SB26	Solid	03/16/22 12:15	03/17/22 10:30
480-195872-11	SB28	Solid	03/16/22 11:55	03/17/22 10:30
480-195872-12	SB35	Solid	03/16/22 10:50	03/17/22 10:30
480-195872-13	SB38	Solid	03/16/22 11:10	03/17/22 10:30

1/2

Subcontract Chain of Custody

Eurofins Northeast LLC
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2213774

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2213774

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	SB01	03-16-22 09:40	SOIL	8270	
	SB04	03-16-22 13:45	SOIL	8270	
	SB05	03-16-22 10:05	SOIL	8270	
	SB09	03-16-22 10:25	SOIL	8270	
	SB10	03-16-22 10:40	SOIL	8270	
	SB13	03-16-22 12:50	SOIL	8270	
	SB14	03-16-22 13:10	SOIL	8270	
	SB15	03-16-22 13:25	SOIL	8270	
	SB23	03-16-22 12:35	SOIL	8270	

480-195872 Chain of Custody

UPS

Relinquished By:	Date/Time:	Received By:	Date/Time:
Amica Jagelio	3/16/22 16:49	[illegible]	3/17/22 1030

Form No: AL_subcoc

2.9 #1 KE

Serial No:03302212:41

2/2

Subcontract Chain of Custody

Eurofins Northeast LLC
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2213774

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2213774

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	SB26	03-16-22 12:15	SOIL	8270	
	SB28	03-16-22 11:55	SOIL	8270	
	SB35	03-16-22 10:50	SOIL	8270	
	SB38	03-16-22 11:10	SOIL	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
Amrica Yagrio	3/16/22 16:49	[illegible]	3/17/22 1030

Form No: AL_subcoc

ANALYTICAL REPORT

Lab Number:	L2214012
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	RCRA PAD CLOSURE - PHIL REF
Project Number:	200.00135.007
Report Date:	03/31/22

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: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2214012-01	SB 02	SOIL	PHILADELPHIA, PA	03/17/22 09:00	03/17/22
L2214012-02	SB 03	SOIL	PHILADELPHIA, PA	03/17/22 08:40	03/17/22
L2214012-03	SB 06	SOIL	PHILADELPHIA, PA	03/17/22 09:25	03/17/22
L2214012-04	SB 07	SOIL	PHILADELPHIA, PA	03/17/22 09:40	03/17/22
L2214012-05	SB 08	SOIL	PHILADELPHIA, PA	03/17/22 10:00	03/17/22
L2214012-06	SB 11	SOIL	PHILADELPHIA, PA	03/17/22 11:00	03/17/22
L2214012-07	SB 12	SOIL	PHILADELPHIA, PA	03/17/22 11:25	03/17/22
L2214012-08	SB 16	SOIL	PHILADELPHIA, PA	03/17/22 12:35	03/17/22
L2214012-09	SB 17	SOIL	PHILADELPHIA, PA	03/17/22 12:15	03/17/22
L2214012-10	SB 22	SOIL	PHILADELPHIA, PA	03/17/22 13:00	03/17/22
L2214012-11	SB 31	SOIL	PHILADELPHIA, PA	03/17/22 13:40	03/17/22
L2214012-12	SB 34	SOIL	PHILADELPHIA, PA	03/17/22 08:25	03/17/22
L2214012-13	SB 36	SOIL	PHILADELPHIA, PA	03/17/22 10:40	03/17/22
L2214012-14	SB 37	SOIL	PHILADELPHIA, PA	03/17/22 10:20	03/17/22
L2214012-15	SB 39	SOIL	PHILADELPHIA, PA	03/17/22 11:50	03/17/22
L2214012-16	TRIP BLANK	WATER	PHILADELPHIA, PA	03/14/22 08:33	03/17/22

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2214012
Project Number:	200.00135.007	**Report Date:**	03/31/22

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2214012
Project Number:	200.00135.007	**Report Date:**	03/31/22

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.

The analysis of Semivolatile Organics was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

Volatile Organics

L2214012-01: The initial low-level analysis yielded internal standards below method criteria. The second low-level vial was broken upon receipt at the laboratory and could not be utilized. At the client's request, an aliquot was taken from an unpreserved container and preserved appropriately.

L2214012-04: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (29%) and the surrogate recovery for 4-bromofluorobenzene (143%) were outside the acceptance criteria; however, re-analysis achieved the following results: 1,4-dichlorobenzene-d4 (36%) and 4-bromofluorobenzene (143%). The results of both analyses are reported.

L2214012-10: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (27%) and the surrogate recovery for 4-bromofluorobenzene (141%) were outside the acceptance criteria; however, re-analysis achieved the following results: 1,4-dichlorobenzene-d4 (26%) and 4-bromofluorobenzene (138%). The results of both analyses are reported.

L2214012-11: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (48%) was below the acceptance criteria; however, re-analysis achieved the following result: 1,4-dichlorobenzene-d4 (49%). The results of both analyses are reported.

Total Metals

L2214012-03: The sample has elevated detection limits for all elements due to the dilution required by matrix interferences encountered during analysis.

The WG1617429-3 MS recoveries, performed on L2214012-01, are outside the acceptance criteria for

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Case Narrative (continued)

antimony (37%), lead (66%), and nickel (69%). A post digestion spike was performed and yielded unacceptable recoveries for antimony (34%), lead (31%), and nickel (30%). The serial dilution recoveries were not applicable; therefore, these elements fail the matrix test and the results reported in the native sample should be considered estimated.

The WG1617429-3 MS recoveries, performed on L2214012-01, are outside the acceptance criteria for chromium (51%) and vanadium (74%). A post digestion spike was performed and yielded unacceptable recoveries for chromium (35%) and vanadium (36%). The serial dilution recoveries were not acceptable; therefore, these elements fail the matrix test and the results reported in the native sample should be considered estimated.

The WG1617429-6 serial dilution analysis, associated with L2214012-01, had a %D above the acceptance criteria for chromium (38%) and vanadium (35%).

Hexavalent Chromium

The WG1619457-2 LCS recovery for chromium, hexavalent (72%), associated with L2214012-01 through -08, is outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

The WG1619459-2 LCS recovery for chromium, hexavalent (72%), associated with L2214012-09 through -15, is outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

Cyanide, Total

The WG1621416-2/-3 LCS/LCSD recoveries for cyanide, total (62%/78%), associated with L2214012-01 and -07 through -15, are outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

The WG1621417-2/-3 LCS/LCSD recoveries for cyanide, total (58%/62%), associated with L2214012-02 through -06, are outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

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 Stenstrom

Title: Technical Director/Representative

Date: 03/31/22

ORGANICS

VOLATILES

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

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SAMPLE RESULTS

Lab ID: L2214012-01
Client ID: SB 02
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 09:00
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/25/22 11:19
Analyst: LAC
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0085	0.0039	1
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00042	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00085	0.00022	1
Toluene	ND		mg/kg	0.00085	0.00046	1
1,2-Dibromoethane	ND		mg/kg	0.00042	0.00025	1
Ethylbenzene	ND		mg/kg	0.00085	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00048	1
o-Xylene	ND		mg/kg	0.00085	0.00025	1
Xylenes, Total	ND		mg/kg	0.00085	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00085	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	97		70-130

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SAMPLE RESULTS

Lab ID: L2214012-02
Client ID: SB 03
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 08:40
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 14:56
Analyst: MKS
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0091	0.0042	1
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00024	1
Toluene	ND		mg/kg	0.00091	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00027	1
Xylenes, Total	ND		mg/kg	0.00091	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00091	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	99		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-03
Client ID: SB 06
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 09:25
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 21:17
Analyst: JC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0087	0.0040	1
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00018	1
Benzene	ND		mg/kg	0.00044	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00087	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00049	1
o-Xylene	ND		mg/kg	0.00087	0.00025	1
Xylenes, Total	ND		mg/kg	0.00087	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00087	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	107		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	96		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-04
Client ID: SB 07
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 09:40
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 15:46
Analyst: MKS
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.012	0.0054	1
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	0.0018		mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	0.00066	J	mg/kg	0.0012	0.00065	1
1,2-Dibromoethane	ND		mg/kg	0.00060	0.00035	1
Ethylbenzene	0.00025	J	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	115		70-130
Toluene-d8	122		70-130
4-Bromofluorobenzene	**143**	Q	70-130
Dibromofluoromethane	105		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-04 R
Client ID: SB 07
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 09:40
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 21:42
Analyst: JC
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.012	0.0056	1
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00025	1
Benzene	0.0013		mg/kg	0.00061	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00066	1
1,2-Dibromoethane	ND		mg/kg	0.00061	0.00036	1
Ethylbenzene	0.00025	J	mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00068	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	0.0024	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00041	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	**143**	Q	70-130
Dibromofluoromethane	100		70-130

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SAMPLE RESULTS

Lab ID: L2214012-05
Client ID: SB 08
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 10:00
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 09:56
Analyst: MKS
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0098	0.0044	1
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	97		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

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SAMPLE RESULTS

Lab ID: L2214012-06
Client ID: SB 11
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 11:00
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 10:21
Analyst: MKS
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.010	0.0046	1
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	102		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

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SAMPLE RESULTS

Lab ID: L2214012-07
Client ID: SB 12
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 11:25
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 10:46
Analyst: MKS
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.011	0.0050	1
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	0.00035	J	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	110		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	100		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

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SAMPLE RESULTS

Lab ID: L2214012-08
Client ID: SB 16
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 12:35
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 22:07
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0088	0.0040	1
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		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	0.00049	1
o-Xylene	ND		mg/kg	0.00088	0.00026	1
Xylenes, Total	ND		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	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	95		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

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SAMPLE RESULTS

Lab ID: L2214012-09
Client ID: SB 17
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 12:15
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 22:32
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0083	0.0038	1
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00042	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00083	0.00021	1
Toluene	ND		mg/kg	0.00083	0.00045	1
1,2-Dibromoethane	ND		mg/kg	0.00042	0.00024	1
Ethylbenzene	ND		mg/kg	0.00083	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00046	1
o-Xylene	ND		mg/kg	0.00083	0.00024	1
Xylenes, Total	ND		mg/kg	0.00083	0.00024	1
Isopropylbenzene	ND		mg/kg	0.00083	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	89		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

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SAMPLE RESULTS

Lab ID: L2214012-10
Client ID: SB 22
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 13:00
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 12:01
Analyst: MKS
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.011	0.0051	1
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00056	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	0.00056	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	119		70-130
Toluene-d8	128		70-130
4-Bromofluorobenzene	**141**	Q	70-130
Dibromofluoromethane	106		70-130

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Project Number: 200.00135.007 **Report Date:** 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-10 R
Client ID: SB 22
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 13:00
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 22:57
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.013	0.0060	1
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00027	1
Benzene	ND		mg/kg	0.00066	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00034	1
Toluene	ND		mg/kg	0.0013	0.00072	1
1,2-Dibromoethane	ND		mg/kg	0.00066	0.00039	1
Ethylbenzene	ND		mg/kg	0.0013	0.00019	1
p/m-Xylene	ND		mg/kg	0.0026	0.00074	1
o-Xylene	ND		mg/kg	0.0013	0.00039	1
Xylenes, Total	ND		mg/kg	0.0013	0.00039	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026	0.00026	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	123		70-130
Toluene-d8	129		70-130
4-Bromofluorobenzene	**138**	Q	70-130
Dibromofluoromethane	105		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-11
Client ID: SB 31
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 13:40
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 12:26
Analyst: MKS
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0094	0.0043	1
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	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	113		70-130
4-Bromofluorobenzene	125		70-130
Dibromofluoromethane	101		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-11 R
Client ID: SB 31
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 13:40
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 23:22
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.010	0.0047	1
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	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	0.00057	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	110		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	97		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-12
Client ID: SB 34
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 08:25
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 23:47
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0093	0.0042	1
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00019	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00093	0.00024	1
Toluene	ND		mg/kg	0.00093	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00093	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00052	1
o-Xylene	ND		mg/kg	0.00093	0.00027	1
Xylenes, Total	ND		mg/kg	0.00093	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00093	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	96		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-13
Client ID: SB 36
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 10:40
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/24/22 00:12
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0097	0.0044	1
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00097	0.00025	1
Toluene	ND		mg/kg	0.00097	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00097	0.00028	1
Xylenes, Total	ND		mg/kg	0.00097	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00097	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	98		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-14
Client ID: SB 37
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 10:20
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 13:41
Analyst: MKS
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.012	0.0054	1
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	114		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	101		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-15
Client ID: SB 39
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 11:50
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/23/22 14:06
Analyst: MKS
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.010	0.0045	1
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	120		70-130
Dibromofluoromethane	103		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF

Lab Number: L2214012

Project Number: 200.00135.007

Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-16
Client ID: TRIP BLANK
Sample Location: PHILADELPHIA, PA

Date Collected: 03/14/22 08:33
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 03/22/22 18:03
Analyst: GT

Extraction Method: EPA 8011
Extraction Date: 03/22/22 15:15

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: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-16
Client ID: TRIP BLANK
Sample Location: PHILADELPHIA, PA

Date Collected: 03/14/22 08:33
Date Received: 03/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 03/21/22 08:29
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Carbon disulfide	ND		ug/l	5.0	0.30	1
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	100		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	102		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/21/22 08:09
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16 Batch: WG1618395-5					
Carbon disulfide	ND		ug/l	5.0	0.30
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	102		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	103		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 03/22/22 16:55
Analyst: GT

Extraction Method: EPA 8011
Extraction Date: 03/22/22 15:15

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 16 Batch: WG1618463-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/23/22 20:52
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03-04,08-13 Batch: WG1619250-10					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	95		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/23/22 08:41
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,04-07,10-11,14-15 Batch: WG1619250-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	104		70-130
Dibromofluoromethane	94		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/25/22 10:54
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1620657-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	93		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG1618395-3 WG1618395-4								
Carbon disulfide	88		92		51-130	4		20
Methyl tert butyl ether	100		98		63-130	2		20
Benzene	98		98		70-130	0		20
1,2-Dichloroethane	92		93		70-130	1		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		99		70-130	1		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	100		95		70-130	5		20
Isopropylbenzene	100		97		70-130	3		20
1,3,5-Trimethylbenzene	98		97		64-130	1		20
1,2,4-Trimethylbenzene	98		94		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	92		94		70-130
Toluene-d8	103		102		70-130
4-Bromofluorobenzene	101		102		70-130
Dibromofluoromethane	93		95		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2214012

Report Date: 03/31/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 16 Batch: WG1618463-2									
1,2-Dibromoethane	116		-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02,04-07,10-11,14-15 Batch: WG1619250-3 WG1619250-4								
Carbon disulfide	107		94		59-130	13		30
Methyl tert butyl ether	102		101		66-130	1		30
Benzene	108		99		70-130	9		30
1,2-Dichloroethane	106		103		70-130	3		30
Toluene	106		99		70-130	7		30
1,2-Dibromoethane	100		101		70-130	1		30
Ethylbenzene	111		102		70-130	8		30
p/m-Xylene	109		99		70-130	10		30
o-Xylene	109		100		70-130	9		30
Isopropylbenzene	112		103		70-130	8		30
1,3,5-Trimethylbenzene	112		104		70-130	7		30
1,2,4-Trimethylbenzene	112		103		70-130	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		104		70-130
Toluene-d8	100		102		70-130
4-Bromofluorobenzene	101		100		70-130
Dibromofluoromethane	94		93		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2214012
Report Date: 03/31/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03-04,08-13 Batch: WG1619250-8 WG1619250-9								
Carbon disulfide	114		110		59-130	4		30
Methyl tert butyl ether	107		110		66-130	3		30
Benzene	116		114		70-130	2		30
1,2-Dichloroethane	114		116		70-130	2		30
Toluene	115		114		70-130	1		30
1,2-Dibromoethane	108		111		70-130	3		30
Ethylbenzene	119		117		70-130	2		30
p/m-Xylene	119		117		70-130	2		30
o-Xylene	118		116		70-130	2		30
Isopropylbenzene	123		121		70-130	2		30
1,3,5-Trimethylbenzene	121		120		70-130	1		30
1,2,4-Trimethylbenzene	120		119		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	103		104		70-130
Toluene-d8	101		102		70-130
4-Bromofluorobenzene	103		101		70-130
Dibromofluoromethane	93		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2214012
Report Date: 03/31/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1620657-3 WG1620657-4								
Carbon disulfide	98		98		59-130	0		30
Methyl tert butyl ether	107		108		66-130	1		30
Benzene	107		108		70-130	1		30
1,2-Dichloroethane	112		112		70-130	0		30
Toluene	106		106		70-130	0		30
1,2-Dibromoethane	106		107		70-130	1		30
Ethylbenzene	107		106		70-130	1		30
p/m-Xylene	107		106		70-130	1		30
o-Xylene	110		108		70-130	2		30
Isopropylbenzene	107		106		70-130	1		30
1,3,5-Trimethylbenzene	109		108		70-130	1		30
1,2,4-Trimethylbenzene	110		109		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		101		70-130
Toluene-d8	98		100		70-130
4-Bromofluorobenzene	99		100		70-130
Dibromofluoromethane	91		93		70-130

METALS

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214012
Project Number: 200.00135.007
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-01
Client ID: SB 02
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 09:00
Date Received: 03/17/22
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											
Antimony, Total	ND		mg/kg	2.12	0.161	1	03/21/22 12:05	03/31/22 09:07	EPA 3050B	1,6010D	EW
Arsenic, Total	3.90		mg/kg	0.424	0.088	1	03/21/22 12:05	03/31/22 09:07	EPA 3050B	1,6010D	EW
Chromium, Total	18.0		mg/kg	0.424	0.041	1	03/21/22 12:05	03/31/22 09:07	EPA 3050B	1,6010D	EW
Lead, Total	9.82		mg/kg	2.12	0.114	1	03/21/22 12:05	03/31/22 09:07	EPA 3050B	1,6010D	EW
Nickel, Total	21.8		mg/kg	1.06	0.103	1	03/21/22 12:05	03/31/22 09:07	EPA 3050B	1,6010D	EW
Vanadium, Total	24.0		mg/kg	0.424	0.086	1	03/21/22 12:05	03/31/22 09:07	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214012
Project Number: 200.00135.007
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-02
Client ID: SB 03
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 08:40
Date Received: 03/17/22
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											
Antimony, Total	ND		mg/kg	2.16	0.164	1	03/21/22 12:05	03/31/22 08:54	EPA 3050B	1,6010D	EW
Arsenic, Total	4.69		mg/kg	0.433	0.090	1	03/21/22 12:05	03/31/22 08:54	EPA 3050B	1,6010D	EW
Chromium, Total	18.4		mg/kg	0.433	0.042	1	03/21/22 12:05	03/31/22 08:54	EPA 3050B	1,6010D	EW
Lead, Total	8.15		mg/kg	2.16	0.116	1	03/21/22 12:05	03/31/22 08:54	EPA 3050B	1,6010D	EW
Nickel, Total	9.36		mg/kg	1.08	0.105	1	03/21/22 12:05	03/31/22 08:54	EPA 3050B	1,6010D	EW
Vanadium, Total	24.9		mg/kg	0.433	0.088	1	03/21/22 12:05	03/31/22 08:54	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214012
Project Number: 200.00135.007
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-03
Client ID: SB 06
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 09:25
Date Received: 03/17/22
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											
Antimony, Total	ND		mg/kg	10.5	0.796	5	03/21/22 12:05	03/31/22 11:29	EPA 3050B	1,6010D	EW
Arsenic, Total	3.69		mg/kg	2.10	0.436	5	03/21/22 12:05	03/31/22 11:29	EPA 3050B	1,6010D	EW
Chromium, Total	16.6		mg/kg	2.10	0.201	5	03/21/22 12:05	03/31/22 14:08	EPA 3050B	1,6010D	EW
Lead, Total	46.0		mg/kg	10.5	0.562	5	03/21/22 12:05	03/31/22 11:29	EPA 3050B	1,6010D	EW
Nickel, Total	10.3		mg/kg	5.24	0.507	5	03/21/22 12:05	03/31/22 11:29	EPA 3050B	1,6010D	EW
Vanadium, Total	19.6		mg/kg	2.10	0.425	5	03/21/22 12:05	03/31/22 14:08	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214012
Project Number: 200.00135.007
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-04
Client ID: SB 07
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 09:40
Date Received: 03/17/22
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											
Antimony, Total	2.08	J	mg/kg	2.13	0.162	1	03/21/22 12:05	03/31/22 09:03	EPA 3050B	1,6010D	EW
Arsenic, Total	11.3		mg/kg	0.426	0.089	1	03/21/22 12:05	03/31/22 09:03	EPA 3050B	1,6010D	EW
Chromium, Total	18.7		mg/kg	0.426	0.041	1	03/21/22 12:05	03/31/22 09:03	EPA 3050B	1,6010D	EW
Lead, Total	141		mg/kg	2.13	0.114	1	03/21/22 12:05	03/31/22 09:03	EPA 3050B	1,6010D	EW
Nickel, Total	17.9		mg/kg	1.06	0.103	1	03/21/22 12:05	03/31/22 09:03	EPA 3050B	1,6010D	EW
Vanadium, Total	16.6		mg/kg	0.426	0.086	1	03/21/22 12:05	03/31/22 09:03	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-05 Date Collected: 03/17/22 10:00

Client ID: SB 08 Date Received: 03/17/22

Sample Location: PHILADELPHIA, PA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	0.934	J	mg/kg	2.00	0.152	1	03/21/22 12:05	03/31/22 10:17	EPA 3050B	1,6010D	EW
Arsenic, Total	3.76		mg/kg	0.401	0.083	1	03/21/22 12:05	03/31/22 10:17	EPA 3050B	1,6010D	EW
Chromium, Total	15.2		mg/kg	0.401	0.039	1	03/21/22 12:05	03/31/22 10:17	EPA 3050B	1,6010D	EW
Lead, Total	6.52		mg/kg	2.00	0.107	1	03/21/22 12:05	03/31/22 10:17	EPA 3050B	1,6010D	EW
Nickel, Total	11.0		mg/kg	1.00	0.097	1	03/21/22 12:05	03/31/22 10:17	EPA 3050B	1,6010D	EW
Vanadium, Total	16.9		mg/kg	0.401	0.081	1	03/21/22 12:05	03/31/22 10:17	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214012
Project Number: 200.00135.007
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-06
Client ID: SB 11
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 11:00
Date Received: 03/17/22
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											
Antimony, Total	ND		mg/kg	2.09	0.159	1	03/21/22 12:05	03/31/22 10:22	EPA 3050B	1,6010D	EW
Arsenic, Total	3.75		mg/kg	0.419	0.087	1	03/21/22 12:05	03/31/22 10:22	EPA 3050B	1,6010D	EW
Chromium, Total	12.8		mg/kg	0.419	0.040	1	03/21/22 12:05	03/31/22 10:22	EPA 3050B	1,6010D	EW
Lead, Total	6.84		mg/kg	2.09	0.112	1	03/21/22 12:05	03/31/22 10:22	EPA 3050B	1,6010D	EW
Nickel, Total	8.25		mg/kg	1.05	0.101	1	03/21/22 12:05	03/31/22 10:22	EPA 3050B	1,6010D	EW
Vanadium, Total	18.8		mg/kg	0.419	0.085	1	03/21/22 12:05	03/31/22 10:22	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214012
Project Number: 200.00135.007
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-07
Client ID: SB 12
Sample Location: PHILADELPHIA, PA
Date Collected: 03/17/22 11:25
Date Received: 03/17/22
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											
Antimony, Total	ND		mg/kg	2.18	0.166	1	03/21/22 12:05	03/31/22 10:26	EPA 3050B	1,6010D	EW
Arsenic, Total	5.15		mg/kg	0.436	0.091	1	03/21/22 12:05	03/31/22 10:26	EPA 3050B	1,6010D	EW
Chromium, Total	14.0		mg/kg	0.436	0.042	1	03/21/22 12:05	03/31/22 10:26	EPA 3050B	1,6010D	EW
Lead, Total	22.5		mg/kg	2.18	0.117	1	03/21/22 12:05	03/31/22 10:26	EPA 3050B	1,6010D	EW
Nickel, Total	35.6		mg/kg	1.09	0.106	1	03/21/22 12:05	03/31/22 10:26	EPA 3050B	1,6010D	EW
Vanadium, Total	19.3		mg/kg	0.436	0.089	1	03/21/22 12:05	03/31/22 10:26	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214012
Project Number: 200.00135.007
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-08
Client ID: SB 16
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 12:35
Date Received: 03/17/22
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											
Antimony, Total	ND		mg/kg	2.26	0.171	1	03/21/22 12:05	03/31/22 10:31	EPA 3050B	1,6010D	EW
Arsenic, Total	4.10		mg/kg	0.451	0.094	1	03/21/22 12:05	03/31/22 10:31	EPA 3050B	1,6010D	EW
Chromium, Total	13.0		mg/kg	0.451	0.043	1	03/21/22 12:05	03/31/22 10:31	EPA 3050B	1,6010D	EW
Lead, Total	29.3		mg/kg	2.26	0.121	1	03/21/22 12:05	03/31/22 10:31	EPA 3050B	1,6010D	EW
Nickel, Total	7.54		mg/kg	1.13	0.109	1	03/21/22 12:05	03/31/22 10:31	EPA 3050B	1,6010D	EW
Vanadium, Total	16.3		mg/kg	0.451	0.092	1	03/21/22 12:05	03/31/22 10:31	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214012
Project Number: 200.00135.007
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-09
Client ID: SB 17
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 12:15
Date Received: 03/17/22
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											
Antimony, Total	ND		mg/kg	2.17	0.165	1	03/21/22 12:05	03/31/22 10:35	EPA 3050B	1,6010D	EW
Arsenic, Total	4.53		mg/kg	0.434	0.090	1	03/21/22 12:05	03/31/22 10:35	EPA 3050B	1,6010D	EW
Chromium, Total	17.2		mg/kg	0.434	0.042	1	03/21/22 12:05	03/31/22 10:35	EPA 3050B	1,6010D	EW
Lead, Total	7.16		mg/kg	2.17	0.116	1	03/21/22 12:05	03/31/22 10:35	EPA 3050B	1,6010D	EW
Nickel, Total	9.48		mg/kg	1.08	0.105	1	03/21/22 12:05	03/31/22 10:35	EPA 3050B	1,6010D	EW
Vanadium, Total	24.5		mg/kg	0.434	0.088	1	03/21/22 12:05	03/31/22 10:35	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214012
Project Number: 200.00135.007
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-10
Client ID: SB 22
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 13:00
Date Received: 03/17/22
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											
Antimony, Total	ND		mg/kg	2.16	0.164	1	03/21/22 12:05	03/31/22 10:40	EPA 3050B	1,6010D	EW
Arsenic, Total	5.10		mg/kg	0.432	0.090	1	03/21/22 12:05	03/31/22 10:40	EPA 3050B	1,6010D	EW
Chromium, Total	7.93		mg/kg	0.432	0.041	1	03/21/22 12:05	03/31/22 10:40	EPA 3050B	1,6010D	EW
Lead, Total	159		mg/kg	2.16	0.116	1	03/21/22 12:05	03/31/22 10:40	EPA 3050B	1,6010D	EW
Nickel, Total	9.06		mg/kg	1.08	0.104	1	03/21/22 12:05	03/31/22 10:40	EPA 3050B	1,6010D	EW
Vanadium, Total	14.9		mg/kg	0.432	0.088	1	03/21/22 12:05	03/31/22 10:40	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-11 Date Collected: 03/17/22 13:40

Client ID: SB 31 Date Received: 03/17/22

Sample Location: PHILADELPHIA, PA 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											
Antimony, Total	0.372	J	mg/kg	2.16	0.164	1	03/21/22 12:05	03/31/22 10:44	EPA 3050B	1,6010D	EW
Arsenic, Total	8.59		mg/kg	0.433	0.090	1	03/21/22 12:05	03/31/22 10:44	EPA 3050B	1,6010D	EW
Chromium, Total	11.3		mg/kg	0.433	0.042	1	03/21/22 12:05	03/31/22 10:44	EPA 3050B	1,6010D	EW
Lead, Total	62.0		mg/kg	2.16	0.116	1	03/21/22 12:05	03/31/22 10:44	EPA 3050B	1,6010D	EW
Nickel, Total	10.7		mg/kg	1.08	0.105	1	03/21/22 12:05	03/31/22 10:44	EPA 3050B	1,6010D	EW
Vanadium, Total	13.4		mg/kg	0.433	0.088	1	03/21/22 12:05	03/31/22 10:44	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214012
Project Number: 200.00135.007
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-12
Client ID: SB 34
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 08:25
Date Received: 03/17/22
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											
Antimony, Total	1.25	J	mg/kg	2.24	0.170	1	03/21/22 12:05	03/31/22 10:49	EPA 3050B	1,6010D	EW
Arsenic, Total	5.94		mg/kg	0.448	0.093	1	03/21/22 12:05	03/31/22 10:49	EPA 3050B	1,6010D	EW
Chromium, Total	19.9		mg/kg	0.448	0.043	1	03/21/22 12:05	03/31/22 10:49	EPA 3050B	1,6010D	EW
Lead, Total	17.1		mg/kg	2.24	0.120	1	03/21/22 12:05	03/31/22 10:49	EPA 3050B	1,6010D	EW
Nickel, Total	12.8		mg/kg	1.12	0.108	1	03/21/22 12:05	03/31/22 10:49	EPA 3050B	1,6010D	EW
Vanadium, Total	21.0		mg/kg	0.448	0.091	1	03/21/22 12:05	03/31/22 10:49	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214012
Project Number: 200.00135.007
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-13
Client ID: SB 36
Sample Location: PHILADELPHIA, PA
Date Collected: 03/17/22 10:40
Date Received: 03/17/22
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											
Antimony, Total	ND		mg/kg	2.20	0.168	1	03/21/22 12:05	03/31/22 10:54	EPA 3050B	1,6010D	EW
Arsenic, Total	4.00		mg/kg	0.441	0.092	1	03/21/22 12:05	03/31/22 10:54	EPA 3050B	1,6010D	EW
Chromium, Total	14.2		mg/kg	0.441	0.042	1	03/21/22 12:05	03/31/22 10:54	EPA 3050B	1,6010D	EW
Lead, Total	18.8		mg/kg	2.20	0.118	1	03/21/22 12:05	03/31/22 10:54	EPA 3050B	1,6010D	EW
Nickel, Total	13.2		mg/kg	1.10	0.107	1	03/21/22 12:05	03/31/22 10:54	EPA 3050B	1,6010D	EW
Vanadium, Total	20.4		mg/kg	0.441	0.090	1	03/21/22 12:05	03/31/22 10:54	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-14 Date Collected: 03/17/22 10:20

Client ID: SB 37 Date Received: 03/17/22

Sample Location: PHILADELPHIA, PA 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											
Antimony, Total	0.228	J	mg/kg	2.19	0.166	1	03/21/22 12:05	03/31/22 10:58	EPA 3050B	1,6010D	EW
Arsenic, Total	4.69		mg/kg	0.438	0.091	1	03/21/22 12:05	03/31/22 10:58	EPA 3050B	1,6010D	EW
Chromium, Total	43.7		mg/kg	0.438	0.042	1	03/21/22 12:05	03/31/22 10:58	EPA 3050B	1,6010D	EW
Lead, Total	51.4		mg/kg	2.19	0.117	1	03/21/22 12:05	03/31/22 10:58	EPA 3050B	1,6010D	EW
Nickel, Total	12.9		mg/kg	1.10	0.106	1	03/21/22 12:05	03/31/22 10:58	EPA 3050B	1,6010D	EW
Vanadium, Total	23.7		mg/kg	0.438	0.089	1	03/21/22 12:05	03/31/22 10:58	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214012
Project Number: 200.00135.007
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-15
Client ID: SB 39
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 11:50
Date Received: 03/17/22
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											
Antimony, Total	0.424	J	mg/kg	2.18	0.166	1	03/21/22 12:05	03/31/22 11:25	EPA 3050B	1,6010D	EW
Arsenic, Total	5.01		mg/kg	0.437	0.091	1	03/21/22 12:05	03/31/22 11:25	EPA 3050B	1,6010D	EW
Chromium, Total	13.7		mg/kg	0.437	0.042	1	03/21/22 12:05	03/31/22 14:03	EPA 3050B	1,6010D	EW
Lead, Total	60.7		mg/kg	2.18	0.117	1	03/21/22 12:05	03/31/22 11:25	EPA 3050B	1,6010D	EW
Nickel, Total	7.67		mg/kg	1.09	0.106	1	03/21/22 12:05	03/31/22 11:25	EPA 3050B	1,6010D	EW
Vanadium, Total	12.2		mg/kg	0.437	0.089	1	03/21/22 12:05	03/31/22 14:03	EPA 3050B	1,6010D	EW

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

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): 01-15 Batch: WG1617429-1										
Antimony, Total	ND		mg/kg	2.00	0.152	1	03/21/22 12:05	03/31/22 08:45	1,6010D	EW
Arsenic, Total	ND		mg/kg	0.400	0.083	1	03/21/22 12:05	03/31/22 08:45	1,6010D	EW
Chromium, Total	ND		mg/kg	0.400	0.038	1	03/21/22 12:05	03/31/22 08:45	1,6010D	EW
Lead, Total	ND		mg/kg	2.00	0.107	1	03/21/22 12:05	03/31/22 08:45	1,6010D	EW
Nickel, Total	ND		mg/kg	1.00	0.097	1	03/21/22 12:05	03/31/22 08:45	1,6010D	EW
Vanadium, Total	ND		mg/kg	0.400	0.081	1	03/21/22 12:05	03/31/22 08:45	1,6010D	EW

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2214012

Report Date: 03/31/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-15 Batch: WG1617429-2 SRM Lot Number: D113-540								
Antimony, Total	126		-		20-250	-		
Arsenic, Total	96		-		70-130	-		
Chromium, Total	84		-		70-130	-		
Lead, Total	90		-		72-128	-		
Nickel, Total	89		-		70-130	-		
Vanadium, Total	84		-		74-126	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

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): 01-15 QC Batch ID: WG1617429-3 QC Sample: L2214012-01 Client ID: SB 02												
Antimony, Total	ND	42.4	15.8	**37**	Q	-	-		75-125	-		20
Arsenic, Total	3.90	10.2	12.2	82		-	-		75-125	-		20
Chromium, Total	18.0	16.9	26.6	**51**	Q	-	-		75-125	-		20
Lead, Total	9.82	44.9	39.7	**66**	Q	-	-		75-125	-		20
Nickel, Total	21.8	42.4	51.0	**69**	Q	-	-		75-125	-		20
Vanadium, Total	24.0	42.4	55.5	**74**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2214012

Report Date: 03/31/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-15 QC Batch ID: WG1617429-4 QC Sample: L2214012-01 Client ID: SB 02						
Antimony, Total	ND	ND	mg/kg	NC		20
Arsenic, Total	3.90	3.59	mg/kg	8		20
Chromium, Total	18.0	17.0	mg/kg	6		20
Lead, Total	9.82	9.53	mg/kg	3		20
Nickel, Total	21.8	23.0	mg/kg	5		20
Vanadium, Total	24.0	25.3	mg/kg	5		20

Lab Serial Dilution Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-15 QC Batch ID: WG1617429-6 QC Sample: L2214012-01 Client ID: SB 02						
Chromium, Total	18.0	24.9	mg/kg	**38**	Q	20
Vanadium, Total	24.0	32.5	mg/kg	**35**	Q	20

INORGANICS
&
MISCELLANEOUS

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-01
Client ID: SB 02
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 09:00
Date Received: 03/17/22
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	88.8		%	0.100	NA	1	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	03/30/22 13:40	03/31/22 10:02	1,9010C/9012B	CS
Chromium, Hexavalent	0.540	J	mg/kg	0.901	0.180	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-02
Client ID: SB 03
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 08:40
Date Received: 03/17/22
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	87.6		%	0.100	NA	1	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	03/30/22 09:55	03/30/22 14:16	1,9010C/9012B	KP
Chromium, Hexavalent	0.799	J	mg/kg	0.913	0.183	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-03
Client ID: SB 06
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 09:25
Date Received: 03/17/22
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	89.9		%	0.100	NA	1	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.0	0.22	1	03/30/22 09:55	03/30/22 14:19	1,9010C/9012B	KP
Chromium, Hexavalent	0.289	J	mg/kg	0.890	0.178	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-04
Client ID: SB 07
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 09:40
Date Received: 03/17/22
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	88.8		%	0.100	NA	1	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	0.30	J	mg/kg	1.0	0.22	1	03/30/22 09:55	03/30/22 14:20	1,9010C/9012B	KP
Chromium, Hexavalent	ND		mg/kg	0.901	0.180	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-05
Client ID: SB 08
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 10:00
Date Received: 03/17/22
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	94.0		%	0.100	NA	1	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.0	0.22	1	03/30/22 09:55	03/30/22 14:21	1,9010C/9012B	KP
Chromium, Hexavalent	1.11		mg/kg	0.851	0.170	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-06
Client ID: SB 11
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 11:00
Date Received: 03/17/22
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	90.1		%	0.100	NA	1	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.0	0.22	1	03/30/22 09:55	03/30/22 14:22	1,9010C/9012B	KP
Chromium, Hexavalent	0.855	J	mg/kg	0.888	0.178	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-07
Client ID: SB 12
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 11:25
Date Received: 03/17/22
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	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.0	0.22	1	03/30/22 13:40	03/31/22 10:03	1,9010C/9012B	CS
Chromium, Hexavalent	0.313	J	mg/kg	0.928	0.186	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-08
Client ID: SB 16
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 12:35
Date Received: 03/17/22
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	84.2		%	0.100	NA	1	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.2	0.25	1	03/30/22 13:40	03/31/22 10:04	1,9010C/9012B	CS
Chromium, Hexavalent	0.903	J	mg/kg	0.950	0.190	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-09
Client ID: SB 17
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 12:15
Date Received: 03/17/22
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	86.9		%	0.100	NA	1	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	03/30/22 13:40	03/31/22 10:05	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.920	0.184	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-10
Client ID: SB 22
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 13:00
Date Received: 03/17/22
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	87.3		%	0.100	NA	1	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	0.52	J	mg/kg	1.1	0.24	1	03/30/22 13:40	03/31/22 10:08	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.916	0.183	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-11
Client ID: SB 31
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 13:40
Date Received: 03/17/22
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	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	03/30/22 13:40	03/31/22 10:09	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.920	0.184	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-12
Client ID: SB 34
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 08:25
Date Received: 03/17/22
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	84.1		%	0.100	NA	1	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.2	0.25	1	03/30/22 13:40	03/31/22 10:10	1,9010C/9012B	CS
Chromium, Hexavalent	0.250	J	mg/kg	0.951	0.190	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-13
Client ID: SB 36
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 10:40
Date Received: 03/17/22
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	85.8		%	0.100	NA	1	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	03/30/22 13:40	03/31/22 10:11	1,9010C/9012B	CS
Chromium, Hexavalent	0.886	J	mg/kg	0.932	0.186	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-14
Client ID: SB 37
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 10:20
Date Received: 03/17/22
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	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	03/30/22 13:40	03/31/22 10:14	1,9010C/9012B	CS
Chromium, Hexavalent	0.500	J	mg/kg	0.930	0.186	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

SAMPLE RESULTS

Lab ID: L2214012-15
Client ID: SB 39
Sample Location: PHILADELPHIA, PA

Date Collected: 03/17/22 11:50
Date Received: 03/17/22
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	-	03/18/22 08:33	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	03/30/22 13:40	03/31/22 10:15	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.920	0.184	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214012

Project Number: 200.00135.007 **Report Date:** 03/31/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-08 Batch: WG1619457-1										
Chromium, Hexavalent	ND		mg/kg	0.800	0.160	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL
General Chemistry - Westborough Lab for sample(s): 09-15 Batch: WG1619459-1										
Chromium, Hexavalent	ND		mg/kg	0.800	0.160	1	03/25/22 09:30	03/26/22 20:12	1,7196A	NL
General Chemistry - Westborough Lab for sample(s): 01,07-15 Batch: WG1621416-1										
Cyanide, Total	ND		mg/kg	0.90	0.19	1	03/30/22 13:40	03/31/22 09:58	1,9010C/9012B	CS
General Chemistry - Westborough Lab for sample(s): 02-06 Batch: WG1621417-1										
Cyanide, Total	ND		mg/kg	0.89	0.19	1	03/30/22 09:55	03/30/22 13:47	1,9010C/9012B	KP

Lab Control Sample Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2214012

Report Date: 03/31/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08 Batch: WG1619457-2								
Chromium, Hexavalent	**72**	Q	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 09-15 Batch: WG1619459-2								
Chromium, Hexavalent	**72**	Q	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01,07-15 Batch: WG1621416-2 WG1621416-3								
Cyanide, Total	**62**	Q	**78**	Q	80-120	12		35
General Chemistry - Westborough Lab Associated sample(s): 02-06 Batch: WG1621417-2 WG1621417-3								
Cyanide, Total	**58**	Q	**62**	Q	80-120	20		35

Matrix Spike Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1619457-4 QC Sample: L2214012-02 Client ID: SB 03												
Chromium, Hexavalent	0.799J	1100	1080	98		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 09-15 QC Batch ID: WG1619459-4 QC Sample: L2214012-13 Client ID: SB 36												
Chromium, Hexavalent	0.886J	1690	1640	97		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 01,07-15 QC Batch ID: WG1621416-4 WG1621416-5 QC Sample: L2214012-13 Client ID: SB 36												
Cyanide, Total	ND	11	12	110		12	110		75-125	0		35
General Chemistry - Westborough Lab Associated sample(s): 02-06 QC Batch ID: WG1621417-4 WG1621417-5 QC Sample: L2214012-02 Client ID: SB 03												
Cyanide, Total	ND	11	11	100		10	93		75-125	10		35

Lab Duplicate Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2214012

Report Date: 03/31/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-15 QC Batch ID: WG1617086-1 QC Sample: L2214012-01 Client ID: SB 02						
Solids, Total	88.8	83.8	%	6		20
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1619457-6 QC Sample: L2214012-02 Client ID: SB 03						
Chromium, Hexavalent	0.799J	1.00	mg/kg	NC		20
General Chemistry - Westborough Lab Associated sample(s): 09-15 QC Batch ID: WG1619459-6 QC Sample: L2214012-13 Client ID: SB 36						
Chromium, Hexavalent	0.886J	0.944	mg/kg	NC		20

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2214012-01A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2214012-01B	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-01C	Vial water preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2214012-01D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2214012-01E	Plastic 120ml unpreserved	B	NA		4.9	Y	Absent		TS(7)
L2214012-01F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		TCN-9010(14),PA-8260HLW(14),HEXCR-7196(30)
L2214012-01X	Vial MeOH preserved split	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2214012-01X1	Vial Water preserved split	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2214012-02A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2214012-02B	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-02C	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-02D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2214012-02E	Plastic 120ml unpreserved	B	NA		4.9	Y	Absent		TS(7)
L2214012-02F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214012-03A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2214012-03B	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-03C	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-03D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2214012-03E	Plastic 120ml unpreserved	B	NA		4.9	Y	Absent		TS(7)
L2214012-03F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214012-04A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2214012-04B	Vial water preserved	A	NA		3.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-04C	Vial water preserved	A	NA		3.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-04D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2214012-04E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2214012-04F	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214012-05A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2214012-05B	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-05C	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-05D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2214012-05E	Plastic 120ml unpreserved	B	NA		4.9	Y	Absent		TS(7)
L2214012-05F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214012-06A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2214012-06B	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-06C	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-06D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2214012-06E	Plastic 120ml unpreserved	B	NA		4.9	Y	Absent		TS(7)
L2214012-06F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214012-07A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260HLW(14)
L2214012-07B	Vial water preserved	A	NA		3.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-07C	Vial water preserved	A	NA		3.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-07D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2214012-07E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2214012-07F	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214012-08A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260HLW(14)
L2214012-08B	Vial water preserved	A	NA		3.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-08C	Vial water preserved	A	NA		3.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-08D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2214012-08E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2214012-08F	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214012-09A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260HLW(14)
L2214012-09B	Vial water preserved	A	NA		3.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-09C	Vial water preserved	A	NA		3.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-09D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2214012-09E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2214012-09F	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214012-10A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260HLW(14)
L2214012-10B	Vial water preserved	A	NA		3.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-10C	Vial water preserved	A	NA		3.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-10D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2214012-10E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2214012-10F	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214012-11A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260HLW(14)
L2214012-11B	Vial water preserved	A	NA		3.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-11C	Vial water preserved	A	NA		3.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-11D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2214012-11E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2214012-11F	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214012-12A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2214012-12B	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-12C	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-12D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2214012-12E	Plastic 120ml unpreserved	B	NA		4.9	Y	Absent		TS(7)
L2214012-12F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214012-13A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214012
Report Date: 03/31/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2214012-13B	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-13C	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-13D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2214012-13E	Plastic 120ml unpreserved	B	NA		4.9	Y	Absent		TS(7)
L2214012-13F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214012-14A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2214012-14B	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-14C	Vial water preserved	B	NA		4.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-14D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2214012-14E	Plastic 120ml unpreserved	B	NA		4.9	Y	Absent		TS(7)
L2214012-14F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214012-15A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260HLW(14)
L2214012-15B	Vial water preserved	A	NA		3.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-15C	Vial water preserved	A	NA		3.9	Y	Absent	18-MAR-22 05:56	PA-8260HLW(14)
L2214012-15D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2214012-15E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2214012-15F	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214012-16A	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2214012-16B	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		PA-8260(7)

Container Comments

L2214012-01C WM: broken in login during processing of samples

*Values in parentheses indicate holding time in days

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2214012
Project Number:	200.00135.007	**Report Date:**	03/31/22

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2214012
Project Number:	200.00135.007	**Report Date:**	03/31/22

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2214012
Project Number:	200.00135.007	**Report Date:**	03/31/22

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2214012
Project Number:	200.00135.007	**Report Date:**	03/31/22

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, SM4500Cl-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, **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), **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

PAGE 1 OF 2

Date Rec'd in Lab: 3/18/22

ALPHA Job #: L2214012

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609.584.0090
Fax: 609.584.1190
Email: william.schmidt@ransomenv.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.0087
Project Manager: William Schmidt
ALPHA Quote #: 17833

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 #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:
* See Table 1 (attached) for specific compounds on Proposed Target Analyte List.

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs (8260)	SVOCs (8270)	Sb, As, Pb, Ni, V, Cr (6010) *	Total Cyanide (9012) *	Hexavalent Chromium (7196) *							Sample Specific Comments	TOTAL # BOTTLES
14012-01	SB02	3.17.22	9:00	S	TR	✓	✓	✓	✓	✓								
02	SB03	↓	8:40	↓	↓	✓	✓	✓	✓	✓								
03	SB06	↓	9:25	↓	↓	✓	✓	✓	✓	✓								
04	SB07	↓	9:40	↓	↓	✓	✓	✓	✓	✓								
05	SB08	↓	10:00	↓	↓	✓	✓	✓	✓	✓								
06	SB11	↓	11:00	↓	↓	✓	✓	✓	✓	✓								
07	SB12	↓	11:25	↓	↓	✓	✓	✓	✓	✓								
08	SB16	↓	12:35	↓	↓	✓	✓	✓	✓	✓								
09	SB17	↓	12:15	↓	↓	✓	✓	✓	✓	✓								
10	SB22	↓	13:00	↓	↓	✓	✓	✓	✓	✓								

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type																		
Preservative																		

Reid 3/18/22 0300

3/18/22 0300

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	3/17 1500	Tom Cl AAL	3-17 1500
Tom Cl AAL	3-17 1770	[signature]	3-17 1770
[signature]	3-17 2030	[signature] AAL	3/17/22 20:30

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

Date Rec'd in Lab: 3/18/22

ALPHA Job #: L2214012

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609.584.0090
Fax: 609.584.1190
Email: william.schmidt@ransomenv.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.0087
Project Manager: William Schmidt
ALPHA Quote #: 17833

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 #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:
* See Table 1 (attached) for specific compounds on Proposed Target Analyte List

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs (8260)	SVOCs (8270)	Sb, As, Pb, Ni, V, Cr (6010)	Total Cyanide (9012)	Hexavalent Chromium (7196)							Sample Specific Comments	TOTAL # BOTTLES
14012-11	SB31	3.17.22	13:40	S	TR	✓	✓	✓	✓	✓								
12	SB34	↓	8:25	↓	↓	✓	✓	✓	✓	✓								
13	SB36	↓	10:40	↓	↓	✓	✓	✓	✓	✓								
14	SB37	↓	10:20	↓	↓	✓	✓	✓	✓	✓								
15	SB39	↓	11:50	↓	↓	✓	✓	✓	✓	✓								
16	Trip blank	3.14.22	8:33	TB		✓												

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type																		
Preservative																		

[signature] 3/18/22 0300

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	3/17 1500	Tom [signature]	3-17 1500
Tom [signature] AAL	3-17	[signature] AAL	3/17/22 20:30
[signature] AAL	3/18/22	[signature] AAL	3/18/22 0030

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.

Table 1
Proposed Target Analyte List and Analytical Methods
Point Breeze Hazardous Waste Storage Pad Area
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Constituents for Analysis	Analytical Method
Volatile Organic Compounds	*SW-846 Method 8260*
Benzene	
1,2-Dibromoethane (EBD)	
1,2-Dichloroethane (EDC)	
Carbon Disulfide	
Ethyl Benzene	
Isopropylbenzene (Cumene)	
Methyl Tertiary Butyl Ether (MTBE)	
Toluene	
1,2,4-Trimethylbenzene	
1,3,5-Trimethylbenzene	
Xylenes (total)	
Semi-Volatile Compounds	*SW-846 Method 8270*
Acenaphthene	
Anthracene	
Benzo(a)anthracene	
Benzo(a)pyrene	
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Benzo(g,h,i)perylene	
bis(2-Ethylhexyl)phthalate	
Chrysene	
Dibenz(a,h)anthracene	
Di-n-butylphthalate	
7,12-Dimethylbenz(a)anthracene	
2,4-Dimethylphenol	
Fluorene	
Indeno(1,2,3-cd)pyrene	
3-Methylcholanthrene	
2-Methylphenol	
3-Methylphenol	
4-Methylphenol	
Naphthalene	
o-cresol	
m-cresol	
p-resol	
Phenanthrene	
Phenol	
Pyrene	
Metals	*SW-846 Method 6010*
Antimony	
Arsenic	
Cyanide (total)	*SW-846 Method 9012*
Lead	*SW-846 Method 6010*
Nickel	
Vanadium	
Chromium (total)	
Chromium (hexavalent)	*SW-846 Method 7196*

Notes:

1) The Evergreen and PADEP agreed upon Philadelphia Refinery Target Compound List is provided in regular font.

2) Additional analytes based on the waste codes for the waste stored in the PB Waste Storage Area are italicized.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-195922-1
Client Project/Site: L2214012

For:
Alpha Analytical Inc
8 Walkup Drive
Westboro, Massachusetts 01581

Attn: Ms. Nadine Yakes

Authorized for release by:
3/29/2022 3:50:56 PM

Steve Hartmann, Project Manager
(413)572-4000
Steve.Hartmann@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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.

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Definitions/Glossary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Qualifiers

GC/MS Semi 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.
S1-	Surrogate recovery exceeds control limits, low biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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
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

Case Narrative

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Job ID: 480-195922-1

Laboratory: Eurofins Buffalo

Narrative

Job Narrative
480-195922-1

Comments
No additional comments.

Receipt
The samples were received on 3/18/2022 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

GC/MS Semi VOA
Method 8270D: The following samples were diluted due to color, appearance, and viscosity: SB-07 (480-195922-4), SB-16 (480-195922-8), SB-22 (480-195922-10) and SB-31 (480-195922-11). Elevated reporting limits (RL) are provided.

Method 8270D: Surrogate recovery for the following sample was outside control limits: SB-31 (480-195922-11). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-02 — Lab Sample ID: 480-195922-1

No Detections.

Client Sample ID: SB-03 — Lab Sample ID: 480-195922-2

No Detections.

Client Sample ID: SB-06 — Lab Sample ID: 480-195922-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	170	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Anthracene	360		190	48	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	710		190	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	490		190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	620		190	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	230		190	21	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	280		190	25	ug/Kg	1	☼	8270D	Total/NA
Chrysene	610		190	43	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	100	J	190	34	ug/Kg	1	☼	8270D	Total/NA
Fluorene	180	J	190	23	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	320		190	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	1400		190	28	ug/Kg	1	☼	8270D	Total/NA
Pyrene	1100		190	23	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: SB-07 — Lab Sample ID: 480-195922-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	540	J	1900	190	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	970	J	1900	290	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	840	J	1900	310	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	1400	J	1900	210	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	280	J	1900	250	ug/Kg	10	☼	8270D	Total/NA
Chrysene	660	J	1900	430	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	440	J	1900	340	ug/Kg	10	☼	8270D	Total/NA
Fluorene	340	J	1900	230	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1000	J	1900	240	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	800	J	1900	290	ug/Kg	10	☼	8270D	Total/NA
Pyrene	970	J	1900	230	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: SB-08 — Lab Sample ID: 480-195922-5

No Detections.

Client Sample ID: SB-11 — Lab Sample ID: 480-195922-6

No Detections.

Client Sample ID: SB-12 — Lab Sample ID: 480-195922-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	49	J	200	49	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	450		200	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	410		200	29	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	660		200	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	250		200	21	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	210		200	26	ug/Kg	1	☼	8270D	Total/NA
Chrysene	490		200	44	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-12 (Continued) — Lab Sample ID: 480-195922-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dibenz(a,h)anthracene	100	J	200	35	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	320		200	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	250		200	29	ug/Kg	1	☼	8270D	Total/NA
Pyrene	530		200	23	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: SB-16 — Lab Sample ID: 480-195922-8

No Detections.

Client Sample ID: SB-17 — Lab Sample ID: 480-195922-9

No Detections.

Client Sample ID: SB-22 — Lab Sample ID: 480-195922-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	3500		2000	200	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	3800		2000	290	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	5000		2000	310	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	2500		2000	210	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	2000		2000	250	ug/Kg	10	☼	8270D	Total/NA
Chrysene	3500		2000	440	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	750	J	2000	340	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	3100		2000	240	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	1500	J	2000	290	ug/Kg	10	☼	8270D	Total/NA
Pyrene	3900		2000	230	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: SB-31 — Lab Sample ID: 480-195922-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	2600		1900	190	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	2500		1900	290	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	3600		1900	310	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	1500	J	1900	210	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	1300	J	1900	250	ug/Kg	10	☼	8270D	Total/NA
Chrysene	2800		1900	430	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	470	J	1900	340	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1900		1900	240	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	2100		1900	290	ug/Kg	10	☼	8270D	Total/NA
Pyrene	4000		1900	230	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: SB-34 — Lab Sample ID: 480-195922-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	110	J	200	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	100	J	200	29	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	130	J	200	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	62	J	200	21	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	56	J	200	26	ug/Kg	1	☼	8270D	Total/NA
Chrysene	110	J	200	44	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	78	J	200	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	160	J	200	29	ug/Kg	1	☼	8270D	Total/NA
Pyrene	180	J	200	23	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-36 — Lab Sample ID: 480-195922-13

No Detections.

Client Sample ID: SB-37 — Lab Sample ID: 480-195922-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	51	J	200	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	59	J	200	29	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	77	J	200	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	40	J	200	21	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	32	J	200	25	ug/Kg	1	☼	8270D	Total/NA
Chrysene	54	J	200	44	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	41	J	200	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	29	J	200	29	ug/Kg	1	☼	8270D	Total/NA
Pyrene	69	J	200	23	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: SB-39 — Lab Sample ID: 480-195922-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	96	J	190	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	100	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	140	J	190	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	72	J	190	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	46	J	190	25	ug/Kg	1	☼	8270D	Total/NA
Chrysene	100	J	190	43	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	79	J	190	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	81	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Pyrene	140	J	190	23	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-02

Lab Sample ID: 480-195922-1
Date Collected: 03/17/22 09:00
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 85.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Anthracene	ND		200	49	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Benzo[b]fluoranthene	ND		200	31	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Benzo[k]fluoranthene	ND		200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
2,4-Dimethylphenol	ND		200	47	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
7,12-Dimethylbenz(a)anthracene	ND		380	57	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Chrysene	ND		200	44	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Fluorene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Indeno[1,2,3-cd]pyrene	ND		200	24	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Naphthalene	ND		200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
2-Methylphenol	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
3-Methylcholanthrene	ND		380	64	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Phenanthrene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Phenol	ND		200	30	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Pyrene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*54 - 120*	*03/21/22 15:35*	*03/22/22 14:26*	*1*
2-Fluorobiphenyl (Surr)	*88*		*60 - 120*	*03/21/22 15:35*	*03/22/22 14:26*	*1*
2-Fluorophenol (Surr)	*77*		*52 - 120*	*03/21/22 15:35*	*03/22/22 14:26*	*1*
Phenol-d5 (Surr)	*80*		*54 - 120*	*03/21/22 15:35*	*03/22/22 14:26*	*1*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*03/21/22 15:35*	*03/22/22 14:26*	*1*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*03/21/22 15:35*	*03/22/22 14:26*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**14.5**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**85.5**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-03

Lab Sample ID: 480-195922-2
Date Collected: 03/17/22 08:40
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 86.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Anthracene	ND		200	48	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Benzo[b]fluoranthene	ND		200	31	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-03

Lab Sample ID: 480-195922-2
Date Collected: 03/17/22 08:40
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 86.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
2,4-Dimethylphenol	ND		200	47	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Chrysene	ND		200	44	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Dibenz(a,h)anthracene	ND		200	34	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Di-n-butyl phthalate	ND		200	33	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Fluorene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Indeno[1,2,3-cd]pyrene	ND		200	24	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Naphthalene	ND		200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
2-Methylphenol	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Phenanthrene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Phenol	ND		200	30	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Pyrene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*88*		*54 - 120*	*03/21/22 15:35*	*03/22/22 14:43*	*1*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*03/21/22 15:35*	*03/22/22 14:43*	*1*
2-Fluorophenol (Surr)	*84*		*52 - 120*	*03/21/22 15:35*	*03/22/22 14:43*	*1*
Phenol-d5 (Surr)	*86*		*54 - 120*	*03/21/22 15:35*	*03/22/22 14:43*	*1*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*03/21/22 15:35*	*03/22/22 14:43*	*1*
p-Terphenyl-d14 (Surr)	*100*		*79 - 130*	*03/21/22 15:35*	*03/22/22 14:43*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.5**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**86.5**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-06

Lab Sample ID: 480-195922-3
Date Collected: 03/17/22 09:25
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 86.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**170**	**J**	190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Anthracene	**360**		190	48	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Benzo[a]anthracene	**710**		190	19	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Benzo[a]pyrene	**490**		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Benzo[b]fluoranthene	**620**		190	31	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Benzo[g,h,i]perylene	**230**		190	21	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Benzo[k]fluoranthene	**280**		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Chrysene	**610**		190	43	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Dibenz(a,h)anthracene	**100**	**J**	190	34	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-06

Date Collected: 03/17/22 09:25
Date Received: 03/18/22 10:00

Lab Sample ID: 480-195922-3
Matrix: Solid
Percent Solids: 86.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Fluorene	**180**	**J**	190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Indeno[1,2,3-cd]pyrene	**320**		190	24	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Naphthalene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Phenanthrene	**1400**		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Phenol	ND		190	30	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Pyrene	**1100**		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*87*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:00*	*1*
2-Fluorobiphenyl (Surr)	*91*		*60 - 120*	*03/21/22 15:35*	*03/22/22 15:00*	*1*
2-Fluorophenol (Surr)	*84*		*52 - 120*	*03/21/22 15:35*	*03/22/22 15:00*	*1*
Phenol-d5 (Surr)	*84*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:00*	*1*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*	*03/21/22 15:35*	*03/22/22 15:00*	*1*
p-Terphenyl-d14 (Surr)	*98*		*79 - 130*	*03/21/22 15:35*	*03/22/22 15:00*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.9**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**86.1**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-07

Date Collected: 03/17/22 09:40
Date Received: 03/18/22 10:00

Lab Sample ID: 480-195922-4
Matrix: Solid
Percent Solids: 85.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1900	290	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Anthracene	ND		1900	480	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Benzo[a]anthracene	**540**	**J**	1900	190	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Benzo[a]pyrene	**970**	**J**	1900	290	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Benzo[b]fluoranthene	**840**	**J**	1900	310	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Benzo[g,h,i]perylene	**1400**	**J**	1900	210	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Benzo[k]fluoranthene	**280**	**J**	1900	250	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Bis(2-ethylhexyl) phthalate	ND		1900	660	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
2,4-Dimethylphenol	ND		1900	470	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
7,12-Dimethylbenz(a)anthracene	ND		3800	560	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Chrysene	**660**	**J**	1900	430	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Dibenz(a,h)anthracene	**440**	**J**	1900	340	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Di-n-butyl phthalate	ND		1900	330	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Fluorene	**340**	**J**	1900	230	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Indeno[1,2,3-cd]pyrene	**1000**	**J**	1900	240	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Naphthalene	ND		1900	250	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
2-Methylphenol	ND		1900	230	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
3-Methylphenol	ND		3800	300	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-07

Lab Sample ID: 480-195922-4
Date Collected: 03/17/22 09:40
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 85.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Methylcholanthrene	ND		3800	630	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
4-Methylphenol	ND		3800	230	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Phenanthrene	**800**	**J**	1900	290	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Phenol	ND		1900	300	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Pyrene	**970**	**J**	1900	230	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10
Total Cresols	ND		3800	230	ug/Kg	☼	03/21/22 15:35	03/22/22 15:18	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*97*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:18*	*10*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*	*03/21/22 15:35*	*03/22/22 15:18*	*10*
2-Fluorophenol (Surr)	*77*		*52 - 120*	*03/21/22 15:35*	*03/22/22 15:18*	*10*
Phenol-d5 (Surr)	*74*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:18*	*10*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*03/21/22 15:35*	*03/22/22 15:18*	*10*
p-Terphenyl-d14 (Surr)	*103*		*79 - 130*	*03/21/22 15:35*	*03/22/22 15:18*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**14.2**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**85.8**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-08

Lab Sample ID: 480-195922-5
Date Collected: 03/17/22 10:00
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 87.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Anthracene	ND		190	47	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Chrysene	ND		190	43	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Fluorene	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Naphthalene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
3-Methylphenol	ND		370	29	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Phenanthrene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Phenol	ND		190	29	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Pyrene	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1
Total Cresols	ND		370	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:35	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-08

Lab Sample ID: 480-195922-5
Date Collected: 03/17/22 10:00
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 87.8

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:35*	*1*
2-Fluorobiphenyl (Surr)	*93*		*60 - 120*	*03/21/22 15:35*	*03/22/22 15:35*	*1*
2-Fluorophenol (Surr)	*88*		*52 - 120*	*03/21/22 15:35*	*03/22/22 15:35*	*1*
Phenol-d5 (Surr)	*89*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:35*	*1*
Nitrobenzene-d5 (Surr)	*84*		*53 - 120*	*03/21/22 15:35*	*03/22/22 15:35*	*1*
p-Terphenyl-d14 (Surr)	*102*		*79 - 130*	*03/21/22 15:35*	*03/22/22 15:35*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**12.2**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**87.8**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-11

Lab Sample ID: 480-195922-6
Date Collected: 03/17/22 11:00
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 87.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Anthracene	ND		190	48	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Chrysene	ND		190	43	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Fluorene	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Naphthalene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Phenanthrene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Phenol	ND		190	30	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Pyrene	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 15:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:52*	*1*
2-Fluorobiphenyl (Surr)	*93*		*60 - 120*	*03/21/22 15:35*	*03/22/22 15:52*	*1*
2-Fluorophenol (Surr)	*86*		*52 - 120*	*03/21/22 15:35*	*03/22/22 15:52*	*1*
Phenol-d5 (Surr)	*87*		*54 - 120*	*03/21/22 15:35*	*03/22/22 15:52*	*1*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*03/21/22 15:35*	*03/22/22 15:52*	*1*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*03/21/22 15:35*	*03/22/22 15:52*	*1*

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-11

Lab Sample ID: 480-195922-6
Date Collected: 03/17/22 11:00
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 87.0

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13.0		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	87.0		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-12

Lab Sample ID: 480-195922-7
Date Collected: 03/17/22 11:25
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 85.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Anthracene	49	J	200	49	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Benzo[a]anthracene	450		200	20	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Benzo[a]pyrene	410		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Benzo[b]fluoranthene	660		200	31	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Benzo[g,h,i]perylene	250		200	21	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Benzo[k]fluoranthene	210		200	26	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
7,12-Dimethylbenz(a)anthracene	ND		380	57	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Chrysene	490		200	44	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Dibenz(a,h)anthracene	100	J	200	35	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Fluorene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Indeno[1,2,3-cd]pyrene	320		200	24	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Naphthalene	ND		200	26	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
2-Methylphenol	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
3-Methylcholanthrene	ND		380	64	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Phenanthrene	250		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Phenol	ND		200	30	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Pyrene	530		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*90*		*54 - 120*	*03/21/22 15:35*	*03/22/22 16:09*	*1*
2-Fluorobiphenyl (Surr)	*94*		*60 - 120*	*03/21/22 15:35*	*03/22/22 16:09*	*1*
2-Fluorophenol (Surr)	*86*		*52 - 120*	*03/21/22 15:35*	*03/22/22 16:09*	*1*
Phenol-d5 (Surr)	*86*		*54 - 120*	*03/21/22 15:35*	*03/22/22 16:09*	*1*
Nitrobenzene-d5 (Surr)	*86*		*53 - 120*	*03/21/22 15:35*	*03/22/22 16:09*	*1*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*03/21/22 15:35*	*03/22/22 16:09*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	14.9		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	85.1		0.1	0.1	%			03/18/22 16:17	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-16

Lab Sample ID: 480-195922-8
Date Collected: 03/17/22 12:35
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 85.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		980	140	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Anthracene	ND		980	240	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Benzo[a]anthracene	ND		980	98	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Benzo[a]pyrene	ND		980	140	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Benzo[b]fluoranthene	ND		980	160	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Benzo[g,h,i]perylene	ND		980	100	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Benzo[k]fluoranthene	ND		980	130	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Bis(2-ethylhexyl) phthalate	ND		980	330	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
2,4-Dimethylphenol	ND		980	240	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
7,12-Dimethylbenz(a)anthracene	ND		1900	280	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Chrysene	ND		980	220	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Dibenz(a,h)anthracene	ND		980	170	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Di-n-butyl phthalate	ND		980	170	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Fluorene	ND		980	120	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Indeno[1,2,3-cd]pyrene	ND		980	120	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Naphthalene	ND		980	130	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
2-Methylphenol	ND		980	120	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
3-Methylphenol	ND		1900	150	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
3-Methylcholanthrene	ND		1900	320	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
4-Methylphenol	ND		1900	120	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Phenanthrene	ND		980	140	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Phenol	ND		980	150	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Pyrene	ND		980	120	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5
Total Cresols	ND		1900	120	ug/Kg	☼	03/21/22 15:35	03/22/22 16:26	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*82*		*54 - 120*	*03/21/22 15:35*	*03/22/22 16:26*	*5*
2-Fluorobiphenyl (Surr)	*90*		*60 - 120*	*03/21/22 15:35*	*03/22/22 16:26*	*5*
2-Fluorophenol (Surr)	*79*		*52 - 120*	*03/21/22 15:35*	*03/22/22 16:26*	*5*
Phenol-d5 (Surr)	*79*		*54 - 120*	*03/21/22 15:35*	*03/22/22 16:26*	*5*
Nitrobenzene-d5 (Surr)	*78*		*53 - 120*	*03/21/22 15:35*	*03/22/22 16:26*	*5*
p-Terphenyl-d14 (Surr)	*94*		*79 - 130*	*03/21/22 15:35*	*03/22/22 16:26*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**14.6**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**85.4**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-17

Lab Sample ID: 480-195922-9
Date Collected: 03/17/22 12:15
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 84.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Anthracene	ND		200	48	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Benzo[a]anthracene	ND		200	20	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Benzo[a]pyrene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Benzo[b]fluoranthene	ND		200	31	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Benzo[g,h,i]perylene	ND		200	21	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-17

Lab Sample ID: 480-195922-9
Date Collected: 03/17/22 12:15
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 84.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
2,4-Dimethylphenol	ND		200	47	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Chrysene	ND		200	44	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Di-n-butyl phthalate	ND		200	33	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Fluorene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Indeno[1,2,3-cd]pyrene	ND		200	24	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Naphthalene	ND		200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
2-Methylphenol	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Phenanthrene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Phenol	ND		200	30	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Pyrene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*54 - 120*	*03/21/22 15:35*	*03/22/22 16:43*	*1*
2-Fluorobiphenyl (Surr)	*93*		*60 - 120*	*03/21/22 15:35*	*03/22/22 16:43*	*1*
2-Fluorophenol (Surr)	*89*		*52 - 120*	*03/21/22 15:35*	*03/22/22 16:43*	*1*
Phenol-d5 (Surr)	*88*		*54 - 120*	*03/21/22 15:35*	*03/22/22 16:43*	*1*
Nitrobenzene-d5 (Surr)	*87*		*53 - 120*	*03/21/22 15:35*	*03/22/22 16:43*	*1*
p-Terphenyl-d14 (Surr)	*105*		*79 - 130*	*03/21/22 15:35*	*03/22/22 16:43*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**15.2**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**84.8**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-22

Lab Sample ID: 480-195922-10
Date Collected: 03/17/22 13:00
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 86.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		2000	290	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Anthracene	ND		2000	480	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Benzo[a]anthracene	**3500**		2000	200	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Benzo[a]pyrene	**3800**		2000	290	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Benzo[b]fluoranthene	**5000**		2000	310	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Benzo[g,h,i]perylene	**2500**		2000	210	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Benzo[k]fluoranthene	**2000**		2000	250	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Bis(2-ethylhexyl) phthalate	ND		2000	670	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
2,4-Dimethylphenol	ND		2000	470	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
7,12-Dimethylbenz(a)anthracene	ND		3800	560	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Chrysene	**3500**		2000	440	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Dibenz(a,h)anthracene	**750**	**J**	2000	340	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-22

Lab Sample ID: 480-195922-10

Date Collected: 03/17/22 13:00
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 86.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		2000	330	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Fluorene	ND		2000	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Indeno[1,2,3-cd]pyrene	**3100**		2000	240	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Naphthalene	ND		2000	250	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
2-Methylphenol	ND		2000	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
3-Methylphenol	ND		3800	300	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
3-Methylcholanthrene	ND		3800	630	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
4-Methylphenol	ND		3800	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Phenanthrene	**1500**	**J**	2000	290	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Phenol	ND		2000	300	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Pyrene	**3900**		2000	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10
Total Cresols	ND		3800	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:00	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*82*		*54 - 120*	*03/21/22 15:35*	*03/22/22 17:00*	*10*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*	*03/21/22 15:35*	*03/22/22 17:00*	*10*
2-Fluorophenol (Surr)	*82*		*52 - 120*	*03/21/22 15:35*	*03/22/22 17:00*	*10*
Phenol-d5 (Surr)	*77*		*54 - 120*	*03/21/22 15:35*	*03/22/22 17:00*	*10*
Nitrobenzene-d5 (Surr)	*81*		*53 - 120*	*03/21/22 15:35*	*03/22/22 17:00*	*10*
p-Terphenyl-d14 (Surr)	*98*		*79 - 130*	*03/21/22 15:35*	*03/22/22 17:00*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.6**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**86.4**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-31

Lab Sample ID: 480-195922-11

Date Collected: 03/17/22 13:40
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 86.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1900	290	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Anthracene	ND		1900	480	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Benzo[a]anthracene	**2600**		1900	190	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Benzo[a]pyrene	**2500**		1900	290	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Benzo[b]fluoranthene	**3600**		1900	310	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Benzo[g,h,i]perylene	**1500**	**J**	1900	210	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Benzo[k]fluoranthene	**1300**	**J**	1900	250	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Bis(2-ethylhexyl) phthalate	ND		1900	660	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
2,4-Dimethylphenol	ND		1900	470	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
7,12-Dimethylbenz(a)anthracene	ND		3800	560	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Chrysene	**2800**		1900	430	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Dibenz(a,h)anthracene	**470**	**J**	1900	340	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Di-n-butyl phthalate	ND		1900	330	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Fluorene	ND		1900	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Indeno[1,2,3-cd]pyrene	**1900**		1900	240	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Naphthalene	ND		1900	250	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
2-Methylphenol	ND		1900	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
3-Methylphenol	ND		3800	300	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-31

Lab Sample ID: 480-195922-11

Date Collected: 03/17/22 13:40
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 86.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Methylcholanthrene	ND		3800	630	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
4-Methylphenol	ND		3800	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Phenanthrene	**2100**		1900	290	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Phenol	ND		1900	300	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Pyrene	**4000**		1900	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10
Total Cresols	ND		3800	230	ug/Kg	☼	03/21/22 15:35	03/22/22 17:17	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*0*	*S1-*	*54 - 120*	*03/21/22 15:35*	*03/22/22 17:17*	*10*
2-Fluorobiphenyl (Surr)	*92*		*60 - 120*	*03/21/22 15:35*	*03/22/22 17:17*	*10*
2-Fluorophenol (Surr)	*67*		*52 - 120*	*03/21/22 15:35*	*03/22/22 17:17*	*10*
Phenol-d5 (Surr)	*79*		*54 - 120*	*03/21/22 15:35*	*03/22/22 17:17*	*10*
Nitrobenzene-d5 (Surr)	*84*		*53 - 120*	*03/21/22 15:35*	*03/22/22 17:17*	*10*
p-Terphenyl-d14 (Surr)	*101*		*79 - 130*	*03/21/22 15:35*	*03/22/22 17:17*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**14.0**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**86.0**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-34

Lab Sample ID: 480-195922-12

Date Collected: 03/17/22 08:25
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 84.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Anthracene	ND		200	49	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Benzo[a]anthracene	**110**	**J**	200	20	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Benzo[a]pyrene	**100**	**J**	200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Benzo[b]fluoranthene	**130**	**J**	200	31	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Benzo[g,h,i]perylene	**62**	**J**	200	21	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Benzo[k]fluoranthene	**56**	**J**	200	26	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
2,4-Dimethylphenol	ND		200	48	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
7,12-Dimethylbenz(a)anthracene	ND		380	57	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Chrysene	**110**	**J**	200	44	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Di-n-butyl phthalate	ND		200	34	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Fluorene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Indeno[1,2,3-cd]pyrene	**78**	**J**	200	24	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Naphthalene	ND		200	26	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
2-Methylphenol	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
3-Methylcholanthrene	ND		380	64	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Phenanthrene	**160**	**J**	200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Phenol	ND		200	30	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Pyrene	**180**	**J**	200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:34	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-34

Lab Sample ID: 480-195922-12

Date Collected: 03/17/22 08:25
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 84.5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*54 - 120*	*03/21/22 15:35*	*03/22/22 17:34*	*1*
2-Fluorobiphenyl (Surr)	*91*		*60 - 120*	*03/21/22 15:35*	*03/22/22 17:34*	*1*
2-Fluorophenol (Surr)	*85*		*52 - 120*	*03/21/22 15:35*	*03/22/22 17:34*	*1*
Phenol-d5 (Surr)	*87*		*54 - 120*	*03/21/22 15:35*	*03/22/22 17:34*	*1*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*03/21/22 15:35*	*03/22/22 17:34*	*1*
p-Terphenyl-d14 (Surr)	*95*		*79 - 130*	*03/21/22 15:35*	*03/22/22 17:34*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**15.5**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**84.5**		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-36

Lab Sample ID: 480-195922-13

Date Collected: 03/17/22 10:40
Date Received: 03/18/22 10:00

Matrix: Solid
Percent Solids: 87.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Anthracene	ND		190	47	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Bis(2-ethylhexyl) phthalate	ND		190	65	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Chrysene	ND		190	43	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Fluorene	ND		190	22	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Naphthalene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
2-Methylphenol	ND		190	22	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
3-Methylphenol	ND		370	29	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
4-Methylphenol	ND		370	22	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Phenanthrene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Phenol	ND		190	29	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Pyrene	ND		190	22	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1
Total Cresols	ND		370	22	ug/Kg	☼	03/21/22 15:35	03/22/22 13:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*	*03/21/22 15:35*	*03/22/22 13:01*	*1*
2-Fluorobiphenyl (Surr)	*94*		*60 - 120*	*03/21/22 15:35*	*03/22/22 13:01*	*1*
2-Fluorophenol (Surr)	*89*		*52 - 120*	*03/21/22 15:35*	*03/22/22 13:01*	*1*
Phenol-d5 (Surr)	*88*		*54 - 120*	*03/21/22 15:35*	*03/22/22 13:01*	*1*
Nitrobenzene-d5 (Surr)	*88*		*53 - 120*	*03/21/22 15:35*	*03/22/22 13:01*	*1*
p-Terphenyl-d14 (Surr)	*104*		*79 - 130*	*03/21/22 15:35*	*03/22/22 13:01*	*1*

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-36

Lab Sample ID: 480-195922-13
Date Collected: 03/17/22 10:40
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 87.1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12.9		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	87.1		0.1	0.1	%			03/18/22 16:17	1

Client Sample ID: SB-37

Lab Sample ID: 480-195922-14
Date Collected: 03/17/22 10:20
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 84.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Anthracene	ND		200	48	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Benzo[a]anthracene	51	J	200	20	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Benzo[a]pyrene	59	J	200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Benzo[b]fluoranthene	77	J	200	31	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Benzo[g,h,i]perylene	40	J	200	21	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Benzo[k]fluoranthene	32	J	200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Bis(2-ethylhexyl) phthalate	ND		200	67	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
2,4-Dimethylphenol	ND		200	47	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
7,12-Dimethylbenz(a)anthracene	ND		380	57	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Chrysene	54	J	200	44	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Dibenz(a,h)anthracene	ND		200	35	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Di-n-butyl phthalate	ND		200	33	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Fluorene	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Indeno[1,2,3-cd]pyrene	41	J	200	24	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Naphthalene	ND		200	25	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
2-Methylphenol	ND		200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
3-Methylcholanthrene	ND		380	64	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Phenanthrene	29	J	200	29	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Phenol	ND		200	30	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Pyrene	69	J	200	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*86*		*54 - 120*	*03/21/22 15:35*	*03/22/22 17:51*	*1*
2-Fluorobiphenyl (Surr)	*93*		*60 - 120*	*03/21/22 15:35*	*03/22/22 17:51*	*1*
2-Fluorophenol (Surr)	*88*		*52 - 120*	*03/21/22 15:35*	*03/22/22 17:51*	*1*
Phenol-d5 (Surr)	*88*		*54 - 120*	*03/21/22 15:35*	*03/22/22 17:51*	*1*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*03/21/22 15:35*	*03/22/22 17:51*	*1*
p-Terphenyl-d14 (Surr)	*99*		*79 - 130*	*03/21/22 15:35*	*03/22/22 17:51*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.2		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	84.8		0.1	0.1	%			03/18/22 16:17	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-39

Date Collected: 03/17/22 11:50
Date Received: 03/18/22 10:00

Lab Sample ID: 480-195922-15

Matrix: Solid
Percent Solids: 86.7

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Anthracene	ND		190	48	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Benzo[a]anthracene	**96**	**J**	190	19	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Benzo[a]pyrene	**100**	**J**	190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Benzo[b]fluoranthene	**140**	**J**	190	31	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Benzo[g,h,i]perylene	**72**	**J**	190	20	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Benzo[k]fluoranthene	**46**	**J**	190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
7,12-Dimethylbenz(a)anthracene	ND		380	56	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Chrysene	**100**	**J**	190	43	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Fluorene	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Indeno[1,2,3-cd]pyrene	**79**	**J**	190	24	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Naphthalene	ND		190	25	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
3-Methylphenol	ND		380	30	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
3-Methylcholanthrene	ND		380	63	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
4-Methylphenol	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Phenanthrene	**81**	**J**	190	28	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Phenol	ND		190	30	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Pyrene	**140**	**J**	190	23	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1
Total Cresols	ND		380	23	ug/Kg	☼	03/21/22 15:35	03/22/22 18:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*54 - 120*	*03/21/22 15:35*	*03/22/22 18:08*	*1*
2-Fluorobiphenyl (Surr)	*93*		*60 - 120*	*03/21/22 15:35*	*03/22/22 18:08*	*1*
2-Fluorophenol (Surr)	*86*		*52 - 120*	*03/21/22 15:35*	*03/22/22 18:08*	*1*
Phenol-d5 (Surr)	*86*		*54 - 120*	*03/21/22 15:35*	*03/22/22 18:08*	*1*
Nitrobenzene-d5 (Surr)	*84*		*53 - 120*	*03/21/22 15:35*	*03/22/22 18:08*	*1*
p-Terphenyl-d14 (Surr)	*99*		*79 - 130*	*03/21/22 15:35*	*03/22/22 18:08*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.3**		0.1	0.1	%			03/18/22 16:17	1
Percent Solids	**86.7**		0.1	0.1	%			03/18/22 16:17	1

Surrogate Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	PHL	NBZ	TPHd14
Lab Sample ID	Client Sample ID	(54-120)	(60-120)	(52-120)	(54-120)	(53-120)	(79-130)
480-195922-1	SB-02	89	88	77	80	77	101
480-195922-2	SB-03	88	90	84	86	83	100
480-195922-3	SB-06	87	91	84	84	82	98
480-195922-4	SB-07	97	89	77	74	83	103
480-195922-5	SB-08	89	93	88	89	84	102
480-195922-6	SB-11	89	93	86	87	83	101
480-195922-7	SB-12	90	94	86	86	86	101
480-195922-8	SB-16	82	90	79	79	78	94
480-195922-9	SB-17	89	93	89	88	87	105
480-195922-10	SB-22	82	89	82	77	81	98
480-195922-11	SB-31	0 S1-	92	67	79	84	101
480-195922-12	SB-34	85	91	85	87	83	95
480-195922-13	SB-36	83	94	89	88	88	104
480-195922-13 MS	SB-36	86	96	89	91	87	107
480-195922-13 MSD	SB-36	86	89	80	83	82	95
480-195922-14	SB-37	86	93	88	88	83	99
480-195922-15	SB-39	85	93	86	86	84	99
LCS 480-618538/2-A	Lab Control Sample	83	89	83	85	82	98
MB 480-618538/1-A	Method Blank	69	81	75	77	76	94

Surrogate Legend

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

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

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

Lab Sample ID: MB 480-618538/1-A
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 618538

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		170	25	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Anthracene	ND		170	42	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[a]anthracene	ND		170	17	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[a]pyrene	ND		170	25	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[b]fluoranthene	ND		170	27	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Benzo[k]fluoranthene	ND		170	22	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Bis(2-ethylhexyl) phthalate	ND		170	58	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
2,4-Dimethylphenol	ND		170	41	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
7,12-Dimethylbenz(a)anthracene	ND		330	49	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Chrysene	ND		170	38	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Dibenz(a,h)anthracene	ND		170	30	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Di-n-butyl phthalate	ND		170	29	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Fluorene	ND		170	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Indeno[1,2,3-cd]pyrene	ND		170	21	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Naphthalene	ND		170	22	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
2-Methylphenol	ND		170	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
3-Methylphenol	ND		330	26	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
3-Methylcholanthrene	ND		330	55	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
4-Methylphenol	ND		330	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Phenanthrene	ND		170	25	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Phenol	ND		170	26	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Pyrene	ND		170	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1
Total Cresols	ND		330	20	ug/Kg		03/21/22 15:35	03/22/22 11:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*69*		*54 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
2-Fluorophenol (Surr)	*75*		*52 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
Phenol-d5 (Surr)	*77*		*54 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
Nitrobenzene-d5 (Surr)	*76*		*53 - 120*	*03/21/22 15:35*	*03/22/22 11:52*	*1*
p-Terphenyl-d14 (Surr)	*94*		*79 - 130*	*03/21/22 15:35*	*03/22/22 11:52*	*1*

Lab Sample ID: LCS 480-618538/2-A
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618538

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1660	1500		ug/Kg		90	62 - 120
Anthracene	1660	1600		ug/Kg		96	62 - 120
Benzo[a]anthracene	1660	1640		ug/Kg		99	65 - 120
Benzo[a]pyrene	1660	1530		ug/Kg		92	64 - 120
Benzo[b]fluoranthene	1660	1720		ug/Kg		104	64 - 120
Benzo[g,h,i]perylene	1660	1680		ug/Kg		101	45 - 145
Benzo[k]fluoranthene	1660	1670		ug/Kg		101	65 - 120
Bis(2-ethylhexyl) phthalate	1660	1800		ug/Kg		109	61 - 133
2,4-Dimethylphenol	1660	1540		ug/Kg		93	59 - 120
Chrysene	1660	1610		ug/Kg		97	64 - 120

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

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

Lab Sample ID: LCS 480-618538/2-A
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618538

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenz(a,h)anthracene	1660	1700		ug/Kg		103	54 - 132
Di-n-butyl phthalate	1660	1630		ug/Kg		98	58 - 130
Fluorene	1660	1550		ug/Kg		93	63 - 120
Indeno[1,2,3-cd]pyrene	1660	1810		ug/Kg		109	56 - 134
Naphthalene	1660	1380		ug/Kg		83	55 - 120
2-Methylphenol	1660	1500		ug/Kg		90	54 - 120
3-Methylphenol	1660	1500		ug/Kg		90	55 - 120
4-Methylphenol	1660	1500		ug/Kg		91	55 - 120
Phenanthrene	1660	1530		ug/Kg		93	60 - 120
Phenol	1660	1400		ug/Kg		84	53 - 120
Pyrene	1660	1680		ug/Kg		102	61 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*
2-Fluorophenol (Surr)	*83*		*52 - 120*
Phenol-d5 (Surr)	*85*		*54 - 120*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*
p-Terphenyl-d14 (Surr)	*98*		*79 - 130*

Lab Sample ID: 480-195922-13 MS
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: SB-36
Prep Type: Total/NA
Prep Batch: 618538

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		1900	1870		ug/Kg	☼	98	60 - 120
Anthracene	ND		1900	1950		ug/Kg	☼	102	62 - 120
Benzo[a]anthracene	ND		1900	2080		ug/Kg	☼	109	65 - 120
Benzo[a]pyrene	ND		1900	1920		ug/Kg	☼	101	64 - 120
Benzo[b]fluoranthene	ND		1900	2150		ug/Kg	☼	113	10 - 150
Benzo[g,h,i]perylene	ND		1900	2100		ug/Kg	☼	110	45 - 145
Benzo[k]fluoranthene	ND		1900	2040		ug/Kg	☼	107	23 - 150
Bis(2-ethylhexyl) phthalate	ND		1900	2200		ug/Kg	☼	116	61 - 133
2,4-Dimethylphenol	ND		1900	1850		ug/Kg	☼	97	52 - 120
Chrysene	ND		1900	2030		ug/Kg	☼	107	64 - 120
Dibenz(a,h)anthracene	ND		1900	2180		ug/Kg	☼	114	54 - 132
Di-n-butyl phthalate	ND		1900	1990		ug/Kg	☼	105	58 - 130
Fluorene	ND		1900	1910		ug/Kg	☼	100	63 - 120
Indeno[1,2,3-cd]pyrene	ND		1900	2240		ug/Kg	☼	118	56 - 134
Naphthalene	ND		1900	1640		ug/Kg	☼	86	46 - 120
2-Methylphenol	ND		1900	1850		ug/Kg	☼	97	48 - 120
3-Methylphenol	ND		1900	1840		ug/Kg	☼	97	50 - 120
4-Methylphenol	ND		1900	1840		ug/Kg	☼	97	50 - 120
Phenanthrene	ND		1900	1900		ug/Kg	☼	100	60 - 122
Phenol	ND		1900	1740		ug/Kg	☼	91	50 - 120
Pyrene	ND		1900	2090		ug/Kg	☼	110	61 - 133

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

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

Lab Sample ID: 480-195922-13 MS
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: SB-36
Prep Type: Total/NA
Prep Batch: 618538

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	86		54 - 120
2-Fluorobiphenyl (Surr)	96		60 - 120
2-Fluorophenol (Surr)	89		52 - 120
Phenol-d5 (Surr)	91		54 - 120
Nitrobenzene-d5 (Surr)	87		53 - 120
p-Terphenyl-d14 (Surr)	107		79 - 130

Lab Sample ID: 480-195922-13 MSD
Matrix: Solid
Analysis Batch: 618598

Client Sample ID: SB-36
Prep Type: Total/NA
Prep Batch: 618538

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		1890	1740		ug/Kg	☼	92	60 - 120	7	35
Anthracene	ND		1890	1810		ug/Kg	☼	96	62 - 120	7	15
Benzo[a]anthracene	ND		1890	1890		ug/Kg	☼	100	65 - 120	10	15
Benzo[a]pyrene	ND		1890	1810		ug/Kg	☼	96	64 - 120	6	15
Benzo[b]fluoranthene	ND		1890	2010		ug/Kg	☼	107	10 - 150	7	15
Benzo[g,h,i]perylene	ND		1890	1960		ug/Kg	☼	104	45 - 145	7	15
Benzo[k]fluoranthene	ND		1890	1890		ug/Kg	☼	100	23 - 150	8	22
Bis(2-ethylhexyl) phthalate	ND		1890	1990		ug/Kg	☼	105	61 - 133	10	15
2,4-Dimethylphenol	ND		1890	1750		ug/Kg	☼	93	52 - 120	5	42
Chrysene	ND		1890	1810		ug/Kg	☼	96	64 - 120	11	15
Dibenz(a,h)anthracene	ND		1890	2010		ug/Kg	☼	107	54 - 132	8	15
Di-n-butyl phthalate	ND		1890	1820		ug/Kg	☼	97	58 - 130	9	15
Fluorene	ND		1890	1760		ug/Kg	☼	94	63 - 120	8	15
Indeno[1,2,3-cd]pyrene	ND		1890	2110		ug/Kg	☼	112	56 - 134	6	15
Naphthalene	ND		1890	1600		ug/Kg	☼	85	46 - 120	3	29
2-Methylphenol	ND		1890	1660		ug/Kg	☼	88	48 - 120	10	27
3-Methylphenol	ND		1890	1650		ug/Kg	☼	87	50 - 120	11	24
4-Methylphenol	ND		1890	1650		ug/Kg	☼	87	50 - 120	11	24
Phenanthrene	ND		1890	1830		ug/Kg	☼	97	60 - 122	4	15
Phenol	ND		1890	1600		ug/Kg	☼	85	50 - 120	9	35
Pyrene	ND		1890	1940		ug/Kg	☼	103	61 - 133	7	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	86		54 - 120
2-Fluorobiphenyl (Surr)	89		60 - 120
2-Fluorophenol (Surr)	80		52 - 120
Phenol-d5 (Surr)	83		54 - 120
Nitrobenzene-d5 (Surr)	82		53 - 120
p-Terphenyl-d14 (Surr)	95		79 - 130

QC Association Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

GC/MS Semi VOA

Prep Batch: 618538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195922-1	SB-02	Total/NA	Solid	3550C	
480-195922-2	SB-03	Total/NA	Solid	3550C	
480-195922-3	SB-06	Total/NA	Solid	3550C	
480-195922-4	SB-07	Total/NA	Solid	3550C	
480-195922-5	SB-08	Total/NA	Solid	3550C	
480-195922-6	SB-11	Total/NA	Solid	3550C	
480-195922-7	SB-12	Total/NA	Solid	3550C	
480-195922-8	SB-16	Total/NA	Solid	3550C	
480-195922-9	SB-17	Total/NA	Solid	3550C	
480-195922-10	SB-22	Total/NA	Solid	3550C	
480-195922-11	SB-31	Total/NA	Solid	3550C	
480-195922-12	SB-34	Total/NA	Solid	3550C	
480-195922-13	SB-36	Total/NA	Solid	3550C	
480-195922-14	SB-37	Total/NA	Solid	3550C	
480-195922-15	SB-39	Total/NA	Solid	3550C	
MB 480-618538/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-618538/2-A	Lab Control Sample	Total/NA	Solid	3550C	
480-195922-13 MS	SB-36	Total/NA	Solid	3550C	
480-195922-13 MSD	SB-36	Total/NA	Solid	3550C	

Analysis Batch: 618598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195922-1	SB-02	Total/NA	Solid	8270D	618538
480-195922-2	SB-03	Total/NA	Solid	8270D	618538
480-195922-3	SB-06	Total/NA	Solid	8270D	618538
480-195922-4	SB-07	Total/NA	Solid	8270D	618538
480-195922-5	SB-08	Total/NA	Solid	8270D	618538
480-195922-6	SB-11	Total/NA	Solid	8270D	618538
480-195922-7	SB-12	Total/NA	Solid	8270D	618538
480-195922-8	SB-16	Total/NA	Solid	8270D	618538
480-195922-9	SB-17	Total/NA	Solid	8270D	618538
480-195922-10	SB-22	Total/NA	Solid	8270D	618538
480-195922-11	SB-31	Total/NA	Solid	8270D	618538
480-195922-12	SB-34	Total/NA	Solid	8270D	618538
480-195922-13	SB-36	Total/NA	Solid	8270D	618538
480-195922-14	SB-37	Total/NA	Solid	8270D	618538
480-195922-15	SB-39	Total/NA	Solid	8270D	618538
MB 480-618538/1-A	Method Blank	Total/NA	Solid	8270D	618538
LCS 480-618538/2-A	Lab Control Sample	Total/NA	Solid	8270D	618538
480-195922-13 MS	SB-36	Total/NA	Solid	8270D	618538
480-195922-13 MSD	SB-36	Total/NA	Solid	8270D	618538

General Chemistry

Analysis Batch: 618390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195922-1	SB-02	Total/NA	Solid	Moisture	
480-195922-2	SB-03	Total/NA	Solid	Moisture	
480-195922-3	SB-06	Total/NA	Solid	Moisture	
480-195922-4	SB-07	Total/NA	Solid	Moisture	
480-195922-5	SB-08	Total/NA	Solid	Moisture	

QC Association Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

General Chemistry (Continued)

Analysis Batch: 618390 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195922-6	SB-11	Total/NA	Solid	Moisture	
480-195922-7	SB-12	Total/NA	Solid	Moisture	
480-195922-8	SB-16	Total/NA	Solid	Moisture	
480-195922-9	SB-17	Total/NA	Solid	Moisture	
480-195922-10	SB-22	Total/NA	Solid	Moisture	
480-195922-11	SB-31	Total/NA	Solid	Moisture	
480-195922-12	SB-34	Total/NA	Solid	Moisture	
480-195922-13	SB-36	Total/NA	Solid	Moisture	
480-195922-14	SB-37	Total/NA	Solid	Moisture	
480-195922-15	SB-39	Total/NA	Solid	Moisture	
480-195922-15 MS	SB-39	Total/NA	Solid	Moisture	
480-195922-15 MSD	SB-39	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-02
Lab Sample ID: 480-195922-1
Date Collected: 03/17/22 09:00
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-02
Lab Sample ID: 480-195922-1
Date Collected: 03/17/22 09:00
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 85.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 14:26	JMM	TAL BUF

Client Sample ID: SB-03
Lab Sample ID: 480-195922-2
Date Collected: 03/17/22 08:40
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-03
Lab Sample ID: 480-195922-2
Date Collected: 03/17/22 08:40
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 86.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 14:43	JMM	TAL BUF

Client Sample ID: SB-06
Lab Sample ID: 480-195922-3
Date Collected: 03/17/22 09:25
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-06
Lab Sample ID: 480-195922-3
Date Collected: 03/17/22 09:25
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 15:00	JMM	TAL BUF

Client Sample ID: SB-07
Lab Sample ID: 480-195922-4
Date Collected: 03/17/22 09:40
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-07 — Lab Sample ID: 480-195922-4

Date Collected: 03/17/22 09:40 — **Matrix: Solid**
Date Received: 03/18/22 10:00 — **Percent Solids: 85.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618598	03/22/22 15:18	JMM	TAL BUF

Client Sample ID: SB-08 — Lab Sample ID: 480-195922-5

Date Collected: 03/17/22 10:00 — **Matrix: Solid**
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-08 — Lab Sample ID: 480-195922-5

Date Collected: 03/17/22 10:00 — **Matrix: Solid**
Date Received: 03/18/22 10:00 — **Percent Solids: 87.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 15:35	JMM	TAL BUF

Client Sample ID: SB-11 — Lab Sample ID: 480-195922-6

Date Collected: 03/17/22 11:00 — **Matrix: Solid**
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-11 — Lab Sample ID: 480-195922-6

Date Collected: 03/17/22 11:00 — **Matrix: Solid**
Date Received: 03/18/22 10:00 — **Percent Solids: 87.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 15:52	JMM	TAL BUF

Client Sample ID: SB-12 — Lab Sample ID: 480-195922-7

Date Collected: 03/17/22 11:25 — **Matrix: Solid**
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-12

Lab Sample ID: 480-195922-7
Date Collected: 03/17/22 11:25
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 85.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 16:09	JMM	TAL BUF

Client Sample ID: SB-16

Lab Sample ID: 480-195922-8
Date Collected: 03/17/22 12:35
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-16

Lab Sample ID: 480-195922-8
Date Collected: 03/17/22 12:35
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618598	03/22/22 16:26	JMM	TAL BUF

Client Sample ID: SB-17

Lab Sample ID: 480-195922-9
Date Collected: 03/17/22 12:15
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-17

Lab Sample ID: 480-195922-9
Date Collected: 03/17/22 12:15
Matrix: Solid
Date Received: 03/18/22 10:00
Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 16:43	JMM	TAL BUF

Client Sample ID: SB-22

Lab Sample ID: 480-195922-10
Date Collected: 03/17/22 13:00
Matrix: Solid
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-22 — Lab Sample ID: 480-195922-10

Date Collected: 03/17/22 13:00 — **Matrix: Solid**
Date Received: 03/18/22 10:00 — **Percent Solids: 86.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618598	03/22/22 17:00	JMM	TAL BUF

Client Sample ID: SB-31 — Lab Sample ID: 480-195922-11

Date Collected: 03/17/22 13:40 — **Matrix: Solid**
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-31 — Lab Sample ID: 480-195922-11

Date Collected: 03/17/22 13:40 — **Matrix: Solid**
Date Received: 03/18/22 10:00 — **Percent Solids: 86.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618598	03/22/22 17:17	JMM	TAL BUF

Client Sample ID: SB-34 — Lab Sample ID: 480-195922-12

Date Collected: 03/17/22 08:25 — **Matrix: Solid**
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-34 — Lab Sample ID: 480-195922-12

Date Collected: 03/17/22 08:25 — **Matrix: Solid**
Date Received: 03/18/22 10:00 — **Percent Solids: 84.5**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 17:34	JMM	TAL BUF

Client Sample ID: SB-36 — Lab Sample ID: 480-195922-13

Date Collected: 03/17/22 10:40 — **Matrix: Solid**
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Client Sample ID: SB-36 — Lab Sample ID: 480-195922-13

Date Collected: 03/17/22 10:40 — **Matrix: Solid**
Date Received: 03/18/22 10:00 — **Percent Solids: 87.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 13:01	JMM	TAL BUF

Client Sample ID: SB-37 — Lab Sample ID: 480-195922-14

Date Collected: 03/17/22 10:20 — **Matrix: Solid**
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-37 — Lab Sample ID: 480-195922-14

Date Collected: 03/17/22 10:20 — **Matrix: Solid**
Date Received: 03/18/22 10:00 — **Percent Solids: 84.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 17:51	JMM	TAL BUF

Client Sample ID: SB-39 — Lab Sample ID: 480-195922-15

Date Collected: 03/17/22 11:50 — **Matrix: Solid**
Date Received: 03/18/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618390	03/18/22 16:17	IMZ	TAL BUF

Client Sample ID: SB-39 — Lab Sample ID: 480-195922-15

Date Collected: 03/17/22 11:50 — **Matrix: Solid**
Date Received: 03/18/22 10:00 — **Percent Solids: 86.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618538	03/21/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618598	03/22/22 18:08	JMM	TAL BUF

Laboratory References:

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Laboratory: Eurofins Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	68-00281	07-31-22

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
8270D	3550C	Solid	Total Cresols
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF
3550C	Ultrasonic Extraction	SW846	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Alpha Analytical Inc
Project/Site: L2214012

Job ID: 480-195922-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-195922-1	SB-02	Solid	03/17/22 09:00	03/18/22 10:00
480-195922-2	SB-03	Solid	03/17/22 08:40	03/18/22 10:00
480-195922-3	SB-06	Solid	03/17/22 09:25	03/18/22 10:00
480-195922-4	SB-07	Solid	03/17/22 09:40	03/18/22 10:00
480-195922-5	SB-08	Solid	03/17/22 10:00	03/18/22 10:00
480-195922-6	SB-11	Solid	03/17/22 11:00	03/18/22 10:00
480-195922-7	SB-12	Solid	03/17/22 11:25	03/18/22 10:00
480-195922-8	SB-16	Solid	03/17/22 12:35	03/18/22 10:00
480-195922-9	SB-17	Solid	03/17/22 12:15	03/18/22 10:00
480-195922-10	SB-22	Solid	03/17/22 13:00	03/18/22 10:00
480-195922-11	SB-31	Solid	03/17/22 13:40	03/18/22 10:00
480-195922-12	SB-34	Solid	03/17/22 08:25	03/18/22 10:00
480-195922-13	SB-36	Solid	03/17/22 10:40	03/18/22 10:00
480-195922-14	SB-37	Solid	03/17/22 10:20	03/18/22 10:00
480-195922-15	SB-39	Solid	03/17/22 11:50	03/18/22 10:00

1/2

Subcontract Chain of Custody

Eurofins Northeast LLC
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2214012

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2214012

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	SB 02	03-17-22 09:00	SOIL	8270	
	SB 03	03-17-22 08:40	SOIL	8270	
	SB 06	03-17-22 09:25	SOIL	8270	
	SB 07	03-17-22 09:40	SOIL	8270	
	SB 08	03-17-22 10:00	SOIL	8270	
	SB 11	03-17-22 11:00	SOIL	8270	
	SB 12	03-17-22 11:25	SOIL	8270	
	SB 16	03-17-22 12:35	SOIL	8270	
	SB 17	03-17-22 12:15	SOIL	8270	

480-195922 Chain of Custody

Temp 2.4 #1±C12

Relinquished By:	Date/Time:	Received By:	Date/Time:
Amica Gaglio	3/17 17:05	[illegible]	3/18/22 1000

Form No: AL_subcoc

2/2

Subcontract Chain of Custody

Eurofins Northeast LLC
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2214012

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2214012

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	SB 22	03-17-22 13:00	SOIL	8270	
	SB 31	03-17-22 13:40	SOIL	8270	
	SB 34	03-17-22 08:25	SOIL	8270	
	SB 36	03-17-22 10:40	SOIL	8270	
	SB 37	03-17-22 10:20	SOIL	8270	
	SB 39	03-17-22 11:50	SOIL	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[illegible]	3/17 15:045	PGI	

Form No: AL_subcoc

Serial_No:03312217:45

ANALYTICAL REPORT

Lab Number:	L2214374
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	RCRA PAD CLOSURE - PHIL REF
Project Number:	200.00135.007
Report Date:	04/01/22

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Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2214374-01	SB 18	SOIL	PHILADELPHIA, PA	03/18/22 11:05	03/18/22
L2214374-02	SB 19	SOIL	PHILADELPHIA, PA	03/18/22 11:25	03/18/22
L2214374-03	SB 20	SOIL	PHILADELPHIA, PA	03/18/22 11:45	03/18/22
L2214374-04	SB 21	SOIL	PHILADELPHIA, PA	03/18/22 12:10	03/18/22
L2214374-05	SB 24	SOIL	PHILADELPHIA, PA	03/18/22 10:25	03/18/22
L2214374-06	SB 25	SOIL	PHILADELPHIA, PA	03/18/22 10:45	03/18/22
L2214374-07	SB 27	SOIL	PHILADELPHIA, PA	03/18/22 10:05	03/18/22
L2214374-08	SB 29	SOIL	PHILADELPHIA, PA	03/18/22 09:25	03/18/22
L2214374-09	SB 30	SOIL	PHILADELPHIA, PA	03/18/22 08:45	03/18/22
L2214374-10	SB 32	SOIL	PHILADELPHIA, PA	03/18/22 09:05	03/18/22
L2214374-11	SB 33	SOIL	PHILADELPHIA, PA	03/18/22 08:30	03/18/22
L2214374-12	SB 40	SOIL	PHILADELPHIA, PA	03/18/22 09:45	03/18/22
L2214374-13	TRIP BLANK	WATER	PHILADELPHIA, PA	03/14/22 00:00	03/18/22

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2214374
Project Number:	200.00135.007	**Report Date:**	04/01/22

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2214374
Project Number:	200.00135.007	**Report Date:**	04/01/22

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.

The analysis of Semivolatile Organics was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

Total Metals

L2214374-04: The sample has elevated detection limits for all elements due to the dilution required by matrix interferences encountered during analysis.

The WG1618242-3 MS recovery, performed on L2214374-01, is outside the acceptance criteria for antimony (66%). A post digestion spike was performed and was within acceptance criteria.

Cyanide, Total

The WG1621412-2/-3 LCS/LCSD recoveries for cyanide, total (65%/75%), associated with L2214374-01 through -05, are outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

The WG1621482-2/-3 LCS/LCSD recoveries for cyanide, total (65%/75%), associated with L2214374-09 through -11, are outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

The WG1621838-2 LCS recovery for cyanide, total (57%), associated with L2214374-06, is outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

The WG1621839-2/-3 LCS/LCSD recoveries for cyanide, total (57%/74%), associated with L2214374-07, -08, and -12, are outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported. The LCS/LCSD RPD is above the acceptance criteria for cyanide, total (52%).

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 Stenstrom

Title: Technical Director/Representative

Date: 04/01/22

ORGANICS

VOLATILES

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-01
Client ID: SB 18
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 11:05
Date Received: 03/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/24/22 13:28
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0091	0.0041	1
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	0.00091	0.00023	1
Toluene	ND		mg/kg	0.00091	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00027	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00026	1
Xylenes, Total	ND		mg/kg	0.00091	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00091	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		70-130
Toluene-d8	88		70-130
4-Bromofluorobenzene	83		70-130
Dibromofluoromethane	95		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-02
Client ID: SB 19
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 11:25
Date Received: 03/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/24/22 13:52
Analyst: JC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0090	0.0041	1
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	92		70-130
Toluene-d8	76		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	110		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-03
Client ID: SB 20
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 11:45
Date Received: 03/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/25/22 21:17
Analyst: LAC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0094	0.0043	1
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	0.00060	J	mg/kg	0.00094	0.00013	1
p/m-Xylene	0.0032		mg/kg	0.0019	0.00053	1
o-Xylene	0.0016		mg/kg	0.00094	0.00027	1
Xylenes, Total	0.0048		mg/kg	0.00094	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00094	0.00010	1
1,3,5-Trimethylbenzene	0.00069	J	mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	0.0015	J	mg/kg	0.0019	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	83		70-130
4-Bromofluorobenzene	73		70-130
Dibromofluoromethane	105		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-04
Client ID: SB 21
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 12:10
Date Received: 03/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/24/22 14:42
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.010	0.0046	1
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	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	0.00055	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	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	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	92		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	79		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-05
Client ID: SB 24
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 10:25
Date Received: 03/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/24/22 15:06
Analyst: JC
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0092	0.0042	1
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00092	0.00024	1
Toluene	ND		mg/kg	0.00092	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00092	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00092	0.00027	1
Xylenes, Total	ND		mg/kg	0.00092	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00092	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	115		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-06
Client ID: SB 25
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 10:45
Date Received: 03/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/24/22 15:31
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0092	0.0042	1
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00092	0.00024	1
Toluene	ND		mg/kg	0.00092	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00092	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00052	1
o-Xylene	ND		mg/kg	0.00092	0.00027	1
Xylenes, Total	ND		mg/kg	0.00092	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00092	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	83		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	98		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-07
Client ID: SB 27
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 10:05
Date Received: 03/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/24/22 15:56
Analyst: JC
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0091	0.0042	1
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		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	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00026	1
Xylenes, Total	ND		mg/kg	0.00091	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00091	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	79		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	100		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-08
Client ID: SB 29
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 09:25
Date Received: 03/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/24/22 16:21
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.010	0.0048	1
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	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	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	88		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	96		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-09
Client ID: SB 30
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 08:45
Date Received: 03/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/24/22 16:45
Analyst: JC
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0098	0.0044	1
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	77		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	73		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-10
Client ID: SB 32
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 09:05
Date Received: 03/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/24/22 17:10
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0094	0.0043	1
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	94		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	101		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-11
Client ID: SB 33
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 08:30
Date Received: 03/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/25/22 20:52
Analyst: LAC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0096	0.0044	1
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00096	0.00025	1
Toluene	ND		mg/kg	0.00096	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00096	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00096	0.00028	1
Xylenes, Total	ND		mg/kg	0.00096	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00096	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	72		70-130
4-Bromofluorobenzene	72		70-130
Dibromofluoromethane	106		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-12
Client ID: SB 40
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 09:45
Date Received: 03/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 03/24/22 17:59
Analyst: JC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0091	0.0042	1
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00024	1
Toluene	ND		mg/kg	0.00091	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00027	1
Xylenes, Total	ND		mg/kg	0.00091	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00091	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	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	109		70-130
4-Bromofluorobenzene	76		70-130
Dibromofluoromethane	73		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF

Lab Number: L2214374

Project Number: 200.00135.007

Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-13
Client ID: TRIP BLANK
Sample Location: PHILADELPHIA, PA

Date Collected: 03/14/22 00:00
Date Received: 03/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 03/22/22 18:11
Analyst: GT

Extraction Method: EPA 8011
Extraction Date: 03/22/22 15:15

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: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-13
Client ID: TRIP BLANK
Sample Location: PHILADELPHIA, PA

Date Collected: 03/14/22 00:00
Date Received: 03/18/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 03/21/22 08:49
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Carbon disulfide	ND		ug/l	5.0	0.30	1
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	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	106		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/21/22 08:09
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 13 Batch: WG1618395-5					
Carbon disulfide	ND		ug/l	5.0	0.30
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	102		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	103		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 03/22/22 16:55
Analyst: GT

Extraction Method: EPA 8011
Extraction Date: 03/22/22 15:15

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 13 Batch: WG1618463-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/24/22 13:03
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02,04-10,12 Batch: WG1619718-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	88		70-130
Toluene-d8	87		70-130
4-Bromofluorobenzene	80		70-130
Dibromofluoromethane	93		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 03/25/22 12:37
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03,11 Batch: WG1620555-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	90		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	80		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 13 Batch: WG1618395-3 WG1618395-4								
Carbon disulfide	88		92		51-130	4		20
Methyl tert butyl ether	100		98		63-130	2		20
Benzene	98		98		70-130	0		20
1,2-Dichloroethane	92		93		70-130	1		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		99		70-130	1		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	100		95		70-130	5		20
Isopropylbenzene	100		97		70-130	3		20
1,3,5-Trimethylbenzene	98		97		64-130	1		20
1,2,4-Trimethylbenzene	98		94		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	92		94		70-130
Toluene-d8	103		102		70-130
4-Bromofluorobenzene	101		102		70-130
Dibromofluoromethane	93		95		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2214374

Report Date: 04/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 13 Batch: WG1618463-2									
1,2-Dibromoethane	116		-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02,04-10,12 Batch: WG1619718-3 WG1619718-4								
Carbon disulfide	87		81		59-130	7		30
Methyl tert butyl ether	97		93		66-130	4		30
Benzene	102		95		70-130	7		30
1,2-Dichloroethane	97		92		70-130	5		30
Toluene	102		97		70-130	5		30
1,2-Dibromoethane	108		106		70-130	2		30
Ethylbenzene	101		95		70-130	6		30
p/m-Xylene	109		102		70-130	7		30
o-Xylene	106		101		70-130	5		30
Isopropylbenzene	99		92		70-130	7		30
1,3,5-Trimethylbenzene	101		95		70-130	6		30
1,2,4-Trimethylbenzene	99		93		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	87		87		70-130
Toluene-d8	89		88		70-130
4-Bromofluorobenzene	80		80		70-130
Dibromofluoromethane	95		95		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03,11 Batch: WG1620555-3 WG1620555-4								
Carbon disulfide	78		**54**	Q	59-130	**36**	Q	30
Methyl tert butyl ether	88		72		66-130	20		30
Benzene	76		92		70-130	19		30
1,2-Dichloroethane	85		94		70-130	10		30
Toluene	97		92		70-130	5		30
1,2-Dibromoethane	99		101		70-130	2		30
Ethylbenzene	86		90		70-130	5		30
p/m-Xylene	85		93		70-130	9		30
o-Xylene	96		92		70-130	4		30
Isopropylbenzene	82		86		70-130	5		30
1,3,5-Trimethylbenzene	84		87		70-130	4		30
1,2,4-Trimethylbenzene	81		86		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	92		95		70-130
Toluene-d8	103		92		70-130
4-Bromofluorobenzene	86		84		70-130
Dibromofluoromethane	93		96		70-130

METALS

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214374
Project Number: 200.00135.007
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-01
Client ID: SB 18
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 11:05
Date Received: 03/18/22
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											
Antimony, Total	ND		mg/kg	2.18	0.166	1	03/22/22 09:30	04/01/22 11:07	EPA 3050B	1,6010D	GD
Arsenic, Total	4.54		mg/kg	0.436	0.091	1	03/22/22 09:30	04/01/22 11:07	EPA 3050B	1,6010D	GD
Chromium, Total	15.8		mg/kg	0.436	0.042	1	03/22/22 09:30	04/01/22 11:07	EPA 3050B	1,6010D	GD
Lead, Total	20.9		mg/kg	2.18	0.117	1	03/22/22 09:30	04/01/22 11:07	EPA 3050B	1,6010D	GD
Nickel, Total	9.60		mg/kg	1.09	0.105	1	03/22/22 09:30	04/01/22 11:07	EPA 3050B	1,6010D	GD
Vanadium, Total	21.3		mg/kg	0.436	0.088	1	03/22/22 09:30	04/01/22 11:07	EPA 3050B	1,6010D	GD

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214374
Project Number: 200.00135.007
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-02
Client ID: SB 19
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 11:25
Date Received: 03/18/22
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											
Antimony, Total	ND		mg/kg	2.26	0.172	1	03/22/22 09:30	04/01/22 11:02	EPA 3050B	1,6010D	GD
Arsenic, Total	4.79		mg/kg	0.452	0.094	1	03/22/22 09:30	04/01/22 11:02	EPA 3050B	1,6010D	GD
Chromium, Total	13.6		mg/kg	0.452	0.043	1	03/22/22 09:30	04/01/22 11:02	EPA 3050B	1,6010D	GD
Lead, Total	64.5		mg/kg	2.26	0.121	1	03/22/22 09:30	04/01/22 11:02	EPA 3050B	1,6010D	GD
Nickel, Total	25.2		mg/kg	1.13	0.109	1	03/22/22 09:30	04/01/22 11:02	EPA 3050B	1,6010D	GD
Vanadium, Total	17.9		mg/kg	0.452	0.092	1	03/22/22 09:30	04/01/22 11:02	EPA 3050B	1,6010D	GD

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214374
Project Number: 200.00135.007
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-03
Client ID: SB 20
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 11:45
Date Received: 03/18/22
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											
Antimony, Total	0.232	J	mg/kg	2.27	0.173	1	03/22/22 09:30	04/01/22 11:41	EPA 3050B	1,6010D	GD
Arsenic, Total	5.08		mg/kg	0.455	0.095	1	03/22/22 09:30	04/01/22 11:41	EPA 3050B	1,6010D	GD
Chromium, Total	17.2		mg/kg	0.455	0.044	1	03/22/22 09:30	04/01/22 11:41	EPA 3050B	1,6010D	GD
Lead, Total	132		mg/kg	2.27	0.122	1	03/22/22 09:30	04/01/22 11:41	EPA 3050B	1,6010D	GD
Nickel, Total	16.6		mg/kg	1.14	0.110	1	03/22/22 09:30	04/01/22 11:41	EPA 3050B	1,6010D	GD
Vanadium, Total	21.8		mg/kg	0.455	0.092	1	03/22/22 09:30	04/01/22 11:41	EPA 3050B	1,6010D	GD

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214374
Project Number: 200.00135.007
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-04
Client ID: SB 21
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 12:10
Date Received: 03/18/22
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											
Antimony, Total	ND		mg/kg	11.3	0.859	5	03/22/22 09:30	04/01/22 12:48	EPA 3050B	1,6010D	MC
Arsenic, Total	3.80		mg/kg	2.26	0.470	5	03/22/22 09:30	04/01/22 12:48	EPA 3050B	1,6010D	MC
Chromium, Total	16.5		mg/kg	2.26	0.217	5	03/22/22 09:30	04/01/22 12:48	EPA 3050B	1,6010D	MC
Lead, Total	16.0		mg/kg	11.3	0.606	5	03/22/22 09:30	04/01/22 12:48	EPA 3050B	1,6010D	MC
Nickel, Total	9.02		mg/kg	5.65	0.547	5	03/22/22 09:30	04/01/22 12:48	EPA 3050B	1,6010D	MC
Vanadium, Total	20.5		mg/kg	2.26	0.459	5	03/22/22 09:30	04/01/22 12:48	EPA 3050B	1,6010D	MC

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214374
Project Number: 200.00135.007
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-05
Client ID: SB 24
Sample Location: PHILADELPHIA, PA
Date Collected: 03/18/22 10:25
Date Received: 03/18/22
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											
Antimony, Total	ND		mg/kg	2.14	0.163	1	03/22/22 09:30	04/01/22 11:51	EPA 3050B	1,6010D	GD
Arsenic, Total	3.82		mg/kg	0.429	0.089	1	03/22/22 09:30	04/01/22 11:51	EPA 3050B	1,6010D	GD
Chromium, Total	14.8		mg/kg	0.429	0.041	1	03/22/22 09:30	04/01/22 11:51	EPA 3050B	1,6010D	GD
Lead, Total	70.0		mg/kg	2.14	0.115	1	03/22/22 09:30	04/01/22 11:51	EPA 3050B	1,6010D	GD
Nickel, Total	13.0		mg/kg	1.07	0.104	1	03/22/22 09:30	04/01/22 11:51	EPA 3050B	1,6010D	GD
Vanadium, Total	17.8		mg/kg	0.429	0.087	1	03/22/22 09:30	04/01/22 11:51	EPA 3050B	1,6010D	GD

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214374
Project Number: 200.00135.007
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-06
Client ID: SB 25
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 10:45
Date Received: 03/18/22
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											
Antimony, Total	ND		mg/kg	2.22	0.169	1	03/22/22 09:30	04/01/22 11:56	EPA 3050B	1,6010D	GD
Arsenic, Total	2.50		mg/kg	0.445	0.093	1	03/22/22 09:30	04/01/22 11:56	EPA 3050B	1,6010D	GD
Chromium, Total	17.9		mg/kg	0.445	0.043	1	03/22/22 09:30	04/01/22 11:56	EPA 3050B	1,6010D	GD
Lead, Total	13.3		mg/kg	2.22	0.119	1	03/22/22 09:30	04/01/22 11:56	EPA 3050B	1,6010D	GD
Nickel, Total	13.0		mg/kg	1.11	0.108	1	03/22/22 09:30	04/01/22 11:56	EPA 3050B	1,6010D	GD
Vanadium, Total	22.3		mg/kg	0.445	0.090	1	03/22/22 09:30	04/01/22 11:56	EPA 3050B	1,6010D	GD

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214374
Project Number: 200.00135.007
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-07
Client ID: SB 27
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 10:05
Date Received: 03/18/22
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											
Antimony, Total	ND		mg/kg	2.17	0.165	1	03/22/22 09:30	04/01/22 12:01	EPA 3050B	1,6010D	GD
Arsenic, Total	3.30		mg/kg	0.435	0.090	1	03/22/22 09:30	04/01/22 12:01	EPA 3050B	1,6010D	GD
Chromium, Total	14.2		mg/kg	0.435	0.042	1	03/22/22 09:30	04/01/22 12:01	EPA 3050B	1,6010D	GD
Lead, Total	10.8		mg/kg	2.17	0.116	1	03/22/22 09:30	04/01/22 12:01	EPA 3050B	1,6010D	GD
Nickel, Total	16.4		mg/kg	1.09	0.105	1	03/22/22 09:30	04/01/22 12:01	EPA 3050B	1,6010D	GD
Vanadium, Total	19.9		mg/kg	0.435	0.088	1	03/22/22 09:30	04/01/22 12:01	EPA 3050B	1,6010D	GD

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214374
Project Number: 200.00135.007
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-08
Client ID: SB 29
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 09:25
Date Received: 03/18/22
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											
Antimony, Total	ND		mg/kg	2.29	0.174	1	03/22/22 09:30	04/01/22 12:06	EPA 3050B	1,6010D	GD
Arsenic, Total	5.21		mg/kg	0.457	0.095	1	03/22/22 09:30	04/01/22 12:06	EPA 3050B	1,6010D	GD
Chromium, Total	14.5		mg/kg	0.457	0.044	1	03/22/22 09:30	04/01/22 12:06	EPA 3050B	1,6010D	GD
Lead, Total	202		mg/kg	2.29	0.122	1	03/22/22 09:30	04/01/22 12:06	EPA 3050B	1,6010D	GD
Nickel, Total	11.8		mg/kg	1.14	0.111	1	03/22/22 09:30	04/01/22 12:06	EPA 3050B	1,6010D	GD
Vanadium, Total	20.0		mg/kg	0.457	0.093	1	03/22/22 09:30	04/01/22 12:06	EPA 3050B	1,6010D	GD

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214374
Project Number: 200.00135.007
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-09
Client ID: SB 30
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 08:45
Date Received: 03/18/22
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											
Antimony, Total	4.68		mg/kg	2.18	0.166	1	03/22/22 09:30	04/01/22 12:11	EPA 3050B	1,6010D	GD
Arsenic, Total	6.99		mg/kg	0.436	0.091	1	03/22/22 09:30	04/01/22 12:11	EPA 3050B	1,6010D	GD
Chromium, Total	21.2		mg/kg	0.436	0.042	1	03/22/22 09:30	04/01/22 12:11	EPA 3050B	1,6010D	GD
Lead, Total	2220		mg/kg	2.18	0.117	1	03/22/22 09:30	04/01/22 12:11	EPA 3050B	1,6010D	GD
Nickel, Total	9.78		mg/kg	1.09	0.106	1	03/22/22 09:30	04/01/22 12:11	EPA 3050B	1,6010D	GD
Vanadium, Total	21.3		mg/kg	0.436	0.089	1	03/22/22 09:30	04/01/22 12:11	EPA 3050B	1,6010D	GD

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214374
Project Number: 200.00135.007
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-10
Client ID: SB 32
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 09:05
Date Received: 03/18/22
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											
Antimony, Total	1.38	J	mg/kg	2.20	0.167	1	03/22/22 09:30	04/01/22 12:16	EPA 3050B	1,6010D	GD
Arsenic, Total	9.03		mg/kg	0.439	0.091	1	03/22/22 09:30	04/01/22 12:16	EPA 3050B	1,6010D	GD
Chromium, Total	83.7		mg/kg	0.439	0.042	1	03/22/22 09:30	04/01/22 12:16	EPA 3050B	1,6010D	GD
Lead, Total	729		mg/kg	2.20	0.118	1	03/22/22 09:30	04/01/22 12:16	EPA 3050B	1,6010D	GD
Nickel, Total	15.3		mg/kg	1.10	0.106	1	03/22/22 09:30	04/01/22 12:16	EPA 3050B	1,6010D	GD
Vanadium, Total	27.0		mg/kg	0.439	0.089	1	03/22/22 09:30	04/01/22 12:16	EPA 3050B	1,6010D	GD

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214374
Project Number: 200.00135.007
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-11
Client ID: SB 33
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 08:30
Date Received: 03/18/22
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											
Antimony, Total	0.401	J	mg/kg	2.23	0.169	1	03/22/22 09:30	04/01/22 12:21	EPA 3050B	1,6010D	GD
Arsenic, Total	5.28		mg/kg	0.446	0.093	1	03/22/22 09:30	04/01/22 12:21	EPA 3050B	1,6010D	GD
Chromium, Total	13.2		mg/kg	0.446	0.043	1	03/22/22 09:30	04/01/22 12:21	EPA 3050B	1,6010D	GD
Lead, Total	224		mg/kg	2.23	0.119	1	03/22/22 09:30	04/01/22 12:21	EPA 3050B	1,6010D	GD
Nickel, Total	9.15		mg/kg	1.11	0.108	1	03/22/22 09:30	04/01/22 12:21	EPA 3050B	1,6010D	GD
Vanadium, Total	16.2		mg/kg	0.446	0.091	1	03/22/22 09:30	04/01/22 12:21	EPA 3050B	1,6010D	GD

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2214374
Project Number: 200.00135.007
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-12
Client ID: SB 40
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 09:45
Date Received: 03/18/22
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											
Antimony, Total	ND		mg/kg	2.17	0.165	1	03/22/22 09:30	04/01/22 12:26	EPA 3050B	1,6010D	GD
Arsenic, Total	3.82		mg/kg	0.435	0.090	1	03/22/22 09:30	04/01/22 12:26	EPA 3050B	1,6010D	GD
Chromium, Total	13.4		mg/kg	0.435	0.042	1	03/22/22 09:30	04/01/22 12:26	EPA 3050B	1,6010D	GD
Lead, Total	115		mg/kg	2.17	0.116	1	03/22/22 09:30	04/01/22 12:26	EPA 3050B	1,6010D	GD
Nickel, Total	8.55		mg/kg	1.09	0.105	1	03/22/22 09:30	04/01/22 12:26	EPA 3050B	1,6010D	GD
Vanadium, Total	16.7		mg/kg	0.435	0.088	1	03/22/22 09:30	04/01/22 12:26	EPA 3050B	1,6010D	GD

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

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): 01-12 Batch: WG1618242-1										
Antimony, Total	ND		mg/kg	2.00	0.152	1	03/22/22 09:30	04/01/22 10:42	1,6010D	GD
Arsenic, Total	ND		mg/kg	0.400	0.083	1	03/22/22 09:30	04/01/22 10:42	1,6010D	GD
Chromium, Total	ND		mg/kg	0.400	0.038	1	03/22/22 09:30	04/01/22 10:42	1,6010D	GD
Lead, Total	ND		mg/kg	2.00	0.107	1	03/22/22 09:30	04/01/22 10:42	1,6010D	GD
Nickel, Total	ND		mg/kg	1.00	0.097	1	03/22/22 09:30	04/01/22 10:42	1,6010D	GD
Vanadium, Total	ND		mg/kg	0.400	0.081	1	03/22/22 09:30	04/01/22 10:42	1,6010D	GD

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2214374

Report Date: 04/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-12 Batch: WG1618242-2 SRM Lot Number: D113-540								
Antimony, Total	112		-		20-250	-		
Arsenic, Total	85		-		70-130	-		
Chromium, Total	76		-		70-130	-		
Lead, Total	72		-		72-128	-		
Nickel, Total	81		-		70-130	-		
Vanadium, Total	74		-		74-126	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

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): 01-12 QC Batch ID: WG1618242-3 QC Sample: L2214374-01 Client ID: SB 18												
Antimony, Total	ND	44.6	29.3	**66**	Q	-	-		75-125	-		20
Arsenic, Total	4.54	10.7	14.1	89		-	-		75-125	-		20
Chromium, Total	15.8	17.8	31.2	86		-	-		75-125	-		20
Lead, Total	20.9	47.2	79.1	123		-	-		75-125	-		20
Nickel, Total	9.60	44.6	44.0	77		-	-		75-125	-		20
Vanadium, Total	21.3	44.6	56.2	78		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2214374

Report Date: 04/01/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG1618242-4 QC Sample: L2214374-01 Client ID: SB 18						
Antimony, Total	ND	ND	mg/kg	NC		20
Arsenic, Total	4.54	4.64	mg/kg	2		20
Chromium, Total	15.8	15.1	mg/kg	5		20
Lead, Total	20.9	24.2	mg/kg	15		20
Nickel, Total	9.60	9.04	mg/kg	6		20
Vanadium, Total	21.3	20.5	mg/kg	4		20

INORGANICS
&
MISCELLANEOUS

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-01
Client ID: SB 18
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 11:05
Date Received: 03/18/22
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	87.3		%	0.100	NA	1	-	03/19/22 12:50	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	03/30/22 13:40	03/31/22 10:42	1,9010C/9012B	CS
Chromium, Hexavalent	0.229	J	mg/kg	0.916	0.183	1	03/27/22 13:16	03/29/22 11:55	1,7196A	PB

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-02
Client ID: SB 19
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 11:25
Date Received: 03/18/22
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	87.5		%	0.100	NA	1	-	03/19/22 12:50	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	03/30/22 13:40	03/31/22 10:47	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.914	0.183	1	03/27/22 13:16	03/29/22 11:55	1,7196A	PB

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-03
Client ID: SB 20
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 11:45
Date Received: 03/18/22
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	85.8		%	0.100	NA	1	-	03/19/22 12:50	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	03/30/22 13:40	03/31/22 10:48	1,9010C/9012B	CS
Chromium, Hexavalent	0.233	J	mg/kg	0.932	0.186	1	03/27/22 13:16	03/29/22 11:55	1,7196A	PB

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-04
Client ID: SB 21
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 12:10
Date Received: 03/18/22
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	86.1		%	0.100	NA	1	-	03/19/22 12:50	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	03/30/22 13:40	03/31/22 10:49	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.929	0.186	1	03/27/22 13:16	03/29/22 11:55	1,7196A	PB

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-05
Client ID: SB 24
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 10:25
Date Received: 03/18/22
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	-	03/19/22 12:50	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	03/30/22 13:40	03/31/22 10:50	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.903	0.180	1	03/27/22 13:16	03/29/22 11:55	1,7196A	PB

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-06
Client ID: SB 25
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 10:45
Date Received: 03/18/22
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	86.8		%	0.100	NA	1	-	03/19/22 12:50	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	03/31/22 09:40	03/31/22 13:36	1,9010C/9012B	CS
Chromium, Hexavalent	0.230	J	mg/kg	0.922	0.184	1	03/27/22 13:16	03/29/22 11:55	1,7196A	PB

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-07
Client ID: SB 27
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 10:05
Date Received: 03/18/22
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	89.0		%	0.100	NA	1	-	03/19/22 12:50	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	03/31/22 09:40	03/31/22 13:02	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.899	0.180	1	03/27/22 13:16	03/29/22 11:55	1,7196A	PB

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-08
Client ID: SB 29
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 09:25
Date Received: 03/18/22
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	85.8		%	0.100	NA	1	-	03/19/22 12:50	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	03/31/22 09:40	03/31/22 13:03	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.932	0.186	1	03/27/22 13:16	03/29/22 11:55	1,7196A	PB

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-09
Client ID: SB 30
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 08:45
Date Received: 03/18/22
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	-	03/19/22 12:50	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	03/30/22 13:40	03/31/22 10:52	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.900	0.180	1	03/27/22 13:16	03/29/22 11:55	1,7196A	PB

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-10
Client ID: SB 32
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 09:05
Date Received: 03/18/22
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	86.1		%	0.100	NA	1	-	03/19/22 12:50	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.2	0.24	1	03/30/22 13:40	03/31/22 10:53	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.929	0.186	1	03/27/22 13:16	03/29/22 11:55	1,7196A	PB

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-11
Client ID: SB 33
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 08:30
Date Received: 03/18/22
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	87.3		%	0.100	NA	1	-	03/19/22 12:50	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	03/30/22 13:40	03/31/22 10:54	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.916	0.183	1	03/27/22 13:16	03/29/22 11:55	1,7196A	PB

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

SAMPLE RESULTS

Lab ID: L2214374-12
Client ID: SB 40
Sample Location: PHILADELPHIA, PA

Date Collected: 03/18/22 09:45
Date Received: 03/18/22
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	88.0		%	0.100	NA	1	-	03/19/22 12:50	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	03/31/22 09:40	03/31/22 13:04	1,9010C/9012B	CS
Chromium, Hexavalent	ND		mg/kg	0.909	0.182	1	03/27/22 13:16	03/29/22 11:55	1,7196A	PB

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2214374

Project Number: 200.00135.007 **Report Date:** 04/01/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG1620246-1										
Chromium, Hexavalent	ND		mg/kg	0.800	0.160	1	03/27/22 13:16	03/29/22 11:55	1,7196A	PB
General Chemistry - Westborough Lab for sample(s): 07-12 Batch: WG1620247-1										
Chromium, Hexavalent	ND		mg/kg	0.800	0.160	1	03/27/22 13:16	03/29/22 11:55	1,7196A	PB
General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1621412-1										
Cyanide, Total	ND		mg/kg	0.92	0.20	1	03/30/22 13:40	03/31/22 10:33	1,9010C/9012B	CS
General Chemistry - Westborough Lab for sample(s): 09-11 Batch: WG1621482-1										
Cyanide, Total	ND		mg/kg	0.92	0.20	1	03/30/22 13:40	03/31/22 10:33	1,9010C/9012B	CS
General Chemistry - Westborough Lab for sample(s): 06 Batch: WG1621838-1										
Cyanide, Total	ND		mg/kg	0.83	0.18	1	03/31/22 09:40	03/31/22 13:30	1,9010C/9012B	CS
General Chemistry - Westborough Lab for sample(s): 07-08,12 Batch: WG1621839-1										
Cyanide, Total	ND		mg/kg	0.88	0.19	1	03/31/22 09:40	03/31/22 12:58	1,9010C/9012B	CS

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG1620246-2								
Chromium, Hexavalent	85		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 07-12 Batch: WG1620247-2								
Chromium, Hexavalent	85		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-05 Batch: WG1621412-2 WG1621412-3								
Cyanide, Total	**65**	Q	**75**	Q	80-120	0		35
General Chemistry - Westborough Lab Associated sample(s): 09-11 Batch: WG1621482-2 WG1621482-3								
Cyanide, Total	**65**	Q	**75**	Q	80-120	0		35
General Chemistry - Westborough Lab Associated sample(s): 06 Batch: WG1621838-2 WG1621838-3								
Cyanide, Total	**57**	Q	91		80-120	22		35
General Chemistry - Westborough Lab Associated sample(s): 07-08,12 Batch: WG1621839-2 WG1621839-3								
Cyanide, Total	**57**	Q	**74**	Q	80-120	**52**	Q	35

Matrix Spike Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1620246-4 QC Sample: L2214374-06 Client ID: SB 25												
Chromium, Hexavalent	0.230J	1020	1190	116		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 07-12 QC Batch ID: WG1620247-4 QC Sample: L2214374-12 Client ID: SB 40												
Chromium, Hexavalent	ND	1610	1500	93		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1621412-4 WG1621412-5 QC Sample: L2214374-01 Client ID: SB 18												
Cyanide, Total	ND	10	12	110		12	110		75-125	0		35
General Chemistry - Westborough Lab Associated sample(s): 09-11 QC Batch ID: WG1621482-4 WG1621482-5 QC Sample: L2214374-11 Client ID: SB 33												
Cyanide, Total	ND	10	11	100		12	110		75-125	9		35
General Chemistry - Westborough Lab Associated sample(s): 06 QC Batch ID: WG1621838-4 WG1621838-5 QC Sample: L2214424-10 Client ID: MS Sample												
Cyanide, Total	ND	11	12	110		11	100		75-125	9		35
General Chemistry - Westborough Lab Associated sample(s): 07-08,12 QC Batch ID: WG1621839-4 WG1621839-5 QC Sample: L2214545-05 Client ID: MS Sample												
Cyanide, Total	ND	13	14	110		13	100		75-125	7		35

Lab Duplicate Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2214374

Report Date: 04/01/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-12 QC Batch ID: WG1617576-1 QC Sample: L2214349-01 Client ID: DUP Sample						
Solids, Total	85.3	85.3	%	0		20
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1620246-6 QC Sample: L2214374-06 Client ID: SB 25						
Chromium, Hexavalent	0.230J	0.230J	mg/kg	NC		20
General Chemistry - Westborough Lab Associated sample(s): 07-12 QC Batch ID: WG1620247-6 QC Sample: L2214374-12 Client ID: SB 40						
Chromium, Hexavalent	ND	ND	mg/kg	NC		20

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

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(*)
L2214374-01A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2214374-01B	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-01C	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-01D	Plastic 120ml unpreserved	A	NA		2.7	Y	Absent		TS(7)
L2214374-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2214374-01F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		TCN-9010(14),SUB-8270(),HEXCR-7196(30)
L2214374-02A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2214374-02B	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-02C	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-02D	Plastic 120ml unpreserved	A	NA		2.7	Y	Absent		TS(7)
L2214374-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2214374-02F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		TCN-9010(14),SUB-8270(),HEXCR-7196(30)
L2214374-02F1	Glass 120ml unpreserved split	NA	NA		2.7	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2214374-03A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2214374-03B	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-03C	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-03D	Plastic 120ml unpreserved	A	NA		2.7	Y	Absent		TS(7)
L2214374-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2214374-03F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		TCN-9010(14),SUB-8270(),HEXCR-7196(30)
L2214374-04A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2214374-04B	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-04C	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-04D	Plastic 120ml unpreserved	A	NA		2.7	Y	Absent		TS(7)
L2214374-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2214374-04F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		TCN-9010(14),HEXCR-7196(30),SUB-8270()
L2214374-05A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2214374-05B	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-05C	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-05D	Plastic 120ml unpreserved	A	NA		2.7	Y	Absent		TS(7)
L2214374-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2214374-05F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		TCN-9010(14),SUB-8270(),HEXCR-7196(30)
L2214374-06A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2214374-06B	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-06C	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-06D	Plastic 120ml unpreserved	A	NA		2.7	Y	Absent		TS(7)
L2214374-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2214374-06F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		TCN-9010(14),SUB-8270(),HEXCR-7196(30)
L2214374-07A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2214374-07B	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-07C	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-07D	Plastic 120ml unpreserved	A	NA		2.7	Y	Absent		TS(7)
L2214374-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2214374-07F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		TCN-9010(14),SUB-8270(),HEXCR-7196(30)
L2214374-08A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2214374-08B	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-08C	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:04	PA-8260HLW(14)
L2214374-08D	Plastic 120ml unpreserved	A	NA		2.7	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2214374-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2214374-08F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		TCN-9010(14),HEXCR-7196(30),SUB-8270()
L2214374-09A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2214374-09B	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:06	PA-8260HLW(14)
L2214374-09C	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:06	PA-8260HLW(14)
L2214374-09D	Plastic 120ml unpreserved	A	NA		2.7	Y	Absent		TS(7)
L2214374-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2214374-09F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		TCN-9010(14),HEXCR-7196(30),SUB-8270()
L2214374-10A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2214374-10B	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:06	PA-8260HLW(14)
L2214374-10C	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:06	PA-8260HLW(14)
L2214374-10D	Plastic 120ml unpreserved	A	NA		2.7	Y	Absent		TS(7)
L2214374-10E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2214374-10F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		TCN-9010(14),HEXCR-7196(30),SUB-8270()
L2214374-11A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2214374-11B	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:06	PA-8260HLW(14)
L2214374-11C	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:06	PA-8260HLW(14)
L2214374-11D	Plastic 120ml unpreserved	A	NA		2.7	Y	Absent		TS(7)
L2214374-11E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2214374-11F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		TCN-9010(14),SUB-8270(),HEXCR-7196(30)
L2214374-12A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2214374-12B	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:06	PA-8260HLW(14)
L2214374-12C	Vial water preserved	A	NA		2.7	Y	Absent	19-MAR-22 11:06	PA-8260HLW(14)
L2214374-12D	Plastic 120ml unpreserved	A	NA		2.7	Y	Absent		TS(7)
L2214374-12E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2214374-12F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		TCN-9010(14),SUB-8270(),HEXCR-7196(30)
L2214374-13A	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2214374
Report Date: 04/01/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2214374-13B	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		PA-8260(7)

*Values in parentheses indicate holding time in days

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2214374
Project Number:	200.00135.007	**Report Date:**	04/01/22

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2214374
Project Number:	200.00135.007	**Report Date:**	04/01/22

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2214374
Project Number:	200.00135.007	**Report Date:**	04/01/22

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.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2214374
Project Number:	200.00135.007	**Report Date:**	04/01/22

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, SM4500Cl-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, **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), **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

PAGE 1 OF 2

Date Rec'd in Lab: 03/18/22

ALPHA Job #: L2214374

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609.584.0090
Fax: 609.584.1190
Email: william.schmidt@ransomenv.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.007
Project Manager: William Schmidt
ALPHA Quote #: 17833

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 #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:
* See Table 1 (attached) for specific compounds on Target Analyte List

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs (8260)	SVOCs (8270)	Sb, As, Pb, Ni, V, Cr (6010) *	Total Cyanide (9012) *	Hexavalent Chromium (7196) *								Sample Specific Comments	Total # Bottles
14374-01	SB18	3.18.22	11:05	S	TR	✓	✓	✓	✓	✓									
-02	SB19	↓	11:25	↓	↓	✓	✓	✓	✓	✓									
-03	SB 20		11:45			✓	✓	✓	✓	✓									
-04	SB 21		12:10			✓	✓	✓	✓	✓									
-05	SB 24		10:25			✓	✓	✓	✓	✓									
-06	SB 25		10:45			✓	✓	✓	✓	✓									
-07	SB 27		10:05			✓	✓	✓	✓	✓									
-08	SB 29		9:25			✓	✓	✓	✓	✓									
-09	SB 30		8:45			✓	✓	✓	✓	✓									
-10	SB 32		9:05			✓	✓	✓	✓	✓									

Container Type
Preservative

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Reid 3/19/22 0430

Relinquished By:	Date/Time	Received By:	Date/Time
	3/18/22 15:10		3/18/22 1510
	3/18/22 1830		3/18/22 1830
	3/18/22 2205		3/18/22 2205

3/19/22 0430

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

Date Rec'd in Lab: 03/19/22

ALPHA Job #: L2214374

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609.584.0090
Fax: 609.584.1190
Email: william.schmidt@ransomenv.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.60135.007
Project Manager: William Schmidt
ALPHA Quote #: 17833

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 #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:
* See Table 1 (attached) for specific compounds on Target Analyte List

ANALYSIS: VOCs (8260), SVOCs (8270), Sb, As, Pb, Ni, V, Cr (6010), Total Cyanide (9012), Hexavalent Chromium (7196)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs (8260)	SVOCs (8270)	Sb, As, Pb, Ni, V, Cr (6010)	Total Cyanide (9012)	Hexavalent Chromium (7196)	Sample Specific Comments	TOTAL # BOTTLES
14374-11	SB33	3.18.22	8:30	S	TR	✓	✓	✓	✓	✓		
-12	SB40	3.18.22	9:45	S	TR	✓	✓	✓	✓	✓		
-13	Trip blank	3.14.22	8:33	TB		✓						

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
[signature]	3/18/22 15:10	[signature] AAL	3/18/22 15:10
[signature]	3/18/22 1835	[signature] AAL	3/18/22 1830
[signature] AAL	3/18/22 2205	[signature] AAL	3/18/22 22:30

[signature] 3/19/22 0430

Table 1
Proposed Target Analyte List and Analytical Methods
Point Breeze Hazardous Waste Storage Pad Area
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Constituents for Analysis	Analytical Method
Volatile Organic Compounds	*SW-846 Method 8260*
Benzene	
1,2-Dibromoethane (EBD)	
1,2-Dichloroethane (EDC)	
Carbon Disulfide	
Ethyl Benzene	
Isopropylbenzene (Cumene)	
Methyl Tertiary Butyl Ether (MTBE)	
Toluene	
1,2,4-Trimethylbenzene	
1,3,5-Trimethylbenzene	
Xylenes (total)	
Semi-Volatile Compounds	*SW-846 Method 8270*
Acenaphthene	
Anthracene	
Benzo(a)anthracene	
Benzo(a)pyrene	
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Benzo(g,h,i)perylene	
bis(2-Ethylhexyl)phthalate	
Chrysene	
Dibenz(a,h)anthracene	
Di-n-butylphthalate	
7,12-Dimethylbenz(a)anthracene	
2,4-Dimethylphenol	
Fluorene	
Indeno(1,2,3-cd)pyrene	
3-Methylcholanthrene	
2-Methylphenol	
3-Methylphenol	
4-Methylphenol	
Naphthalene	
o-cresol	
m-cresol	
p-resol	
Phenanthrene	
Phenol	
Pyrene	
Metals	*SW-846 Method 6010*
Antimony	
Arsenic	
Cyanide (total)	*SW-846 Method 9012*
Lead	*SW-846 Method 6010*
Nickel	
Vanadium	
Chromium (total)	
Chromium (hexavalent)	*SW-846 Method 7196*

Notes:

1) The Evergreen and PADEP agreed upon Philadelphia Refinery Target Compound List is provided in regular font.

2) Additional analytes based on the waste codes for the waste stored in the PB Waste Storage Area are italicized.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-195963-1
Client Project/Site: L2214374

For:
Alpha Analytical Inc
8 Walkup Drive
Westboro, Massachusetts 01581

Attn: Ms. Nadine Yakes

Authorized for release by:
3/29/2022 4:00:18 PM

Steve Hartmann, Project Manager
(413)572-4000
Steve.Hartmann@Eurofinset.com

LINKS

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Have a Question? Ask The Expert

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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.

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Definitions/Glossary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Qualifiers

GC/MS Semi 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.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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
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

Case Narrative

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Job ID: 480-195963-1

Laboratory: Eurofins Buffalo

Narrative

Job Narrative
480-195963-1

Comments
No additional comments.

Receipt
The samples were received on 3/19/2022 11:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.9º C.

GC/MS Semi VOA
Method 8270D: The following samples were diluted due to color and appearance: SB 18 (480-195963-1), SB 19 (480-195963-2), SB 27 (480-195963-7), SB 29 (480-195963-8), SB 32 (480-195963-10) and SB 33 (480-195963-11). Elevated reporting limits (RL) are provided.

Method 8270D: The following sample was diluted due to color, appearance and viscosity: SB 20 (480-195963-3). Elevated reporting limits (RL) are provided.

Method 8270D: The following sample was diluted due to sample matrix interfering with internal standard recoveries: SB 24 (480-195963-5). Elevated reporting limits (RLs) are provided.

Method 8270D: The following samples were diluted to bring the concentration of target analytes within the calibration range: SB 29 (480-195963-8), SB 30 (480-195963-9) and SB 40 (480-195963-12). 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.

Organic Prep
Method 3550C: The following sample: SB 18 (480-195963-1) was decanted prior to preparation

Method 3550C: Due to the matrix, the following sample could not be concentrated to the final method required volume: SB 32 (480-195963-10). The reporting limits (RLs) are elevated proportionately.

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

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 18 — Lab Sample ID: 480-195963-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	1400		1100	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	1500		1100	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	2100		1100	180	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	1100		1100	120	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	680	J	1100	140	ug/Kg	5	☼	8270D	Total/NA
Chrysene	1600		1100	250	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	320	J	1100	190	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1000	J	1100	140	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	930	J	1100	160	ug/Kg	5	☼	8270D	Total/NA
Pyrene	2100		1100	130	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB 19 — Lab Sample ID: 480-195963-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	6700		1900	280	ug/Kg	10	☼	8270D	Total/NA
Anthracene	15000		1900	470	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]anthracene	26000		1900	190	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	23000		1900	280	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	28000		1900	300	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	15000		1900	200	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	12000		1900	250	ug/Kg	10	☼	8270D	Total/NA
Chrysene	26000		1900	430	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	5100		1900	340	ug/Kg	10	☼	8270D	Total/NA
Fluorene	5800		1900	220	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	15000		1900	240	ug/Kg	10	☼	8270D	Total/NA
Naphthalene	1900		1900	250	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	45000		1900	280	ug/Kg	10	☼	8270D	Total/NA
Pyrene	41000		1900	220	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: SB 20 — Lab Sample ID: 480-195963-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	4600		4000	590	ug/Kg	20	☼	8270D	Total/NA
Anthracene	21000		4000	990	ug/Kg	20	☼	8270D	Total/NA
Benzo[a]anthracene	40000		4000	400	ug/Kg	20	☼	8270D	Total/NA
Benzo[a]pyrene	32000		4000	590	ug/Kg	20	☼	8270D	Total/NA
Benzo[b]fluoranthene	38000		4000	630	ug/Kg	20	☼	8270D	Total/NA
Benzo[g,h,i]perylene	19000		4000	420	ug/Kg	20	☼	8270D	Total/NA
Benzo[k]fluoranthene	14000		4000	520	ug/Kg	20	☼	8270D	Total/NA
Chrysene	38000		4000	890	ug/Kg	20	☼	8270D	Total/NA
Dibenz(a,h)anthracene	6200		4000	710	ug/Kg	20	☼	8270D	Total/NA
Fluorene	7600		4000	470	ug/Kg	20	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	18000		4000	490	ug/Kg	20	☼	8270D	Total/NA
Naphthalene	1300	J	4000	520	ug/Kg	20	☼	8270D	Total/NA
Phenanthrene	60000		4000	590	ug/Kg	20	☼	8270D	Total/NA
Pyrene	71000		4000	470	ug/Kg	20	☼	8270D	Total/NA

Client Sample ID: SB 21 — Lab Sample ID: 480-195963-4

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 24 — Lab Sample ID: 480-195963-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	1200		930	93	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	1300		930	140	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	1700		930	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	780	J	930	98	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	750	J	930	120	ug/Kg	5	☼	8270D	Total/NA
Chrysene	1300		930	210	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	280	J	930	160	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	800	J	930	110	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	870	J	930	140	ug/Kg	5	☼	8270D	Total/NA
Pyrene	1700		930	110	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB 25 — Lab Sample ID: 480-195963-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	54	J	180	45	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	350		180	18	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	390		180	27	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	450		180	29	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	300		180	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	270		180	24	ug/Kg	1	☼	8270D	Total/NA
Chrysene	410		180	41	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	110	J	180	32	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	280		180	23	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	190		180	27	ug/Kg	1	☼	8270D	Total/NA
Pyrene	590		180	22	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: SB 27 — Lab Sample ID: 480-195963-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	260	J	990	150	ug/Kg	5	☼	8270D	Total/NA
Anthracene	520	J	990	240	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	2000		990	99	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	1800		990	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	2300		990	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	1400		990	100	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	950	J	990	130	ug/Kg	5	☼	8270D	Total/NA
Chrysene	2100		990	220	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	430	J	990	170	ug/Kg	5	☼	8270D	Total/NA
Fluorene	200	J	990	120	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1300		990	120	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	1900		990	150	ug/Kg	5	☼	8270D	Total/NA
Pyrene	3300		990	120	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB 29 — Lab Sample ID: 480-195963-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	12000		1900	280	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	42000		1900	200	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	48000		1900	250	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	19000		1900	340	ug/Kg	10	☼	8270D	Total/NA
Fluorene	25000		1900	220	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	42000		1900	240	ug/Kg	10	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

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Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 29 (Continued) — Lab Sample ID: 480-195963-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	830	J	1900	250	ug/Kg	10	☼	8270D	Total/NA
Anthracene - DL	180000		19000	4700	ug/Kg	100	☼	8270D	Total/NA
Benzo[a]anthracene - DL	220000		19000	1900	ug/Kg	100	☼	8270D	Total/NA
Benzo[a]pyrene - DL	110000		19000	2800	ug/Kg	100	☼	8270D	Total/NA
Benzo[b]fluoranthene - DL	170000		19000	3000	ug/Kg	100	☼	8270D	Total/NA
Chrysene - DL	300000		19000	4300	ug/Kg	100	☼	8270D	Total/NA
Phenanthrene - DL	380000		19000	2800	ug/Kg	100	☼	8270D	Total/NA
Pyrene - DL	380000		19000	2200	ug/Kg	100	☼	8270D	Total/NA

Client Sample ID: SB 30 — Lab Sample ID: 480-195963-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	130	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Anthracene	550		190	48	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	5300		190	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	5800		190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	3200		190	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	3500		190	25	ug/Kg	1	☼	8270D	Total/NA
Chrysene	6000		190	43	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	1300		190	34	ug/Kg	1	☼	8270D	Total/NA
Fluorene	140	J	190	23	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	3200		190	24	ug/Kg	1	☼	8270D	Total/NA
Naphthalene	26	J	190	25	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	2500		190	28	ug/Kg	1	☼	8270D	Total/NA
Pyrene	5200		190	23	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene - DL	8800		960	150	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB 32 — Lab Sample ID: 480-195963-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	11000	J	19000	1900	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	13000	J	19000	2800	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	16000	J	19000	3100	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	7400	J	19000	2000	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	6000	J	19000	2500	ug/Kg	10	☼	8270D	Total/NA
Chrysene	13000	J	19000	4300	ug/Kg	10	☼	8270D	Total/NA
Dibenz(a,h)anthracene	3500	J	19000	3400	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	7700	J	19000	2400	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	8500	J	19000	2800	ug/Kg	10	☼	8270D	Total/NA
Pyrene	15000	J	19000	2300	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: SB 33 — Lab Sample ID: 480-195963-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	310	J	940	140	ug/Kg	5	☼	8270D	Total/NA
Anthracene	1200		940	230	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	6900		940	94	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	6700		940	140	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	9000		940	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	3200		940	100	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	3700		940	120	ug/Kg	5	☼	8270D	Total/NA
Chrysene	7500		940	210	ug/Kg	5	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 33 (Continued) — Lab Sample ID: 480-195963-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dibenz(a,h)anthracene	1300		940	170	ug/Kg	5	☼	8270D	Total/NA
Fluorene	350	J	940	110	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	3300		940	120	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	5200		940	140	ug/Kg	5	☼	8270D	Total/NA
Pyrene	9000		940	110	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: SB 40 — Lab Sample ID: 480-195963-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	78	J	190	28	ug/Kg	1	☼	8270D	Total/NA
Anthracene	630		190	47	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	5900		190	19	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	5800		190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	3200		190	20	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	2600		190	25	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	1200		190	34	ug/Kg	1	☼	8270D	Total/NA
Fluorene	67	J	190	22	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	3100		190	24	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	1900		190	28	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene - DL	8400		950	150	ug/Kg	5	☼	8270D	Total/NA
Chrysene - DL	6600		950	210	ug/Kg	5	☼	8270D	Total/NA
Pyrene - DL	8500		950	110	ug/Kg	5	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 18

Lab Sample ID: 480-195963-1
Date Collected: 03/18/22 11:05
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 76.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	160	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Anthracene	ND		1100	270	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Benzo[a]anthracene	**1400**		1100	110	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Benzo[a]pyrene	**1500**		1100	160	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Benzo[b]fluoranthene	**2100**		1100	180	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Benzo[g,h,i]perylene	**1100**		1100	120	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Benzo[k]fluoranthene	**680**	**J**	1100	140	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Bis(2-ethylhexyl) phthalate	ND		1100	380	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
2,4-Dimethylphenol	ND		1100	270	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
7,12-Dimethylbenz(a)anthracene	ND		2100	320	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Chrysene	**1600**		1100	250	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Dibenz(a,h)anthracene	**320**	**J**	1100	190	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Di-n-butyl phthalate	ND		1100	190	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Fluorene	ND		1100	130	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Indeno[1,2,3-cd]pyrene	**1000**	**J**	1100	140	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Naphthalene	ND		1100	140	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
2-Methylphenol	ND		1100	130	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
3-Methylphenol	ND		2100	170	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
3-Methylcholanthrene	ND		2100	360	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
4-Methylphenol	ND		2100	130	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Phenanthrene	**930**	**J**	1100	160	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Phenol	ND		1100	170	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Pyrene	**2100**		1100	130	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5
Total Cresols	ND		2100	130	ug/Kg	☼	03/22/22 15:35	03/23/22 19:33	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*87*		*54 - 120*	*03/22/22 15:35*	*03/23/22 19:33*	*5*
2-Fluorobiphenyl (Surr)	*100*		*60 - 120*	*03/22/22 15:35*	*03/23/22 19:33*	*5*
2-Fluorophenol (Surr)	*76*		*52 - 120*	*03/22/22 15:35*	*03/23/22 19:33*	*5*
Phenol-d5 (Surr)	*81*		*54 - 120*	*03/22/22 15:35*	*03/23/22 19:33*	*5*
Nitrobenzene-d5 (Surr)	*92*		*53 - 120*	*03/22/22 15:35*	*03/23/22 19:33*	*5*
p-Terphenyl-d14 (Surr)	*97*		*79 - 130*	*03/22/22 15:35*	*03/23/22 19:33*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**24.0**		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	**76.0**		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 19

Lab Sample ID: 480-195963-2
Date Collected: 03/18/22 11:25
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 86.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**6700**		1900	280	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Anthracene	**15000**		1900	470	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Benzo[a]anthracene	**26000**		1900	190	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Benzo[a]pyrene	**23000**		1900	280	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Benzo[b]fluoranthene	**28000**		1900	300	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Benzo[g,h,i]perylene	**15000**		1900	200	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 19

Lab Sample ID: 480-195963-2
Date Collected: 03/18/22 11:25
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 86.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	**12000**		1900	250	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Bis(2-ethylhexyl) phthalate	ND		1900	650	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
2,4-Dimethylphenol	ND		1900	460	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
7,12-Dimethylbenz(a)anthracene	ND		3700	550	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Chrysene	**26000**		1900	430	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Dibenz(a,h)anthracene	**5100**		1900	340	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Di-n-butyl phthalate	ND		1900	330	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Fluorene	**5800**		1900	220	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Indeno[1,2,3-cd]pyrene	**15000**		1900	240	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Naphthalene	**1900**		1900	250	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
2-Methylphenol	ND		1900	220	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
3-Methylphenol	ND		3700	290	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
3-Methylcholanthrene	ND		3700	620	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
4-Methylphenol	ND		3700	220	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Phenanthrene	**45000**		1900	280	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Phenol	ND		1900	290	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Pyrene	**41000**		1900	220	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10
Total Cresols	ND		3700	220	ug/Kg	☼	03/22/22 15:35	03/23/22 19:57	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*99*		*54 - 120*	*03/22/22 15:35*	*03/23/22 19:57*	*10*
2-Fluorobiphenyl (Surr)	*99*		*60 - 120*	*03/22/22 15:35*	*03/23/22 19:57*	*10*
2-Fluorophenol (Surr)	*77*		*52 - 120*	*03/22/22 15:35*	*03/23/22 19:57*	*10*
Phenol-d5 (Surr)	*75*		*54 - 120*	*03/22/22 15:35*	*03/23/22 19:57*	*10*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*	*03/22/22 15:35*	*03/23/22 19:57*	*10*
p-Terphenyl-d14 (Surr)	*92*		*79 - 130*	*03/22/22 15:35*	*03/23/22 19:57*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.4**		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	**86.6**		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 20

Lab Sample ID: 480-195963-3
Date Collected: 03/18/22 11:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 84.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**4600**		4000	590	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Anthracene	**21000**		4000	990	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Benzo[a]anthracene	**40000**		4000	400	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Benzo[a]pyrene	**32000**		4000	590	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Benzo[b]fluoranthene	**38000**		4000	630	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Benzo[g,h,i]perylene	**19000**		4000	420	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Benzo[k]fluoranthene	**14000**		4000	520	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Bis(2-ethylhexyl) phthalate	ND		4000	1400	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
2,4-Dimethylphenol	ND		4000	960	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
7,12-Dimethylbenz(a)anthracene	ND		7800	1200	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Chrysene	**38000**		4000	890	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Dibenz(a,h)anthracene	**6200**		4000	710	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 20

Lab Sample ID: 480-195963-3
Date Collected: 03/18/22 11:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 84.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		4000	680	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Fluorene	**7600**		4000	470	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Indeno[1,2,3-cd]pyrene	**18000**		4000	490	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Naphthalene	**1300**	**J**	4000	520	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
2-Methylphenol	ND		4000	470	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
3-Methylphenol	ND		7800	610	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
3-Methylcholanthrene	ND		7800	1300	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
4-Methylphenol	ND		7800	470	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Phenanthrene	**60000**		4000	590	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Phenol	ND		4000	610	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Pyrene	**71000**		4000	470	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20
Total Cresols	ND		7800	470	ug/Kg	☼	03/22/22 15:35	03/23/22 20:20	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*96*		*54 - 120*	*03/22/22 15:35*	*03/23/22 20:20*	*20*
2-Fluorobiphenyl (Surr)	*78*		*60 - 120*	*03/22/22 15:35*	*03/23/22 20:20*	*20*
2-Fluorophenol (Surr)	*68*		*52 - 120*	*03/22/22 15:35*	*03/23/22 20:20*	*20*
Phenol-d5 (Surr)	*75*		*54 - 120*	*03/22/22 15:35*	*03/23/22 20:20*	*20*
Nitrobenzene-d5 (Surr)	*69*		*53 - 120*	*03/22/22 15:35*	*03/23/22 20:20*	*20*
p-Terphenyl-d14 (Surr)	*79*		*79 - 130*	*03/22/22 15:35*	*03/23/22 20:20*	*20*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**15.8**		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	**84.2**		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 21

Lab Sample ID: 480-195963-4
Date Collected: 03/18/22 12:10
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 86.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Anthracene	ND		190	48	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Benzo[a]pyrene	ND		190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Benzo[b]fluoranthene	ND		190	31	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Benzo[k]fluoranthene	ND		190	25	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
7,12-Dimethylbenz(a)anthracene	ND		370	56	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Chrysene	ND		190	43	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Dibenz(a,h)anthracene	ND		190	34	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Fluorene	ND		190	23	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Indeno[1,2,3-cd]pyrene	ND		190	24	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Naphthalene	ND		190	25	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
3-Methylphenol	ND		370	30	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 21

Date Collected: 03/18/22 12:10
Date Received: 03/19/22 11:00

Lab Sample ID: 480-195963-4
Matrix: Solid
Percent Solids: 86.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Phenanthrene	ND		190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Phenol	ND		190	30	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Pyrene	ND		190	23	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1
Total Cresols	ND		370	23	ug/Kg	☼	03/22/22 15:35	03/23/22 20:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*	*03/22/22 15:35*	*03/23/22 20:44*	*1*
2-Fluorobiphenyl (Surr)	*85*		*60 - 120*	*03/22/22 15:35*	*03/23/22 20:44*	*1*
2-Fluorophenol (Surr)	*66*		*52 - 120*	*03/22/22 15:35*	*03/23/22 20:44*	*1*
Phenol-d5 (Surr)	*69*		*54 - 120*	*03/22/22 15:35*	*03/23/22 20:44*	*1*
Nitrobenzene-d5 (Surr)	*73*		*53 - 120*	*03/22/22 15:35*	*03/23/22 20:44*	*1*
p-Terphenyl-d14 (Surr)	*95*		*79 - 130*	*03/22/22 15:35*	*03/23/22 20:44*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.8**		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	**86.2**		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 24

Date Collected: 03/18/22 10:25
Date Received: 03/19/22 11:00

Lab Sample ID: 480-195963-5
Matrix: Solid
Percent Solids: 91.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		930	140	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Anthracene	ND		930	230	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Benzo[a]anthracene	**1200**		930	93	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Benzo[a]pyrene	**1300**		930	140	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Benzo[b]fluoranthene	**1700**		930	150	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Benzo[g,h,i]perylene	**780**	**J**	930	98	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Benzo[k]fluoranthene	**750**	**J**	930	120	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Bis(2-ethylhexyl) phthalate	ND		930	320	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
2,4-Dimethylphenol	ND		930	220	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
7,12-Dimethylbenz(a)anthracene	ND		1800	270	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Chrysene	**1300**		930	210	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Dibenz(a,h)anthracene	**280**	**J**	930	160	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Di-n-butyl phthalate	ND		930	160	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Fluorene	ND		930	110	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Indeno[1,2,3-cd]pyrene	**800**	**J**	930	110	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Naphthalene	ND		930	120	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
2-Methylphenol	ND		930	110	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
3-Methylphenol	ND		1800	140	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
3-Methylcholanthrene	ND		1800	300	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
4-Methylphenol	ND		1800	110	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Phenanthrene	**870**	**J**	930	140	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Phenol	ND		930	140	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Pyrene	**1700**		930	110	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5
Total Cresols	ND		1800	110	ug/Kg	☼	03/22/22 15:35	03/24/22 17:17	5

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 24

Lab Sample ID: 480-195963-5
Date Collected: 03/18/22 10:25
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 91.3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	79		54 - 120	03/22/22 15:35	03/24/22 17:17	5
2-Fluorobiphenyl (Surr)	100		60 - 120	03/22/22 15:35	03/24/22 17:17	5
2-Fluorophenol (Surr)	85		52 - 120	03/22/22 15:35	03/24/22 17:17	5
Phenol-d5 (Surr)	87		54 - 120	03/22/22 15:35	03/24/22 17:17	5
Nitrobenzene-d5 (Surr)	79		53 - 120	03/22/22 15:35	03/24/22 17:17	5
p-Terphenyl-d14 (Surr)	95		79 - 130	03/22/22 15:35	03/24/22 17:17	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.7		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	91.3		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 25

Lab Sample ID: 480-195963-6
Date Collected: 03/18/22 10:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 91.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		180	27	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Anthracene	54	J	180	45	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Benzo[a]anthracene	350		180	18	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Benzo[a]pyrene	390		180	27	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Benzo[b]fluoranthene	450		180	29	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Benzo[g,h,i]perylene	300		180	19	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Benzo[k]fluoranthene	270		180	24	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Bis(2-ethylhexyl) phthalate	ND		180	62	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
2,4-Dimethylphenol	ND		180	44	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
7,12-Dimethylbenz(a)anthracene	ND		360	53	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Chrysene	410		180	41	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Dibenz(a,h)anthracene	110	J	180	32	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Di-n-butyl phthalate	ND		180	31	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Fluorene	ND		180	22	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Indeno[1,2,3-cd]pyrene	280		180	23	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Naphthalene	ND		180	24	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
2-Methylphenol	ND		180	22	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
3-Methylphenol	ND		360	28	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
3-Methylcholanthrene	ND		360	59	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
4-Methylphenol	ND		360	22	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Phenanthrene	190		180	27	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Phenol	ND		180	28	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Pyrene	590		180	22	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1
Total Cresols	ND		360	22	ug/Kg	☼	03/22/22 15:35	03/23/22 21:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	95		54 - 120	03/22/22 15:35	03/23/22 21:32	1
2-Fluorobiphenyl (Surr)	110		60 - 120	03/22/22 15:35	03/23/22 21:32	1
2-Fluorophenol (Surr)	77		52 - 120	03/22/22 15:35	03/23/22 21:32	1
Phenol-d5 (Surr)	81		54 - 120	03/22/22 15:35	03/23/22 21:32	1
Nitrobenzene-d5 (Surr)	89		53 - 120	03/22/22 15:35	03/23/22 21:32	1
p-Terphenyl-d14 (Surr)	110		79 - 130	03/22/22 15:35	03/23/22 21:32	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 25

Lab Sample ID: 480-195963-6
Date Collected: 03/18/22 10:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 91.5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.5		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	91.5		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 27

Lab Sample ID: 480-195963-7
Date Collected: 03/18/22 10:05
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 85.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	260	J	990	150	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Anthracene	520	J	990	240	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Benzo[a]anthracene	2000		990	99	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Benzo[a]pyrene	1800		990	150	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Benzo[b]fluoranthene	2300		990	160	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Benzo[g,h,i]perylene	1400		990	100	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Benzo[k]fluoranthene	950	J	990	130	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Bis(2-ethylhexyl) phthalate	ND		990	340	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
2,4-Dimethylphenol	ND		990	240	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
7,12-Dimethylbenz(a)anthracene	ND		1900	280	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Chrysene	2100		990	220	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Dibenz(a,h)anthracene	430	J	990	170	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Di-n-butyl phthalate	ND		990	170	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Fluorene	200	J	990	120	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Indeno[1,2,3-cd]pyrene	1300		990	120	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Naphthalene	ND		990	130	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
2-Methylphenol	ND		990	120	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
3-Methylphenol	ND		1900	150	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
3-Methylcholanthrene	ND		1900	320	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
4-Methylphenol	ND		1900	120	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Phenanthrene	1900		990	150	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Phenol	ND		990	150	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Pyrene	3300		990	120	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5
Total Cresols	ND		1900	120	ug/Kg	☼	03/22/22 15:35	03/23/22 21:56	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*	*03/22/22 15:35*	*03/23/22 21:56*	*5*
2-Fluorobiphenyl (Surr)	*91*		*60 - 120*	*03/22/22 15:35*	*03/23/22 21:56*	*5*
2-Fluorophenol (Surr)	*82*		*52 - 120*	*03/22/22 15:35*	*03/23/22 21:56*	*5*
Phenol-d5 (Surr)	*85*		*54 - 120*	*03/22/22 15:35*	*03/23/22 21:56*	*5*
Nitrobenzene-d5 (Surr)	*79*		*53 - 120*	*03/22/22 15:35*	*03/23/22 21:56*	*5*
p-Terphenyl-d14 (Surr)	*104*		*79 - 130*	*03/22/22 15:35*	*03/23/22 21:56*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	14.8		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	85.2		0.1	0.1	%			03/21/22 14:55	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 29

Date Collected: 03/18/22 09:25
Date Received: 03/19/22 11:00

Lab Sample ID: 480-195963-8

Matrix: Solid
Percent Solids: 87.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**12000**		1900	280	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Benzo[g,h,i]perylene	**42000**		1900	200	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Benzo[k]fluoranthene	**48000**		1900	250	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Bis(2-ethylhexyl) phthalate	ND		1900	650	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
2,4-Dimethylphenol	ND		1900	460	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
7,12-Dimethylbenz(a)anthracene	ND		3700	550	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Dibenz(a,h)anthracene	**19000**		1900	340	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Di-n-butyl phthalate	ND		1900	330	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Fluorene	**25000**		1900	220	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Indeno[1,2,3-cd]pyrene	**42000**		1900	240	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Naphthalene	**830**	**J**	1900	250	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
2-Methylphenol	ND		1900	220	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
3-Methylphenol	ND		3700	290	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
3-Methylcholanthrene	ND		3700	620	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
4-Methylphenol	ND		3700	220	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Phenol	ND		1900	290	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10
Total Cresols	ND		3700	220	ug/Kg	☼	03/22/22 15:35	03/23/22 22:20	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*54 - 120*	*03/22/22 15:35*	*03/23/22 22:20*	*10*
2-Fluorobiphenyl (Surr)	*100*		*60 - 120*	*03/22/22 15:35*	*03/23/22 22:20*	*10*
2-Fluorophenol (Surr)	*83*		*52 - 120*	*03/22/22 15:35*	*03/23/22 22:20*	*10*
Phenol-d5 (Surr)	*79*		*54 - 120*	*03/22/22 15:35*	*03/23/22 22:20*	*10*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*03/22/22 15:35*	*03/23/22 22:20*	*10*
p-Terphenyl-d14 (Surr)	*95*		*79 - 130*	*03/22/22 15:35*	*03/23/22 22:20*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	**180000**		19000	4700	ug/Kg	☼	03/22/22 15:35	03/24/22 17:41	100
Benzo[a]anthracene	**220000**		19000	1900	ug/Kg	☼	03/22/22 15:35	03/24/22 17:41	100
Benzo[a]pyrene	**110000**		19000	2800	ug/Kg	☼	03/22/22 15:35	03/24/22 17:41	100
Benzo[b]fluoranthene	**170000**		19000	3000	ug/Kg	☼	03/22/22 15:35	03/24/22 17:41	100
Chrysene	**300000**		19000	4300	ug/Kg	☼	03/22/22 15:35	03/24/22 17:41	100
Phenanthrene	**380000**		19000	2800	ug/Kg	☼	03/22/22 15:35	03/24/22 17:41	100
Pyrene	**380000**		19000	2200	ug/Kg	☼	03/22/22 15:35	03/24/22 17:41	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*169*	*S1+*	*54 - 120*	*03/22/22 15:35*	*03/24/22 17:41*	*100*
2-Fluorobiphenyl (Surr)	*114*		*60 - 120*	*03/22/22 15:35*	*03/24/22 17:41*	*100*
2-Fluorophenol (Surr)	*0*	*S1-*	*52 - 120*	*03/22/22 15:35*	*03/24/22 17:41*	*100*
Phenol-d5 (Surr)	*104*		*54 - 120*	*03/22/22 15:35*	*03/24/22 17:41*	*100*
Nitrobenzene-d5 (Surr)	*0*	*S1-*	*53 - 120*	*03/22/22 15:35*	*03/24/22 17:41*	*100*
p-Terphenyl-d14 (Surr)	*94*		*79 - 130*	*03/22/22 15:35*	*03/24/22 17:41*	*100*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**12.6**		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	**87.4**		0.1	0.1	%			03/21/22 14:55	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 30

Date Collected: 03/18/22 08:45
Date Received: 03/19/22 11:00

Lab Sample ID: 480-195963-9

Matrix: Solid
Percent Solids: 87.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	130	J	190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Anthracene	550		190	48	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Benzo[a]anthracene	5300		190	19	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Benzo[a]pyrene	5800		190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Benzo[g,h,i]perylene	3200		190	20	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Benzo[k]fluoranthene	3500		190	25	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Bis(2-ethylhexyl) phthalate	ND		190	66	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
2,4-Dimethylphenol	ND		190	47	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
7,12-Dimethylbenz(a)anthracene	ND		370	56	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Chrysene	6000		190	43	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Dibenz(a,h)anthracene	1300		190	34	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Di-n-butyl phthalate	ND		190	33	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Fluorene	140	J	190	23	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Indeno[1,2,3-cd]pyrene	3200		190	24	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Naphthalene	26	J	190	25	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
2-Methylphenol	ND		190	23	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
3-Methylphenol	ND		370	29	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
4-Methylphenol	ND		370	23	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Phenanthrene	2500		190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Phenol	ND		190	29	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Pyrene	5200		190	23	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1
Total Cresols	ND		370	23	ug/Kg	☼	03/22/22 15:35	03/23/22 22:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*110*		*54 - 120*	*03/22/22 15:35*	*03/23/22 22:44*	*1*
2-Fluorobiphenyl (Surr)	*112*		*60 - 120*	*03/22/22 15:35*	*03/23/22 22:44*	*1*
2-Fluorophenol (Surr)	*80*		*52 - 120*	*03/22/22 15:35*	*03/23/22 22:44*	*1*
Phenol-d5 (Surr)	*79*		*54 - 120*	*03/22/22 15:35*	*03/23/22 22:44*	*1*
Nitrobenzene-d5 (Surr)	*97*		*53 - 120*	*03/22/22 15:35*	*03/23/22 22:44*	*1*
p-Terphenyl-d14 (Surr)	*94*		*79 - 130*	*03/22/22 15:35*	*03/23/22 22:44*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	8800		960	150	ug/Kg	☼	03/22/22 15:35	03/24/22 18:05	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*54 - 120*	*03/22/22 15:35*	*03/24/22 18:05*	*5*
2-Fluorobiphenyl (Surr)	*97*		*60 - 120*	*03/22/22 15:35*	*03/24/22 18:05*	*5*
2-Fluorophenol (Surr)	*88*		*52 - 120*	*03/22/22 15:35*	*03/24/22 18:05*	*5*
Phenol-d5 (Surr)	*91*		*54 - 120*	*03/22/22 15:35*	*03/24/22 18:05*	*5*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*	*03/22/22 15:35*	*03/24/22 18:05*	*5*
p-Terphenyl-d14 (Surr)	*106*		*79 - 130*	*03/22/22 15:35*	*03/24/22 18:05*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12.7		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	87.3		0.1	0.1	%			03/21/22 14:55	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 32

Lab Sample ID: 480-195963-10
Date Collected: 03/18/22 09:05
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		19000	2800	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Anthracene	ND		19000	4800	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Benzo[a]anthracene	**11000**	**J**	19000	1900	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Benzo[a]pyrene	**13000**	**J**	19000	2800	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Benzo[b]fluoranthene	**16000**	**J**	19000	3100	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Benzo[g,h,i]perylene	**7400**	**J**	19000	2000	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Benzo[k]fluoranthene	**6000**	**J**	19000	2500	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Bis(2-ethylhexyl) phthalate	ND		19000	6600	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
2,4-Dimethylphenol	ND		19000	4700	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
7,12-Dimethylbenz(a)anthracene	ND		37000	5600	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Chrysene	**13000**	**J**	19000	4300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Dibenz(a,h)anthracene	**3500**	**J**	19000	3400	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Di-n-butyl phthalate	ND		19000	3300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Fluorene	ND		19000	2300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Indeno[1,2,3-cd]pyrene	**7700**	**J**	19000	2400	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Naphthalene	ND		19000	2500	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
2-Methylphenol	ND		19000	2300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
3-Methylphenol	ND		37000	2900	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
3-Methylcholanthrene	ND		37000	6200	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
4-Methylphenol	ND		37000	2300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Phenanthrene	**8500**	**J**	19000	2800	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Phenol	ND		19000	2900	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Pyrene	**15000**	**J**	19000	2300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10
Total Cresols	ND		37000	2300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:08	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*0*	*S1-*	*54 - 120*	*03/22/22 15:35*	*03/23/22 23:08*	*10*
2-Fluorobiphenyl (Surr)	*107*		*60 - 120*	*03/22/22 15:35*	*03/23/22 23:08*	*10*
2-Fluorophenol (Surr)	*89*		*52 - 120*	*03/22/22 15:35*	*03/23/22 23:08*	*10*
Phenol-d5 (Surr)	*81*		*54 - 120*	*03/22/22 15:35*	*03/23/22 23:08*	*10*
Nitrobenzene-d5 (Surr)	*91*		*53 - 120*	*03/22/22 15:35*	*03/23/22 23:08*	*10*
p-Terphenyl-d14 (Surr)	*104*		*79 - 130*	*03/22/22 15:35*	*03/23/22 23:08*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.0**		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	**87.0**		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 33

Lab Sample ID: 480-195963-11
Date Collected: 03/18/22 08:30
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**310**	**J**	940	140	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Anthracene	**1200**		940	230	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Benzo[a]anthracene	**6900**		940	94	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Benzo[a]pyrene	**6700**		940	140	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Benzo[b]fluoranthene	**9000**		940	150	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Benzo[g,h,i]perylene	**3200**		940	100	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 33

Lab Sample ID: 480-195963-11
Date Collected: 03/18/22 08:30
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	3700		940	120	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Bis(2-ethylhexyl) phthalate	ND		940	320	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
2,4-Dimethylphenol	ND		940	230	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
7,12-Dimethylbenz(a)anthracene	ND		1800	270	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Chrysene	7500		940	210	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Dibenz(a,h)anthracene	1300		940	170	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Di-n-butyl phthalate	ND		940	160	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Fluorene	350	J	940	110	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Indeno[1,2,3-cd]pyrene	3300		940	120	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Naphthalene	ND		940	120	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
2-Methylphenol	ND		940	110	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
3-Methylphenol	ND		1800	140	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
3-Methylcholanthrene	ND		1800	300	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
4-Methylphenol	ND		1800	110	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Phenanthrene	5200		940	140	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Phenol	ND		940	140	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Pyrene	9000		940	110	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5
Total Cresols	ND		1800	110	ug/Kg	☼	03/22/22 15:35	03/23/22 23:32	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*84*		*54 - 120*	*03/22/22 15:35*	*03/23/22 23:32*	*5*
2-Fluorobiphenyl (Surr)	*88*		*60 - 120*	*03/22/22 15:35*	*03/23/22 23:32*	*5*
2-Fluorophenol (Surr)	*73*		*52 - 120*	*03/22/22 15:35*	*03/23/22 23:32*	*5*
Phenol-d5 (Surr)	*70*		*54 - 120*	*03/22/22 15:35*	*03/23/22 23:32*	*5*
Nitrobenzene-d5 (Surr)	*83*		*53 - 120*	*03/22/22 15:35*	*03/23/22 23:32*	*5*
p-Terphenyl-d14 (Surr)	*86*		*79 - 130*	*03/22/22 15:35*	*03/23/22 23:32*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12.4		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	87.6		0.1	0.1	%			03/21/22 14:55	1

Client Sample ID: SB 40

Lab Sample ID: 480-195963-12
Date Collected: 03/18/22 09:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	78	J	190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Anthracene	630		190	47	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Benzo[a]anthracene	5900		190	19	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Benzo[a]pyrene	5800		190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Benzo[g,h,i]perylene	3200		190	20	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Benzo[k]fluoranthene	2600		190	25	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Bis(2-ethylhexyl) phthalate	ND		190	65	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
2,4-Dimethylphenol	ND		190	46	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
7,12-Dimethylbenz(a)anthracene	ND		370	55	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Dibenz(a,h)anthracene	1200		190	34	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Di-n-butyl phthalate	ND		190	32	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Fluorene	67	J	190	22	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 40

Date Collected: 03/18/22 09:45
Date Received: 03/19/22 11:00

Lab Sample ID: 480-195963-12

Matrix: Solid
Percent Solids: 87.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	**3100**		190	24	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Naphthalene	ND		190	25	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
2-Methylphenol	ND		190	22	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
3-Methylphenol	ND		370	29	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
3-Methylcholanthrene	ND		370	62	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
4-Methylphenol	ND		370	22	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Phenanthrene	**1900**		190	28	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Phenol	ND		190	29	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1
Total Cresols	ND		370	22	ug/Kg	☼	03/22/22 15:35	03/23/22 23:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*111*		*54 - 120*	*03/22/22 15:35*	*03/23/22 23:56*	*1*
2-Fluorobiphenyl (Surr)	*110*		*60 - 120*	*03/22/22 15:35*	*03/23/22 23:56*	*1*
2-Fluorophenol (Surr)	*82*		*52 - 120*	*03/22/22 15:35*	*03/23/22 23:56*	*1*
Phenol-d5 (Surr)	*83*		*54 - 120*	*03/22/22 15:35*	*03/23/22 23:56*	*1*
Nitrobenzene-d5 (Surr)	*95*		*53 - 120*	*03/22/22 15:35*	*03/23/22 23:56*	*1*
p-Terphenyl-d14 (Surr)	*92*		*79 - 130*	*03/22/22 15:35*	*03/23/22 23:56*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**8400**		950	150	ug/Kg	☼	03/22/22 15:35	03/24/22 18:29	5
Chrysene	**6600**		950	210	ug/Kg	☼	03/22/22 15:35	03/24/22 18:29	5
Pyrene	**8500**		950	110	ug/Kg	☼	03/22/22 15:35	03/24/22 18:29	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*91*		*54 - 120*	*03/22/22 15:35*	*03/24/22 18:29*	*5*
2-Fluorobiphenyl (Surr)	*102*		*60 - 120*	*03/22/22 15:35*	*03/24/22 18:29*	*5*
2-Fluorophenol (Surr)	*82*		*52 - 120*	*03/22/22 15:35*	*03/24/22 18:29*	*5*
Phenol-d5 (Surr)	*90*		*54 - 120*	*03/22/22 15:35*	*03/24/22 18:29*	*5*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*03/22/22 15:35*	*03/24/22 18:29*	*5*
p-Terphenyl-d14 (Surr)	*110*		*79 - 130*	*03/22/22 15:35*	*03/24/22 18:29*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**12.7**		0.1	0.1	%			03/21/22 14:55	1
Percent Solids	**87.3**		0.1	0.1	%			03/21/22 14:55	1

Surrogate Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	PHL	NBZ	TPHd14
Lab Sample ID	Client Sample ID	(54-120)	(60-120)	(52-120)	(54-120)	(53-120)	(79-130)
480-195963-1	SB 18	87	100	76	81	92	97
480-195963-2	SB 19	99	99	77	75	82	92
480-195963-3	SB 20	96	78	68	75	69	79
480-195963-4	SB 21	83	85	66	69	73	95
480-195963-5	SB 24	79	100	85	87	79	95
480-195963-6	SB 25	95	110	77	81	89	110
480-195963-7	SB 27	83	91	82	85	79	104
480-195963-8	SB 29	85	100	83	79	85	95
480-195963-8 - DL	SB 29	169 S1+	114	0 S1-	104	0 S1-	94
480-195963-9	SB 30	110	112	80	79	97	94
480-195963-9 - DL	SB 30	83	97	88	91	82	106
480-195963-10	SB 32	0 S1-	107	89	81	91	104
480-195963-11	SB 33	84	88	73	70	83	86
480-195963-12	SB 40	111	110	82	83	95	92
480-195963-12 - DL	SB 40	91	102	82	90	85	110
LCS 480-618672/2-A	Lab Control Sample	102	100	79	79	90	118
MB 480-618672/1-A	Method Blank	84	81	71	72	77	102

Surrogate Legend

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

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

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

Lab Sample ID: MB 480-618672/1-A
Matrix: Solid
Analysis Batch: 618807

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 618672

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		170	24	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Anthracene	ND		170	41	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Benzo[a]anthracene	ND		170	17	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Benzo[a]pyrene	ND		170	24	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Benzo[b]fluoranthene	ND		170	26	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Benzo[k]fluoranthene	ND		170	22	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Bis(2-ethylhexyl) phthalate	ND		170	57	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
2,4-Dimethylphenol	ND		170	40	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
7,12-Dimethylbenz(a)anthracene	ND		320	48	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Chrysene	ND		170	37	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Dibenz(a,h)anthracene	ND		170	29	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Di-n-butyl phthalate	ND		170	28	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Fluorene	ND		170	20	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Indeno[1,2,3-cd]pyrene	ND		170	21	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Naphthalene	ND		170	22	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
2-Methylphenol	ND		170	20	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
3-Methylphenol	ND		320	25	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
3-Methylcholanthrene	ND		320	54	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
4-Methylphenol	ND		320	20	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Phenanthrene	ND		170	24	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Phenol	ND		170	25	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Pyrene	ND		170	20	ug/Kg		03/22/22 15:35	03/23/22 15:56	1
Total Cresols	ND		320	20	ug/Kg		03/22/22 15:35	03/23/22 15:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*84*		*54 - 120*	*03/22/22 15:35*	*03/23/22 15:56*	*1*
2-Fluorobiphenyl (Surr)	*81*		*60 - 120*	*03/22/22 15:35*	*03/23/22 15:56*	*1*
2-Fluorophenol (Surr)	*71*		*52 - 120*	*03/22/22 15:35*	*03/23/22 15:56*	*1*
Phenol-d5 (Surr)	*72*		*54 - 120*	*03/22/22 15:35*	*03/23/22 15:56*	*1*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*03/22/22 15:35*	*03/23/22 15:56*	*1*
p-Terphenyl-d14 (Surr)	*102*		*79 - 130*	*03/22/22 15:35*	*03/23/22 15:56*	*1*

Lab Sample ID: LCS 480-618672/2-A
Matrix: Solid
Analysis Batch: 618807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618672

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1620	1590		ug/Kg		98	62 - 120
Anthracene	1620	1590		ug/Kg		98	62 - 120
Benzo[a]anthracene	1620	1670		ug/Kg		103	65 - 120
Benzo[a]pyrene	1620	1510		ug/Kg		93	64 - 120
Benzo[b]fluoranthene	1620	1630		ug/Kg		101	64 - 120
Benzo[g,h,i]perylene	1620	1540		ug/Kg		95	45 - 145
Benzo[k]fluoranthene	1620	1680		ug/Kg		104	65 - 120
Bis(2-ethylhexyl) phthalate	1620	1820		ug/Kg		113	61 - 133
2,4-Dimethylphenol	1620	1470		ug/Kg		91	59 - 120
Chrysene	1620	1550		ug/Kg		96	64 - 120

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

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

Lab Sample ID: LCS 480-618672/2-A
Matrix: Solid
Analysis Batch: 618807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 618672

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenz(a,h)anthracene	1620	1560		ug/Kg		96	54 - 132
Di-n-butyl phthalate	1620	1790		ug/Kg		110	58 - 130
Fluorene	1620	1580		ug/Kg		98	63 - 120
Indeno[1,2,3-cd]pyrene	1620	1520		ug/Kg		94	56 - 134
Naphthalene	1620	1400		ug/Kg		87	55 - 120
2-Methylphenol	1620	1330		ug/Kg		82	54 - 120
3-Methylphenol	1620	1250		ug/Kg		77	55 - 120
4-Methylphenol	1620	1250		ug/Kg		77	55 - 120
Phenanthrene	1620	1590		ug/Kg		98	60 - 120
Phenol	1620	1270		ug/Kg		78	53 - 120
Pyrene	1620	1950		ug/Kg		120	61 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*102*		*54 - 120*
2-Fluorobiphenyl (Surr)	*100*		*60 - 120*
2-Fluorophenol (Surr)	*79*		*52 - 120*
Phenol-d5 (Surr)	*79*		*54 - 120*
Nitrobenzene-d5 (Surr)	*90*		*53 - 120*
p-Terphenyl-d14 (Surr)	*118*		*79 - 130*

QC Association Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

GC/MS Semi VOA

Prep Batch: 618672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195963-1	SB 18	Total/NA	Solid	3550C	
480-195963-2	SB 19	Total/NA	Solid	3550C	
480-195963-3	SB 20	Total/NA	Solid	3550C	
480-195963-4	SB 21	Total/NA	Solid	3550C	
480-195963-5	SB 24	Total/NA	Solid	3550C	
480-195963-6	SB 25	Total/NA	Solid	3550C	
480-195963-7	SB 27	Total/NA	Solid	3550C	
480-195963-8	SB 29	Total/NA	Solid	3550C	
480-195963-8 - DL	SB 29	Total/NA	Solid	3550C	
480-195963-9	SB 30	Total/NA	Solid	3550C	
480-195963-9 - DL	SB 30	Total/NA	Solid	3550C	
480-195963-10	SB 32	Total/NA	Solid	3550C	
480-195963-11	SB 33	Total/NA	Solid	3550C	
480-195963-12 - DL	SB 40	Total/NA	Solid	3550C	
480-195963-12	SB 40	Total/NA	Solid	3550C	
MB 480-618672/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-618672/2-A	Lab Control Sample	Total/NA	Solid	3550C	

Analysis Batch: 618807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195963-1	SB 18	Total/NA	Solid	8270D	618672
480-195963-2	SB 19	Total/NA	Solid	8270D	618672
480-195963-3	SB 20	Total/NA	Solid	8270D	618672
480-195963-4	SB 21	Total/NA	Solid	8270D	618672
480-195963-6	SB 25	Total/NA	Solid	8270D	618672
480-195963-7	SB 27	Total/NA	Solid	8270D	618672
480-195963-8	SB 29	Total/NA	Solid	8270D	618672
480-195963-9	SB 30	Total/NA	Solid	8270D	618672
480-195963-10	SB 32	Total/NA	Solid	8270D	618672
480-195963-11	SB 33	Total/NA	Solid	8270D	618672
480-195963-12	SB 40	Total/NA	Solid	8270D	618672
MB 480-618672/1-A	Method Blank	Total/NA	Solid	8270D	618672
LCS 480-618672/2-A	Lab Control Sample	Total/NA	Solid	8270D	618672

Analysis Batch: 618977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195963-5	SB 24	Total/NA	Solid	8270D	618672
480-195963-8 - DL	SB 29	Total/NA	Solid	8270D	618672
480-195963-9 - DL	SB 30	Total/NA	Solid	8270D	618672
480-195963-12 - DL	SB 40	Total/NA	Solid	8270D	618672

General Chemistry

Analysis Batch: 618528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195963-1	SB 18	Total/NA	Solid	Moisture	
480-195963-2	SB 19	Total/NA	Solid	Moisture	
480-195963-3	SB 20	Total/NA	Solid	Moisture	
480-195963-4	SB 21	Total/NA	Solid	Moisture	
480-195963-5	SB 24	Total/NA	Solid	Moisture	
480-195963-6	SB 25	Total/NA	Solid	Moisture	

QC Association Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

General Chemistry (Continued)

Analysis Batch: 618528 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-195963-7	SB 27	Total/NA	Solid	Moisture	
480-195963-8	SB 29	Total/NA	Solid	Moisture	
480-195963-9	SB 30	Total/NA	Solid	Moisture	
480-195963-10	SB 32	Total/NA	Solid	Moisture	
480-195963-11	SB 33	Total/NA	Solid	Moisture	
480-195963-12	SB 40	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 18

Lab Sample ID: 480-195963-1
Date Collected: 03/18/22 11:05
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 18

Lab Sample ID: 480-195963-1
Date Collected: 03/18/22 11:05
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 76.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618807	03/23/22 19:33	PJQ	TAL BUF

Client Sample ID: SB 19

Lab Sample ID: 480-195963-2
Date Collected: 03/18/22 11:25
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 19

Lab Sample ID: 480-195963-2
Date Collected: 03/18/22 11:25
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 86.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618807	03/23/22 19:57	PJQ	TAL BUF

Client Sample ID: SB 20

Lab Sample ID: 480-195963-3
Date Collected: 03/18/22 11:45
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 20

Lab Sample ID: 480-195963-3
Date Collected: 03/18/22 11:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 84.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		20	618807	03/23/22 20:20	PJQ	TAL BUF

Client Sample ID: SB 21

Lab Sample ID: 480-195963-4
Date Collected: 03/18/22 12:10
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 21 — Lab Sample ID: 480-195963-4

Date Collected: 03/18/22 12:10 — **Matrix: Solid**
Date Received: 03/19/22 11:00 — **Percent Solids: 86.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618807	03/23/22 20:44	PJQ	TAL BUF

Client Sample ID: SB 24 — Lab Sample ID: 480-195963-5

Date Collected: 03/18/22 10:25 — **Matrix: Solid**
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 24 — Lab Sample ID: 480-195963-5

Date Collected: 03/18/22 10:25 — **Matrix: Solid**
Date Received: 03/19/22 11:00 — **Percent Solids: 91.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618977	03/24/22 17:17	PJQ	TAL BUF

Client Sample ID: SB 25 — Lab Sample ID: 480-195963-6

Date Collected: 03/18/22 10:45 — **Matrix: Solid**
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 25 — Lab Sample ID: 480-195963-6

Date Collected: 03/18/22 10:45 — **Matrix: Solid**
Date Received: 03/19/22 11:00 — **Percent Solids: 91.5**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618807	03/23/22 21:32	PJQ	TAL BUF

Client Sample ID: SB 27 — Lab Sample ID: 480-195963-7

Date Collected: 03/18/22 10:05 — **Matrix: Solid**
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 27

Lab Sample ID: 480-195963-7
Date Collected: 03/18/22 10:05
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 85.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618807	03/23/22 21:56	PJQ	TAL BUF

Client Sample ID: SB 29

Lab Sample ID: 480-195963-8
Date Collected: 03/18/22 09:25
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 29

Lab Sample ID: 480-195963-8
Date Collected: 03/18/22 09:25
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618807	03/23/22 22:20	PJQ	TAL BUF
Total/NA	Prep	3550C	DL		618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D	DL	100	618977	03/24/22 17:41	PJQ	TAL BUF

Client Sample ID: SB 30

Lab Sample ID: 480-195963-9
Date Collected: 03/18/22 08:45
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 30

Lab Sample ID: 480-195963-9
Date Collected: 03/18/22 08:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618807	03/23/22 22:44	PJQ	TAL BUF
Total/NA	Prep	3550C	DL		618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D	DL	5	618977	03/24/22 18:05	PJQ	TAL BUF

Client Sample ID: SB 32

Lab Sample ID: 480-195963-10
Date Collected: 03/18/22 09:05
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Client Sample ID: SB 32

Lab Sample ID: 480-195963-10
Date Collected: 03/18/22 09:05
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		10	618807	03/23/22 23:08	PJQ	TAL BUF

Client Sample ID: SB 33

Lab Sample ID: 480-195963-11
Date Collected: 03/18/22 08:30
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 33

Lab Sample ID: 480-195963-11
Date Collected: 03/18/22 08:30
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		5	618807	03/23/22 23:32	PJQ	TAL BUF

Client Sample ID: SB 40

Lab Sample ID: 480-195963-12
Date Collected: 03/18/22 09:45
Matrix: Solid
Date Received: 03/19/22 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	618528	03/21/22 14:55	DSC	TAL BUF

Client Sample ID: SB 40

Lab Sample ID: 480-195963-12
Date Collected: 03/18/22 09:45
Matrix: Solid
Date Received: 03/19/22 11:00
Percent Solids: 87.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D		1	618807	03/23/22 23:56	PJQ	TAL BUF
Total/NA	Prep	3550C	DL		618672	03/22/22 15:35	SJM	TAL BUF
Total/NA	Analysis	8270D	DL	5	618977	03/24/22 18:29	PJQ	TAL BUF

Laboratory References:

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Laboratory: Eurofins Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	68-00281	07-31-22

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
8270D	3550C	Solid	Total Cresols
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF
3550C	Ultrasonic Extraction	SW846	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Alpha Analytical Inc
Project/Site: L2214374

Job ID: 480-195963-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-195963-1	SB 18	Solid	03/18/22 11:05	03/19/22 11:00
480-195963-2	SB 19	Solid	03/18/22 11:25	03/19/22 11:00
480-195963-3	SB 20	Solid	03/18/22 11:45	03/19/22 11:00
480-195963-4	SB 21	Solid	03/18/22 12:10	03/19/22 11:00
480-195963-5	SB 24	Solid	03/18/22 10:25	03/19/22 11:00
480-195963-6	SB 25	Solid	03/18/22 10:45	03/19/22 11:00
480-195963-7	SB 27	Solid	03/18/22 10:05	03/19/22 11:00
480-195963-8	SB 29	Solid	03/18/22 09:25	03/19/22 11:00
480-195963-9	SB 30	Solid	03/18/22 08:45	03/19/22 11:00
480-195963-10	SB 32	Solid	03/18/22 09:05	03/19/22 11:00
480-195963-11	SB 33	Solid	03/18/22 08:30	03/19/22 11:00
480-195963-12	SB 40	Solid	03/18/22 09:45	03/19/22 11:00

ALPHA ANALYTICAL
World Class Chemistry

1/2

Subcontract Chain of Custody

Eurofins Northeast LLC
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2214374

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2214374

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com proj # 48025001

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	SB 18	03-18-22 11:05	SOIL	8270	
	SB 19	03-18-22 11:25	SOIL	8270	
	SB 20	03-18-22 11:45	SOIL	8270	
	SB 21	03-18-22 12:10	SOIL	8270	
	SB 24	03-18-22 10:25	SOIL	8270	
	SB 25	03-18-22 10:45	SOIL	8270	
	SB 27	03-18-22 10:05	SOIL	8270	
	SB 29	03-18-22 09:25	SOIL	8270	
	SB 30	03-18-22 08:45	SOIL	8270	

480-195963 Chain of Custody

Temp 2.9 #1 ICE UPS

Relinquished By:	Date/Time:	Received By:	Date/Time:
Amica Jagiello	3/18/22 16:22	Ann Kow Cirkolb	3/19/22 1100

Form No: AL_subcoc

2/2

Subcontract Chain of Custody

Eurofins Northeast LLC
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2214374

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2214374

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com proj # 48025001

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	SB 32	03-18-22 09:05	SOIL	8270	
	SB 33	03-18-22 08:30	SOIL	8270	
	SB 40	03-18-22 09:45	SOIL	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
Amica Yaglier	3/18/22 16:22	PGI	

Form No: AL_subcoc

Login Sample Receipt Checklist

Client: Alpha Analytical Inc

Job Number: 480-195963-1

Login Number: 195963

List Number: 1

Creator: Sabuda, Brendan D

List Source: Eurofins Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
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.	True	
Cooler Temperature is recorded.	True	2.9 #1 ice
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	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	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

ANALYTICAL REPORT

Lab Number:	L2241651
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PES REFINERY-SITE INVESTIGATIO
Project Number:	200.00135.005.03
Report Date:	08/19/22

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-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241651
Report Date: 08/19/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2241651-01	HZP-SB26R-3.0-3.5	SOIL	PHILADELPHIA, PA	08/03/22 11:30	08/03/22
L2241651-02	HZP-SB26R-6.0-6.5	SOIL	PHILADELPHIA, PA	08/03/22 11:35	08/03/22
L2241651-03	HZP-SB27R-3.0-3.5	SOIL	PHILADELPHIA, PA	08/03/22 12:05	08/03/22
L2241651-04	HZP-SB27R-6.0-6.5	SOIL	PHILADELPHIA, PA	08/03/22 12:10	08/03/22
L2241651-05	HZP-SB28R-0.5-1.0	SOIL	PHILADELPHIA, PA	08/03/22 12:40	08/03/22
L2241651-06	HZP-SB28R-6.0-6.5	SOIL	PHILADELPHIA, PA	08/03/22 12:45	08/03/22
L2241651-07	HZP-SB28A-0.5-1.0	SOIL	PHILADELPHIA, PA	08/03/22 13:00	08/03/22
L2241651-08	HZP-SB28A-3.0-3.5	SOIL	PHILADELPHIA, PA	08/03/22 13:05	08/03/22
L2241651-09	HZP-SB28A-6.0-6.5	SOIL	PHILADELPHIA, PA	08/03/22 13:10	08/03/22
L2241651-10	HZP-SB28B-0.0-0.5	SOIL	PHILADELPHIA, PA	08/03/22 13:40	08/03/22
L2241651-11	HZP-SB28B-3.0-3.5	SOIL	PHILADELPHIA, PA	08/03/22 13:45	08/03/22
L2241651-12	HZP-SB28B-6.0-6.5	SOIL	PHILADELPHIA, PA	08/03/22 13:50	08/03/22
L2241651-13	HZP-SB29R-3.0-3.5	SOIL	PHILADELPHIA, PA	08/03/22 14:00	08/03/22
L2241651-14	HZP-SB29R-6.0-6.5	SOIL	PHILADELPHIA, PA	08/03/22 14:10	08/03/22
L2241651-15	HZP-SB29A-0.5-1.0	SOIL	PHILADELPHIA, PA	08/03/22 14:15	08/03/22
L2241651-16	HZP-SB29A-3.0-3.5	SOIL	PHILADELPHIA, PA	08/03/22 14:20	08/03/22
L2241651-17	HZP-SB29A-6.0-6.5	SOIL	PHILADELPHIA, PA	08/03/22 14:25	08/03/22
L2241651-18	HZP-SB29B-0.5-1.0	SOIL	PHILADELPHIA, PA	08/03/22 14:40	08/03/22
L2241651-19	HZP-SB29B-3.0-3.5	SOIL	PHILADELPHIA, PA	08/03/22 14:45	08/03/22
L2241651-20	HZP-SB29B-6.0-6.5	SOIL	PHILADELPHIA, PA	08/03/22 14:50	08/03/22

Project Name:	PES REFINERY-SITE INVESTIGATIO	**Lab Number:**	L2241651
Project Number:	200.00135.005.03	**Report Date:**	08/19/22

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-SITE INVESTIGATIO	**Lab Number:**	L2241651
Project Number:	200.00135.005.03	**Report Date:**	08/19/22

Case Narrative (continued)

Report Submission

August 19, 2022: This final report includes the results of all requested analyses.

August 19, 2022: This preliminary report includes the results of the Total Lead analysis performed on L2241651-15.

August 10, 2022: 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.

Sample Receipt

The analyses performed were specified by the client.

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: Caitlin Walukevich

Title: Technical Director/Representative

Date: 08/19/22

ORGANICS

SEMIVOLATILES

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241651
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-01
Client ID: HZP-SB26R-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 11:30
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/10/22 00:43
Analyst: SZ
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 08/05/22 16:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	0.18		mg/kg	0.12	0.035	1
Benzo(a)pyrene	0.16	J	mg/kg	0.17	0.051	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	86		18-120

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241651
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-03
Client ID: HZP-SB27R-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 12:05
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/10/22 01:05
Analyst: SZ
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 08/05/22 16:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	1.1		mg/kg	0.12	0.032	1
Benzo(a)pyrene	0.99		mg/kg	0.15	0.047	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	77		18-120

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241651
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-05
Client ID: HZP-SB28R-0.5-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 12:40
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/10/22 01:27
Analyst: SZ
Percent Solids: 77%

Extraction Method: EPA 3546
Extraction Date: 08/05/22 16:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	0.27		mg/kg	0.13	0.036	1
Benzo(a)pyrene	0.23		mg/kg	0.17	0.052	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	87		30-120
4-Terphenyl-d14	95		18-120

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241651
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-06
Client ID: HZP-SB28R-6.0-6.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 12:45
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/10/22 01:50
Analyst: SZ
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 08/05/22 16:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	0.38		mg/kg	0.11	0.030	1
Benzo(a)pyrene	0.29		mg/kg	0.14	0.044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	92		18-120

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241651
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-08
Client ID: HZP-SB28A-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 13:05
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/10/22 02:12
Analyst: SZ
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 08/05/22 16:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	1.1		mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.97		mg/kg	0.15	0.045	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	79		18-120

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241651
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-11
Client ID: HZP-SB28B-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 13:45
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/10/22 02:35
Analyst: SZ
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 08/05/22 16:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	0.38		mg/kg	0.11	0.030	1
Benzo(a)pyrene	0.29		mg/kg	0.14	0.044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	77		18-120

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241651
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-13
Client ID: HZP-SB29R-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 14:00
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/10/22 02:57
Analyst: SZ
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 08/05/22 16:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(a)anthracene	2.5		mg/kg	0.11	0.021	1
Chrysene	2.7		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	4.2		mg/kg	0.11	0.031	1
Benzo(a)pyrene	3.2		mg/kg	0.15	0.045	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	75		18-120

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03
Lab Number: L2241651
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-15
Client ID: HZP-SB29A-0.5-1.0
Sample Location: PHILADELPHIA, PA

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/10/22 03:19
Analyst: SZ
Percent Solids: 83%

Date Collected: 08/03/22 14:15
Date Received: 08/03/22
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/05/22 16:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(a)anthracene	0.034	J	mg/kg	0.12	0.022	1
Chrysene	0.033	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.052	J	mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.047	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	57		23-120
2-Fluorobiphenyl	59		30-120
4-Terphenyl-d14	65		18-120

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241651
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-18
Client ID: HZP-SB29B-0.5-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 14:40
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/10/22 03:42
Analyst: SZ
Percent Solids: 75%

Extraction Method: EPA 3546
Extraction Date: 08/05/22 16:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(a)anthracene	0.14		mg/kg	0.13	0.025	1
Chrysene	0.15		mg/kg	0.13	0.023	1
Benzo(b)fluoranthene	0.21		mg/kg	0.13	0.037	1
Benzo(a)pyrene	0.17	J	mg/kg	0.18	0.053	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	90		18-120

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03
Lab Number: L2241651
Report Date: 08/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 08/09/22 23:35
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 08/05/22 16:01

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01,03,05-06,08,11,13,15,18 Batch: WG1671871-1					
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	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.040

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	96		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03
Lab Number: L2241651
Report Date: 08/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03,05-06,08,11,13,15,18 Batch: WG1671871-2 WG1671871-3								
Benzo(a)anthracene	80		73		40-140	9		50
Chrysene	77		71		40-140	8		50
Benzo(b)fluoranthene	94		88		40-140	7		50
Benzo(a)pyrene	97		89		40-140	9		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	85		73		23-120
2-Fluorobiphenyl	77		64		30-120
4-Terphenyl-d14	91		78		18-120

METALS

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241651
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-15
Client ID: HZP-SB29A-0.5-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 14:15
Date Received: 08/03/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.80		mg/kg	2.32	0.124	1	08/04/22 22:55	08/10/22 16:37	EPA 3050B	1,6010D	JF

Project Name: PES REFINERY-SITE INVESTIGATIO **Lab Number:** L2241651

Project Number: 200.00135.005.03 **Report Date:** 08/19/22

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): 15 Batch: WG1671453-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	08/04/22 22:55	08/10/22 16:09	1,6010D	JF

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PES REFINERY-SITE INVESTIGATIO

Project Number: 200.00135.005.03

Lab Number: L2241651

Report Date: 08/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 15 Batch: WG1671453-2 SRM Lot Number: D113-540								
Lead, Total	90		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241651
Report Date: 08/19/22

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): 15 QC Batch ID: WG1671453-3 QC Sample: L2200081-57 Client ID: MS Sample												
Lead, Total	63.2	41	104	99		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PES REFINERY-SITE INVESTIGATIO

Project Number: 200.00135.005.03

Lab Number: L2241651

Report Date: 08/19/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 15 QC Batch ID: WG1671453-4 QC Sample: L2200081-57 Client ID: DUP Sample						
Lead, Total	63.2	62.3	mg/kg	1		20

INORGANICS
&
MISCELLANEOUS

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241651
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-01
Client ID: HZP-SB26R-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 11:30
Date Received: 08/03/22
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	79.0		%	0.100	NA	1	-	08/04/22 18:50	121,2540G	MF

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241651
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-03
Client ID: HZP-SB27R-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 12:05
Date Received: 08/03/22
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	86.4		%	0.100	NA	1	-	08/04/22 18:50	121,2540G	MF

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241651
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-05
Client ID: HZP-SB28R-0.5-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 12:40
Date Received: 08/03/22
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	76.5		%	0.100	NA	1	-	08/04/22 18:50	121,2540G	MF

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241651
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-06
Client ID: HZP-SB28R-6.0-6.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 12:45
Date Received: 08/03/22
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	92.5		%	0.100	NA	1	-	08/04/22 18:50	121,2540G	MF

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241651
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-08
Client ID: HZP-SB28A-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 13:05
Date Received: 08/03/22
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	89.1		%	0.100	NA	1	-	08/04/22 18:50	121,2540G	MF

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241651
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-11
Client ID: HZP-SB28B-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 13:45
Date Received: 08/03/22
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	91.1		%	0.100	NA	1	-	08/04/22 18:50	121,2540G	MF

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241651
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-13
Client ID: HZP-SB29R-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 14:00
Date Received: 08/03/22
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	89.0		%	0.100	NA	1	-	08/04/22 18:50	121,2540G	MF

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241651
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-15
Client ID: HZP-SB29A-0.5-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 14:15
Date Received: 08/03/22
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	83.2		%	0.100	NA	1	-	08/04/22 18:50	121,2540G	MF

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241651
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241651-18
Client ID: HZP-SB29B-0.5-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 08/03/22 14:40
Date Received: 08/03/22
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	75.4		%	0.100	NA	1	-	08/04/22 18:50	121,2540G	MF

Lab Duplicate Analysis

Batch Quality Control

Project Name: PES REFINERY-SITE INVESTIGATIO

Project Number: 200.00135.005.03

Lab Number: L2241651

Report Date: 08/19/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03,05-06,08,11,13,15,18 QC Batch ID: WG1671449-1 QC Sample: L2241204-01 Client ID: DUP Sample						
Solids, Total	76.0	77.4	%	2		20

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241651
Report Date: 08/19/22

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(*)
L2241651-01A	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		TS(7),PA-PAH(14)
L2241651-02A	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2241651-03A	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		TS(7),PA-PAH(14)
L2241651-04A	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2241651-05A	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		TS(7),PA-PAH(14)
L2241651-06A	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		TS(7),PA-PAH(14)
L2241651-07A	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2241651-08A	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		TS(7),PA-PAH(14)
L2241651-09A	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2241651-10A	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2241651-11A	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		TS(7),PA-PAH(14)
L2241651-11A1	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.6	Y	Absent		HOLD-METAL(180)
L2241651-12A	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2241651-12A1	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.6	Y	Absent		HOLD-METAL(180)
L2241651-13A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.6	Y	Absent		HOLD-METAL(180)
L2241651-13B	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		TS(7),PA-PAH(14)
L2241651-14A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.6	Y	Absent		HOLD-METAL(180)
L2241651-14B	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2241651-15A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.6	Y	Absent		PB-TI(180)
L2241651-15B	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		TS(7),PA-PAH(14)
L2241651-16A	Glass 250ml/8oz unpreserved	A	NA		5.6	Y	Absent		HOLD-METAL(180)
L2241651-16B	Glass 250ml/8oz unpreserved	A	NA		5.6	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2241651-17A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.6	Y	Absent		HOLD-METAL(180)

*Values in parentheses indicate holding time in days

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241651
Report Date: 08/19/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2241651-17B	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2241651-18A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.6	Y	Absent		HOLD-METAL(180)
L2241651-18B	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		TS(7),PA-PAH(14)
L2241651-19A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.6	Y	Absent		HOLD-METAL(180)
L2241651-19B	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2241651-20A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.6	Y	Absent		HOLD-METAL(180)
L2241651-20B	Glass 120ml/4oz unpreserved	A	NA		5.6	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)

*Values in parentheses indicate holding time in days

Project Name:	PES REFINERY-SITE INVESTIGATIO	**Lab Number:**	L2241651
Project Number:	200.00135.005.03	**Report Date:**	08/19/22

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-SITE INVESTIGATIO	**Lab Number:**	L2241651
Project Number:	200.00135.005.03	**Report Date:**	08/19/22

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:	PES REFINERY-SITE INVESTIGATIO	**Lab Number:**	L2241651
Project Number:	200.00135.005.03	**Report Date:**	08/19/22

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:	PES REFINERY-SITE INVESTIGATIO	**Lab Number:**	L2241651
Project Number:	200.00135.005.03	**Report Date:**	08/19/22

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, SM4500Cl-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, **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), **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

PAGE 1 OF 2

Date Rec'd in Lab: 8/4/22

ALPHA Job #: L2241651

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Ave
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: PES Refinery
Project Location: Philadelphia
Project #: 200.00135
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 5-DAY* Time:

Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☑ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Email to EDD@TERRAPHASE.com + JJERAY@HILCOGLOBAL.com

ANALYSIS: Benzo(a) Pyrene; Benzo(b) Fluoranthene

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Benzo(a) Pyrene	Benzo(b) Fluoranthene	Sample Specific Comments	TOTAL # BOTTLES
41651-01	HZP-SB26R-3.0-3.5	8/3	1130	S	TS	X	X		
-02	HZP-SB26R-6.0-6.5	↓	1135	↓	↓	X	X	HOLD	
-03	HZP-SB27R-3.0-3.5	↓	1205	↓	↓	X	X		
-04	HZP-SB27R-6.0-6.5	↓	1210	↓	↓	X	X	HOLD	
-05	HZP-SB28R-0.5-1.0	↓	1240	↓	↓	X	X		
-06	HZP-SB28R-6.0-6.5	↓	1245	↓	↓	X	X		
-07	HZP-SB28A-0.5-1.0	↓	1300	↓	↓	X	X	HOLD	
-08	HZP-SB28A-3.0-3.5	↓	1305	↓	↓	X	X		
-09	HZP-SB28A-6.0-6.5	↓	1310	↓	↓	X	X	HOLD	
-10	HZP-SB28B-0.0-0.5	↓	1340	↓	↓	X	X	HOLD	

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	8/3 1500	[signature] AAL	8/3 1500
[signature]	8/3 1800	[signature]	8/3 1800
[signature]	8/3 2100	[signature]	8/3/22 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.

8/4/22 0230

FORM NO: 01-01 (rev. 14-OCT-07)

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 8/4/22

ALPHA Job #: L2241657

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: RANSOM CONSULTING
Address: 2127 HAMILTON AVE
TRENTON, NJ 08619
Phone: 215-901-4974
Fax:
Email: WILLIAM.SCHMIDT@RANSOMENV

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: PES REFINERY
Project Location: PHILADELPHIA
Project #: 200.00135
Project Manager: WILLIAM SCHMIDT
ALPHA Quote #: 18599

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 5-DAY^R Time:

Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

SEE PG. 1

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	CHRYSENE	LEAD	Sample Specific Comments	TOTAL # BOTTLES
41651-11	HZP-SB28B-3.0-3.5	8/3	1345	S	TS	X	X	X	X		
-12	HZP-SB28B-6.0-6.5	↓	1350	↓	↓	X	X	X	X	HOLD	
-13	HZP-SB29R-3.0-3.5		1400			X	X	X	X		
-14	HZP-SB29R-6.0-6.5		1410			X	X	X	X	HOLD	
-15	HZP-SB29A-0.5-1.0		1415			X	X	X	X		
-16	HZP-SB29A-3.0-3.5		1420			X	X	X	X	HOLD	
-17	HZP-SB29A-6.0-6.5		1425			X	X	X	X	HOLD	
-18	~~SB~~ HZP-SB29B-0.5-1.0		1440			X	X	X	X		
-19	HZP-SB29B-3.0-3.5		1445			X	X	X	X	HOLD	
-20	HZP-SB29B-6.0-6.5	↓	1450	↓	↓	X	X	X	X	HOLD	

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	8/3 1508	[signature]	8/3 1508
TOM COUR [signature]	8/3 1800	[signature]	8/3 1800
[signature]	8/3 2000	[signature]	8/3/22 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.

8/4/22 0730

FORM NO: 01-01 (rev. 14-OCT-07)

ANALYTICAL REPORT

Lab Number:	L2241989
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PES REFINERY-SITE INVESTIGATIO
Project Number:	200.00135.005.03
Report Date:	08/19/22

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-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241989
Report Date: 08/19/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2241989-01	HZP-SB30R-3.0-3.5	SOIL	PHILADELPHIA, PA	08/04/22 09:30	08/04/22
L2241989-02	HZP-SB30R-6.0-6.5	SOIL	PHILADELPHIA, PA	08/04/22 09:45	08/04/22
L2241989-03	HZP-SB31R-0.5-1.0	SOIL	PHILADELPHIA, PA	08/04/22 10:00	08/04/22
L2241989-04	HZP-SB31R-6.0-6.5	SOIL	PHILADELPHIA, PA	08/04/22 10:10	08/04/22
L2241989-05	HZP-SB32R-3.0-3.5	SOIL	PHILADELPHIA, PA	08/04/22 10:30	08/04/22
L2241989-06	HZP-SB32R-6.0-6.5	SOIL	PHILADELPHIA, PA	08/04/22 10:40	08/04/22
L2241989-07	HZP-SB32A-0.5-1.0	SOIL	PHILADELPHIA, PA	08/04/22 10:50	08/04/22
L2241989-08	HZP-SB32A-3.0-3.5	SOIL	PHILADELPHIA, PA	08/04/22 11:00	08/04/22
L2241989-09	HZP-SB32A-6.0-6.5	SOIL	PHILADELPHIA, PA	08/04/22 11:30	08/04/22
L2241989-10	HZP-SB32B-0.5-1.0	SOIL	PHILADELPHIA, PA	08/04/22 11:40	08/04/22
L2241989-11	HZP-SB32B-3.0-3.5	SOIL	PHILADELPHIA, PA	08/04/22 12:00	08/04/22
L2241989-12	HZP-SB32B-6.0-6.5	SOIL	PHILADELPHIA, PA	08/04/22 12:10	08/04/22

Project Name:	PES REFINERY-SITE INVESTIGATIO	**Lab Number:**	L2241989
Project Number:	200.00135.005.03	**Report Date:**	08/19/22

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-SITE INVESTIGATIO	**Lab Number:**	L2241989
Project Number:	200.00135.005.03	**Report Date:**	08/19/22

Case Narrative (continued)

Report Submission

August 19, 2022: This final report includes the results of all requested analyses.

August 19, 2022: This preliminary report includes the results of the Total Metals analysis performed on L2241989-08.

August 11, 2022: 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.

Sample Receipt

The analyses performed were specified by the client.

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: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 08/19/22

METALS

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241989
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241989-01
Client ID: HZP-SB30R-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/04/22 09:30
Date Received: 08/04/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	34.1		mg/kg	2.36	0.126	1	08/08/22 23:22	08/10/22 12:08	EPA 3050B	1,6010D	NB

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241989
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241989-03
Client ID: HZP-SB31R-0.5-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 08/04/22 10:00
Date Received: 08/04/22
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	90.0		mg/kg	2.20	0.118	1	08/08/22 23:22	08/10/22 12:13	EPA 3050B	1,6010D	NB

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241989
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241989-05
Client ID: HZP-SB32R-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/04/22 10:30
Date Received: 08/04/22
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	66.1		mg/kg	2.20	0.118	1	08/08/22 23:22	08/10/22 12:17	EPA 3050B	1,6010D	NB

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241989
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241989-07
Client ID: HZP-SB32A-0.5-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 08/04/22 10:50
Date Received: 08/04/22
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	1750		mg/kg	2.20	0.118	1	08/08/22 23:22	08/10/22 12:22	EPA 3050B	1,6010D	NB

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241989
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241989-08
Client ID: HZP-SB32A-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/04/22 11:00
Date Received: 08/04/22
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	160		mg/kg	2.22	0.119	1	08/14/22 11:34	08/15/22 11:12	EPA 3050B	1,6010D	JF

Project Name: PES REFINERY-SITE INVESTIGATIO
Lab Number: L2241989
Project Number: 200.00135.005.03
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241989-10
Client ID: HZP-SB32B-0.5-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 08/04/22 11:40
Date Received: 08/04/22
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	7.19		mg/kg	2.22	0.119	1	08/08/22 23:22	08/10/22 12:27	EPA 3050B	1,6010D	NB

Project Name: PES REFINERY-SITE INVESTIGATIO **Lab Number:** L2241989

Project Number: 200.00135.005.03 **Report Date:** 08/19/22

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): 01,03,05,07,10 Batch: WG1672444-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	08/08/22 23:22	08/10/22 09:56	1,6010D	NB

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): 08 Batch: WG1675056-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	08/14/22 11:34	08/15/22 09:44	1,6010D	JF

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PES REFINERY-SITE INVESTIGATIO

Project Number: 200.00135.005.03

Lab Number: L2241989

Report Date: 08/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03,05,07,10 Batch: WG1672444-2 SRM Lot Number: D113-540								
Lead, Total	89		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 08 Batch: WG1675056-2 SRM Lot Number: D113-540								
Lead, Total	81		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03
Lab Number: L2241989
Report Date: 08/19/22

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): 01,03,05,07,10 QC Batch ID: WG1672444-3 QC Sample: L2241582-13 Client ID: MS Sample												
Lead, Total	6.14	44.7	37.5	**70**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 08 QC Batch ID: WG1675056-3 QC Sample: L2243656-01 Client ID: MS Sample												
Lead, Total	1090	46	612	**0**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PES REFINERY-SITE INVESTIGATIO

Project Number: 200.00135.005.03

Lab Number: L2241989

Report Date: 08/19/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03,05,07,10 QC Batch ID: WG1672444-4 QC Sample: L2241582-13 Client ID: DUP Sample						
Lead, Total	6.14	5.83	mg/kg	5		20
Total Metals - Mansfield Lab Associated sample(s): 08 QC Batch ID: WG1675056-4 QC Sample: L2243656-01 Client ID: DUP Sample						
Lead, Total	1090	539	mg/kg	**68**	Q	20

Lab Serial Dilution Analysis

Batch Quality Control

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241989
Report Date: 08/19/22

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 08 QC Batch ID: WG1675056-6 QC Sample: L2243656-01 Client ID: DUP Sample						
Lead, Total	1090	1300	mg/kg	19		20

INORGANICS
&
MISCELLANEOUS

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241989
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241989-01
Client ID: HZP-SB30R-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/04/22 09:30
Date Received: 08/04/22
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	82.6		%	0.100	NA	1	-	08/06/22 14:33	121,2540G	RI

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241989
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241989-03
Client ID: HZP-SB31R-0.5-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 08/04/22 10:00
Date Received: 08/04/22
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	88.8		%	0.100	NA	1	-	08/06/22 12:36	121,2540G	RI

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241989
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241989-05
Client ID: HZP-SB32R-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/04/22 10:30
Date Received: 08/04/22
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	-	08/06/22 14:33	121,2540G	RI

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241989
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241989-07
Client ID: HZP-SB32A-0.5-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 08/04/22 10:50
Date Received: 08/04/22
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	88.8		%	0.100	NA	1	-	08/06/22 12:36	121,2540G	RI

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241989
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241989-08
Client ID: HZP-SB32A-3.0-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 08/04/22 11:00
Date Received: 08/04/22
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	87.8		%	0.100	NA	1	-	08/13/22 13:28	121,2540G	RI

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241989
Report Date: 08/19/22

SAMPLE RESULTS

Lab ID: L2241989-10
Client ID: HZP-SB32B-0.5-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 08/04/22 11:40
Date Received: 08/04/22
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	86.4		%	0.100	NA	1	-	08/06/22 12:36	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PES REFINERY-SITE INVESTIGATIO

Project Number: 200.00135.005.03

Lab Number: L2241989

Report Date: 08/19/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 03,07,10 QC Batch ID: WG1672010-1 QC Sample: L2242133-01 Client ID: DUP Sample						
Solids, Total	88.6	86.1	%	3		20
General Chemistry - Westborough Lab Associated sample(s): 01,05 QC Batch ID: WG1672066-1 QC Sample: L2241553-02 Client ID: DUP Sample						
Solids, Total	93.7	93.7	%	0		20
General Chemistry - Westborough Lab Associated sample(s): 08 QC Batch ID: WG1674922-1 QC Sample: L2243674-01 Client ID: DUP Sample						
Solids, Total	84.8	86.7	%	2		20

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241989
Report Date: 08/19/22

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(*)
L2241989-01A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2241989-01B	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		S-EXT-8270(14),TS(7)
L2241989-02A	Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		HOLD-METAL(180)
L2241989-02B	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2241989-03A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2241989-03B	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		TS(7)
L2241989-04A	Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		HOLD-METAL(180)
L2241989-04B	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2241989-05A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2241989-05B	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		S-EXT-8270(14),TS(7)
L2241989-06A	Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		HOLD-METAL(180)
L2241989-06B	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2241989-07A	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2241989-07B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2241989-08A	Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2241989-08B	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2241989-09A	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		HOLD-WETCHEM()
L2241989-09B	Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		HOLD-METAL(180)
L2241989-10A	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2241989-10B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2241989-11A	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		HOLD-WETCHEM()
L2241989-11B	Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		HOLD-METAL(180)
L2241989-12A	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		HOLD-WETCHEM()

*Values in parentheses indicate holding time in days

Project Name: PES REFINERY-SITE INVESTIGATIO
Project Number: 200.00135.005.03

Lab Number: L2241989
Report Date: 08/19/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2241989-12B	Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		HOLD-METAL(180)

*Values in parentheses indicate holding time in days

Project Name:	PES REFINERY-SITE INVESTIGATIO	**Lab Number:**	L2241989
Project Number:	200.00135.005.03	**Report Date:**	08/19/22

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-SITE INVESTIGATIO	**Lab Number:**	L2241989
Project Number:	200.00135.005.03	**Report Date:**	08/19/22

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:	PES REFINERY-SITE INVESTIGATIO	**Lab Number:**	L2241989
Project Number:	200.00135.005.03	**Report Date:**	08/19/22

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:	PES REFINERY-SITE INVESTIGATIO	**Lab Number:**	L2241989
Project Number:	200.00135.005.03	**Report Date:**	08/19/22

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, SM4500Cl-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, **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), **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

PAGE 1 OF 2

ALPHA ANALYTICAL
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: 8/5/22

ALPHA Job #: L2241989

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton
Phone: 215-901-4974
Fax:
Email: William Schmidt
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: PES Refinery
Project Location: Philadelphia
Project #: 200.00135
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: * 5-DAY Time:

Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:
Email to EDOCTerraphase.com, JJerry@hirzcoglobal.com

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Benzo(a)pyrene	Benzo(a)anthracene	Benzo(b)fluoranthene	Chrysene	Lead	Sample Specific Comments	Total # Bottles
91949.01	HZP-SB30R-3.0-3.5	8/4	930	S	TS	X	X	X	X	X		
.02	HZP-SB30R-6.0-6.5		0945			X	X	X	X	X	HOLD	
.03	HZP-SB31R-0.5-1.0		1000			TS X	TS X	TS X	TS X	X	ONLY LEAD	
.04	HZP-SB31R-6.0-6.5		1010			X	X	X	X	X	HOLD	
.05	HZP-SB32R-3.0-3.5		1030			X	X	X	X	X		
.06	HZP-SB32R-6.0-6.5		1040			X	X	X	X	X	HOLD	
.07	HZP-SB32A-0.5-1.0		1050							X		
.08	HZP-SB32A-3.0-3.5		~~1105~~ 1100							X	11:00, HOLD	
.09	HZP-SB32A-6.0-6.5		1130							X	HOLD	
.10	HZP-SB32B-0.5-1.0	↓	1140	↓	↓					X		

Container Type																	
Preservative																	

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	8/4 1450	STONES AAL	8.4.22/1450
STONES AAL [signature]	8/4 1755	[signature]	8/4 1800
[signature]	8-4-22 1730	[signature]	8-4-22 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.

FORM NO: 01-01 (rev. 14-OCT-07)

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 8/5/22

ALPHA Job #: L2241989

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting
Address: 2127 Hamilton
Phone: 215-901-4974
Fax:
Email: William Schmidt

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: PES Refinery
Project Location: Philadelphia
Project #: 200.0035
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 5-DAY Time:

Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

See Pg. 1

ANALYSIS: LEAD

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	LEAD	Sample Specific Comments	TOTAL # BOTTLES
41989.11	HZP-SB32B-3.0-3.5	8/4	1200	S	TS	X	HOLD	
12	HZP-SB32B-6.0-6.5	↓	1210	↓	↓	X	HOLD	

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	8/4 1450	Stone Saal	8-4-22/1450
Stone Saal	8/4 1755	[signature]	8-1/85
[signature]	8-4 2130	[signature]	8-4-22 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.

8/5/22 0230

FORM NO. 01-01 (rev. 14-OCT-07)

Appendix C

Boring Logs

Ransom Consulting, I	Soil Boring Log	Boring No.: SB01
		Page 1 of 1
Client: Hilco		Date Start: 3/16/2022
Project Name: PES Refinery		Date Finish: 3/16/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.5-3.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-1.0' Dark brown SILT and fine sand	
1			0.0		
			0.2	1.0'-5.0' Brown fine SAND, some silt	
2			0.3		
			0.3		
3	SB01		0.6		
			0.1		
4			0.0		
			0.0		
5			0.0		
			0.0	5.0'-6.0' Brown fine SAND, little silt, little fine angular gravel	
6			0.0		
			0.0	6.0'-8.0' Reddish brown fine SAND, little silt, little gravel	
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
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22					
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24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB02
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.0-2.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.6	0.0-2.0' Brown SILT, some fine sand	
1			0.9		
			1.0		
2			1.0		
	SB02		1.1	2.0'-3.0' Brown fine SAND, little silt, little gravel	
3			0.8		
			0.8	3.0'-6.0' Brown SILT, some fine sand	
4			0.8		
			0.8		
5			0.8		
			0.8		
6			0.8		
			0.9	6.0'-8.0' Brown fine SAND, trace silt, little gravel	
7			0.9		
			1.0		
8			1.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
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14					
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22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB03
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 1.5-2.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			1.3	0.0-3.5' Brown fine SAND, little silt	
1			0.9		
	SB03		1.4		
2			1.0		
			1.0		
3			1.0		
			0.9		
4			1.4	3.5'-8.0' Brown fine SAND, some fine gravel	
			0.7		
5			1.0		
			1.1		
6			1.0		
			0.9		
7			0.8		
			0.3		
8			0.3		
				END OF BORING (8 ft.)	
9					
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21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB04
		Page 1 of 1
Client: Hilco		Date Start: 3/16/2022
Project Name: PES Refinery		Date Finish: 3/16/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-7.0' Brown SILT and fine sand	
1			0.1		
			0.2		
2			0.2		
			0.3		
3			0.4		
	SB04		0.7		
4			0.5		
			0.1		
5			0.0		
			0.0		
6			0.0		
			0.0		
7			0.0		
			0.0	7.0'-8.0' Brown SILT, some fine sand, little gravel	
8			0.0		
				END OF BORING (8 ft.)	
9					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB05
		Page 1 of 1
Client: Hilco		Date Start: 3/16/2022
Project Name: PES Refinery		Date Finish: 3/16/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 1.5-2.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-4.5' Dark brown fine SAND, little silt, trace of gravel	
1			0.2		
			0.7		
2	SB05		1.2		
			0.2		
3			0.1		
			0.1		
4			0.0		
			0.0		
5			0.2	4.5'-6.5' Brown SILT and fine sand	moist
			0.4		
6			0.3		
			0.7		
7			0.1	6.5'-8.0' Brown fine SAND, little gravel, trace silt	
			0.2		
8			0.3		
				END OF BORING (8 ft.)	
9					
10					
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24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB06
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.0-2.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-0.5' Fill (brick, cinders)	
1			0.0	0.5'-5.5' Brown SILT, some fine sand	
	SB06		1.1		
2			1.0		
			0.9		
3			0.7		
			0.7		
4			0.6		
			0.3		
5			0.5		
			0.5		
6			0.6	5.5'-8.0' Brown fine SAND and silt, little fine gravel	
			0.7		
7			0.6		
			0.5		
8			0.4		
				END OF BORING (8 ft.)	
9					
10					
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21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB07
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.2	0.0-8.0' Brown SILT and fine SAND, trace gravel	
1			0.5		
			0.6		
2			0.0		
			0.9		
3			1.7		
			1.6		
4			1.6		
	SB07		2.1		
5			2.0		
			1.9		
6			1.8		
			1.7		
7			1.5		
			1.4		
8			1.3		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
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22					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB08
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 6.0-6.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.2	0.0-8.0' Brown fine SAND and SILT, little fine gravel	
1			0.5		
			0.7		
2			0.9		
			1.3		
3			1.3		
			1.2		
4			1.1		
			1.7		
5			1.8		
			1.9		
6			2.1		
	SB08		2.6		
7			2.5		
			2.1		
8			2.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
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21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB09
		Page 1 of 1
Client: Hilco		Date Start: 3/16/2022
Project Name: PES Refinery		Date Finish: 3/16/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 1.5-2.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-8.0' Brown fine SAND, little silt, trace fine gravel	
1			0.1		
			0.2		moist
2	SB09		0.3		
			0.2		
3			0.0		
			0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB10
		Page 1 of 1
Client: Hilco		Date Start: 3/16/2022
Project Name: PES Refinery		Date Finish: 3/16/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 6.5-7.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-1.0' Dark brown fine SAND, little silt, trace fine gravel	
1			0.1		
			0.1	1.0'-2.0' Brown SILT	
2			0.2		
			0.3	2.0'-8.0' Brown fine SAND, some silt	
3			0.3		
			0.2		
4			0.8		
			1.0		
5			1.2		
			1.3		
6			1.3		
			1.4		
7	SB10		1.6		
			1.5		
8			1.4		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB11
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.5-3.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-1.5' Dark brown fine SAND, little silt	
1			0.0		
			0.2		
2			0.5	1.5'-3.0' Brown SILT, little fine sand	
			0.6		
3	SB11		1.1		
			1.0	3.0'-6.0' Brown fine SAND, little silt	moist
4			0.9		
			0.7		
5			0.8		
			0.5		
6			0.4		
			0.2	6.0'-8.0' Brown fine SAND, little silt, little fine gravel	
7			0.1		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB12
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 3.5-4.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.2	0.0-3.0' Dark brown fine SAND, little silt	
1			0.4		
			0.5		
2			0.6		
			0.6		
3			0.7		
			0.7	3.0'-4.5' Dark brown sand, little silt, trace slag	
4	SB12		0.9		
			0.9		
5			0.2	4.5'-8.0' Brown fine SAND, little silt	
			0.1		
6			0.0		
			0.0		
7			0.0		
			0.0		
8			0.0		moist
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB13
		Page 1 of 1
Client: Hilco		Date Start: 3/16/2022
Project Name: PES Refinery		Date Finish: 3/16/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-8.0' Brown fine SAND, some silt, little fine gravel	moist
1			0.0		
			0.0		
2			0.0		
			0.1		
3			0.7		
	SB13		1.6		
4			1.5		
			0.2		
5			0.3		
			0.2		
6			0.0		
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB14
		Page 1 of 1
Client: Hilco		Date Start: 3/16/2022
Project Name: PES Refinery		Date Finish: 3/16/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-4.0' Dark brown fine SAND, some silt, little fine gravel	
1			0.0		
			0.1		
2			0.1		
			0.2		
3			0.2		
			0.3		
4			0.2		
	SB14		0.5		
5			0.4	4.0'-7.0' Brown fine SAND, little silt	
			0.1		
6			0.0		
			0.0		
7			0.0		
			0.0	7.0'-8.0' Brown SILT, some fine sand, little gravel	
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB15
		Page 1 of 1
Client: Hilco		Date Start: 3/16/2022
Project Name: PES Refinery		Date Finish: 3/16/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			5.0	0.0-7.0' Brown SILT and fine sand	
1	SB15		6.8		
			0.4		
2			0.3		
			0.2		
3			0.1		
			0.1		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
			0.0		
7			0.0		
			0.1	7.0'-8.0' Brown SILT, some fine sand, little gravel	
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB16
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 1.0-1.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.8	0.0-5.5' Brown fine SAND, some silt	
1			1.1		
	SB16		1.5		
2			1.4		
			1.2		
3			0.9		
			0.7		
4			0.6		
			0.4		
5			0.3		
			0.1		
6			0.0	5.5'-8.0' Brown fine SAND, little silt, little gravel	
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB17
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 5.0-5.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.9	0.0-5.5' Brown fine SAND, some silt	
1			0.6		
			0.7		
2			0.8		
			0.9		
3			0.8		
			0.9		
4			0.9		
			1.1		
5			1.3		
	SB17		1.4		
6			1.3	5.5'-8.0' Brown fine SAND, little silt, little fine gravel	
			1.0		
7			0.8		
			0.6		
8			0.5		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB18
		Page 1 of 1
Client: Hilco		Date Start: 3/18/2022
Project Name: PES Refinery		Date Finish: 3/18/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0-3.0' Brown fine SAND, some silt, little fine gravel	
1	SB18		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0	3.0'-5.5' Brown SILT and fine sand	
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0	5.5'-7.5' Brown fine SAND, trace silt	
			0.0		
7			0.0		
			0.0		
8			0.0	7.5'-8.0' Brown SILT, trace fine SAND	
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB19
		Page 1 of 1
Client: Hilco		Date Start: 3/18/2022
Project Name: PES Refinery		Date Finish: 3/18/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0'-5.0' Brown fine SAND, little silt, little fine gravel	
1	SB19		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4			0.0		
			0.0		
5			0.0		
			0.0	5.0'-8.0' Brown fine SAND, trace fine gravel	
6			0.0		
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB20
		Page 1 of 1
Client: Hilco		Date Start: 3/18/2022
Project Name: PES Refinery		Date Finish: 3/18/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0'-3.5' Brown SILT, some fine sand, trace fine gravel	
1			0.9		
			0.7		
2			1.5		
			7.1		
3	SB20		12.1		
			7.0		
4			5.0	Brown fine SAND, little silt, little gravel	
			4.0		
5			3.1		
			2.1		
6			0.9		
			0.7		
7			0.2		
			0.1		
8			0.1		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB21
		Page 1 of 1
Client: Hilco		Date Start: 3/18/2022
Project Name: PES Refinery		Date Finish: 3/18/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.0-2.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.4	0.0'-3.5' Brown SILT, some fine sand, trace fine gravel	
1			0.7		
			1.1		
2			1.4		
	SB21		2.1		
3			2.0		
			0.9		
4			0.7	Brown fine SAND, little silt, little gravel	
			0.5		
5			0.4		
			0.2		
6			0.1		
			0.1		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB22
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.5-3.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.2	0.0-4.5' Brown fine SAND, some silt	
1			0.2		
			0.3		
2			0.4		
			0.6		
3	SB22		0.9		
			0.9		
4			0.9		
			0.8		
5			0.2	4.5'-7.5' Brown fine SAND, little silt	
			0.1		
6			0.0	5.5'-8.0' Brown fine SAND, little silt, little gravel	
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB23
		Page 1 of 1
Client: Hilco		Date Start: 3/16/2022
Project Name: PES Refinery		Date Finish: 3/16/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-8.0' Brown fine SAND, some silt	
1	SB23		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB24
		Page 1 of 1
Client: Hilco		Date Start: 3/18/2022
Project Name: PES Refinery		Date Finish: 3/18/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0-8.0' Brown fine SAND, some silt, little fine gravel	
1	SB24		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB25
		Page 1 of 1
Client: Hilco		Date Start: 3/18/2022
Project Name: PES Refinery		Date Finish: 3/18/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0-3.5' Brown/red-brown fine SAND, little silt, little gravel	
1	SB25		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4			0.0	3.5'-6.5' Brown silt, some fine sand	
			0.0		
5			0.0		
			0.0		
6			0.0		
			0.0		
7			0.0	Brown fine SAND, trace silt	
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB26
		Page 1 of 1
Client: Hilco		Date Start: 3/16/2022
Project Name: PES Refinery		Date Finish: 3/16/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-0.5' Brown fine SAND	
1	SB26		0.0	0.5'-2.0' Historic FILL (brown fine sand, gravel, slag)	
			0.1		
2			0.1		
			0.2	Brown fine SAND, some silt, little gravel	
3			0.2		
			0.3		
4			0.2		
			0.1		
5			0.0		
			0.0		
6			0.0		
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
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14					
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22					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB27
		Page 1 of 1
Client: Hilco		Date Start: 3/18/2022
Project Name: PES Refinery		Date Finish: 3/18/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0-8.0' Brown fine SAND, little silt	
1	SB27		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
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13					
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22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB28
		Page 1 of 1
Client: Hilco		Date Start: 3/16/2022
Project Name: PES Refinery		Date Finish: 3/16/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 4.0'
Logged By: Todd Reichert	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.1	0.0-0.5' Concrete	
1			0.0	0.5'-1.0' Brick	
			0.0	1.0'-4.0' Dark brown fine SAND, some gravel	
2			0.0		
			0.0		
3			0.1		
	SB28		0.2		
4			0.1		
				END OF BORING (4 ft.)	
5					
6					
7					
8					
9					
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13					
14					
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18					
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22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB29
		Page 1 of 1
Client: Hilco		Date Start: 3/18/2022
Project Name: PES Refinery		Date Finish: 3/18/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0-5.5' Brown SILT fill, some course sand, gravel, brick	
1	SB29		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0	5.5'-8.0' Brown fine SAND, trace silt, little fine gravel	
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
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18					
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20					
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22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB30
		Page 1 of 1
Client: Hilco		Date Start: 3/18/2022
Project Name: PES Refinery		Date Finish: 3/18/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0-6.0' Brown SILT, some fine sand	
1	SB30		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
			0.0	Brown fine SAND, trace silt, little fine gravel	
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
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20					
21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB31
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.5-3.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0-1.0' Dark brown to black fine SAND, brick and slag	
1			0.0		
			0.1	1.0'-6.0' Brown fine SAND and silt	
2			0.3		
	SB31		0.4		
3			0.4		
			0.4		
4			0.3		
			0.2		
5			0.1		
			0.0		
6			0.0		
			0.0	6.0'-8.0' Brown fine SAND, trace silt, little fine gravel	
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB32
		Page 1 of 1
Client: Hilco		Date Start: 3/18/2022
Project Name: PES Refinery		Date Finish: 3/18/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0-5.0' Brown fine SAND and SILT	
1	SB32		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4			0.0		
			0.0		
5			0.0		
			0.0	5.0'-8.0' Brown fine SAND, little silt, little fine gravel	
6			0.0		
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB33
		Page 1 of 1
Client: Hilco		Date Start: 3/18/2022
Project Name: PES Refinery		Date Finish: 3/18/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0-1.5' Brown fine SAND and silt, trace brick and concrete fragments	
1	SB33		0.0		
			0.0		
2			0.0	1.5'-5.0' Brown SILT and fine sand	
			0.0		
3			0.0		
			0.0		
4			0.0		
			0.0		
5			0.0		
			0.0	5.0'-8.0' Brown fine SAND, little silt, some fine gravel	
6			0.0		
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
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16					
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18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB34
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.0-2.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-6.0' Brown fine SAND, some silt, trace gravel	
1			0.0		
			0.1		
2			0.1		
	SB34		0.2		
3			0.2		
			0.1		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
			0.0	6.0'-6.5' Concrete	
7			0.0	6.5'-8.0' Brown fine SAND, trace silt	
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB35
		Page 1 of 1
Client: Hilco		Date Start: 3/16/2022
Project Name: PES Refinery		Date Finish: 3/16/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-2.0' Brown fine SAND, little silt, little fine gravel	
1	SB35		0.0		
			0.0		
2			0.0		
			0.0	2.0'-4.0' Brown fine SAND, some silt	
3			0.0		
			0.0		
4			0.0		
			0.0	4.0'-8.0' Brown fine SAND, little silt, little fine gravel	moist
5			0.0		
			0.0		
6			0.0		
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
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20					
21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB36
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.5-3.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.2	0.0-6.0' Brown fine SAND, some silt, trace fine gravel	
1			0.4		
			0.5		
2	SB36		1.1		
			1.0		
3			0.9		
			0.7		
4			0.5		
			0.4		
5			0.2		
			0.1		
6			0.0		
			0.0	6.0'-7.5' Brown SILT, some fine sand	
7			0.0		
			0.0		
8			0.0	7.5'-8.0' Brown fine SAND, trace silt, little gravel	
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
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20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB37
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.0-2.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.2	0.0-8.0' Brown fine to medium SAND, some silt, trace fine gravel	
1			0.4		
			0.5		
2			0.9		
	SB37		1.7		
3			1.7		
			1.6		
4			1.5		
			0.5		
5			0.6		
			0.8		
6			0.4		
			1.1		
7			0.9		
			0.6		
8			0.5		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
14					
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21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB38
		Page 1 of 1
Client: Hilco		Date Start: 3/16/2022
Project Name: PES Refinery		Date Finish: 3/16/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-8.0' Brown fine SAND, little silt, trace gravel	
1	SB38		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
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24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB39
		Page 1 of 1
Client: Hilco		Date Start: 3/17/2022
Project Name: PES Refinery		Date Finish: 3/17/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 3.5-4.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.2	0.0-1.5' Brown fine SAND, little silt, little fine gravel	
1			0.4		
			0.7		
2			1.0	1.5'-2.0' Dark brown fine SAND, few cinders	
	SB39		1.1	2.0'-5.5' Brown SILT, little fine sand	
3			1.1		
			1.0		
4			1.0		
			0.9		
5			0.1		
			0.4		
6			0.2	5.5'-8.0' Brown fine SAND, little silt	
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
13					
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22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB40
		Page 1 of 1
Client: Hilco		Date Start: 3/18/2022
Project Name: PES Refinery		Date Finish: 3/18/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0-8.0' Brown to dark brown fine SAND, some silt, little fine gravel with brick fragments	
1	SB40		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
			0.0		
7			0.0		
			0.0		
8			0.0		
				END OF BORING (8 ft.)	
9					
10					
11					
12					
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17					
18					
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20					
21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB26R
		Page 1 of 1
Client: Hilco		Date Start: 8/3/2022
Project Name: PES Refinery		Date Finish: 8/3/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 6.5'
Logged By: Tyler Short	Sample Interval: 3.0-3.5', 6.0-6.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0'-6.5' Brown SILT, some fine sand, trace fine gravel	
1			0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4	SB26R		0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
	SB26R		0.0		
				END OF BORING (6.5 ft.)	
8					
9					
10					
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13					
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16					
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18					
19					
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21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB27R
		Page 1 of 1
Client: Hilco		Date Start: 8/3/2022
Project Name: PES Refinery		Date Finish: 8/3/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 6.5'
Logged By: Tyler Short	Sample Interval: 3.0-3.5', 6.0-6.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0'-6.5' Brown SILT fill, some coarse sand, gravel, brick	
1			0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4	SB27R		0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
	SB27R		0.0		
				END OF BORING (6.5 ft.)	
8					
9					
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12					
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14					
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18					
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21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB28R
		Page 1 of 1
Client: Hilco		Date Start: 8/3/2022
Project Name: PES Refinery		Date Finish: 8/3/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 6.5'
Logged By: Tyler Short	Sample Interval: 0.5-1.0', 6.0-6.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0'-6.5' Brown SILT fill, some coarse sand, gravel, brick	
1	SB28R		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
	SB28R		0.0		
				END OF BORING (6.5 ft.)	
8					
9					
10					
11					
12					
13					
14					
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17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB28A
		Page 1 of 1
Client: Hilco		Date Start: 8/3/2022
Project Name: PES Refinery		Date Finish: 8/3/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 6.5'
Logged By: Tyler Short	Sample Interval: 0.5-1.0', 3.0-3.5', 6.0-6.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0'-6.5' Brown SILT fill, some coarse sand, gravel, brick	
1	SB28A		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
	SB28A		0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
	SB28A		0.0		
				END OF BORING (6.5 ft.)	
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting,	Soil Boring Log	Boring No.: SB28B
		Page 1 of 1
Client: Hilco		Date Start: 8/3/2022
Project Name: PES Refinery		Date Finish: 8/3/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 6.5'
Logged By: Tyler Short	Sample Interval: 0.5-1.0', 3.0-3.5', 6.0-6.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
				0.0	0.0'-6.5' Brown SILT fill, some coarse sand, gravel, brick	
1		SB28B		0.0		
				0.0		
2				0.0		
				0.0		
3				0.0		
		SB28B		0.0		
4				0.0		
				0.0		
5				0.0		
				0.0		
6				0.0		
		SB28B		0.0		
					END OF BORING (6.5 ft.)	
8						
9						
10						
11						
12						
13						
14						
15						
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17						
18						
19						
20						
21						
22						
23						
24						
25						

Ransom Consulting, I	Soil Boring Log	Boring No.: SB29R
		Page 1 of 1
Client: Hilco		Date Start: 8/3/2022
Project Name: PES Refinery		Date Finish: 8/3/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 6.5'
Logged By: Tyler Short	Sample Interval: 3.0-3.5', 6.0-6.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0'-6.5' Brown SILT fill, some coarse sand, gravel, brick	
1			0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
	SB29R		0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
	SB29R		0.0		
				END OF BORING (6.5 ft.)	
8					
9					
10					
11					
12					
13					
14					
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17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB29A
		Page 1 of 1
Client: Hilco		Date Start: 8/3/2022
Project Name: PES Refinery		Date Finish: 8/3/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 6.5'
Logged By: Tyler Short	Sample Interval: 0.0-0.5', 3.0-3.5', 6.0-6.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0'-6.5' Brown SILT fill, some coarse sand, gravel, brick	
1	SB29A		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
	SB29A		0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
	SB29A		0.0		
				END OF BORING (6.5 ft.)	
8					
9					
10					
11					
12					
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14					
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21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB29B
		Page 1 of 1
Client: Hilco		Date Start: 8/3/2022
Project Name: PES Refinery		Date Finish: 8/3/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 6.5'
Logged By: Tyler Short	Sample Interval: 0.0-0.5', 3.0-3.5', 6.0-6.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0'-6.5' Brown SILT fill, some coarse sand, gravel, brick	
1	SB29B		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
	SB29B		0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
	SB29B		0.0		
				END OF BORING (6.5 ft.)	
8					
9					
10					
11					
12					
13					
14					
15					
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17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB30R
		Page 1 of 1
Client: Hilco		Date Start: 8/4/2022
Project Name: PES Refinery		Date Finish: 8/4/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 6.5'
Logged By: Tyler Short	Sample Interval: 3.0-3.5', 6.0-6.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0'-6.5' Brown SAND fill, some silt, gravel, brick, concrete	
1			0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
	SB30R		0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
	SB30R		0.0		
				END OF BORING (6.5 ft.)	
8					
9					
10					
11					
12					
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18					
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20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB31R
		Page 1 of 1
Client: Hilco		Date Start: 8/4/2022
Project Name: PES Refinery		Date Finish: 8/4/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 6.5'
Logged By: Tyler Short	Sample Interval: 0.5-1.0', 6.0-6.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0'-6.5' Brown SAND fill, some silt, gravel, brick, concrete	
1	SB31R		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
	SB31R		0.0		
				END OF BORING (6.5 ft.)	
8					
9					
10					
11					
12					
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14					
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18					
19					
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21					
22					
23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: SB32R
		Page 1 of 1
Client: Hilco		Date Start: 8/4/2022
Project Name: PES Refinery		Date Finish: 8/4/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 6.5'
Logged By: Tyler Short	Sample Interval: 3.0-3.5', 6.0-6.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0'-6.5' Brown SAND fill, some silt, gravel, brick, concrete	
1			0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
	SB32R		0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
	SB32R		0.0		
				END OF BORING (6.5 ft.)	
8					
9					
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21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB32A
		Page 1 of 1
Client: Hilco		Date Start: 8/4/2022
Project Name: PES Refinery		Date Finish: 8/4/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 6.5'
Logged By: Tyler Short	Sample Interval: 0.5-1.0', 3.0-3.5', 6.0-6.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0'-6.5' Brown SAND fill, some silt, gravel, brick, concrete	
1	SB32A		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
	SB32A		0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
	SB32A		0.0		
				END OF BORING (6.5 ft.)	
8					
9					
10					
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22					
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25					

Ransom Consulting, I	Soil Boring Log	Boring No.: SB32B
		Page 1 of 1
Client: Hilco		Date Start: 8/4/2022
Project Name: PES Refinery		Date Finish: 8/4/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller: Travis	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 6.5'
Logged By: Tyler Short	Sample Interval: 0.5-1.0', 3.0-3.5', 6.0-6.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)		Remarks
			0.0	0.0'-6.5' Brown SAND fill, some silt, gravel, brick, concrete	
1	SB32B		0.0		
			0.0		
2			0.0		
			0.0		
3			0.0		
	SB32B		0.0		
4			0.0		
			0.0		
5			0.0		
			0.0		
6			0.0		
	SB32B		0.0		
				END OF BORING (6.5 ft.)	
8					
9					
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20					
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23					
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Attachment E

Technical Memorandum

To:	Mohamad M. Mazid, PhD, PE Chief Technical Services Department of Environmental Protection Southeast Regional Office Waste Management Program 2 East Main Street Norristown, PA 19401	From:	Kevin Long Nicholas J. Scala, PG, LSRP Terraphase Engineering Inc.
cc:	Amy Piccone, PESRM		
Date:	July 15, 2024	Project No.:	P044.001.011
Subject:	**Site Investigation Report – RCRA Permit PAD 049 791 098** **Girard Point Hazardous Waste Storage Pad** **Philadelphia Energy Solutions Refining and Marketing LLC** **3144 West Passyunk Avenue, Philadelphia, PA 19153**		

Terraphase Engineering Inc. (Terraphase), on behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), has prepared this *Site Investigation Report* to document the results of soil sampling conducted in accordance with the *Soil Sampling Plan* (Terraphase 2022) for the Girard Point Hazardous Waste Storage Pad (GP Waste Storage Pad or the Site), located within the Former Philadelphia Energy Solutions refinery facility (the "Facility"). The soil sampling was performed to assess whether potential historical releases from the GP Waste Storage Pad have impacted soil beneath the storage area and ultimately, obtain closure of the storage area subject to the requirements of the Code of Federal Regulations (CFR) Title 40, Part 264 Subpart G (as incorporated by reference in 25 Pa. Code § 264(a)).

The Facility is undergoing closure activities in preparation for redevelopment and is located at 3144 West Passyunk Avenue, Philadelphia, Pennsylvania (**Figure 1**). The GP Waste Storage Pad is located south of the Platt Bridge, near Old Penrose Ferry Road, in an area of the Facility referred to as Girard Point (**Figure 2**). PESRM provided Notification of Intent to close the GP Waste Storage Pad to the Pennsylvania Department of Environmental Protection (PADEP) on June 24, 2022. NorthStar Contracting Group, Inc. (NorthStar) completed closure activities of the GP Waste Storage Pad (i.e., removal of all containers on the pad, visual inspection, decontamination, and demolition of the pad) in accordance with approved *Philadelphia Energy Solutions Refining and Marketing, LLC Philadelphia Refining Complex Hazardous Waste I.D. No. PAD049791098 Closure Plan and Management of Waste Containers and Tanks Procedure* dated February 28, 2018 (Closure Plan) for the Site (Permit No. PAD 049 791 098). Closure of the GP Waste Storage Pad will be documented in a *Notification of Closure (EPA ID #PAD049791098)* to be submitted to the PADEP after PADEP's approval of site investigation activities.

File: 20240715-Terraphase-PESRM-GPHazPad-SiteInvestigationReport_F

Following the removal of the concrete pad, soil sampling was conducted during September 2023 and February 2024, per the PADEP-approved *Soil Sampling Plan* (Terraphase 2022). The following sections summarize the relevant background information, detail the results of the soil sampling performed, and provide the conclusions. The data were evaluated in accordance with the *Revised Supplement to the Closure Plan for the Point Breeze Hazardous Waste Container Storage Pad, the Girard Point Hazardous Waste Container Storage Pad, and the Two Girard Point Hazardous Waste Aboveground Storage Tanks (EPA ID #PAD049791098)* dated February 9, 2024 (Closure Plan Supplement).

1 Site Setting

This section presents the site setting and includes a description of the Site, topography, geology, and hydrology, and the on-site and off-site land and groundwater use.

1.1 Site Description

The Site is located south of the Platt Bridge, near Old Penrose Ferry Road in the Girard Point section of the Facility and covered an area of 0.25 acres. The location of the GP Waste Storage Pad is depicted on **Figure 2**. During its operation, the Site was used for the storage of liquid and non-liquid hazardous waste stored in 30 cubic yard roll-off containers, vacuum boxes, flo-bins, and 55-gallon drums, which were documented to be inspected weekly. The storage capacity volume for the storage area was 48,000 gallons for liquid waste and 196,350 gallons for non-liquid waste. Later, the Site was used for the storage of materials related to the demolition activities at the Facility. **Figure 3** provides the layout of the Site prior to its demolition.

1.2 Topography

Topography at the Site is generally flat. Regional topography slopes gently to the west towards the Schuylkill River, the nearest water body to the Site. The area containing the GP Waste Storage Pad was graded to drain the trench located in the central portion of the concrete pad. The trench drains to the southeast of the Site via drainage piping (**Figure 3**). The average ground surface elevation at the Site is approximately 10.1 feet (ft) above mean sea level.[1]

1.3 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 anthropogenic fill underlain by quaternary deposits.

[1] North American Vertical Datum of 1988.

Much of the Facility and surrounding area is underlain by anthropogenic 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 property consists of a complex series of water-bearing sand units which can comprise one or more hydrostatic units. Historical 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; Stantec 2017).

1.4 Local Geology and Hydrogeology

During the investigation, soil was primarily investigated within the upper 8 ft bgs. Fill up to 5 ft thick was observed in soil cores collected from all the soil borings installed. The presence of fill is consistent with the findings by Evergreen Resources Group, LLC (Evergreen[2]) during remedial investigation sampling performed within Area of Interest (AOI) 5 as part of their Act 2 efforts (Langan 2017). Evergreen found that the anthropogenic fill varies in composition across AOI 5 and includes sands and gravels, brick, wood fragments and cinder ash up to 21 feet thick. Figure 5A of Evergreen's 2017 Remedial Investigation Report (RIR) for AOI 5 depicts a geologic cross section along the southwestern/southern side of AOI 5, running just south of the Girard Point Hazardous Waste Storage Area. This cross section is included for reference as **Appendix A** and shows over 10 ft of anthropogenic fill near the Girard Point Hazardous Waste Storage Area. Soil beneath the fill layer generally consists of clay, silt, and sand.

Historically, unconfined aquifer groundwater has been encountered in the area at a depth of approximately 4 ft bgs.[3] No saturated soil was identified in any of the soil borings installed by Ransom Consulting, LLC (Ransom) during the investigation of soil beneath the GP Waste Storage Pad. Based on the groundwater data presented in the RIR for AOI 5 (Langan 2017), unconfined aquifer groundwater

[2] 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.

[3] 4 ft bgs was determined considering gauging data from nearby unconfined monitoring wells, A-133, A-134, A-161, A-162, and A-166.

flow in the vicinity of the GP Waste Storage Pad appears to be divided; groundwater in the vicinity of the Pad is directed to the northwest and southeast.

2 Site Investigation Results

This section discusses the soil sampling performed in accordance with the *Soil Sampling Plan* (Terraphase 2022), the applicable action levels proposed in the *Soil Sampling Plan* for use in assessing whether there could have been a potential release(s) to the environment (see Section 2.2), and the evaluation of the data.

2.1 Overview

Based upon a review of engineering drawings provided by the Facility, photos collected during the inspection prior to paving, and historical aerial photographs, the *Soil Sampling Plan* (Terraphase 2022) was developed and submitted to PADEP for approval. The proposed soil sampling scope was conducted in September 2023 and included the installation of 23 soil borings and the collection/analysis of 23 soil samples.

Since there were no documented releases of hazardous waste to the environment from the GP Waste Storage Pad, initial soil sampling locations sampled in September 2023 were targeted towards features designed to collect and contain fluids and/or stormwater in the event of a release and areas with visual evidence noting deterioration of the pad. Additional sample locations were identified by placing a 30 by 30-ft grid across the concrete pad and adding sampling locations into the center of the grid cells where sampling locations had not already been identified using the first approach.

Additional soil characterization sampling was completed in February 2024 to horizontally and vertically delineate the extent of soil concentrations of specific constituents identified in soil at concentrations greater than applicable PADEP Statewide Health (SHS) Media Specific Concentrations (MSCs; see Section 2.2) used to evaluate the results of the sampling. The supplemental sampling included the installation of eight additional soil borings[4] and the collection/analysis of 22 additional soil samples and one field duplicate.

Laboratory analytical services were provided by Alpha Analytical, Inc. (now Pace Analytical) of Westborough, Massachusetts, a PADEP-certified laboratory. Samples were analyzed for the constituents listed in **Table 1**. As part of its work under Act 2, Evergreen worked with PADEP to develop a list of regulated substances that are the focal point of characterization and future remediation activities at the Site. The analyte list in **Table 1** includes the Evergreen and PADEP agreed upon site-specific list of regulated substances being investigated and remediated pursuant to Act 2. In addition, **Table 1** also includes additional constituents typically present in the permitted waste codes and the types of hazardous waste stored at the GP Waste Storage Pad.

[4] For one of the eight borings, Ransom returned to this location to collect samples at different intervals.

2.2 Comparison to MSCs

Consistent with the *Closure Plan Supplement*, soil sampling results were compared to the following SHS 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 (S-GW) Numeric Values for Used Aquifers (TDS ≤ 2,500)

The results of the soil sampling performed in September 2023 and February 2024 are presented in **Table 2** and **Figure 4** and are summarized below:

- Non-Res DC MSCs
  - No constituents were detected in soil at concentrations greater than the Non-Res DC MSCs for Surface Soil.
  - Naphthalene was detected in subsurface soil at concentrations greater than the Non-Res DC MSCs for Subsurface Soil at one location (i.e., GPSP-MW01).
- Non-Res S-GW MSCs
  - Benzene was detected in surface soil at concentrations greater than the Non-Res S-GW MSCs at two locations (i.e., GPSP-25 and GPSP-MW02).
  - Benzene was detected in subsurface soil at concentrations greater than the Non-Res S-GW MSCs at 12 locations (i.e., GPSP-01, GPSP-02, GPSP-04, GPSP-05, GPSP-07, GPSP-11, GPSP-13, GPSP-22, GPSP-26, GPSP-27, GPSP-MW01, and GPSP-MW02).
  - Benzo(a)pyrene (BaP) was detected in subsurface soil at concentrations greater than the Non-Res S-GW MSCs at two locations (i.e., GPSP-30 and GPSP-MW01).
  - Naphthalene was detected in subsurface soil at concentrations greater than the Non-Res S-GW MSCs at two locations (i.e., GPSP-27 and GPSP-MW01).
  - Arsenic was detected in subsurface soil at concentrations greater than the Non-Res S-GW MSCs at two locations (i.e., GPSP-01 and GPSP-03).
  - Lead was detected in subsurface soil at concentrations greater than the Non-Res S-GW MSCs at seven locations (i.e., GPSP-01, GPSP-03, GPSP-08, GPSP-09, GPSP-19, GPSP-20, and GPSP-21).

Copies of the laboratory results and boring logs are included in **Appendices B** and **C**, respectively.

3 Human Health Risk Assessment

Consistent with the *Closure Plan Supplement*, because select constituents were detected in soil at concentrations greater than SHS MSCs, Terraphase performed a risk assessment to evaluate the potential significance of human health exposures that could be attributable to former releases of hazardous constituents at the GP Waste Storage Pad. The methods used in the risk assessment are based upon PADEP and United States Environmental Protection Agency (USEPA) guidance.

3.1 Chemicals of Concern

In accordance with Section 250.602(c)(1), Terraphase evaluated the sampling results to identify chemicals of concern (COCs) which would be attributable to releases from the GP Waste Storage Unit. Constituents found in soil at concentration greater than applicable soil SHS MSCs include benzene, BaP, naphthalene, arsenic, and lead. The identification of metals (i.e., arsenic and lead) and polycyclic aromatic hydrocarbons (PAH; i.e., BaP, naphthalene, and 7,12-dimethylbenz(a)anthracene [DMBA]) in soil in this area is likely representative of historical placement of fill in and around the Site.[5] This is consistent with the lithologic descriptions of the soil borings installed and sampled at the Site, each of which exhibited fill material (see **Appendices A** and **C**).

To further assess whether the metals and PAHs present in soil are associated with anthropogenic fill, the soil sampling results for the GP Waste Storage Pad area were compared to soil sampling results across the Facility collected as part of assessment work unrelated to the GP Waste Storage Pad.

- As presented in **Table 3** and **Figure 5a**, the range of BaP concentrations in samples collected at the former GP Waste Storage Pad (0.2 - 140 mg/kg) is consistent with the range of concentrations in samples collected throughout the Facility (<0.1 - 290 mg/kg).
- As presented on **Table 3** and **Figure 5b**, the range of naphthalene concentrations in samples collected at the former GP Waste Storage Pad (0.1 - 150 mg/kg) is consistent with the range of concentrations in samples collected throughout the Facility (<0.1 - 220 mg/kg).
- Soil samples from the site have not typically been sampled for DMBA, so there is not a Facility-wide data set available to compare the DMBA data from the former GP Waste Storage Pad. However, there is extensive Facility-wide data for other PAHs, like BaP and naphthalene, as discussed above. As shown on **Table 3** and **Figure 5c** the range (1.1 - 39 mg/kg) and spatial distribution of DMBA concentrations in samples collected at the former GP Waste Storage Pad is consistent with (1) the range (0.2 - 140 mg/kg) and spatial distribution of BaP concentrations in samples collected at the former GP Waste Storage Pad and (2) the range (0.1 - 150 mg/kg) and spatial distribution of naphthalene concentrations in samples collected at the former GP Waste Storage Pad.
- As presented on **Table 3** and **Figure 5d**, the range of arsenic concentrations in samples collected at the former GP Waste Storage Pad (0.9 - 54 mg/kg) is consistent with the range of concentrations in samples collected throughout the Facility (0.6 - 61 mg/kg).
- As presented on **Table 3** and **Figure 5e**, the range of lead concentrations in samples collected at the former GP Waste Storage Pad (4 - 6,700 mg/kg) is consistent with the range of concentrations in samples collected throughout the Facility (<0.1 - 95,000 mg/kg).

The levels and the spatial distribution of BaP, naphthalene, DMBA, arsenic, and lead concentrations are consistent with the levels and the distribution generally found throughout this regional area of the Facility, which supports the conclusion that the presence of these constituents in soil is associated with anthropogenic fill and not evidence of release from the GP Waste Storage Pad.

[5] The PAH, DMBA, does not have MSCs which is why it was not discussed in Section 2.2.

In addition to the fill-related metals and PAHs, benzene was detected in soil at concentrations above applicable soil SHS MSCs. To assess whether benzene is a COC associated with a release(s) to the environment from the GP Waste Storage Pad, the soil sampling results for the GP Waste Storage Pad area were compared to soil sampling results across the Facility collected as part of assessment work unrelated to the GP Waste Storage Pad. As presented in **Table 3**, the range of benzene concentrations in samples collected at the former GP Waste Storage Pad (<0.1 - 5.3 mg/kg) is notably lower than the range of concentrations in samples collected throughout the Facility (<0.1 - 12,000 mg/kg). As shown on **Figure 5f**, the spatial distribution of benzene concentrations at the former GP Waste Storage Pad is similar to the spatial distribution generally found throughout this regional area of the Facility and does not reflect a pattern indicative of a discrete release from the GP Waste Storage Pad. Accordingly, the presence of benzene in soil does not appear to be related to a release from the GP Waste Storage Pad.

Because no other constituents have been detected in soil at concentrations greater than MSCs, no COCs have been identified in the area that would be associated with release(s) to the environment from the GP Waste Storage Pad.

3.2 Exposure Assessment

As described in Section 3.1, there are no COCs associated with release(s) to the environment from the Site. As such, there are no complete exposure pathways between site-related contamination and human receptors.

3.3 Toxicity Assessment

As discussed in Section 3.1, there are no COCs associated with release(s) to the environment from the Site. As such, there is no need to compile toxicity values to support a risk assessment.

3.4 Risk Characterization

As discussed in Section 3.1, there are no COCs associated with release(s) to the environment from the Site. As a result, there are no unacceptable site-related risks to human health. Because there are no site-related unacceptable risks to human health following the removal of hazardous waste and the demolition of the Site, the GP Waste Storage Pad has met the closure performance standard under CFR Title 40, Part 264 Subpart G (as incorporated by reference in 25 Pa. Code § 264(a)).

4 Ecological Risk Evaluation

This section presents the ecological risk evaluation performed for the GP Waste Storage Pad. The evaluation was conducted in accordance with 25 Pa. Code § 250.311(b)-(e) to screen for potential impacts to ecological receptors identified in 25 Pa. Code § 250.311(a).[6] The purpose of the ecological

[6] The receptors identified in 25 Pa. Code § 250.311(a) consist of (i) threatened and endangered as designated by the US Fish and Wildlife Service (ii) exceptional value wetlands as defined in Section 25 Pa. Code § 105.17 (iii) Habitats of concern, and (iv) Species of concern.

screening is to quickly determine whether surface soil (or sediment if applicable) at a site "have the potential to pose substantial ecological impact or impacts requiring further evaluation." This determination is based on the outcome of several screening steps that include the types of contaminants present, the size of the site, land use considerations, presence or absence for species or habitats of concern, and the presence or absence of complete exposure pathways (See Figure II-16 of the Act 2 Guidance Document).

As discussed in Section 3.1, and consistent with the ecological screening process noted above, there are no constituents associated with release(s) to the environment from the Site. Therefore, no further ecological evaluation is required.

5 Summary and Conclusion

Terraphase has prepared this *Site Investigation Report*, on behalf of PESRM, to document the results of soil sampling conducted in accordance with the *Soil Sampling Plan* (Terraphase 2022) for the GP Waste Storage Pad. The soil sampling was performed to assess whether potential historical releases from the GP Waste Storage Pad have impacted soil beneath the storage area and ultimately, obtain closure of the storage area subject to the requirements of the CFR Title 40, Part 264 Subpart G (as incorporated by reference in 25 Pa. Code § 264(a)).

The soil sampling identified concentrations of benzene, BaP, naphthalene, arsenic and lead in soil at concentrations greater than applicable soil SHS MSCs. Consistent with the *Closure Plan Supplement*, because results from soil samples exceed the applicable soil SHS MSCs, Terraphase prepared a human health risk assessment and ecological risk evaluation. The risk assessment concluded that there are no COCs associated with release(s) to the environment for the GP Waste Storage Pad area, and, therefore, there is no potential for unacceptable human health risks associated with release(s) to the environment from the GP Waste Storage Pad area. Similarly, the ecological screening evaluation presented in Section 4, concluded that no further ecological evaluation of the Site is required due to the absence of COCs associated with release(s) to the environment from the Site.

Because there is no evidence of release(s) to the environment from the GP Waste Storage Pad, the closure performance standard and requirements of CFR Title 40, Part 264 Subpart G (as incorporated by reference in 25 Pa. Code § 264(a)) for Clean Closure have been achieved.

6 References

Langan. 2017. *Remedial Investigation Report, Area of Interest 5*. January 16.

Philadelphia Energy Solutions Refining and Marketing LLC (PESRM). 2018. *Hazardous Waste I.D. No. PAD049791098 Closure Plan and Management of Waste Containers and Tanks Procedure*. February 2018.

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Terraphase Engineering Inc. (Terraphase). 2022. *Soil Sampling Plan – RCRA Permit PAD 049 791 098, Girard Point Hazardous Waste Storage Pad and Spent Caustic Tanks 1086 and 1087 Removal*. August 19.

Attachments (16):

- Table 1 - Constituents of Potential Concern
- Table 2 - Summary of Soil Analytical Results
- Table 3 - Summary Statistics
- Figure 1 - Facility Location
- Figure 2 - Site Location
- Figure 3 - Site Layout
- Figure 4 - Soil Sample Results
- Figure 5a - General Distribution of Benzo(a)pyrene in Soil
- Figure 5b - General Distribution of Naphthalene in Soil
- Figure 5c - Comparison of General Distribution of PAHs in Soil
- Figure 5d - General Distribution of Arsenic in Soil
- Figure 5e - General Distribution of Lead in Soil
- Figure 5f - General Distribution of Benzene in Soil
- Appendix A - Figure 4 and 5A from Evergreen's Remedial Investigation Report for AOI 5
- Appendix B - Laboratory Reports
- Appendix C - Boring Logs

Tables

1 Constituents of Potential Concern
2 Summary of Soil Analytical Results
3 Summary Statistics

Table 1
Constituents of Potential Concern
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	CASRN	Detected in Soil
VOC	Benzene	71-43-2	Y
VOC	Carbon Disulfide	75-15-0	Y
VOC	Cumene	98-82-8	Y
VOC	1,2-Dibromoethane	106-93-4	N
VOC	1,2-Dichloroethane	107-06-2	N
VOC	Ethyl Benzene	100-41-4	Y
VOC	Methyl tert-butyl ether	1634-04-4	N
VOC	Toluene	108-88-3	Y
VOC	1,2,4-Trimethylbenzene	95-63-6	Y
VOC	1,3,5-Trimethylbenzene	108-67-8	Y
VOC	Xylenes (total)	1330-20-7	Y
SVOC	Acenaphthene	83-32-9	Y
SVOC	Anthracene	120-12-7	Y
SVOC	Benzo(a)anthracene	56-55-3	Y
SVOC	Benzo(a)pyrene	50-32-8	Y
SVOC	Benzo(b)fluoranthene	205-99-2	Y
SVOC	Benzo(g,h,i)perylene	191-24-2	Y
SVOC	Benzo(k)fluoranthene	207-08-9	Y
SVOC	Chrysene	218-01-9	Y
SVOC	Dibenz(a,h)anthracene	53-70-3	Y
SVOC	7,12-Dimethylbenz(a)anthracene	57-97-6	Y
SVOC	2,4-Dimethylphenol	105-67-9	N
SVOC	Fluorene	86-73-7	Y
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	Y
SVOC	3-Methylcholanthrene	56-49-5	N
SVOC	2-Methylphenol	95-48-7	Y
SVOC	3&4-Methylphenol	65794-96-9	Y
SVOC	Naphthalene	91-20-3	Y
SVOC	Phenanthrene	85-01-8	Y
SVOC	Phenol	108-95-2	Y
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	Y
SVOC	Di-n-butylphthalate	84-74-2	N
SVOC	Pyrene	129-00-0	Y
INORG	Antimony	7440-36-0	Y
INORG	Arsenic	7440-38-2	Y
INORG	Chromium III	16065-83-1	Y
INORG	Chromium VI	18540-29-9	Y
INORG	Cyanide (total)	57-12-5	Y
INORG	Lead	7439-92-1	Y
INORG	Nickel	7440-02-0	Y
INORG	Vanadium	7440-62-2	Y

Notes:
Y - Detected.
N - Not Detected.

Table 2
Summary of Soil Analytical Results
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location				GPSP-01	GPSP-02	GPSP-03	GPSP-04	GPSP-05	GPSP-06	GPSP-07	GPSP-08	GPSP-09	GPSP-10
Field Sample ID	Non-Res Direct	Non-Res Direct	Non-Res Used	GPSP-01-SS01	GPSP-02-SS01	GPSP-03-SS01	GPSP-04-SS01	GPSP-05-SS01	GPSP-06-SS01	GPSP-07-SS01	GPSP-08-SS01	GPSP-09-SS01	GPSP-10-SS01
Collection Depth (ft bgs)	Contact MSCs for	Contact MSCs for	Aquifer	3.5 - 4.0	7.0 - 7.5	2.5 - 3.0	3.0 - 3.5	4.5 - 5.0	7.5 - 8.0	7.0 - 7.5	4.5 - 5.0	2.5 - 3.0	7.5 - 8.0
Sample Method	Surface Soil	Subsurface Soil	(TDS ≤ 2500)	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Sample Date	(0-2 ft)	(2-15 ft)	Soil-to-GW MSC	9/8/2023	9/7/2023	9/7/2023	9/8/2023	9/8/2023	9/8/2023	9/7/2023	9/7/2023	9/8/2023	9/8/2023
Comments													
Volatile Organic Compounds													
Benzene	280	330	0.5	0.58 (0.36)	2.8 (0.033)	0.31 (0.041)	0.61 (0.029)	0.67 (0.37)	0.27 (0.061)	0.65 (0.025)	0.32 (0.11)	0.15 (0.029)	0.25 (0.067)
Carbon Disulfide	10000	10000	620	ND (7.2)	ND (0.66)	ND (0.81)	ND (0.01)	ND (7.4)	ND (1.2)	ND (0.5)	ND (2.2)	ND (0.57)	ND (1.3)
Cumene	10000	10000	2500	220 (3.6)	0.087 (0.066)	39 (0.41)	0.12 (0.058)	180 (3.7)	50 (0.61)	15 (0.25)	82 (0.54)	0.87 (0.057)	53 (0.67)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.36)	ND (0.033)	ND (0.041)	ND (0.00051)	ND (0.37)	ND (0.061)	ND (0.025)	ND (0.11)	ND (0.029)	ND (0.067)
1,2-Dichloroethane	85	98	0.5	ND (0.72)	ND (0.066)	ND (0.081)	ND (0.001)	ND (0.74)	ND (0.12)	ND (0.05)	ND (0.22)	ND (0.057)	ND (0.13)
Ethyl Benzene	880	1000	70	0.3 J (0.72)	0.84 (0.066)	0.46 (0.081)	0.25 (0.058)	0.46 J (0.74)	0.13 (0.12)	0.78 (0.05)	0.34 (0.22)	0.13 (0.057)	0.093 J (0.13)
Methyl tert-butyl ether	8500	9800	2	ND (1.4)	ND (0.13)	ND (0.16)	ND (0.002)	ND (1.5)	ND (0.24)	ND (0.1)	ND (0.43)	ND (0.11)	ND (0.27)
Toluene	10000	10000	100	ND (0.72)	0.58 (0.066)	0.16 (0.081)	0.58 (0.058)	ND (0.74)	0.12 (0.12)	0.32 (0.05)	0.12 J (0.22)	0.092 (0.057)	0.12 J (0.13)
1,2,4-Trimethylbenzene	4700	5400	300	ND (1.4)	0.16 (0.13)	36 (0.81)	0.14 (0.12)	0.26 J (1.5)	0.26 (0.24)	7.6 (0.1)	0.14 J (0.43)	9.3 (0.11)	0.15 J (0.27)
1,3,5-Trimethylbenzene	4700	5400	93	ND (1.4)	0.028 J (0.13)	7.8 (0.16)	0.027 J (0.12)	ND (1.5)	0.032 J (0.24)	0.9 (0.1)	ND (0.43)	6.5 (0.11)	0.032 J (0.27)
Xylenes (total)	7900	9100	1000	0.25 J (0.72)	1.6 J (0.066)	3.6 (0.081)	0.64 (0.058)	1.2 (0.74)	0.38 J (0.12)	1.7 (0.05)	0.41 J (0.22)	1.1 (0.057)	0.14 J (0.13)
Semivolatile Organic Compounds													
Acenaphthene	190000	190000	4700	5.66 (0.903)	1.2 (0.857)	13.1 (0.914)	11.2 (0.771)	10.8 (0.834)	3.75 (0.796)	1.04 (0.719)	9.62 (0.928)	ND (0.774)	5.39 (0.811)
Anthracene	190000	190000	350	6.4 (0.903)	1.39 (0.857)	17.5 (0.914)	15.8 (0.771)	7.82 (0.834)	3.31 (0.796)	0.782 (0.719)	8.65 (0.928)	ND (0.774)	5.67 (0.811)
Benzo(a)anthracene	130	190000	340	8.05 (0.903)	2.05 (0.857)	32 (0.914)	24.6 (0.771)	6.91 (0.834)	6.21 (0.796)	2 (0.719)	11.8 (0.928)	0.781 (0.774)	5.41 (0.811)
Benzo(a)pyrene	91	190000	46	6.72 (0.903)	2.65 (0.857)	34.3 (0.914)	23.2 (0.771)	5.35 (0.834)	4.36 (0.796)	1.37 (0.719)	9.92 (0.928)	ND (0.774)	4.46 (0.811)
Benzo(b)fluoranthene	76	190000	170	6.28 (0.903)	3.07 (0.857)	22.4 (0.914)	25.9 (0.771)	3.35 (0.834)	3.45 (0.796)	0.899 (0.719)	9.1 (0.928)	ND (0.774)	2.86 (0.811)
Benzo(g,h,i)perylene	190000	190000	180	2.34 (0.903)	1.11 (0.857)	6.31 (0.914)	7.85 (0.771)	1.44 (0.834)	1.45 (0.796)	ND (0.719)	2.56 (0.928)	ND (0.774)	1.25 (0.811)
Benzo(k)fluoranthene	76	190000	610	2.69 (0.903)	1.59 (0.857)	4.6 (0.914)	11 (0.771)	0.87 (0.834)	1.32 (0.796)	ND (0.719)	2.66 (0.928)	ND (0.774)	1.03 (0.811)
Chrysene	760	190000	230	12.8 (0.903)	2.79 (0.857)	70.5 (0.914)	24 (0.771)	18.1 (0.834)	12.2 (0.796)	3.96 (0.719)	21.2 (0.928)	1.52 (0.774)	12.5 (0.811)
Dibenz(a,h)anthracene	22	190000	270	ND (0.903)	ND (0.857)	ND (0.914)	2.22 (0.771)	ND (0.834)	ND (0.796)	ND (0.719)	ND (0.928)	ND (0.774)	ND (0.811)
7,12-Dimethylbenz(a)anthracene	--	--	--	1.98 (0.903)	ND (0.857)	38.6 (0.914)	ND (0.771)	3.84 (0.834)	3.52 (0.796)	1.07 (0.719)	6.46 (0.928)	ND (0.774)	3.63 (0.811)
2,4-Dimethylphenol	10000	10000	190	ND (0.903)	ND (0.857)	ND (0.914)	ND (0.771)	ND (0.834)	ND (0.796)	ND (0.719)	ND (0.928)	ND (0.774)	ND (0.811)
Fluorene	130000	190000	3800	27.4 (0.903)	1.71 (0.857)	44.4 (0.914)	12.6 (0.771)	48.5 (0.834)	15.8 (0.796)	3.89 (0.719)	44.4 (0.928)	2.83 (0.774)	24.8 (0.811)
Indeno(1,2,3-cd)pyrene	76	190000	18000	2.34 (0.903)	1.22 (0.857)	3.31 (0.914)	9.61 (0.771)	ND (0.834)	1.21 (0.796)	ND (0.719)	2.1 (0.928)	ND (0.774)	0.997 (0.811)
3-Methylcholanthrene	--	--	--	ND (4.45)	ND (4.22)	ND (4.5)	ND (3.8)	ND (4.11)	ND (3.92)	ND (3.54)	ND (4.57)	ND (3.81)	ND (3.99)
2-Methylphenol	160000	190000	490	ND (0.903)	ND (0.857)	ND (0.914)	ND (0.771)	ND (0.834)	ND (0.796)	ND (0.719)	ND (0.928)	ND (0.774)	ND (0.811)
3&4-Methylphenol	16000	190000	49	ND (0.903)	ND (0.857)	ND (0.914)	ND (0.771)	ND (0.834)	ND (0.796)	ND (0.719)	ND (0.928)	ND (0.774)	ND (0.811)
Naphthalene	66	77	25	ND (0.903)	2.63 (0.857)	6.36 (0.914)	1.98 (0.771)	0.837 (0.834)	ND (0.796)	ND (0.719)	1.12 (0.928)	ND (0.774)	1.39 (0.811)
Phenanthrene	190000	190000	10000	41.8 (0.903)	4.16 (0.857)	199 (9.14)	18.9 (0.771)	92.6 (4.17)	29.3 (0.796)	7.44 (0.719)	89.1 (4.64)	4.54 (0.774)	47.1 (0.811)
Phenol	16000	18000	200	ND (0.903)	ND (0.857)	ND (0.914)	ND (0.771)	ND (0.834)	ND (0.796)	ND (0.719)	ND (0.928)	ND (0.774)	ND (0.811)
bis(2-Ethylhexyl)phthalate	6500	10000	130	ND (0.903)	ND (0.857)	ND (0.914)	ND (0.771)	ND (0.834)	ND (0.796)	ND (0.719)	ND (0.928)	ND (0.774)	ND (0.811)
Di-n-butylphthalate	10000	10000	4000	ND (0.903)	ND (0.857)	ND (0.914)	ND (0.771)	ND (0.834)	ND (0.796)	ND (0.719)	ND (0.928)	ND (0.774)	ND (0.811)
Pyrene	96000	190000	2200	20.6 (0.903)	4.07 (0.857)	150 (9.14)	43.2 (0.771)	27.1 (0.834)	17 (0.796)	5.53 (0.719)	38.6 (0.928)	2.13 (0.774)	18.2 (0.811)
Metals													
Antimony	1300	190000	27	3.2 (2.71)	2.22 J (2.39)	3.32 (2.48)	1.44 J (2.29)	1.2 J (2.4)	1.22 J (2.45)	6.3 (2.05)	2.45 J (3.02)	2.87 (2.2)	1.21 J (2.42)
Arsenic	61	190000	29	31 (0.541)	12.4 (0.478)	53.5 (0.495)	14.1 (0.459)	9.71 (0.481)	11.9 (0.491)	8.96 (0.411)	26.1 (0.605)	5.29 (0.44)	5.68 (0.485)
Chromium (total)	--	--	--	657 (0.541)	139 (0.478)	677 (0.495)	91.5 (0.459)	202 (0.481)	71.6 (0.491)	147 (0.411)	730 (0.605)	510 (0.44)	12.5 (0.485)
Chromium VI	180	140000	190	ND (1.1)	0.917 J (0.978)	0.636 J (1.04)	0.45 J (0.947)	ND (0.974)	0.215 J (1.01)	0.297 J (0.848)	ND (1.25)	ND (0.909)	ND (0.995)
Cyanide (total)	--	--	--	3.1 (1.3)	0.86 J (1.2)	0.76 J (1.2)	0.89 J (1.1)	ND (1.1)	0.33 J (1.2)	1.5 (1)	1.3 J (1.5)	1.4 (1.1)	0.27 J (1.2)
Lead	1000	190000	450	1000 (2.71)	256 (2.39)	507 (2.48)	277 (2.29)	192 (2.4)	118 (2.45)	158 (2.05)	640 (3.02)	695 (2.2)	139 (2.42)
Nickel	64000	190000	650	167 (1.35)	35.7 (1.19)	116 (1.24)	85.2 (1.15)	54.6 (1.2)	50.2 (1.23)	162 (1.03)	113 (1.51)	48.2 (1.1)	15.5 (1.21)
Vanadium	16000	190000	49000	270 (0.541)	95.5 (0.478)	139 (0.495)	595 (0.459)	128 (0.481)	204 (0.491)	1110 (0.411)	507 (0.605)	326 (0.44)	13.5 (0.485)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 The PADEP MSCs for 4-Methylphenol are used as a surrogate for the criteria for 3&4-Methylphenol.
3 Grey shaded concentrations exceed the Surface or Subsurface Non-Res Direct Contact with Soil MSC.
4 Underlined concentrations exceed the Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration
J4 - The associated batch QC was outside the established quality control range for accuracy
T8 - Sample(s) received past/too close to holding time expiration

Table 2
Summary of Soil Analytical Results
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location				GPSP-11	GPSP-12	GPSP-13	GPSP-14	GPSP-15	GPSP-17	GPSP-18	GPSP-19	GPSP-20	GPSP-21
Field Sample ID	Non-Res Direct	Non-Res Direct	Non-Res Used	GPSP-11-SS01	GPSP-12-SS01	GPSP-13-SS01	GPSP-14-SS01	GPSP-15-SS01	GPSP-17-SS01	GPSP-18-SS01	GPSP-19-SS01	GPSP-20-SS01	GPSP-21-SS01
Collection Depth (ft bgs)	Contact MSCs for	Contact MSCs for	Aquifer	4.0 - 4.5	3.0 - 3.5	5.5 - 6.0	4.5 - 5.0	4.5 - 5.0	7.0 - 7.5	7.5 - 8.0	4.5 - 5.0	7.0 - 7.5	7.5 - 8.0
Sample Method	Surface Soil	Subsurface Soil	(TDS ≤ 2500)	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Sample Date	(0-2 ft)	(2-15 ft)	Soil-to-GW MSC	9/8/2023	9/8/2023	9/8/2023	9/8/2023	9/7/2023	9/8/2023	9/7/2023	9/7/2023	9/7/2023	9/7/2023
Comments													
Volatile Organic Compounds													
Benzene	280	330	0.5	1.1 (0.063)	0.01 J (0.029)	0.77 (0.038)	0.12 (0.03)	0.24 (0.071)	0.064 (0.03)	0.13 (0.045)	0.27 (0.043)	0.25 (0.032)	0.036 (0.026)
Carbon Disulfide	10000	10000	620	2.2 (1.3)	ND (0.58)	ND (0.76)	ND (0.61)	ND (1.4)	ND (0.59)	ND (0.91)	ND (0.86)	ND (0.63)	ND (0.52)
Cumene	10000	10000	2500	61 (0.32)	2.4 (0.058)	31 (0.38)	43 (0.61)	83 (0.28)	15 (0.059)	34 (0.23)	35 (0.22)	1.3 (0.063)	14 (0.052)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.063)	ND (0.029)	ND (0.038)	ND (0.03)	ND (0.071)	ND (0.03)	ND (0.045)	ND (0.043)	ND (0.032)	ND (0.026)
1,2-Dichloroethane	85	98	0.5	ND (0.13)	ND (0.058)	ND (0.076)	ND (0.061)	ND (0.14)	ND (0.059)	ND (0.091)	ND (0.086)	ND (0.063)	ND (0.052)
Ethyl Benzene	880	1000	70	2.5 (0.13)	0.074 (0.058)	0.19 (0.076)	0.11 (0.061)	0.19 (0.14)	0.05 J (0.059)	0.52 (0.091)	0.65 (0.086)	0.035 J (0.063)	0.021 J (0.052)
Methyl tert-butyl ether	8500	9800	2	ND (0.25)	ND (0.12)	ND (0.15)	ND (0.12)	ND (0.28)	ND (0.12)	ND (0.18)	ND (0.17)	ND (0.13)	ND (0.1)
Toluene	10000	10000	100	0.28 (0.13)	ND (0.058)	0.13 (0.076)	ND (0.061)	0.13 J (0.14)	ND (0.059)	ND (0.091)	0.19 (0.086)	ND (0.063)	0.034 J (0.052)
1,2,4-Trimethylbenzene	4700	5400	300	53 (0.63)	ND (0.12)	0.19 (0.15)	0.067 J (0.12)	0.2 J (0.28)	0.038 J (0.12)	4.6 (0.18)	3.1 (0.17)	0.27 (0.13)	0.049 J (0.1)
1,3,5-Trimethylbenzene	4700	5400	93	2.7 (0.25)	ND (0.12)	0.027 J (0.15)	ND (0.12)	0.034 J (0.28)	ND (0.12)	1.6 (0.18)	0.59 (0.17)	0.11 J (0.13)	0.012 J (0.1)
Xylenes (total)	7900	9100	1000	3.1 (0.13)	ND (0.058)	0.37 J (0.076)	0.21 J (0.061)	0.71 J (0.14)	0.071 J (0.059)	2.4 (0.091)	1.2 (0.086)	0.2 J (0.063)	0.11 J (0.052)
Semivolatile Organic Compounds													
Acenaphthene	190000	190000	4700	4.62 (0.803)	0.83 (0.773)	1.76 (0.973)	9.31 (0.804)	1.57 (0.818)	1.53 (0.792)	3.31 (0.753)	4.12 (0.737)	1.93 (0.773)	3.98 (0.74)
Anthracene	190000	190000	350	5.75 (0.803)	1.18 (0.773)	1.75 (0.973)	6.99 (0.804)	1.86 (0.818)	1.44 (0.792)	2.38 (0.753)	2.72 (0.737)	2.47 (0.773)	3.12 (0.74)
Benzo(a)anthracene	130	190000	340	10.6 (0.803)	2.24 (0.773)	4.51 (0.973)	5.79 (0.804)	2.67 (0.818)	2.2 (0.792)	3.75 (0.753)	2.76 (0.737)	2.39 (0.773)	5.09 (0.74)
Benzo(a)pyrene	91	190000	46	9.8 (0.803)	1.81 (0.773)	4.45 (0.973)	4.24 (0.804)	2.18 (0.818)	1.65 (0.792)	2.2 (0.753)	1.71 (0.737)	2.15 (0.773)	3.83 (0.74)
Benzo(b)fluoranthene	76	190000	170	10.9 (0.803)	1.68 (0.773)	4.16 (0.973)	3.11 (0.804)	2.22 (0.818)	1.47 (0.792)	ND (0.753)	ND (0.737)	2.38 (0.773)	ND (0.74)
Benzo(g,h,i)perylene	190000	190000	180	3.11 (0.803)	ND (0.773)	2.62 (0.973)	0.903 (0.804)	0.898 (0.818)	ND (0.792)	ND (0.753)	ND (0.737)	ND (0.773)	1.46 (0.74)
Benzo(k)fluoranthene	76	190000	610	4.55 (0.803)	ND (0.773)	1.89 (0.973)	1.2 (0.804)	0.856 (0.818)	ND (0.792)	ND (0.753)	ND (0.737)	1.13 (0.773)	ND (0.74)
Chrysene	760	190000	230	17.1 (0.803)	3.42 (0.773)	6.82 (0.973)	14.8 (0.804)	3.43 (0.818)	3.69 (0.792)	7.32 (0.753)	6.27 (0.737)	2.69 (0.773)	9.82 (0.74)
Dibenz(a,h)anthracene	22	190000	270	0.968 (0.803)	ND (0.773)	ND (0.973)	ND (0.804)	ND (0.818)	ND (0.792)	ND (0.753)	ND (0.737)	ND (0.773)	ND (0.74)
7,12-Dimethylbenz(a)anthracene	--	--	--	2.97 (0.803)	ND (0.773)	ND (0.973)	4.07 (0.804)	ND (0.818)	ND (0.792)	2.31 (0.753)	1.95 (0.737)	ND (0.773)	2.63 (0.74)
2,4-Dimethylphenol	10000	10000	190	ND (0.803)	ND (0.773)	ND (0.973)	ND (0.804)	ND (0.818)	ND (0.792)	ND (0.753)	ND (0.737)	ND (0.773)	ND (0.74)
Fluorene	130000	190000	3800	23.8 (0.803)	3.71 (0.773)	9.44 (0.973)	44.2 (0.804)	5.34 (0.818)	6.96 (0.792)	14 (0.753)	15.3 (0.737)	2.98 (0.773)	13.9 (0.74)
Indeno(1,2,3-cd)pyrene	76	190000	18000	3.6 (0.803)	0.812 (0.773)	2.54 (0.973)	0.812 (0.804)	0.947 (0.818)	ND (0.792)	ND (0.753)	ND (0.737)	ND (0.773)	0.766 (0.74)
3-Methylcholanthrene	--	--	--	ND (3.96)	ND (3.81)	ND (4.79)	ND (3.96)	ND (4.03)	ND (3.9)	ND (3.71)	ND (3.63)	ND (3.81)	ND (3.65)
2-Methylphenol	160000	190000	490	ND (0.803)	ND (0.773)	ND (0.973)	ND (0.804)	ND (0.818)	ND (0.792)	ND (0.753)	ND (0.737)	ND (0.773)	ND (0.74)
3&4-Methylphenol	16000	190000	49	ND (0.803)	ND (0.773)	ND (0.973)	ND (0.804)	ND (0.818)	ND (0.792)	ND (0.753)	ND (0.737)	ND (0.773)	ND (0.74)
Naphthalene	66	77	25	3.46 (0.803)	ND (0.773)	ND (0.973)	ND (0.804)	ND (0.818)	ND (0.792)	2.55 (0.753)	3.56 (0.737)	1.4 (0.773)	ND (0.74)
Phenanthrene	190000	190000	10000	35.6 (0.803)	7.66 (0.773)	14.7 (0.973)	77.3 (4.02)	9.2 (0.818)	12.7 (0.792)	21.7 (0.753)	25.1 (0.737)	7.62 (0.773)	27.7 (0.74)
Phenol	16000	18000	200	ND (0.803)	ND (0.773)	ND (0.973)	ND (0.804)	ND (0.818)	ND (0.792)	ND (0.753)	ND (0.737)	ND (0.773)	ND (0.74)
bis(2-Ethylhexyl)phthalate	6500	10000	130	ND (0.803)	ND (0.773)	ND (0.973)	ND (0.804)	ND (0.818)	ND (0.792)	ND (0.753)	1.52 (0.737)	ND (0.773)	ND (0.74)
Di-n-butylphthalate	10000	10000	4000	ND (0.803)	ND (0.773)	ND (0.973)	ND (0.804)	ND (0.818)	ND (0.792)	ND (0.753)	ND (0.737)	ND (0.773)	ND (0.74)
Pyrene	96000	190000	2200	22.2 (0.803)	4.65 (0.773)	7.39 (0.973)	23.3 (0.804)	5.94 (0.818)	5.43 (0.792)	10.6 (0.753)	7.51 (0.737)	5.59 (0.773)	12.8 (0.74)
Metals													
Antimony	1300	190000	27	0.456 J (2.45)	0.898 J (2.25)	1.28 J (2.6)	1.94 J (2.36)	2.84 (2.35)	0.828 J (2.35)	1.39 J (2.15)	2.54 (2.11)	3.17 (2.3)	5.4 (2.16)
Arsenic	61	190000	29	20.3 (0.491)	5.48 (0.449)	11.6 (0.521)	9.76 (0.473)	14.2 (0.47)	4.47 (0.47)	6.69 (0.43)	6.52 (0.422)	8.45 (0.459)	10.6 (0.432)
Chromium (total)	--	--	--	246 (0.491)	26.4 (0.449)	40.1 (0.521)	127 (0.473)	241 (0.47)	17 (0.47)	580 (0.43)	424 (0.422)	80.6 (0.459)	102 (0.432)
Chromium VI	180	140000	190	1.08 J (4.94)	ND (0.934)	ND (1.08)	ND (0.965)	ND (0.968)	ND (0.973)	ND (0.874)	ND (0.862)	ND (0.936)	0.578 J (0.906)
Cyanide (total)	--	--	--	1.1 J (1.2)	ND (1.1)	ND (1.3)	0.39 J (1.1)	0.44 J (1.2)	0.27 J (1.2)	1.8 (1.1)	0.91 J (1)	2.1 (1.1)	0.85 J (1)
Lead	1000	190000	450	311 (2.45)	35.7 (2.25)	349 (2.6)	257 (2.36)	252 (2.35)	300 (2.35)	122 (2.15)	2570 (2.11)	2360 (2.3)	6700 (21.6)
Nickel	64000	190000	650	291 (1.23)	13.6 (1.12)	23 (1.3)	36.1 (1.18)	173 (1.18)	10.2 (1.18)	37.9 (1.07)	33.6 (1.06)	31.8 (1.15)	41.1 (1.08)
Vanadium	16000	190000	49000	1400 (0.491)	34.1 (0.449)	41.5 (0.521)	61.1 (0.473)	719 (0.47)	19.6 (0.47)	113 (0.43)	122 (0.422)	79.6 (0.459)	102 (0.432)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 The PADEP MSCs for 4-Methylphenol are used as a surrogate for the criteria for 3&4-Methylpheno
3 Grey shaded concentrations exceed the Surface or Subsurface Non-Res Direct Contact with Soil MS
4 Underlined concentrations exceed the Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration
J4 - The associated batch QC was outside the established quality control range for accuracy
T8 - Sample(s) received past/too close to holding time expiration

Table 2
Summary of Soil Analytical Results
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location				GPSP-22	GPSP-23	GPSP-24	GPSP-24	GPSP-24	GPSP-25	GPSP-25	GPSP-25	GPSP-26	GPSP-26
Field Sample ID	Non-Res Direct	Non-Res Direct	Non-Res Used	GPSP-22-SS01	GPSP-23-SS01	GPSP-24-1.5-2.0	GPSP-24-6.0-6.5	GPSP-24-6.5-7.0	GPSP-25-1.0-1.5	GPSP-25-4.0-4.5	GPSP-25-4.5-5.0	GPSP-26-1.5-2.0	GPSP-26-4.0-4.5
Collection Depth (ft bgs)	Contact MSCs for	Contact MSCs for	Aquifer	7.5 - 8.0	7.5 - 8.0	1.5 - 2.0	6.0 - 6.5	6.5 - 7.0	1.0 - 1.5	4.0 - 4.5	4.5 - 5.0	1.5 - 2.0	4.0 - 4.5
Sample Method	Surface Soil	Subsurface Soil	(TDS ≤ 2500)	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Sample Date	(0-2 ft)	(2-15 ft)	Soil-to-GW MSC	9/7/2023	9/8/2023	2/9/2024	2/9/2024	2/9/2024	2/9/2024	2/9/2024	2/9/2024	2/9/2024	2/9/2024
Comments													
Volatile Organic Compounds													
Benzene	280	330	0.5	3.1 (0.035)	ND (0.00041)	0.0017 (0.00059)	0.084 (0.036)	0.21 (0.04)	1.2 (0.036)	ND (0.31)	0.11 J (0.3)	0.28 (0.026)	1.3 (0.32)
Carbon Disulfide	10000	10000	620	ND (0.7)	ND (0.0083)	ND (0.012)	ND (0.72)	ND (0.8)	ND (0.72)	ND (6.2)	ND (6)	ND (0.52)	ND (6.3)
Cumene	10000	10000	2500	3.2 (0.07)	ND (0.00083)	0.0036 (0.0012)	1.6 (0.072)	5.1 (0.08)	0.17 (0.072)	2.3 (0.62)	2.1 (0.6)	0.63 (0.052)	31 (0.63)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.035)	ND (0.00041)	ND (0.00059)	ND (0.036)	ND (0.04)	ND (0.036)	ND (0.31)	ND (0.3)	ND (0.026)	ND (0.32)
1,2-Dichloroethane	85	98	0.5	ND (0.07)	ND (0.00083)	ND (0.0012)	ND (0.072)	ND (0.08)	ND (0.072)	ND (0.62)	ND (0.6)	ND (0.052)	ND (0.63)
Ethyl Benzene	880	1000	70	1.8 (0.07)	ND (0.00083)	0.00058 J (0.0012)	1.1 (0.072)	5.9 (0.08)	0.3 (0.072)	0.15 J (0.62)	0.12 J (0.6)	0.13 (0.052)	1 (0.63)
Methyl tert-butyl ether	8500	9800	2	ND (0.14)	ND (0.0016)	ND (0.0024)	ND (0.14)	ND (0.16)	ND (0.14)	ND (1.2)	ND (1.2)	ND (0.1)	ND (1.3)
Toluene	10000	10000	100	1.6 (0.07)	ND (0.00083)	0.0011 J (0.0012)	0.75 (0.072)	2.7 (0.08)	1.7 (0.072)	0.41 J (0.62)	0.4 J (0.6)	0.29 (0.052)	1.7 (0.63)
1,2,4-Trimethylbenzene	4700	5400	300	3.8 (0.14)	ND (0.0016)	0.0096 (0.0024)	21 (0.14)	60 (1.6)	0.22 (0.14)	0.91 J (1.2)	0.41 J (1.2)	0.51 (0.1)	0.69 J (1.3)
1,3,5-Trimethylbenzene	4700	5400	93	0.33 (0.14)	ND (0.0016)	0.0039 (0.0024)	7.3 (0.14)	19 (0.16)	0.099 J (0.14)	0.25 J (1.2)	0.14 J (1.2)	0.24 (0.1)	0.28 J (1.3)
Xylenes (total)	7900	9100	1000	3.6 (0.07)	ND (0.00083)	0.0053 (0.0012)	3.3 (0.072)	11 (0.08)	2.6 (0.072)	1.3 J (0.62)	1.4 J (0.6)	0.85 (0.052)	5.3 (0.63)
Semivolatile Organic Compounds													
Acenaphthene	190000	190000	4700	2.35 (0.849)	ND (0.707)	ND (0.333)	ND (0.666)	0.179 J (0.666)	0.0537 J (0.167)	0.366 (0.0333)	0.386 (0.167)	0.449 J (1.33)	2 (0.167)
Anthracene	190000	190000	350	2.36 (0.849)	ND (0.707)	0.103 J (0.333)	0.301 J (0.666)	0.252 J (0.666)	0.172 (0.167)	0.167 (0.0333)	0.246 (0.167)	0.317 J (1.33)	0.636 (0.167)
Benzo(a)anthracene	130	190000	340	3.8 (0.849)	ND (0.707)	0.296 J (0.333)	0.432 J (0.666)	0.51 J (0.666)	1.26 (0.167)	0.244 (0.0333)	0.532 (0.167)	1.21 J (1.33)	0.857 (0.167)
Benzo(a)pyrene	91	190000	46	3.52 (0.849)	ND (0.707)	0.268 J (0.333)	0.313 J (0.666)	0.52 J (0.666)	1.41 (0.167)	0.218 (0.0333)	0.547 (0.167)	1.02 J (1.33)	0.504 (0.167)
Benzo(b)fluoranthene	76	190000	170	2.92 (0.849)	ND (0.707)	0.368 (0.333)	0.492 J (0.666)	0.492 J (0.666)	1.78 (0.167)	0.276 (0.0333)	0.671 (0.167)	1.19 J (1.33)	0.569 (0.167)
Benzo(g,h,i)perylene	190000	190000	180	1.02 (0.849)	ND (0.707)	0.267 JJ4 (0.333)	NDJ4 (0.666)	0.358 JJ4 (0.666)	0.623 (0.167)	0.105 (0.0333)	0.244 (0.167)	0.638 J (1.33)	0.17 (0.167)
Benzo(k)fluoranthene	76	190000	610	1.17 (0.849)	ND (0.707)	0.111 J (0.333)	0.195 J (0.666)	0.165 J (0.666)	0.641 (0.167)	0.0954 (0.0333)	0.237 (0.167)	0.256 J (1.33)	0.186 (0.167)
Chrysene	760	190000	230	6.65 (0.849)	ND (0.707)	0.311 J (0.333)	0.332 J (0.666)	0.333 J (0.666)	0.951 (0.167)	0.195 (0.0333)	0.389 (0.167)	1.07 J (1.33)	0.759 (0.167)
Dibenz(a,h)anthracene	22	190000	270	ND (0.849)	ND (0.707)	NDJ4 (0.333)	NDJ4 (0.666)	NDJ4 (0.666)	0.214 (0.167)	0.0362 (0.0333)	0.0853 J (0.167)	ND (1.33)	0.0667 J (0.167)
7,12-Dimethylbenz(a)anthracene	--	--	--	3.09 (0.849)	ND (0.707)	NDT8 (8.07)	NDT8 (18.3)	NDT8 (18)	NDT8 (2.19)	NDT8 (0.401)	NDT8 (1.94)	NDT8 (14.7)	NDT8 (1.89)
2,4-Dimethylphenol	10000	10000	190	ND (0.849)	ND (0.707)	ND (3.33)	ND (6.66)	ND (6.66)	ND (1.67)	ND (0.333)	ND (1.67)	ND (13.3)	ND (1.67)
Fluorene	130000	190000	3800	3.78 (0.849)	ND (0.707)	0.102 J (0.333)	0.221 J (0.666)	0.286 J (0.666)	0.0768 J (0.167)	0.609 (0.0333)	0.601 (0.167)	0.629 J (1.33)	3.93 (0.167)
Indeno(1,2,3-cd)pyrene	76	190000	18000	1.03 (0.849)	ND (0.707)	0.261 JJ4 (0.333)	NDJ4 (0.666)	0.25 JJ4 (0.666)	0.824 (0.167)	0.127 (0.0333)	0.321 (0.167)	ND (1.33)	0.158 J (0.167)
3-Methylcholanthrene	--	--	--	ND (4.18)	ND (3.48)	NDT8 (8.07)	NDT8 (18.3)	NDT8 (18)	NDT8 (2.19)	NDT8 (0.401)	NDT8 (1.94)	NDT8 (14.7)	NDT8 (1.89)
2-Methylphenol	160000	190000	490	ND (0.849)	ND (0.707)	ND (3.33)	ND (6.66)	ND (6.66)	ND (1.67)	ND (0.333)	ND (1.67)	ND (13.3)	ND (1.67)
3&4-Methylphenol	16000	190000	49	ND (0.849)	ND (0.707)	ND (3.33)	ND (6.66)	ND (6.66)	0.0606 J (1.67)	ND (0.333)	ND (1.67)	ND (13.3)	ND (1.67)
Naphthalene	66	77	25	5.25 (0.849)	ND (0.707)	0.231 J (0.333)	0.747 (0.666)	1.67 (0.666)	0.188 (0.167)	0.269 (0.0333)	0.21 (0.167)	0.862 J (1.33)	1.11 (0.167)
Phenanthrene	190000	190000	10000	14.9 (0.849)	ND (0.707)	0.648 (0.333)	1.05 (0.666)	1.1 (0.666)	0.366 (0.167)	1.28 (0.0333)	1.49 (0.167)	1.91 (1.33)	6.34 (0.167)
Phenol	16000	18000	200	1.2 (0.849)	ND (0.707)	ND (3.33)	ND (6.66)	ND (6.66)	ND (1.67)	ND (0.333)	ND (1.67)	ND (13.3)	ND (1.67)
bis(2-Ethylhexyl)phthalate	6500	10000	130	ND (0.849)	ND (0.707)	ND (3.33)	ND (6.66)	ND (6.66)	ND (1.67)	ND (0.333)	ND (1.67)	ND (13.3)	ND (1.67)
Di-n-butylphthalate	10000	10000	4000	ND (0.849)	ND (0.707)	ND (3.33)	ND (6.66)	ND (6.66)	ND (1.67)	ND (0.333)	ND (1.67)	ND (13.3)	ND (1.67)
Pyrene	96000	190000	2200	9.29 (0.849)	ND (0.707)	0.497 (0.333)	1.38 (0.666)	1.07 (0.666)	1.2 (0.167)	0.352 (0.0333)	0.729 (0.167)	4.75 (1.33)	2.01 (0.167)
Metals													
Antimony	1300	190000	27	6.76 (2.46)	1.13 J (2.08)	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	61	190000	29	13.2 (0.492)	0.92 (0.416)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (total)	--	--	--	315 (0.492)	34.6 (0.416)	NA	NA	NA	NA	NA	NA	NA	NA
Chromium VI	180	140000	190	0.303 J (1.01)	ND (0.847)	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (total)	--	--	--	0.78 J (1.2)	ND (0.98)	NA	NA	NA	NA	NA	NA	NA	NA
Lead	1000	190000	450	370 (2.46)	3.98 (2.08)	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	64000	190000	650	45.4 (1.23)	37.5 (1.04)	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	16000	190000	49000	144 (0.492)	34.7 (0.416)	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 The PADEP MSCs for 4-Methylphenol are used as a surrogate for the criteria for 3&4-Methylpheno
3 Grey shaded concentrations exceed the Surface or Subsurface Non-Res Direct Contact with Soil MS
4 Underlined concentrations exceed the Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration
J4 - The associated batch QC was outside the established quality control range for accuracy
T8 - Sample(s) received past/too close to holding time expiration

Table 2
Summary of Soil Analytical Results
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location				GPSP-26	GPSP-27	GPSP-27	GPSP-27	GPSP-27	GPSP-29	GPSP-30	GPSP-30	GPSP-30	GPSP-MW01
Field Sample ID	Non-Res Direct	Non-Res Direct	Non-Res Used	GPSP-26-4.5-5.0	GPSP-27-1.5-2.0	GPSP-27-4.0-4.5	GPSP-27-4.5-5.0	GPSP-27-4.0-4.5DUP	GPSP-29-1.5-2.0	GPSP-30-1.5-2.0	GPSP-30-2.0-2.5	GPSP-30-3.5-4.0	GPSP-MW01-0.5-1.0
Collection Depth (ft bgs)	Contact MSCs for	Contact MSCs for	Aquifer	4.5 - 5.0	1.5 - 2.0	4.0 - 4.5	4.5 - 5.0	4.0 - 4.5	1.5 - 2.0	1.5 - 2.0	2.0 - 2.5	3.5 - 4.0	0.5 - 1.0
Sample Method	Surface Soil	Subsurface Soil	(TDS ≤ 2500)	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Sample Date	(0-2 ft)	(2-15 ft)	Soil-to-GW MSC	2/9/2024	2/9/2024	2/9/2024	2/9/2024	2/9/2024	2/9/2024	2/9/2024	2/9/2024	2/9/2024	2/9/2024
Comments								Field Duplicate					
Volatile Organic Compounds													
Benzene	280	330	0.5	1.6 (0.22)	ND (0.00056)	5.2 (0.04)	5.3 (0.042)	2.5 (0.044)	0.26 (0.042)	0.00022 J (0.00054)	0.00044 J (0.00046)	0.00063 J (0.00068)	0.0004 J (0.00054)
Carbon Disulfide	10000	10000	620	ND (0.86)	ND (0.011)	ND (0.8)	ND (0.85)	ND (0.88)	ND (0.011)	ND (0.011)	ND (0.0092)	ND (0.014)	ND (0.011)
Cumene	10000	10000	2500	30 (0.43)	ND (0.0011)	13 (0.08)	15 (0.085)	8.4 (0.088)	0.29 (0.084)	0.013 (0.0011)	0.027 (0.00092)	0.062 (0.0014)	0.0073 (0.0011)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.043)	ND (0.00056)	ND (0.04)	ND (0.042)	ND (0.044)	ND (0.00057)	ND (0.00054)	ND (0.00046)	ND (0.00068)	ND (0.00054)
1,2-Dichloroethane	85	98	0.5	ND (0.086)	ND (0.0011)	ND (0.08)	ND (0.085)	ND (0.088)	ND (0.0011)	ND (0.0011)	ND (0.00092)	ND (0.0014)	ND (0.0011)
Ethyl Benzene	880	1000	70	1.1 (0.086)	ND (0.0011)	14 (0.08)	16 (0.085)	10 (0.088)	0.73 (0.084)	0.00017 J (0.0011)	ND (0.00092)	0.0009 J (0.0014)	0.00054 J (0.0011)
Methyl tert-butyl ether	8500	9800	2	ND (0.17)	ND (0.0022)	ND (0.16)	ND (0.17)	ND (0.18)	ND (0.0023)	ND (0.0022)	ND (0.0018)	ND (0.0027)	ND (0.0022)
Toluene	10000	10000	100	2.5 (0.086)	ND (0.0011)	12 (0.08)	7.2 (0.085)	9.4 (0.088)	0.31 (0.084)	ND (0.0011)	ND (0.00092)	0.0011 J (0.0014)	0.00066 J (0.0011)
1,2,4-Trimethylbenzene	4700	5400	300	0.68 (0.17)	ND (0.0022)	80 (3.2)	48 (1.7)	57 (3.5)	0.46 (0.17)	0.00052 J (0.0022)	0.00037 J (0.0018)	0.0011 J (0.0027)	0.00063 J (0.0022)
1,3,5-Trimethylbenzene	4700	5400	93	0.38 (0.17)	ND (0.0022)	22 (0.16)	9.5 (0.17)	17 (0.18)	0.084 J (0.17)	0.00021 J (0.0022)	ND (0.0018)	0.00029 J (0.0027)	ND (0.0022)
Xylenes (total)	7900	9100	1000	6.8 (0.086)	0.00068 J (0.0011)	73 (0.08)	40 (0.085)	61 (0.088)	1.1 (0.084)	0.0015 J (0.0011)	0.0012 J (0.00092)	0.0043 J (0.0014)	0.0014 J (0.0011)
Semivolatile Organic Compounds													
Acenaphthene	190000	190000	4700	4.39 (0.333)	0.136 (0.0333)	13.6 (1.33)	23.4 (1.33)	4.51 (0.666)	0.287 (0.0505)	0.591 J (0.763)	8.41 (0.75)	12.6 (0.805)	3.84 (1.33)
Anthracene	190000	190000	350	1.61 (0.333)	0.246 (0.0333)	14.6 (1.33)	25 (1.33)	4.82 (0.666)	0.241 (0.0505)	1.07 (0.763)	51 (3.75)	14.9 (0.805)	8.34 (1.33)
Benzo(a)anthracene	130	190000	340	2.01 (0.333)	0.623 (0.0333)	20 (1.33)	25.5 (1.33)	5.53 (0.666)	0.331 (0.0505)	4.54 (0.763)	86.7 (3.75)	18.5 (0.805)	23.2 (1.33)
Benzo(a)pyrene	91	190000	46	1.15 (0.333)	0.615 (0.0333)	17.7 (1.33)	21.2 (1.33)	4.62 (0.666)	0.308 (0.0505)	4.03 (0.763)	72.3 (3.75)	15.5 (0.805)	22.9 (1.33)
Benzo(b)fluoranthene	76	190000	170	1.06 (0.333)	0.812 (0.0333)	22.1 (1.33)	26 (1.33)	6.65 (0.666)	0.408 (0.0505)	4.73 (0.763)	85.8 (3.75)	19.2 (0.805)	28.9 (1.33)
Benzo(g,h,i)perylene	190000	190000	180	0.261 J (0.333)	0.228 (0.0333)	6.64 (1.33)	6.67 (1.33)	1.07 J4 (0.666)	0.196 (0.0505)	1.83 (0.763)	23.1 (0.75)	7.41 (0.805)	8.52 (1.33)
Benzo(k)fluoranthene	76	190000	610	0.34 (0.333)	0.247 (0.0333)	7.33 (1.33)	8.72 (1.33)	2.3 (0.666)	0.128 (0.0505)	1.47 (0.763)	23.6 (0.75)	6.22 (0.805)	9.73 (1.33)
Chrysene	760	190000	230	1.75 (0.333)	0.501 (0.0333)	17.3 (1.33)	19.7 (1.33)	4.9 (0.666)	0.332 (0.0505)	4.48 (0.763)	75.6 (3.75)	14.9 (0.805)	22.2 (1.33)
Dibenz(a,h)anthracene	22	190000	270	0.138 J (0.333)	0.0696 (0.0333)	1.87 (1.33)	1.97 (1.33)	0.33 JJ4 (0.666)	0.0644 (0.0505)	0.541 J (0.763)	7 (0.75)	1.95 (0.805)	2.42 (1.33)
7,12-Dimethylbenz(a)anthracene	--	--	--	NDT8 (2.09)	NDT8 (1.98)	NDT8 (15.4)	NDT8 (15.6)	NDT8 (7.77)	ND (0.505)	ND (7.63)	ND (7.5)	ND (8.05)	NDT8 (15.2)
2,4-Dimethylphenol	10000	10000	190	ND (3.33)	ND (0.333)	ND (13.3)	ND (13.3)	ND (6.66)	ND (0.505)	ND (7.63)	ND (7.5)	ND (8.05)	ND (13.3)
Fluorene	130000	190000	3800	10.1 (0.333)	0.0903 (0.0333)	18.6 (1.33)	34.2 (1.33)	6.19 (0.666)	0.507 (0.0505)	0.313 J (0.763)	15.4 (0.75)	5.6 (0.805)	3.78 (1.33)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.223 J (0.333)	0.302 (0.0333)	8.84 (1.33)	8.74 (1.33)	1.41 J4 (0.666)	0.243 (0.0505)	2.22 (0.763)	31.9 (0.75)	9.46 (0.805)	11.2 (1.33)
3-Methylcholanthrene	--	--	--	NDT8 (2.09)	NDT8 (1.98)	NDT8 (15.4)	NDT8 (15.6)	NDT8 (7.77)	ND (0.505)	ND (7.63)	ND (7.5)	ND (8.05)	NDT8 (15.2)
2-Methylphenol	160000	190000	490	ND (3.33)	ND (0.333)	ND (13.3)	ND (13.3)	ND (6.66)	ND (0.505)	0.262 J (7.63)	ND (7.5)	ND (8.05)	ND (13.3)
3&4-Methylphenol	16000	190000	49	ND (3.33)	0.0146 J (0.333)	ND (13.3)	0.536 J (13.3)	0.323 J (6.66)	ND (0.505)	ND (7.63)	ND (7.5)	ND (8.05)	ND (13.3)
Naphthalene	66	77	25	1.98 (0.333)	0.101 (0.0333)	44.3 (1.33)	52 (1.33)	16.9 (0.666)	0.266 (0.0505)	0.42 J (0.763)	0.446 J (0.75)	0.547 J (0.805)	1.43 (1.33)
Phenanthrene	190000	190000	10000	16.2 (0.333)	0.499 (0.0333)	82.8 (6.66)	112 (6.66)	21.6 (0.666)	0.964 (0.0505)	1.66 (0.763)	138 (3.75)	8.91 (0.805)	28.3 (1.33)
Phenol	16000	18000	200	0.177 J (3.33)	0.0141 J (0.333)	ND (13.3)	0.677 J (13.3)	0.335 J (6.66)	ND (0.505)	0.409 J (7.63)	ND (7.5)	ND (8.05)	ND (13.3)
bis(2-Ethylhexyl)phthalate	6500	10000	130	ND (3.33)	ND (0.333)	ND (13.3)	ND (13.3)	ND (6.66)	ND (0.505)	ND (7.63)	ND (7.5)	ND (8.05)	ND (13.3)
Di-n-butylphthalate	10000	10000	4000	ND (3.33)	ND (0.333)	ND (13.3)	ND (13.3)	ND (6.66)	ND (0.505)	ND (7.63)	ND (7.5)	ND (8.05)	ND (13.3)
Pyrene	96000	190000	2200	5.34 (0.333)	1.22 (0.0333)	41.9 (1.33)	58.7 (1.33)	13.7 (0.666)	0.389 (0.0505)	7.71 (0.763)	160 (3.75)	38.7 (0.805)	37.9 (1.33)
Metals													
Antimony	1300	190000	27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	61	190000	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (total)	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium VI	180	140000	190	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide (total)	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	64000	190000	650	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	16000	190000	49000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 The PADEP MSCs for 4-Methylphenol are used as a surrogate for the criteria for 3&4-Methylpheno
3 Grey shaded concentrations exceed the Surface or Subsurface Non-Res Direct Contact with Soil MS
4 Underlined concentrations exceed the Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration
J4 - The associated batch QC was outside the established quality control range for accuracy
T8 - Sample(s) received past/too close to holding time expiration

Table 2
Summary of Soil Analytical Results
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Res Direct Contact MSCs for Surface Soil (0-2 ft)	Non-Res Direct Contact MSCs for Subsurface Soil (2-15 ft)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC	GPSP-MW01	GPSP-MW01	GPSP-MW01	GPSP-MW02	GPSP-MW02	GPSP-MW02
Field Sample ID				GPSP-MW01-3.5-4.0	GPSP-16-SS01	GPSP-MW01-4.5-5.0	GPSP-MW02-1.5-2.0	GPSP-MW02-2.5-3.0	GPSP-MW02-4.0-4.5
Collection Depth (ft bgs)				3.5 - 4.0	4.0 - 4.5	4.5 - 5.0	1.5 - 2.0	2.5 - 3.0	4.0 - 4.5
Sample Method				Grab	Grab	Grab	Grab	Grab	Grab
Sample Date				2/9/2024	9/7/2023	2/9/2024	2/9/2024	2/9/2024	2/9/2024
Comments									
Volatile Organic Compounds									
Benzene	280	330	0.5	0.34 (0.044)	4.4 (0.4)	0.5 (0.039)	1.6 (0.19)	5.2 (0.34)	1.8 (0.39)
Carbon Disulfide	10000	10000	620	ND (0.89)	ND (8.1)	ND (0.78)	ND (3.7)	ND (6.7)	ND (7.8)
Cumene	10000	10000	2500	5.5 (0.089)	11 (0.81)	3.5 (0.078)	1.9 (0.37)	13 (0.67)	17 (0.78)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.044)	ND (0.4)	ND (0.039)	ND (0.19)	ND (0.34)	ND (0.39)
1,2-Dichloroethane	85	98	0.5	ND (0.089)	ND (0.81)	ND (0.078)	ND (0.37)	ND (0.67)	ND (0.78)
Ethyl Benzene	880	1000	70	1.7 (0.089)	13 (0.81)	0.2 (0.078)	2.6 (0.37)	55 (0.67)	2.3 (0.78)
Methyl tert-butyl ether	8500	9800	2	ND (0.18)	ND (1.6)	ND (0.16)	ND (0.74)	ND (1.3)	ND (1.6)
Toluene	10000	10000	100	0.2 (0.089)	12 (0.81)	0.58 (0.078)	1.7 (0.37)	13 (0.67)	4.5 (0.78)
1,2,4-Trimethylbenzene	4700	5400	300	0.75 (0.18)	86 (1.6)	0.13 J (0.16)	0.28 J (0.74)	4.2 (1.3)	0.78 J (1.6)
1,3,5-Trimethylbenzene	4700	5400	93	0.045 J (0.18)	20 (1.6)	0.056 J (0.16)	2.1 (0.74)	18 (1.3)	2 (1.6)
Xylenes (total)	7900	9100	1000	0.82 (0.089)	71 (0.81)	2.2 (0.078)	5.3 (0.37)	38 (0.67)	8.4 (0.78)
Semivolatile Organic Compounds									
Acenaphthene	190000	190000	4700	57.7 (1.33)	74.6 (16.7)	12.8 (1.33)	0.0857 (0.0423)	0.208 (0.0392)	0.415 (0.0419)
Anthracene	190000	190000	350	88.9 (13.3)	124 (16.7)	10.9 (1.33)	0.181 (0.0423)	0.144 (0.0392)	0.161 (0.0419)
Benzo(a)anthracene	130	190000	340	117 (13.3)	151 (16.7)	8.96 (1.33)	0.727 (0.0423)	0.334 (0.0392)	0.297 (0.0419)
Benzo(a)pyrene	91	190000	46	103 (13.3)	144 (16.7)	6.36 (1.33)	0.677 (0.0423)	0.293 (0.0392)	0.208 (0.0419)
Benzo(b)fluoranthene	76	190000	170	125 (13.3)	154 (16.7)	7.32 (1.33)	0.839 (0.0423)	0.471 (0.0392)	0.275 (0.0419)
Benzo(g,h,i)perylene	190000	190000	180	33.2 (1.33)	40.4 (0.834)	1.75 (1.33)	0.328 (0.0423)	0.181 (0.0392)	0.107 (0.0419)
Benzo(k)fluoranthene	76	190000	610	40.2 (1.33)	55.2 (0.834)	2.45 (1.33)	0.308 (0.0423)	0.148 (0.0392)	0.0831 (0.0419)
Chrysene	760	190000	230	94.3 (13.3)	158 (16.7)	6.71 (1.33)	0.613 (0.0423)	0.386 (0.0392)	0.219 (0.0419)
Dibenz(a,h)anthracene	22	190000	270	9.93 (1.33)	11.9 (0.834)	0.622 J (1.33)	0.112 (0.0423)	0.0512 (0.0392)	0.036 J (0.0419)
7,12-Dimethylbenz(a)anthracene	--	--	--	NDT8 (17.6)	ND (0.834)	NDT8 (17)	ND (0.423)	ND (0.392)	ND (0.419)
2,4-Dimethylphenol	10000	10000	190	ND (13.3)	ND (0.834)	ND (13.3)	ND (0.423)	ND (0.392)	ND (0.419)
Fluorene	130000	190000	3800	84.1 (13.3)	105 (16.7)	13 (1.33)	0.131 (0.0423)	0.371 (0.0392)	0.879 (0.0419)
Indeno(1,2,3-cd)pyrene	76	190000	18000	45 (1.33)	65.7 (16.7)	2.14 (1.33)	0.418 (0.0423)	0.205 (0.0392)	0.112 (0.0419)
3-Methylcholanthrene	--	--	--	NDT8 (17.6)	ND (4.11)	NDT8 (17)	ND (0.423)	ND (0.392)	ND (0.419)
2-Methylphenol	160000	190000	490	ND (13.3)	ND (0.834)	0.535 J (13.3)	ND (0.423)	ND (0.392)	ND (0.419)
3&4-Methylphenol	16000	190000	49	ND (13.3)	0.896 (0.834)	0.557 J (13.3)	ND (0.423)	ND (0.392)	ND (0.419)
Naphthalene	66	77	25	6.68 (1.33)	152 (16.7)	1.75 (1.33)	1.01 (0.0423)	2.21 (0.783)	ND (0.0419)
Phenanthrene	190000	190000	10000	360 (13.3)	471 (16.7)	3.22 (1.33)	0.469 (0.0423)	1.01 (0.0392)	1.89 (0.0419)
Phenol	16000	18000	200	ND (13.3)	ND (0.834)	1.02 J (13.3)	ND (0.423)	ND (0.392)	0.365 J (0.419)
bis(2-Ethylhexyl)phthalate	6500	10000	130	ND (13.3)	ND (0.834)	ND (13.3)	ND (0.423)	ND (0.392)	ND (0.419)
Di-n-butylphthalate	10000	10000	4000	ND (13.3)	ND (0.834)	ND (13.3)	ND (0.423)	ND (0.392)	ND (0.419)
Pyrene	96000	190000	2200	242 (13.3)	292 (16.7)	23.6 (1.33)	0.894 (0.0423)	0.608 (0.0392)	0.543 (0.0419)
Metals									
Antimony	1300	190000	27	NA	2.77 (2.37)	NA	NA	NA	NA
Arsenic	61	190000	29	NA	10.5 (0.474)	NA	NA	NA	NA
Chromium (total)	--	--	--	NA	146 (0.474)	NA	NA	NA	NA
Chromium VI	180	140000	190	NA	ND (0.996)	NA	NA	NA	NA
Cyanide (total)	--	--	--	NA	0.88 J (1.2)	NA	NA	NA	NA
Lead	1000	190000	450	NA	226 (2.37)	NA	NA	NA	NA
Nickel	64000	190000	650	NA	40 (1.18)	NA	NA	NA	NA
Vanadium	16000	190000	49000	NA	108 (0.474)	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 The PADEP MSCs for 4-Methylphenol are used as a surrogate for the criteria for 3&4-Methylpheno
3 Grey shaded concentrations exceed the Surface or Subsurface Non-Res Direct Contact with Soil MS
4 Underlined concentrations exceed the Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC.

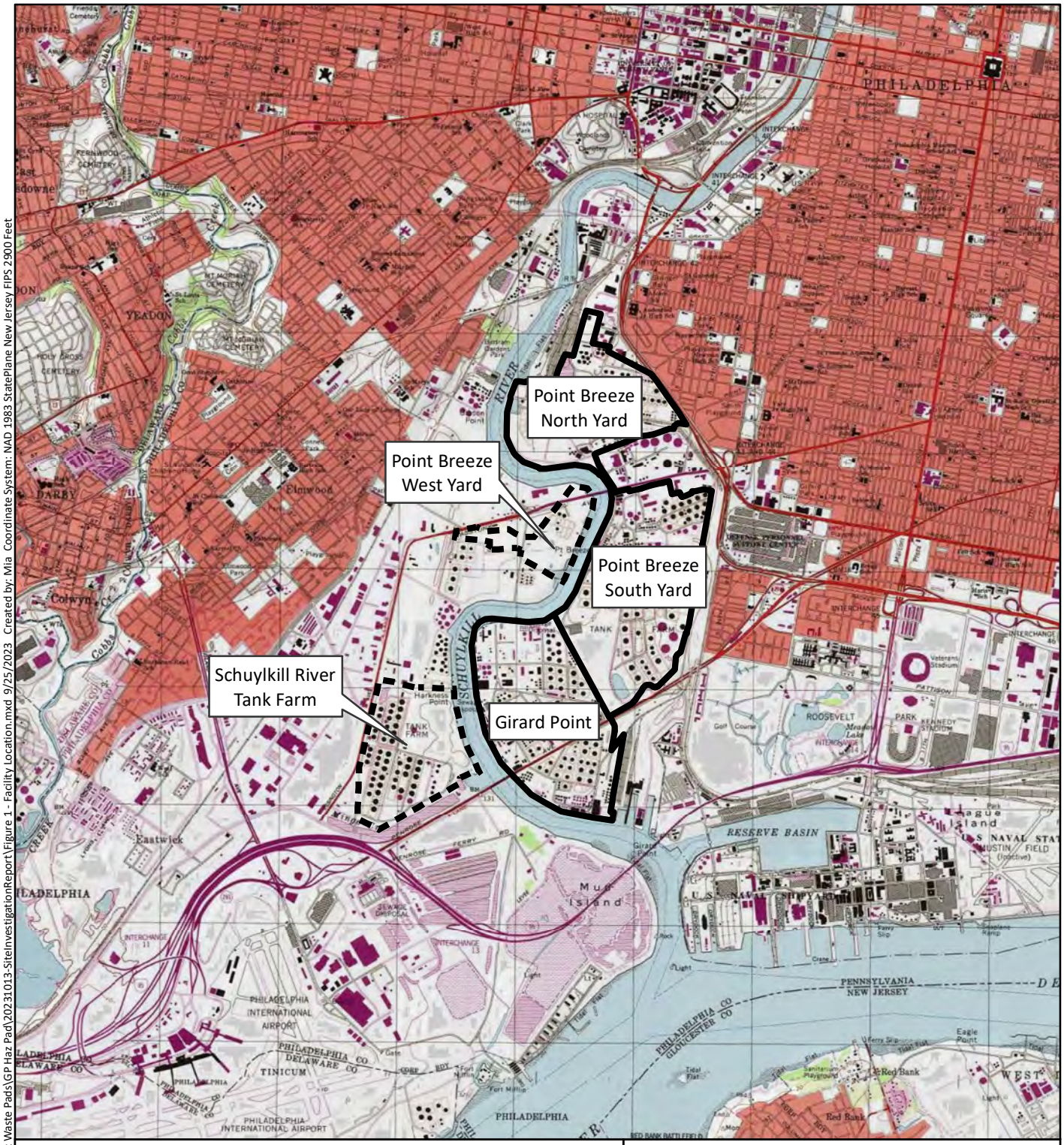
Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration
J4 - The associated batch QC was outside the established quality control range for accuracy
T8 - Sample(s) received past/too close to holding time expiration

Table 3
Summary Statistics
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Area	Chem Group	Chemical	CASRN	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)
GP Waste Storage Area	VOC	Benzene	71-43-2	46	43	0.00022	5.3
Site-Wide	VOC	Benzene	71-43-2	4195	1976	0.0000020	12,000
GP Waste Storage Area	SVOC	Benzo(a)pyrene	50-32-8	46	44	0.21	140
Site-Wide	SVOC	Benzo(a)pyrene	50-32-8	3448	2152	0.00018	290
GP Waste Storage Area	SVOC	7,12-Dimethylbenz(a)anthracene	57-97-6	46	13	1.1	39
GP Waste Storage Area	SVOC	Naphthalene	91-20-3	46	34	0.10	150
Site-Wide	SVOC	Naphthalene	91-20-3	4066	2262	0.000055	220
GP Waste Storage Area	INORG	Arsenic	7440-38-2	23	23	0.92	54
Site-Wide	INORG	Arsenic	7440-38-2	154	153	0.55	61
GP Waste Storage Area	INORG	Lead	7439-92-1	23	23	4.0	6,700
Site-Wide	INORG	Lead	7439-92-1	3727	3686	0.0070	95,000

Figures

1 Facility Location
2 Site Location
3 Site Layout
4 Soil Sample Results
5a General Distribution of Benzo(a)pyrene in Soil (Site-Wide)
5b General Distribution of Naphthalene in Soil (Site-Wide)
5c Comparison of General Distribution of PAHs in Soil
5d General Distribution of Arsenic in Soil (Site-Wide)
5e General Distribution of Lead in Soil (Site-Wide)
5f General Distribution of Benzene in Soil (Site-Wide)



0 2,000 4,000 6,000 Feet

1 inch = 4,000 feet

N

Legend

Subject to AST Closure Plan

Not Subject to AST Closure Plan

Base Map: USGS Philadelphia 1994 7.5 Minute Quadrangle.

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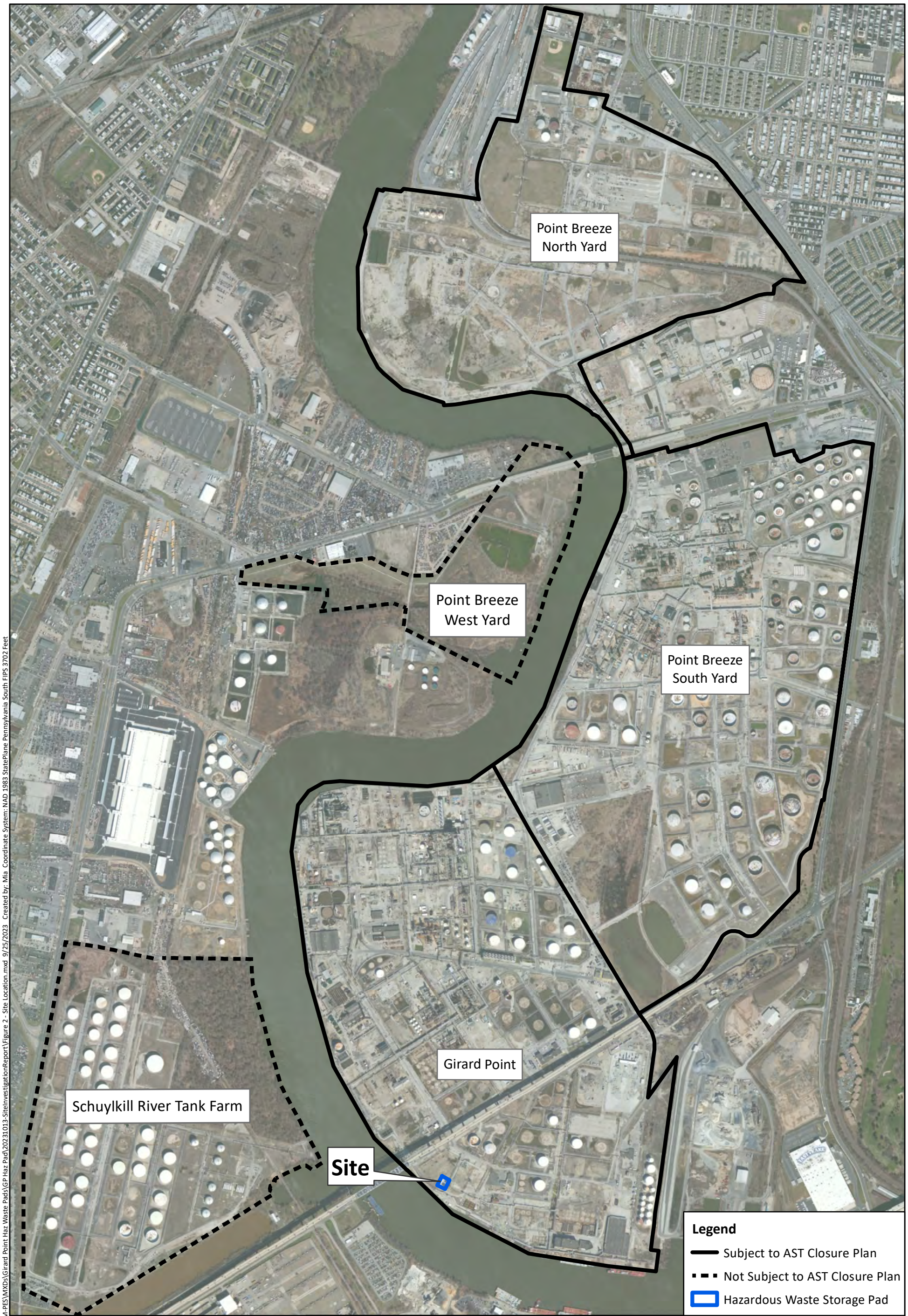
CLIENT:	Philadelphia Energy Solutions Refining and Marketing LLC
PROJECT:	Girard Point Hazardous Waste Storage Pad
PROJECT NUMBER:	P044.001.011

Facility Location

Figure 1

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\GP Haz Pad\20231013-SiteInvestigationReport\Figure 1 - Facility Location.mxd 9/25/2023 Created by: Mia Coordinate System: NAD 1983 StatePlane New Jersey FIPS 2900 Feet



N

0 500 1,000 1,500 Feet

1 inch = 1,000 feet

Notes: Aerial imagery source Maxar 10/19/2019

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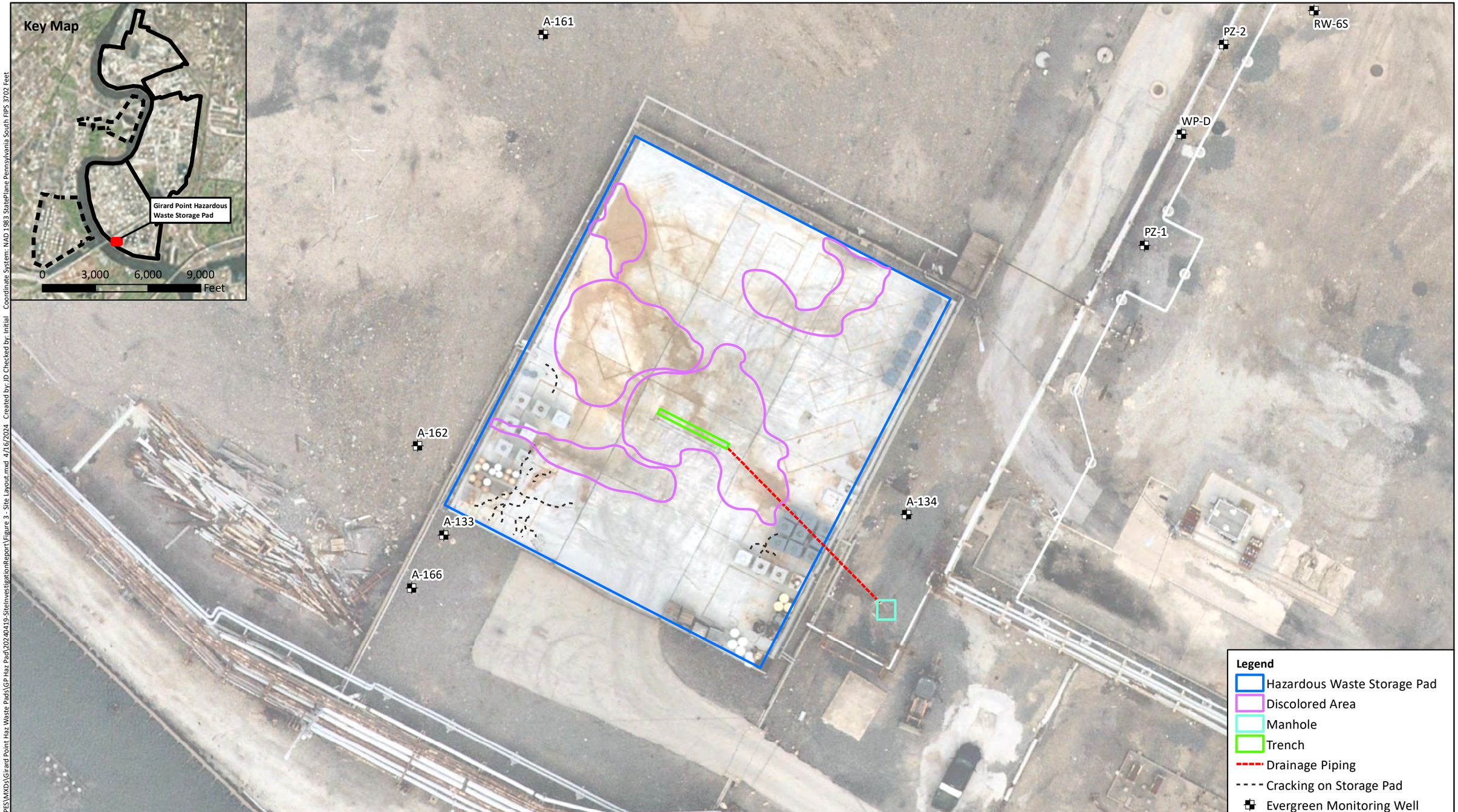
PROJECT:	Girard Point Hazardous Waste Storage Pad
PROJECT NUMBER:	P044.001.011

Site Location

Figure 2

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\GP Haz Pad\20231013-SiteInvestigationReport\Figure 2 - Site Location.mxd 9/25/2023 Created by: Mia Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet



Note:
Aerial imagery source NearMap (April 2018)

0 25 50 Feet
1 inch = 25 feet

N

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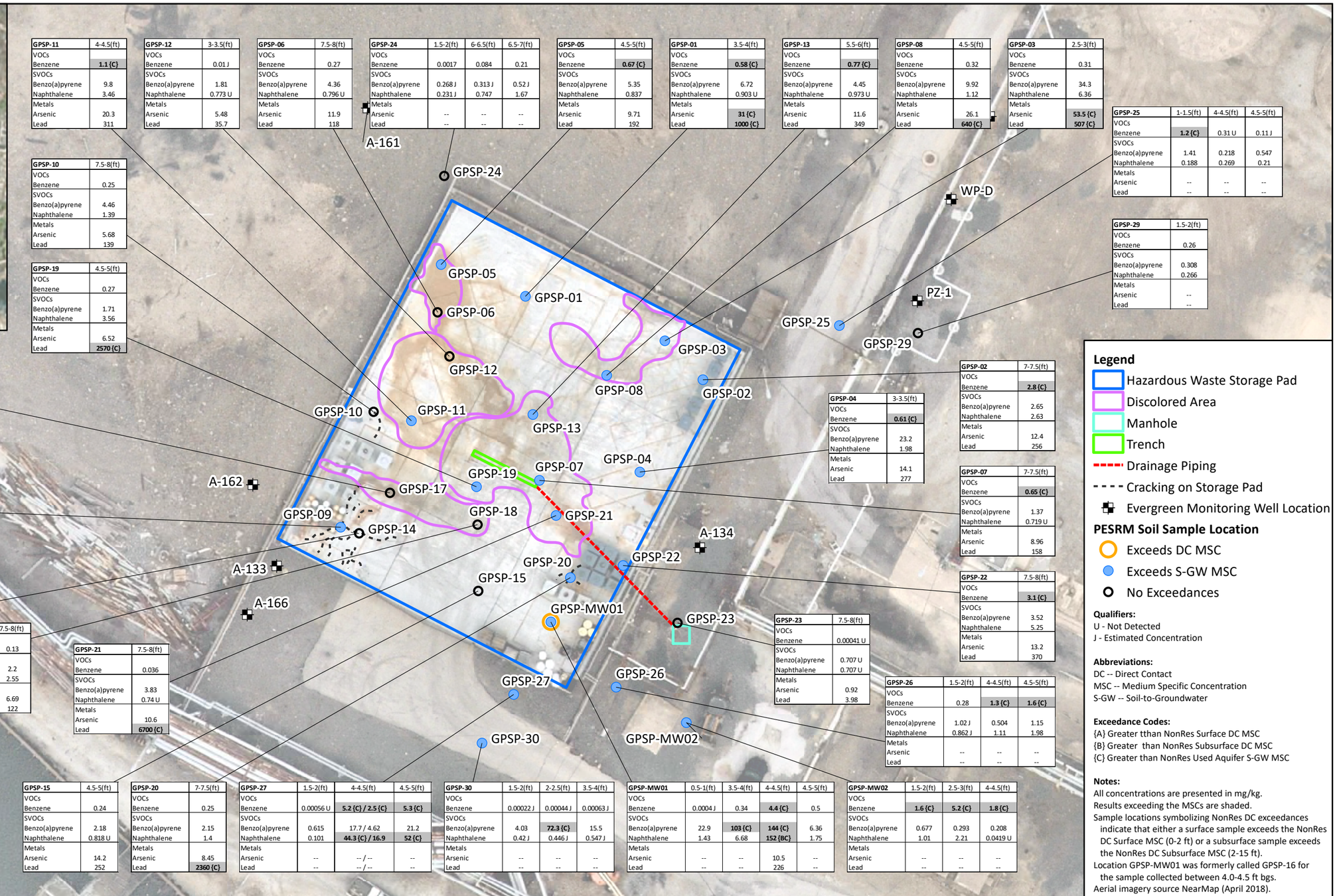
PROJECT:	Girard Point Hazardous Waste Storage Pad
PROJECT NUMBER:	P044.001.011

Site Layout

Figure 3

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\GP Haz Pad\20240419-SiteInvestigationReport\Figure 3 - Site Layout.mxd 4/16/2024 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet



GPSP-11	4-4.5(ft)
VOCs	
Benzene	1.1 (C)
SVOCs	
Benzo(a)pyrene	9.8
Naphthalene	3.46
Metals	
Arsenic	20.3
Lead	311

GPSP-12	3-3.5(ft)
VOCs	
Benzene	0.01 J
SVOCs	
Benzo(a)pyrene	1.81
Naphthalene	0.773 U
Metals	
Arsenic	5.48
Lead	35.7

GPSP-06	7.5-8(ft)
VOCs	
Benzene	0.27
SVOCs	
Benzo(a)pyrene	4.36
Naphthalene	0.796 U
Metals	
Arsenic	11.9
Lead	118

GPSP-24	1.5-2(ft)	6-6.5(ft)	6.5-7(ft)
VOCs			
Benzene	0.0017	0.084	0.21
SVOCs			
Benzo(a)pyrene	0.268 J	0.313 J	0.52 J
Naphthalene	0.231 J	0.747	1.67
Metals			
Arsenic	--	--	--
Lead	--	--	--

GPSP-05	4.5-5(ft)
VOCs	
Benzene	0.67 (C)
SVOCs	
Benzo(a)pyrene	5.35
Naphthalene	0.837
Metals	
Arsenic	9.71
Lead	192

GPSP-01	3.5-4(ft)
VOCs	
Benzene	0.58 (C)
SVOCs	
Benzo(a)pyrene	6.72
Naphthalene	0.903 U
Metals	
Arsenic	31 (C)
Lead	1000 (C)

GPSP-13	5.5-6(ft)
VOCs	
Benzene	0.77 (C)
SVOCs	
Benzo(a)pyrene	4.45
Naphthalene	0.973 U
Metals	
Arsenic	11.6
Lead	349

GPSP-08	4.5-5(ft)
VOCs	
Benzene	0.32
SVOCs	
Benzo(a)pyrene	9.92
Naphthalene	1.12
Metals	
Arsenic	26.1
Lead	640 (C)

GPSP-03	2.5-3(ft)
VOCs	
Benzene	0.31
SVOCs	
Benzo(a)pyrene	34.3
Naphthalene	6.36
Metals	
Arsenic	53.5 (C)
Lead	507 (C)

GPSP-25	1-1.5(ft)	4-4.5(ft)	4.5-5(ft)
VOCs			
Benzene	1.2 (C)	0.31 U	0.11 J
SVOCs			
Benzo(a)pyrene	1.41	0.218	0.547
Naphthalene	0.188	0.269	0.21
Metals			
Arsenic	--	--	--
Lead	--	--	--

GPSP-29	1.5-2(ft)
VOCs	
Benzene	0.26
SVOCs	
Benzo(a)pyrene	0.308
Naphthalene	0.266
Metals	
Arsenic	--
Lead	--

GPSP-10	7.5-8(ft)
VOCs	
Benzene	0.25
SVOCs	
Benzo(a)pyrene	4.46
Naphthalene	1.39
Metals	
Arsenic	5.68
Lead	139

GPSP-19	4.5-5(ft)
VOCs	
Benzene	0.27
SVOCs	
Benzo(a)pyrene	1.71
Naphthalene	3.56
Metals	
Arsenic	6.52
Lead	2570 (C)

GPSP-17	7-7.5(ft)
VOCs	
Benzene	0.064
SVOCs	
Benzo(a)pyrene	1.65
Naphthalene	0.792 U
Metals	
Arsenic	4.47
Lead	300

GPSP-09	2.5-3(ft)
VOCs	
Benzene	0.15
SVOCs	
Benzo(a)pyrene	0.774 U
Naphthalene	0.774 U
Metals	
Arsenic	5.29
Lead	695 (C)

GPSP-14	4.5-5(ft)
VOCs	
Benzene	0.12
SVOCs	
Benzo(a)pyrene	4.24
Naphthalene	0.804 U
Metals	
Arsenic	9.76
Lead	257

GPSP-18	7.5-8(ft)
VOCs	
Benzene	0.13
SVOCs	
Benzo(a)pyrene	2.2
Naphthalene	2.55
Metals	
Arsenic	6.69
Lead	122

GPSP-21	7.5-8(ft)
VOCs	
Benzene	0.036
SVOCs	
Benzo(a)pyrene	3.83
Naphthalene	0.74 U
Metals	
Arsenic	10.6
Lead	6700 (C)

GPSP-04	3-3.5(ft)
VOCs	
Benzene	0.61 (C)
SVOCs	
Benzo(a)pyrene	23.2
Naphthalene	1.98
Metals	
Arsenic	14.1
Lead	277

GPSP-02	7-7.5(ft)
VOCs	
Benzene	2.8 (C)
SVOCs	
Benzo(a)pyrene	2.65
Naphthalene	2.63
Metals	
Arsenic	12.4
Lead	256

GPSP-07	7-7.5(ft)
VOCs	
Benzene	0.65 (C)
SVOCs	
Benzo(a)pyrene	1.37
Naphthalene	0.719 U
Metals	
Arsenic	8.96
Lead	158

GPSP-22	7.5-8(ft)
VOCs	
Benzene	3.1 (C)
SVOCs	
Benzo(a)pyrene	3.52
Naphthalene	5.25
Metals	
Arsenic	13.2
Lead	370

GPSP-23	7.5-8(ft)
VOCs	
Benzene	0.00041 U
SVOCs	
Benzo(a)pyrene	0.707 U
Naphthalene	0.707 U
Metals	
Arsenic	0.92
Lead	3.98

GPSP-26	1.5-2(ft)	4-4.5(ft)	4.5-5(ft)
VOCs			
Benzene	0.28	1.3 (C)	1.6 (C)
SVOCs			
Benzo(a)pyrene	1.02 J	0.504	1.15
Naphthalene	0.862 J	1.11	1.98
Metals			
Arsenic	--	--	--
Lead	--	--	--

Soil Screening Levels			
Chemical	{A} PADEP Non-Res Direct Contact with Surface Soil MSCs (mg/kg)	{B} PADEP Non-Res Direct Contact with Subsurface Soil MSCs (mg/kg)	{C} PADEP Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSCs (mg/kg)
VOCs			
Benzene	280	330	0.5
SVOCs			
Benzo(a)pyrene	91	190000	46
Naphthalene	66	77	25
Metals			
Arsenic	61	190000	29
Lead	1000	190000	450

GPSP-15	4.5-5(ft)
VOCs	
Benzene	0.24
SVOCs	
Benzo(a)pyrene	2.18
Naphthalene	0.818 U
Metals	
Arsenic	14.2
Lead	252

GPSP-20	7-7.5(ft)
VOCs	
Benzene	0.25
SVOCs	
Benzo(a)pyrene	2.15
Naphthalene	1.4
Metals	
Arsenic	8.45
Lead	2360 (C)

GPSP-27	1.5-2(ft)	4-4.5(ft)	4.5-5(ft)
VOCs			
Benzene	0.00056 U	5.2 (C) / 2.5 (C)	5.3 (C)
SVOCs			
Benzo(a)pyrene	0.615	17.7 / 4.62	21.2
Naphthalene	0.101	44.3 (C) / 16.9	52 (C)
Metals			
Arsenic	--	-- / --	--
Lead	--	-- / --	--

GPSP-30	1.5-2(ft)	2-2.5(ft)	3.5-4(ft)
VOCs			
Benzene	0.00022 J	0.00044 J	0.00063 J
SVOCs			
Benzo(a)pyrene	4.03	72.3 (C)	15.5
Naphthalene	0.42 J	0.446 J	0.547 J
Metals			
Arsenic	--	--	--
Lead	--	--	--

GPSP-MW01	0.5-1(ft)	3.5-4(ft)	4-4.5(ft)	4.5-5(ft)
VOCs				
Benzene	0.0004 J	0.34	4.4 (C)	0.5
SVOCs				
Benzo(a)pyrene	22.9	103 (C)	144 (C)	6.36
Naphthalene	1.43	6.68	152 (BC)	1.75
Metals				
Arsenic	--	--	10.5	--
Lead	--	--	226	--

GPSP-MW02	1.5-2(ft)	2.5-3(ft)	4-4.5(ft)
VOCs			
Benzene	1.6 (C)	5.2 (C)	1.8 (C)
SVOCs			
Benzo(a)pyrene	0.677	0.293	0.208
Naphthalene	1.01	2.21	0.0419 U
Metals			
Arsenic	--	--	--
Lead	--	--	--

Legend

- Hazardous Waste Storage Pad
- Discolored Area
- Manhole
- Trench
- Drainage Piping
- Cracking on Storage Pad
- Evergreen Monitoring Well Location

PESRM Soil Sample Location

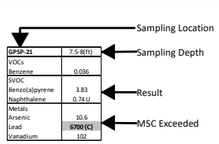
- Exceeds DC MSC
- Exceeds S-GW MSC
- No Exceedances

Qualifiers:
U - Not Detected
J - Estimated Concentration

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

Exceedance Codes:
{A} Greater tthan NonRes Surface DC MSC
{B} Greater than NonRes Subsurface DC MSC
{C} Greater than NonRes Used Aquifer S-GW MSC

Notes:
All concentrations are presented in mg/kg.
Results exceeding the MSCs are shaded.
Sample locations symbolizing NonRes DC exceedances indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
Location GPSP-MW01 was formerly called GPSP-16 for the sample collected between 4.0-4.5 ft bgs.
Aerial imagery source NearMap (April 2018).



0 30 60 Feet

1 inch = 30 feet

N

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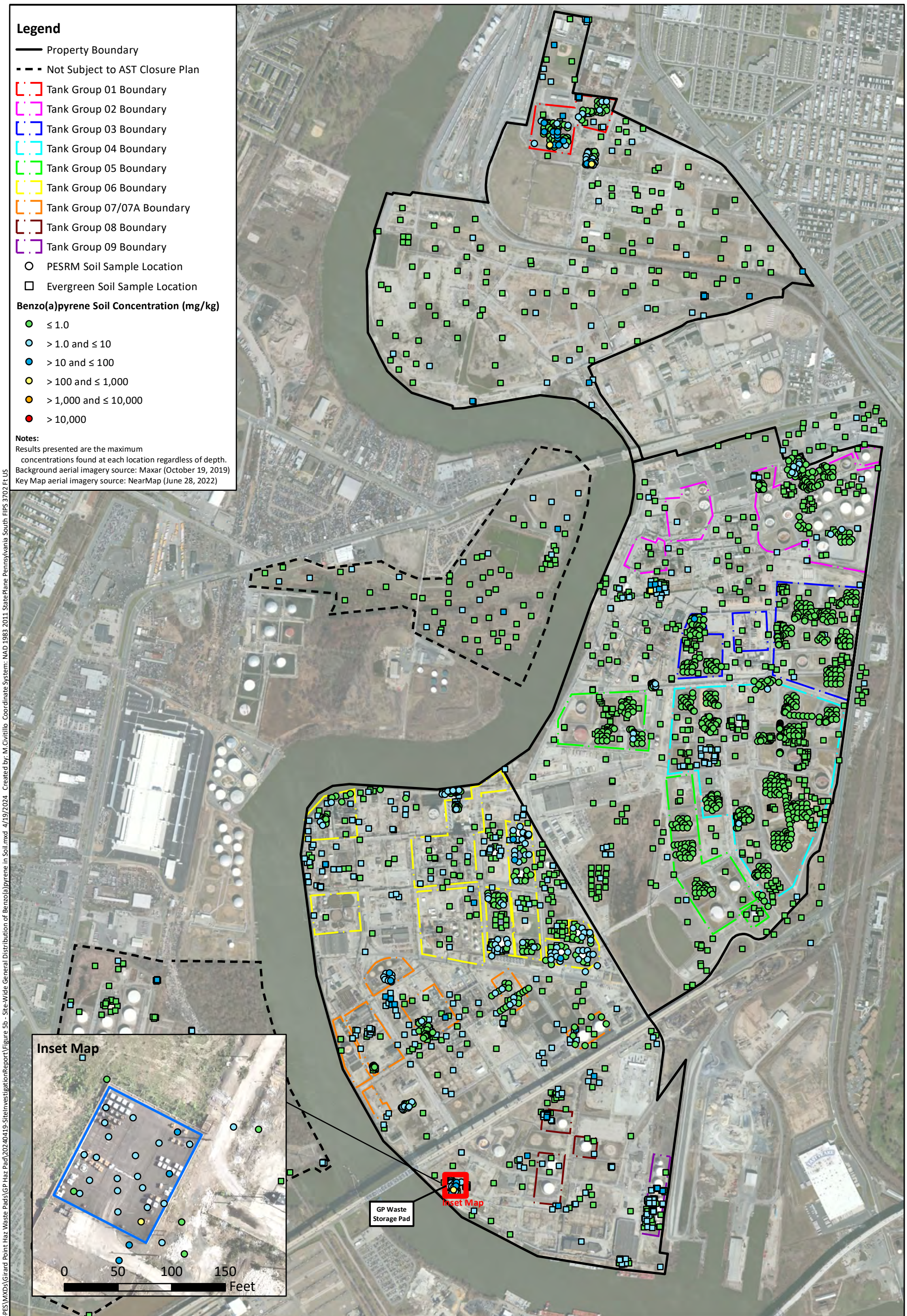
CLIENT:	Philadelphia Energy Solutions Refining and Marketing LLC
PROJECT:	Girard Point Hazardous Waste Storage Pad
PROJECT NUMBER:	P044.001.011

Soil Sample Results

Figure 4

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\GP Haz Pad\20240419-SiteInvestigationReport\Figure 4 - Soil Sample Results.mxd 4/16/2024 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet



File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\GP Haz Pad\20240419-SiteInvestigationReport\Figure 5b - Site-Wide General Distribution of Benzo(a)pyrene in Soil.mxd 4/19/2024 Created by: M.Civitillo Coordinate System: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702 Ft US

N

0 500 1,000 Feet

1 inch = 1,000 feet

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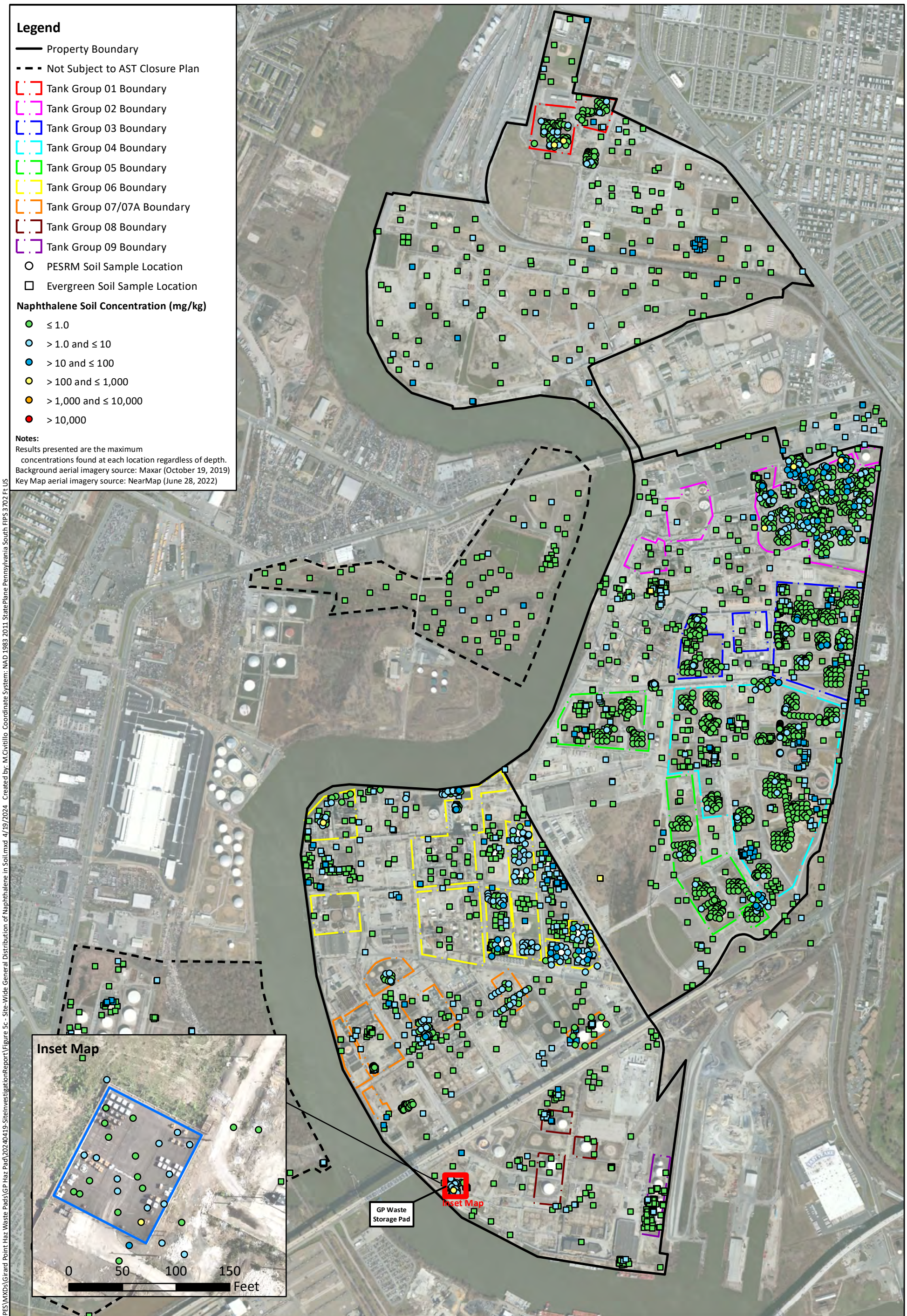
PROJECT NUMBER:	P044.001.011

General Distribution of Benzo(a)pyrene in Soil

Figure 5a



File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\GP Haz Pad\20240419-SiteInvestigationReport\Figure 5c - Site-Wide General Distribution of Naphthalene in Soil.mxd 4/19/2024 Created by: M.Civitillo Coordinate System: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702 Ft US

N

0 500 1,000 Feet

1 inch = 1,000 feet

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General Distribution of Naphthalene in Soil

Figure 5b

Notes:
Results presented are the maximum concentrations found at each location regardless of depth.
Aerial imagery source NearMap (April 2018).

0 40 80 Feet
1 inch = 40 feet

N

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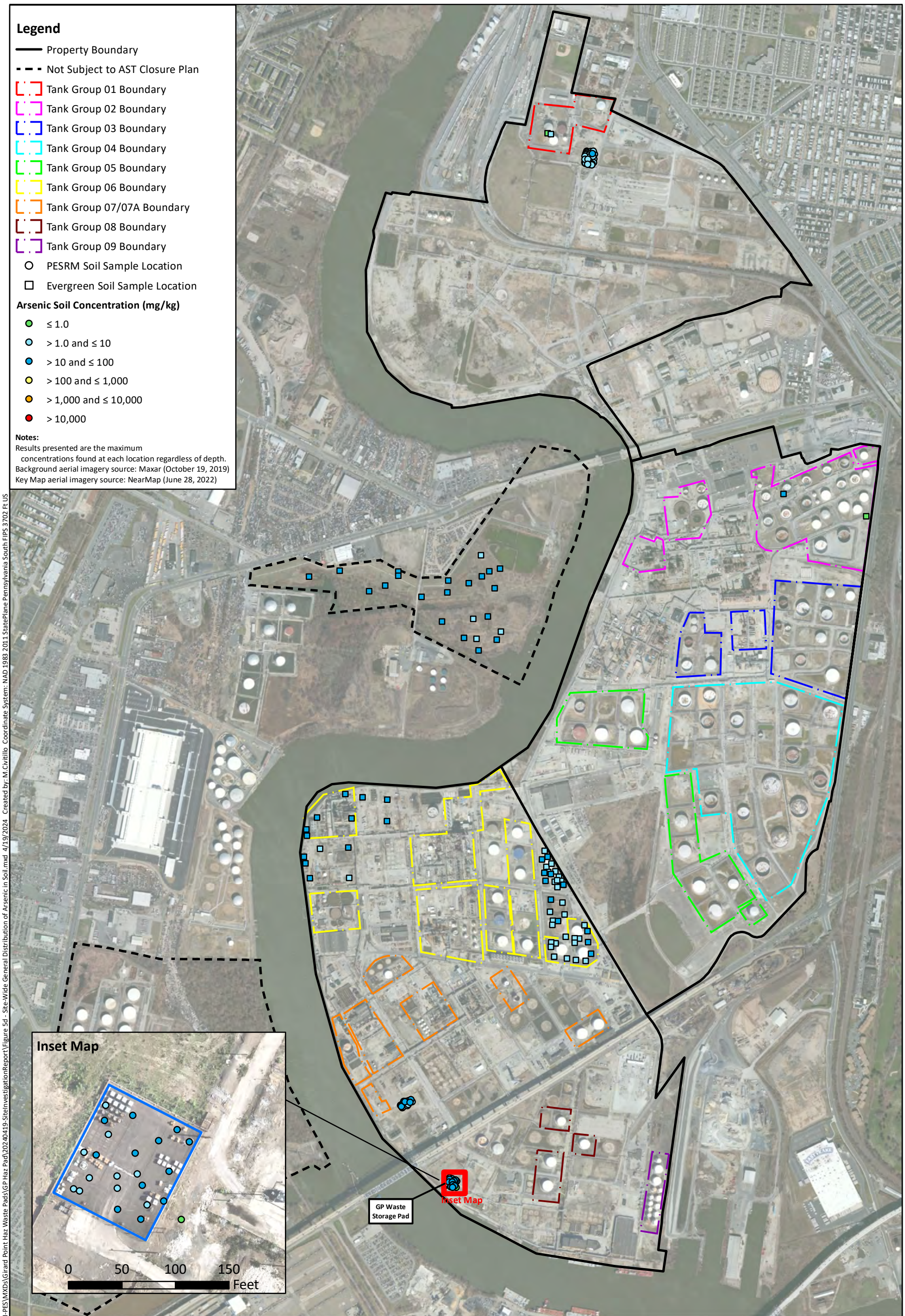
PROJECT:	Girard Point Hazardous Waste Storage Pad
PROJECT NUMBER:	P044.001.011

Comparison of General Distribution of PAHs in Soil

Figure 5c

File: N:\GIS\Pr\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\GP Haz Pad\20240419-SiteInvestigationReport\Figure 5c - Comparison of General Conc Distribution in Soil.mxd 5/13/2024 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet



File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\GP Haz Pad\20240419-SiteInvestigationReport\Figure 5d - Site-Wide General Distribution of Arsenic in Soil.mxd 4/19/2024 Created by: M.Civitillo Coordinate System: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702 Ft US

N

0 500 1,000 Feet

1 inch = 1,000 feet

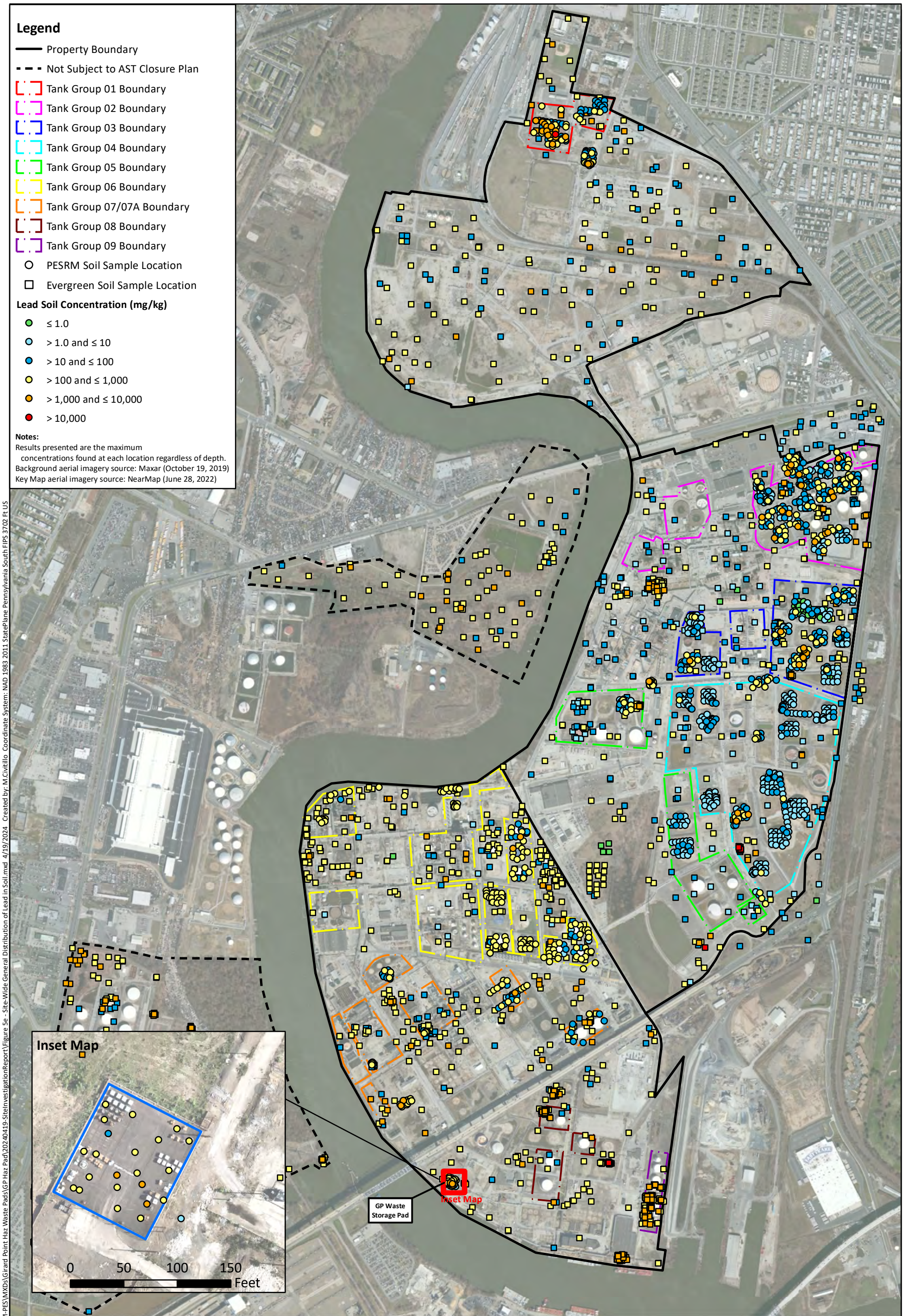
SAFETY FIRST

terraphase engineering

CLIENT:	Philadelphia Energy Solutions Refining and Marketing LLC
PROJECT:	Girard Point Hazardous Waste Storage Pad
PROJECT NUMBER:	P044.001.011

General Distribution of Arsenic in Soil

Figure 5d



File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\GP Haz Pad\20240419-SiteInvestigationReport\Figure 5e - Site-Wide General Distribution of Lead in Soil.mxd 4/19/2024 Created by: M.Civitillo Coordinate System: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702 Ft US

N

0 500 1,000 Feet

1 inch = 1,000 feet

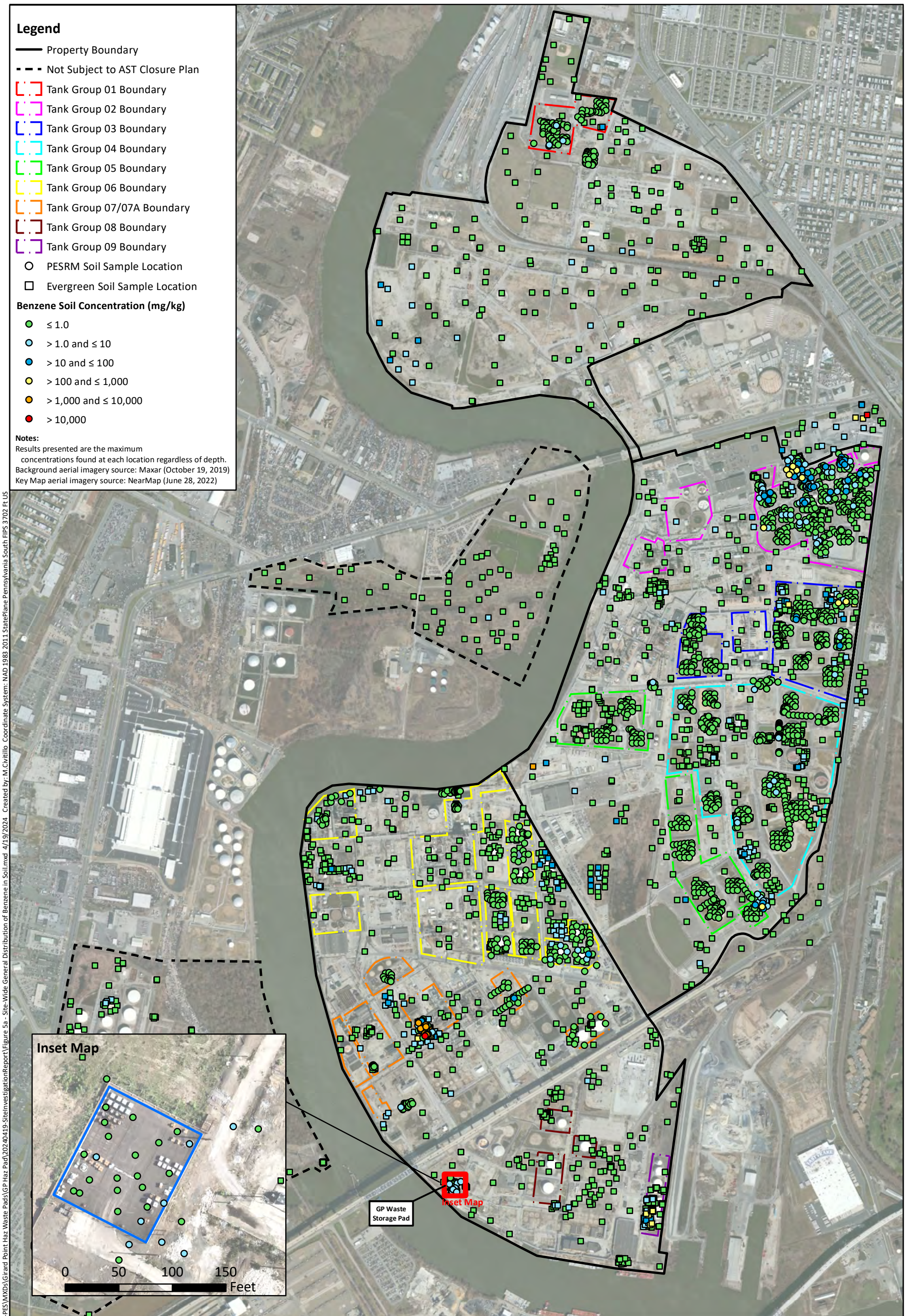
SAFETY FIRST

terraphase engineering

CLIENT:	Philadelphia Energy Solutions Refining and Marketing LLC
PROJECT:	Girard Point Hazardous Waste Storage Pad
PROJECT NUMBER:	P044.001.011

General Distribution of Lead in Soil

Figure 5e



File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\GP Haz Pad\20240419-SiteInvestigationReport\Figure 5a - Site-Wide General Distribution of Benzene in Soil.mxd 4/19/2024 Created by: M.Civitillo Coordinate System: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702 Ft US

N

0 500 1,000 Feet

1 inch = 1,000 feet

SAFETY FIRST

terraphase engineering

CLIENT:	Philadelphia Energy Solutions Refining and Marketing LLC
PROJECT:	Girard Point Hazardous Waste Storage Pad
PROJECT NUMBER:	P044.001.011

General Distribution of Benzene in Soil

Figure 5f

Appendix A

Figure 4 and 5A from Evergreen's Remedial Investigation Report for AOI 5

N
W E
S

Legend

- Monitoring Wells in A-A' Cross Section
- Monitoring Wells in B-B' Cross Section
- Lower Aquifer Monitoring Well
- Unconfined Aquifer Monitoring Well
- Unconfined Aquifer Piezometer
- Unconfined Aquifer Recovery Well
- Monitoring Well Abandoned/Damaged/ Unable to Locate
- A — A' AOI-5 Cross Section Location
- B — B' AOI-5 Cross Section Location
- Sheet Pile Wall
- AOI Boundary

Notes:
1. Aerial basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online. Source of aerial imagery is Microsoft, 3/19/2011 (Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community)
2. Area of Interest boundaries referenced from 2011 ALTA/ACSM Land Title Survey, prepared for Sunoco Inc. (R&S).

Figure 4: Geologic Cross Section Location Plan
AOI-5 Remedial Investigation Report
PES Philadelphia Refinery
Philadelphia, Pennsylvania

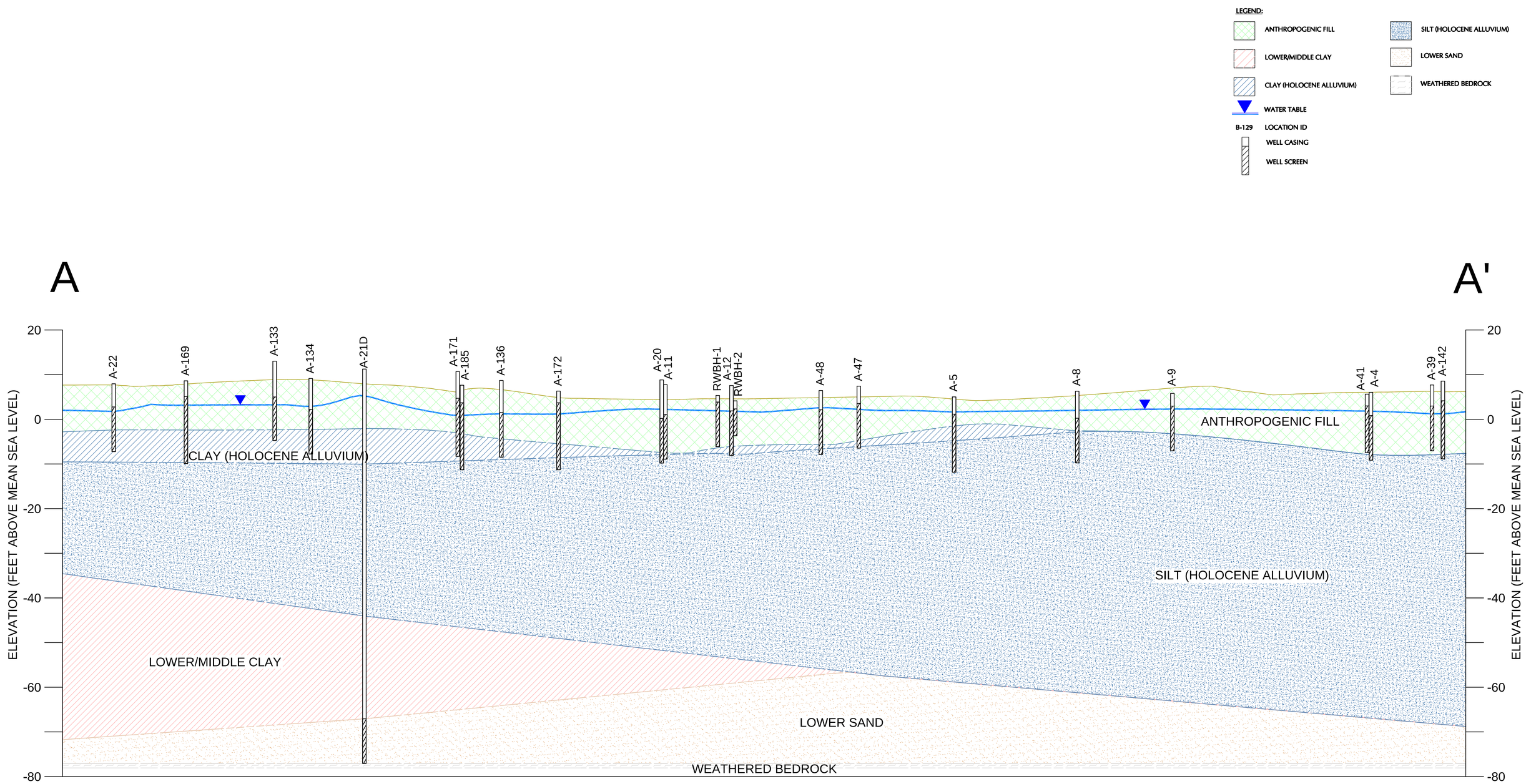
EVERGREEN

Philadelphia Refinery Operations
A Series of Evergreen Resources Group, LLC.
2 Righter Parkway, Suite 200
Wilmington, DE 19803

0 150 300 Feet

SCALE: 1" = 150'
DATE: 12/6/2016
DRN. BY: AJC
CKD. BY: KM
JOB#: 2574602

Path: \\Langan.com\data\DYL\data\02574601\ArcGIS\MapDocuments\AOI 5 RIR 2016\Figure 4 - Cross Section Location Plan_112316.mxd



NOTES:

1. GEOLOGIC CROSS SECTION WAS CREATED FROM THE 3D GEOLOGIC MODEL OF AOI 5, WHICH WAS GENERATED IN EARTH VOLUMETRIC STUDIO (EVS) SOFTWARE.
2. THE WATER TABLE SURFACE WAS INTERPOLATED IN EVS USING THE GROUNDWATER ELEVATION DATA COLLECTED DURING THE OCTOBER 2014 GAUGING EVENT BY AQUATERRA TECHNOLOGIES, INC.

5 0 1 2 5
VERTICAL SCALE IN FEET

100 0 50 100
HORIZONTAL SCALE IN FEET

Philadelphia Refinery Operations
A Series of Evergreen Resources Group, LLC.
2 Righter Parkway, Suite 200
Wilmington, DE 19803

Project
AOI-5 REMEDIAL INVESTIGATION REPORT
PES PHILADELPHIA REFINERY
PHILADELPHIA COUNTY PENNSYLVANIA

Drawing Title
GEOLOGIC CROSS SECTION A-A'

Project No. 2574602	Drawing No. 5A
Date 1 DECEMBER 2016	
Scale 1"=100' HOR. 1"=5' VER.	
Drn. By MMK	
Last Revised 2 DECEMBER 2016	

Filename: \\Langan.com\data\DYL\data6\2574601\Cadd Data - 2574601\Dwg\AOI 5 RIR 2016\RIR Geologic Cross-Sections_120616.dwg Date: 12/7/2016 Time: 10:26 User: acostello Style Table: Langan.stb Layout: A-A'

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Appendix B

Laboratory Reports

ANALYTICAL REPORT

Lab Number:	L2352112
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	RCRA PAD CLOSURE - PHIL REF
Project Number:	200.00135.007
Report Date:	09/26/23

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: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2352112-01	GPSP-16-SS01	SOIL	PHILADELPHIA	09/07/23 11:35	09/07/23
L2352112-02	GPSP-20-SS01	SOIL	PHILADELPHIA	09/07/23 12:05	09/07/23
L2352112-03	GPSP-22-SS01	SOIL	PHILADELPHIA	09/07/23 12:25	09/07/23
L2352112-04	GPSP-02-SS01	SOIL	PHILADELPHIA	09/07/23 13:15	09/07/23
L2352112-05	GPSP-03-SS01	SOIL	PHILADELPHIA	09/07/23 13:45	09/07/23
L2352112-06	GPSP-08-SS01	SOIL	PHILADELPHIA	09/07/23 14:15	09/07/23
L2352112-07	GPSP-07-SS01	SOIL	PHILADELPHIA	09/07/23 14:45	09/07/23
L2352112-08	GPSP-21-SS01	SOIL	PHILADELPHIA	09/07/23 15:05	09/07/23
L2352112-09	GPSP-15-SS01	SOIL	PHILADELPHIA	09/07/23 15:30	09/07/23
L2352112-10	GPSP-18-SS01	SOIL	PHILADELPHIA	09/07/23 15:45	09/07/23
L2352112-11	GPSP-19-SS01	SOIL	PHILADELPHIA	09/07/23 16:00	09/07/23
L2352112-12	FB-230907	WATER	PHILADELPHIA	09/07/23 16:05	09/07/23
L2352112-13	TB-230907	WATER	PHILADELPHIA	09/07/23 00:00	09/07/23

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352112
Project Number:	200.00135.007	**Report Date:**	09/26/23

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352112
Project Number:	200.00135.007	**Report Date:**	09/26/23

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.

The analysis of 8270E was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

Sample Receipt

L2352112-01 through -13: The Client ID was specified by the client.

L2352112-12: A sample identified as "FB-230907" was received, but not listed on the Chain of Custody. At the client's request, this sample was analyzed.

L2352112-13: A sample identified as "TB-230907" was received, but not listed on the Chain of Custody. At the client's request, this sample was analyzed.

Volatile Organics

L2352112-01D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

L2352112-02: 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.

L2352112-02 Low: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (942%); 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.

L2352112-02 Low: The surrogate recoveries are outside the method acceptance criteria for dibromofluoromethane (66%) due to interference with the Internal Standard.

L2352112-02 High: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene

Case Narrative (continued)

(211%) due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.
L2352112-05 and -10D2: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (133%); 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.
L2352112-07: 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.
L2352112-09D2: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (146%); 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.
L2352112-12: Headspace was noted in the sample container utilized for analysis.

Microextractables
L2352112-12 and -13: The sample was in improper preservative. The 8011 compounds were analyzed from an HCl preserved vial.

Cyanide, Total
The WG1828824-2 LCS recovery for cyanide, total (121%), associated with L2352112-04, is outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analysis are reported.
The WG1828824-4/-5 MS/MSD recoveries, performed on L2352112-04, are outside the acceptance criteria for cyanide, total (140%/150%); however, the associated LCSD recovery is within criteria. No further action was taken.
WG1826335: A Matrix Spike and Matrix Spike Duplicate was prepared with the sample batch; however, analysis of the native sample was cancelled; therefore, the QC result could not be reported.
The WG1826338-5 MS recovery, performed on L2352112-06, is outside the acceptance criteria for cyanide,

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352112
Project Number:	200.00135.007	**Report Date:**	09/26/23

Case Narrative (continued)

total (74%); however, the associated LCS recovery is within criteria. No further action was taken.

Hexavalent Chromium

The WG1827453-2 LCS recovery for chromium, hexavalent (74%), associated with L2352112-11, is outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analysis are reported.

The WG1827453-5 Soluble MS recovery for chromium, hexavalent (68%), performed on L2352112-11, was outside the acceptance criteria. This has been attributed to matrix interference. A post-spike was performed with a recovery of 97%.

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: 09/26/23

ORGANICS

VOLATILES

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-01 D
Client ID: GPSP-16-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 11:35
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/13/23 17:04
Analyst: JIC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	8.1	3.7	10
Methyl tert butyl ether	ND		mg/kg	1.6	0.16	10
Benzene	4.4		mg/kg	0.40	0.13	10
1,2-Dichloroethane	ND		mg/kg	0.81	0.21	10
Toluene	12.		mg/kg	0.81	0.44	10
1,2-Dibromoethane	ND		mg/kg	0.40	0.24	10
Ethylbenzene	13.		mg/kg	0.81	0.11	10
p/m-Xylene	46.		mg/kg	1.6	0.45	10
o-Xylene	25.		mg/kg	0.81	0.24	10
Xylenes, Total	71.		mg/kg	0.81	0.24	10
Isopropylbenzene	11.		mg/kg	0.81	0.088	10
1,3,5-Trimethylbenzene	20.		mg/kg	1.6	0.16	10
1,2,4-Trimethylbenzene	86.		mg/kg	1.6	0.27	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	102		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-02
Client ID: GPSP-20-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 12:05
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 10:20
Analyst: AJK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	0.013		mg/kg	0.0090	0.0041	1
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.0053		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	0.0023		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	0.0013		mg/kg	0.00090	0.00013	1
p/m-Xylene	0.0086		mg/kg	0.0018	0.00050	1
o-Xylene	0.0085		mg/kg	0.00090	0.00026	1
Xylenes, Total	0.017		mg/kg	0.00090	0.00026	1
Isopropylbenzene	0.12		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	0.018		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	0.040		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	124		70-130
4-Bromofluorobenzene	**942**	Q	70-130
Dibromofluoromethane	**66**	Q	70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-02
Client ID: GPSP-20-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 12:05
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 10:45
Analyst: AJK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.63	0.29	1
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	0.25		mg/kg	0.032	0.010	1
1,2-Dichloroethane	ND		mg/kg	0.063	0.016	1
Toluene	ND		mg/kg	0.063	0.034	1
1,2-Dibromoethane	ND		mg/kg	0.032	0.018	1
Ethylbenzene	0.035	J	mg/kg	0.063	0.0089	1
p/m-Xylene	0.12	J	mg/kg	0.13	0.035	1
o-Xylene	0.084		mg/kg	0.063	0.018	1
Xylenes, Total	0.20	J	mg/kg	0.063	0.018	1
Isopropylbenzene	1.3		mg/kg	0.063	0.0069	1
1,3,5-Trimethylbenzene	0.11	J	mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	0.27		mg/kg	0.13	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	**211**	Q	70-130
Dibromofluoromethane	80		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-03
Client ID: GPSP-22-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 12:25
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 11:10
Analyst: AJK
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.70	0.32	1
Methyl tert butyl ether	ND		mg/kg	0.14	0.014	1
Benzene	3.1		mg/kg	0.035	0.012	1
1,2-Dichloroethane	ND		mg/kg	0.070	0.018	1
Toluene	1.6		mg/kg	0.070	0.038	1
1,2-Dibromoethane	ND		mg/kg	0.035	0.020	1
Ethylbenzene	1.8		mg/kg	0.070	0.0098	1
p/m-Xylene	3.1		mg/kg	0.14	0.039	1
o-Xylene	0.45		mg/kg	0.070	0.020	1
Xylenes, Total	3.6		mg/kg	0.070	0.020	1
Isopropylbenzene	3.2		mg/kg	0.070	0.0076	1
1,3,5-Trimethylbenzene	0.33		mg/kg	0.14	0.013	1
1,2,4-Trimethylbenzene	3.8		mg/kg	0.14	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	125		70-130
Dibromofluoromethane	89		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-04
Client ID: GPSP-02-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 13:15
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/13/23 18:24
Analyst: JIC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.66	0.30	1
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	2.8		mg/kg	0.033	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.066	0.017	1
Toluene	0.58		mg/kg	0.066	0.036	1
1,2-Dibromoethane	ND		mg/kg	0.033	0.019	1
Ethylbenzene	0.84		mg/kg	0.066	0.0093	1
p/m-Xylene	1.6		mg/kg	0.13	0.037	1
o-Xylene	0.056	J	mg/kg	0.066	0.019	1
Xylenes, Total	1.6	J	mg/kg	0.066	0.019	1
Isopropylbenzene	0.087		mg/kg	0.066	0.0072	1
1,3,5-Trimethylbenzene	0.028	J	mg/kg	0.13	0.013	1
1,2,4-Trimethylbenzene	0.16		mg/kg	0.13	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	100		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-05
Client ID: GPSP-03-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 13:45
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 12:26
Analyst: AJK
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.81	0.37	1
Methyl tert butyl ether	ND		mg/kg	0.16	0.016	1
Benzene	0.31		mg/kg	0.041	0.014	1
1,2-Dichloroethane	ND		mg/kg	0.081	0.021	1
Toluene	0.16		mg/kg	0.081	0.044	1
1,2-Dibromoethane	ND		mg/kg	0.041	0.024	1
Ethylbenzene	0.46		mg/kg	0.081	0.011	1
p/m-Xylene	2.8		mg/kg	0.16	0.046	1
o-Xylene	0.75		mg/kg	0.081	0.024	1
Xylenes, Total	3.6		mg/kg	0.081	0.024	1
Isopropylbenzene	50.	E	mg/kg	0.081	0.0089	1
1,3,5-Trimethylbenzene	7.8		mg/kg	0.16	0.016	1
1,2,4-Trimethylbenzene	44.	E	mg/kg	0.16	0.027	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	85		70-130
4-Bromofluorobenzene	**133**	Q	70-130
Dibromofluoromethane	83		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID:	L2352112-05	D	Date Collected:	09/07/23 13:45
Client ID:	GPSP-03-SS01		Date Received:	09/07/23
Sample Location:	PHILADELPHIA		Field Prep:	Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 01:03
Analyst: JIC
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	39.		mg/kg	0.41	0.044	5
1,2,4-Trimethylbenzene	36.		mg/kg	0.81	0.14	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	102		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-06 D2
Client ID: GPSP-08-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 14:15
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 13:17
Analyst: AJK
Percent Solids: 64%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	2.2	0.98	2
Methyl tert butyl ether	ND		mg/kg	0.43	0.043	2
Benzene	0.32		mg/kg	0.11	0.036	2
1,2-Dichloroethane	ND		mg/kg	0.22	0.055	2
Toluene	0.12	J	mg/kg	0.22	0.12	2
1,2-Dibromoethane	ND		mg/kg	0.11	0.063	2
Ethylbenzene	0.34		mg/kg	0.22	0.030	2
p/m-Xylene	0.25	J	mg/kg	0.43	0.12	2
o-Xylene	0.16	J	mg/kg	0.22	0.063	2
Xylenes, Total	0.41	J	mg/kg	0.22	0.063	2
Isopropylbenzene	110	E	mg/kg	0.22	0.023	2
1,3,5-Trimethylbenzene	ND		mg/kg	0.43	0.042	2
1,2,4-Trimethylbenzene	0.14	J	mg/kg	0.43	0.072	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	86		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID:	L2352112-06	D	Date Collected:	09/07/23 14:15
Client ID:	GPSP-08-SS01		Date Received:	09/07/23
Sample Location:	PHILADELPHIA		Field Prep:	Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 01:23
Analyst: JIC
Percent Solids: 64%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	82.		mg/kg	0.54	0.059	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	91		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-07
Client ID: GPSP-07-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 14:45
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 12:52
Analyst: AJK
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.50	0.23	1
Methyl tert butyl ether	ND		mg/kg	0.10	0.010	1
Benzene	0.65		mg/kg	0.025	0.0083	1
1,2-Dichloroethane	ND		mg/kg	0.050	0.013	1
Toluene	0.32		mg/kg	0.050	0.027	1
1,2-Dibromoethane	ND		mg/kg	0.025	0.015	1
Ethylbenzene	0.78		mg/kg	0.050	0.0070	1
p/m-Xylene	1.1		mg/kg	0.10	0.028	1
o-Xylene	0.56		mg/kg	0.050	0.014	1
Xylenes, Total	1.7		mg/kg	0.050	0.014	1
Isopropylbenzene	20.	E	mg/kg	0.050	0.0054	1
1,3,5-Trimethylbenzene	0.90		mg/kg	0.10	0.0096	1
1,2,4-Trimethylbenzene	7.6		mg/kg	0.10	0.017	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	**149**	Q	70-130
Dibromofluoromethane	87		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID:	L2352112-07	D	Date Collected:	09/07/23 14:45
Client ID:	GPSP-07-SS01		Date Received:	09/07/23
Sample Location:	PHILADELPHIA		Field Prep:	Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 01:44
Analyst: JIC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	15.		mg/kg	0.25	0.027	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	90		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-08
Client ID: GPSP-21-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 15:05
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 02:05
Analyst: JIC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.52	0.24	1
Methyl tert butyl ether	ND		mg/kg	0.10	0.010	1
Benzene	0.036		mg/kg	0.026	0.0087	1
1,2-Dichloroethane	ND		mg/kg	0.052	0.013	1
Toluene	0.034	J	mg/kg	0.052	0.028	1
1,2-Dibromoethane	ND		mg/kg	0.026	0.015	1
Ethylbenzene	0.021	J	mg/kg	0.052	0.0074	1
p/m-Xylene	0.074	J	mg/kg	0.10	0.029	1
o-Xylene	0.036	J	mg/kg	0.052	0.015	1
Xylenes, Total	0.11	J	mg/kg	0.052	0.015	1
Isopropylbenzene	14.		mg/kg	0.052	0.0057	1
1,3,5-Trimethylbenzene	0.012	J	mg/kg	0.10	0.010	1
1,2,4-Trimethylbenzene	0.049	J	mg/kg	0.10	0.017	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	79		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-09 D2
Client ID: GPSP-15-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 15:30
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 13:42
Analyst: AJK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	1.4	0.65	2.5
Methyl tert butyl ether	ND		mg/kg	0.28	0.028	2.5
Benzene	0.24		mg/kg	0.071	0.024	2.5
1,2-Dichloroethane	ND		mg/kg	0.14	0.036	2.5
Toluene	0.13	J	mg/kg	0.14	0.077	2.5
1,2-Dibromoethane	ND		mg/kg	0.071	0.042	2.5
Ethylbenzene	0.19		mg/kg	0.14	0.020	2.5
p/m-Xylene	0.25	J	mg/kg	0.28	0.080	2.5
o-Xylene	0.46		mg/kg	0.14	0.041	2.5
Xylenes, Total	0.71	J	mg/kg	0.14	0.041	2.5
Isopropylbenzene	160	E	mg/kg	0.14	0.016	2.5
1,3,5-Trimethylbenzene	0.034	J	mg/kg	0.28	0.027	2.5
1,2,4-Trimethylbenzene	0.20	J	mg/kg	0.28	0.047	2.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	**146**	Q	70-130
Dibromofluoromethane	84		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID:	L2352112-09	D	Date Collected:	09/07/23 15:30
Client ID:	GPSP-15-SS01		Date Received:	09/07/23
Sample Location:	PHILADELPHIA		Field Prep:	Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 02:25
Analyst: JIC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	83.		mg/kg	0.28	0.031	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	81		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	83		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-10 D2 Date Collected: 09/07/23 15:45
Client ID: GPSP-18-SS01 Date Received: 09/07/23
Sample Location: PHILADELPHIA Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 14:07
Analyst: AJK
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.91	0.41	2
Methyl tert butyl ether	ND		mg/kg	0.18	0.018	2
Benzene	0.13		mg/kg	0.045	0.015	2
1,2-Dichloroethane	ND		mg/kg	0.091	0.023	2
Toluene	ND		mg/kg	0.091	0.049	2
1,2-Dibromoethane	ND		mg/kg	0.045	0.026	2
Ethylbenzene	0.52		mg/kg	0.091	0.013	2
p/m-Xylene	1.7		mg/kg	0.18	0.051	2
o-Xylene	0.66		mg/kg	0.091	0.026	2
Xylenes, Total	2.4		mg/kg	0.091	0.026	2
Isopropylbenzene	48.	E	mg/kg	0.091	0.0099	2
1,3,5-Trimethylbenzene	1.6		mg/kg	0.18	0.017	2
1,2,4-Trimethylbenzene	4.6		mg/kg	0.18	0.030	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	**133**	Q	70-130
Dibromofluoromethane	88		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID:	L2352112-10	D	Date Collected:	09/07/23 15:45
Client ID:	GPSP-18-SS01		Date Received:	09/07/23
Sample Location:	PHILADELPHIA		Field Prep:	Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 02:46
Analyst: JIC
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	34.		mg/kg	0.23	0.025	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	81		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	85		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-11 D2
Client ID: GPSP-19-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 16:00
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/18/23 09:20
Analyst: AJK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.86	0.39	2
Methyl tert butyl ether	ND		mg/kg	0.17	0.017	2
Benzene	0.27		mg/kg	0.043	0.014	2
1,2-Dichloroethane	ND		mg/kg	0.086	0.022	2
Toluene	0.19		mg/kg	0.086	0.047	2
1,2-Dibromoethane	ND		mg/kg	0.043	0.025	2
Ethylbenzene	0.65		mg/kg	0.086	0.012	2
p/m-Xylene	0.71		mg/kg	0.17	0.048	2
o-Xylene	0.50		mg/kg	0.086	0.025	2
Xylenes, Total	1.2		mg/kg	0.086	0.025	2
Isopropylbenzene	41.	E	mg/kg	0.086	0.0094	2
1,3,5-Trimethylbenzene	0.59		mg/kg	0.17	0.017	2
1,2,4-Trimethylbenzene	3.1		mg/kg	0.17	0.029	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	130		70-130
Dibromofluoromethane	87		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID:	L2352112-11	D	Date Collected:	09/07/23 16:00
Client ID:	GPSP-19-SS01		Date Received:	09/07/23
Sample Location:	PHILADELPHIA		Field Prep:	Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/15/23 23:52
Analyst: AJK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	35.		mg/kg	0.22	0.024	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	91		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352112
Project Number: 200.00135.007
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-12
Client ID: FB-230907
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 16:05
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 09/18/23 18:06
Analyst:

Extraction Method: EPA 8011
Extraction Date: 09/18/23 16:18

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: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-12
Client ID: FB-230907
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 16:05
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 09/13/23 11:12
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Carbon disulfide	ND		ug/l	5.0	0.30	1
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	94		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	97		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352112
Project Number: 200.00135.007
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-13
Client ID: TB-230907
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 00:00
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 09/18/23 18:14
Analyst: JKH

Extraction Method: EPA 8011
Extraction Date: 09/18/23 16:18

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: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-13
Client ID: TB-230907
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 00:00
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 09/13/23 11:36
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Carbon disulfide	ND		ug/l	5.0	0.30	1
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	94		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	100		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 09/13/23 19:13
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 05-10 Batch: WG1827389-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	110		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	105		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 09/13/23 09:34
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01,04 Batch: WG1827479-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	121		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	115		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 09/13/23 08:26
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 12-13 Batch: WG1827549-5					
Carbon disulfide	ND		ug/l	5.0	0.30
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	95		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	96		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 09/14/23 09:55
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1827881-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	103		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	94		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 09/14/23 09:55
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02-03,05-07,09-10 Batch: WG1827883-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	101		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	94		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 09/15/23 19:19
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 11 Batch: WG1828510-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	102		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	98		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 09/18/23 09:00
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 11 Batch: WG1828695-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	116		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	111		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 09/18/23 17:34
Analyst: JKH

Extraction Method: EPA 8011
Extraction Date: 09/18/23 16:18

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 12-13 Batch: WG1828861-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2352112
Report Date: 09/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 05-10 Batch: WG1827389-3 WG1827389-4								
Carbon disulfide	81		82		59-130	1		30
Methyl tert butyl ether	77		78		66-130	1		30
Benzene	84		87		70-130	4		30
1,2-Dichloroethane	84		86		70-130	2		30
Toluene	85		87		70-130	2		30
1,2-Dibromoethane	91		96		70-130	5		30
Ethylbenzene	84		87		70-130	4		30
p/m-Xylene	92		93		70-130	1		30
o-Xylene	89		93		70-130	4		30
Isopropylbenzene	83		82		70-130	1		30
1,3,5-Trimethylbenzene	87		87		70-130	0		30
1,2,4-Trimethylbenzene	87		86		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		93		70-130
Toluene-d8	96		98		70-130
4-Bromofluorobenzene	91		91		70-130
Dibromofluoromethane	95		105		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2352112

Report Date: 09/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01,04 Batch: WG1827479-3 WG1827479-4								
Carbon disulfide	**168**	Q	**158**	Q	59-130	6		30
Methyl tert butyl ether	104		101		66-130	3		30
Benzene	117		111		70-130	5		30
1,2-Dichloroethane	119		113		70-130	5		30
Toluene	96		93		70-130	3		30
1,2-Dibromoethane	107		103		70-130	4		30
Ethylbenzene	98		95		70-130	3		30
p/m-Xylene	104		100		70-130	4		30
o-Xylene	103		99		70-130	4		30
Isopropylbenzene	95		90		70-130	5		30
1,3,5-Trimethylbenzene	92		87		70-130	6		30
1,2,4-Trimethylbenzene	97		87		70-130	11		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	112		116		70-130
Toluene-d8	96		97		70-130
4-Bromofluorobenzene	85		86		70-130
Dibromofluoromethane	111		112		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 12-13 Batch: WG1827549-3 WG1827549-4								
Carbon disulfide	94		94		51-130	0		20
Methyl tert butyl ether	91		91		63-130	0		20
Benzene	100		99		70-130	1		20
1,2-Dichloroethane	94		93		70-130	1		20
Toluene	98		98		70-130	0		20
Ethylbenzene	95		96		70-130	1		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	95		97		70-130	2		20
1,3,5-Trimethylbenzene	95		96		64-130	1		20
1,2,4-Trimethylbenzene	96		98		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	92		97		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	96		99		70-130
Dibromofluoromethane	98		97		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2352112

Report Date: 09/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1827881-3 WG1827881-4								
Carbon disulfide	97		83		59-130	16		30
Methyl tert butyl ether	72		**62**	Q	66-130	15		30
Benzene	101		101		70-130	0		30
1,2-Dichloroethane	101		103		70-130	2		30
Toluene	102		93		70-130	9		30
1,2-Dibromoethane	87		84		70-130	4		30
Ethylbenzene	104		101		70-130	3		30
p/m-Xylene	100		91		70-130	9		30
o-Xylene	101		92		70-130	9		30
Isopropylbenzene	110		107		70-130	3		30
1,3,5-Trimethylbenzene	112		127		70-130	13		30
1,2,4-Trimethylbenzene	111		124		70-130	11		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		102		70-130
Toluene-d8	107		104		70-130
4-Bromofluorobenzene	101		113		70-130
Dibromofluoromethane	94		82		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2352112
Report Date: 09/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 02-03,05-07,09-10 Batch: WG1827883-3 WG1827883-4								
Carbon disulfide	97		83		59-130	16		30
Methyl tert butyl ether	72		**62**	Q	66-130	15		30
Benzene	101		101		70-130	0		30
1,2-Dichloroethane	101		103		70-130	2		30
Toluene	102		93		70-130	9		30
1,2-Dibromoethane	87		84		70-130	4		30
Ethylbenzene	104		101		70-130	3		30
p/m-Xylene	100		91		70-130	9		30
o-Xylene	101		92		70-130	9		30
Isopropylbenzene	110		107		70-130	3		30
1,3,5-Trimethylbenzene	112		127		70-130	13		30
1,2,4-Trimethylbenzene	111		124		70-130	11		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		102		70-130
Toluene-d8	107		104		70-130
4-Bromofluorobenzene	101		113		70-130
Dibromofluoromethane	94		82		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2352112
Report Date: 09/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 11 Batch: WG1828510-3 WG1828510-4								
Carbon disulfide	85		85		59-130	0		30
Methyl tert butyl ether	86		84		66-130	2		30
Benzene	100		99		70-130	1		30
1,2-Dichloroethane	100		100		70-130	0		30
Toluene	101		97		70-130	4		30
1,2-Dibromoethane	107		106		70-130	1		30
Ethylbenzene	102		98		70-130	4		30
p/m-Xylene	105		101		70-130	4		30
o-Xylene	107		104		70-130	3		30
Isopropylbenzene	104		99		70-130	5		30
1,3,5-Trimethylbenzene	104		100		70-130	4		30
1,2,4-Trimethylbenzene	104		100		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		95		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	98		95		70-130
Dibromofluoromethane	95		96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2352112
Report Date: 09/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 11 Batch: WG1828695-3 WG1828695-4								
Carbon disulfide	95		86		59-130	10		30
Methyl tert butyl ether	97		91		66-130	6		30
Benzene	97		90		70-130	7		30
1,2-Dichloroethane	101		96		70-130	5		30
Toluene	93		87		70-130	7		30
1,2-Dibromoethane	104		102		70-130	2		30
Ethylbenzene	93		88		70-130	6		30
p/m-Xylene	104		96		70-130	8		30
o-Xylene	100		96		70-130	4		30
Isopropylbenzene	87		79		70-130	10		30
1,3,5-Trimethylbenzene	93		87		70-130	7		30
1,2,4-Trimethylbenzene	93		86		70-130	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		92		70-130
Toluene-d8	94		93		70-130
4-Bromofluorobenzene	87		85		70-130
Dibromofluoromethane	99		95		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2352112

Report Date: 09/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 12-13 Batch: WG1828861-2									
1,2-Dibromoethane	95		-		80-120	-		20	A

METALS

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-01 Date Collected: 09/07/23 11:35

Client ID: GPSP-16-SS01 Date Received: 09/07/23

Sample Location: PHILADELPHIA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	2.77		mg/kg	2.37	0.180	1	09/09/23 11:00	09/10/23 23:05	EPA 3050B	1,6010D	TAA
Arsenic, Total	10.5		mg/kg	0.474	0.099	1	09/09/23 11:00	09/10/23 23:05	EPA 3050B	1,6010D	TAA
Chromium, Total	146		mg/kg	0.474	0.046	1	09/09/23 11:00	09/10/23 23:05	EPA 3050B	1,6010D	TAA
Lead, Total	226		mg/kg	2.37	0.127	1	09/09/23 11:00	09/10/23 23:05	EPA 3050B	1,6010D	TAA
Nickel, Total	40.0		mg/kg	1.18	0.115	1	09/09/23 11:00	09/10/23 23:05	EPA 3050B	1,6010D	TAA
Vanadium, Total	108		mg/kg	0.474	0.096	1	09/09/23 11:00	09/10/23 23:05	EPA 3050B	1,6010D	TAA

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-02 Date Collected: 09/07/23 12:05

Client ID: GPSP-20-SS01 Date Received: 09/07/23

Sample Location: PHILADELPHIA 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											
Antimony, Total	3.17		mg/kg	2.30	0.174	1	09/09/23 11:00	09/10/23 23:10	EPA 3050B	1,6010D	TAA
Arsenic, Total	8.45		mg/kg	0.459	0.096	1	09/09/23 11:00	09/10/23 23:10	EPA 3050B	1,6010D	TAA
Chromium, Total	80.6		mg/kg	0.459	0.044	1	09/09/23 11:00	09/10/23 23:10	EPA 3050B	1,6010D	TAA
Lead, Total	2360		mg/kg	2.30	0.123	1	09/09/23 11:00	09/10/23 23:10	EPA 3050B	1,6010D	TAA
Nickel, Total	31.8		mg/kg	1.15	0.111	1	09/09/23 11:00	09/10/23 23:10	EPA 3050B	1,6010D	TAA
Vanadium, Total	79.6		mg/kg	0.459	0.093	1	09/09/23 11:00	09/10/23 23:10	EPA 3050B	1,6010D	TAA

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-03 Date Collected: 09/07/23 12:25

Client ID: GPSP-22-SS01 Date Received: 09/07/23

Sample Location: PHILADELPHIA 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											
Antimony, Total	6.76		mg/kg	2.46	0.187	1	09/09/23 11:00	09/10/23 23:14	EPA 3050B	1,6010D	TAA
Arsenic, Total	13.2		mg/kg	0.492	0.102	1	09/09/23 11:00	09/10/23 23:14	EPA 3050B	1,6010D	TAA
Chromium, Total	315		mg/kg	0.492	0.047	1	09/09/23 11:00	09/10/23 23:14	EPA 3050B	1,6010D	TAA
Lead, Total	370		mg/kg	2.46	0.132	1	09/09/23 11:00	09/10/23 23:14	EPA 3050B	1,6010D	TAA
Nickel, Total	45.4		mg/kg	1.23	0.119	1	09/09/23 11:00	09/10/23 23:14	EPA 3050B	1,6010D	TAA
Vanadium, Total	144		mg/kg	0.492	0.100	1	09/09/23 11:00	09/10/23 23:14	EPA 3050B	1,6010D	TAA

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352112
Project Number: 200.00135.007
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-04
Client ID: GPSP-02-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 13:15
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	2.22	J	mg/kg	2.39	0.181	1	09/09/23 11:00	09/10/23 23:19	EPA 3050B	1,6010D	TAA
Arsenic, Total	12.4		mg/kg	0.478	0.099	1	09/09/23 11:00	09/10/23 23:19	EPA 3050B	1,6010D	TAA
Chromium, Total	139		mg/kg	0.478	0.046	1	09/09/23 11:00	09/10/23 23:19	EPA 3050B	1,6010D	TAA
Lead, Total	256		mg/kg	2.39	0.128	1	09/09/23 11:00	09/10/23 23:19	EPA 3050B	1,6010D	TAA
Nickel, Total	35.7		mg/kg	1.19	0.116	1	09/09/23 11:00	09/10/23 23:19	EPA 3050B	1,6010D	TAA
Vanadium, Total	95.5		mg/kg	0.478	0.097	1	09/09/23 11:00	09/10/23 23:19	EPA 3050B	1,6010D	TAA

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-05 Date Collected: 09/07/23 13:45

Client ID: GPSP-03-SS01 Date Received: 09/07/23

Sample Location: PHILADELPHIA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	3.32		mg/kg	2.48	0.188	1	09/09/23 11:00	09/10/23 23:24	EPA 3050B	1,6010D	TAA
Arsenic, Total	53.5		mg/kg	0.495	0.103	1	09/09/23 11:00	09/10/23 23:24	EPA 3050B	1,6010D	TAA
Chromium, Total	677		mg/kg	0.495	0.048	1	09/09/23 11:00	09/10/23 23:24	EPA 3050B	1,6010D	TAA
Lead, Total	507		mg/kg	2.48	0.133	1	09/09/23 11:00	09/10/23 23:24	EPA 3050B	1,6010D	TAA
Nickel, Total	116		mg/kg	1.24	0.120	1	09/09/23 11:00	09/10/23 23:24	EPA 3050B	1,6010D	TAA
Vanadium, Total	139		mg/kg	0.495	0.100	1	09/09/23 11:00	09/10/23 23:24	EPA 3050B	1,6010D	TAA

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-06 Date Collected: 09/07/23 14:15

Client ID: GPSP-08-SS01 Date Received: 09/07/23

Sample Location: PHILADELPHIA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 64%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	2.45	J	mg/kg	3.02	0.230	1	09/09/23 11:00	09/10/23 23:28	EPA 3050B	1,6010D	TAA
Arsenic, Total	26.1		mg/kg	0.605	0.126	1	09/09/23 11:00	09/10/23 23:28	EPA 3050B	1,6010D	TAA
Chromium, Total	730		mg/kg	0.605	0.058	1	09/09/23 11:00	09/10/23 23:28	EPA 3050B	1,6010D	TAA
Lead, Total	640		mg/kg	3.02	0.162	1	09/09/23 11:00	09/10/23 23:28	EPA 3050B	1,6010D	TAA
Nickel, Total	113		mg/kg	1.51	0.146	1	09/09/23 11:00	09/10/23 23:28	EPA 3050B	1,6010D	TAA
Vanadium, Total	507		mg/kg	0.605	0.123	1	09/09/23 11:00	09/10/23 23:28	EPA 3050B	1,6010D	TAA

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-07 Date Collected: 09/07/23 14:45

Client ID: GPSP-07-SS01 Date Received: 09/07/23

Sample Location: PHILADELPHIA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	6.30		mg/kg	2.05	0.156	1	09/09/23 11:00	09/10/23 23:43	EPA 3050B	1,6010D	TAA
Arsenic, Total	8.96		mg/kg	0.411	0.085	1	09/09/23 11:00	09/10/23 23:43	EPA 3050B	1,6010D	TAA
Chromium, Total	147		mg/kg	0.411	0.039	1	09/09/23 11:00	09/10/23 23:43	EPA 3050B	1,6010D	TAA
Lead, Total	158		mg/kg	2.05	0.110	1	09/09/23 11:00	09/10/23 23:43	EPA 3050B	1,6010D	TAA
Nickel, Total	162		mg/kg	1.03	0.099	1	09/09/23 11:00	09/10/23 23:43	EPA 3050B	1,6010D	TAA
Vanadium, Total	1110		mg/kg	0.411	0.083	1	09/09/23 11:00	09/10/23 23:43	EPA 3050B	1,6010D	TAA

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-08 Date Collected: 09/07/23 15:05

Client ID: GPSP-21-SS01 Date Received: 09/07/23

Sample Location: PHILADELPHIA 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											
Antimony, Total	5.40		mg/kg	2.16	0.164	1	09/09/23 11:00	09/10/23 23:48	EPA 3050B	1,6010D	TAA
Arsenic, Total	10.6		mg/kg	0.432	0.090	1	09/09/23 11:00	09/10/23 23:48	EPA 3050B	1,6010D	TAA
Chromium, Total	102		mg/kg	0.432	0.041	1	09/09/23 11:00	09/10/23 23:48	EPA 3050B	1,6010D	TAA
Lead, Total	6700		mg/kg	21.6	1.16	10	09/09/23 11:00	09/14/23 20:33	EPA 3050B	1,6010D	TAA
Nickel, Total	41.1		mg/kg	1.08	0.104	1	09/09/23 11:00	09/10/23 23:48	EPA 3050B	1,6010D	TAA
Vanadium, Total	102		mg/kg	0.432	0.088	1	09/09/23 11:00	09/10/23 23:48	EPA 3050B	1,6010D	TAA

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352112
Project Number: 200.00135.007
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-09
Client ID: GPSP-15-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 15:30
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	2.84		mg/kg	2.35	0.179	1	09/09/23 11:00	09/10/23 23:53	EPA 3050B	1,6010D	TAA
Arsenic, Total	14.2		mg/kg	0.470	0.098	1	09/09/23 11:00	09/10/23 23:53	EPA 3050B	1,6010D	TAA
Chromium, Total	241		mg/kg	0.470	0.045	1	09/09/23 11:00	09/10/23 23:53	EPA 3050B	1,6010D	TAA
Lead, Total	252		mg/kg	2.35	0.126	1	09/09/23 11:00	09/10/23 23:53	EPA 3050B	1,6010D	TAA
Nickel, Total	173		mg/kg	1.18	0.114	1	09/09/23 11:00	09/10/23 23:53	EPA 3050B	1,6010D	TAA
Vanadium, Total	719		mg/kg	0.470	0.096	1	09/09/23 11:00	09/10/23 23:53	EPA 3050B	1,6010D	TAA

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-10 Date Collected: 09/07/23 15:45

Client ID: GPSP-18-SS01 Date Received: 09/07/23

Sample Location: PHILADELPHIA Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	1.39	J	mg/kg	2.15	0.163	1	09/09/23 11:00	09/10/23 23:58	EPA 3050B	1,6010D	TAA
Arsenic, Total	6.69		mg/kg	0.430	0.089	1	09/09/23 11:00	09/10/23 23:58	EPA 3050B	1,6010D	TAA
Chromium, Total	580		mg/kg	0.430	0.041	1	09/09/23 11:00	09/10/23 23:58	EPA 3050B	1,6010D	TAA
Lead, Total	122		mg/kg	2.15	0.115	1	09/09/23 11:00	09/10/23 23:58	EPA 3050B	1,6010D	TAA
Nickel, Total	37.9		mg/kg	1.07	0.104	1	09/09/23 11:00	09/10/23 23:58	EPA 3050B	1,6010D	TAA
Vanadium, Total	113		mg/kg	0.430	0.087	1	09/09/23 11:00	09/10/23 23:58	EPA 3050B	1,6010D	TAA

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352112
Project Number: 200.00135.007
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-11
Client ID: GPSP-19-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 16:00
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	2.54		mg/kg	2.11	0.160	1	09/09/23 11:00	09/11/23 00:03	EPA 3050B	1,6010D	TAA
Arsenic, Total	6.52		mg/kg	0.422	0.088	1	09/09/23 11:00	09/11/23 00:03	EPA 3050B	1,6010D	TAA
Chromium, Total	424		mg/kg	0.422	0.041	1	09/09/23 11:00	09/11/23 00:03	EPA 3050B	1,6010D	TAA
Lead, Total	2570		mg/kg	2.11	0.113	1	09/09/23 11:00	09/11/23 00:03	EPA 3050B	1,6010D	TAA
Nickel, Total	33.6		mg/kg	1.06	0.102	1	09/09/23 11:00	09/11/23 00:03	EPA 3050B	1,6010D	TAA
Vanadium, Total	122		mg/kg	0.422	0.086	1	09/09/23 11:00	09/11/23 00:03	EPA 3050B	1,6010D	TAA

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352112
Project Number: 200.00135.007
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-12
Client ID: FB-230907
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 16:05
Date Received: 09/07/23
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											
Antimony, Total	ND		ug/l	4.000	0.4290	1	09/08/23 16:26	09/18/23 07:37	EPA 3005A	1,6020B	SMV
Arsenic, Total	ND		ug/l	0.5000	0.1650	1	09/08/23 16:26	09/18/23 07:37	EPA 3005A	1,6020B	SMV
Chromium, Total	ND		ug/l	1.000	0.1780	1	09/08/23 16:26	09/18/23 07:37	EPA 3005A	1,6020B	SMV
Lead, Total	ND		ug/l	1.000	0.3430	1	09/08/23 16:26	09/18/23 07:37	EPA 3005A	1,6020B	SMV
Nickel, Total	ND		ug/l	2.000	0.5560	1	09/08/23 16:26	09/18/23 07:37	EPA 3005A	1,6020B	SMV
Vanadium, Total	ND		ug/l	5.000	1.570	1	09/08/23 16:26	09/18/23 07:37	EPA 3005A	1,6020B	SMV

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

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): 01-11 Batch: WG1825147-1										
Antimony, Total	ND		mg/kg	2.00	0.152	1	09/09/23 11:00	09/10/23 18:07	1,6010D	DHL
Arsenic, Total	ND		mg/kg	0.400	0.083	1	09/09/23 11:00	09/10/23 18:07	1,6010D	DHL
Chromium, Total	ND		mg/kg	0.400	0.038	1	09/09/23 11:00	09/10/23 18:07	1,6010D	DHL
Lead, Total	ND		mg/kg	2.00	0.107	1	09/09/23 11:00	09/10/23 18:07	1,6010D	DHL
Nickel, Total	ND		mg/kg	1.00	0.097	1	09/09/23 11:00	09/10/23 18:07	1,6010D	DHL
Vanadium, Total	ND		mg/kg	0.400	0.081	1	09/09/23 11:00	09/10/23 18:07	1,6010D	DHL

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): 12 Batch: WG1825273-1										
Antimony, Total	ND		ug/l	4.000	0.4290	1	09/08/23 16:26	09/14/23 10:40	1,6020B	EJF
Arsenic, Total	ND		ug/l	0.5000	0.1650	1	09/08/23 16:26	09/14/23 10:40	1,6020B	EJF
Chromium, Total	ND		ug/l	1.000	0.1780	1	09/08/23 16:26	09/14/23 10:40	1,6020B	EJF
Lead, Total	ND		ug/l	1.000	0.3430	1	09/08/23 16:26	09/14/23 10:40	1,6020B	EJF
Nickel, Total	ND		ug/l	2.000	0.5560	1	09/08/23 16:26	09/14/23 10:40	1,6020B	EJF
Vanadium, Total	ND		ug/l	5.000	1.570	1	09/08/23 16:26	09/14/23 10:40	1,6020B	EJF

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2352112

Report Date: 09/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-11 Batch: WG1825147-2 SRM Lot Number: D119-540								
Antimony, Total	132		-		10-190	-		
Arsenic, Total	97		-		83-117	-		
Chromium, Total	96		-		82-119	-		
Lead, Total	98		-		82-118	-		
Nickel, Total	93		-		82-117	-		
Vanadium, Total	92		-		79-121	-		
Total Metals - Mansfield Lab Associated sample(s): 12 Batch: WG1825273-2								
Antimony, Total	95		-		80-120	-		
Arsenic, Total	103		-		80-120	-		
Chromium, Total	91		-		80-120	-		
Lead, Total	94		-		80-120	-		
Nickel, Total	99		-		80-120	-		
Vanadium, Total	93		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

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): 01-11 QC Batch ID: WG1825147-3 QC Sample: L2200085-26 Client ID: MS Sample												
Antimony, Total	2.46	38.7	39.4	95		-	-		75-125	-		20
Arsenic, Total	45.9	9.29	33.4	**0**	Q	-	-		75-125	-		20
Chromium, Total	27.9	15.5	62.8	**225**	Q	-	-		75-125	-		20
Lead, Total	305	41	395	**219**	Q	-	-		75-125	-		20
Nickel, Total	18.4	38.7	51.6	86		-	-		75-125	-		20
Vanadium, Total	13.0	38.7	52.1	101		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG1825273-3 WG1825273-4 QC Sample: L2351953-01 Client ID: MS Sample												
Antimony, Total	1.612J	500	426.7	85		444.8	89		75-125	4		20
Arsenic, Total	7.082	120	132.8	105		133.2	105		75-125	0		20
Chromium, Total	4.375	200	185.1	90		184.8	90		75-125	0		20
Lead, Total	ND	530	531.6	100		547.4	103		75-125	3		20
Nickel, Total	88.63	500	595.8	101		600.8	102		75-125	1		20
Vanadium, Total	4.250J	500	463.5	93		474.3	95		75-125	2		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2352112

Report Date: 09/26/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-11 QC Batch ID: WG1825147-4 QC Sample: L2200085-26 Client ID: DUP Sample						
Lead, Total	305	10.6	mg/kg	**187**	Q	20

Lab Serial Dilution Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG1825273-6 QC Sample: L2351953-01 Client ID: DUP Sample						
Nickel, Total	88.63	101.8	ug/l	15		20

INORGANICS
&
MISCELLANEOUS

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-01
Client ID: GPSP-16-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 11:35
Date Received: 09/07/23
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	80.3		%	0.100	NA	1	-	09/08/23 11:54	121,2540G	ROI
Cyanide, Total	0.88	J	mg/kg	1.2	0.26	1	09/12/23 09:20	09/12/23 13:50	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	0.996	0.199	1	09/13/23 13:58	09/17/23 14:15	1,7196A	DTH

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-02
Client ID: GPSP-20-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 12:05
Date Received: 09/07/23
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	-	09/08/23 11:54	121,2540G	ROI
Cyanide, Total	2.1		mg/kg	1.1	0.23	1	09/12/23 09:20	09/12/23 13:51	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	0.936	0.187	1	09/13/23 13:58	09/17/23 14:15	1,7196A	DTH

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-03
Client ID: GPSP-22-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 12:25
Date Received: 09/07/23
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	79.1		%	0.100	NA	1	-	09/08/23 11:54	121,2540G	ROI
Cyanide, Total	0.78	J	mg/kg	1.2	0.26	1	09/12/23 09:20	09/12/23 13:54	1,9010C/9012B	JER
Chromium, Hexavalent	0.303	J	mg/kg	1.01	0.202	1	09/13/23 13:58	09/17/23 14:15	1,7196A	DTH

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-04
Client ID: GPSP-02-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 13:15
Date Received: 09/07/23
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	81.8		%	0.100	NA	1	-	09/08/23 11:54	121,2540G	ROI
Cyanide, Total	0.86	J	mg/kg	1.2	0.25	1	09/18/23 15:00	09/18/23 17:23	1,9010C/9012B	JER
Chromium, Hexavalent	0.917	J	mg/kg	0.978	0.196	1	09/13/23 13:58	09/17/23 14:15	1,7196A	DTH

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-05
Client ID: GPSP-03-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 13:45
Date Received: 09/07/23
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	77.1		%	0.100	NA	1	-	09/08/23 11:54	121,2540G	ROI
Cyanide, Total	0.76	J	mg/kg	1.2	0.25	1	09/12/23 09:20	09/12/23 13:55	1,9010C/9012B	JER
Chromium, Hexavalent	0.636	J	mg/kg	1.04	0.208	1	09/13/23 13:58	09/17/23 14:15	1,7196A	DTH

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-06
Client ID: GPSP-08-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 14:15
Date Received: 09/07/23
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	64.1		%	0.100	NA	1	-	09/08/23 11:54	121,2540G	ROI
Cyanide, Total	1.3	J	mg/kg	1.5	0.33	1	09/12/23 09:20	09/12/23 13:36	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	1.25	0.250	1	09/13/23 13:58	09/17/23 14:15	1,7196A	DTH

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-07
Client ID: GPSP-07-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 14:45
Date Received: 09/07/23
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	94.3		%	0.100	NA	1	-	09/08/23 11:54	121,2540G	ROI
Cyanide, Total	1.5		mg/kg	1.0	0.21	1	09/12/23 09:20	09/12/23 13:39	1,9010C/9012B	JER
Chromium, Hexavalent	0.297	J	mg/kg	0.848	0.170	1	09/13/23 13:58	09/17/23 14:15	1,7196A	DTH

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-08
Client ID: GPSP-21-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 15:05
Date Received: 09/07/23
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	-	09/08/23 11:54	121,2540G	ROI
Cyanide, Total	0.85	J	mg/kg	1.0	0.22	1	09/12/23 09:20	09/12/23 13:42	1,9010C/9012B	JER
Chromium, Hexavalent	0.578	J	mg/kg	0.906	0.181	1	09/13/23 13:58	09/17/23 14:15	1,7196A	DTH

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-09
Client ID: GPSP-15-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 15:30
Date Received: 09/07/23
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	82.6		%	0.100	NA	1	-	09/08/23 11:54	121,2540G	ROI
Cyanide, Total	0.44	J	mg/kg	1.2	0.25	1	09/12/23 09:20	09/12/23 13:43	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	0.968	0.194	1	09/13/23 13:58	09/17/23 14:15	1,7196A	DTH

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-10
Client ID: GPSP-18-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 15:45
Date Received: 09/07/23
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	91.5		%	0.100	NA	1	-	09/08/23 11:54	121,2540G	ROI
Cyanide, Total	1.8		mg/kg	1.1	0.22	1	09/12/23 09:20	09/12/23 13:44	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	0.874	0.175	1	09/13/23 13:58	09/17/23 14:15	1,7196A	DTH

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-11
Client ID: GPSP-19-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 16:00
Date Received: 09/07/23
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	92.8		%	0.100	NA	1	-	09/08/23 11:54	121,2540G	ROI
Cyanide, Total	0.91	J	mg/kg	1.0	0.22	1	09/12/23 09:20	09/12/23 13:45	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	0.862	0.172	1	09/14/23 12:41	09/14/23 22:22	1,7196A	WMT

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

SAMPLE RESULTS

Lab ID: L2352112-12
Client ID: FB-230907
Sample Location: PHILADELPHIA

Date Collected: 09/07/23 16:05
Date Received: 09/07/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		ug/l	5.00	1.80	1	09/13/23 13:25	09/13/23 16:39	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	09/08/23 09:20	09/08/23 09:40	1,7196A	KEP

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352112

Project Number: 200.00135.007 **Report Date:** 09/26/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 12 Batch: WG1825129-1										
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	09/08/23 09:20	09/08/23 09:30	1,7196A	KEP
General Chemistry - Westborough Lab for sample(s): 01-03,05 Batch: WG1826335-1										
Cyanide, Total	ND		mg/kg	0.93	0.20	1	09/12/23 09:20	09/12/23 13:32	1,9010C/9012B	JER
General Chemistry - Westborough Lab for sample(s): 06-11 Batch: WG1826338-1										
Cyanide, Total	ND		mg/kg	0.93	0.20	1	09/12/23 09:20	09/12/23 13:32	1,9010C/9012B	JER
General Chemistry - Westborough Lab for sample(s): 12 Batch: WG1826962-1										
Cyanide, Total	ND		ug/l	5.00	1.80	1	09/13/23 13:25	09/13/23 16:29	1,9010C/9012B	JER
General Chemistry - Westborough Lab for sample(s): 01-10 Batch: WG1827051-1										
Chromium, Hexavalent	ND		mg/kg	0.800	0.160	1	09/13/23 13:58	09/17/23 14:15	1,7196A	DTH
General Chemistry - Westborough Lab for sample(s): 11 Batch: WG1827453-1										
Chromium, Hexavalent	ND		mg/kg	0.800	0.160	1	09/14/23 12:41	09/14/23 22:22	1,7196A	WMT
General Chemistry - Westborough Lab for sample(s): 04 Batch: WG1828824-1										
Cyanide, Total	ND		mg/kg	0.85	0.18	1	09/18/23 15:00	09/18/23 17:19	1,9010C/9012B	JER

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 12 Batch: WG1825129-2								
Chromium, Hexavalent	98		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-03,05 Batch: WG1826335-2 WG1826335-3								
Cyanide, Total	99		91		80-120	9		35
General Chemistry - Westborough Lab Associated sample(s): 06-11 Batch: WG1826338-2 WG1826338-3								
Cyanide, Total	99		91		80-120	9		35
General Chemistry - Westborough Lab Associated sample(s): 12 Batch: WG1826962-2 WG1826962-3								
Cyanide, Total	106		99		85-115	7		20
General Chemistry - Westborough Lab Associated sample(s): 01-10 Batch: WG1827051-2								
Chromium, Hexavalent	84		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 11 Batch: WG1827453-2								
Chromium, Hexavalent	**74**	Q	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 04 Batch: WG1828824-2 WG1828824-3								
Cyanide, Total	**121**	Q	112		80-120	5		35

Matrix Spike Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2352112
Report Date: 09/26/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 12 QC Batch ID: WG1825129-4 QC Sample: L2352112-12 Client ID: FB-230907												
Chromium, Hexavalent	ND	0.1	0.098	98		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 06-11 QC Batch ID: WG1826338-4 WG1826338-5 QC Sample: L2352112-06 Client ID: GPSP-08-SS01												
Cyanide, Total	1.3J	14	13	82		12	**74**	Q	75-125	8		35
General Chemistry - Westborough Lab Associated sample(s): 12 QC Batch ID: WG1826962-4 WG1826962-5 QC Sample: L2350975-08 Client ID: MS Sample												
Cyanide, Total	ND	200	216	108		217	108		80-120	0		20
General Chemistry - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG1827051-4 QC Sample: L2352112-02 Client ID: GPSP-20-SS01												
Chromium, Hexavalent	ND	1230	1220	99		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 11 QC Batch ID: WG1827453-4 QC Sample: L2352112-11 Client ID: GPSP-19-SS01												
Chromium, Hexavalent	ND	1170	875	75		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 04 QC Batch ID: WG1828824-4 WG1828824-5 QC Sample: L2352112-04 Client ID: GPSP-02-SS01												
Cyanide, Total	0.86J	12	18	**140**	Q	18	**150**	Q	75-125	0		35

Lab Duplicate Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2352112

Report Date: 09/26/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-11 QC Batch ID: WG1825092-1 QC Sample: L2351957-06 Client ID: DUP Sample						
Solids, Total	76.6	75.8	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 12 QC Batch ID: WG1825129-3 QC Sample: L2352112-12 Client ID: FB-230907						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG1827051-6 QC Sample: L2352112-02 Client ID: GPSP-20-SS01						
Chromium, Hexavalent	ND	ND	mg/kg	NC		20
General Chemistry - Westborough Lab Associated sample(s): 11 QC Batch ID: WG1827453-6 QC Sample: L2352112-11 Client ID: GPSP-19-SS01						
Chromium, Hexavalent	ND	ND	mg/kg	NC		20

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

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(*)
L2352112-01A	Vial MeOH preserved	A	NA		3.8	Y	Absent		PA-8260HLW(14)
L2352112-01B	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-01C	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2352112-01E	Glass 120ml/4oz unpreserved	A	NA	NA	3.8	Y	Absent		SUB-8270()
L2352112-01F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352112-01G	Plastic 120ml unpreserved	A	NA		3.8	Y	Absent		TS(7)
L2352112-02A	Vial MeOH preserved	A	NA		3.8	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2352112-02B	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260H(14),PA-8260HLW(14)
L2352112-02C	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260H(14),PA-8260HLW(14)
L2352112-02D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2352112-02E	Glass 120ml/4oz unpreserved	A	NA	NA	3.8	Y	Absent		SUB-8270()
L2352112-02F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352112-02G	Plastic 120ml unpreserved	A	NA		3.8	Y	Absent		TS(7)
L2352112-03A	Vial MeOH preserved	A	NA		3.8	Y	Absent		PA-8260HLW(14)
L2352112-03B	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-03C	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-03D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2352112-03E	Glass 120ml/4oz unpreserved	A	NA	NA	3.8	Y	Absent		SUB-8270()
L2352112-03F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352112-03G	Plastic 120ml unpreserved	A	NA		3.8	Y	Absent		TS(7)
L2352112-04A	Vial MeOH preserved	A	NA		3.8	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2352112-04B	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-04C	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-04D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2352112-04E	Glass 120ml/4oz unpreserved	A	NA	NA	3.8	Y	Absent		SUB-8270()
L2352112-04F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352112-04G	Plastic 120ml unpreserved	A	NA		3.8	Y	Absent		TS(7)
L2352112-05A	Vial MeOH preserved	A	NA		3.8	Y	Absent		PA-8260HLW(14)
L2352112-05B	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-05C	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-05D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2352112-05E	Glass 120ml/4oz unpreserved	A	NA	NA	3.8	Y	Absent		SUB-8270()
L2352112-05F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352112-05G	Plastic 120ml unpreserved	A	NA		3.8	Y	Absent		TS(7)
L2352112-06A	Vial MeOH preserved	A	NA		3.8	Y	Absent		PA-8260HLW(14)
L2352112-06B	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-06C	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-06D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2352112-06E	Glass 120ml/4oz unpreserved	A	NA	NA	3.8	Y	Absent		SUB-8270()
L2352112-06F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352112-06G	Plastic 120ml unpreserved	A	NA		3.8	Y	Absent		TS(7)
L2352112-07A	Vial MeOH preserved	A	NA		3.8	Y	Absent		PA-8260HLW(14)
L2352112-07B	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-07C	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-07D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2352112-07E	Glass 120ml/4oz unpreserved	A	NA	NA	3.8	Y	Absent		SUB-8270()
L2352112-07F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352112-07G	Plastic 120ml unpreserved	A	NA		3.8	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2352112-08A	Vial MeOH preserved	A	NA		3.8	Y	Absent		PA-8260HLW(14)
L2352112-08B	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-08C	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-08D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2352112-08E	Glass 120ml/4oz unpreserved	A	NA	NA	3.8	Y	Absent		SUB-8270()
L2352112-08F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352112-08G	Plastic 120ml unpreserved	A	NA		3.8	Y	Absent		TS(7)
L2352112-09A	Vial MeOH preserved	A	NA		3.8	Y	Absent		PA-8260HLW(14)
L2352112-09B	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-09C	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-09D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2352112-09E	Glass 120ml/4oz unpreserved	A	NA	NA	3.8	Y	Absent		SUB-8270()
L2352112-09F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352112-09G	Plastic 120ml unpreserved	A	NA		3.8	Y	Absent		TS(7)
L2352112-10A	Vial MeOH preserved	A	NA		3.8	Y	Absent		PA-8260HLW(14)
L2352112-10B	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-10C	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-10D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2352112-10E	Glass 120ml/4oz unpreserved	A	NA	NA	3.8	Y	Absent		SUB-8270()
L2352112-10F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352112-10G	Plastic 120ml unpreserved	A	NA		3.8	Y	Absent		TS(7)
L2352112-11A	Vial MeOH preserved	A	NA		3.8	Y	Absent		PA-8260HLW(14)
L2352112-11B	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-11C	Vial water preserved	A	NA		3.8	Y	Absent	08-SEP-23 08:28	PA-8260HLW(14)
L2352112-11D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2352112-11E	Glass 120ml/4oz unpreserved	A	NA	NA	3.8	Y	Absent		SUB-8270()
L2352112-11F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		TCN-9010(14),HEXCR-7196(30)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352112
Report Date: 09/26/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2352112-11G	Plastic 120ml unpreserved	A	NA		3.8	Y	Absent		TS(7)
L2352112-12A	Vial HCl preserved	NA	NA			Y	Absent		PA-8260(14)
L2352112-12B	Vial HCl preserved	NA	NA			Y	Absent		PA-8260(14)
L2352112-12C	Vial Na2S2O3 preserved	NA	NA			Y	Absent		8011(14)
L2352112-12D	Plastic 250ml unpreserved	A	7	7	3.8	Y	Absent		HEXCR-7196(1)
L2352112-12E	Plastic 250ml NaOH preserved	NA	NA			Y	Absent		TCN-9010-PPB(14)
L2352112-12F	Amber 1000ml unpreserved	NA	NA			Y	Absent		SUB-8270(7)
L2352112-12G	Amber 1000ml unpreserved	NA	NA			Y	Absent		SUB-8270(7)
L2352112-12H	Plastic 250ml HNO3 preserved	A	<2	<2	3.8	Y	Absent		SB-6020T-PPB(180),CR-6020T-PPB(180),PB-6020T-PPB(180),AS-6020T-PPB(180),NI-6020T-PPB(180),V-6020T-PPB(180)
L2352112-13A	Vial Na2S2O3 preserved	NA	NA			Y	Absent		8011(14)
L2352112-13B	Vial HCl preserved	NA	NA			Y	Absent		PA-8260(14)

*Values in parentheses indicate holding time in days

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352112
Project Number:	200.00135.007	**Report Date:**	09/26/23

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352112
Project Number:	200.00135.007	**Report Date:**	09/26/23

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352112
Project Number:	200.00135.007	**Report Date:**	09/26/23

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352112
Project Number:	200.00135.007	**Report Date:**	09/26/23

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

Date Rec'd in Lab: 9/8/23

ALPHA Job #: L2352112

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609-584-6070
Fax:
Email: william.schmidt@ransomenv.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: PES Refinery
Project Location: Philadelphia
Project #: 200.00135
Project Manager: William Schmidt
ALPHA Quote #:

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 #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS: See attached Table 1

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments	TOTAL # BOTTLES
52112-01	GPSP-16	9/7/23	11:35	S	ND		7
02	GPSP-20		12:05				7
03	GPSP-22		12:25				7
04	GPSP-02		13:15				7
05	GPSP-03		13:45				7
06	GPSP-08		14:15				7
07	GPSP-07		14:45				7
08	GPSP-21		15:05				7
09	GPSP-15		15:30				7
10	GPSP-18		15:45				7

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	9/7/23 16:40	[illegible]	9/7/23 16:40
[illegible]	9/7/23 1810	[illegible]	9/8/23 1800
[illegible]	9/7/23 2100	Anthony Green	SEP 07 2023 2100
Anthony Green	9/8/23 0315		09/22 0315

9/8/23 0315
9/8/23 0315

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.

FORM NO: 01-01 (rev. 14-OCT-07)

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd In Lab: 9/8/23

ALPHA Job #: L2352412

ALPHA LABORATORIES
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609-584-0090
Fax:
Email: william.schmidt@ransomenv.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: PES Refinery
Project Location: Philadelphia
Project #: 200.00135
Project Manager: William Schmidt
ALPHA Quote #:

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 #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS: see attached Table 7

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments	Total # Bottles
52112-11	GPSP-19	9/7/23	16:00	S	ND		7

Container Type	
Preservative	

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	9/7/23 16:40	[signature]	9/7/23 1640
[signature]	9/7/23 1800	[signature]	9/7/23 1800
[signature]	9/7/23 2100	Anthony Green	SEP 07 2023 2100
[signature]	[illegible]	[signature]	9/8/23 0115

9/8/23 035
9/8/23 035

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.

FORM NO: 01-01 (rev. 14-OCT-07)

Table 1
Proposed Target Analyte List and Analytical Methods
Tanks 1086 and 1087 Storage Pad and the Girard Point Waste Storage Pad
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Constituents for Analysis	Analytical Method
Volatile Organic Compounds	*SW-846 Method 8260*
Benzene	
1,2-Dibromoethane (EBD)	
1,2-Dichloroethane (EDC)	
Carbon Disulfide	
Ethyl Benzene	
Isopropylbenzene (Cumene)	
Methyl Tertiary Butyl Ether (MTBE)	
Toluene	
1,2,4-Trimethylbenzene	
1,3,5-Trimethylbenzene	
Xylenes (total)	
Semi-Volatile Compounds	*SW-846 Method 8270*
Acenaphthene	
Anthracene	
Benzo(a)anthracene	
Benzo(a)pyrene	
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Benzo(g,h,i)perylene	
bis(2-Ethylhexyl)phthalate	
Chrysene	
Dibenz(a,h)anthracene	
Di-n-butylphthalate	
7,12-Dimethylbenz(a)anthracene	
2,4-Dimethylphenol	
Fluorene	
Indeno(1,2,3-cd)pyrene	
3-Methylcholanthrene	
2-Methylphenol	
3-Methylphenol	
4-Methylphenol	
Naphthalene	
o-cresol	
m-cresol	
p-resol	
Phenanthrene	
Phenol	
Pyrene	
Metals	
Antimony	*SW-846 Method 6010*
Arsenic	
Cyanide (total)	*SW-846 Method 9012*
Lead	
Nickel	*SW-846 Method 6010*
Vanadium	
Chromium (total)	
Chromium (hexavalent)	*SW-846 Method 7196*

Notes:
1) The Evergreen and PADEP agreed upon Philadelphia Refinery Target Compound List is provided in regular font.
2) Additional analytes based on the waste codes for the waste stored at the GP Waste Stroage Pad are italicized.
3) The Tanks 1086 and 1087 Storage Pad samples will also be analyzed for pH.

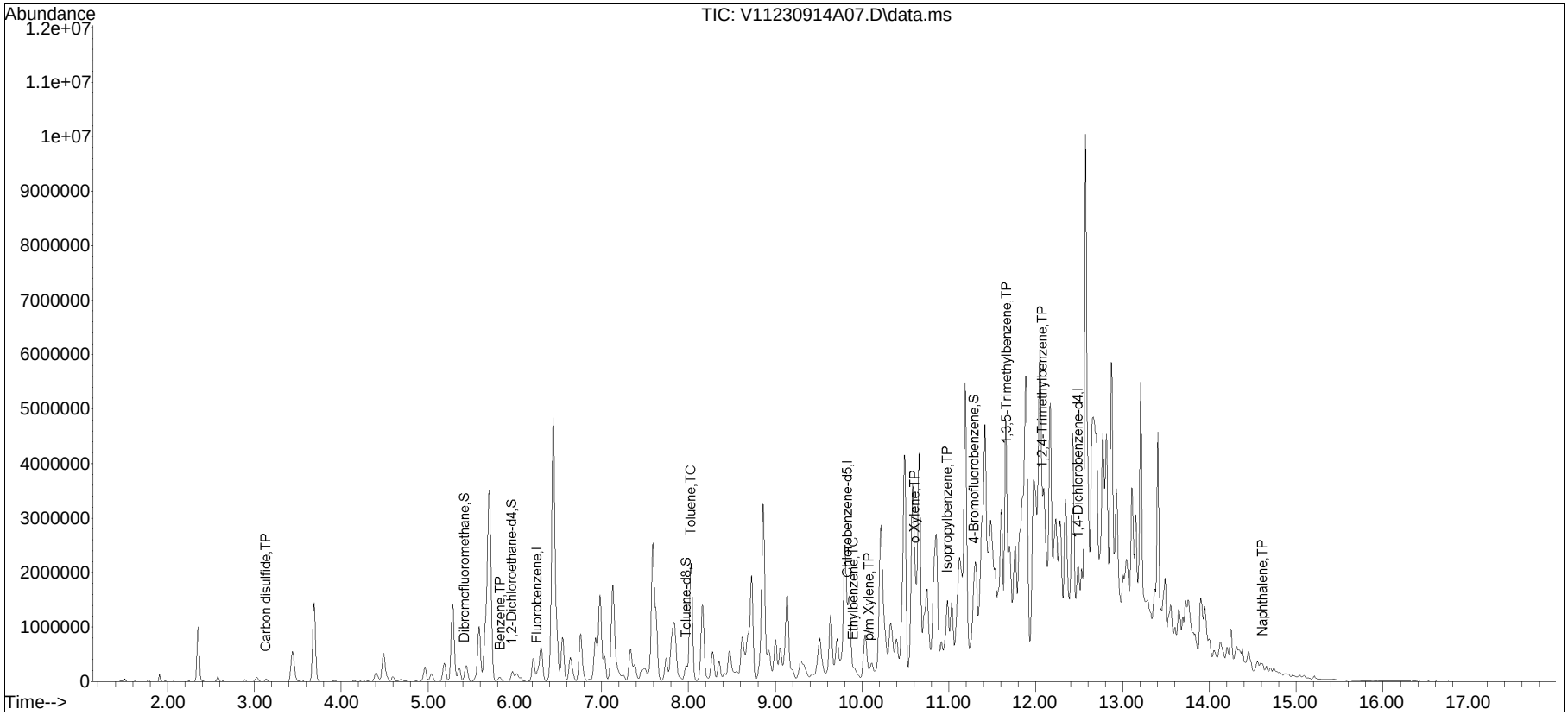
Serial_No:09262313:51

Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2023\230914A\
Data File : V11230914A07.D
Acq On : 14 Sep 2023 10:20 am
Operator : VOA111:AJK
Sample : l2352112-02,31,6.51,5,,b
Misc : WG1827881,ICAL20211
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 14 12:40:26 2023
Quant Method : K:\VOA111\2023\230914A\V111_230727N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Jul 28 06:34:25 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS2•

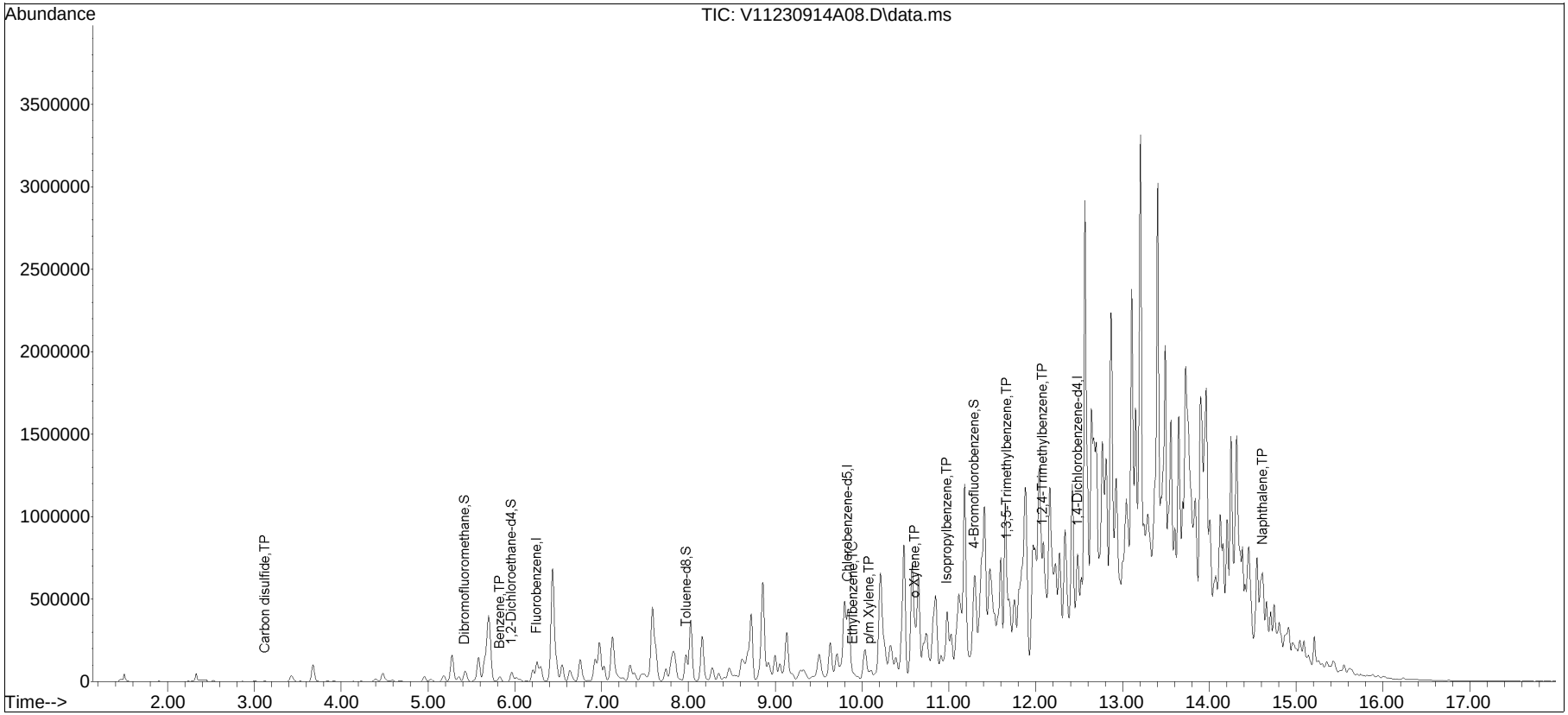


Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2023\230914A\
Data File : V11230914A08.D
Acq On : 14 Sep 2023 10:45 am
Operator : VOA111:AJK
Sample : l2352112-02,31h,5.35,5,0.100,,a
Misc : WG1827883,ICAL20211
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 14 12:40:42 2023
Quant Method : K:\VOA111\2023\230914A\V111_230727N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Jul 28 06:34:25 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS2•

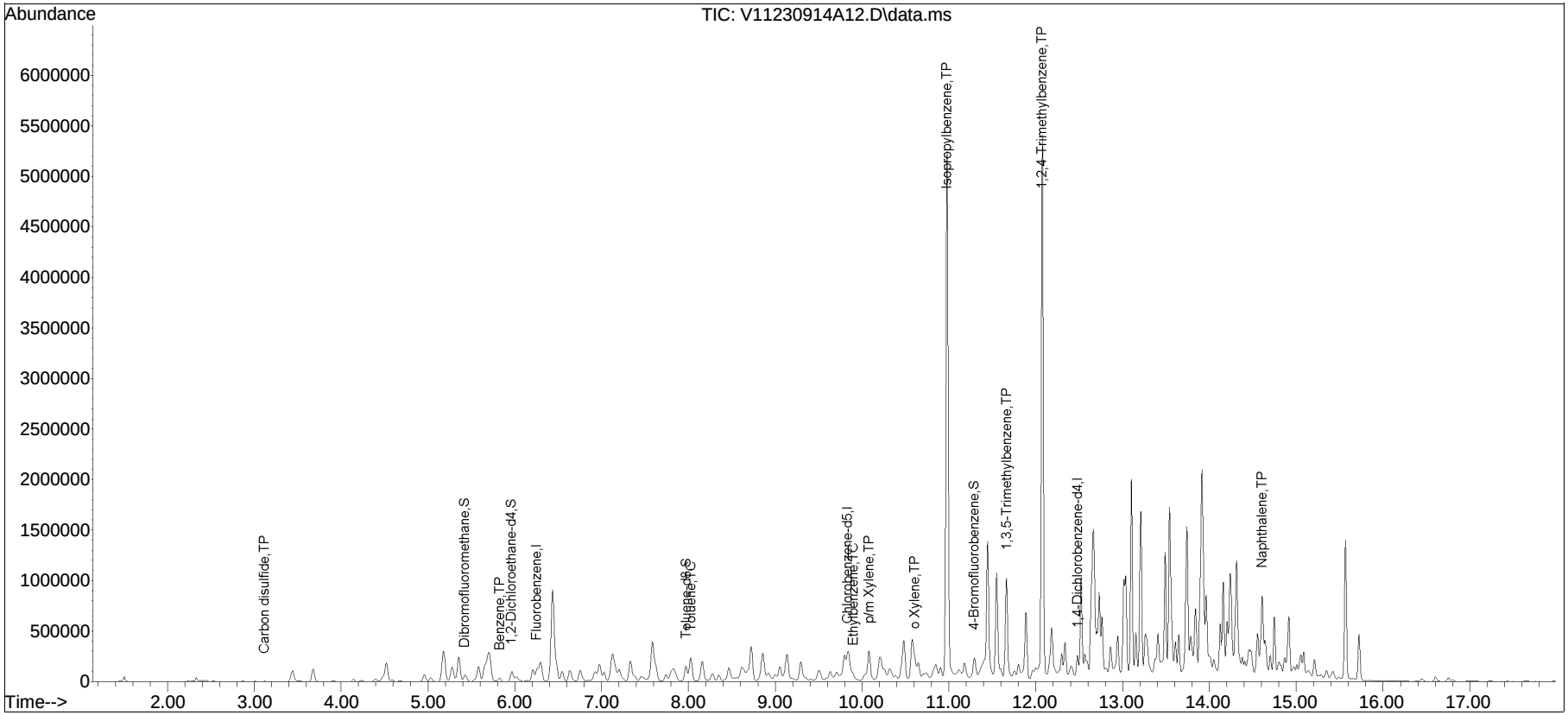


Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2023\230914A\
Data File : V11230914A12.D
Acq On : 14 Sep 2023 12:26 pm
Operator : VOA111:AJK
Sample : l2352112-05,31h,4.87,5,0.100,,a
Misc : WG1827883,ICAL20211
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 14 13:37:39 2023
Quant Method : K:\VOA111\2023\230914A\V111_230727N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Jul 28 06:34:25 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS2•

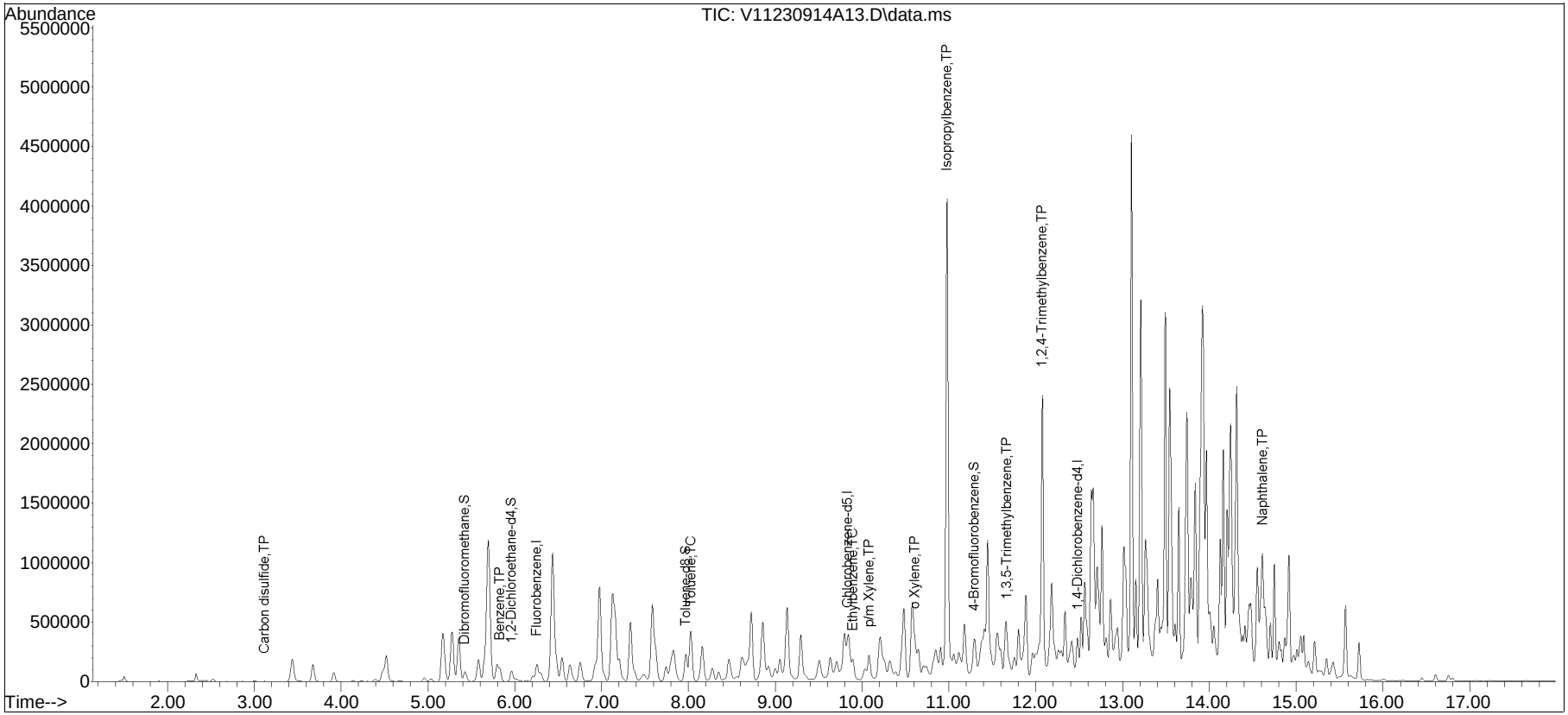


Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2023\230914A\
Data File : V11230914A13.D
Acq On : 14 Sep 2023 12:52 pm
Operator : VOA111:AJK
Sample : l2352112-07,31h,5.65,5,0.100,,a
Misc : WG1827883,ICAL20211
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 14 13:36:40 2023
Quant Method : K:\VOA111\2023\230914A\V111_230727N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Jul 28 06:34:25 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS2•

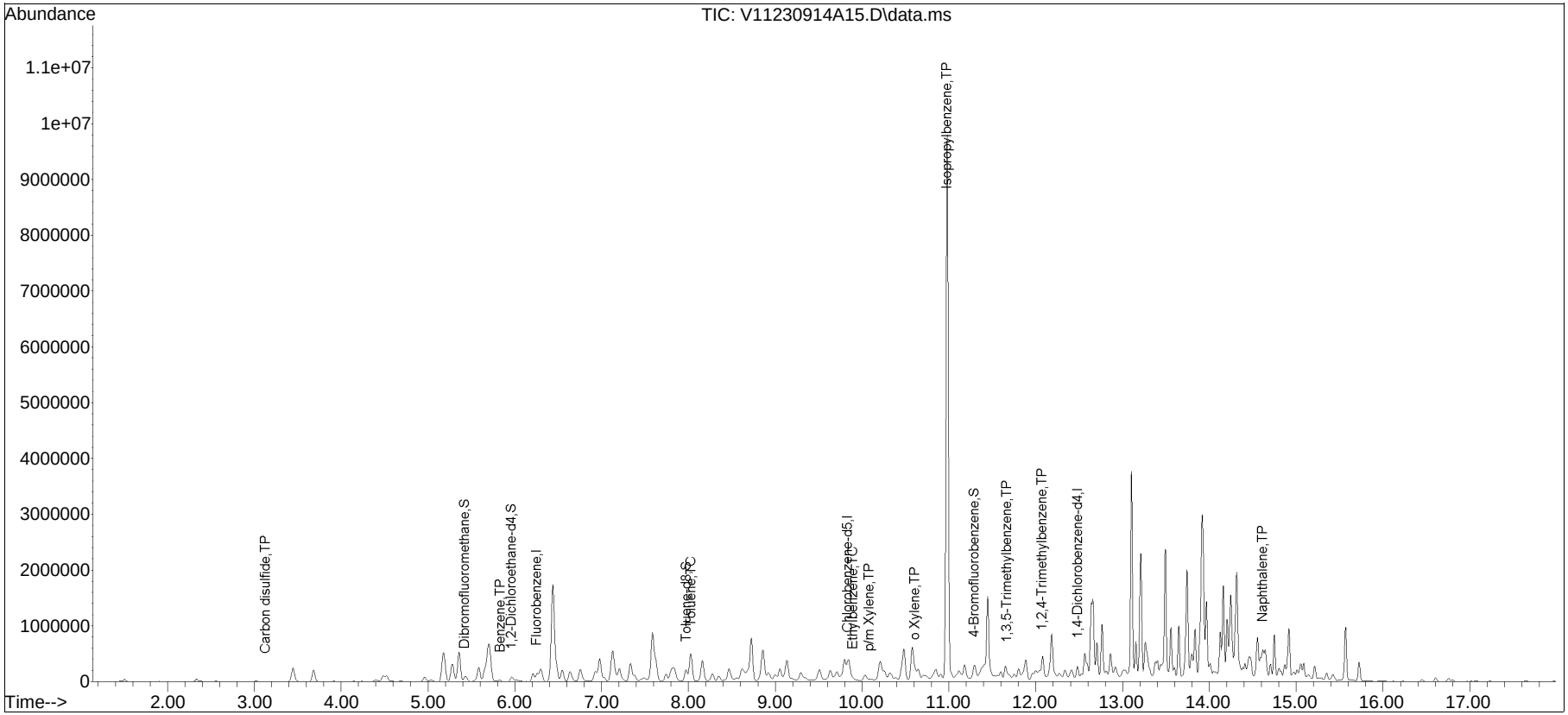


Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2023\230914A\
Data File : V11230914A15.D
Acq On : 14 Sep 2023 01:42 pm
Operator : VOA111:AJK
Sample : l2352112-09d2,31h,6.53,5,0.04,,a
Misc : WG1827883,ICAL20211
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Sep 14 14:54:53 2023
Quant Method : K:\VOA111\2023\230914A\V111_230727N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Jul 28 06:34:25 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS2•

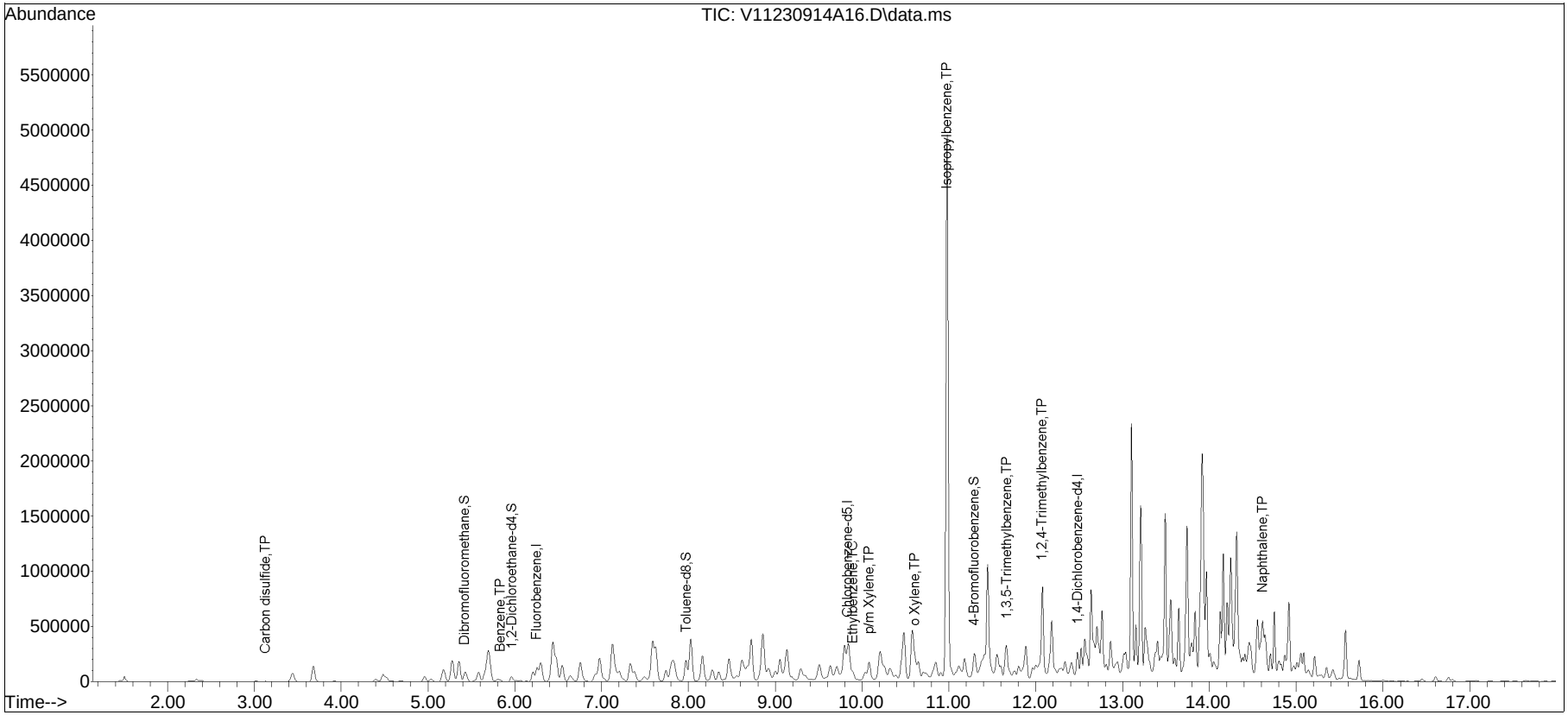


Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2023\230914A\
Data File : V11230914A16.D
Acq On : 14 Sep 2023 02:07 pm
Operator : VOA111:AJK
Sample : l2352112-10d2,31h,6.72,5,0.05,,a
Misc : WG1827883,ICAL20211
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 14 14:54:14 2023
Quant Method : K:\VOA111\2023\230914A\V111_230727N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Jul 28 06:34:25 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS2•



Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

September 26, 2023

Reports
Alpha Analytical
8 Walkup Drive
Westborough, MA 01581

RE: Project: L2352112
Pace Project No.: 70270217

Dear Reports:

Enclosed are the analytical results for sample(s) received by the laboratory on September 12, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Melville

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Matthew T. Nemeth for
Jack M. Germano
jack.germano@pacelabs.com
516-370-6012
Project Manager

Enclosures

cc: Michael Chang, Alpha Analytical
Candace Fox, Alpha Analytical
Candy Fox, Alpha Analytical
Nicole Galamb, Alpha Analytical
Brenda Pirinelli, Alpha Analytical
Marty Vitanza, Alpha
Nadine Yakes, Alpha Analytical

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

CERTIFICATIONS

Project: L2352112
Pace Project No.: 70270217

Pace Analytical Services Long Island
575 Broad Hollow Rd, Melville, NY 11747
Connecticut Certification #: PH-0435
Delaware Certification # NY 10478
Maryland Certification #: 208
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987
New Jersey Certification #: NY158
New York Certification #: 10478 Primary Accrediting Body
Pennsylvania Certification #: 68-00350
Rhode Island Certification #: LAO00340
Virginia Certification # 460302

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575 Broad Hollow Road
Melville, NY 11747
516-370-6000

ANALYTICAL RESULTS

Project: L2352112
Pace Project No.: 70270217

Sample: GPSP-16-SS01 **Lab ID: 70270217001** Collected: 09/07/23 11:35 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**74600**	ug/kg	16700	200	09/13/23 14:50	09/20/23 00:12	83-32-9	
Anthracene	**124000**	ug/kg	16700	200	09/13/23 14:50	09/20/23 00:12	120-12-7	
Benzo(a)anthracene	**151000**	ug/kg	16700	200	09/13/23 14:50	09/20/23 00:12	56-55-3	
Benzo(a)pyrene	**144000**	ug/kg	16700	200	09/13/23 14:50	09/20/23 00:12	50-32-8	
Benzo(b)fluoranthene	**154000**	ug/kg	16700	200	09/13/23 14:50	09/20/23 00:12	205-99-2	
Benzo(g,h,i)perylene	**40400**	ug/kg	834	10	09/13/23 14:50	09/19/23 01:37	191-24-2	
Benzo(k)fluoranthene	**55200**	ug/kg	834	10	09/13/23 14:50	09/19/23 01:37	207-08-9	
Chrysene	**158000**	ug/kg	16700	200	09/13/23 14:50	09/20/23 00:12	218-01-9	
Dibenz(a,h)anthracene	**11900**	ug/kg	834	10	09/13/23 14:50	09/19/23 01:37	53-70-3	
7,12-Dimethylbenz(a)anthracene	**<834**	ug/kg	834	10	09/13/23 14:50	09/19/23 01:37	57-97-6	L2
2,4-Dimethylphenol	**<834**	ug/kg	834	10	09/13/23 14:50	09/19/23 01:37	105-67-9	
Di-n-butylphthalate	**<834**	ug/kg	834	10	09/13/23 14:50	09/19/23 01:37	84-74-2	
bis(2-Ethylhexyl)phthalate	**<834**	ug/kg	834	10	09/13/23 14:50	09/19/23 01:37	117-81-7	
Fluorene	**105000**	ug/kg	16700	200	09/13/23 14:50	09/20/23 00:12	86-73-7	
Indeno(1,2,3-cd)pyrene	**65700**	ug/kg	16700	200	09/13/23 14:50	09/20/23 00:12	193-39-5	
3-Methylcholanthrene	**<4110**	ug/kg	4110	10	09/13/23 14:50	09/19/23 01:37	56-49-5	L2
2-Methylphenol(o-Cresol)	**<834**	ug/kg	834	10	09/13/23 14:50	09/19/23 01:37	95-48-7	
3&4-Methylphenol(m&p Cresol)	**896**	ug/kg	834	10	09/13/23 14:50	09/19/23 01:37		
Naphthalene	**152000**	ug/kg	16700	200	09/13/23 14:50	09/20/23 00:12	91-20-3	
Phenanthrene	**471000**	ug/kg	16700	200	09/13/23 14:50	09/20/23 00:12	85-01-8	
Phenol	**<834**	ug/kg	834	10	09/13/23 14:50	09/19/23 01:37	108-95-2	
Pyrene	**292000**	ug/kg	16700	200	09/13/23 14:50	09/20/23 00:12	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	52	%	10-93	10	09/13/23 14:50	09/19/23 01:37	4165-60-0	
2-Fluorobiphenyl (S)	53	%	10-98	10	09/13/23 14:50	09/19/23 01:37	321-60-8	
p-Terphenyl-d14 (S)	72	%	10-117	10	09/13/23 14:50	09/19/23 01:37	1718-51-0	
Phenol-d5 (S)	38	%	10-94	10	09/13/23 14:50	09/19/23 01:37	4165-62-2	
2-Fluorophenol (S)	39	%	10-98	10	09/13/23 14:50	09/19/23 01:37	367-12-4	
2,4,6-Tribromophenol (S)	28	%	10-115	10	09/13/23 14:50	09/19/23 01:37	118-79-6	v1
2-Chlorophenol-d4 (S)	37	%	10-93	10	09/13/23 14:50	09/19/23 01:37	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	47	%	10-81	10	09/13/23 14:50	09/19/23 01:37	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**20.7**	%	0.10	1		09/15/23 10:50		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

ANALYTICAL RESULTS

Project: L2352112
Pace Project No.: 70270217

Sample: GPSP-20-SS01 **Lab ID: 70270217002** Collected: 09/07/23 12:05 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**1930**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	83-32-9	
Anthracene	**2470**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	120-12-7	
Benzo(a)anthracene	**2390**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	56-55-3	
Benzo(a)pyrene	**2150**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	50-32-8	
Benzo(b)fluoranthene	**2380**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	205-99-2	
Benzo(g,h,i)perylene	**<773**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	191-24-2	
Benzo(k)fluoranthene	**1130**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	207-08-9	
Chrysene	**2690**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	218-01-9	
Dibenz(a,h)anthracene	**<773**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	53-70-3	
7,12-Dimethylbenz(a)anthracene	**<773**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	57-97-6	L2
2,4-Dimethylphenol	**<773**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	105-67-9	
Di-n-butylphthalate	**<773**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	84-74-2	
bis(2-Ethylhexyl)phthalate	**<773**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	117-81-7	
Fluorene	**2980**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	86-73-7	
Indeno(1,2,3-cd)pyrene	**<773**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	193-39-5	
3-Methylcholanthrene	**<3810**	ug/kg	3810	10	09/13/23 14:50	09/19/23 02:10	56-49-5	L2
2-Methylphenol(o-Cresol)	**<773**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<773**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10		
Naphthalene	**1400**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	91-20-3	
Phenanthrene	**7620**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	85-01-8	
Phenol	**<773**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	108-95-2	
Pyrene	**5590**	ug/kg	773	10	09/13/23 14:50	09/19/23 02:10	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	63	%	10-93	10	09/13/23 14:50	09/19/23 02:10	4165-60-0	
2-Fluorobiphenyl (S)	56	%	10-98	10	09/13/23 14:50	09/19/23 02:10	321-60-8	
p-Terphenyl-d14 (S)	60	%	10-117	10	09/13/23 14:50	09/19/23 02:10	1718-51-0	
Phenol-d5 (S)	43	%	10-94	10	09/13/23 14:50	09/19/23 02:10	4165-62-2	
2-Fluorophenol (S)	50	%	10-98	10	09/13/23 14:50	09/19/23 02:10	367-12-4	
2,4,6-Tribromophenol (S)	26	%	10-115	10	09/13/23 14:50	09/19/23 02:10	118-79-6	v1
2-Chlorophenol-d4 (S)	46	%	10-93	10	09/13/23 14:50	09/19/23 02:10	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	54	%	10-81	10	09/13/23 14:50	09/19/23 02:10	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**16.1**	%	0.10	1		09/15/23 10:52		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

ANALYTICAL RESULTS

Project: L2352112
Pace Project No.: 70270217

Sample: GPSP-22-SS01 **Lab ID: 70270217003** Collected: 09/07/23 12:25 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**2350**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	83-32-9	
Anthracene	**2360**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	120-12-7	
Benzo(a)anthracene	**3800**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	56-55-3	
Benzo(a)pyrene	**3520**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	50-32-8	
Benzo(b)fluoranthene	**2920**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	205-99-2	
Benzo(g,h,i)perylene	**1020**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	191-24-2	
Benzo(k)fluoranthene	**1170**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	207-08-9	
Chrysene	**6650**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	218-01-9	
Dibenz(a,h)anthracene	**<849**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	53-70-3	
7,12-Dimethylbenz(a)anthracene	**3090**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	57-97-6	L2
2,4-Dimethylphenol	**<849**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	105-67-9	
Di-n-butylphthalate	**<849**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	84-74-2	
bis(2-Ethylhexyl)phthalate	**<849**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	117-81-7	
Fluorene	**3780**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	86-73-7	
Indeno(1,2,3-cd)pyrene	**1030**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	193-39-5	
3-Methylcholanthrene	**<4180**	ug/kg	4180	10	09/13/23 14:50	09/19/23 02:43	56-49-5	L2
2-Methylphenol(o-Cresol)	**<849**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<849**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43		
Naphthalene	**5250**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	91-20-3	
Phenanthrene	**14900**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	85-01-8	
Phenol	**1200**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	108-95-2	
Pyrene	**9290**	ug/kg	849	10	09/13/23 14:50	09/19/23 02:43	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	58	%	10-93	10	09/13/23 14:50	09/19/23 02:43	4165-60-0	
2-Fluorobiphenyl (S)	63	%	10-98	10	09/13/23 14:50	09/19/23 02:43	321-60-8	
p-Terphenyl-d14 (S)	74	%	10-117	10	09/13/23 14:50	09/19/23 02:43	1718-51-0	
Phenol-d5 (S)	56	%	10-94	10	09/13/23 14:50	09/19/23 02:43	4165-62-2	
2-Fluorophenol (S)	53	%	10-98	10	09/13/23 14:50	09/19/23 02:43	367-12-4	
2,4,6-Tribromophenol (S)	49	%	10-115	10	09/13/23 14:50	09/19/23 02:43	118-79-6	v1
2-Chlorophenol-d4 (S)	53	%	10-93	10	09/13/23 14:50	09/19/23 02:43	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	54	%	10-81	10	09/13/23 14:50	09/19/23 02:43	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**23.0**	%	0.10	1		09/15/23 10:52		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

ANALYTICAL RESULTS

Project: L2352112
Pace Project No.: 70270217

Sample: GPSP-02-SS01 **Lab ID: 70270217004** Collected: 09/07/23 13:15 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**1200**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	83-32-9	
Anthracene	**1390**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	120-12-7	
Benzo(a)anthracene	**2050**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	56-55-3	
Benzo(a)pyrene	**2650**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	50-32-8	
Benzo(b)fluoranthene	**3070**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	205-99-2	
Benzo(g,h,i)perylene	**1110**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	191-24-2	
Benzo(k)fluoranthene	**1590**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	207-08-9	
Chrysene	**2790**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	218-01-9	
Dibenz(a,h)anthracene	**<857**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	53-70-3	
7,12-Dimethylbenz(a)anthracene	**<857**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	57-97-6	L2
2,4-Dimethylphenol	**<857**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	105-67-9	
Di-n-butylphthalate	**<857**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	84-74-2	
bis(2-Ethylhexyl)phthalate	**<857**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	117-81-7	
Fluorene	**1710**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	86-73-7	
Indeno(1,2,3-cd)pyrene	**1220**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	193-39-5	
3-Methylcholanthrene	**<4220**	ug/kg	4220	10	09/13/23 14:50	09/19/23 03:16	56-49-5	L2
2-Methylphenol(o-Cresol)	**<857**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<857**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16		
Naphthalene	**2630**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	91-20-3	
Phenanthrene	**4160**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	85-01-8	
Phenol	**<857**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	108-95-2	
Pyrene	**4070**	ug/kg	857	10	09/13/23 14:50	09/19/23 03:16	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	37	%	10-93	10	09/13/23 14:50	09/19/23 03:16	4165-60-0	
2-Fluorobiphenyl (S)	44	%	10-98	10	09/13/23 14:50	09/19/23 03:16	321-60-8	
p-Terphenyl-d14 (S)	50	%	10-117	10	09/13/23 14:50	09/19/23 03:16	1718-51-0	
Phenol-d5 (S)	36	%	10-94	10	09/13/23 14:50	09/19/23 03:16	4165-62-2	
2-Fluorophenol (S)	33	%	10-98	10	09/13/23 14:50	09/19/23 03:16	367-12-4	
2,4,6-Tribromophenol (S)	36	%	10-115	10	09/13/23 14:50	09/19/23 03:16	118-79-6	v1
2-Chlorophenol-d4 (S)	36	%	10-93	10	09/13/23 14:50	09/19/23 03:16	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	41	%	10-81	10	09/13/23 14:50	09/19/23 03:16	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**22.2**	%	0.10	1		09/15/23 10:53		

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516-370-6000

ANALYTICAL RESULTS

Project: L2352112
Pace Project No.: 70270217

Sample: GPSP-03-SS01 **Lab ID: 70270217005** Collected: 09/07/23 13:45 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**13100**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	83-32-9	
Anthracene	**17500**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	120-12-7	
Benzo(a)anthracene	**32000**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	56-55-3	
Benzo(a)pyrene	**34300**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	50-32-8	
Benzo(b)fluoranthene	**22400**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	205-99-2	
Benzo(g,h,i)perylene	**6310**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	191-24-2	
Benzo(k)fluoranthene	**4600**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	207-08-9	
Chrysene	**70500**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	218-01-9	
Dibenz(a,h)anthracene	**<914**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	53-70-3	
7,12-Dimethylbenz(a)anthracene	**38600**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	57-97-6	L2
2,4-Dimethylphenol	**<914**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	105-67-9	
Di-n-butylphthalate	**<914**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	84-74-2	
bis(2-Ethylhexyl)phthalate	**<914**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	117-81-7	
Fluorene	**44400**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	86-73-7	
Indeno(1,2,3-cd)pyrene	**3310**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	193-39-5	
3-Methylcholanthrene	**<4500**	ug/kg	4500	10	09/13/23 14:50	09/19/23 03:48	56-49-5	L2
2-Methylphenol(o-Cresol)	**<914**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<914**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48		
Naphthalene	**6360**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	91-20-3	
Phenanthrene	**199000**	ug/kg	9140	100	09/13/23 14:50	09/20/23 00:45	85-01-8	
Phenol	**<914**	ug/kg	914	10	09/13/23 14:50	09/19/23 03:48	108-95-2	
Pyrene	**150000**	ug/kg	9140	100	09/13/23 14:50	09/20/23 00:45	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	66	%	10-93	10	09/13/23 14:50	09/19/23 03:48	4165-60-0	
2-Fluorobiphenyl (S)	53	%	10-98	10	09/13/23 14:50	09/19/23 03:48	321-60-8	
p-Terphenyl-d14 (S)	4	%	10-117	10	09/13/23 14:50	09/19/23 03:48	1718-51-0	S4
Phenol-d5 (S)	44	%	10-94	10	09/13/23 14:50	09/19/23 03:48	4165-62-2	
2-Fluorophenol (S)	45	%	10-98	10	09/13/23 14:50	09/19/23 03:48	367-12-4	
2,4,6-Tribromophenol (S)	60	%	10-115	10	09/13/23 14:50	09/19/23 03:48	118-79-6	v1
2-Chlorophenol-d4 (S)	45	%	10-93	10	09/13/23 14:50	09/19/23 03:48	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	45	%	10-81	10	09/13/23 14:50	09/19/23 03:48	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**26.9**	%	0.10	1		09/15/23 10:54		

REPORT OF LABORATORY ANALYSIS

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Melville, NY 11747
516-370-6000

ANALYTICAL RESULTS

Project: L2352112
Pace Project No.: 70270217

Sample: GPSP-08-SS01 **Lab ID: 70270217006** Collected: 09/07/23 14:15 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**9620**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	83-32-9	
Anthracene	**8650**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	120-12-7	
Benzo(a)anthracene	**11800**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	56-55-3	
Benzo(a)pyrene	**9920**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	50-32-8	
Benzo(b)fluoranthene	**9100**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	205-99-2	
Benzo(g,h,i)perylene	**2560**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	191-24-2	
Benzo(k)fluoranthene	**2660**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	207-08-9	
Chrysene	**21200**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	218-01-9	
Dibenz(a,h)anthracene	**<928**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	53-70-3	
7,12-Dimethylbenz(a)anthracene	**6460**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	57-97-6	L2
2,4-Dimethylphenol	**<928**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	105-67-9	
Di-n-butylphthalate	**<928**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	84-74-2	
bis(2-Ethylhexyl)phthalate	**<928**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	117-81-7	
Fluorene	**44400**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	86-73-7	
Indeno(1,2,3-cd)pyrene	**2100**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	193-39-5	
3-Methylcholanthrene	**<4570**	ug/kg	4570	10	09/13/23 14:50	09/19/23 04:21	56-49-5	L2
2-Methylphenol(o-Cresol)	**<928**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<928**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21		
Naphthalene	**1120**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	91-20-3	
Phenanthrene	**89100**	ug/kg	4640	50	09/13/23 14:50	09/20/23 01:17	85-01-8	
Phenol	**<928**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	108-95-2	
Pyrene	**38600**	ug/kg	928	10	09/13/23 14:50	09/19/23 04:21	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	60	%	10-93	10	09/13/23 14:50	09/19/23 04:21	4165-60-0	
2-Fluorobiphenyl (S)	31	%	10-98	10	09/13/23 14:50	09/19/23 04:21	321-60-8	
p-Terphenyl-d14 (S)	45	%	10-117	10	09/13/23 14:50	09/19/23 04:21	1718-51-0	
Phenol-d5 (S)	29	%	10-94	10	09/13/23 14:50	09/19/23 04:21	4165-62-2	
2-Fluorophenol (S)	28	%	10-98	10	09/13/23 14:50	09/19/23 04:21	367-12-4	
2,4,6-Tribromophenol (S)	36	%	10-115	10	09/13/23 14:50	09/19/23 04:21	118-79-6	v1
2-Chlorophenol-d4 (S)	27	%	10-93	10	09/13/23 14:50	09/19/23 04:21	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	31	%	10-81	10	09/13/23 14:50	09/19/23 04:21	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**28.3**	%	0.10	1		09/15/23 10:54		

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575 Broad Hollow Road
Melville, NY 11747
516-370-6000

ANALYTICAL RESULTS

Project: L2352112
Pace Project No.: 70270217

Sample: GPSP-07-SS01 **Lab ID: 70270217007** Collected: 09/07/23 14:45 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**1040**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	83-32-9	
Anthracene	**782**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	120-12-7	
Benzo(a)anthracene	**2000**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	56-55-3	
Benzo(a)pyrene	**1370**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	50-32-8	
Benzo(b)fluoranthene	**899**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	205-99-2	
Benzo(g,h,i)perylene	**<719**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	191-24-2	
Benzo(k)fluoranthene	**<719**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	207-08-9	
Chrysene	**3960**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	218-01-9	
Dibenz(a,h)anthracene	**<719**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	53-70-3	
7,12-Dimethylbenz(a)anthracene	**1070**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	57-97-6	
2,4-Dimethylphenol	**<719**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	105-67-9	
Di-n-butylphthalate	**<719**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	84-74-2	
bis(2-Ethylhexyl)phthalate	**<719**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	117-81-7	
Fluorene	**3890**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	86-73-7	
Indeno(1,2,3-cd)pyrene	**<719**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	193-39-5	
3-Methylcholanthrene	**<3540**	ug/kg	3540	10	09/20/23 15:05	09/23/23 02:43	56-49-5	
2-Methylphenol(o-Cresol)	**<719**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<719**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43		
Naphthalene	**<719**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	91-20-3	
Phenanthrene	**7440**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	85-01-8	
Phenol	**<719**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	108-95-2	
Pyrene	**5530**	ug/kg	719	10	09/20/23 15:05	09/23/23 02:43	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	27	%	10-93	10	09/20/23 15:05	09/23/23 02:43	4165-60-0	
2-Fluorobiphenyl (S)	27	%	10-98	10	09/20/23 15:05	09/23/23 02:43	321-60-8	
p-Terphenyl-d14 (S)	29	%	10-117	10	09/20/23 15:05	09/23/23 02:43	1718-51-0	
Phenol-d5 (S)	23	%	10-94	10	09/20/23 15:05	09/23/23 02:43	4165-62-2	
2-Fluorophenol (S)	21	%	10-98	10	09/20/23 15:05	09/23/23 02:43	367-12-4	
2,4,6-Tribromophenol (S)	25	%	10-115	10	09/20/23 15:05	09/23/23 02:43	118-79-6	v1
2-Chlorophenol-d4 (S)	23	%	10-93	10	09/20/23 15:05	09/23/23 02:43	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	23	%	10-81	10	09/20/23 15:05	09/23/23 02:43	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**8.4**	%	0.10	1		09/15/23 10:55		

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516-370-6000

ANALYTICAL RESULTS

Project: L2352112
Pace Project No.: 70270217

Sample: GPSP-21-SS01 **Lab ID: 70270217008** Collected: 09/07/23 15:05 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**3980**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	83-32-9	
Anthracene	**3120**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	120-12-7	
Benzo(a)anthracene	**5090**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	56-55-3	
Benzo(a)pyrene	**3830**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	50-32-8	
Benzo(b)fluoranthene	**<740**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	205-99-2	
Benzo(g,h,i)perylene	**1460**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	191-24-2	
Benzo(k)fluoranthene	**<740**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	207-08-9	
Chrysene	**9820**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	218-01-9	
Dibenz(a,h)anthracene	**<740**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	53-70-3	
7,12-Dimethylbenz(a)anthracene	**2630**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	57-97-6	
2,4-Dimethylphenol	**<740**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	105-67-9	
Di-n-butylphthalate	**<740**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	84-74-2	
bis(2-Ethylhexyl)phthalate	**<740**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	117-81-7	
Fluorene	**13900**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	86-73-7	
Indeno(1,2,3-cd)pyrene	**766**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	193-39-5	
3-Methylcholanthrene	**<3650**	ug/kg	3650	10	09/20/23 15:05	09/23/23 03:13	56-49-5	
2-Methylphenol(o-Cresol)	**<740**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<740**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13		
Naphthalene	**<740**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	91-20-3	
Phenanthrene	**27700**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	85-01-8	
Phenol	**<740**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	108-95-2	
Pyrene	**12800**	ug/kg	740	10	09/20/23 15:05	09/23/23 03:13	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	73	%	10-93	10	09/20/23 15:05	09/23/23 03:13	4165-60-0	
2-Fluorobiphenyl (S)	62	%	10-98	10	09/20/23 15:05	09/23/23 03:13	321-60-8	
p-Terphenyl-d14 (S)	67	%	10-117	10	09/20/23 15:05	09/23/23 03:13	1718-51-0	
Phenol-d5 (S)	51	%	10-94	10	09/20/23 15:05	09/23/23 03:13	4165-62-2	
2-Fluorophenol (S)	47	%	10-98	10	09/20/23 15:05	09/23/23 03:13	367-12-4	
2,4,6-Tribromophenol (S)	52	%	10-115	10	09/20/23 15:05	09/23/23 03:13	118-79-6	v1
2-Chlorophenol-d4 (S)	52	%	10-93	10	09/20/23 15:05	09/23/23 03:13	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	54	%	10-81	10	09/20/23 15:05	09/23/23 03:13	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**11.6**	%	0.10	1		09/15/23 10:56		

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575 Broad Hollow Road
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516-370-6000

ANALYTICAL RESULTS

Project: L2352112
Pace Project No.: 70270217

Sample: GPSP-15-SS01 **Lab ID: 70270217009** Collected: 09/07/23 15:30 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**1570**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	83-32-9	
Anthracene	**1860**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	120-12-7	
Benzo(a)anthracene	**2670**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	56-55-3	
Benzo(a)pyrene	**2180**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	50-32-8	
Benzo(b)fluoranthene	**2220**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	205-99-2	
Benzo(g,h,i)perylene	**898**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	191-24-2	v1
Benzo(k)fluoranthene	**856**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	207-08-9	
Chrysene	**3430**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	218-01-9	
Dibenz(a,h)anthracene	**<818**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	53-70-3	
7,12-Dimethylbenz(a)anthracene	**<818**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	57-97-6	
2,4-Dimethylphenol	**<818**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	105-67-9	
Di-n-butylphthalate	**<818**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	84-74-2	
bis(2-Ethylhexyl)phthalate	**<818**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	117-81-7	
Fluorene	**5340**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	86-73-7	
Indeno(1,2,3-cd)pyrene	**947**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	193-39-5	
3-Methylcholanthrene	**<4030**	ug/kg	4030	10	09/20/23 15:05	09/23/23 03:43	56-49-5	
2-Methylphenol(o-Cresol)	**<818**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<818**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43		
Naphthalene	**<818**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	91-20-3	
Phenanthrene	**9200**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	85-01-8	
Phenol	**<818**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	108-95-2	
Pyrene	**5940**	ug/kg	818	10	09/20/23 15:05	09/23/23 03:43	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	14	%	10-93	10	09/20/23 15:05	09/23/23 03:43	4165-60-0	
2-Fluorobiphenyl (S)	17	%	10-98	10	09/20/23 15:05	09/23/23 03:43	321-60-8	
p-Terphenyl-d14 (S)	17	%	10-117	10	09/20/23 15:05	09/23/23 03:43	1718-51-0	
Phenol-d5 (S)	16	%	10-94	10	09/20/23 15:05	09/23/23 03:43	4165-62-2	
2-Fluorophenol (S)	14	%	10-98	10	09/20/23 15:05	09/23/23 03:43	367-12-4	
2,4,6-Tribromophenol (S)	15	%	10-115	10	09/20/23 15:05	09/23/23 03:43	118-79-6	
2-Chlorophenol-d4 (S)	14	%	10-93	10	09/20/23 15:05	09/23/23 03:43	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	12	%	10-81	10	09/20/23 15:05	09/23/23 03:43	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**19.5**	%	0.10	1		09/15/23 10:57		

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ANALYTICAL RESULTS

Project: L2352112
Pace Project No.: 70270217

Sample: GPSP-18-SS01 **Lab ID: 70270217010** Collected: 09/07/23 15:45 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**3310**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	83-32-9	
Anthracene	**2380**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	120-12-7	
Benzo(a)anthracene	**3750**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	56-55-3	
Benzo(a)pyrene	**2200**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	50-32-8	
Benzo(b)fluoranthene	**<753**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	205-99-2	
Benzo(g,h,i)perylene	**<753**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	191-24-2	
Benzo(k)fluoranthene	**<753**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	207-08-9	
Chrysene	**7320**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	218-01-9	
Dibenz(a,h)anthracene	**<753**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	53-70-3	
7,12-Dimethylbenz(a)anthracene	**2310**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	57-97-6	
2,4-Dimethylphenol	**<753**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	105-67-9	
Di-n-butylphthalate	**<753**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	84-74-2	
bis(2-Ethylhexyl)phthalate	**<753**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	117-81-7	
Fluorene	**14000**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	86-73-7	
Indeno(1,2,3-cd)pyrene	**<753**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	193-39-5	
3-Methylcholanthrene	**<3710**	ug/kg	3710	10	09/20/23 15:05	09/23/23 04:13	56-49-5	
2-Methylphenol(o-Cresol)	**<753**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<753**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13		
Naphthalene	**2550**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	91-20-3	
Phenanthrene	**21700**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	85-01-8	
Phenol	**<753**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	108-95-2	
Pyrene	**10600**	ug/kg	753	10	09/20/23 15:05	09/23/23 04:13	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	52	%	10-93	10	09/20/23 15:05	09/23/23 04:13	4165-60-0	
2-Fluorobiphenyl (S)	45	%	10-98	10	09/20/23 15:05	09/23/23 04:13	321-60-8	
p-Terphenyl-d14 (S)	48	%	10-117	10	09/20/23 15:05	09/23/23 04:13	1718-51-0	
Phenol-d5 (S)	38	%	10-94	10	09/20/23 15:05	09/23/23 04:13	4165-62-2	
2-Fluorophenol (S)	36	%	10-98	10	09/20/23 15:05	09/23/23 04:13	367-12-4	
2,4,6-Tribromophenol (S)	44	%	10-115	10	09/20/23 15:05	09/23/23 04:13	118-79-6	v1
2-Chlorophenol-d4 (S)	40	%	10-93	10	09/20/23 15:05	09/23/23 04:13	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	38	%	10-81	10	09/20/23 15:05	09/23/23 04:13	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**12.5**	%	0.10	1		09/15/23 10:57		

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ANALYTICAL RESULTS

Project: L2352112
Pace Project No.: 70270217

Sample: GPSP-19-SS01 **Lab ID: 70270217011** Collected: 09/07/23 16:00 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**4120**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	83-32-9	
Anthracene	**2720**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	120-12-7	
Benzo(a)anthracene	**2760**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	56-55-3	
Benzo(a)pyrene	**1710**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	50-32-8	
Benzo(b)fluoranthene	**<737**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	205-99-2	
Benzo(g,h,i)perylene	**<737**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	191-24-2	
Benzo(k)fluoranthene	**<737**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	207-08-9	
Chrysene	**6270**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	218-01-9	
Dibenz(a,h)anthracene	**<737**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	53-70-3	
7,12-Dimethylbenz(a)anthracene	**1950**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	57-97-6	
2,4-Dimethylphenol	**<737**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	105-67-9	
Di-n-butylphthalate	**<737**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	84-74-2	
bis(2-Ethylhexyl)phthalate	**1520**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	117-81-7	
Fluorene	**15300**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	86-73-7	
Indeno(1,2,3-cd)pyrene	**<737**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	193-39-5	
3-Methylcholanthrene	**<3630**	ug/kg	3630	10	09/20/23 15:05	09/23/23 04:44	56-49-5	
2-Methylphenol(o-Cresol)	**<737**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<737**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44		
Naphthalene	**3560**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	91-20-3	
Phenanthrene	**25100**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	85-01-8	
Phenol	**<737**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	108-95-2	
Pyrene	**7510**	ug/kg	737	10	09/20/23 15:05	09/23/23 04:44	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	63	%	10-93	10	09/20/23 15:05	09/23/23 04:44	4165-60-0	
2-Fluorobiphenyl (S)	58	%	10-98	10	09/20/23 15:05	09/23/23 04:44	321-60-8	
p-Terphenyl-d14 (S)	64	%	10-117	10	09/20/23 15:05	09/23/23 04:44	1718-51-0	
Phenol-d5 (S)	43	%	10-94	10	09/20/23 15:05	09/23/23 04:44	4165-62-2	
2-Fluorophenol (S)	41	%	10-98	10	09/20/23 15:05	09/23/23 04:44	367-12-4	
2,4,6-Tribromophenol (S)	50	%	10-115	10	09/20/23 15:05	09/23/23 04:44	118-79-6	v1
2-Chlorophenol-d4 (S)	45	%	10-93	10	09/20/23 15:05	09/23/23 04:44	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	43	%	10-81	10	09/20/23 15:05	09/23/23 04:44	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**10.7**	%	0.10	1		09/15/23 10:58		

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ANALYTICAL RESULTS

Project: L2352112
Pace Project No.: 70270217

Sample: FB-230907 **Lab ID: 70270217012** Collected: 09/07/23 16:05 Received: 09/12/23 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3510C Pace Analytical Services - Melville							
Acenaphthene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	83-32-9	H2
Anthracene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	120-12-7	H2
Benzo(a)anthracene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	56-55-3	H2
Benzo(a)pyrene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	50-32-8	H2
Benzo(b)fluoranthene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	205-99-2	H2
Benzo(g,h,i)perylene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	191-24-2	H2
Benzo(k)fluoranthene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	207-08-9	H2
Chrysene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	218-01-9	H2
Dibenz(a,h)anthracene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	53-70-3	H2
7,12-Dimethylbenz(a)anthracene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	57-97-6	H2
2,4-Dimethylphenol	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	105-67-9	H2
Di-n-butylphthalate	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	84-74-2	H2
bis(2-Ethylhexyl)phthalate	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	117-81-7	H2
Fluorene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	86-73-7	H2
Indeno(1,2,3-cd)pyrene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	193-39-5	H2
3-Methylcholanthrene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	56-49-5	H2
2-Methylphenol(o-Cresol)	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	95-48-7	H2
3&4-Methylphenol(m&p Cresol)	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36		H2
Naphthalene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	91-20-3	H2
Phenanthrene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	85-01-8	H2
Phenol	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	108-95-2	H2
Pyrene	**<21.8**	ug/L	21.8	1	09/15/23 22:02	09/18/23 14:36	129-00-0	H2
Surrogates								
Nitrobenzene-d5 (S)	87	%	53-105	1	09/15/23 22:02	09/18/23 14:36	4165-60-0	
2-Fluorobiphenyl (S)	81	%	50-111	1	09/15/23 22:02	09/18/23 14:36	321-60-8	
p-Terphenyl-d14 (S)	87	%	28-142	1	09/15/23 22:02	09/18/23 14:36	1718-51-0	
Phenol-d5 (S)	35	%	12-60	1	09/15/23 22:02	09/18/23 14:36	4165-62-2	
2-Fluorophenol (S)	48	%	22-76	1	09/15/23 22:02	09/18/23 14:36	367-12-4	
2,4,6-Tribromophenol (S)	99	%	55-140	1	09/15/23 22:02	09/18/23 14:36	118-79-6	
2-Chlorophenol-d4 (S)	73	%	46-101	1	09/15/23 22:02	09/18/23 14:36	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	72	%	35-94	1	09/15/23 22:02	09/18/23 14:36	2199-69-1	

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

QUALITY CONTROL DATA

Project: L2352112
Pace Project No.: 70270217

QC Batch: 320030
QC Batch Method: EPA 3545A
Analysis Method: EPA 8270E
Analysis Description: 8270E Solid MSSV
Laboratory: Pace Analytical Services - Melville
Associated Lab Samples: 70270217001, 70270217002, 70270217003, 70270217004, 70270217005, 70270217006

METHOD BLANK: 1630800
Matrix: Solid
Associated Lab Samples: 70270217001, 70270217002, 70270217003, 70270217004, 70270217005, 70270217006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4-Dimethylphenol	ug/kg	<67.0	67.0	09/15/23 17:23	
2-Methylphenol(o-Cresol)	ug/kg	<67.0	67.0	09/15/23 17:23	
3&4-Methylphenol(m&p Cresol)	ug/kg	<67.0	67.0	09/15/23 17:23	
3-Methylcholanthrene	ug/kg	<330	330	09/15/23 17:23	
7,12-Dimethylbenz(a)anthracene	ug/kg	<67.0	67.0	09/15/23 17:23	
Acenaphthene	ug/kg	<67.0	67.0	09/15/23 17:23	
Anthracene	ug/kg	<67.0	67.0	09/15/23 17:23	
Benzo(a)anthracene	ug/kg	<67.0	67.0	09/15/23 17:23	
Benzo(a)pyrene	ug/kg	<67.0	67.0	09/15/23 17:23	
Benzo(b)fluoranthene	ug/kg	<67.0	67.0	09/15/23 17:23	
Benzo(g,h,i)perylene	ug/kg	<67.0	67.0	09/15/23 17:23	
Benzo(k)fluoranthene	ug/kg	<67.0	67.0	09/15/23 17:23	
bis(2-Ethylhexyl)phthalate	ug/kg	<67.0	67.0	09/15/23 17:23	
Chrysene	ug/kg	<67.0	67.0	09/15/23 17:23	
Di-n-butylphthalate	ug/kg	<67.0	67.0	09/15/23 17:23	
Dibenz(a,h)anthracene	ug/kg	<67.0	67.0	09/15/23 17:23	
Fluorene	ug/kg	<67.0	67.0	09/15/23 17:23	
Indeno(1,2,3-cd)pyrene	ug/kg	<67.0	67.0	09/15/23 17:23	
Naphthalene	ug/kg	<67.0	67.0	09/15/23 17:23	
Phenanthrene	ug/kg	<67.0	67.0	09/15/23 17:23	
Phenol	ug/kg	<67.0	67.0	09/15/23 17:23	
Pyrene	ug/kg	<67.0	67.0	09/15/23 17:23	
1,2-Dichlorobenzene-d4 (S)	%	28	10-81	09/15/23 17:23	
2,4,6-Tribromophenol (S)	%	36	10-115	09/15/23 17:23	
2-Chlorophenol-d4 (S)	%	30	10-93	09/15/23 17:23	
2-Fluorobiphenyl (S)	%	33	10-98	09/15/23 17:23	
2-Fluorophenol (S)	%	31	10-98	09/15/23 17:23	
Nitrobenzene-d5 (S)	%	31	10-93	09/15/23 17:23	
p-Terphenyl-d14 (S)	%	48	10-117	09/15/23 17:23	
Phenol-d5 (S)	%	32	10-94	09/15/23 17:23	

LABORATORY CONTROL SAMPLE: 1630801

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dimethylphenol	ug/kg	1670	483	29	16-101	
2-Methylphenol(o-Cresol)	ug/kg	1670	514	31	12-106	
3&4-Methylphenol(m&p Cresol)	ug/kg	1670	506	30	10-112	
3-Methylcholanthrene	ug/kg	1670	592	36	60-140	L2
7,12-Dimethylbenz(a)anthracene	ug/kg	1670	556	33	35-119	L2

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516-370-6000

QUALITY CONTROL DATA

Project: L2352112
Pace Project No.: 70270217

LABORATORY CONTROL SAMPLE: 1630801

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/kg	1670	526	32	15-111	
Anthracene	ug/kg	1670	573	34	17-120	
Benzo(a)anthracene	ug/kg	1670	582	35	17-122	
Benzo(a)pyrene	ug/kg	1670	579	35	16-121	
Benzo(b)fluoranthene	ug/kg	1670	579	35	15-117	
Benzo(g,h,i)perylene	ug/kg	1670	581	35	15-128	
Benzo(k)fluoranthene	ug/kg	1670	603	36	19-120	
bis(2-Ethylhexyl)phthalate	ug/kg	1670	575	34	32-115	
Chrysene	ug/kg	1670	588	35	17-122	
Di-n-butylphthalate	ug/kg	1670	608	36	31-114	
Dibenz(a,h)anthracene	ug/kg	1670	542	33	15-127	
Fluorene	ug/kg	1670	540	32	15-117	
Indeno(1,2,3-cd)pyrene	ug/kg	1670	563	34	14-124	
Naphthalene	ug/kg	1670	528	32	13-107	
Phenanthrene	ug/kg	1670	567	34	17-119	
Phenol	ug/kg	1670	490	29	10-107	
Pyrene	ug/kg	1670	613	37	17-123	
1,2-Dichlorobenzene-d4 (S)	%			27	10-81	
2,4,6-Tribromophenol (S)	%			34	10-115	
2-Chlorophenol-d4 (S)	%			29	10-93	
2-Fluorobiphenyl (S)	%			30	10-98	
2-Fluorophenol (S)	%			29	10-98	
Nitrobenzene-d5 (S)	%			28	10-93	
p-Terphenyl-d14 (S)	%			37	10-117	
Phenol-d5 (S)	%			29	10-94	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1632893 1632894

Parameter	Units	70270216001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
2,4-Dimethylphenol	ug/kg	<973	2450	2450	1570	1470	64	60	10-107	6	
2-Methylphenol(o-Cresol)	ug/kg	<973	2450	2450	1370	1210	56	49	10-111	12	
3&4-Methylphenol(m&p Cresol)	ug/kg	<973	2450	2450	1230	1130	50	46	10-107	8	
3-Methylcholanthrene	ug/kg	<4790	2450	2450	<4840	<4860	58	56			
7,12-Dimethylbenz(a)anthracene	ug/kg	<973	2450	2450	<983	1030	5	18	35-119		M0
Acenaphthene	ug/kg	1760	2450	2450	2920	3050	47	52	18-105	4	
Anthracene	ug/kg	1750	2450	2450	3010	3070	52	54	16-114	2	
Benzo(a)anthracene	ug/kg	4510	2450	2450	3650	3420	-35	-45	19-117	7	M1
Benzo(a)pyrene	ug/kg	4450	2450	2450	3180	2990	-52	-59	18-116	6	M1
Benzo(b)fluoranthene	ug/kg	4160	2450	2450	2430	2320	-71	-75	10-125	5	M1
Benzo(g,h,i)perylene	ug/kg	2620	2450	2450	2490	2370	-5	-10	10-117	5	M1
Benzo(k)fluoranthene	ug/kg	1890	2450	2450	2240	1930	14	1	13-125	15	M1
bis(2-Ethylhexyl)phthalate	ug/kg	<973	2450	2450	1600	1500	65	61	10-135	6	
Chrysene	ug/kg	6820	2450	2450	5370	5220	-59	-65	10-133	3	M1

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QUALITY CONTROL DATA

Project: L2352112
Pace Project No.: 70270217

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1632893 1632894

Parameter	Units	70270216001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Di-n-butylphthalate	ug/kg	<973	2450	2450	1830	1800	75	73	12-121	2	
Dibenz(a,h)anthracene	ug/kg	<973	2450	2450	2060	1690	84	69	10-114	20	
Fluorene	ug/kg	9440	2450	2450	9320	10100	-5	28	19-108	8	M1
Indeno(1,2,3-cd)pyrene	ug/kg	2540	2450	2450	2270	2010	-11	-21	10-116	12	M1
Naphthalene	ug/kg	<973	2450	2450	2120	1940	62	55	13-104	8	
Phenanthrene	ug/kg	14700	2450	2450	13300	14200	-58	-18	10-121	7	M1
Phenol	ug/kg	<973	2450	2450	1160	1050	47	43	10-99	9	
Pyrene	ug/kg	7390	2450	2450	6030	6140	-56	-51	10-142	2	M1
1,2-Dichlorobenzene-d4 (S)	%						47	40	10-81		
2,4,6-Tribromophenol (S)	%						57	60	10-115		v1
2-Chlorophenol-d4 (S)	%						53	48	10-93		
2-Fluorobiphenyl (S)	%						61	62	10-98		
2-Fluorophenol (S)	%						54	48	10-98		
Nitrobenzene-d5 (S)	%						55	49	10-93		
p-Terphenyl-d14 (S)	%						67	67	10-117		
Phenol-d5 (S)	%						53	47	10-94		

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QUALITY CONTROL DATA

Project: L2352112
Pace Project No.: 70270217

QC Batch: 320860
QC Batch Method: EPA 3545A
Analysis Method: EPA 8270E
Analysis Description: 8270E Solid MSSV
Laboratory: Pace Analytical Services - Melville
Associated Lab Samples: 70270217007, 70270217008, 70270217009, 70270217010, 70270217011

METHOD BLANK: 1635376
Matrix: Solid
Associated Lab Samples: 70270217007, 70270217008, 70270217009, 70270217010, 70270217011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4-Dimethylphenol	ug/kg	<67.0	67.0	09/22/23 19:15	
2-Methylphenol(o-Cresol)	ug/kg	<67.0	67.0	09/22/23 19:15	
3&4-Methylphenol(m&p Cresol)	ug/kg	<67.0	67.0	09/22/23 19:15	
3-Methylcholanthrene	ug/kg	<330	330	09/22/23 19:15	
7,12-Dimethylbenz(a)anthracene	ug/kg	<67.0	67.0	09/22/23 19:15	
Acenaphthene	ug/kg	<67.0	67.0	09/22/23 19:15	
Anthracene	ug/kg	<67.0	67.0	09/22/23 19:15	
Benzo(a)anthracene	ug/kg	<67.0	67.0	09/22/23 19:15	
Benzo(a)pyrene	ug/kg	<67.0	67.0	09/22/23 19:15	
Benzo(b)fluoranthene	ug/kg	<67.0	67.0	09/22/23 19:15	
Benzo(g,h,i)perylene	ug/kg	<67.0	67.0	09/22/23 19:15	
Benzo(k)fluoranthene	ug/kg	<67.0	67.0	09/22/23 19:15	
bis(2-Ethylhexyl)phthalate	ug/kg	<67.0	67.0	09/22/23 19:15	
Chrysene	ug/kg	<67.0	67.0	09/22/23 19:15	
Di-n-butylphthalate	ug/kg	<67.0	67.0	09/22/23 19:15	
Dibenz(a,h)anthracene	ug/kg	<67.0	67.0	09/22/23 19:15	
Fluorene	ug/kg	<67.0	67.0	09/22/23 19:15	
Indeno(1,2,3-cd)pyrene	ug/kg	<67.0	67.0	09/22/23 19:15	
Naphthalene	ug/kg	<67.0	67.0	09/22/23 19:15	
Phenanthrene	ug/kg	<67.0	67.0	09/22/23 19:15	
Phenol	ug/kg	<67.0	67.0	09/22/23 19:15	
Pyrene	ug/kg	<67.0	67.0	09/22/23 19:15	
1,2-Dichlorobenzene-d4 (S)	%	40	10-81	09/22/23 19:15	
2,4,6-Tribromophenol (S)	%	50	10-115	09/22/23 19:15	v1
2-Chlorophenol-d4 (S)	%	45	10-93	09/22/23 19:15	
2-Fluorobiphenyl (S)	%	56	10-98	09/22/23 19:15	
2-Fluorophenol (S)	%	44	10-98	09/22/23 19:15	
Nitrobenzene-d5 (S)	%	51	10-93	09/22/23 19:15	
p-Terphenyl-d14 (S)	%	56	10-117	09/22/23 19:15	
Phenol-d5 (S)	%	47	10-94	09/22/23 19:15	

LABORATORY CONTROL SAMPLE: 1635377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dimethylphenol	ug/kg	1670	893	54	16-101	
2-Methylphenol(o-Cresol)	ug/kg	1670	918	55	12-106	
3&4-Methylphenol(m&p Cresol)	ug/kg	1670	1020	61	10-112	
3-Methylcholanthrene	ug/kg	1670	1020	61	60-140	
7,12-Dimethylbenz(a)anthracene	ug/kg	1670	799	48	35-119	

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QUALITY CONTROL DATA

Project: L2352112
Pace Project No.: 70270217

LABORATORY CONTROL SAMPLE: 1635377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/kg	1670	959	58	15-111	
Anthracene	ug/kg	1670	960	58	17-120	
Benzo(a)anthracene	ug/kg	1670	998	60	17-122	
Benzo(a)pyrene	ug/kg	1670	1000	60	16-121	
Benzo(b)fluoranthene	ug/kg	1670	1000	60	15-117	
Benzo(g,h,i)perylene	ug/kg	1670	1060	63	15-128	
Benzo(k)fluoranthene	ug/kg	1670	971	58	19-120	
bis(2-Ethylhexyl)phthalate	ug/kg	1670	1080	65	32-115	
Chrysene	ug/kg	1670	1000	60	17-122	
Di-n-butylphthalate	ug/kg	1670	1020	61	31-114	
Dibenz(a,h)anthracene	ug/kg	1670	992	60	15-127	
Fluorene	ug/kg	1670	1030	62	15-117	
Indeno(1,2,3-cd)pyrene	ug/kg	1670	1000	60	14-124	
Naphthalene	ug/kg	1670	960	58	13-107	
Phenanthrene	ug/kg	1670	1050	63	17-119	
Phenol	ug/kg	1670	870	52	10-107	
Pyrene	ug/kg	1670	1000	60	17-123	
1,2-Dichlorobenzene-d4 (S)	%			53	10-81	
2,4,6-Tribromophenol (S)	%			61	10-115	v1
2-Chlorophenol-d4 (S)	%			57	10-93	
2-Fluorobiphenyl (S)	%			59	10-98	
2-Fluorophenol (S)	%			56	10-98	
Nitrobenzene-d5 (S)	%			60	10-93	
p-Terphenyl-d14 (S)	%			64	10-117	
Phenol-d5 (S)	%			55	10-94	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1635378 1635379

Parameter	Units	70270514002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
2,4-Dimethylphenol	ug/kg	<70.5	1730	1720	549	852	32	49	10-107	43	R1
2-Methylphenol(o-Cresol)	ug/kg	<70.5	1730	1720	608	941	35	55	10-111	43	R1
3&4-Methylphenol(m&p Cresol)	ug/kg	<70.5	1730	1720	631	1120	37	65	10-107	56	R1
3-Methylcholanthrene	ug/kg	<347	1730	1720	631	1290	37	75		69	R1
7,12-Dimethylbenz(a)anthracene	ug/kg	<70.5	1730	1720	579	1030	34	60	35-119	56	M1,R1
Acenaphthene	ug/kg	<70.5	1730	1720	627	960	36	56	18-105	42	R1
Anthracene	ug/kg	<70.5	1730	1720	674	1080	39	63	16-114	46	R1
Benzo(a)anthracene	ug/kg	<70.5	1730	1720	625	1240	36	72	19-117	66	R1
Benzo(a)pyrene	ug/kg	<70.5	1730	1720	632	1250	37	73	18-116	66	R1
Benzo(b)fluoranthene	ug/kg	<70.5	1730	1720	608	1230	35	71	10-125	68	R1
Benzo(g,h,i)perylene	ug/kg	<70.5	1730	1720	631	1270	37	74	10-117	68	R1
Benzo(k)fluoranthene	ug/kg	<70.5	1730	1720	632	1200	37	70	13-125	62	R1
bis(2-Ethylhexyl)phthalate	ug/kg	<70.5	1730	1720	666	1280	39	75	10-135	63	R1
Chrysene	ug/kg	<70.5	1730	1720	627	1230	36	71	10-133	65	R1

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QUALITY CONTROL DATA

Project: L2352112
Pace Project No.: 70270217

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1635378 1635379

Parameter	Units	70270514002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Di-n-butylphthalate	ug/kg	<70.5	1730	1720	678	1130	39	66	12-121	50	R1
Dibenz(a,h)anthracene	ug/kg	<70.5	1730	1720	586	1320	34	76	10-114	77	R1
Fluorene	ug/kg	<70.5	1730	1720	657	1050	38	61	19-108	46	R1
Indeno(1,2,3-cd)pyrene	ug/kg	<70.5	1730	1720	619	1260	36	73	10-116	68	R1
Naphthalene	ug/kg	<70.5	1730	1720	586	998	34	58	13-104	52	R1
Phenanthrene	ug/kg	<70.5	1730	1720	695	1280	40	75	10-121	59	R1
Phenol	ug/kg	<70.5	1730	1720	562	984	33	57	10-99	55	R1
Pyrene	ug/kg	<70.5	1730	1720	635	1240	37	72	10-142	64	R1
1,2-Dichlorobenzene-d4 (S)	%						26	45	10-81		
2,4,6-Tribromophenol (S)	%						28	54	10-115		v1
2-Chlorophenol-d4 (S)	%						24	51	10-93		
2-Fluorobiphenyl (S)	%						27	44	10-98		
2-Fluorophenol (S)	%						24	49	10-98		
Nitrobenzene-d5 (S)	%						27	43	10-93		
p-Terphenyl-d14 (S)	%						30	66	10-117		
Phenol-d5 (S)	%						26	50	10-94		

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QUALITY CONTROL DATA

Project: L2352112
Pace Project No.: 70270217

QC Batch: 320458
QC Batch Method: EPA 3510C
Analysis Method: EPA 8270E
Analysis Description: 8270E Water MSSV
Laboratory: Pace Analytical Services - Melville
Associated Lab Samples: 70270217012

METHOD BLANK: 1633461
Matrix: Water
Associated Lab Samples: 70270217012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4-Dimethylphenol	ug/L	<5.0	5.0	09/18/23 11:33	
2-Methylphenol(o-Cresol)	ug/L	<5.0	5.0	09/18/23 11:33	
3&4-Methylphenol(m&p Cresol)	ug/L	<5.0	5.0	09/18/23 11:33	
3-Methylcholanthrene	ug/L	<5.0	5.0	09/18/23 11:33	
7,12-Dimethylbenz(a)anthracene	ug/L	<5.0	5.0	09/18/23 11:33	
Acenaphthene	ug/L	<5.0	5.0	09/18/23 11:33	
Anthracene	ug/L	<5.0	5.0	09/18/23 11:33	
Benzo(a)anthracene	ug/L	<5.0	5.0	09/18/23 11:33	
Benzo(a)pyrene	ug/L	<5.0	5.0	09/18/23 11:33	
Benzo(b)fluoranthene	ug/L	<5.0	5.0	09/18/23 11:33	
Benzo(g,h,i)perylene	ug/L	<5.0	5.0	09/18/23 11:33	
Benzo(k)fluoranthene	ug/L	<5.0	5.0	09/18/23 11:33	
bis(2-Ethylhexyl)phthalate	ug/L	<5.0	5.0	09/18/23 11:33	
Chrysene	ug/L	<5.0	5.0	09/18/23 11:33	
Di-n-butylphthalate	ug/L	<5.0	5.0	09/18/23 11:33	
Dibenz(a,h)anthracene	ug/L	<5.0	5.0	09/18/23 11:33	
Fluorene	ug/L	<5.0	5.0	09/18/23 11:33	
Indeno(1,2,3-cd)pyrene	ug/L	<5.0	5.0	09/18/23 11:33	
Naphthalene	ug/L	<5.0	5.0	09/18/23 11:33	
Phenanthrene	ug/L	<5.0	5.0	09/18/23 11:33	
Phenol	ug/L	<5.0	5.0	09/18/23 11:33	
Pyrene	ug/L	<5.0	5.0	09/18/23 11:33	
1,2-Dichlorobenzene-d4 (S)	%	66	35-94	09/18/23 11:33	
2,4,6-Tribromophenol (S)	%	89	55-140	09/18/23 11:33	
2-Chlorophenol-d4 (S)	%	66	46-101	09/18/23 11:33	
2-Fluorobiphenyl (S)	%	69	50-111	09/18/23 11:33	
2-Fluorophenol (S)	%	49	22-76	09/18/23 11:33	
Nitrobenzene-d5 (S)	%	81	53-105	09/18/23 11:33	
p-Terphenyl-d14 (S)	%	88	28-142	09/18/23 11:33	
Phenol-d5 (S)	%	35	12-60	09/18/23 11:33	

LABORATORY CONTROL SAMPLE & LCSD: 1633462 1633463

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
2,4-Dimethylphenol	ug/L	25	17.5	17.1	70	69	24-100	2	30	
2-Methylphenol(o-Cresol)	ug/L	25	19.6	19.0	79	76	47-90	3	30	
3&4-Methylphenol(m&p Cresol)	ug/L	25	21.8	20.8	87	83	44-88	4	30	
3-Methylcholanthrene	ug/L	25	26.3	25.5	105	102	43-125	3	30	
7,12-Dimethylbenz(a)anthracene	ug/L	25	22.9	23.3	92	93	49-122	1	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

QUALITY CONTROL DATA

Project: L2352112
Pace Project No.: 70270217

LABORATORY CONTROL SAMPLE & LCSD: 1633462 1633463

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	25	24.0	22.8	96	91	65-115	6	30	
Anthracene	ug/L	25	24.2	23.8	97	95	75-120	2	30	
Benzo(a)anthracene	ug/L	25	24.9	24.6	99	99	66-133	1	30	
Benzo(a)pyrene	ug/L	25	25.9	25.7	104	103	65-130	1	30	
Benzo(b)fluoranthene	ug/L	25	26.6	26.5	107	106	62-128	1	30	
Benzo(g,h,i)perylene	ug/L	25	27.1	27.6	108	110	63-141	2	30	
Benzo(k)fluoranthene	ug/L	25	25.5	24.8	102	99	63-133	3	30	
bis(2-Ethylhexyl)phthalate	ug/L	25	25.6	25.1	103	100	48-167	2	30	
Chrysene	ug/L	25	24.4	23.9	97	96	65-134	2	30	
Di-n-butylphthalate	ug/L	25	24.6	25.2	98	101	73-131	2	30	
Dibenz(a,h)anthracene	ug/L	25	26.3	27.3	105	109	66-138	4	30	
Fluorene	ug/L	25	24.6	24.3	98	97	67-128	1	30	
Indeno(1,2,3-cd)pyrene	ug/L	25	26.1	26.8	104	107	59-142	3	30	
Naphthalene	ug/L	25	22.0	21.5	88	86	42-118	2	30	
Phenanthrene	ug/L	25	25.0	24.2	100	97	70-126	3	30	
Phenol	ug/L	25	10.8	10.3	43	41	22-56	5	30	
Pyrene	ug/L	25	24.3	24.2	97	97	67-130	0	30	
1,2-Dichlorobenzene-d4 (S)	%				71	69	35-94			
2,4,6-Tribromophenol (S)	%				107	104	55-140			
2-Chlorophenol-d4 (S)	%				73	73	46-101			
2-Fluorobiphenyl (S)	%				78	75	50-111			
2-Fluorophenol (S)	%				51	50	22-76			
Nitrobenzene-d5 (S)	%				83	82	53-105			
p-Terphenyl-d14 (S)	%				87	85	28-142			
Phenol-d5 (S)	%				35	34	12-60			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

QUALITY CONTROL DATA

Project: L2352112
Pace Project No.: 70270217

QC Batch:	320343	Analysis Method:	ASTM D2216-05M
QC Batch Method:	ASTM D2216-05M	Analysis Description:	Dry Weight/Percent Moisture
		Laboratory:	Pace Analytical Services - Melville

Associated Lab Samples: 70270217001, 70270217002, 70270217003, 70270217004, 70270217005, 70270217006, 70270217007, 70270217008, 70270217009, 70270217010, 70270217011

SAMPLE DUPLICATE: 1632740

Parameter	Units	70270217001 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	20.7	17.6	16	

SAMPLE DUPLICATE: 1632741

Parameter	Units	70270217011 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	10.7	11.4	7	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

QUALIFIERS

Project: L2352112
Pace Project No.: 70270217

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H2	Extraction or preparation conducted outside EPA method holding time.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.
v1	The continuing calibration verification was above the method acceptance limit. Any detection for the analyte in the associated samples may have a high bias.

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L2352112
Pace Project No.: 70270217

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70270217001	**GPSP-16-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270217002	**GPSP-20-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270217003	**GPSP-22-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270217004	**GPSP-02-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270217005	**GPSP-03-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270217006	**GPSP-08-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270217007	**GPSP-07-SS01**	EPA 3545A	320860	EPA 8270E	321288
70270217008	**GPSP-21-SS01**	EPA 3545A	320860	EPA 8270E	321288
70270217009	**GPSP-15-SS01**	EPA 3545A	320860	EPA 8270E	321288
70270217010	**GPSP-18-SS01**	EPA 3545A	320860	EPA 8270E	321288
70270217011	**GPSP-19-SS01**	EPA 3545A	320860	EPA 8270E	321288
70270217012	**FB-230907**	EPA 3510C	320458	EPA 8270E	320473
70270217001	**GPSP-16-SS01**	ASTM D2216-05M	320343		
70270217002	**GPSP-20-SS01**	ASTM D2216-05M	320343		
70270217003	**GPSP-22-SS01**	ASTM D2216-05M	320343		
70270217004	**GPSP-02-SS01**	ASTM D2216-05M	320343		
70270217005	**GPSP-03-SS01**	ASTM D2216-05M	320343		
70270217006	**GPSP-08-SS01**	ASTM D2216-05M	320343		
70270217007	**GPSP-07-SS01**	ASTM D2216-05M	320343		
70270217008	**GPSP-21-SS01**	ASTM D2216-05M	320343		
70270217009	**GPSP-15-SS01**	ASTM D2216-05M	320343		
70270217010	**GPSP-18-SS01**	ASTM D2216-05M	320343		
70270217011	**GPSP-19-SS01**	ASTM D2216-05M	320343		

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Subcontract Chain of Custody

Pace Analytical (Melville)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2352112

WO# : 70270217
70270217

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Sta
Re

Turnaround & Deliverables Information

Due Date: (RUSH)
Deliverables:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2352112

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com 7d RUSH - ok per lab - see attached reporting list

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GPSP-16-SS01	09-07-23 11:35	SOIL	8270	
	GPSP-20-SS01	09-07-23 12:05	SOIL	8270	
	GPSP-22-SS01	09-07-23 12:25	SOIL	8270	
	GPSP-02-SS01	09-07-23 13:15	SOIL	8270	
	GPSP-03-SS01	09-07-23 13:45	SOIL	8270	
	GPSP-08-SS01	09-07-23 14:15	SOIL	8270	
	GPSP-07-SS01	09-07-23 14:45	SOIL	8270	
	GPSP-21-SS01	09-07-23 15:05	SOIL	8270	
	GPSP-15-SS01	09-07-23 15:30	SOIL	8270	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
Form No: AL_subcoc			[illegible]	9/12/23 07:50

Serial_No:09262313:51

Subcontract Chain of Custody

Pace Analytical (Melville)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2352112

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date: (RUSH)
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2352112

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com 7d RUSH - ok per lab - see attached reporting list

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GPSP-18-SS01	09-07-23 15:45	SOIL	8270	
	GPSP-19-SS01	09-07-23 16:00	SOIL	8270	
	FB-230907	09-07-23 16:05	WATER	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:

Form No: AL_subcoc

Serial_No:09262313:51

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Subcontract Chain of Custody

Pace Analytical (NY)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2352112

ALPHA ANALYTICAL
World Class Chemistry

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date: (RUSH)
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2352112

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com 7d RUSH - ok per lab - see attached reporting list

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GPSP-16	09-07-23 11:35	SOIL	8270	
	GPSP-20	09-07-23 12:05	SOIL	8270	
	GPSP-22	09-07-23 12:25	SOIL	8270	
	GPSP-02	09-07-23 13:15	SOIL	8270	
	GPSP-03	09-07-23 13:45	SOIL	8270	
	GPSP-08	09-07-23 14:15	SOIL	8270	
	GPSP-07	09-07-23 14:45	SOIL	8270	
	GPSP-21	09-07-23 15:05	SOIL	8270	
	GPSP-15	09-07-23 15:30	SOIL	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	9/11/23	[signature] AAC	9/11/23 1700
[signature] AAC	9/11/23 2145	[signature]	9/11/23 21:50
[signature]	9/11/23	[signature] AAZ	9/12/23 4:1
[signature] AAZ	9/12/23 7:50	[signature]	9/12/23 7:50

Form No: AL_subcoc

Serial_No:09262313:51

pg 2082

Subcontract Chain of Custody

Pace Analytical (NY)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2352112

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date: (RUSH)
Deliverables:

Regulatory Requirements

WO#: 70270217
PM: MN2 Due Date: 09/21/23
CLIENT: ALPHA

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2352112

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com 7d RUSH - ok per lab - see attached reporting list

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GPSP-18	09-07-23 15:45	SOIL	8270	
	GPSP-19	09-07-23 16:00	SOIL	8270	
	FIELD BLANK	09-07-23 16:05	WATER	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[illegible]	9/11/23	[illegible]	9/11/23 1200
[illegible]	9/11/23 2145	[illegible]	9/11/23 21:50
[illegible]	9/11/23	[illegible] AA2	9/12/23 4:10
[illegible] AA2	9/12/23 7:50	[illegible] AACEU	9/12/23 7:50

Form No: AL_subcoc

Serial_No:09262313:51

Table 1
Proposed Target Analyte List and Analytical Methods
Tanks 1086 and 1087 Storage Pad and the Girard Point Waste Storage Pad
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Constituents for Analysis	Analytical Method
Volatile Organic Compounds	*SW-846 Method 8260*
Benzene	
1,2-Dibromoethane (EBD)	
1,2-Dichloroethane (EDC)	
Carbon Disulfide	
Ethyl Benzene	
Isopropylbenzene (Cumene)	
Methyl Tertiary Butyl Ether (MTBE)	
Toluene	
1,2,4-Trimethylbenzene	
1,3,5-Trimethylbenzene	
Xylenes (total)	
Semi-Volatile Compounds	*SW-846 Method 8270*
Acenaphthene	
Anthracene	
Benzo(a)anthracene	
Benzo(a)pyrene	
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Benzo(g,h,i)perylene	
bis(2-Ethylhexyl)phthalate	
Chrysene	
Dibenz(a,h)anthracene	
Di-n-butylphthalate	
7,12-Dimethylbenz(a)anthracene	
2,4-Dimethylphenol	
Fluorene	
Indeno(1,2,3-cd)pyrene	
3-Methylcholanthrene	
2-Methylphenol	
3-Methylphenol	
4-Methylphenol	
Naphthalene	
o-cresol	
m-cresol	
p-resol	
Phenanthrene	
Phenol	
Pyrene	
Metals	*SW-846 Method 6010*
Antimony	
Arsenic	
Cyanide (total)	*SW-846 Method 9012*
Lead	*SW-846 Method 6010*
Nickel	
Vanadium	
Chromium (total)	
Chromium (hexavalent)	*SW-846 Method 7196*

Notes
1) The Evergreen and PADEP agreed upon Philadelphia Refinery Target Compound List is provided in regular font.
2) Additional analytes based on the waste codes for the waste stored at the GP Waste Stroage Pad are italicized.
3) The Tanks 1086 and 1087 Storage Pad samples will also be analyzed for pH.

DC# Title ENV-FRM-MELV-0024 v4_SCUR
Effective Date 5/23/2023

WO#: 70270217
PM: MN2 **Due Date: 09/21/23**
CLIENT: ALPHA

Client Name: ALPHA Project

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other

Tracking #:

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No Temperature Blank Present: ☑ Yes ☐ No
Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ Ziploc ☐ None ☐ Other Type of Ice: (Wet) Blue None

Thermometer Used TH196 Correction Factor: -0.4 ☑ Samples on ice, cooling process has begun
Cooler Temperature(°C): 1.6 Cooler Temperature Corrected(°C): 1.2 Date/Time 5035A kits placed in freezer
Temp should be above freezing to 6.0°C

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ Yes ☐ No

Did samples orignate from a foreign source including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MELV-0076) and include with SCUR/COC paperwork.

Date and Initials of person examining contents: AS 9/13/23

				COMMENTS:
Chain of Custody Present	☑Yes	☐No		1.
Chain of Custody Filled Out	☑Yes	☐No		2.
Chain of Custody Relinquished:	☑Yes	☐No		3.
Sampler Name & Signature on COC:	☐Yes	☑No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No		5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No		6.
Rush Turn Around Time Requested	☐Yes	☑No		7.
Sufficient Volume: (Triple volume provided for MS/MSD)	☑Yes	☐No		8.
Correct Containers Used:	☑Yes	☐No		9.
-Pace Containers Used	☑Yes	☐No		
Containers Intact:	☑Yes	☐No		10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11. Note: if sediment is visible in the dissolved container
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: (SL) WT OIL OTHER	☑Yes	☐No		12.

Date and Initials of person checking preservation: KS

All containers needing preservation have been pH paper Lot # All containers needing preservation are found to be in compliance with method recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NAOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) Per Method, VOA pH is checked after analysis	☐Yes ☐Yes	☐No ☐No	☑N/A ☐N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl Sample # Initial when completed: / Lot # of added preservative: / Date/Time preservative added:
Samples checked for dechlorination: KI starch test strips Lot # Residual chlorine strips Lot #	☐Yes	☐No	☑N/A	14. Positive for Res. Chlorine? Y N
SM 4500 CN samples checked for sul Lead Acetate Strips Lot #	☐Yes	☐No	☑N/A	15. Positive for Sulfide? Y N
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	16.
Trip Blank Present: Trip Blank Custody Seals Present	☐Yes ☐Yes	☐No ☐No	☑N/A ☑N/A	17.

Client Notification/ Resolution: Field Data Required? Y / N
Person Contacted: Date/Time
Comments/ Resolution:

* PM (Project Manager) review is documented electronically in LIMS.

ANALYTICAL REPORT

Lab Number:	L2352498
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	RCRA PAD CLOSURE - PHIL REF
Project Number:	200.00135.007
Report Date:	09/22/23

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Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2352498-01	GPSP-13-SS01	SOIL	PHILADELPHIA	09/08/23 09:30	09/08/23
L2352498-02	GPSP-01-SS01	SOIL	PHILADELPHIA	09/08/23 09:50	09/08/23
L2352498-03	GPSP-06-SS01	SOIL	PHILADELPHIA	09/08/23 10:10	09/08/23
L2352498-04	GPSP-05-SS01	SOIL	PHILADELPHIA	09/08/23 10:25	09/08/23
L2352498-05	GPSP-12-SS01	SOIL	PHILADELPHIA	09/08/23 10:50	09/08/23
L2352498-06	GPSP-11-SS01	SOIL	PHILADELPHIA	09/08/23 11:15	09/08/23
L2352498-07	GPSP-10-SS01	SOIL	PHILADELPHIA	09/08/23 11:35	09/08/23
L2352498-08	GPSP-17-SS01	SOIL	PHILADELPHIA	09/08/23 11:50	09/08/23
L2352498-09	GPSP-14-SS01	SOIL	PHILADELPHIA	09/08/23 12:15	09/08/23
L2352498-10	GPSP-09-SS01	SOIL	PHILADELPHIA	09/08/23 12:35	09/08/23
L2352498-11	GPSP-04-SS01	SOIL	PHILADELPHIA	09/08/23 12:55	09/08/23
L2352498-12	GPSP-23-SS01	SOIL	PHILADELPHIA	09/08/23 14:15	09/08/23
L2352498-13	201-F04-SG	SOIL	PHILADELPHIA	09/08/23 15:40	09/08/23
L2352498-14	201-F02-SG	SOIL	PHILADELPHIA	09/08/23 15:55	09/08/23
L2352498-15	FB-230908	WATER	PHILADELPHIA	09/08/23 16:25	09/08/23
L2352498-16	TB-230908	WATER	PHILADELPHIA	09/08/23 00:00	09/08/23

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352498
Project Number:	200.00135.007	**Report Date:**	09/22/23

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352498
Project Number:	200.00135.007	**Report Date:**	09/22/23

Case Narrative (continued)

Report Submission

September 22, 2023: This final report includes the results of all requested analyses.

September 19, 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.

The analysis of Semivolatile Organics was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

Sample Receipt

L2352498-01 through -16: The Client IDs were changed at the client's request.

Volatile Organics

L2352498-01: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (141%); 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.

L2352498-07D2: The surrogate recovery is outside the acceptance criteria for dibromofluoromethane (150%); 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.

L2352498-09 and -11: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (132%); 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.

L2352498-11: 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.

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352498
Project Number:	200.00135.007	**Report Date:**	09/22/23

Case Narrative (continued)

Microextractables

L2352498-15 and -16: The sample container was preserved with HCl which is a method deviation.

Total Metals

The WG1826065-3 MS recovery for lead (0%), performed on L2352498-01, does not apply because the sample concentration is greater than four times the spike amount added.

The WG1826065-3 MS recovery, performed on L2352498-01, is outside the acceptance criteria for vanadium (70%). A post digestion spike was performed and was within acceptance criteria.

The WG1826065-4 Laboratory Duplicate RPD for vanadium (27%), performed on L2352498-01, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

Hexavalent Chromium

L2352498-06: The sample has an elevated detection limit due to the dilution required by the sample matrix.

The WG1827451-2 LCS recovery for chromium, hexavalent (74%), associated with L2352498-01 through -10, is outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

The WG1827453-2 LCS recovery for chromium, hexavalent (74%), associated with L2352498-11 and -12, is outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

The WG1827451-5 Soluble MS recovery for chromium, hexavalent (20%), performed on L2352498-01, was outside the acceptance criteria. This has been attributed to matrix interference. A post-spike was performed with a recovery of 97%.

The WG1827453-5 Soluble MS recovery for chromium, hexavalent (68%), performed on L2352112-11, was outside the acceptance criteria. This has been attributed to matrix interference. A post-spike was performed with a recovery of 97%.

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352498
Project Number:	200.00135.007	**Report Date:**	09/22/23

Case Narrative (continued)

Cyanide, Total

The WG1828761-2 LCS recovery for cyanide, total (121%), associated with L2352498-05 through -12, is outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

The WG1828761-4/-5 MS/MSD recoveries, performed on L2352498-05, are outside the acceptance criteria for cyanide, total (160%/160%).

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 Stenstrom

Title: Technical Director/Representative

Date: 09/22/23

ORGANICS

VOLATILES

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-01
Client ID: GPSP-13-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 09:30
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 15:23
Analyst: LAC
Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.76	0.35	1
Methyl tert butyl ether	ND		mg/kg	0.15	0.015	1
Benzene	0.77		mg/kg	0.038	0.013	1
1,2-Dichloroethane	ND		mg/kg	0.076	0.020	1
Toluene	0.13		mg/kg	0.076	0.041	1
1,2-Dibromoethane	ND		mg/kg	0.038	0.022	1
Ethylbenzene	0.19		mg/kg	0.076	0.011	1
p/m-Xylene	0.30		mg/kg	0.15	0.043	1
o-Xylene	0.072	J	mg/kg	0.076	0.022	1
Xylenes, Total	0.37	J	mg/kg	0.076	0.022	1
Isopropylbenzene	36.	E	mg/kg	0.076	0.0083	1
1,3,5-Trimethylbenzene	0.027	J	mg/kg	0.15	0.015	1
1,2,4-Trimethylbenzene	0.19		mg/kg	0.15	0.025	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	**141**	Q	70-130
Dibromofluoromethane	85		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID:	L2352498-01	D	Date Collected:	09/08/23 09:30
Client ID:	GPSP-13-SS01		Date Received:	09/08/23
Sample Location:	PHILADELPHIA		Field Prep:	Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/15/23 12:22
Analyst: LAC
Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	31.		mg/kg	0.38	0.042	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	100		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID:	L2352498-02	D2	Date Collected:	09/08/23 09:50
Client ID:	GPSP-01-SS01		Date Received:	09/08/23
Sample Location:	PHILADELPHIA		Field Prep:	Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/15/23 12:48
Analyst: LAC
Percent Solids: 73%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	220		mg/kg	3.6	0.39	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	107		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-02 D
Client ID: GPSP-01-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 09:50
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 15:48
Analyst: LAC
Percent Solids: 73%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	7.2	3.3	10
Methyl tert butyl ether	ND		mg/kg	1.4	0.14	10
Benzene	0.58		mg/kg	0.36	0.12	10
1,2-Dichloroethane	ND		mg/kg	0.72	0.18	10
Toluene	ND		mg/kg	0.72	0.39	10
1,2-Dibromoethane	ND		mg/kg	0.36	0.21	10
Ethylbenzene	0.30	J	mg/kg	0.72	0.10	10
p/m-Xylene	ND		mg/kg	1.4	0.40	10
o-Xylene	0.25	J	mg/kg	0.72	0.21	10
Xylenes, Total	0.25	J	mg/kg	0.72	0.21	10
Isopropylbenzene	300	E	mg/kg	0.72	0.079	10
1,3,5-Trimethylbenzene	ND		mg/kg	1.4	0.14	10
1,2,4-Trimethylbenzene	ND		mg/kg	1.4	0.24	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	120		70-130
Dibromofluoromethane	89		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-03 D2
Client ID: GPSP-06-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 10:10
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/15/23 13:15
Analyst: LAC
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	1.2	0.55	2
Methyl tert butyl ether	ND		mg/kg	0.24	0.024	2
Benzene	0.27		mg/kg	0.061	0.020	2
1,2-Dichloroethane	ND		mg/kg	0.12	0.031	2
Toluene	0.12		mg/kg	0.12	0.066	2
1,2-Dibromoethane	ND		mg/kg	0.061	0.036	2
Ethylbenzene	0.13		mg/kg	0.12	0.017	2
p/m-Xylene	0.18	J	mg/kg	0.24	0.068	2
o-Xylene	0.20		mg/kg	0.12	0.035	2
Xylenes, Total	0.38	J	mg/kg	0.12	0.035	2
Isopropylbenzene	45.	E	mg/kg	0.12	0.013	2
1,3,5-Trimethylbenzene	0.032	J	mg/kg	0.24	0.023	2
1,2,4-Trimethylbenzene	0.26		mg/kg	0.24	0.040	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	96		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID:	L2352498-03	D	Date Collected:	09/08/23 10:10
Client ID:	GPSP-06-SS01		Date Received:	09/08/23
Sample Location:	PHILADELPHIA		Field Prep:	Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 16:14
Analyst: LAC
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	50.		mg/kg	0.61	0.066	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	90		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID:	L2352498-04	D2	Date Collected:	09/08/23 10:25
Client ID:	GPSP-05-SS01		Date Received:	09/08/23
Sample Location:	PHILADELPHIA		Field Prep:	Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260D

Analytical Date: 09/15/23 13:41

Analyst: LAC

Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	180		mg/kg	3.7	0.40	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	104		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-04 D
Client ID: GPSP-05-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 10:25
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 16:39
Analyst: LAC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	7.4	3.4	10
Methyl tert butyl ether	ND		mg/kg	1.5	0.15	10
Benzene	0.67		mg/kg	0.37	0.12	10
1,2-Dichloroethane	ND		mg/kg	0.74	0.19	10
Toluene	ND		mg/kg	0.74	0.40	10
1,2-Dibromoethane	ND		mg/kg	0.37	0.22	10
Ethylbenzene	0.46	J	mg/kg	0.74	0.10	10
p/m-Xylene	ND		mg/kg	1.5	0.42	10
o-Xylene	1.2		mg/kg	0.74	0.22	10
Xylenes, Total	1.2		mg/kg	0.74	0.22	10
Isopropylbenzene	230	E	mg/kg	0.74	0.081	10
1,3,5-Trimethylbenzene	ND		mg/kg	1.5	0.14	10
1,2,4-Trimethylbenzene	0.26	J	mg/kg	1.5	0.25	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	89		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-05
Client ID: GPSP-12-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 10:50
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 17:04
Analyst: LAC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.58	0.26	1
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	0.010	J	mg/kg	0.029	0.0096	1
1,2-Dichloroethane	ND		mg/kg	0.058	0.015	1
Toluene	ND		mg/kg	0.058	0.031	1
1,2-Dibromoethane	ND		mg/kg	0.029	0.017	1
Ethylbenzene	0.074		mg/kg	0.058	0.0081	1
p/m-Xylene	ND		mg/kg	0.12	0.032	1
o-Xylene	ND		mg/kg	0.058	0.017	1
Xylenes, Total	ND		mg/kg	0.058	0.017	1
Isopropylbenzene	2.4		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	95		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	89		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-06 D2
Client ID: GPSP-11-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 11:15
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/15/23 14:35
Analyst: LAC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	2.2		mg/kg	1.3	0.58	2
Methyl tert butyl ether	ND		mg/kg	0.25	0.026	2
Benzene	1.1		mg/kg	0.063	0.021	2
1,2-Dichloroethane	ND		mg/kg	0.13	0.033	2
Toluene	0.28		mg/kg	0.13	0.069	2
1,2-Dibromoethane	ND		mg/kg	0.063	0.037	2
Ethylbenzene	2.5		mg/kg	0.13	0.018	2
p/m-Xylene	2.3		mg/kg	0.25	0.071	2
o-Xylene	0.80		mg/kg	0.13	0.037	2
Xylenes, Total	3.1		mg/kg	0.13	0.037	2
Isopropylbenzene	60.	E	mg/kg	0.13	0.014	2
1,3,5-Trimethylbenzene	2.7		mg/kg	0.25	0.024	2
1,2,4-Trimethylbenzene	50.	E	mg/kg	0.25	0.042	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	93		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID:	L2352498-06	D	Date Collected:	09/08/23 11:15
Client ID:	GPSP-11-SS01		Date Received:	09/08/23
Sample Location:	PHILADELPHIA		Field Prep:	Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 17:29
Analyst: LAC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	61.		mg/kg	0.32	0.034	5
1,2,4-Trimethylbenzene	53.		mg/kg	0.63	0.11	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	88		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-07 D2
Client ID: GPSP-10-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 11:35
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/15/23 15:01
Analyst: LAC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	1.3	0.61	2
Methyl tert butyl ether	ND		mg/kg	0.27	0.027	2
Benzene	0.25		mg/kg	0.067	0.022	2
1,2-Dichloroethane	ND		mg/kg	0.13	0.034	2
Toluene	0.12	J	mg/kg	0.13	0.072	2
1,2-Dibromoethane	ND		mg/kg	0.067	0.039	2
Ethylbenzene	0.093	J	mg/kg	0.13	0.019	2
p/m-Xylene	0.14	J	mg/kg	0.27	0.075	2
o-Xylene	ND		mg/kg	0.13	0.039	2
Xylenes, Total	0.14	J	mg/kg	0.13	0.039	2
Isopropylbenzene	48.	E	mg/kg	0.13	0.014	2
1,3,5-Trimethylbenzene	0.032	J	mg/kg	0.27	0.026	2
1,2,4-Trimethylbenzene	0.15	J	mg/kg	0.27	0.045	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	**150**	Q	70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID:	L2352498-07	D	Date Collected:	09/08/23 11:35
Client ID:	GPSP-10-SS01		Date Received:	09/08/23
Sample Location:	PHILADELPHIA		Field Prep:	Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 17:55
Analyst: LAC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	53.		mg/kg	0.67	0.073	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	90		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-08
Client ID: GPSP-17-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 11:50
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 18:20
Analyst: JIC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.59	0.27	1
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	0.064		mg/kg	0.030	0.0098	1
1,2-Dichloroethane	ND		mg/kg	0.059	0.015	1
Toluene	ND		mg/kg	0.059	0.032	1
1,2-Dibromoethane	ND		mg/kg	0.030	0.017	1
Ethylbenzene	0.050	J	mg/kg	0.059	0.0084	1
p/m-Xylene	0.051	J	mg/kg	0.12	0.033	1
o-Xylene	0.020	J	mg/kg	0.059	0.017	1
Xylenes, Total	0.071	J	mg/kg	0.059	0.017	1
Isopropylbenzene	15.		mg/kg	0.059	0.0065	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.12	0.011	1
1,2,4-Trimethylbenzene	0.038	J	mg/kg	0.12	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	129		70-130
Dibromofluoromethane	87		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-09
Client ID: GPSP-14-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 12:15
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 18:45
Analyst: JIC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.61	0.28	1
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	0.12		mg/kg	0.030	0.010	1
1,2-Dichloroethane	ND		mg/kg	0.061	0.016	1
Toluene	ND		mg/kg	0.061	0.033	1
1,2-Dibromoethane	ND		mg/kg	0.030	0.018	1
Ethylbenzene	0.11		mg/kg	0.061	0.0086	1
p/m-Xylene	0.11	J	mg/kg	0.12	0.034	1
o-Xylene	0.10		mg/kg	0.061	0.018	1
Xylenes, Total	0.21	J	mg/kg	0.061	0.018	1
Isopropylbenzene	52.	E	mg/kg	0.061	0.0067	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.12	0.012	1
1,2,4-Trimethylbenzene	0.067	J	mg/kg	0.12	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	**132**	Q	70-130
Dibromofluoromethane	84		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID:	L2352498-09	D	Date Collected:	09/08/23 12:15
Client ID:	GPSP-14-SS01		Date Received:	09/08/23
Sample Location:	PHILADELPHIA		Field Prep:	Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/15/23 14:08
Analyst: LAC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	43.		mg/kg	0.61	0.067	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	100		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-10
Client ID: GPSP-09-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 12:35
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 20:11
Analyst: JIC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.57	0.26	1
Methyl tert butyl ether	ND		mg/kg	0.11	0.012	1
Benzene	0.15		mg/kg	0.029	0.0095	1
1,2-Dichloroethane	ND		mg/kg	0.057	0.015	1
Toluene	0.092		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	0.77		mg/kg	0.11	0.032	1
o-Xylene	0.31		mg/kg	0.057	0.017	1
Xylenes, Total	1.1		mg/kg	0.057	0.017	1
Isopropylbenzene	0.87		mg/kg	0.057	0.0063	1
1,3,5-Trimethylbenzene	6.5		mg/kg	0.11	0.011	1
1,2,4-Trimethylbenzene	9.3		mg/kg	0.11	0.019	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	99		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-11
Client ID: GPSP-04-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 12:55
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 20:38
Analyst: JIC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.58	0.26	1
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	0.61		mg/kg	0.029	0.0096	1
1,2-Dichloroethane	ND		mg/kg	0.058	0.015	1
Toluene	0.58		mg/kg	0.058	0.031	1
1,2-Dibromoethane	ND		mg/kg	0.029	0.017	1
Ethylbenzene	0.25		mg/kg	0.058	0.0082	1
p/m-Xylene	0.56		mg/kg	0.12	0.032	1
o-Xylene	0.084		mg/kg	0.058	0.017	1
Xylenes, Total	0.64		mg/kg	0.058	0.017	1
Isopropylbenzene	0.12		mg/kg	0.058	0.0063	1
1,3,5-Trimethylbenzene	0.027	J	mg/kg	0.12	0.011	1
1,2,4-Trimethylbenzene	0.14		mg/kg	0.12	0.019	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	98		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-11
Client ID: GPSP-04-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 12:55
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/15/23 15:28
Analyst: AJK
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.010	0.0046	1
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	0.0055		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	0.0023		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	0.0011		mg/kg	0.0010	0.00014	1
p/m-Xylene	0.0090		mg/kg	0.0020	0.00057	1
o-Xylene	0.0012		mg/kg	0.0010	0.00030	1
Xylenes, Total	0.010		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.0032		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	0.00030	J	mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	0.0014	J	mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	**132**	Q	70-130
Dibromofluoromethane	100		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-12
Client ID: GPSP-23-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 14:15
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 21:04
Analyst: JIC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0083	0.0038	1
Methyl tert butyl ether	ND		mg/kg	0.0016	0.00017	1
Benzene	ND		mg/kg	0.00041	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00083	0.00021	1
Toluene	ND		mg/kg	0.00083	0.00045	1
1,2-Dibromoethane	ND		mg/kg	0.00041	0.00024	1
Ethylbenzene	ND		mg/kg	0.00083	0.00012	1
p/m-Xylene	ND		mg/kg	0.0016	0.00046	1
o-Xylene	ND		mg/kg	0.00083	0.00024	1
Xylenes, Total	ND		mg/kg	0.00083	0.00024	1
Isopropylbenzene	ND		mg/kg	0.00083	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0016	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0016	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	107		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID:	L2352498-13	Date Collected:	09/08/23 15:40
Client ID:	201-F04-SG	Date Received:	09/08/23
Sample Location:	PHILADELPHIA	Field Prep:	Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 21:31
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	0.0016	0.00016	1
Benzene	0.0070		mg/kg	0.00040	0.00013	1
1,2-Dichloroethane	ND		mg/kg	0.00080	0.00021	1
Toluene	0.00063	J	mg/kg	0.00080	0.00044	1
1,2-Dibromoethane	ND		mg/kg	0.00040	0.00024	1
Ethylbenzene	0.0012		mg/kg	0.00080	0.00011	1
p/m-Xylene	0.0028		mg/kg	0.0016	0.00045	1
o-Xylene	0.00099		mg/kg	0.00080	0.00023	1
Xylenes, Total	0.0038		mg/kg	0.00080	0.00023	1
Isopropylbenzene	0.0013		mg/kg	0.00080	0.00008	1
1,3,5-Trimethylbenzene	0.0012	J	mg/kg	0.0016	0.00016	1
1,2,4-Trimethylbenzene	0.0032		mg/kg	0.0016	0.00027	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	85		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	100		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID:	L2352498-14	Date Collected:	09/08/23 15:55
Client ID:	201-F02-SG	Date Received:	09/08/23
Sample Location:	PHILADELPHIA	Field Prep:	Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 09/14/23 21:57
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	0.0019	0.00019	1
Benzene	0.024		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00096	0.00024	1
Toluene	0.0020		mg/kg	0.00096	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	0.020		mg/kg	0.00096	0.00013	1
p/m-Xylene	0.0088		mg/kg	0.0019	0.00054	1
o-Xylene	0.0028		mg/kg	0.00096	0.00028	1
Xylenes, Total	0.012		mg/kg	0.00096	0.00028	1
Isopropylbenzene	0.029		mg/kg	0.00096	0.00010	1
1,3,5-Trimethylbenzene	0.0066		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	0.011		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	78		70-130
4-Bromofluorobenzene	128		70-130
Dibromofluoromethane	75		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-15
Client ID: FB-230908
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 16:25
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 09/18/23 19:44
Analyst: JKH

Extraction Method: EPA 8011
Extraction Date: 09/18/23 16:18

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: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-15
Client ID: FB-230908
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 16:25
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 09/13/23 10:25
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Carbon disulfide	ND		ug/l	5.0	0.30	1
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	92		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	96		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-16
Client ID: TB-230908
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 00:00
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 09/18/23 19:52
Analyst: JKH

Extraction Method: EPA 8011
Extraction Date: 09/18/23 16:18

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: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-16
Client ID: TB-230908
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 00:00
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 09/13/23 10:48
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Carbon disulfide	ND		ug/l	5.0	0.30	1
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	96		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	100		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 09/13/23 08:26
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 15-16 Batch: WG1827549-5					
Carbon disulfide	ND		ug/l	5.0	0.30
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	95		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	96		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 09/14/23 09:55
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01-09 Batch: WG1827883-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	101		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	94		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 09/14/23 15:22
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 10-11 Batch: WG1827938-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	112		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	108		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 09/14/23 15:22
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 12-14 Batch: WG1827939-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	112		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	108		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 09/15/23 11:28
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01-04,06-07,09 Batch: WG1828684-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	112		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	108		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 09/15/23 11:28
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 11 Batch: WG1828685-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	112		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	108		70-130

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 09/18/23 17:34
Analyst: JKH

Extraction Method: EPA 8011
Extraction Date: 09/18/23 16:18

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 15-16 Batch: WG1828861-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 15-16 Batch: WG1827549-3 WG1827549-4								
Carbon disulfide	94		94		51-130	0		20
Methyl tert butyl ether	91		91		63-130	0		20
Benzene	100		99		70-130	1		20
1,2-Dichloroethane	94		93		70-130	1		20
Toluene	98		98		70-130	0		20
Ethylbenzene	95		96		70-130	1		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	95		97		70-130	2		20
1,3,5-Trimethylbenzene	95		96		64-130	1		20
1,2,4-Trimethylbenzene	96		98		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	92		97		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	96		99		70-130
Dibromofluoromethane	98		97		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2352498
Report Date: 09/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01-09 Batch: WG1827883-3 WG1827883-4								
Carbon disulfide	97		83		59-130	16		30
Methyl tert butyl ether	72		**62**	Q	66-130	15		30
Benzene	101		101		70-130	0		30
1,2-Dichloroethane	101		103		70-130	2		30
Toluene	102		93		70-130	9		30
1,2-Dibromoethane	87		84		70-130	4		30
Ethylbenzene	104		101		70-130	3		30
p/m-Xylene	100		91		70-130	9		30
o-Xylene	101		92		70-130	9		30
Isopropylbenzene	110		107		70-130	3		30
1,3,5-Trimethylbenzene	112		127		70-130	13		30
1,2,4-Trimethylbenzene	111		124		70-130	11		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		102		70-130
Toluene-d8	107		104		70-130
4-Bromofluorobenzene	101		113		70-130
Dibromofluoromethane	94		82		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2352498
Report Date: 09/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 10-11 Batch: WG1827938-3 WG1827938-4								
Carbon disulfide	**150**	Q	120		59-130	22		30
Methyl tert butyl ether	100		100		66-130	0		30
Benzene	112		107		70-130	5		30
1,2-Dichloroethane	112		114		70-130	2		30
Toluene	99		96		70-130	3		30
1,2-Dibromoethane	110		115		70-130	4		30
Ethylbenzene	100		96		70-130	4		30
p/m-Xylene	103		100		70-130	3		30
o-Xylene	103		102		70-130	1		30
Isopropylbenzene	99		91		70-130	8		30
1,3,5-Trimethylbenzene	95		91		70-130	4		30
1,2,4-Trimethylbenzene	94		93		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		105		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	87		87		70-130
Dibromofluoromethane	104		102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2352498
Report Date: 09/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 12-14 Batch: WG1827939-3 WG1827939-4								
Carbon disulfide	**150**	Q	120		59-130	22		30
Methyl tert butyl ether	100		100		66-130	0		30
Benzene	112		107		70-130	5		30
1,2-Dichloroethane	112		114		70-130	2		30
Toluene	99		96		70-130	3		30
1,2-Dibromoethane	110		115		70-130	4		30
Ethylbenzene	100		96		70-130	4		30
p/m-Xylene	103		100		70-130	3		30
o-Xylene	103		102		70-130	1		30
Isopropylbenzene	99		91		70-130	8		30
1,3,5-Trimethylbenzene	95		91		70-130	4		30
1,2,4-Trimethylbenzene	94		93		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		105		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	87		87		70-130
Dibromofluoromethane	104		102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2352498
Report Date: 09/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01-04,06-07,09 Batch: WG1828684-3 WG1828684-4								
Carbon disulfide	**137**	Q	**174**	Q	59-130	24		30
Methyl tert butyl ether	98		95		66-130	3		30
Benzene	112		114		70-130	2		30
1,2-Dichloroethane	110		110		70-130	0		30
Toluene	101		103		70-130	2		30
1,2-Dibromoethane	111		108		70-130	3		30
Ethylbenzene	103		104		70-130	1		30
p/m-Xylene	107		107		70-130	0		30
o-Xylene	106		106		70-130	0		30
Isopropylbenzene	101		101		70-130	0		30
1,3,5-Trimethylbenzene	98		99		70-130	1		30
1,2,4-Trimethylbenzene	98		98		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	106		106		70-130
Toluene-d8	98		99		70-130
4-Bromofluorobenzene	87		85		70-130
Dibromofluoromethane	102		105		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 11 Batch: WG1828685-3 WG1828685-4								
Carbon disulfide	**137**	Q	**174**	Q	59-130	24		30
Methyl tert butyl ether	98		95		66-130	3		30
Benzene	112		114		70-130	2		30
1,2-Dichloroethane	110		110		70-130	0		30
Toluene	101		103		70-130	2		30
1,2-Dibromoethane	111		108		70-130	3		30
Ethylbenzene	103		104		70-130	1		30
p/m-Xylene	107		107		70-130	0		30
o-Xylene	106		106		70-130	0		30
Isopropylbenzene	101		101		70-130	0		30
1,3,5-Trimethylbenzene	98		99		70-130	1		30
1,2,4-Trimethylbenzene	98		98		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	106		107		70-130
Toluene-d8	98		99		70-130
4-Bromofluorobenzene	86		85		70-130
Dibromofluoromethane	102		105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2352498

Report Date: 09/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 15-16 Batch: WG1828861-2									
1,2-Dibromoethane	95		-		80-120	-		20	A

SEMIVOLATILES

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-13
Client ID: 201-F04-SG
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 15:40
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 09/14/23 04:56
Analyst: EJL
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 09/12/23 22:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.047		mg/kg	0.036	0.022	1
Fluorene	0.054	J	mg/kg	0.18	0.018	1
Phenanthrene	0.37		mg/kg	0.11	0.022	1
Anthracene	0.10	J	mg/kg	0.11	0.035	1
Pyrene	0.34		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.22		mg/kg	0.11	0.020	1
Chrysene	0.20		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.24		mg/kg	0.11	0.030	1
Benzo(a)pyrene	0.20		mg/kg	0.14	0.044	1
Benzo(ghi)perylene	0.10	J	mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	60		18-120

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-14
Client ID: 201-F02-SG
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 15:55
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 09/14/23 05:20
Analyst: EJL
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 09/12/23 22:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.13		mg/kg	0.037	0.023	1
Fluorene	0.094	J	mg/kg	0.18	0.018	1
Phenanthrene	0.19		mg/kg	0.11	0.022	1
Anthracene	0.052	J	mg/kg	0.11	0.036	1
Pyrene	0.16		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.088	J	mg/kg	0.11	0.021	1
Chrysene	0.11		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.10	J	mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.092	J	mg/kg	0.15	0.045	1
Benzo(ghi)perylene	0.066	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	98		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	69		18-120

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E
Analytical Date: 09/13/23 07:59
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 09/12/23 15:06

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 13-14 Batch: WG1826609-1					
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
2-Fluorophenol	89		25-120
Phenol-d6	85		10-120
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	74		30-120
2,4,6-Tribromophenol	83		10-136
4-Terphenyl-d14	82		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 13-14 Batch: WG1826609-2 WG1826609-3								
Naphthalene	79		76		40-140	4		50
Fluorene	77		76		40-140	1		50
Phenanthrene	79		75		40-140	5		50
Anthracene	80		76		40-140	5		50
Pyrene	77		72		35-142	7		50
Benzo(a)anthracene	77		73		40-140	5		50
Chrysene	81		78		40-140	4		50
Benzo(b)fluoranthene	82		74		40-140	10		50
Benzo(a)pyrene	84		78		40-140	7		50
Benzo(ghi)perylene	76		73		40-140	4		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	98		91		25-120
Phenol-d6	91		88		10-120
Nitrobenzene-d5	76		75		23-120
2-Fluorobiphenyl	71		69		30-120
2,4,6-Tribromophenol	80		76		10-136
4-Terphenyl-d14	77		73		18-120

METALS

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-01
Client ID: GPSP-13-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 09:30
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	1.28	J	mg/kg	2.60	0.198	1	09/12/23 23:26	09/13/23 10:18	EPA 3050B	1,6010D	DMB
Arsenic, Total	11.6		mg/kg	0.521	0.108	1	09/12/23 23:26	09/13/23 10:18	EPA 3050B	1,6010D	DMB
Chromium, Total	40.1		mg/kg	0.521	0.050	1	09/12/23 23:26	09/13/23 10:18	EPA 3050B	1,6010D	DMB
Lead, Total	349		mg/kg	2.60	0.140	1	09/12/23 23:26	09/13/23 10:18	EPA 3050B	1,6010D	DMB
Nickel, Total	23.0		mg/kg	1.30	0.126	1	09/12/23 23:26	09/13/23 10:18	EPA 3050B	1,6010D	DMB
Vanadium, Total	41.5		mg/kg	0.521	0.106	1	09/12/23 23:26	09/13/23 10:18	EPA 3050B	1,6010D	DMB

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-02
Client ID: GPSP-01-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 09:50
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 73%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	3.20		mg/kg	2.71	0.206	1	09/12/23 23:26	09/13/23 10:51	EPA 3050B	1,6010D	DMB
Arsenic, Total	31.0		mg/kg	0.541	0.112	1	09/12/23 23:26	09/13/23 10:51	EPA 3050B	1,6010D	DMB
Chromium, Total	657		mg/kg	0.541	0.052	1	09/12/23 23:26	09/13/23 10:51	EPA 3050B	1,6010D	DMB
Lead, Total	1000		mg/kg	2.71	0.145	1	09/12/23 23:26	09/13/23 10:51	EPA 3050B	1,6010D	DMB
Nickel, Total	167		mg/kg	1.35	0.131	1	09/12/23 23:26	09/13/23 10:51	EPA 3050B	1,6010D	DMB
Vanadium, Total	270		mg/kg	0.541	0.110	1	09/12/23 23:26	09/13/23 10:51	EPA 3050B	1,6010D	DMB

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-03
Client ID: GPSP-06-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 10:10
Date Received: 09/08/23
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											
Antimony, Total	1.22	J	mg/kg	2.45	0.186	1	09/12/23 23:26	09/13/23 10:56	EPA 3050B	1,6010D	DMB
Arsenic, Total	11.9		mg/kg	0.491	0.102	1	09/12/23 23:26	09/13/23 10:56	EPA 3050B	1,6010D	DMB
Chromium, Total	71.6		mg/kg	0.491	0.047	1	09/12/23 23:26	09/13/23 10:56	EPA 3050B	1,6010D	DMB
Lead, Total	118		mg/kg	2.45	0.132	1	09/12/23 23:26	09/13/23 10:56	EPA 3050B	1,6010D	DMB
Nickel, Total	50.2		mg/kg	1.23	0.119	1	09/12/23 23:26	09/13/23 10:56	EPA 3050B	1,6010D	DMB
Vanadium, Total	204		mg/kg	0.491	0.100	1	09/12/23 23:26	09/13/23 10:56	EPA 3050B	1,6010D	DMB

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-04
Client ID: GPSP-05-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 10:25
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	1.20	J	mg/kg	2.40	0.183	1	09/12/23 23:26	09/13/23 11:02	EPA 3050B	1,6010D	DMB
Arsenic, Total	9.71		mg/kg	0.481	0.100	1	09/12/23 23:26	09/13/23 11:02	EPA 3050B	1,6010D	DMB
Chromium, Total	202		mg/kg	0.481	0.046	1	09/12/23 23:26	09/13/23 11:02	EPA 3050B	1,6010D	DMB
Lead, Total	192		mg/kg	2.40	0.129	1	09/12/23 23:26	09/13/23 11:02	EPA 3050B	1,6010D	DMB
Nickel, Total	54.6		mg/kg	1.20	0.116	1	09/12/23 23:26	09/13/23 11:02	EPA 3050B	1,6010D	DMB
Vanadium, Total	128		mg/kg	0.481	0.098	1	09/12/23 23:26	09/13/23 11:02	EPA 3050B	1,6010D	DMB

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-05
Client ID: GPSP-12-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 10:50
Date Received: 09/08/23
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											
Antimony, Total	0.898	J	mg/kg	2.25	0.171	1	09/12/23 23:26	09/13/23 11:07	EPA 3050B	1,6010D	DMB
Arsenic, Total	5.48		mg/kg	0.449	0.093	1	09/12/23 23:26	09/13/23 11:07	EPA 3050B	1,6010D	DMB
Chromium, Total	26.4		mg/kg	0.449	0.043	1	09/12/23 23:26	09/13/23 11:07	EPA 3050B	1,6010D	DMB
Lead, Total	35.7		mg/kg	2.25	0.120	1	09/12/23 23:26	09/13/23 11:07	EPA 3050B	1,6010D	DMB
Nickel, Total	13.6		mg/kg	1.12	0.109	1	09/12/23 23:26	09/13/23 11:07	EPA 3050B	1,6010D	DMB
Vanadium, Total	34.1		mg/kg	0.449	0.091	1	09/12/23 23:26	09/13/23 11:07	EPA 3050B	1,6010D	DMB

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-06
Client ID: GPSP-11-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 11:15
Date Received: 09/08/23
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											
Antimony, Total	0.456	J	mg/kg	2.45	0.186	1	09/12/23 23:26	09/13/23 11:12	EPA 3050B	1,6010D	DMB
Arsenic, Total	20.3		mg/kg	0.491	0.102	1	09/12/23 23:26	09/13/23 11:12	EPA 3050B	1,6010D	DMB
Chromium, Total	246		mg/kg	0.491	0.047	1	09/12/23 23:26	09/13/23 11:12	EPA 3050B	1,6010D	DMB
Lead, Total	311		mg/kg	2.45	0.132	1	09/12/23 23:26	09/13/23 11:12	EPA 3050B	1,6010D	DMB
Nickel, Total	291		mg/kg	1.23	0.119	1	09/12/23 23:26	09/13/23 11:12	EPA 3050B	1,6010D	DMB
Vanadium, Total	1400		mg/kg	0.491	0.100	1	09/12/23 23:26	09/13/23 11:12	EPA 3050B	1,6010D	DMB

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-07
Client ID: GPSP-10-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 11:35
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	1.21	J	mg/kg	2.42	0.184	1	09/12/23 23:26	09/13/23 11:17	EPA 3050B	1,6010D	DMB
Arsenic, Total	5.68		mg/kg	0.485	0.101	1	09/12/23 23:26	09/13/23 11:17	EPA 3050B	1,6010D	DMB
Chromium, Total	12.5		mg/kg	0.485	0.047	1	09/12/23 23:26	09/13/23 11:17	EPA 3050B	1,6010D	DMB
Lead, Total	139		mg/kg	2.42	0.130	1	09/12/23 23:26	09/13/23 11:17	EPA 3050B	1,6010D	DMB
Nickel, Total	15.5		mg/kg	1.21	0.117	1	09/12/23 23:26	09/13/23 11:17	EPA 3050B	1,6010D	DMB
Vanadium, Total	13.5		mg/kg	0.485	0.098	1	09/12/23 23:26	09/13/23 11:17	EPA 3050B	1,6010D	DMB

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-08
Client ID: GPSP-17-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 11:50
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	0.828	J	mg/kg	2.35	0.179	1	09/12/23 23:26	09/13/23 11:22	EPA 3050B	1,6010D	DMB
Arsenic, Total	4.47		mg/kg	0.470	0.098	1	09/12/23 23:26	09/13/23 11:22	EPA 3050B	1,6010D	DMB
Chromium, Total	17.0		mg/kg	0.470	0.045	1	09/12/23 23:26	09/13/23 11:22	EPA 3050B	1,6010D	DMB
Lead, Total	300		mg/kg	2.35	0.126	1	09/12/23 23:26	09/13/23 11:22	EPA 3050B	1,6010D	DMB
Nickel, Total	10.2		mg/kg	1.18	0.114	1	09/12/23 23:26	09/13/23 11:22	EPA 3050B	1,6010D	DMB
Vanadium, Total	19.6		mg/kg	0.470	0.096	1	09/12/23 23:26	09/13/23 11:22	EPA 3050B	1,6010D	DMB

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-09
Client ID: GPSP-14-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 12:15
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	1.94	J	mg/kg	2.36	0.180	1	09/12/23 23:26	09/13/23 11:27	EPA 3050B	1,6010D	DMB
Arsenic, Total	9.76		mg/kg	0.473	0.098	1	09/12/23 23:26	09/13/23 11:27	EPA 3050B	1,6010D	DMB
Chromium, Total	127		mg/kg	0.473	0.045	1	09/12/23 23:26	09/13/23 11:27	EPA 3050B	1,6010D	DMB
Lead, Total	257		mg/kg	2.36	0.127	1	09/12/23 23:26	09/13/23 11:27	EPA 3050B	1,6010D	DMB
Nickel, Total	36.1		mg/kg	1.18	0.114	1	09/12/23 23:26	09/13/23 11:27	EPA 3050B	1,6010D	DMB
Vanadium, Total	61.1		mg/kg	0.473	0.096	1	09/12/23 23:26	09/13/23 11:27	EPA 3050B	1,6010D	DMB

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-10
Client ID: GPSP-09-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 12:35
Date Received: 09/08/23
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											
Antimony, Total	2.87		mg/kg	2.20	0.167	1	09/12/23 23:26	09/13/23 11:31	EPA 3050B	1,6010D	DMB
Arsenic, Total	5.29		mg/kg	0.440	0.092	1	09/12/23 23:26	09/13/23 11:31	EPA 3050B	1,6010D	DMB
Chromium, Total	510		mg/kg	0.440	0.042	1	09/12/23 23:26	09/13/23 11:31	EPA 3050B	1,6010D	DMB
Lead, Total	695		mg/kg	2.20	0.118	1	09/12/23 23:26	09/13/23 11:31	EPA 3050B	1,6010D	DMB
Nickel, Total	48.2		mg/kg	1.10	0.106	1	09/12/23 23:26	09/13/23 11:31	EPA 3050B	1,6010D	DMB
Vanadium, Total	326		mg/kg	0.440	0.089	1	09/12/23 23:26	09/13/23 11:31	EPA 3050B	1,6010D	DMB

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-11
Client ID: GPSP-04-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 12:55
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	1.44	J	mg/kg	2.29	0.174	1	09/12/23 23:26	09/13/23 11:37	EPA 3050B	1,6010D	DMB
Arsenic, Total	14.1		mg/kg	0.459	0.095	1	09/12/23 23:26	09/13/23 11:37	EPA 3050B	1,6010D	DMB
Chromium, Total	91.5		mg/kg	0.459	0.044	1	09/12/23 23:26	09/13/23 11:37	EPA 3050B	1,6010D	DMB
Lead, Total	277		mg/kg	2.29	0.123	1	09/12/23 23:26	09/13/23 11:37	EPA 3050B	1,6010D	DMB
Nickel, Total	85.2		mg/kg	1.15	0.111	1	09/12/23 23:26	09/13/23 11:37	EPA 3050B	1,6010D	DMB
Vanadium, Total	595		mg/kg	0.459	0.093	1	09/12/23 23:26	09/13/23 11:37	EPA 3050B	1,6010D	DMB

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-12
Client ID: GPSP-23-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 14:15
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	1.13	J	mg/kg	2.08	0.158	1	09/12/23 23:26	09/13/23 15:14	EPA 3050B	1,6010D	DMB
Arsenic, Total	0.920		mg/kg	0.416	0.087	1	09/12/23 23:26	09/13/23 15:14	EPA 3050B	1,6010D	DMB
Chromium, Total	34.6		mg/kg	0.416	0.040	1	09/12/23 23:26	09/13/23 15:14	EPA 3050B	1,6010D	DMB
Lead, Total	3.98		mg/kg	2.08	0.112	1	09/12/23 23:26	09/13/23 15:14	EPA 3050B	1,6010D	DMB
Nickel, Total	37.5		mg/kg	1.04	0.101	1	09/12/23 23:26	09/13/23 15:14	EPA 3050B	1,6010D	DMB
Vanadium, Total	34.7		mg/kg	0.416	0.085	1	09/12/23 23:26	09/13/23 15:14	EPA 3050B	1,6010D	DMB

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-13
Client ID: 201-F04-SG
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 15:40
Date Received: 09/08/23
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	69.6		mg/kg	2.17	0.116	1	09/12/23 23:26	09/13/23 15:20	EPA 3050B	1,6010D	DMB

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-14
Client ID: 201-F02-SG
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 15:55
Date Received: 09/08/23
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	75.0		mg/kg	2.19	0.117	1	09/12/23 23:26	09/13/23 15:25	EPA 3050B	1,6010D	DMB

Project Name: RCRA PAD CLOSURE - PHIL REF
Lab Number: L2352498
Project Number: 200.00135.007
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-15
Client ID: FB-230908
Sample Location: PHILADELPHIA
Date Collected: 09/08/23 16:25
Date Received: 09/08/23
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											
Antimony, Total	ND		ug/l	4.000	0.4290	1	09/11/23 21:00	09/18/23 12:43	EPA 3005A	1,6020B	EJF
Arsenic, Total	ND		ug/l	0.5000	0.1650	1	09/11/23 21:00	09/18/23 12:43	EPA 3005A	1,6020B	EJF
Chromium, Total	0.3652	J	ug/l	1.000	0.1780	1	09/11/23 21:00	09/18/23 12:43	EPA 3005A	1,6020B	EJF
Lead, Total	0.4681	J	ug/l	1.000	0.3430	1	09/11/23 21:00	09/18/23 12:43	EPA 3005A	1,6020B	EJF
Nickel, Total	ND		ug/l	2.000	0.5560	1	09/11/23 21:00	09/18/23 12:43	EPA 3005A	1,6020B	EJF
Vanadium, Total	ND		ug/l	5.000	1.570	1	09/11/23 21:00	09/18/23 12:43	EPA 3005A	1,6020B	EJF

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

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): 15 Batch: WG1826010-1										
Antimony, Total	ND		ug/l	4.000	0.4290	1	09/11/23 21:00	09/14/23 11:44	1,6020B	EJF
Arsenic, Total	ND		ug/l	0.5000	0.1650	1	09/11/23 21:00	09/14/23 11:44	1,6020B	EJF
Chromium, Total	ND		ug/l	1.000	0.1780	1	09/11/23 21:00	09/14/23 11:44	1,6020B	EJF
Lead, Total	ND		ug/l	1.000	0.3430	1	09/11/23 21:00	09/14/23 11:44	1,6020B	EJF
Nickel, Total	ND		ug/l	2.000	0.5560	1	09/11/23 21:00	09/14/23 11:44	1,6020B	EJF
Vanadium, Total	ND		ug/l	5.000	1.570	1	09/11/23 21:00	09/14/23 11:44	1,6020B	EJF

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): 01-14 Batch: WG1826065-1										
Antimony, Total	ND		mg/kg	2.00	0.152	1	09/12/23 23:26	09/13/23 09:53	1,6010D	DMB
Arsenic, Total	ND		mg/kg	0.400	0.083	1	09/12/23 23:26	09/13/23 09:53	1,6010D	DMB
Chromium, Total	ND		mg/kg	0.400	0.038	1	09/12/23 23:26	09/13/23 09:53	1,6010D	DMB
Lead, Total	ND		mg/kg	2.00	0.107	1	09/12/23 23:26	09/13/23 09:53	1,6010D	DMB
Nickel, Total	ND		mg/kg	1.00	0.097	1	09/12/23 23:26	09/13/23 09:53	1,6010D	DMB
Vanadium, Total	ND		mg/kg	0.400	0.081	1	09/12/23 23:26	09/13/23 09:53	1,6010D	DMB

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2352498

Report Date: 09/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 15 Batch: WG1826010-2								
Antimony, Total	87		-		80-120	-		
Arsenic, Total	98		-		80-120	-		
Chromium, Total	91		-		80-120	-		
Lead, Total	97		-		80-120	-		
Nickel, Total	90		-		80-120	-		
Vanadium, Total	92		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-14 Batch: WG1826065-2 SRM Lot Number: D119-540								
Antimony, Total	131		-		10-190	-		
Arsenic, Total	100		-		83-117	-		
Chromium, Total	96		-		82-119	-		
Lead, Total	98		-		82-118	-		
Nickel, Total	96		-		82-117	-		
Vanadium, Total	92		-		79-121	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2352498
Report Date: 09/22/23

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): 15 QC Batch ID: WG1826010-3 QC Sample: L2351877-01 Client ID: MS Sample												
Antimony, Total	0.9708J	500	462.7	92		-	-		75-125	-		20
Arsenic, Total	0.7784	120	123.0	102		-	-		75-125	-		20
Chromium, Total	0.6660J	200	184.7	92		-	-		75-125	-		20
Lead, Total	0.4272J	530	526.6	99		-	-		75-125	-		20
Nickel, Total	2.139	500	456.2	91		-	-		75-125	-		20
Vanadium, Total	ND	500	459.1	92		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1826065-3 QC Sample: L2352498-01 Client ID: GPSP-13-SS01												
Antimony, Total	1.28J	51.8	45.7	88		-	-		75-125	-		20
Arsenic, Total	11.6	12.4	24.5	104		-	-		75-125	-		20
Chromium, Total	40.1	20.7	58.6	89		-	-		75-125	-		20
Lead, Total	349	54.9	264	**0**	Q	-	-		75-125	-		20
Nickel, Total	23.0	51.8	72.3	95		-	-		75-125	-		20
Vanadium, Total	41.5	51.8	77.8	**70**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2352498

Report Date: 09/22/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 15 QC Batch ID: WG1826010-4 QC Sample: L2351877-01 Client ID: DUP Sample						
Antimony, Total	0.9708J	1.577J	ug/l	NC		20
Arsenic, Total	0.7784	0.8172	ug/l	5		20
Chromium, Total	0.6660J	0.7208J	ug/l	NC		20
Lead, Total	0.4272J	0.4350J	ug/l	NC		20
Nickel, Total	2.139	2.287	ug/l	7		20
Vanadium, Total	ND	ND	ug/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1826065-4 QC Sample: L2352498-01 Client ID: GPSP-13-SS01						
Antimony, Total	1.28J	1.70J	mg/kg	NC		20
Arsenic, Total	11.6	11.8	mg/kg	2		20
Chromium, Total	40.1	43.8	mg/kg	9		20
Lead, Total	349	308	mg/kg	12		20
Nickel, Total	23.0	27.9	mg/kg	19		20
Vanadium, Total	41.5	54.4	mg/kg	**27**	Q	20

INORGANICS
&
MISCELLANEOUS

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-01
Client ID: GPSP-13-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 09:30
Date Received: 09/08/23
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	73.8		%	0.100	NA	1	-	09/09/23 10:39	121,2540G	ROI
Cyanide, Total	ND		mg/kg	1.3	0.28	1	09/12/23 09:20	09/12/23 13:46	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	1.08	0.217	1	09/14/23 12:41	09/14/23 22:00	1,7196A	WMT

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-02
Client ID: GPSP-01-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 09:50
Date Received: 09/08/23
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	72.5		%	0.100	NA	1	-	09/09/23 10:39	121,2540G	ROI
Cyanide, Total	3.1		mg/kg	1.3	0.28	1	09/12/23 09:20	09/12/23 13:47	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	1.10	0.221	1	09/14/23 12:41	09/14/23 22:00	1,7196A	WMT

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-03
Client ID: GPSP-06-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 10:10
Date Received: 09/08/23
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	-	09/09/23 10:39	121,2540G	ROI
Cyanide, Total	0.33	J	mg/kg	1.2	0.26	1	09/12/23 09:20	09/12/23 13:48	1,9010C/9012B	JER
Chromium, Hexavalent	0.215	J	mg/kg	1.01	0.202	1	09/14/23 12:41	09/14/23 22:00	1,7196A	WMT

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-04
Client ID: GPSP-05-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 10:25
Date Received: 09/08/23
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	82.1		%	0.100	NA	1	-	09/09/23 10:39	121,2540G	ROI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	09/12/23 09:20	09/12/23 13:49	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	0.974	0.195	1	09/14/23 12:41	09/14/23 22:00	1,7196A	WMT

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-05
Client ID: GPSP-12-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 10:50
Date Received: 09/08/23
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	85.6		%	0.100	NA	1	-	09/09/23 10:39	121,2540G	ROI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	09/18/23 19:15	09/19/23 00:04	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	0.934	0.187	1	09/14/23 12:41	09/14/23 22:00	1,7196A	WMT

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-06
Client ID: GPSP-11-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 11:15
Date Received: 09/08/23
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	80.9		%	0.100	NA	1	-	09/09/23 10:39	121,2540G	ROI
Cyanide, Total	1.1	J	mg/kg	1.2	0.24	1	09/18/23 19:15	09/19/23 00:05	1,9010C/9012B	JER
Chromium, Hexavalent	1.08	J	mg/kg	4.94	0.989	5	09/14/23 12:41	09/14/23 22:00	1,7196A	WMT

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-07
Client ID: GPSP-10-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 11:35
Date Received: 09/08/23
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	80.4		%	0.100	NA	1	-	09/09/23 10:39	121,2540G	ROI
Cyanide, Total	0.27	J	mg/kg	1.2	0.25	1	09/18/23 19:15	09/19/23 00:07	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	0.995	0.199	1	09/14/23 12:41	09/14/23 22:00	1,7196A	WMT

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-08
Client ID: GPSP-17-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 11:50
Date Received: 09/08/23
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	82.2		%	0.100	NA	1	-	09/09/23 10:39	121,2540G	ROI
Cyanide, Total	0.27	J	mg/kg	1.2	0.25	1	09/18/23 19:15	09/19/23 00:08	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	0.973	0.195	1	09/14/23 12:41	09/14/23 22:00	1,7196A	WMT

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-09
Client ID: GPSP-14-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 12:15
Date Received: 09/08/23
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	82.9		%	0.100	NA	1	-	09/09/23 10:39	121,2540G	ROI
Cyanide, Total	0.39	J	mg/kg	1.1	0.24	1	09/18/23 19:15	09/19/23 00:11	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	0.965	0.193	1	09/14/23 12:41	09/14/23 22:00	1,7196A	WMT

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-10
Client ID: GPSP-09-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 12:35
Date Received: 09/08/23
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	88.0		%	0.100	NA	1	-	09/09/23 10:39	121,2540G	ROI
Cyanide, Total	1.4		mg/kg	1.1	0.22	1	09/18/23 19:15	09/19/23 00:12	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	0.909	0.182	1	09/14/23 12:41	09/14/23 22:00	1,7196A	WMT

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-11
Client ID: GPSP-04-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 12:55
Date Received: 09/08/23
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	84.5		%	0.100	NA	1	-	09/09/23 10:39	121,2540G	ROI
Cyanide, Total	0.89	J	mg/kg	1.1	0.24	1	09/18/23 19:15	09/19/23 00:13	1,9010C/9012B	JER
Chromium, Hexavalent	0.450	J	mg/kg	0.947	0.189	1	09/14/23 12:41	09/14/23 22:22	1,7196A	WMT

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-12
Client ID: GPSP-23-SS01
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 14:15
Date Received: 09/08/23
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	94.4		%	0.100	NA	1	-	09/09/23 10:39	121,2540G	ROI
Cyanide, Total	ND		mg/kg	0.98	0.21	1	09/18/23 19:15	09/19/23 00:14	1,9010C/9012B	JER
Chromium, Hexavalent	ND		mg/kg	0.847	0.169	1	09/14/23 12:41	09/14/23 22:22	1,7196A	WMT

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-13
Client ID: 201-F04-SG
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 15:40
Date Received: 09/08/23
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	91.1		%	0.100	NA	1	-	09/09/23 10:50	121,2540G	ROI

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-14
Client ID: 201-F02-SG
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 15:55
Date Received: 09/08/23
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	89.0		%	0.100	NA	1	-	09/09/23 10:50	121,2540G	ROI

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

SAMPLE RESULTS

Lab ID: L2352498-15
Client ID: FB-230908
Sample Location: PHILADELPHIA

Date Collected: 09/08/23 16:25
Date Received: 09/08/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		ug/l	5.00	1.80	1	09/13/23 13:25	09/13/23 16:40	1,9010C/9012B	JER
Chromium, Hexavalent	6.00	J	ug/l	10.0	3.00	1	09/09/23 07:00	09/09/23 07:55	1,7196A	OCF

Project Name: RCRA PAD CLOSURE - PHIL REF **Lab Number:** L2352498

Project Number: 200.00135.007 **Report Date:** 09/22/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 15 Batch: WG1825491-1										
Chromium, Hexavalent	3.00	J	ug/l	10.0	3.00	1	09/09/23 07:00	09/09/23 07:49	1,7196A	OCF
General Chemistry - Westborough Lab for sample(s): 01-04 Batch: WG1826338-1										
Cyanide, Total	ND		mg/kg	0.93	0.20	1	09/12/23 09:20	09/12/23 13:32	1,9010C/9012B	JER
General Chemistry - Westborough Lab for sample(s): 15 Batch: WG1826962-1										
Cyanide, Total	ND		ug/l	5.00	1.80	1	09/13/23 13:25	09/13/23 16:29	1,9010C/9012B	JER
General Chemistry - Westborough Lab for sample(s): 01-10 Batch: WG1827451-1										
Chromium, Hexavalent	ND		mg/kg	0.800	0.160	1	09/14/23 12:41	09/14/23 22:00	1,7196A	WMT
General Chemistry - Westborough Lab for sample(s): 11-12 Batch: WG1827453-1										
Chromium, Hexavalent	ND		mg/kg	0.800	0.160	1	09/14/23 12:41	09/14/23 22:22	1,7196A	WMT
General Chemistry - Westborough Lab for sample(s): 05-12 Batch: WG1828761-1										
Cyanide, Total	ND		mg/kg	0.93	0.20	1	09/18/23 19:15	09/19/23 00:30	1,9010C/9012B	JER

Lab Control Sample Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2352498

Report Date: 09/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 15 Batch: WG1825491-2								
Chromium, Hexavalent	91		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-04 Batch: WG1826338-2 WG1826338-3								
Cyanide, Total	99		91		80-120	9		35
General Chemistry - Westborough Lab Associated sample(s): 15 Batch: WG1826962-2 WG1826962-3								
Cyanide, Total	106		99		85-115	7		20
General Chemistry - Westborough Lab Associated sample(s): 01-10 Batch: WG1827451-2								
Chromium, Hexavalent	**74**	Q	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 11-12 Batch: WG1827453-2								
Chromium, Hexavalent	**74**	Q	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 05-12 Batch: WG1828761-2 WG1828761-3								
Cyanide, Total	**121**	Q	119		80-120	2		35

Matrix Spike Analysis
Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007
Lab Number: L2352498
Report Date: 09/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 15 QC Batch ID: WG1825491-4 QC Sample: L2352498-15 Client ID: FB-230908												
Chromium, Hexavalent	6.00J	0.2	90.0	90		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1826338-4 WG1826338-5 QC Sample: L2352112-06 Client ID: MS Sample												
Cyanide, Total	1.3J	14	13	82		12	**74**	Q	75-125	8		35
General Chemistry - Westborough Lab Associated sample(s): 15 QC Batch ID: WG1826962-4 WG1826962-5 QC Sample: L2350975-08 Client ID: MS Sample												
Cyanide, Total	ND	200	216	108		217	108		80-120	0		20
General Chemistry - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG1827451-4 QC Sample: L2352498-01 Client ID: GPSP-13-SS01												
Chromium, Hexavalent	ND	1520	1140	75		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 11-12 QC Batch ID: WG1827453-4 QC Sample: L2352112-11 Client ID: MS Sample												
Chromium, Hexavalent	ND	1170	875	75		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 05-12 QC Batch ID: WG1828761-4 WG1828761-5 QC Sample: L2352498-05 Client ID: GPSP-12-SS01												
Cyanide, Total	ND	11	17	**160**	Q	17	**160**	Q	75-125	0		35

Lab Duplicate Analysis

Batch Quality Control

Project Name: RCRA PAD CLOSURE - PHIL REF

Project Number: 200.00135.007

Lab Number: L2352498

Report Date: 09/22/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 15 QC Batch ID: WG1825491-3 QC Sample: L2352498-15 Client ID: FB-230908						
Chromium, Hexavalent	6.00J	6.00J	ug/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-12 QC Batch ID: WG1825529-1 QC Sample: L2352462-01 Client ID: DUP Sample						
Solids, Total	92.2	91.7	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 13-14 QC Batch ID: WG1825530-1 QC Sample: L2351876-01 Client ID: DUP Sample						
Solids, Total	51.6	47.8	%	8		20
General Chemistry - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG1827451-6 QC Sample: L2352498-01 Client ID: GPSP-13-SS01						
Chromium, Hexavalent	ND	ND	mg/kg	NC		20
General Chemistry - Westborough Lab Associated sample(s): 11-12 QC Batch ID: WG1827453-6 QC Sample: L2352112-11 Client ID: DUP Sample						
Chromium, Hexavalent	ND	ND	mg/kg	NC		20

Project Name: RCRA PAD CLOSURE - PHIL REF
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Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2352498-01A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2352498-01B	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-01C	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-01D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2352498-01E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		SUB-8270()
L2352498-01F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352498-01G	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		TS(7)
L2352498-02A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2352498-02B	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-02C	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-02D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2352498-02E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		SUB-8270()
L2352498-02F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352498-02G	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		TS(7)
L2352498-03A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2352498-03B	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-03C	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-03D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2352498-03E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		SUB-8270()
L2352498-03F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352498-03G	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2352498-04A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2352498-04B	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-04C	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-04D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2352498-04E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		SUB-8270()
L2352498-04F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352498-04G	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		TS(7)
L2352498-05A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2352498-05B	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-05C	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-05D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2352498-05E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		SUB-8270()
L2352498-05F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352498-05G	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		TS(7)
L2352498-06A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2352498-06B	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-06C	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-06D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2352498-06E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		SUB-8270()
L2352498-06F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352498-06G	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		TS(7)
L2352498-07A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2352498-07B	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-07C	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-07D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2352498-07E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		SUB-8270()
L2352498-07F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TCN-9010(14),HEXCR-7196(30)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2352498-07G	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		TS(7)
L2352498-08A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2352498-08B	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-08C	Vial water preserved	B	NA		3.5	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-08D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2352498-08E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		SUB-8270()
L2352498-08F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352498-08G	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		TS(7)
L2352498-09A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2352498-09B	Vial water preserved	A	NA		2.3	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-09C	Vial water preserved	A	NA		2.3	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-09D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2352498-09E	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		SUB-8270()
L2352498-09F	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352498-09G	Plastic 120ml unpreserved	A	NA		2.3	Y	Absent		TS(7)
L2352498-10A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2352498-10B	Vial water preserved	A	NA		2.3	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-10C	Vial water preserved	A	NA		2.3	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-10D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2352498-10E	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		SUB-8270()
L2352498-10F	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352498-10G	Plastic 120ml unpreserved	A	NA		2.3	Y	Absent		TS(7)
L2352498-11A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2352498-11B	Vial water preserved	A	NA		2.3	Y	Absent	09-SEP-23 05:18	PA-8260H(14),PA-8260HLW(14)
L2352498-11C	Vial water preserved	A	NA		2.3	Y	Absent	09-SEP-23 05:18	PA-8260H(14),PA-8260HLW(14)
L2352498-11D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2352498-11E	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		SUB-8270()

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
Project Number: 200.00135.007

Lab Number: L2352498
Report Date: 09/22/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2352498-11F	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352498-11G	Plastic 120ml unpreserved	A	NA		2.3	Y	Absent		TS(7)
L2352498-12A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2352498-12B	Vial water preserved	A	NA		2.3	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-12C	Vial water preserved	A	NA		2.3	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-12D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2352498-12E	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		SUB-8270()
L2352498-12F	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		TCN-9010(14),HEXCR-7196(30)
L2352498-12G	Plastic 120ml unpreserved	A	NA		2.3	Y	Absent		TS(7)
L2352498-13A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2352498-13B	Vial water preserved	A	NA		2.3	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-13C	Vial water preserved	A	NA		2.3	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-13D	Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		HOLD-SUB()
L2352498-13E	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		TS(7),PA-PAH(14)
L2352498-13F	Plastic 120ml unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2352498-14A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2352498-14B	Vial water preserved	A	NA		2.3	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-14C	Vial water preserved	A	NA		2.3	Y	Absent	09-SEP-23 05:18	PA-8260HLW(14)
L2352498-14D	Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		HOLD-SUB()
L2352498-14E	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		TS(7),PA-PAH(14)
L2352498-14F	Plastic 120ml unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2352498-15A	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2352498-15B	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2352498-15C	Vial HCl preserved	A	NA		2.3	Y	Absent		8011(14)
L2352498-15D	Plastic 250ml unpreserved	A	7	7	2.3	Y	Absent		HEXCR-7196-PPB(1)
L2352498-15E	Plastic 250ml NaOH preserved	A	>12	>12	2.3	Y	Absent		TCN-9010-PPB(14)
L2352498-15F	Amber 250ml unpreserved	A	7	7	2.3	Y	Absent		SUB-8270(7)
L2352498-15G	Amber 250ml unpreserved	A	7	7	2.3	Y	Absent		SUB-8270(7)

*Values in parentheses indicate holding time in days

Project Name: RCRA PAD CLOSURE - PHIL REF
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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2352498-15H	Plastic 250ml HNO3 preserved	A	<2	<2	2.3	Y	Absent		CR-6020T-PPB(180),SB-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),V-6020T-PPB(180)
L2352498-16A	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2352498-16B	Vial HCl preserved	A	NA		2.3	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352498
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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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352498
Project Number:	200.00135.007	**Report Date:**	09/22/23

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352498
Project Number:	200.00135.007	**Report Date:**	09/22/23

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:	RCRA PAD CLOSURE - PHIL REF	**Lab Number:**	L2352498
Project Number:	200.00135.007	**Report Date:**	09/22/23

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

Date Rec'd in Lab: 9/9/23

ALPHA Job #: L2352498

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609-584-0020
Fax:
Email: william.schmidt@ransomenv.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: PES Refinery
Project Location: Philadelphia
Project #: 200.00135
Project Manager: William Schmidt
ALPHA Quote #:

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 #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS: See attached Table 1

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS	Sample Specific Comments	TOTAL # BOTTLES
52498-01	GPSP-13	9/8/23	9:30	S	ND	X		7
02	GPSP-04		9:50			X		7
03	GPSP-06		10:10			X		7
04	GPSP-05		10:25			X		7
05	GPSP-12		10:50			X		7
06	GPSP-11		11:15			X		7
07	GPSP-10		11:35			X		7
08	GPSP-17		11:50			X		7
09	GPSP-14		12:15			X		7
10	GPSP-09		12:35			X		7

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	9/8/23/16:45	AAL	9.8.23 1645
	9.8.23 1800	NAL	9/8/23 1800
NAL	9/8/23 2100	Anthony Green	SEP 08 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.

09/09/23-0240

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 9/9/23

ALPHA Job #: L2352498

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609-584-0020
Fax:
Email: william.schmidt@ransomenv.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: PES Refinery
Project Location: Philadelphia
Project #: 200.00435
Project Manager: William Schmidt
ALPHA Quote #:

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 #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS: See attached Table 1; PAH; Lead; VOC fraction of Table 1

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	See attached Table 1	PAH	Lead	VOC fraction of Table 1	Sample Specific Comments	TOTAL # BOTTLES
52498-11	GPSP-021	9/8/23	12:55	S	ND	X					7
12	GPSP-23	↓	14:15	↓	↓	X					7
13	201-F04-c	↓	15:40	↓	↓	X	X	X			6
14	201-F02-a	↓	15:55	↓	↓	X	X	X			6
15	Field blank	↓	16:25	W	↓	X					8
16	Trip blank	↓	16:25	W	↓				X		2

9/9/23 0240

09/09/23-0240

Container Type	
Preservative	

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	9/8/23/16:45	O. Burger AAL	9.8.23 1645
O. B[signature]	9.8.23 1800	[signature] AAL	9/8/23 1800
[signature] AAL	9/8/23 2100	Anthony Green SEP 08 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.

Table 1
Proposed Target Analyte List and Analytical Methods
Tanks 1086 and 1087 Storage Pad and the Girard Point Waste Storage Pad
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Constituents for Analysis	Analytical Method
Volatile Organic Compounds	*SW-846 Method 8260*
Benzene	
1,2-Dibromoethane (EBD)	
1,2-Dichloroethane (EDC)	
Carbon Disulfide	
Ethyl Benzene	
Isopropylbenzene (Cumene)	
Methyl Tertiary Butyl Ether (MTBE)	
Toluene	
1,2,4-Trimethylbenzene	
1,3,5-Trimethylbenzene	
Xylenes (total)	
Semi-Volatile Compounds	*SW-846 Method 8270*
Acenaphthene	
Anthracene	
Benzo(a)anthracene	
Benzo(a)pyrene	
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Benzo(g,h,i)perylene	
bis(2-Ethylhexyl)phthalate	
Chrysene	
Dibenz(a,h)anthracene	
Di-n-butylphthalate	
7,12-Dimethylbenz(a)anthracene	
2,4-Dimethylphenol	
Fluorene	
Indeno(1,2,3-cd)pyrene	
3-Methylcholanthrene	
2-Methylphenol	
3-Methylphenol	
4-Methylphenol	
Naphthalene	
o-cresol	
m-cresol	
p-resol	
Phenanthrene	
Phenol	
Pyrene	
Metals	
Antimony	*SW-846 Method 6010*
Arsenic	
Cyanide (total)	*SW-846 Method 9012*
Lead	
Nickel	*SW-846 Method 6010*
Vanadium	
Chromium (total)	
Chromium (hexavalent)	*SW-846 Method 7196*

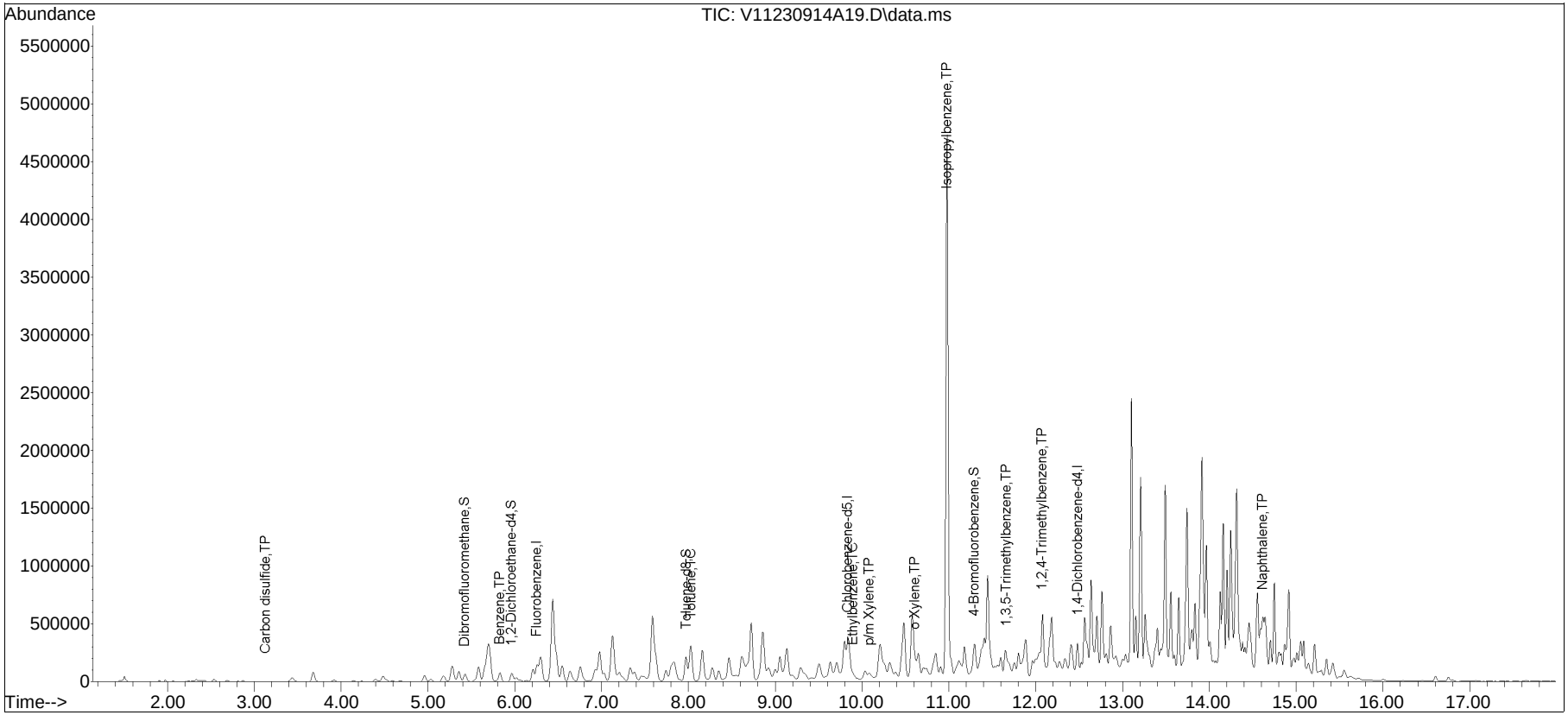
Notes:
1) The Evergreen and PADEP agreed upon Philadelphia Refinery Target Compound List is provided in regular font.
2) Additional analytes based on the waste codes for the waste stored at the GP Waste Stroage Pad are italicized.
3) The Tanks 1086 and 1087 Storage Pad samples will also be analyzed for pH.

Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2023\230914A\
Data File : V11230914A19.D
Acq On : 14 Sep 2023 03:23 pm
Operator : VOA111:LAC
Sample : L2352498-01,31H,5.80,5,0.100,,A
Misc : WG1827883,ICAL20211
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 14 16:25:47 2023
Quant Method : K:\VOA111\2023\230914A\V111_230727N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Jul 28 06:34:25 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS2•

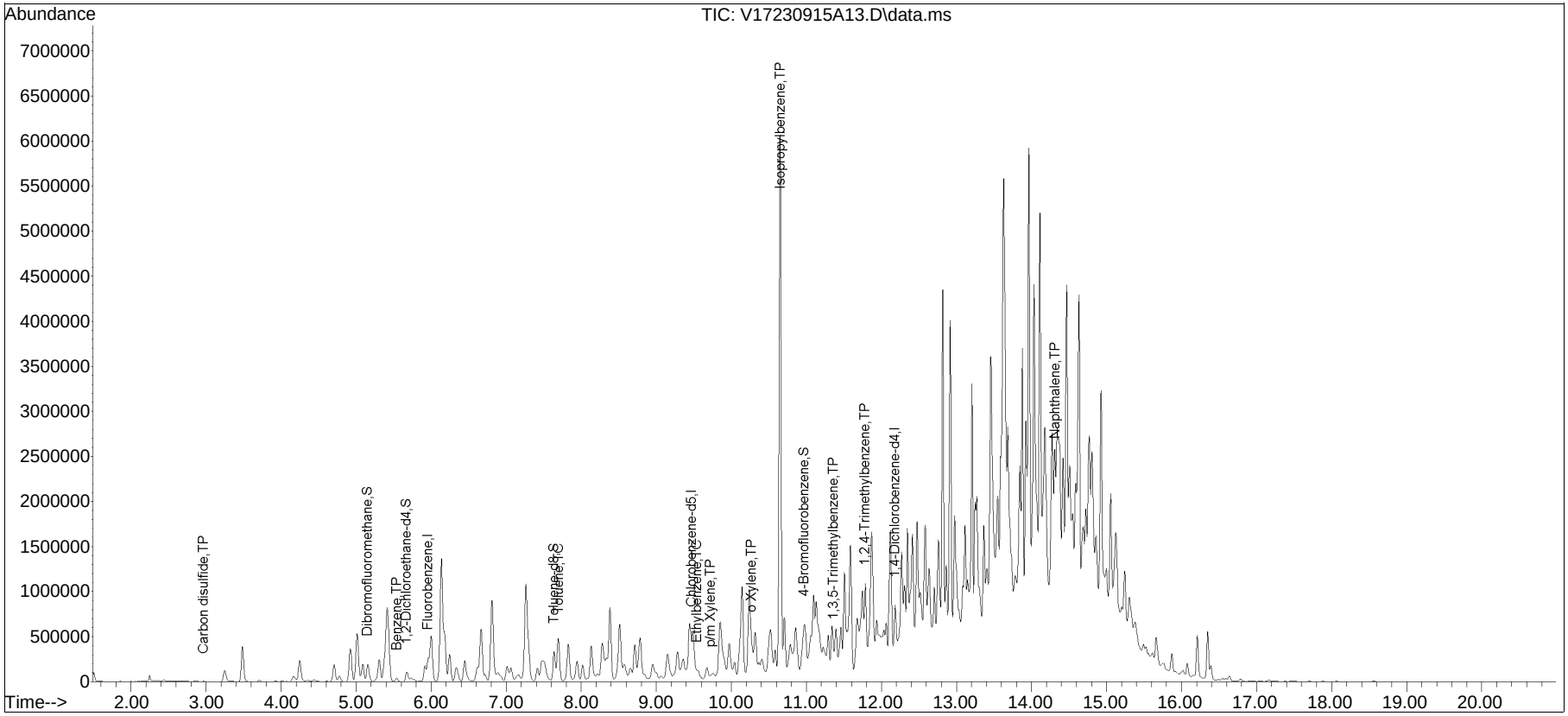


Quantitation Report (QT Reviewed)

Data Path : K:\VOA117\2023\230915A\
Data File : V17230915A13.D
Acq On : 15 Sep 2023 03:01 pm
Operator : VOA117:lac
Sample : L2352498-07D2,31H,5.69,5,0.05,,A
Misc : WG1828684,ICAL20195
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 15 15:25:45 2023
Quant Method : K:\VOA117\2023\230915A\V117_230724A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Jul 25 06:46:55 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS2•

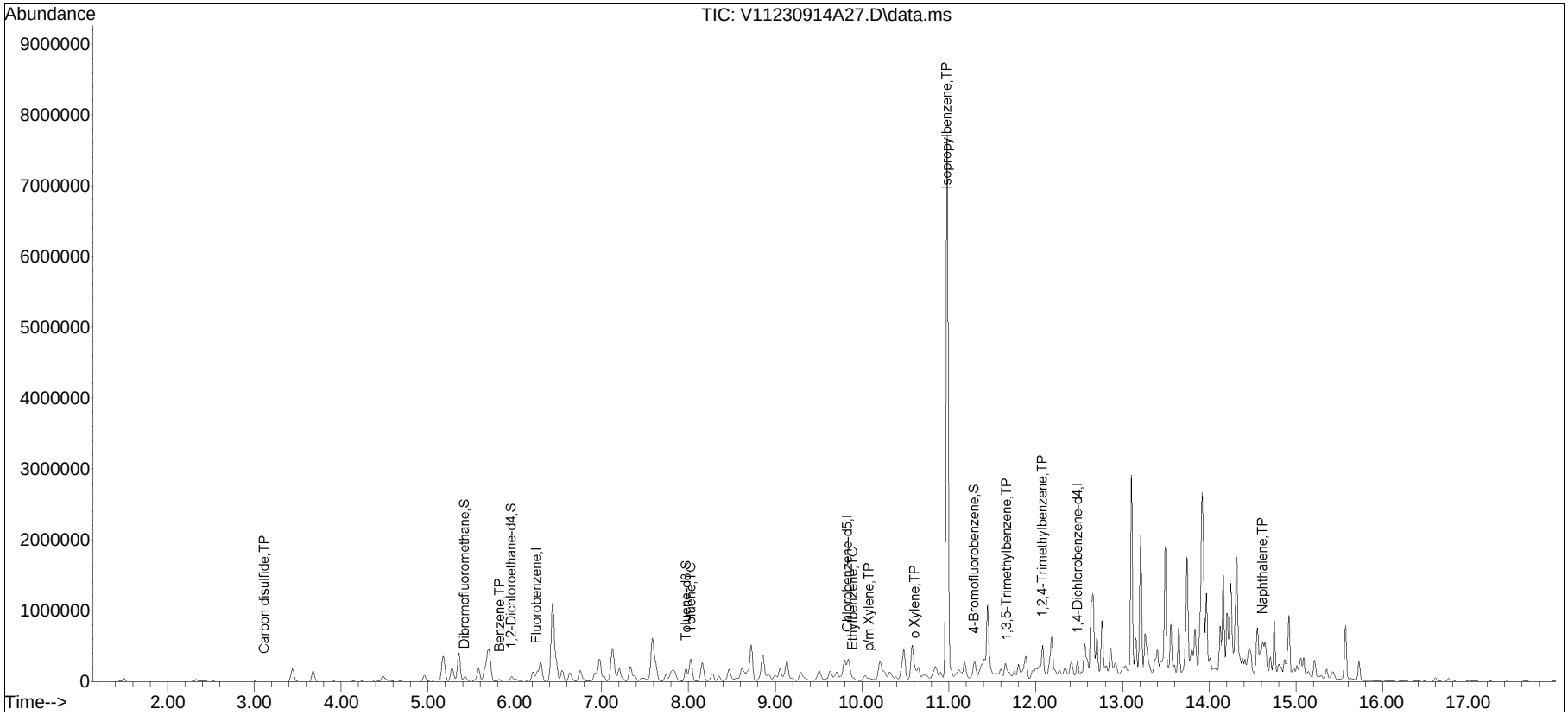


Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2023\230914A\
Data File : V11230914A27.D
Acq On : 14 Sep 2023 06:45 pm
Operator : VOA111:JIC
Sample : L2352498-09,31H,5.93,5,0.100,,A
Misc : WG1827883,ICAL20211
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Sep 15 07:54:54 2023
Quant Method : K:\VOA111\2023\230914A\V111_230727N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Jul 28 06:34:25 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS2•

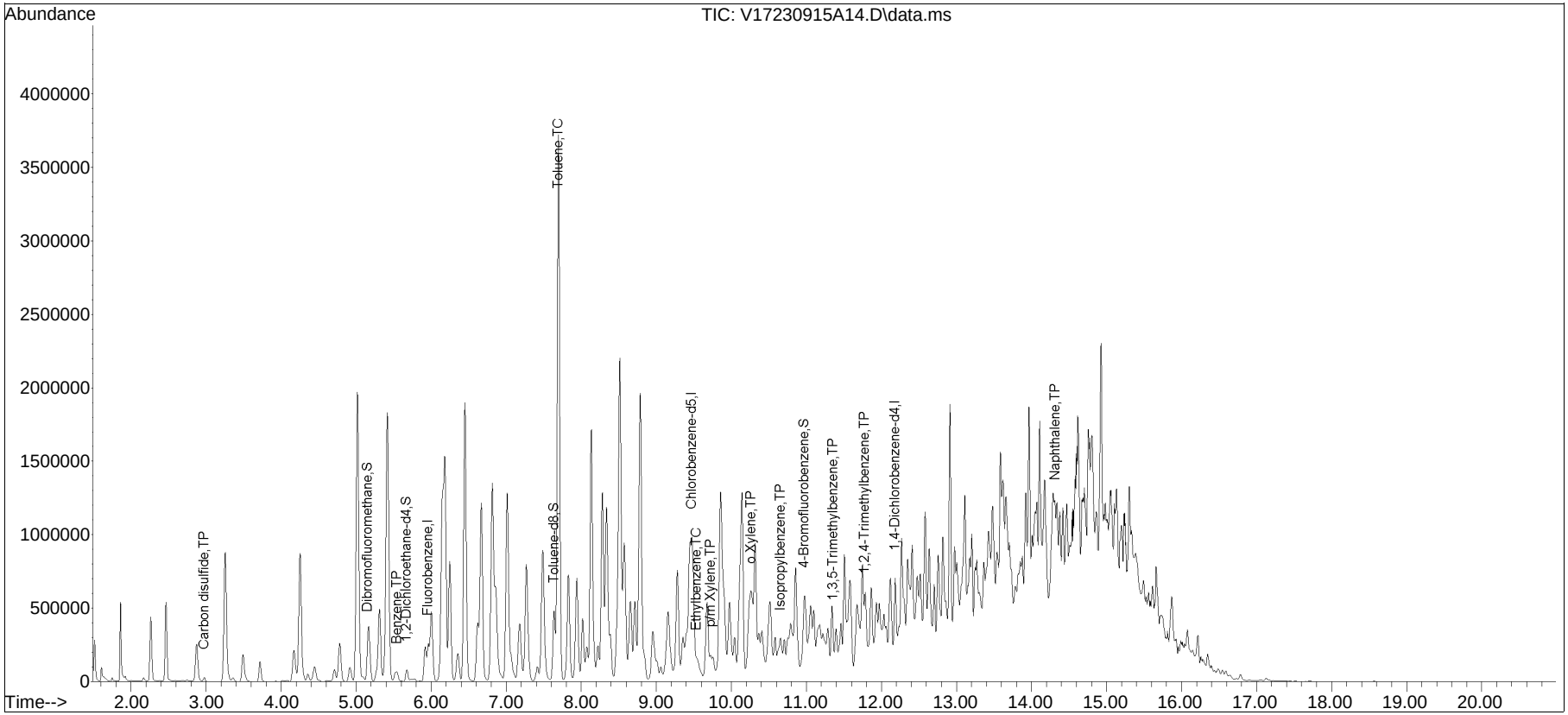


Quantitation Report (QT Reviewed)

Data Path : K:\VOA117\2023\230915A\
Data File : V17230915A14.D
Acq On : 15 Sep 2023 03:28 pm
Operator : VOA117:AJK
Sample : L2352498-11,31,5.78,5,,B
Misc : WG1828685,ICAL20195
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 17 21:08:34 2023
Quant Method : K:\VOA117\2023\230915A\V117_230724A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Jul 25 06:46:55 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS2•



Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

September 22, 2023

Reports
Alpha Analytical
8 Walkup Drive
Westborough, MA 01581

RE: Project: L2352498
Pace Project No.: 70270216

Dear Reports:

Enclosed are the analytical results for sample(s) received by the laboratory on September 12, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Melville

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Matthew T. Nemeth for
Jack M. Germano
jack.germano@pacelabs.com
516-370-6012
Project Manager

Enclosures

cc: Michael Chang, Alpha Analytical
Candace Fox, Alpha Analytical
Candy Fox, Alpha Analytical
Nicole Galamb, Alpha Analytical
Brenda Pirinelli, Alpha Analytical
Marty Vitanza, Alpha
Nadine Yakes, Alpha Analytical

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

CERTIFICATIONS

Project: L2352498
Pace Project No.: 70270216

Pace Analytical Services Long Island
575 Broad Hollow Rd, Melville, NY 11747
Connecticut Certification #: PH-0435
Delaware Certification # NY 10478
Maryland Certification #: 208
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987
New Jersey Certification #: NY158
New York Certification #: 10478 Primary Accrediting Body
Pennsylvania Certification #: 68-00350
Rhode Island Certification #: LAO00340
Virginia Certification # 460302

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

ANALYTICAL RESULTS

Project: L2352498
Pace Project No.: 70270216

Sample: GPSP-13-SS01 **Lab ID: 70270216001** Collected: 09/08/23 09:30 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**1760**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	83-32-9	
Anthracene	**1750**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	120-12-7	
Benzo(a)anthracene	**4510**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	56-55-3	M1
Benzo(a)pyrene	**4450**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	50-32-8	M1
Benzo(b)fluoranthene	**4160**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	205-99-2	M1
Benzo(g,h,i)perylene	**2620**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	191-24-2	M1
Benzo(k)fluoranthene	**1890**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	207-08-9	M1
Chrysene	**6820**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	218-01-9	M1
Dibenz(a,h)anthracene	**<973**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	53-70-3	
7,12-Dimethylbenz(a)anthracene	**<973**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	57-97-6	L2,M0
2,4-Dimethylphenol	**<973**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	105-67-9	
Di-n-butylphthalate	**<973**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	84-74-2	
bis(2-Ethylhexyl)phthalate	**<973**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	117-81-7	
Fluorene	**9440**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	86-73-7	M1
Indeno(1,2,3-cd)pyrene	**2540**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	193-39-5	M1
3-Methylcholanthrene	**<4790**	ug/kg	4790	10	09/13/23 14:50	09/18/23 17:58	56-49-5	L2
2-Methylphenol(o-Cresol)	**<973**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<973**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58		
Naphthalene	**<973**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	91-20-3	
Phenanthrene	**14700**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	85-01-8	M1
Phenol	**<973**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	108-95-2	
Pyrene	**7390**	ug/kg	973	10	09/13/23 14:50	09/18/23 17:58	129-00-0	M1
Surrogates								
Nitrobenzene-d5 (S)	56	%	10-93	10	09/13/23 14:50	09/18/23 17:58	4165-60-0	
2-Fluorobiphenyl (S)	62	%	10-98	10	09/13/23 14:50	09/18/23 17:58	321-60-8	
p-Terphenyl-d14 (S)	71	%	10-117	10	09/13/23 14:50	09/18/23 17:58	1718-51-0	
Phenol-d5 (S)	52	%	10-94	10	09/13/23 14:50	09/18/23 17:58	4165-62-2	
2-Fluorophenol (S)	53	%	10-98	10	09/13/23 14:50	09/18/23 17:58	367-12-4	
2,4,6-Tribromophenol (S)	57	%	10-115	10	09/13/23 14:50	09/18/23 17:58	118-79-6	v1
2-Chlorophenol-d4 (S)	52	%	10-93	10	09/13/23 14:50	09/18/23 17:58	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	45	%	10-81	10	09/13/23 14:50	09/18/23 17:58	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**32.2**	%	0.10	1		09/14/23 14:47		

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575 Broad Hollow Road
Melville, NY 11747
516-370-6000

ANALYTICAL RESULTS

Project: L2352498
Pace Project No.: 70270216

Sample: GPSP-01-SS01 **Lab ID: 70270216002** Collected: 09/08/23 09:50 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**5660**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	83-32-9	
Anthracene	**6400**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	120-12-7	
Benzo(a)anthracene	**8050**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	56-55-3	
Benzo(a)pyrene	**6720**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	50-32-8	
Benzo(b)fluoranthene	**6280**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	205-99-2	
Benzo(g,h,i)perylene	**2340**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	191-24-2	
Benzo(k)fluoranthene	**2690**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	207-08-9	
Chrysene	**12800**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	218-01-9	
Dibenz(a,h)anthracene	**<903**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	53-70-3	
7,12-Dimethylbenz(a)anthracene	**1980**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	57-97-6	L2
2,4-Dimethylphenol	**<903**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	105-67-9	
Di-n-butylphthalate	**<903**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	84-74-2	
bis(2-Ethylhexyl)phthalate	**<903**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	117-81-7	
Fluorene	**27400**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	86-73-7	
Indeno(1,2,3-cd)pyrene	**2340**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	193-39-5	
3-Methylcholanthrene	**<4450**	ug/kg	4450	10	09/13/23 14:50	09/18/23 19:37	56-49-5	L2
2-Methylphenol(o-Cresol)	**<903**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<903**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37		
Naphthalene	**<903**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	91-20-3	
Phenanthrene	**41800**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	85-01-8	
Phenol	**<903**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	108-95-2	
Pyrene	**20600**	ug/kg	903	10	09/13/23 14:50	09/18/23 19:37	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	58	%	10-93	10	09/13/23 14:50	09/18/23 19:37	4165-60-0	
2-Fluorobiphenyl (S)	47	%	10-98	10	09/13/23 14:50	09/18/23 19:37	321-60-8	
p-Terphenyl-d14 (S)	56	%	10-117	10	09/13/23 14:50	09/18/23 19:37	1718-51-0	
Phenol-d5 (S)	40	%	10-94	10	09/13/23 14:50	09/18/23 19:37	4165-62-2	
2-Fluorophenol (S)	40	%	10-98	10	09/13/23 14:50	09/18/23 19:37	367-12-4	
2,4,6-Tribromophenol (S)	42	%	10-115	10	09/13/23 14:50	09/18/23 19:37	118-79-6	v1
2-Chlorophenol-d4 (S)	40	%	10-93	10	09/13/23 14:50	09/18/23 19:37	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	43	%	10-81	10	09/13/23 14:50	09/18/23 19:37	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**27.9**	%	0.10	1		09/14/23 14:48		

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575 Broad Hollow Road
Melville, NY 11747
516-370-6000

ANALYTICAL RESULTS

Project: L2352498
Pace Project No.: 70270216

Sample: GPSP-06-SS01 **Lab ID: 70270216003** Collected: 09/08/23 10:10 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**3750**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	83-32-9	
Anthracene	**3310**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	120-12-7	
Benzo(a)anthracene	**6210**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	56-55-3	
Benzo(a)pyrene	**4360**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	50-32-8	
Benzo(b)fluoranthene	**3450**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	205-99-2	
Benzo(g,h,i)perylene	**1450**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	191-24-2	
Benzo(k)fluoranthene	**1320**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	207-08-9	
Chrysene	**12200**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	218-01-9	
Dibenz(a,h)anthracene	**<796**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	53-70-3	
7,12-Dimethylbenz(a)anthracene	**3520**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	57-97-6	L2
2,4-Dimethylphenol	**<796**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	105-67-9	
Di-n-butylphthalate	**<796**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	84-74-2	
bis(2-Ethylhexyl)phthalate	**<796**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	117-81-7	
Fluorene	**15800**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	86-73-7	
Indeno(1,2,3-cd)pyrene	**1210**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	193-39-5	
3-Methylcholanthrene	**<3920**	ug/kg	3920	10	09/13/23 14:50	09/18/23 20:10	56-49-5	L2
2-Methylphenol(o-Cresol)	**<796**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<796**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10		
Naphthalene	**<796**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	91-20-3	
Phenanthrene	**29300**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	85-01-8	
Phenol	**<796**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	108-95-2	
Pyrene	**17000**	ug/kg	796	10	09/13/23 14:50	09/18/23 20:10	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	58	%	10-93	10	09/13/23 14:50	09/18/23 20:10	4165-60-0	
2-Fluorobiphenyl (S)	58	%	10-98	10	09/13/23 14:50	09/18/23 20:10	321-60-8	
p-Terphenyl-d14 (S)	68	%	10-117	10	09/13/23 14:50	09/18/23 20:10	1718-51-0	
Phenol-d5 (S)	51	%	10-94	10	09/13/23 14:50	09/18/23 20:10	4165-62-2	
2-Fluorophenol (S)	50	%	10-98	10	09/13/23 14:50	09/18/23 20:10	367-12-4	
2,4,6-Tribromophenol (S)	54	%	10-115	10	09/13/23 14:50	09/18/23 20:10	118-79-6	v1
2-Chlorophenol-d4 (S)	51	%	10-93	10	09/13/23 14:50	09/18/23 20:10	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	53	%	10-81	10	09/13/23 14:50	09/18/23 20:10	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**17.2**	%	0.10	1		09/14/23 14:49		

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Melville, NY 11747
516-370-6000

ANALYTICAL RESULTS

Project: L2352498
Pace Project No.: 70270216

Sample: GPSP-05-SS01 **Lab ID: 70270216004** Collected: 09/08/23 10:25 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**10800**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	83-32-9	
Anthracene	**7820**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	120-12-7	
Benzo(a)anthracene	**6910**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	56-55-3	
Benzo(a)pyrene	**5350**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	50-32-8	
Benzo(b)fluoranthene	**3350**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	205-99-2	
Benzo(g,h,i)perylene	**1440**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	191-24-2	
Benzo(k)fluoranthene	**870**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	207-08-9	
Chrysene	**18100**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	218-01-9	
Dibenz(a,h)anthracene	**<834**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	53-70-3	
7,12-Dimethylbenz(a)anthracene	**3840**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	57-97-6	L2
2,4-Dimethylphenol	**<834**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	105-67-9	
Di-n-butylphthalate	**<834**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	84-74-2	
bis(2-Ethylhexyl)phthalate	**<834**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	117-81-7	
Fluorene	**48500**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	86-73-7	
Indeno(1,2,3-cd)pyrene	**<834**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	193-39-5	
3-Methylcholanthrene	**<4110**	ug/kg	4110	10	09/13/23 14:50	09/18/23 20:42	56-49-5	L2
2-Methylphenol(o-Cresol)	**<834**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<834**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42		
Naphthalene	**837**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	91-20-3	
Phenanthrene	**92600**	ug/kg	4170	50	09/13/23 14:50	09/19/23 23:06	85-01-8	
Phenol	**<834**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	108-95-2	
Pyrene	**27100**	ug/kg	834	10	09/13/23 14:50	09/18/23 20:42	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	98	%	10-93	10	09/13/23 14:50	09/18/23 20:42	4165-60-0	S4
2-Fluorobiphenyl (S)	57	%	10-98	10	09/13/23 14:50	09/18/23 20:42	321-60-8	
p-Terphenyl-d14 (S)	62	%	10-117	10	09/13/23 14:50	09/18/23 20:42	1718-51-0	
Phenol-d5 (S)	48	%	10-94	10	09/13/23 14:50	09/18/23 20:42	4165-62-2	
2-Fluorophenol (S)	49	%	10-98	10	09/13/23 14:50	09/18/23 20:42	367-12-4	
2,4,6-Tribromophenol (S)	55	%	10-115	10	09/13/23 14:50	09/18/23 20:42	118-79-6	v1
2-Chlorophenol-d4 (S)	47	%	10-93	10	09/13/23 14:50	09/18/23 20:42	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	49	%	10-81	10	09/13/23 14:50	09/18/23 20:42	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**20.1**	%	0.10	1		09/14/23 14:50		

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516-370-6000

ANALYTICAL RESULTS

Project: L2352498
Pace Project No.: 70270216

Sample: GPSP-12-SS01 **Lab ID: 70270216005** Collected: 09/08/23 10:50 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**830**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	83-32-9	
Anthracene	**1180**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	120-12-7	
Benzo(a)anthracene	**2240**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	56-55-3	
Benzo(a)pyrene	**1810**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	50-32-8	
Benzo(b)fluoranthene	**1680**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	205-99-2	
Benzo(g,h,i)perylene	**<773**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	191-24-2	
Benzo(k)fluoranthene	**<773**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	207-08-9	
Chrysene	**3420**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	218-01-9	
Dibenz(a,h)anthracene	**<773**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	53-70-3	
7,12-Dimethylbenz(a)anthracene	**<773**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	57-97-6	L2
2,4-Dimethylphenol	**<773**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	105-67-9	
Di-n-butylphthalate	**<773**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	84-74-2	
bis(2-Ethylhexyl)phthalate	**<773**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	117-81-7	
Fluorene	**3710**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	86-73-7	
Indeno(1,2,3-cd)pyrene	**812**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	193-39-5	
3-Methylcholanthrene	**<3810**	ug/kg	3810	10	09/13/23 14:50	09/18/23 21:15	56-49-5	L2
2-Methylphenol(o-Cresol)	**<773**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<773**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15		
Naphthalene	**<773**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	91-20-3	
Phenanthrene	**7660**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	85-01-8	
Phenol	**<773**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	108-95-2	
Pyrene	**4650**	ug/kg	773	10	09/13/23 14:50	09/18/23 21:15	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	43	%	10-93	10	09/13/23 14:50	09/18/23 21:15	4165-60-0	
2-Fluorobiphenyl (S)	68	%	10-98	10	09/13/23 14:50	09/18/23 21:15	321-60-8	
p-Terphenyl-d14 (S)	75	%	10-117	10	09/13/23 14:50	09/18/23 21:15	1718-51-0	
Phenol-d5 (S)	55	%	10-94	10	09/13/23 14:50	09/18/23 21:15	4165-62-2	
2-Fluorophenol (S)	54	%	10-98	10	09/13/23 14:50	09/18/23 21:15	367-12-4	
2,4,6-Tribromophenol (S)	56	%	10-115	10	09/13/23 14:50	09/18/23 21:15	118-79-6	v1
2-Chlorophenol-d4 (S)	54	%	10-93	10	09/13/23 14:50	09/18/23 21:15	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	53	%	10-81	10	09/13/23 14:50	09/18/23 21:15	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**14.3**	%	0.10	1		09/14/23 14:51		

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516-370-6000

ANALYTICAL RESULTS

Project: L2352498
Pace Project No.: 70270216

Sample: GPSP-11-SS01 **Lab ID: 70270216006** Collected: 09/08/23 11:15 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**4620**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	83-32-9	
Anthracene	**5750**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	120-12-7	
Benzo(a)anthracene	**10600**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	56-55-3	
Benzo(a)pyrene	**9800**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	50-32-8	
Benzo(b)fluoranthene	**10900**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	205-99-2	
Benzo(g,h,i)perylene	**3110**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	191-24-2	
Benzo(k)fluoranthene	**4550**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	207-08-9	
Chrysene	**17100**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	218-01-9	
Dibenz(a,h)anthracene	**968**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	53-70-3	
7,12-Dimethylbenz(a)anthracene	**2970**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	57-97-6	L2
2,4-Dimethylphenol	**<803**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	105-67-9	
Di-n-butylphthalate	**<803**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	84-74-2	
bis(2-Ethylhexyl)phthalate	**<803**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	117-81-7	
Fluorene	**23800**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	86-73-7	
Indeno(1,2,3-cd)pyrene	**3600**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	193-39-5	
3-Methylcholanthrene	**<3960**	ug/kg	3960	10	09/13/23 14:50	09/18/23 21:48	56-49-5	L2
2-Methylphenol(o-Cresol)	**<803**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<803**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48		
Naphthalene	**3460**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	91-20-3	
Phenanthrene	**35600**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	85-01-8	
Phenol	**<803**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	108-95-2	
Pyrene	**22200**	ug/kg	803	10	09/13/23 14:50	09/18/23 21:48	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	27	%	10-93	10	09/13/23 14:50	09/18/23 21:48	4165-60-0	
2-Fluorobiphenyl (S)	27	%	10-98	10	09/13/23 14:50	09/18/23 21:48	321-60-8	
p-Terphenyl-d14 (S)	24	%	10-117	10	09/13/23 14:50	09/18/23 21:48	1718-51-0	
Phenol-d5 (S)	14	%	10-94	10	09/13/23 14:50	09/18/23 21:48	4165-62-2	
2-Fluorophenol (S)	14	%	10-98	10	09/13/23 14:50	09/18/23 21:48	367-12-4	
2,4,6-Tribromophenol (S)	19	%	10-115	10	09/13/23 14:50	09/18/23 21:48	118-79-6	v1
2-Chlorophenol-d4 (S)	15	%	10-93	10	09/13/23 14:50	09/18/23 21:48	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	13	%	10-81	10	09/13/23 14:50	09/18/23 21:48	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**16.9**	%	0.10	1		09/14/23 14:51		

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

ANALYTICAL RESULTS

Project: L2352498
Pace Project No.: 70270216

Sample: GPSP-10-SS01 **Lab ID: 70270216007** Collected: 09/08/23 11:35 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**5390**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	83-32-9	
Anthracene	**5670**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	120-12-7	
Benzo(a)anthracene	**5410**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	56-55-3	
Benzo(a)pyrene	**4460**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	50-32-8	
Benzo(b)fluoranthene	**2860**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	205-99-2	
Benzo(g,h,i)perylene	**1250**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	191-24-2	
Benzo(k)fluoranthene	**1030**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	207-08-9	
Chrysene	**12500**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	218-01-9	
Dibenz(a,h)anthracene	**<811**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	53-70-3	
7,12-Dimethylbenz(a)anthracene	**3630**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	57-97-6	L2
2,4-Dimethylphenol	**<811**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	105-67-9	
Di-n-butylphthalate	**<811**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	84-74-2	
bis(2-Ethylhexyl)phthalate	**<811**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	117-81-7	
Fluorene	**24800**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	86-73-7	
Indeno(1,2,3-cd)pyrene	**997**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	193-39-5	
3-Methylcholanthrene	**<3990**	ug/kg	3990	10	09/13/23 14:50	09/18/23 22:21	56-49-5	L2
2-Methylphenol(o-Cresol)	**<811**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<811**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21		
Naphthalene	**1390**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	91-20-3	
Phenanthrene	**47100**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	85-01-8	
Phenol	**<811**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	108-95-2	
Pyrene	**18200**	ug/kg	811	10	09/13/23 14:50	09/18/23 22:21	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	102	%	10-93	10	09/13/23 14:50	09/18/23 22:21	4165-60-0	S4
2-Fluorobiphenyl (S)	71	%	10-98	10	09/13/23 14:50	09/18/23 22:21	321-60-8	
p-Terphenyl-d14 (S)	79	%	10-117	10	09/13/23 14:50	09/18/23 22:21	1718-51-0	
Phenol-d5 (S)	66	%	10-94	10	09/13/23 14:50	09/18/23 22:21	4165-62-2	
2-Fluorophenol (S)	62	%	10-98	10	09/13/23 14:50	09/18/23 22:21	367-12-4	
2,4,6-Tribromophenol (S)	58	%	10-115	10	09/13/23 14:50	09/18/23 22:21	118-79-6	v1
2-Chlorophenol-d4 (S)	61	%	10-93	10	09/13/23 14:50	09/18/23 22:21	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	72	%	10-81	10	09/13/23 14:50	09/18/23 22:21	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**18.9**	%	0.10	1		09/14/23 14:52		

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575 Broad Hollow Road
Melville, NY 11747
516-370-6000

ANALYTICAL RESULTS

Project: L2352498
Pace Project No.: 70270216

Sample: GPSP-17-SS01 **Lab ID: 70270216008** Collected: 09/08/23 11:50 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**1530**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	83-32-9	
Anthracene	**1440**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	120-12-7	
Benzo(a)anthracene	**2200**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	56-55-3	
Benzo(a)pyrene	**1650**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	50-32-8	
Benzo(b)fluoranthene	**1470**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	205-99-2	
Benzo(g,h,i)perylene	**<792**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	191-24-2	
Benzo(k)fluoranthene	**<792**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	207-08-9	
Chrysene	**3690**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	218-01-9	
Dibenz(a,h)anthracene	**<792**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	53-70-3	
7,12-Dimethylbenz(a)anthracene	**<792**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	57-97-6	L2
2,4-Dimethylphenol	**<792**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	105-67-9	
Di-n-butylphthalate	**<792**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	84-74-2	
bis(2-Ethylhexyl)phthalate	**<792**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	117-81-7	
Fluorene	**6960**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	86-73-7	
Indeno(1,2,3-cd)pyrene	**<792**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	193-39-5	
3-Methylcholanthrene	**<3900**	ug/kg	3900	10	09/13/23 14:50	09/18/23 22:54	56-49-5	L2
2-Methylphenol(o-Cresol)	**<792**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<792**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54		
Naphthalene	**<792**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	91-20-3	
Phenanthrene	**12700**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	85-01-8	
Phenol	**<792**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	108-95-2	
Pyrene	**5430**	ug/kg	792	10	09/13/23 14:50	09/18/23 22:54	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	11	%	10-93	10	09/13/23 14:50	09/18/23 22:54	4165-60-0	
2-Fluorobiphenyl (S)	62	%	10-98	10	09/13/23 14:50	09/18/23 22:54	321-60-8	
p-Terphenyl-d14 (S)	74	%	10-117	10	09/13/23 14:50	09/18/23 22:54	1718-51-0	
Phenol-d5 (S)	45	%	10-94	10	09/13/23 14:50	09/18/23 22:54	4165-62-2	
2-Fluorophenol (S)	46	%	10-98	10	09/13/23 14:50	09/18/23 22:54	367-12-4	
2,4,6-Tribromophenol (S)	41	%	10-115	10	09/13/23 14:50	09/18/23 22:54	118-79-6	v1
2-Chlorophenol-d4 (S)	46	%	10-93	10	09/13/23 14:50	09/18/23 22:54	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	46	%	10-81	10	09/13/23 14:50	09/18/23 22:54	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**17.8**	%	0.10	1		09/14/23 14:52		

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516-370-6000

ANALYTICAL RESULTS

Project: L2352498
Pace Project No.: 70270216

Sample: GPSP-14-SS01 **Lab ID: 70270216009** Collected: 09/08/23 12:15 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**9310**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	83-32-9	
Anthracene	**6990**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	120-12-7	
Benzo(a)anthracene	**5790**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	56-55-3	
Benzo(a)pyrene	**4240**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	50-32-8	
Benzo(b)fluoranthene	**3110**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	205-99-2	
Benzo(g,h,i)perylene	**903**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	191-24-2	
Benzo(k)fluoranthene	**1200**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	207-08-9	
Chrysene	**14800**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	218-01-9	
Dibenz(a,h)anthracene	**<804**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	53-70-3	
7,12-Dimethylbenz(a)anthracene	**4070**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	57-97-6	L2
2,4-Dimethylphenol	**<804**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	105-67-9	
Di-n-butylphthalate	**<804**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	84-74-2	
bis(2-Ethylhexyl)phthalate	**<804**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	117-81-7	
Fluorene	**44200**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	86-73-7	
Indeno(1,2,3-cd)pyrene	**812**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	193-39-5	
3-Methylcholanthrene	**<3960**	ug/kg	3960	10	09/13/23 14:50	09/18/23 23:27	56-49-5	L2
2-Methylphenol(o-Cresol)	**<804**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<804**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27		
Naphthalene	**<804**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	91-20-3	
Phenanthrene	**77300**	ug/kg	4020	50	09/13/23 14:50	09/19/23 23:39	85-01-8	
Phenol	**<804**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	108-95-2	
Pyrene	**23300**	ug/kg	804	10	09/13/23 14:50	09/18/23 23:27	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	70	%	10-93	10	09/13/23 14:50	09/18/23 23:27	4165-60-0	
2-Fluorobiphenyl (S)	46	%	10-98	10	09/13/23 14:50	09/18/23 23:27	321-60-8	
p-Terphenyl-d14 (S)	64	%	10-117	10	09/13/23 14:50	09/18/23 23:27	1718-51-0	
Phenol-d5 (S)	42	%	10-94	10	09/13/23 14:50	09/18/23 23:27	4165-62-2	
2-Fluorophenol (S)	38	%	10-98	10	09/13/23 14:50	09/18/23 23:27	367-12-4	
2,4,6-Tribromophenol (S)	51	%	10-115	10	09/13/23 14:50	09/18/23 23:27	118-79-6	v1
2-Chlorophenol-d4 (S)	41	%	10-93	10	09/13/23 14:50	09/18/23 23:27	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	44	%	10-81	10	09/13/23 14:50	09/18/23 23:27	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**18.3**	%	0.10	1		09/14/23 14:53		

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Melville, NY 11747
516-370-6000

ANALYTICAL RESULTS

Project: L2352498
Pace Project No.: 70270216

Sample: GPSP-09-SS01 **Lab ID: 70270216010** Collected: 09/08/23 12:35 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	83-32-9	
Anthracene	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	120-12-7	
Benzo(a)anthracene	**781**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	56-55-3	
Benzo(a)pyrene	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	50-32-8	
Benzo(b)fluoranthene	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	205-99-2	
Benzo(g,h,i)perylene	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	191-24-2	
Benzo(k)fluoranthene	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	207-08-9	
Chrysene	**1520**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	218-01-9	
Dibenz(a,h)anthracene	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	53-70-3	
7,12-Dimethylbenz(a)anthracene	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	57-97-6	L2
2,4-Dimethylphenol	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	105-67-9	
Di-n-butylphthalate	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	84-74-2	
bis(2-Ethylhexyl)phthalate	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	117-81-7	
Fluorene	**2830**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	86-73-7	
Indeno(1,2,3-cd)pyrene	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	193-39-5	
3-Methylcholanthrene	**<3810**	ug/kg	3810	10	09/13/23 14:50	09/18/23 23:59	56-49-5	L2
2-Methylphenol(o-Cresol)	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59		
Naphthalene	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	91-20-3	
Phenanthrene	**4540**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	85-01-8	
Phenol	**<774**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	108-95-2	
Pyrene	**2130**	ug/kg	774	10	09/13/23 14:50	09/18/23 23:59	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	17	%	10-93	10	09/13/23 14:50	09/18/23 23:59	4165-60-0	
2-Fluorobiphenyl (S)	18	%	10-98	10	09/13/23 14:50	09/18/23 23:59	321-60-8	
p-Terphenyl-d14 (S)	21	%	10-117	10	09/13/23 14:50	09/18/23 23:59	1718-51-0	
Phenol-d5 (S)	10	%	10-94	10	09/13/23 14:50	09/18/23 23:59	4165-62-2	
2-Fluorophenol (S)	11	%	10-98	10	09/13/23 14:50	09/18/23 23:59	367-12-4	
2,4,6-Tribromophenol (S)	7	%	10-115	10	09/13/23 14:50	09/18/23 23:59	118-79-6	S4,v1
2-Chlorophenol-d4 (S)	11	%	10-93	10	09/13/23 14:50	09/18/23 23:59	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	12	%	10-81	10	09/13/23 14:50	09/18/23 23:59	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**15.8**	%	0.10	1		09/14/23 14:53		

REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
516-370-6000

ANALYTICAL RESULTS

Project: L2352498
Pace Project No.: 70270216

Sample: GPSP-04-SS01 **Lab ID: 70270216011** Collected: 09/08/23 12:55 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**11200**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	83-32-9	
Anthracene	**15800**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	120-12-7	
Benzo(a)anthracene	**24600**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	56-55-3	
Benzo(a)pyrene	**23200**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	50-32-8	
Benzo(b)fluoranthene	**25900**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	205-99-2	
Benzo(g,h,i)perylene	**7850**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	191-24-2	
Benzo(k)fluoranthene	**11000**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	207-08-9	
Chrysene	**24000**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	218-01-9	
Dibenz(a,h)anthracene	**2220**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	53-70-3	
7,12-Dimethylbenz(a)anthracene	**<771**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	57-97-6	L2
2,4-Dimethylphenol	**<771**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	105-67-9	
Di-n-butylphthalate	**<771**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	84-74-2	
bis(2-Ethylhexyl)phthalate	**<771**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	117-81-7	
Fluorene	**12600**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	86-73-7	
Indeno(1,2,3-cd)pyrene	**9610**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	193-39-5	
3-Methylcholanthrene	**<3800**	ug/kg	3800	10	09/13/23 14:50	09/19/23 00:32	56-49-5	L2
2-Methylphenol(o-Cresol)	**<771**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<771**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32		
Naphthalene	**1980**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	91-20-3	
Phenanthrene	**18900**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	85-01-8	
Phenol	**<771**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	108-95-2	
Pyrene	**43200**	ug/kg	771	10	09/13/23 14:50	09/19/23 00:32	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	21	%	10-93	10	09/13/23 14:50	09/19/23 00:32	4165-60-0	
2-Fluorobiphenyl (S)	58	%	10-98	10	09/13/23 14:50	09/19/23 00:32	321-60-8	
p-Terphenyl-d14 (S)	70	%	10-117	10	09/13/23 14:50	09/19/23 00:32	1718-51-0	
Phenol-d5 (S)	43	%	10-94	10	09/13/23 14:50	09/19/23 00:32	4165-62-2	
2-Fluorophenol (S)	41	%	10-98	10	09/13/23 14:50	09/19/23 00:32	367-12-4	
2,4,6-Tribromophenol (S)	32	%	10-115	10	09/13/23 14:50	09/19/23 00:32	118-79-6	v1
2-Chlorophenol-d4 (S)	40	%	10-93	10	09/13/23 14:50	09/19/23 00:32	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	42	%	10-81	10	09/13/23 14:50	09/19/23 00:32	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**16.6**	%	0.10	1		09/14/23 14:54		

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ANALYTICAL RESULTS

Project: L2352498
Pace Project No.: 70270216

Sample: GPSP-23-SS01 **Lab ID: 70270216012** Collected: 09/08/23 14:15 Received: 09/12/23 07:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3545A							
	Pace Analytical Services - Melville							
Acenaphthene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	83-32-9	
Anthracene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	120-12-7	
Benzo(a)anthracene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	56-55-3	
Benzo(a)pyrene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	50-32-8	
Benzo(b)fluoranthene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	205-99-2	
Benzo(g,h,i)perylene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	191-24-2	
Benzo(k)fluoranthene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	207-08-9	
Chrysene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	218-01-9	
Dibenz(a,h)anthracene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	53-70-3	
7,12-Dimethylbenz(a)anthracene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	57-97-6	L2
2,4-Dimethylphenol	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	105-67-9	
Di-n-butylphthalate	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	84-74-2	
bis(2-Ethylhexyl)phthalate	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	117-81-7	
Fluorene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	86-73-7	
Indeno(1,2,3-cd)pyrene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	193-39-5	
3-Methylcholanthrene	**<3480**	ug/kg	3480	10	09/13/23 14:50	09/19/23 01:05	56-49-5	L2
2-Methylphenol(o-Cresol)	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05		
Naphthalene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	91-20-3	
Phenanthrene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	85-01-8	
Phenol	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	108-95-2	
Pyrene	**<707**	ug/kg	707	10	09/13/23 14:50	09/19/23 01:05	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	32	%	10-93	10	09/13/23 14:50	09/19/23 01:05	4165-60-0	
2-Fluorobiphenyl (S)	37	%	10-98	10	09/13/23 14:50	09/19/23 01:05	321-60-8	
p-Terphenyl-d14 (S)	72	%	10-117	10	09/13/23 14:50	09/19/23 01:05	1718-51-0	
Phenol-d5 (S)	45	%	10-94	10	09/13/23 14:50	09/19/23 01:05	4165-62-2	
2-Fluorophenol (S)	39	%	10-98	10	09/13/23 14:50	09/19/23 01:05	367-12-4	
2,4,6-Tribromophenol (S)	37	%	10-115	10	09/13/23 14:50	09/19/23 01:05	118-79-6	v1
2-Chlorophenol-d4 (S)	37	%	10-93	10	09/13/23 14:50	09/19/23 01:05	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	8	%	10-81	10	09/13/23 14:50	09/19/23 01:05	2199-69-1	S4
Percent Moisture	Analytical Method: ASTM D2216-05M							
	Pace Analytical Services - Melville							
Percent Moisture	**5.7**	%	0.10	1		09/14/23 14:55		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: L2352498
Pace Project No.: 70270216

Sample: FB-230908 **Lab ID: 70270216015** Collected: 09/08/23 16:25 Received: 09/12/23 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV	Analytical Method: EPA 8270E Preparation Method: EPA 3510C Pace Analytical Services - Melville							
Acenaphthene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	83-32-9	
Anthracene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	120-12-7	
Benzo(a)anthracene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	56-55-3	
Benzo(a)pyrene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	50-32-8	
Benzo(b)fluoranthene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	205-99-2	
Benzo(g,h,i)perylene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	191-24-2	
Benzo(k)fluoranthene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	207-08-9	
Chrysene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	218-01-9	
Dibenz(a,h)anthracene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	53-70-3	
7,12-Dimethylbenz(a)anthracene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	57-97-6	
2,4-Dimethylphenol	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	105-67-9	
Di-n-butylphthalate	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	84-74-2	
bis(2-Ethylhexyl)phthalate	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	117-81-7	
Fluorene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	86-73-7	
Indeno(1,2,3-cd)pyrene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	193-39-5	
3-Methylcholanthrene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	56-49-5	
2-Methylphenol(o-Cresol)	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06		
Naphthalene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	91-20-3	
Phenanthrene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	85-01-8	
Phenol	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	108-95-2	
Pyrene	**<21.3**	ug/L	21.3	1	09/15/23 22:02	09/18/23 15:06	129-00-0	
Surrogates								
Nitrobenzene-d5 (S)	86	%	53-105	1	09/15/23 22:02	09/18/23 15:06	4165-60-0	
2-Fluorobiphenyl (S)	80	%	50-111	1	09/15/23 22:02	09/18/23 15:06	321-60-8	
p-Terphenyl-d14 (S)	87	%	28-142	1	09/15/23 22:02	09/18/23 15:06	1718-51-0	
Phenol-d5 (S)	36	%	12-60	1	09/15/23 22:02	09/18/23 15:06	4165-62-2	
2-Fluorophenol (S)	53	%	22-76	1	09/15/23 22:02	09/18/23 15:06	367-12-4	
2,4,6-Tribromophenol (S)	96	%	55-140	1	09/15/23 22:02	09/18/23 15:06	118-79-6	
2-Chlorophenol-d4 (S)	73	%	46-101	1	09/15/23 22:02	09/18/23 15:06	93951-73-6	
1,2-Dichlorobenzene-d4 (S)	73	%	35-94	1	09/15/23 22:02	09/18/23 15:06	2199-69-1	

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QUALITY CONTROL DATA

Project: L2352498
Pace Project No.: 70270216

QC Batch: 320030
QC Batch Method: EPA 3545A
Analysis Method: EPA 8270E
Analysis Description: 8270E Solid MSSV
Laboratory: Pace Analytical Services - Melville
Associated Lab Samples: 70270216001, 70270216002, 70270216003, 70270216004, 70270216005, 70270216006, 70270216007, 70270216008, 70270216009, 70270216010, 70270216011, 70270216012

METHOD BLANK: 1630800
Matrix: Solid
Associated Lab Samples: 70270216001, 70270216002, 70270216003, 70270216004, 70270216005, 70270216006, 70270216007, 70270216008, 70270216009, 70270216010, 70270216011, 70270216012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4-Dimethylphenol	ug/kg	<67.0	67.0	09/15/23 17:23	
2-Methylphenol(o-Cresol)	ug/kg	<67.0	67.0	09/15/23 17:23	
3&4-Methylphenol(m&p Cresol)	ug/kg	<67.0	67.0	09/15/23 17:23	
3-Methylcholanthrene	ug/kg	<330	330	09/15/23 17:23	
7,12-Dimethylbenz(a)anthracene	ug/kg	<67.0	67.0	09/15/23 17:23	
Acenaphthene	ug/kg	<67.0	67.0	09/15/23 17:23	
Anthracene	ug/kg	<67.0	67.0	09/15/23 17:23	
Benzo(a)anthracene	ug/kg	<67.0	67.0	09/15/23 17:23	
Benzo(a)pyrene	ug/kg	<67.0	67.0	09/15/23 17:23	
Benzo(b)fluoranthene	ug/kg	<67.0	67.0	09/15/23 17:23	
Benzo(g,h,i)perylene	ug/kg	<67.0	67.0	09/15/23 17:23	
Benzo(k)fluoranthene	ug/kg	<67.0	67.0	09/15/23 17:23	
bis(2-Ethylhexyl)phthalate	ug/kg	<67.0	67.0	09/15/23 17:23	
Chrysene	ug/kg	<67.0	67.0	09/15/23 17:23	
Di-n-butylphthalate	ug/kg	<67.0	67.0	09/15/23 17:23	
Dibenz(a,h)anthracene	ug/kg	<67.0	67.0	09/15/23 17:23	
Fluorene	ug/kg	<67.0	67.0	09/15/23 17:23	
Indeno(1,2,3-cd)pyrene	ug/kg	<67.0	67.0	09/15/23 17:23	
Naphthalene	ug/kg	<67.0	67.0	09/15/23 17:23	
Phenanthrene	ug/kg	<67.0	67.0	09/15/23 17:23	
Phenol	ug/kg	<67.0	67.0	09/15/23 17:23	
Pyrene	ug/kg	<67.0	67.0	09/15/23 17:23	
1,2-Dichlorobenzene-d4 (S)	%	28	10-81	09/15/23 17:23	
2,4,6-Tribromophenol (S)	%	36	10-115	09/15/23 17:23	
2-Chlorophenol-d4 (S)	%	30	10-93	09/15/23 17:23	
2-Fluorobiphenyl (S)	%	33	10-98	09/15/23 17:23	
2-Fluorophenol (S)	%	31	10-98	09/15/23 17:23	
Nitrobenzene-d5 (S)	%	31	10-93	09/15/23 17:23	
p-Terphenyl-d14 (S)	%	48	10-117	09/15/23 17:23	
Phenol-d5 (S)	%	32	10-94	09/15/23 17:23	

LABORATORY CONTROL SAMPLE: 1630801

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dimethylphenol	ug/kg	1670	483	29	16-101	
2-Methylphenol(o-Cresol)	ug/kg	1670	514	31	12-106	
3&4-Methylphenol(m&p Cresol)	ug/kg	1670	506	30	10-112	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: L2352498
Pace Project No.: 70270216

LABORATORY CONTROL SAMPLE: 1630801

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
3-Methylcholanthrene	ug/kg	1670	592	36	60-140	L2
7,12-Dimethylbenz(a)anthracene	ug/kg	1670	556	33	35-119	L2
Acenaphthene	ug/kg	1670	526	32	15-111	
Anthracene	ug/kg	1670	573	34	17-120	
Benzo(a)anthracene	ug/kg	1670	582	35	17-122	
Benzo(a)pyrene	ug/kg	1670	579	35	16-121	
Benzo(b)fluoranthene	ug/kg	1670	579	35	15-117	
Benzo(g,h,i)perylene	ug/kg	1670	581	35	15-128	
Benzo(k)fluoranthene	ug/kg	1670	603	36	19-120	
bis(2-Ethylhexyl)phthalate	ug/kg	1670	575	34	32-115	
Chrysene	ug/kg	1670	588	35	17-122	
Di-n-butylphthalate	ug/kg	1670	608	36	31-114	
Dibenz(a,h)anthracene	ug/kg	1670	542	33	15-127	
Fluorene	ug/kg	1670	540	32	15-117	
Indeno(1,2,3-cd)pyrene	ug/kg	1670	563	34	14-124	
Naphthalene	ug/kg	1670	528	32	13-107	
Phenanthrene	ug/kg	1670	567	34	17-119	
Phenol	ug/kg	1670	490	29	10-107	
Pyrene	ug/kg	1670	613	37	17-123	
1,2-Dichlorobenzene-d4 (S)	%			27	10-81	
2,4,6-Tribromophenol (S)	%			34	10-115	
2-Chlorophenol-d4 (S)	%			29	10-93	
2-Fluorobiphenyl (S)	%			30	10-98	
2-Fluorophenol (S)	%			29	10-98	
Nitrobenzene-d5 (S)	%			28	10-93	
p-Terphenyl-d14 (S)	%			37	10-117	
Phenol-d5 (S)	%			29	10-94	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1632893 1632894

Parameter	Units	70270216001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
2,4-Dimethylphenol	ug/kg	<973	2450	2450	1570	1470	64	60	10-107	6	
2-Methylphenol(o-Cresol)	ug/kg	<973	2450	2450	1370	1210	56	49	10-111	12	
3&4-Methylphenol(m&p Cresol)	ug/kg	<973	2450	2450	1230	1130	50	46	10-107	8	
3-Methylcholanthrene	ug/kg	<4790	2450	2450	<4840	<4860	58	56			
7,12-Dimethylbenz(a)anthracene	ug/kg	<973	2450	2450	<983	1030	5	18	35-119		M0
Acenaphthene	ug/kg	1760	2450	2450	2920	3050	47	52	18-105	4	
Anthracene	ug/kg	1750	2450	2450	3010	3070	52	54	16-114	2	
Benzo(a)anthracene	ug/kg	4510	2450	2450	3650	3420	-35	-45	19-117	7	M1
Benzo(a)pyrene	ug/kg	4450	2450	2450	3180	2990	-52	-59	18-116	6	M1
Benzo(b)fluoranthene	ug/kg	4160	2450	2450	2430	2320	-71	-75	10-125	5	M1
Benzo(g,h,i)perylene	ug/kg	2620	2450	2450	2490	2370	-5	-10	10-117	5	M1
Benzo(k)fluoranthene	ug/kg	1890	2450	2450	2240	1930	14	1	13-125	15	M1

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

QUALITY CONTROL DATA

Project: L2352498
Pace Project No.: 70270216

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1632893 1632894

Parameter	Units	70270216001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
bis(2-Ethylhexyl)phthalate	ug/kg	<973	2450	2450	1600	1500	65	61	10-135	6	
Chrysene	ug/kg	6820	2450	2450	5370	5220	-59	-65	10-133	3	M1
Di-n-butylphthalate	ug/kg	<973	2450	2450	1830	1800	75	73	12-121	2	
Dibenz(a,h)anthracene	ug/kg	<973	2450	2450	2060	1690	84	69	10-114	20	
Fluorene	ug/kg	9440	2450	2450	9320	10100	-5	28	19-108	8	M1
Indeno(1,2,3-cd)pyrene	ug/kg	2540	2450	2450	2270	2010	-11	-21	10-116	12	M1
Naphthalene	ug/kg	<973	2450	2450	2120	1940	62	55	13-104	8	
Phenanthrene	ug/kg	14700	2450	2450	13300	14200	-58	-18	10-121	7	M1
Phenol	ug/kg	<973	2450	2450	1160	1050	47	43	10-99	9	
Pyrene	ug/kg	7390	2450	2450	6030	6140	-56	-51	10-142	2	M1
1,2-Dichlorobenzene-d4 (S)	%						47	40	10-81		
2,4,6-Tribromophenol (S)	%						57	60	10-115		v1
2-Chlorophenol-d4 (S)	%						53	48	10-93		
2-Fluorobiphenyl (S)	%						61	62	10-98		
2-Fluorophenol (S)	%						54	48	10-98		
Nitrobenzene-d5 (S)	%						55	49	10-93		
p-Terphenyl-d14 (S)	%						67	67	10-117		
Phenol-d5 (S)	%						53	47	10-94		

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

QUALITY CONTROL DATA

Project: L2352498
Pace Project No.: 70270216

QC Batch: 320458
QC Batch Method: EPA 3510C
Analysis Method: EPA 8270E
Analysis Description: 8270E Water MSSV
Laboratory: Pace Analytical Services - Melville
Associated Lab Samples: 70270216015

METHOD BLANK: 1633461
Matrix: Water
Associated Lab Samples: 70270216015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4-Dimethylphenol	ug/L	<5.0	5.0	09/18/23 11:33	
2-Methylphenol(o-Cresol)	ug/L	<5.0	5.0	09/18/23 11:33	
3&4-Methylphenol(m&p Cresol)	ug/L	<5.0	5.0	09/18/23 11:33	
3-Methylcholanthrene	ug/L	<5.0	5.0	09/18/23 11:33	
7,12-Dimethylbenz(a)anthracene	ug/L	<5.0	5.0	09/18/23 11:33	
Acenaphthene	ug/L	<5.0	5.0	09/18/23 11:33	
Anthracene	ug/L	<5.0	5.0	09/18/23 11:33	
Benzo(a)anthracene	ug/L	<5.0	5.0	09/18/23 11:33	
Benzo(a)pyrene	ug/L	<5.0	5.0	09/18/23 11:33	
Benzo(b)fluoranthene	ug/L	<5.0	5.0	09/18/23 11:33	
Benzo(g,h,i)perylene	ug/L	<5.0	5.0	09/18/23 11:33	
Benzo(k)fluoranthene	ug/L	<5.0	5.0	09/18/23 11:33	
bis(2-Ethylhexyl)phthalate	ug/L	<5.0	5.0	09/18/23 11:33	
Chrysene	ug/L	<5.0	5.0	09/18/23 11:33	
Di-n-butylphthalate	ug/L	<5.0	5.0	09/18/23 11:33	
Dibenz(a,h)anthracene	ug/L	<5.0	5.0	09/18/23 11:33	
Fluorene	ug/L	<5.0	5.0	09/18/23 11:33	
Indeno(1,2,3-cd)pyrene	ug/L	<5.0	5.0	09/18/23 11:33	
Naphthalene	ug/L	<5.0	5.0	09/18/23 11:33	
Phenanthrene	ug/L	<5.0	5.0	09/18/23 11:33	
Phenol	ug/L	<5.0	5.0	09/18/23 11:33	
Pyrene	ug/L	<5.0	5.0	09/18/23 11:33	
1,2-Dichlorobenzene-d4 (S)	%	66	35-94	09/18/23 11:33	
2,4,6-Tribromophenol (S)	%	89	55-140	09/18/23 11:33	
2-Chlorophenol-d4 (S)	%	66	46-101	09/18/23 11:33	
2-Fluorobiphenyl (S)	%	69	50-111	09/18/23 11:33	
2-Fluorophenol (S)	%	49	22-76	09/18/23 11:33	
Nitrobenzene-d5 (S)	%	81	53-105	09/18/23 11:33	
p-Terphenyl-d14 (S)	%	88	28-142	09/18/23 11:33	
Phenol-d5 (S)	%	35	12-60	09/18/23 11:33	

LABORATORY CONTROL SAMPLE & LCSD: 1633462 1633463

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
2,4-Dimethylphenol	ug/L	25	17.5	17.1	70	69	24-100	2	30	
2-Methylphenol(o-Cresol)	ug/L	25	19.6	19.0	79	76	47-90	3	30	
3&4-Methylphenol(m&p Cresol)	ug/L	25	21.8	20.8	87	83	44-88	4	30	
3-Methylcholanthrene	ug/L	25	26.3	25.5	105	102	43-125	3	30	
7,12-Dimethylbenz(a)anthracene	ug/L	25	22.9	23.3	92	93	49-122	1	30	

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

QUALITY CONTROL DATA

Project: L2352498
Pace Project No.: 70270216

LABORATORY CONTROL SAMPLE & LCSD: 1633462 1633463

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	25	24.0	22.8	96	91	65-115	6	30	
Anthracene	ug/L	25	24.2	23.8	97	95	75-120	2	30	
Benzo(a)anthracene	ug/L	25	24.9	24.6	99	99	66-133	1	30	
Benzo(a)pyrene	ug/L	25	25.9	25.7	104	103	65-130	1	30	
Benzo(b)fluoranthene	ug/L	25	26.6	26.5	107	106	62-128	1	30	
Benzo(g,h,i)perylene	ug/L	25	27.1	27.6	108	110	63-141	2	30	
Benzo(k)fluoranthene	ug/L	25	25.5	24.8	102	99	63-133	3	30	
bis(2-Ethylhexyl)phthalate	ug/L	25	25.6	25.1	103	100	48-167	2	30	
Chrysene	ug/L	25	24.4	23.9	97	96	65-134	2	30	
Di-n-butylphthalate	ug/L	25	24.6	25.2	98	101	73-131	2	30	
Dibenz(a,h)anthracene	ug/L	25	26.3	27.3	105	109	66-138	4	30	
Fluorene	ug/L	25	24.6	24.3	98	97	67-128	1	30	
Indeno(1,2,3-cd)pyrene	ug/L	25	26.1	26.8	104	107	59-142	3	30	
Naphthalene	ug/L	25	22.0	21.5	88	86	42-118	2	30	
Phenanthrene	ug/L	25	25.0	24.2	100	97	70-126	3	30	
Phenol	ug/L	25	10.8	10.3	43	41	22-56	5	30	
Pyrene	ug/L	25	24.3	24.2	97	97	67-130	0	30	
1,2-Dichlorobenzene-d4 (S)	%				71	69	35-94			
2,4,6-Tribromophenol (S)	%				107	104	55-140			
2-Chlorophenol-d4 (S)	%				73	73	46-101			
2-Fluorobiphenyl (S)	%				78	75	50-111			
2-Fluorophenol (S)	%				51	50	22-76			
Nitrobenzene-d5 (S)	%				83	82	53-105			
p-Terphenyl-d14 (S)	%				87	85	28-142			
Phenol-d5 (S)	%				35	34	12-60			

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

QUALITY CONTROL DATA

Project: L2352498
Pace Project No.: 70270216

QC Batch: 320239
QC Batch Method: ASTM D2216-05M
Analysis Method: ASTM D2216-05M
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Melville

Associated Lab Samples: 70270216001, 70270216002, 70270216003, 70270216004, 70270216005, 70270216006, 70270216007, 70270216008, 70270216009, 70270216010, 70270216011, 70270216012

SAMPLE DUPLICATE: 1631959

Parameter	Units	70270216001 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	32.2	32.6	1	

SAMPLE DUPLICATE: 1631960

Parameter	Units	70270216002 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	27.9	32.2	14	

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575 Broad Hollow Road
Melville, NY 11747
516-370-6000

QUALIFIERS

Project: L2352498
Pace Project No.: 70270216

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.
v1	The continuing calibration verification was above the method acceptance limit. Any detection for the analyte in the associated samples may have a high bias.

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
516-370-6000

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L2352498
Pace Project No.: 70270216

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70270216001	**GPSP-13-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270216002	**GPSP-01-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270216003	**GPSP-06-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270216004	**GPSP-05-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270216005	**GPSP-12-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270216006	**GPSP-11-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270216007	**GPSP-10-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270216008	**GPSP-17-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270216009	**GPSP-14-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270216010	**GPSP-09-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270216011	**GPSP-04-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270216012	**GPSP-23-SS01**	EPA 3545A	320030	EPA 8270E	320415
70270216015	**FB-230908**	EPA 3510C	320458	EPA 8270E	320473
70270216001	**GPSP-13-SS01**	ASTM D2216-05M	320239		
70270216002	**GPSP-01-SS01**	ASTM D2216-05M	320239		
70270216003	**GPSP-06-SS01**	ASTM D2216-05M	320239		
70270216004	**GPSP-05-SS01**	ASTM D2216-05M	320239		
70270216005	**GPSP-12-SS01**	ASTM D2216-05M	320239		
70270216006	**GPSP-11-SS01**	ASTM D2216-05M	320239		
70270216007	**GPSP-10-SS01**	ASTM D2216-05M	320239		
70270216008	**GPSP-17-SS01**	ASTM D2216-05M	320239		
70270216009	**GPSP-14-SS01**	ASTM D2216-05M	320239		
70270216010	**GPSP-09-SS01**	ASTM D2216-05M	320239		
70270216011	**GPSP-04-SS01**	ASTM D2216-05M	320239		
70270216012	**GPSP-23-SS01**	ASTM D2216-05M	320239		

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Subcontract Chain of Custody

Pace Analytical (NY)
575 Broad Hollow Road
Melville, NY 11747

WO# : 70270216

70270216

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

State/Federal Program:

Regulatory Criteria:

Turnaround & Deliverables Information

Due Date: (RUSH)
Deliverables:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2352498

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com 7d RUSH - ok per lab - see attached reporting list

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GPSP-13-SS01	09-08-23 09:30	SOIL	8270	
	GPSP-01-SS01	09-08-23 09:50	SOIL	8270	
	GPSP-06-SS01	09-08-23 10:10	SOIL	8270	
	GPSP-05-SS01	09-08-23 10:25	SOIL	8270	
	GPSP-12-SS01	09-08-23 10:50	SOIL	8270	
	GPSP-11-SS01	09-08-23 11:15	SOIL	8270	
	GPSP-10-SS01	09-08-23 11:35	SOIL	8270	
	GPSP-17-SS01	09-08-23 11:50	SOIL	8270	
	GPSP-14-SS01	09-08-23 12:15	SOIL	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
	[illegible]	[illegible]	9/12/23 07:50

Form No: AL_subcoc

Serial_No:09222313:15

Subcontract Chain of Custody

Pace Analytical (NY)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2352498

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date: (RUSH)
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2352498

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com 7d RUSH - ok per lab - see attached reporting list

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GPSP-09-SS01	09-08-23 12:35	SOIL	8270	
	GPSP-04-SS01	09-08-23 12:55	SOIL	8270	
	GPSP-23-SS01	09-08-23 14:15	SOIL	8270	
	FB-230908	09-08-23 16:25	WATER	8270	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
Form No: AL_subcoc				

Serial_No:09222313:15

pg 1 of 2

Subcontract Chain of Custody

Pace Analytical (NY)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2352498

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Turnaround & Deliverables Information

Due Date: (RUSH)
Deliverables:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2352498

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com 7d RUSH - ok per lab - see attached reporting list

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GPSP-13	09-08-23 09:30	SOIL	8270	
	GPSP-01	09-08-23 09:50	SOIL	8270	
	GPSP-06	09-08-23 10:10	SOIL	8270	
	GPSP-05	09-08-23 10:25	SOIL	8270	
	GPSP-12	09-08-23 10:50	SOIL	8270	
	GPSP-11	09-08-23 11:15	SOIL	8270	
	GPSP-10	09-08-23 11:35	SOIL	8270	
	GPSP-17	09-08-23 11:50	SOIL	8270	
	GPSP-14	09-08-23 12:15	SOIL	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
	9/11/23	ASC	9/11/23 17:[illegible]
ASC	9/11/23 21:45		9/11/23 21:45
	9/11/23	AAL	9/12/23 9:1[illegible]
AAL	9/12/23 7:50	RACEU	9/12/23 7:50

Form No: AL_subcoc

Serial_No:09222313015

pg 2of2

Subcontract Chain of Custody

Pace Analytical (NY)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2352498

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date: (RUSH)
Deliverables:

Regulatory Requirements/Reporting Limits

WO#: 70270216
PM: MN2 Due Date: 09/21/23
CLIENT: ALPHA

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2352498

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com 7d RUSH - ok per lab - see attached reporting list

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GPSP-09	09-08-23 12:35	SOIL	8270	
	GPSP-04	09-08-23 12:55	SOIL	8270	
	GPSP-23	09-08-23 14:15	SOIL	8270	
	201-F04-C	09-08-23 15:40	SOIL	8270	
	201-F02-A	09-08-23 15:55	SOIL	8270	
	FIELD BLANK	09-08-23 16:25	WATER	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
	9/11/23	RAC	9/11/23 1[illegible]
RAC	9/11/23 2145		9/11/23 21:55
	9/11/23		9/12/23 4:1[illegible]
	9/12/23 7:50	KALEU	9/12/23 7:50

Form No: AL_subcoc

Serial_No:09222313:35

Serial_No:09222313:15

WO#: 70270216

PM: MN2 **Due Date: 09/21/23**
CLIENT: ALPHA

Client Name ALPHA Proj

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ O

Tracking #:

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No Temperature Blank Present: ☑ Yes ☐ No
Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ Ziploc ☐ None ☐ Other Type of Ice: (Wet) Blue None

Thermometer Used: TH196 Correction Factor: -0.4 ☐ Samples on ice, cooling process has begun
Cooler Temperature(°C): 1.6 Cooler Temperature Corrected(°C): 1.2 Date/Time 5035A kits placed in freezer
Temp should be above freezing to 6.0°C

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ Yes ☐ No

Did samples originate from a foreign source including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MELV-0076) and include with SCUR/COC paperwork.

Date and Initials of person examining contents: AS 9/13/23

				COMMENTS:
Chain of Custody Present:	☑Yes	☐No		1
Chain of Custody Filled Out	☑Yes	☐No		2
Chain of Custody Relinquished:	☑Yes	☐No		3
Sampler Name & Signature on COC:	☐Yes	☑No	☐N/A	4
Samples Arrived within Hold Time:	☑Yes	☐No		5
Short Hold Time Analysis (<72hr):	☐Yes	☑No		6
Rush Turn Around Time Requested	☐Yes	☑No		7
Sufficient Volume: (Triple volume provided for MS/MSD)	☑Yes	☐No		8
Correct Containers Used	☑Yes	☐No		9
-Pace Containers Used:	☑Yes	☐No		
Containers Intact:	☑Yes	☐No		10
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11 Note: if sediment is visible in the dissolved container
Sample Labels match COC: -Includes date/time/ID/Analysis	☑Yes	☐No		12
Matrix:	(SL)	WT	OIL OTHER	

Date and Initials of person checking preservation: AS

All containers needing preservation have been pH paper Lot #	☐Yes	☐No	☑N/A	13 ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl Sample #
All containers needing preservation are found to be in compliance with method recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NAOH>12 Cyanide)	☐Yes	☐No	☑N/A	
Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) Per Method, VOA pH is checked after analysis				Initial when completed: / Lot # of added preservative: / Date/Time preservative added:
Samples checked for dechlorination: KI starch test strips Lot # Residual chlorine strips Lot #	☐Yes	☐No	☑N/A	14 Positive for Res. Chlorine? Y N
SM 4500 CN samples checked for sul Lead Acetate Strips Lot #	☐Yes	☐No	☑N/A	15 Positive for Sulfide? Y N
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	16
Trip Blank Present:	☐Yes	☐No	☑N/A	17
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	

Client Notification/ Resolution: Field Data Required? Y / N
Person Contacted Date/Time:
Comments/ Resolution

* PM (Project Manager) review is documented electronically in LIMS

JOB: L2407681 REPORT STYLE: Data Usability Report
0010: Alpha Analytical Report Cover Page - OK
0015: Sample Cross Reference Summary - OK
0060: Case Narrative - OK
0100: Volatiles Cover Page - OK
0110: Volatiles Sample Results - OK
0120: Volatiles Method Blank Report - OK
0130: Volatiles LCS Report - OK
1180: Inorganics Cover Page - OK
1200: Wet Chemistry Sample Results - OK
1250: Wet Chemistry Duplicate Report - OK
5100: Sample Receipt & Container Information Report - OK
5200: Glossary - OK
5400: References - OK

ANALYTICAL REPORT

Lab Number:	L2407681
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135
Report Date:	02/27/24

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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: PHILADELPHIA REFINERY
Project Number: 200.00135

Lab Number: L2407681
Report Date: 02/27/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2407681-01	GPSP-MW02-4.0-4.5	SOIL	PHILADELPHIA, PA	02/09/24 13:55	02/09/24
L2407681-02	GPSP-MW02-2.5-3.0	SOIL	PHILADELPHIA, PA	02/09/24 13:45	02/09/24
L2407681-03	GPSP-MW02-1.5-2.0	SOIL	PHILADELPHIA, PA	02/09/24 13:35	02/09/24
L2407681-04	GPSP-28-6.5-7.0	SOIL	PHILADELPHIA, PA	02/09/24 11:35	02/09/24
L2407681-05	GPSP-28-0.5-1.0	SOIL	PHILADELPHIA, PA	02/09/24 11:10	02/09/24
L2407681-06	GPSP-28-6.0-6.5	SOIL	PHILADELPHIA, PA	02/09/24 11:25	02/09/24
L2407681-07	GPSP-24-6.5-7.0	SOIL	PHILADELPHIA, PA	02/09/24 12:05	02/09/24
L2407681-08	GPSP-24-6.0-6.5	SOIL	PHILADELPHIA, PA	02/09/24 11:55	02/09/24
L2407681-09	GPSP-24-1.5-2.0	SOIL	PHILADELPHIA, PA	02/09/24 11:45	02/09/24
L2407681-10	GPSP-25-1.0-1.5	SOIL	PHILADELPHIA, PA	02/09/24 12:30	02/09/24
L2407681-11	GPSP-25-4.0-4.5	SOIL	PHILADELPHIA, PA	02/09/24 12:40	02/09/24
L2407681-12	GPSP-25-4.5-5.0	SOIL	PHILADELPHIA, PA	02/09/24 12:50	02/09/24
L2407681-13	GPSP-29-4.5-5.0	SOIL	PHILADELPHIA, PA	02/09/24 13:20	02/09/24
L2407681-14	GPSP-29-3.5-4.0	SOIL	PHILADELPHIA, PA	02/09/24 13:10	02/09/24
L2407681-15	GPSP-29-1.5-2.0	SOIL	PHILADELPHIA, PA	02/09/24 13:00	02/09/24
L2407681-16	GPSP-26-1.5-2.0	SOIL	PHILADELPHIA, PA	02/09/24 14:05	02/09/24
L2407681-17	GPSP-26-4.5-5.0	SOIL	PHILADELPHIA, PA	02/09/24 14:25	02/09/24
L2407681-18	GPSP-26-4.0-4.5	SOIL	PHILADELPHIA, PA	02/09/24 14:15	02/09/24
L2407681-19	GPSP-27-1.5-2.0	SOIL	PHILADELPHIA, PA	02/09/24 15:10	02/09/24
L2407681-20	GPSP-27-4.0-4.5	SOIL	PHILADELPHIA, PA	02/09/24 15:20	02/09/24
L2407681-21	GPSP-27-4.5-5.0	SOIL	PHILADELPHIA, PA	02/09/24 15:30	02/09/24
L2407681-22	GPSP-MW01-0.5-1.0	SOIL	PHILADELPHIA, PA	02/09/24 15:45	02/09/24
L2407681-23	GPSP-MW01-3.5-4.0	SOIL	PHILADELPHIA, PA	02/09/24 15:55	02/09/24
L2407681-24	GPSP-MW01-4.5-5.0	SOIL	PHILADELPHIA, PA	02/09/24 16:05	02/09/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2407681-25	GPSP-30-3.5-4.0	SOIL	PHILADELPHIA, PA	02/09/24 15:00	02/09/24
L2407681-26	GPSP-30-2.0-2.5	SOIL	PHILADELPHIA, PA	02/09/24 14:50	02/09/24
L2407681-27	GPSP-30-1.5-2.0	SOIL	PHILADELPHIA, PA	02/09/24 14:40	02/09/24
L2407681-28	GPSP-27-4.0-4.5DUP	SOIL	PHILADELPHIA, PA	02/09/24 16:15	02/09/24
L2407681-29	FB-240209	WATER	PHILADELPHIA, PA	02/09/24 16:25	02/09/24
L2407681-30	TB-240209	WATER	PHILADELPHIA, PA	02/08/24 00:00	02/09/24

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2407681
Project Number:	200.00135	**Report Date:**	02/27/24

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:	PHILADELPHIA REFINERY	**Lab Number:**	L2407681
Project Number:	200.00135	**Report Date:**	02/27/24

Case Narrative (continued)

Report Submission

February 27, 2024: This preliminary report includes the results of the following analyses:

L2407681-01, -02, -03, -15, -25, -26, and -27: Volatile Organics

February 16, 2024: 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.

Sample Receipt

The analyses performed were specified by the client.

L2407681-28, -29, and -30: The Client ID was specified by the client.

Volatile Organics

L2407681-01D and -03D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

L2407681-01D: The surrogate recovery is outside the acceptance criteria for 1,2-dichloroethane-d4 (150%); 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.

L2407681-01D: The surrogate recovery is outside the method acceptance criteria for dibromofluoromethane (49%) due to interference with the Internal Standard.

L2407681-02D: The internal standard (IS) response(s) for fluorobenzene (220%) and the surrogate recovery for dibromofluoromethane (37%) were outside the acceptance criteria due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. The sample was re-analyzed on a larger dilution; however, since the IS response was above method criteria, all associated compounds and surrogate recoveries are considered to have a potentially low bias. The results of both analyses are reported.

L2407681-02D2: The surrogate recoveries are outside the method acceptance criteria for 1,2-dichloroethane-

Case Narrative (continued)

d4 (65%) and dibromofluoromethane (62%) due to interference with the Internal Standard.
L2407681-03D: The surrogate recovery is outside the acceptance criteria for 1,2-dichloroethane-d4 (131%); 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.
L2407681-07: The surrogate recovery is outside the method acceptance criteria for dibromofluoromethane (52%) due to interference with the Internal Standard.
L2407681-07: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (532%); 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.
L2407681-07D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (164%); 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.
L2407681-08: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (350%); 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.
L2407681-10: 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.
L2407681-10: The surrogate recovery is outside the method acceptance criteria for dibromofluoromethane (63%) due to interference with the Internal Standard.
L2407681-11D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (215%); 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.
L2407681-11D, -12D, and -18D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.
L2407681-12D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (187%);

Case Narrative (continued)

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.
L2407681-15: 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.
L2407681-16: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (239%); 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.
L2407681-17: The internal standard (IS) response(s) for fluorobenzene (384%) and the surrogate recovery for dibromofluoromethane (21%) and 4-bromofluorobenzene (481%) were outside the acceptance criteria due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. The sample was re-analyzed on a larger dilution in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial analysis; however, since the IS response was above method criteria, all associated compounds and surrogate recoveries are considered to have a potentially low bias. The results of both analyses are reported.
L2407681-17D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (215%); 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.
L2407681-17D: The surrogate recovery is outside the method acceptance criteria for dibromofluoromethane (58%) due to interference with the Internal Standard.
L2407681-18D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (161%); 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.
L2407681-18D: The surrogate recovery is outside the method acceptance criteria for dibromofluoromethane (69%) due to interference with the Internal Standard.
L2407681-24: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (163%);

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2407681
Project Number:	200.00135	**Report Date:**	02/27/24

Case Narrative (continued)

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.

L2407681-25: The surrogate recoveries are outside the acceptance criteria for toluene-d8 (160%) and 4-bromofluorobenzene (152%); 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.

L2407681-26: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (133%); 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.

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: 02/27/24

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-01 D
Client ID: GPSP-MW02-4.0-4.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 13:55
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/22/24 15:49
Analyst: LAC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	7.8	3.6	10
Methyl tert butyl ether	ND		mg/kg	1.6	0.16	10
Benzene	1.8		mg/kg	0.39	0.13	10
1,2-Dichloroethane	ND		mg/kg	0.78	0.20	10
Toluene	4.5		mg/kg	0.78	0.42	10
1,2-Dibromoethane	ND		mg/kg	0.39	0.23	10
Ethylbenzene	2.3		mg/kg	0.78	0.11	10
p/m-Xylene	7.2		mg/kg	1.6	0.44	10
o-Xylene	1.2		mg/kg	0.78	0.23	10
Xylenes, Total	8.4		mg/kg	0.78	0.23	10
Isopropylbenzene	17.		mg/kg	0.78	0.085	10
1,3,5-Trimethylbenzene	2.0		mg/kg	1.6	0.15	10
1,2,4-Trimethylbenzene	0.78	J	mg/kg	1.6	0.26	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**150**	Q	70-130
Toluene-d8	122		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	**49**	Q	70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-02 D2
Client ID: GPSP-MW02-2.5-3.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 13:45
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/23/24 10:58
Analyst: MKS
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	13	6.1	20
Methyl tert butyl ether	ND		mg/kg	2.7	0.27	20
Benzene	7.2		mg/kg	0.67	0.22	20
1,2-Dichloroethane	ND		mg/kg	1.3	0.34	20
Toluene	11.		mg/kg	1.3	0.73	20
1,2-Dibromoethane	ND		mg/kg	0.67	0.39	20
Ethylbenzene	47.		mg/kg	1.3	0.19	20
p/m-Xylene	26.		mg/kg	2.7	0.75	20
o-Xylene	4.9		mg/kg	1.3	0.39	20
Xylenes, Total	31.		mg/kg	0.67	0.20	20
Isopropylbenzene	12.		mg/kg	1.3	0.15	20
1,3,5-Trimethylbenzene	16.		mg/kg	2.7	0.26	20
1,2,4-Trimethylbenzene	4.2		mg/kg	2.7	0.45	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**65**	Q	70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	**62**	Q	70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-02 D
Client ID: GPSP-MW02-2.5-3.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 13:45
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/22/24 17:33
Analyst: MKS
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	6.7	3.1	10
Methyl tert butyl ether	ND		mg/kg	1.3	0.14	10
Benzene	5.2		mg/kg	0.34	0.11	10
1,2-Dichloroethane	ND		mg/kg	0.67	0.17	10
Toluene	13.		mg/kg	0.67	0.36	10
1,2-Dibromoethane	ND		mg/kg	0.34	0.20	10
Ethylbenzene	55.		mg/kg	0.67	0.095	10
p/m-Xylene	32.		mg/kg	1.3	0.38	10
o-Xylene	5.6		mg/kg	0.67	0.20	10
Xylenes, Total	38.		mg/kg	0.67	0.20	10
Isopropylbenzene	13.		mg/kg	0.67	0.073	10
1,3,5-Trimethylbenzene	18.		mg/kg	1.3	0.13	10
1,2,4-Trimethylbenzene	4.2		mg/kg	1.3	0.22	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	124		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	**37**	Q	70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-03 D
Client ID: GPSP-MW02-1.5-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 13:35
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/22/24 16:15
Analyst: MKS
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	3.7	1.7	5
Methyl tert butyl ether	ND		mg/kg	0.74	0.075	5
Benzene	1.6		mg/kg	0.19	0.062	5
1,2-Dichloroethane	ND		mg/kg	0.37	0.096	5
Toluene	1.7		mg/kg	0.37	0.20	5
1,2-Dibromoethane	ND		mg/kg	0.19	0.11	5
Ethylbenzene	2.6		mg/kg	0.37	0.052	5
p/m-Xylene	4.2		mg/kg	0.74	0.21	5
o-Xylene	1.1		mg/kg	0.37	0.11	5
Xylenes, Total	5.3		mg/kg	0.37	0.11	5
Isopropylbenzene	1.9		mg/kg	0.37	0.041	5
1,3,5-Trimethylbenzene	2.1		mg/kg	0.74	0.072	5
1,2,4-Trimethylbenzene	0.28	J	mg/kg	0.74	0.12	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**131**	Q	70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	74		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-07
Client ID: GPSP-24-6.5-7.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 12:05
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 12:05
Analyst: AJK
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.80	0.36	1
Methyl tert butyl ether	ND		mg/kg	0.16	0.016	1
Benzene	0.21		mg/kg	0.040	0.013	1
1,2-Dichloroethane	ND		mg/kg	0.080	0.020	1
Toluene	2.7		mg/kg	0.080	0.043	1
1,2-Dibromoethane	ND		mg/kg	0.040	0.023	1
Ethylbenzene	5.9		mg/kg	0.080	0.011	1
p/m-Xylene	9.4		mg/kg	0.16	0.044	1
o-Xylene	1.6		mg/kg	0.080	0.023	1
Xylenes, Total	11.		mg/kg	0.080	0.023	1
Isopropylbenzene	5.1		mg/kg	0.080	0.0087	1
1,3,5-Trimethylbenzene	19.		mg/kg	0.16	0.015	1
1,2,4-Trimethylbenzene	92.	E	mg/kg	0.16	0.026	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	118		70-130
4-Bromofluorobenzene	**532**	Q	70-130
Dibromofluoromethane	**52**	Q	70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-07 D
Client ID: GPSP-24-6.5-7.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 12:05
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 21:57
Analyst: JIC
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,4-Trimethylbenzene	60.		mg/kg	1.6	0.26	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	**164**	Q	70-130
Dibromofluoromethane	85		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-08
Client ID: GPSP-24-6.0-6.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 11:55
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 12:30
Analyst: SLS
Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.72	0.33	1
Methyl tert butyl ether	ND		mg/kg	0.14	0.014	1
Benzene	0.084		mg/kg	0.036	0.012	1
1,2-Dichloroethane	ND		mg/kg	0.072	0.018	1
Toluene	0.75		mg/kg	0.072	0.039	1
1,2-Dibromoethane	ND		mg/kg	0.036	0.021	1
Ethylbenzene	1.1		mg/kg	0.072	0.010	1
p/m-Xylene	2.6		mg/kg	0.14	0.040	1
o-Xylene	0.66		mg/kg	0.072	0.021	1
Xylenes, Total	3.3		mg/kg	0.072	0.021	1
Isopropylbenzene	1.6		mg/kg	0.072	0.0079	1
1,3,5-Trimethylbenzene	7.3		mg/kg	0.14	0.014	1
1,2,4-Trimethylbenzene	21.		mg/kg	0.14	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	118		70-130
4-Bromofluorobenzene	**350**	Q	70-130
Dibromofluoromethane	77		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-09
Client ID: GPSP-24-1.5-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 11:45
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 09:58
Analyst: AJK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.012	0.0054	1
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	0.0017		mg/kg	0.00059	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	0.0011	J	mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00034	1
Ethylbenzene	0.00058	J	mg/kg	0.0012	0.00017	1
p/m-Xylene	0.0031		mg/kg	0.0024	0.00066	1
o-Xylene	0.0022		mg/kg	0.0012	0.00034	1
Xylenes, Total	0.0053		mg/kg	0.0012	0.00034	1
Isopropylbenzene	0.0036		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	0.0039		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	0.0096		mg/kg	0.0024	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	112		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-10
Client ID: GPSP-25-1.0-1.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 12:30
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 11:39
Analyst: AJK
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.72	0.33	1
Methyl tert butyl ether	ND		mg/kg	0.14	0.014	1
Benzene	1.2		mg/kg	0.036	0.012	1
1,2-Dichloroethane	ND		mg/kg	0.072	0.018	1
Toluene	1.7		mg/kg	0.072	0.039	1
1,2-Dibromoethane	ND		mg/kg	0.036	0.021	1
Ethylbenzene	0.30		mg/kg	0.072	0.010	1
p/m-Xylene	2.4		mg/kg	0.14	0.040	1
o-Xylene	0.24		mg/kg	0.072	0.021	1
Xylenes, Total	2.6		mg/kg	0.072	0.021	1
Isopropylbenzene	0.17		mg/kg	0.072	0.0078	1
1,3,5-Trimethylbenzene	0.099	J	mg/kg	0.14	0.014	1
1,2,4-Trimethylbenzene	0.22		mg/kg	0.14	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	120		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-10
Client ID: GPSP-25-1.0-1.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 12:30
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 21:26
Analyst: JIC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.011	0.0050	1
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	0.013		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	0.0062		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	0.00075	J	mg/kg	0.0011	0.00016	1
p/m-Xylene	0.012		mg/kg	0.0022	0.00062	1
o-Xylene	0.0031		mg/kg	0.0011	0.00032	1
Xylenes, Total	0.015		mg/kg	0.0011	0.00032	1
Isopropylbenzene	0.0057		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.00075	J	mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	0.0017	J	mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	**63**	Q	70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-11 D
Client ID: GPSP-25-4.0-4.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 12:40
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 15:52
Analyst: SLS
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	6.2	2.8	10
Methyl tert butyl ether	ND		mg/kg	1.2	0.12	10
Benzene	ND		mg/kg	0.31	0.10	10
1,2-Dichloroethane	ND		mg/kg	0.62	0.16	10
Toluene	0.41	J	mg/kg	0.62	0.34	10
1,2-Dibromoethane	ND		mg/kg	0.31	0.18	10
Ethylbenzene	0.15	J	mg/kg	0.62	0.088	10
p/m-Xylene	0.99	J	mg/kg	1.2	0.35	10
o-Xylene	0.30	J	mg/kg	0.62	0.18	10
Xylenes, Total	1.3	J	mg/kg	0.62	0.18	10
Isopropylbenzene	2.3		mg/kg	0.62	0.068	10
1,3,5-Trimethylbenzene	0.25	J	mg/kg	1.2	0.12	10
1,2,4-Trimethylbenzene	0.91	J	mg/kg	1.2	0.21	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	75		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	**215**	Q	70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-12 D
Client ID: GPSP-25-4.5-5.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 12:50
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 16:18
Analyst: SLS
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	6.0	2.7	10
Methyl tert butyl ether	ND		mg/kg	1.2	0.12	10
Benzene	0.11	J	mg/kg	0.30	0.10	10
1,2-Dichloroethane	ND		mg/kg	0.60	0.16	10
Toluene	0.40	J	mg/kg	0.60	0.33	10
1,2-Dibromoethane	ND		mg/kg	0.30	0.18	10
Ethylbenzene	0.12	J	mg/kg	0.60	0.085	10
p/m-Xylene	1.1	J	mg/kg	1.2	0.34	10
o-Xylene	0.28	J	mg/kg	0.60	0.18	10
Xylenes, Total	1.4	J	mg/kg	0.60	0.18	10
Isopropylbenzene	2.1		mg/kg	0.60	0.066	10
1,3,5-Trimethylbenzene	0.14	J	mg/kg	1.2	0.12	10
1,2,4-Trimethylbenzene	0.41	J	mg/kg	1.2	0.20	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	**187**	Q	70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-15
Client ID: GPSP-29-1.5-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 13:00
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/22/24 17:59
Analyst: MKS
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.84	0.38	1
Methyl tert butyl ether	ND		mg/kg	0.17	0.017	1
Benzene	0.26		mg/kg	0.042	0.014	1
1,2-Dichloroethane	ND		mg/kg	0.084	0.022	1
Toluene	0.31		mg/kg	0.084	0.046	1
1,2-Dibromoethane	ND		mg/kg	0.042	0.025	1
Ethylbenzene	0.73		mg/kg	0.084	0.012	1
p/m-Xylene	0.38		mg/kg	0.17	0.047	1
o-Xylene	0.70		mg/kg	0.084	0.024	1
Xylenes, Total	1.1		mg/kg	0.084	0.024	1
Isopropylbenzene	0.29		mg/kg	0.084	0.0092	1
1,3,5-Trimethylbenzene	0.084	J	mg/kg	0.17	0.016	1
1,2,4-Trimethylbenzene	0.46		mg/kg	0.17	0.028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	85		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-15
Client ID: GPSP-29-1.5-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 13:00
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/23/24 14:53
Analyst: LAC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.011	0.0052	1
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	0.0054		mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	0.0030		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00033	1
Ethylbenzene	0.0045		mg/kg	0.0011	0.00016	1
p/m-Xylene	0.0022	J	mg/kg	0.0023	0.00064	1
o-Xylene	0.0058		mg/kg	0.0011	0.00033	1
Xylenes, Total	0.0080	J	mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.0019		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.00067	J	mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.0029		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	85		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-16
Client ID: GPSP-26-1.5-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 14:05
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 12:55
Analyst: SLS
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.52	0.24	1
Methyl tert butyl ether	ND		mg/kg	0.10	0.010	1
Benzene	0.28		mg/kg	0.026	0.0087	1
1,2-Dichloroethane	ND		mg/kg	0.052	0.013	1
Toluene	0.29		mg/kg	0.052	0.028	1
1,2-Dibromoethane	ND		mg/kg	0.026	0.015	1
Ethylbenzene	0.13		mg/kg	0.052	0.0074	1
p/m-Xylene	0.54		mg/kg	0.10	0.029	1
o-Xylene	0.31		mg/kg	0.052	0.015	1
Xylenes, Total	0.85		mg/kg	0.052	0.015	1
Isopropylbenzene	0.63		mg/kg	0.052	0.0057	1
1,3,5-Trimethylbenzene	0.24		mg/kg	0.10	0.010	1
1,2,4-Trimethylbenzene	0.51		mg/kg	0.10	0.017	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	**239**	Q	70-130
Dibromofluoromethane	83		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-17
Client ID: GPSP-26-4.5-5.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 14:25
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 13:21
Analyst: SLS
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.86	0.39	1
Methyl tert butyl ether	ND		mg/kg	0.17	0.017	1
Benzene	0.68		mg/kg	0.043	0.014	1
1,2-Dichloroethane	ND		mg/kg	0.086	0.022	1
Toluene	2.5		mg/kg	0.086	0.047	1
1,2-Dibromoethane	ND		mg/kg	0.043	0.025	1
Ethylbenzene	1.1		mg/kg	0.086	0.012	1
p/m-Xylene	5.7		mg/kg	0.17	0.048	1
o-Xylene	1.1		mg/kg	0.086	0.025	1
Xylenes, Total	6.8		mg/kg	0.086	0.025	1
Isopropylbenzene	34.	E	mg/kg	0.086	0.0094	1
1,3,5-Trimethylbenzene	0.38		mg/kg	0.17	0.017	1
1,2,4-Trimethylbenzene	0.68		mg/kg	0.17	0.029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	120		70-130
4-Bromofluorobenzene	**481**	Q	70-130
Dibromofluoromethane	**21**	Q	70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-17 D
Client ID: GPSP-26-4.5-5.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 14:25
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/15/24 11:51
Analyst: MKS
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	4.3	2.0	5
Methyl tert butyl ether	ND		mg/kg	0.86	0.087	5
Benzene	1.6		mg/kg	0.22	0.072	5
1,2-Dichloroethane	ND		mg/kg	0.43	0.11	5
Toluene	2.0		mg/kg	0.43	0.23	5
1,2-Dibromoethane	ND		mg/kg	0.22	0.13	5
Ethylbenzene	0.92		mg/kg	0.43	0.061	5
p/m-Xylene	4.2		mg/kg	0.86	0.24	5
o-Xylene	1.0		mg/kg	0.43	0.12	5
Xylenes, Total	5.2		mg/kg	0.086	0.025	5
Isopropylbenzene	30.		mg/kg	0.43	0.047	5
1,3,5-Trimethylbenzene	0.35	J	mg/kg	0.86	0.083	5
1,2,4-Trimethylbenzene	0.62	J	mg/kg	0.86	0.14	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	**215**	Q	70-130
Dibromofluoromethane	**58**	Q	70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-18 D
Client ID: GPSP-26-4.0-4.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 14:15
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 16:43
Analyst: SLS
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	6.3	2.9	10
Methyl tert butyl ether	ND		mg/kg	1.3	0.13	10
Benzene	1.3		mg/kg	0.32	0.10	10
1,2-Dichloroethane	ND		mg/kg	0.63	0.16	10
Toluene	1.7		mg/kg	0.63	0.34	10
1,2-Dibromoethane	ND		mg/kg	0.32	0.18	10
Ethylbenzene	1.0		mg/kg	0.63	0.089	10
p/m-Xylene	4.4		mg/kg	1.3	0.36	10
o-Xylene	0.88		mg/kg	0.63	0.18	10
Xylenes, Total	5.3		mg/kg	0.63	0.18	10
Isopropylbenzene	31.		mg/kg	0.63	0.069	10
1,3,5-Trimethylbenzene	0.28	J	mg/kg	1.3	0.12	10
1,2,4-Trimethylbenzene	0.69	J	mg/kg	1.3	0.21	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	**161**	Q	70-130
Dibromofluoromethane	**69**	Q	70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-19
Client ID: GPSP-27-1.5-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 15:10
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 10:23
Analyst: AJK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.011	0.0051	1
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		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	0.00068	J	mg/kg	0.0022	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	0.00068	J	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	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	84		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	114		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-20
Client ID: GPSP-27-4.0-4.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 15:20
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 13:46
Analyst: SLS
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.80	0.36	1
Methyl tert butyl ether	ND		mg/kg	0.16	0.016	1
Benzene	5.2		mg/kg	0.040	0.013	1
1,2-Dichloroethane	ND		mg/kg	0.080	0.021	1
Toluene	12.		mg/kg	0.080	0.044	1
1,2-Dibromoethane	ND		mg/kg	0.040	0.023	1
Ethylbenzene	14.		mg/kg	0.080	0.011	1
p/m-Xylene	47.		mg/kg	0.16	0.045	1
o-Xylene	26.		mg/kg	0.080	0.023	1
Xylenes, Total	73.		mg/kg	0.080	0.023	1
Isopropylbenzene	13.		mg/kg	0.080	0.0087	1
1,3,5-Trimethylbenzene	22.		mg/kg	0.16	0.015	1
1,2,4-Trimethylbenzene	120	E	mg/kg	0.16	0.027	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	85		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-20 D
Client ID: GPSP-27-4.0-4.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 15:20
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 21:25
Analyst: JIC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,4-Trimethylbenzene	80.		mg/kg	3.2	0.54	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	84		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-21
Client ID: GPSP-27-4.5-5.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 15:30
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 14:11
Analyst: SLS
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.85	0.38	1
Methyl tert butyl ether	ND		mg/kg	0.17	0.017	1
Benzene	5.3		mg/kg	0.042	0.014	1
1,2-Dichloroethane	ND		mg/kg	0.085	0.022	1
Toluene	7.2		mg/kg	0.085	0.046	1
1,2-Dibromoethane	ND		mg/kg	0.042	0.025	1
Ethylbenzene	16.		mg/kg	0.085	0.012	1
p/m-Xylene	25.		mg/kg	0.17	0.047	1
o-Xylene	15.		mg/kg	0.085	0.025	1
Xylenes, Total	40.		mg/kg	0.085	0.025	1
Isopropylbenzene	15.		mg/kg	0.085	0.0092	1
1,3,5-Trimethylbenzene	9.5		mg/kg	0.17	0.016	1
1,2,4-Trimethylbenzene	64.	E	mg/kg	0.17	0.028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	84		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-21 D
Client ID: GPSP-27-4.5-5.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 15:30
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 21:45
Analyst: JIC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,4-Trimethylbenzene	48.		mg/kg	1.7	0.28	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	82		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	79		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-22
Client ID: GPSP-MW01-0.5-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 15:45
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 10:49
Analyst: AJK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.011	0.0049	1
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	0.00040	J	mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	0.00066	J	mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	0.00054	J	mg/kg	0.0011	0.00015	1
p/m-Xylene	0.00090	J	mg/kg	0.0022	0.00060	1
o-Xylene	0.00054	J	mg/kg	0.0011	0.00031	1
Xylenes, Total	0.0014	J	mg/kg	0.0011	0.00031	1
Isopropylbenzene	0.0073		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	0.00063	J	mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	82		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-23
Client ID: GPSP-MW01-3.5-4.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 15:55
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 14:36
Analyst: SLS
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.89	0.40	1
Methyl tert butyl ether	ND		mg/kg	0.18	0.018	1
Benzene	0.34		mg/kg	0.044	0.015	1
1,2-Dichloroethane	ND		mg/kg	0.089	0.023	1
Toluene	0.20		mg/kg	0.089	0.048	1
1,2-Dibromoethane	ND		mg/kg	0.044	0.026	1
Ethylbenzene	1.7		mg/kg	0.089	0.012	1
p/m-Xylene	0.26		mg/kg	0.18	0.050	1
o-Xylene	0.56		mg/kg	0.089	0.026	1
Xylenes, Total	0.82		mg/kg	0.089	0.026	1
Isopropylbenzene	5.5		mg/kg	0.089	0.0097	1
1,3,5-Trimethylbenzene	0.045	J	mg/kg	0.18	0.017	1
1,2,4-Trimethylbenzene	0.75		mg/kg	0.18	0.030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	78		70-130
Toluene-d8	114		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-24
Client ID: GPSP-MW01-4.5-5.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 16:05
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 15:02
Analyst: SLS
Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.78	0.35	1
Methyl tert butyl ether	ND		mg/kg	0.16	0.016	1
Benzene	0.50		mg/kg	0.039	0.013	1
1,2-Dichloroethane	ND		mg/kg	0.078	0.020	1
Toluene	0.58		mg/kg	0.078	0.042	1
1,2-Dibromoethane	ND		mg/kg	0.039	0.023	1
Ethylbenzene	0.20		mg/kg	0.078	0.011	1
p/m-Xylene	1.7		mg/kg	0.16	0.044	1
o-Xylene	0.45		mg/kg	0.078	0.023	1
Xylenes, Total	2.2		mg/kg	0.078	0.023	1
Isopropylbenzene	3.5		mg/kg	0.078	0.0085	1
1,3,5-Trimethylbenzene	0.056	J	mg/kg	0.16	0.015	1
1,2,4-Trimethylbenzene	0.13	J	mg/kg	0.16	0.026	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	78		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	**163**	Q	70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-25
Client ID: GPSP-30-3.5-4.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 15:00
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/22/24 16:41
Analyst: MKS
Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.014	0.0062	1
Methyl tert butyl ether	ND		mg/kg	0.0027	0.00027	1
Benzene	0.00063	J	mg/kg	0.00068	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00035	1
Toluene	0.0011	J	mg/kg	0.0014	0.00074	1
1,2-Dibromoethane	ND		mg/kg	0.00068	0.00040	1
Ethylbenzene	0.00090	J	mg/kg	0.0014	0.00019	1
p/m-Xylene	0.0016	J	mg/kg	0.0027	0.00076	1
o-Xylene	0.0027		mg/kg	0.0014	0.00040	1
Xylenes, Total	0.0043	J	mg/kg	0.0014	0.00040	1
Isopropylbenzene	0.062		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	0.00029	J	mg/kg	0.0027	0.00026	1
1,2,4-Trimethylbenzene	0.0011	J	mg/kg	0.0027	0.00045	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	**160**	Q	70-130
4-Bromofluorobenzene	**152**	Q	70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-26
Client ID: GPSP-30-2.0-2.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 14:50
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/21/24 17:24
Analyst: KJD
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.0092	0.0042	1
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.00044	J	mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00092	0.00024	1
Toluene	ND		mg/kg	0.00092	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00092	0.00013	1
p/m-Xylene	0.00062	J	mg/kg	0.0018	0.00052	1
o-Xylene	0.00057	J	mg/kg	0.00092	0.00027	1
Xylenes, Total	0.0012	J	mg/kg	0.00092	0.00027	1
Isopropylbenzene	0.027		mg/kg	0.00092	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	0.00037	J	mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	**133**	Q	70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-27
Client ID: GPSP-30-1.5-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 14:40
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/21/24 17:47
Analyst: KJD
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.011	0.0049	1
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	0.00022	J	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	0.00017	J	mg/kg	0.0011	0.00015	1
p/m-Xylene	0.00079	J	mg/kg	0.0022	0.00060	1
o-Xylene	0.00071	J	mg/kg	0.0011	0.00031	1
Xylenes, Total	0.0015	J	mg/kg	0.0011	0.00031	1
Isopropylbenzene	0.013		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.00021	J	mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	0.00052	J	mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	130		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-28
Client ID: GPSP-27-4.0-4.5DUP
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 16:15
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 15:27
Analyst: SLS
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.88	0.40	1
Methyl tert butyl ether	ND		mg/kg	0.18	0.018	1
Benzene	2.5		mg/kg	0.044	0.014	1
1,2-Dichloroethane	ND		mg/kg	0.088	0.022	1
Toluene	9.4		mg/kg	0.088	0.048	1
1,2-Dibromoethane	ND		mg/kg	0.044	0.026	1
Ethylbenzene	10.		mg/kg	0.088	0.012	1
p/m-Xylene	39.		mg/kg	0.18	0.049	1
o-Xylene	22.		mg/kg	0.088	0.026	1
Xylenes, Total	61.		mg/kg	0.088	0.026	1
Isopropylbenzene	8.4		mg/kg	0.088	0.0096	1
1,3,5-Trimethylbenzene	17.		mg/kg	0.18	0.017	1
1,2,4-Trimethylbenzene	80.	E	mg/kg	0.18	0.029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	78		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-28 D
Client ID: GPSP-27-4.0-4.5DUP
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 16:15
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 02/14/24 22:06
Analyst: JIC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,4-Trimethylbenzene	57.		mg/kg	3.5	0.58	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	82		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	80		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-29
Client ID: FB-240209
Sample Location: PHILADELPHIA, PA

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/15/24 17:27
Analyst: JKH

Date Collected: 02/09/24 16:25
Date Received: 02/09/24
Field Prep: Not Specified

Extraction Method: EPA 8011
Extraction Date: 02/15/24 14:06

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: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-29
Client ID: FB-240209
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 16:25
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/12/24 20:24
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Carbon disulfide	ND		ug/l	5.0	0.30	1
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	117		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135

Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-30
Client ID: TB-240209
Sample Location: PHILADELPHIA, PA

Date Collected: 02/08/24 00:00
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/15/24 17:36
Analyst: JKH

Extraction Method: EPA 8011
Extraction Date: 02/15/24 14:06

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: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-30
Client ID: TB-240209
Sample Location: PHILADELPHIA, PA

Date Collected: 02/08/24 00:00
Date Received: 02/09/24
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/12/24 20:45
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Carbon disulfide	ND		ug/l	5.0	0.30	1
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	112		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/12/24 19:40
Analyst: RAW

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 29-30 Batch: WG1884763-5					
Carbon disulfide	ND		ug/l	5.0	0.30
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	117		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/14/24 09:33
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 09,19,22 Batch: WG1885307-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	0.00014	J	mg/kg	0.0010	0.00014
p/m-Xylene	0.00067	J	mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	0.00067	J	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	82		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	113		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/14/24 09:33
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 07-08,10-12,16-18,20-21,23-24,28 Batch: WG1885534-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	0.0070	J	mg/kg	0.050	0.0070
p/m-Xylene	0.033	J	mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	0.033	J	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	82		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	113		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/14/24 14:53
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 10 Batch: WG1885539-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	89		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/14/24 14:53
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 07 Batch: WG1885540-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	89		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/14/24 20:43
Analyst: MAG

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 20-21,28 Batch: WG1885557-5					
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	86		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	88		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 02/15/24 16:54
Analyst: JKH

Extraction Method: EPA 8011
Extraction Date: 02/15/24 14:06

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 29-30 Batch: WG1885602-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/15/24 09:28
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 17 Batch: WG1885974-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	96		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/21/24 12:00
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 26-27 Batch: WG1888118-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	110		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	118		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/22/24 10:12
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01-03,15 Batch: WG1888582-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	97		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/22/24 10:12
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 25 Batch: WG1888593-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	97		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/23/24 12:10
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 15 Batch: WG1889411-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	0.00061	J	mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	0.00022	J	mg/kg	0.0010	0.00014
p/m-Xylene	0.00088	J	mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	0.00088	J	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	0.00056	J	mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	84		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2407681

Project Number: 200.00135 **Report Date:** 02/27/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/23/24 09:14
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02 Batch: WG1889479-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	130		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	114		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 29-30 Batch: WG1884763-3 WG1884763-4								
Carbon disulfide	95		86		51-130	10		20
Methyl tert butyl ether	90		98		63-130	9		20
Benzene	100		95		70-130	5		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	100		94		70-130	6		20
Ethylbenzene	98		92		70-130	6		20
p/m-Xylene	95		90		70-130	5		20
o-Xylene	95		90		70-130	5		20
Isopropylbenzene	99		91		70-130	8		20
1,3,5-Trimethylbenzene	100		94		64-130	6		20
1,2,4-Trimethylbenzene	100		95		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		116		70-130
Toluene-d8	105		104		70-130
4-Bromofluorobenzene	106		104		70-130
Dibromofluoromethane	100		103		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 09,19,22 Batch: WG1885307-3 WG1885307-4								
Carbon disulfide	120		109		59-130	10		30
Methyl tert butyl ether	81		78		66-130	4		30
Benzene	113		107		70-130	5		30
1,2-Dichloroethane	89		86		70-130	3		30
Toluene	112		105		70-130	6		30
1,2-Dibromoethane	87		83		70-130	5		30
Ethylbenzene	111		104		70-130	7		30
p/m-Xylene	123		115		70-130	7		30
o-Xylene	119		112		70-130	6		30
Isopropylbenzene	115		105		70-130	9		30
1,3,5-Trimethylbenzene	113		105		70-130	7		30
1,2,4-Trimethylbenzene	115		104		70-130	10		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	81		81		70-130
Toluene-d8	105		105		70-130
4-Bromofluorobenzene	94		93		70-130
Dibromofluoromethane	111		111		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 07-08,10-12,16-18,20-21,23-24,28 Batch: WG1885534-3 WG1885534-4								
Carbon disulfide	120		109		59-130	10		30
Methyl tert butyl ether	81		78		66-130	4		30
Benzene	113		107		70-130	5		30
1,2-Dichloroethane	89		86		70-130	3		30
Toluene	112		105		70-130	6		30
1,2-Dibromoethane	87		83		70-130	5		30
Ethylbenzene	111		104		70-130	7		30
p/m-Xylene	123		115		70-130	7		30
o-Xylene	119		112		70-130	6		30
Isopropylbenzene	115		105		70-130	9		30
1,3,5-Trimethylbenzene	113		105		70-130	7		30
1,2,4-Trimethylbenzene	115		104		70-130	10		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	81		81		70-130
Toluene-d8	105		105		70-130
4-Bromofluorobenzene	94		93		70-130
Dibromofluoromethane	111		111		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 10 Batch: WG1885539-3 WG1885539-4								
Carbon disulfide	80		78		59-130	3		30
Methyl tert butyl ether	89		85		66-130	5		30
Benzene	91		89		70-130	2		30
1,2-Dichloroethane	89		88		70-130	1		30
Toluene	91		90		70-130	1		30
1,2-Dibromoethane	91		89		70-130	2		30
Ethylbenzene	92		92		70-130	0		30
p/m-Xylene	95		94		70-130	1		30
o-Xylene	94		93		70-130	1		30
Isopropylbenzene	95		95		70-130	0		30
1,3,5-Trimethylbenzene	95		94		70-130	1		30
1,2,4-Trimethylbenzene	95		94		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	90		89		70-130
Toluene-d8	92		92		70-130
4-Bromofluorobenzene	89		90		70-130
Dibromofluoromethane	93		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 07 Batch: WG1885540-3 WG1885540-4								
Carbon disulfide	80		78		59-130	3		30
Methyl tert butyl ether	89		85		66-130	5		30
Benzene	91		89		70-130	2		30
1,2-Dichloroethane	89		88		70-130	1		30
Toluene	91		90		70-130	1		30
1,2-Dibromoethane	91		89		70-130	2		30
Ethylbenzene	92		92		70-130	0		30
p/m-Xylene	95		94		70-130	1		30
o-Xylene	94		93		70-130	1		30
Isopropylbenzene	95		95		70-130	0		30
1,3,5-Trimethylbenzene	95		94		70-130	1		30
1,2,4-Trimethylbenzene	95		94		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	90		89		70-130
Toluene-d8	92		92		70-130
4-Bromofluorobenzene	89		90		70-130
Dibromofluoromethane	94		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 20-21,28 Batch: WG1885557-3 WG1885557-4								
Methyl tert butyl ether	82		84		66-130	2		30
Benzene	91		92		70-130	1		30
1,2-Dichloroethane	78		79		70-130	1		30
Toluene	94		94		70-130	0		30
1,2-Dibromoethane	85		85		70-130	0		30
Ethylbenzene	96		96		70-130	0		30
p/m-Xylene	100		98		70-130	2		30
o-Xylene	95		94		70-130	1		30
Isopropylbenzene	107		105		70-130	2		30
1,3,5-Trimethylbenzene	104		101		70-130	3		30
1,2,4-Trimethylbenzene	104		102		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	84		84		70-130
Toluene-d8	94		95		70-130
4-Bromofluorobenzene	99		97		70-130
Dibromofluoromethane	88		89		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135

Lab Number: L2407681

Report Date: 02/27/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 29-30 Batch: WG1885602-2									
1,2-Dibromoethane	99		-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 17 Batch: WG1885974-3 WG1885974-4								
Carbon disulfide	61		**58**	Q	59-130	5		30
Methyl tert butyl ether	95		94		66-130	1		30
Benzene	96		96		70-130	0		30
1,2-Dichloroethane	95		93		70-130	2		30
Toluene	99		96		70-130	3		30
1,2-Dibromoethane	104		103		70-130	1		30
Ethylbenzene	99		97		70-130	2		30
p/m-Xylene	102		100		70-130	2		30
o-Xylene	92		90		70-130	2		30
Isopropylbenzene	106		105		70-130	1		30
1,3,5-Trimethylbenzene	103		102		70-130	1		30
1,2,4-Trimethylbenzene	103		102		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		92		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	101		102		70-130
Dibromofluoromethane	97		99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 26-27 Batch: WG1888118-3 WG1888118-4								
Carbon disulfide	109		74		59-130	**38**	Q	30
Methyl tert butyl ether	86		84		66-130	2		30
Benzene	92		87		70-130	6		30
1,2-Dichloroethane	96		93		70-130	3		30
Toluene	90		85		70-130	6		30
1,2-Dibromoethane	96		93		70-130	3		30
Ethylbenzene	92		89		70-130	3		30
p/m-Xylene	93		90		70-130	3		30
o-Xylene	92		90		70-130	2		30
Isopropylbenzene	92		89		70-130	3		30
1,3,5-Trimethylbenzene	93		88		70-130	6		30
1,2,4-Trimethylbenzene	95		90		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		100		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	95		96		70-130
Dibromofluoromethane	105		108		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01-03,15 Batch: WG1888582-3 WG1888582-4								
Carbon disulfide	115		104		59-130	10		30
Methyl tert butyl ether	108		103		66-130	5		30
Benzene	107		107		70-130	0		30
1,2-Dichloroethane	102		102		70-130	0		30
Toluene	108		105		70-130	3		30
1,2-Dibromoethane	96		95		70-130	1		30
Ethylbenzene	106		106		70-130	0		30
p/m-Xylene	109		109		70-130	0		30
o-Xylene	103		104		70-130	1		30
Isopropylbenzene	112		109		70-130	3		30
1,3,5-Trimethylbenzene	102		105		70-130	3		30
1,2,4-Trimethylbenzene	106		107		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		95		70-130
Toluene-d8	105		102		70-130
4-Bromofluorobenzene	92		102		70-130
Dibromofluoromethane	96		94		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 25 Batch: WG1888593-3 WG1888593-4								
Carbon disulfide	115		104		59-130	10		30
Methyl tert butyl ether	108		103		66-130	5		30
Benzene	107		107		70-130	0		30
1,2-Dichloroethane	102		102		70-130	0		30
Toluene	108		105		70-130	3		30
1,2-Dibromoethane	96		95		70-130	1		30
Ethylbenzene	106		106		70-130	0		30
p/m-Xylene	109		109		70-130	0		30
o-Xylene	103		104		70-130	1		30
Isopropylbenzene	112		109		70-130	3		30
1,3,5-Trimethylbenzene	102		105		70-130	3		30
1,2,4-Trimethylbenzene	106		107		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		95		70-130
Toluene-d8	105		102		70-130
4-Bromofluorobenzene	92		102		70-130
Dibromofluoromethane	96		94		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 15 Batch: WG1889411-3 WG1889411-4								
Carbon disulfide	93		93		59-130	0		30
Methyl tert butyl ether	87		90		66-130	3		30
Benzene	98		97		70-130	1		30
1,2-Dichloroethane	81		84		70-130	4		30
Toluene	99		98		70-130	1		30
1,2-Dibromoethane	90		95		70-130	5		30
Ethylbenzene	98		98		70-130	0		30
p/m-Xylene	106		104		70-130	2		30
o-Xylene	99		99		70-130	0		30
Isopropylbenzene	97		95		70-130	2		30
1,3,5-Trimethylbenzene	96		94		70-130	2		30
1,2,4-Trimethylbenzene	99		95		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	79		82		70-130
Toluene-d8	91		92		70-130
4-Bromofluorobenzene	86		84		70-130
Dibromofluoromethane	95		95		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

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 Batch: WG1889479-3 WG1889479-4								
Carbon disulfide	85		87		59-130	2		30
Methyl tert butyl ether	103		114		66-130	10		30
Benzene	88		89		70-130	1		30
1,2-Dichloroethane	103		108		70-130	5		30
Toluene	84		85		70-130	1		30
1,2-Dibromoethane	102		109		70-130	7		30
Ethylbenzene	85		87		70-130	2		30
p/m-Xylene	85		87		70-130	2		30
o-Xylene	86		88		70-130	2		30
Isopropylbenzene	80		84		70-130	5		30
1,3,5-Trimethylbenzene	81		84		70-130	4		30
1,2,4-Trimethylbenzene	84		88		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	114		118		70-130
Toluene-d8	96		94		70-130
4-Bromofluorobenzene	96		96		70-130
Dibromofluoromethane	105		109		70-130

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-01
Client ID: GPSP-MW02-4.0-4.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 13:55
Date Received: 02/09/24
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	83.2		%	0.100	NA	1	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-02
Client ID: GPSP-MW02-2.5-3.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 13:45
Date Received: 02/09/24
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	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-03
Client ID: GPSP-MW02-1.5-2.0
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 02/09/24 13:35
Date Received: 02/09/24
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.7		%	0.100	NA	1	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135

Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-07
Client ID: GPSP-24-6.5-7.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 12:05
Date Received: 02/09/24
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	77.4		%	0.100	NA	1	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135

Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-08
Client ID: GPSP-24-6.0-6.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 11:55
Date Received: 02/09/24
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	78.3		%	0.100	NA	1	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135

Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-09
Client ID: GPSP-24-1.5-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 11:45
Date Received: 02/09/24
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	83.6		%	0.100	NA	1	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-10
Client ID: GPSP-25-1.0-1.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 12:30
Date Received: 02/09/24
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	80.3		%	0.100	NA	1	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-11
Client ID: GPSP-25-4.0-4.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 12:40
Date Received: 02/09/24
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	84.1		%	0.100	NA	1	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-12
Client ID: GPSP-25-4.5-5.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 12:50
Date Received: 02/09/24
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	84.4		%	0.100	NA	1	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-15
Client ID: GPSP-29-1.5-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 13:00
Date Received: 02/09/24
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	80.0		%	0.100	NA	1	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-16
Client ID: GPSP-26-1.5-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 14:05
Date Received: 02/09/24
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	89.0		%	0.100	NA	1	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-17
Client ID: GPSP-26-4.5-5.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 14:25
Date Received: 02/09/24
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	81.4		%	0.100	NA	1	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-18
Client ID: GPSP-26-4.0-4.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 14:15
Date Received: 02/09/24
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	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-19
Client ID: GPSP-27-1.5-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 15:10
Date Received: 02/09/24
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	83.7		%	0.100	NA	1	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-20
Client ID: GPSP-27-4.0-4.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 15:20
Date Received: 02/09/24
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	86.9		%	0.100	NA	1	-	02/10/24 12:44	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-21
Client ID: GPSP-27-4.5-5.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 15:30
Date Received: 02/09/24
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	81.8		%	0.100	NA	1	-	02/10/24 13:01	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-22
Client ID: GPSP-MW01-0.5-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 15:45
Date Received: 02/09/24
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	88.4		%	0.100	NA	1	-	02/10/24 13:01	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-23
Client ID: GPSP-MW01-3.5-4.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 15:55
Date Received: 02/09/24
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	77.0		%	0.100	NA	1	-	02/10/24 13:01	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-24
Client ID: GPSP-MW01-4.5-5.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 16:05
Date Received: 02/09/24
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	78.2		%	0.100	NA	1	-	02/10/24 13:01	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-25
Client ID: GPSP-30-3.5-4.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 15:00
Date Received: 02/09/24
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	74.0		%	0.100	NA	1	-	02/10/24 13:01	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-26
Client ID: GPSP-30-2.0-2.5
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 14:50
Date Received: 02/09/24
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	89.0		%	0.100	NA	1	-	02/10/24 13:01	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-27
Client ID: GPSP-30-1.5-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 14:40
Date Received: 02/09/24
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	86.9		%	0.100	NA	1	-	02/10/24 13:01	121,2540G	ROI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135
Lab Number: L2407681
Report Date: 02/27/24

SAMPLE RESULTS

Lab ID: L2407681-28
Client ID: GPSP-27-4.0-4.5DUP
Sample Location: PHILADELPHIA, PA

Date Collected: 02/09/24 16:15
Date Received: 02/09/24
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	-	02/10/24 14:07	121,2540G	ROI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135

Lab Number: L2407681

Report Date: 02/27/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-20 QC Batch ID: WG1883793-1 QC Sample: L2407681-01 Client ID: GPSP-MW02-4.0-4.5						
Solids, Total	83.2	84.9	%	2		20
General Chemistry - Westborough Lab Associated sample(s): 21-27 QC Batch ID: WG1883797-1 QC Sample: L2407681-21 Client ID: GPSP-27-4.5-5.0						
Solids, Total	81.8	80.9	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 28 QC Batch ID: WG1883848-1 QC Sample: L2407521-09 Client ID: DUP Sample						
Solids, Total	89.8	90.4	%	1		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135

Lab Number: L2407681
Report Date: 02/27/24

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

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2407681-01A	Vial MeOH preserved	C	NA		3.8	Y	Absent		PA-8260HLW(14)
L2407681-01B	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-01C	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-01D	Plastic 120ml unpreserved	C	NA		3.8	Y	Absent		HOLD-METAL(180)
L2407681-01E	Glass 120ml/4oz unpreserved	C	NA		3.8	Y	Absent		HOLD-SUB(),TS(7)
L2407681-02A	Vial MeOH preserved	C	NA		3.8	Y	Absent		PA-8260HLW(14)
L2407681-02B	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-02C	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-02D	Plastic 120ml unpreserved	C	NA		3.8	Y	Absent		HOLD-METAL(180)
L2407681-02E	Glass 120ml/4oz unpreserved	C	NA		3.8	Y	Absent		HOLD-SUB(),TS(7)
L2407681-03A	Vial MeOH preserved	C	NA		3.8	Y	Absent		PA-8260HLW(14)
L2407681-03B	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-03C	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-03D	Plastic 120ml unpreserved	C	NA		3.8	Y	Absent		HOLD-METAL(180)
L2407681-03E	Glass 120ml/4oz unpreserved	C	NA		3.8	Y	Absent		HOLD-SUB(),TS(7)
L2407681-04A	Vial MeOH preserved	C	NA		3.8	Y	Absent		HOLD-8260HLW(14)
L2407681-04B	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	HOLD-8260HLW(14)
L2407681-04C	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	HOLD-8260HLW(14)
L2407681-04D	Plastic 120ml unpreserved	C	NA		3.8	Y	Absent		HOLD-METAL(180)
L2407681-04E	Glass 120ml/4oz unpreserved	C	NA		3.8	Y	Absent		HOLD-SUB(),HOLD-WETCHEM()

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135

Lab Number: L2407681
Report Date: 02/27/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2407681-05A	Vial MeOH preserved	A	NA		4.2	Y	Absent		HOLD-8260HLW(14)
L2407681-05B	Vial water preserved	A	NA		4.2	Y	Absent	10-FEB-24 08:53	HOLD-8260HLW(14)
L2407681-05C	Vial water preserved	A	NA		4.2	Y	Absent	10-FEB-24 08:53	HOLD-8260HLW(14)
L2407681-05D	Plastic 120ml unpreserved	A	NA		4.2	Y	Absent		HOLD-METAL(180)
L2407681-05E	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		HOLD-SUB(),HOLD-WETCHEM()
L2407681-06A	Vial MeOH preserved	C	NA		3.8	Y	Absent		HOLD-8260HLW(14)
L2407681-06B	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	HOLD-8260HLW(14)
L2407681-06C	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	HOLD-8260HLW(14)
L2407681-06D	Plastic 120ml unpreserved	C	NA		3.8	Y	Absent		HOLD-METAL(180)
L2407681-06E	Glass 120ml/4oz unpreserved	C	NA		3.8	Y	Absent		HOLD-SUB(),HOLD-WETCHEM()
L2407681-07A	Vial MeOH preserved	C	NA		3.8	Y	Absent		PA-8260HLW(14)
L2407681-07B	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-07C	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-07D	Plastic 120ml unpreserved	C	NA		3.8	Y	Absent		HOLD-METAL(180)
L2407681-07E	Glass 120ml/4oz unpreserved	C	NA		3.8	Y	Absent		TS(7),SUB-8270()
L2407681-08A	Vial MeOH preserved	C	NA		3.8	Y	Absent		PA-8260HLW(14)
L2407681-08B	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-08C	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-08D	Plastic 120ml unpreserved	C	NA		3.8	Y	Absent		HOLD-METAL(180)
L2407681-08E	Glass 120ml/4oz unpreserved	C	NA		3.8	Y	Absent		TS(7),SUB-8270()
L2407681-09A	Vial MeOH preserved	C	NA		3.8	Y	Absent		PA-8260HLW(14)
L2407681-09B	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-09C	Vial water preserved	C	NA		3.8	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-09D	Plastic 120ml unpreserved	C	NA		3.8	Y	Absent		HOLD-METAL(180)
L2407681-09E	Glass 120ml/4oz unpreserved	C	NA		3.8	Y	Absent		TS(7),SUB-8270()
L2407681-10A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2407681-10B	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260H(14),PA-8260HLW(14)
L2407681-10C	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260H(14),PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135

Lab Number: L2407681
Report Date: 02/27/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2407681-10D	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		HOLD-METAL(180)
L2407681-10E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TS(7),SUB-8270()
L2407681-11A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2407681-11B	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-11C	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-11D	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		HOLD-METAL(180)
L2407681-11E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TS(7),SUB-8270()
L2407681-12A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2407681-12B	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-12C	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-12D	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		HOLD-METAL(180)
L2407681-12E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TS(7),SUB-8270()
L2407681-13A	Vial MeOH preserved	B	NA		3.5	Y	Absent		HOLD-8260HLW(14)
L2407681-13B	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	HOLD-8260HLW(14)
L2407681-13C	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	HOLD-8260HLW(14)
L2407681-13D	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		HOLD-METAL(180)
L2407681-13E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		HOLD-SUB(),HOLD-WETCHEM()
L2407681-14A	Vial MeOH preserved	B	NA		3.5	Y	Absent		HOLD-8260HLW(14)
L2407681-14B	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	HOLD-8260HLW(14)
L2407681-14C	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	HOLD-8260HLW(14)
L2407681-14D	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		HOLD-METAL(180)
L2407681-14E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		HOLD-SUB(),HOLD-WETCHEM()
L2407681-15A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2407681-15B	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260H(14),PA-8260HLW(14)
L2407681-15C	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260H(14),PA-8260HLW(14)
L2407681-15D	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		HOLD-METAL(180)
L2407681-15E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		HOLD-SUB(),TS(7)
L2407681-16A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135

Lab Number: L2407681
Report Date: 02/27/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2407681-16B	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-16C	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-16D	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		HOLD-METAL(180)
L2407681-16E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TS(7),SUB-8270()
L2407681-17A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2407681-17B	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-17C	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-17D	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		HOLD-METAL(180)
L2407681-17E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TS(7),SUB-8270()
L2407681-18A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2407681-18B	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-18C	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-18D	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		HOLD-METAL(180)
L2407681-18E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TS(7),SUB-8270()
L2407681-19A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2407681-19B	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-19C	Vial water preserved	B	NA		3.5	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-19D	Plastic 120ml unpreserved	B	NA		3.5	Y	Absent		HOLD-METAL(180)
L2407681-19E	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		TS(7),SUB-8270()
L2407681-20A	Vial MeOH preserved	D	NA		4.2	Y	Absent		PA-8260HLW(14)
L2407681-20B	Vial water preserved	D	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-20C	Vial water preserved	D	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-20D	Plastic 120ml unpreserved	D	NA		4.2	Y	Absent		HOLD-METAL(180)
L2407681-20E	Glass 120ml/4oz unpreserved	D	NA		4.2	Y	Absent		TS(7),SUB-8270()
L2407681-21A	Vial MeOH preserved	D	NA		4.2	Y	Absent		PA-8260HLW(14)
L2407681-21B	Vial water preserved	D	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-21C	Vial water preserved	D	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-21D	Plastic 120ml unpreserved	D	NA		4.2	Y	Absent		HOLD-METAL(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135

Lab Number: L2407681
Report Date: 02/27/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2407681-21E	Glass 120ml/4oz unpreserved	D	NA		4.2	Y	Absent		TS(7),SUB-8270()
L2407681-22A	Vial MeOH preserved	D	NA		4.2	Y	Absent		PA-8260HLW(14)
L2407681-22B	Vial water preserved	D	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-22C	Vial water preserved	D	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-22D	Plastic 120ml unpreserved	D	NA		4.2	Y	Absent		HOLD-METAL(180)
L2407681-22E	Glass 120ml/4oz unpreserved	D	NA		4.2	Y	Absent		TS(7),SUB-8270()
L2407681-23A	Vial MeOH preserved	D	NA		4.2	Y	Absent		PA-8260HLW(14)
L2407681-23B	Vial water preserved	D	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-23C	Vial water preserved	D	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-23D	Plastic 120ml unpreserved	D	NA		4.2	Y	Absent		HOLD-METAL(180)
L2407681-23E	Glass 120ml/4oz unpreserved	D	NA		4.2	Y	Absent		TS(7),SUB-8270()
L2407681-24A	Vial MeOH preserved	D	NA		4.2	Y	Absent		PA-8260HLW(14)
L2407681-24B	Vial water preserved	D	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-24C	Vial water preserved	D	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-24D	Plastic 120ml unpreserved	D	NA		4.2	Y	Absent		HOLD-METAL(180)
L2407681-24E	Glass 120ml/4oz unpreserved	D	NA		4.2	Y	Absent		TS(7),SUB-8270()
L2407681-25A	Vial MeOH preserved	A	NA		4.2	Y	Absent		PA-8260HLW(14)
L2407681-25B	Vial water preserved	A	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-25C	Vial water preserved	A	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-25D	Plastic 120ml unpreserved	A	NA		4.2	Y	Absent		TS(7),HOLD-METAL(180)
L2407681-25E	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		HOLD-SUB()
L2407681-26A	Vial MeOH preserved	D	NA		4.2	Y	Absent		PA-8260HLW(14)
L2407681-26B	Vial water preserved	D	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-26C	Vial water preserved	D	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-26D	Plastic 120ml unpreserved	D	NA		4.2	Y	Absent		TS(7),HOLD-METAL(180)
L2407681-26E	Glass 120ml/4oz unpreserved	D	NA		4.2	Y	Absent		HOLD-SUB()
L2407681-27A	Vial MeOH preserved	D	NA		4.2	Y	Absent		PA-8260HLW(14)
L2407681-27B	Vial water preserved	D	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135

Lab Number: L2407681
Report Date: 02/27/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2407681-27C	Vial water preserved	D	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-27D	Plastic 120ml unpreserved	D	NA		4.2	Y	Absent		TS(7),HOLD-METAL(180)
L2407681-27E	Glass 120ml/4oz unpreserved	D	NA		4.2	Y	Absent		HOLD-SUB()
L2407681-28A	Vial MeOH preserved	A	NA		4.2	Y	Absent		PA-8260HLW(14)
L2407681-28B	Vial water preserved	A	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-28C	Vial water preserved	A	NA		4.2	Y	Absent	10-FEB-24 08:53	PA-8260HLW(14)
L2407681-28D	Plastic 120ml unpreserved	A	NA		4.2	Y	Absent		HOLD-METAL(180)
L2407681-28E	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		TS(7),SUB-8270()
L2407681-29A	Vial HCl preserved	A	NA		4.2	Y	Absent		PA-8260(14)
L2407681-29B	Vial HCl preserved	A	NA		4.2	Y	Absent		PA-8260(14)
L2407681-29C	Vial HCl preserved	A	NA		4.2	Y	Absent		PA-8260(14)
L2407681-29D	Vial Na2S2O3 preserved	A	NA		4.2	Y	Absent		8011(14)
L2407681-29E	Vial Na2S2O3 preserved	A	NA		4.2	Y	Absent		8011(14)
L2407681-29F	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		SUB-8270(7)
L2407681-29G	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		SUB-8270(7)
L2407681-30A	Vial HCl preserved	C	NA		3.8	Y	Absent		PA-8260(14)
L2407681-30B	Vial HCl preserved	C	NA		3.8	Y	Absent		PA-8260(14)
L2407681-30D	Vial Na2S2O3 preserved	C	NA		3.8	Y	Absent		8011(14)
L2407681-30E	Vial Na2S2O3 preserved	C	NA		3.8	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2407681
Project Number:	200.00135	**Report Date:**	02/27/24

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:	PHILADELPHIA REFINERY	**Lab Number:**	L2407681
Project Number:	200.00135	**Report Date:**	02/27/24

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:	PHILADELPHIA REFINERY	**Lab Number:**	L2407681
Project Number:	200.00135	**Report Date:**	02/27/24

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:	PHILADELPHIA REFINERY	**Lab Number:**	L2407681
Project Number:	200.00135	**Report Date:**	02/27/24

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 3

Date Rec'd in Lab: 2/10/24

ALPHA Job #: L2407681

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609-584-0090
Fax:
Email: william.schmidt@ransomenv.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia
Project #: 200.00135
Project Manager: William Schmidt
ALPHA Quote #:

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 #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria

Other Project Specific Requirements/Comments/Detection Limits:
See attached sheet for specific analyte list

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs	SVOCs	Sample Specific Comments	Total # Bottles
07681-01	GPSP-MW02-4.0-4.5	2/9/24	13:55	S	ND	X	X		5
02	GPSP-MW02-2.5-3.0	↓	13:45	↓	↓	X	X		5
03	GPSP-MW02-1.5-2.0	↓	13:35	↓	↓	X	X		5
04	GPSP-28-6.5-7.0	↓	11:35	↓	↓	X	X		5
05	GPSP-28-0.5-1.0	↓	11:10	↓	↓	X	X		5
06	GPSP-28-6.0-6.5	↓	11:25	↓	↓	X	X		5
07	GPSP-24-6.5-7.0	↓	12:05	↓	↓	X	X		5
08	GPSP-24-6.0-6.5	↓	11:55	↓	↓	X	X		5
09	GPSP-24-1.5-2.0	↓	11:45	↓	↓	X	X		5
10	GPSP-25-1.0-1.5	↓	12:30	↓	↓	X	X		5
	Container Type					G	G		
	Preservative								

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Relinquished By:	Date/Time	Received By:	Date/Time
Nicholas Dil	02/10/24 1730	[illegible] TAS	2/9/24 1730
[illegible] 1800	2/9/24 1800	Paul Maggella 1800	2/9/24 1800
Paul Maggella 2/9/24 0140		[illegible] 2/10/24 0140	

2/10/24 0400
2/10/24 0400

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.

FORM NO: 01-01 (rev. 14-OCT-97)

CHAIN OF CUSTODY

PAGE 2 OF 3

Date Rec'd in Lab: 2/10/24

ALPHA Job #: L2407681

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609-584-0090
Fax:
Email: william.schmidt@ransomenv.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia
Project #: 200.00135
Project Manager: William Schmidt
ALPHA Quote #:

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 #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:
See attached sheet for specific analyte list

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs	SVOCs	Sample Specific Comments	Total # Bottles
07681-11	GPSP-25-4.0-4.5	2/9/24	12:40	S	MD	X	X		5
12	GPSP-25-4.5-5.0	↓	12:50	↓	↓	X	X		5
13	GPSP-29-4.5-5.0		13:20			X	X		5
14	GPSP-29-3.5-4.0		13:10			X	X		5
15	GPSP-29-1.5-2.0		13:00			X	X		5
16	GPSP-26-1.5-2.0		14:05			X	X		5
17	GPSP-26-4.5-5.0		14:25			X	X		5
18	GPSP-26-4.0-4.5		14:15			X	X		5
19	GPSP-27-1.5-2.0		15:10			X	X		5
20	GPSP-27-4.0-4.5	↓	15:20	↓	↓	X	X		5
	Container Type					G	G		
	Preservative								

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

2/10/24 0400
2/10/24 0400

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	2/9/24 17:30	[illegible]	2/9/24 1730
[illegible]	2/9/24 1800	[illegible]	2/9/24 1800
Paul Maggella	2/9/24 2215	Paul Maggella	2/9/24 2215
		[illegible]	2/10/24 0400

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.

FORM NO: 01-01 (rev. 14-OCT-07)

CHAIN OF CUSTODY

PAGE 3 OF 3

Date Rec'd in Lab: 2/10/24

ALPHA Job #: L2407681

ALPHA
WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193
MANSFIELD, MA
TEL: 508-822-9300
FAX: 508 822 3288

Client Information

Client: Ransom Consulting LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609-584-0090
Fax:
Email: william.schmidt@ransomenv.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia
Project #: 200.00135
Project Manager: William Schmidt
ALPHA Quote #:

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 #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

See attached sheet for specific analyte list

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs	SVOCs	Sample Specific Comments	TOTAL # BOTTLES
07681-21	GPSP-29-4.5-5.0	2/9/24	15:30	S	ND	X	X		5
22	GPSP-MW01-0.5-1.0		15:45			X	X		5
23	GPSP-MW01-3.5-4.0		15:55			X	X		5
24	GPSP-MW01-4.5-5.0		16:05			X	X		5
25	GPSP-30-3.5-4.0		15:00			X	X		5
26	GPSP-30-2.0-2.5		14:50			X	X		5
27	GPSP-30-1.5-2.0		14:40			X	X		5
28	GPSP-31-2.5-3.0		16:15			X	X		5
29	Field Blank		16:25			X	X		5
30	Trip Blank	2/8/24	—			X			5
					Container Type	G	G		
					Preservative				

SF 2/10/24 0800
2/10/24 0400

Relinquished By:	Date/Time	Received By:	Date/Time
Nick Dyl	2/9/24 17:30	PAS	2/9/24 1730
[illegible]	2/9/24 1800	Pace	2/9/24 1800
Pace	2/9/24	Paul Maggella	2/9/24 2215
Paul Maggella	2/9/24 0140	SF	2/10/24 0140

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FORM NO: 01-01 (rev. 14-OCT-07)

Table 1
Site Characterization Soil Sampling
Girard Point Hazardous Waste Pad
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

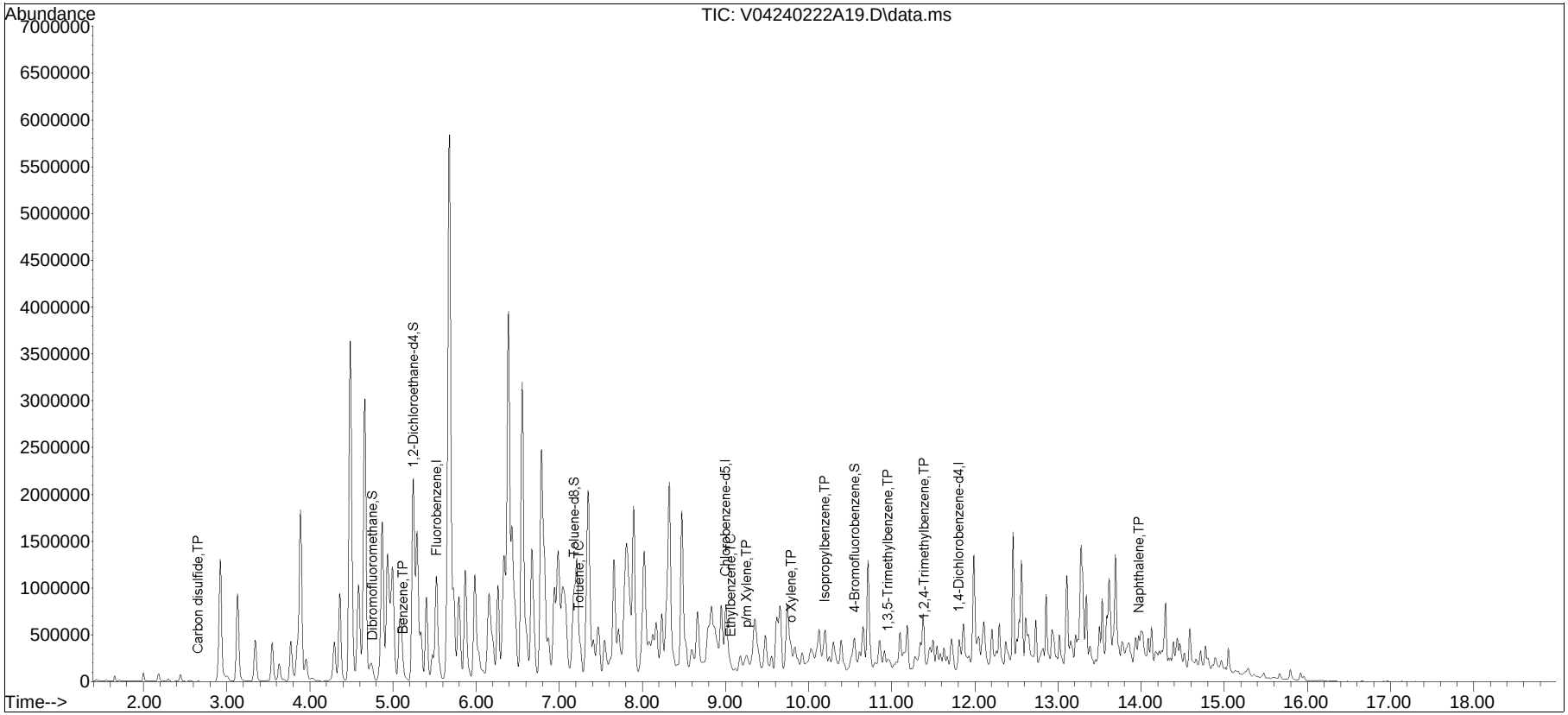
VOCs	SVOCs	SVOCs (Cont.)
Benzene	Acenaphthene	Fluorene
Carbon Disulfide	Anthracene	Indeno(1,2,3-cd)pyrene
Cumene	Benzo(a)anthracene	3-Methylcholanthrene
1,2-Dibromoethane	Benzo(a)pyrene	2-Methylphenol
1,2-Dichloroethane	Benzo(b)fluoranthene	3-Methylphenol
Ethyl Benzene	Benzo(k)fluoranthene	4-Methylphenol
Methyl tert-butyl ether	Benzo(g,h,i)perylene	Naphthalene
Toluene	bis(2-Ethylhexyl)phthalate	o-cresol
1,2,4-Trimethylbenzene	Chrysene	m-cresol
1,3,5-Trimethylbenzene	Dibenz(a,h)anthracene	p-cresol
Xylenes (total)	Di-n-butylphthalate	Phenanthrene
	7,12-Dimethylbenz(a)anthracene	Phenol
	2,4-Dimethylphenol	Pyrene

Quantitation Report (QT Reviewed)

Data Path : K:\VOA104\2024\02\240222A\
Data File : V04240222A19.D
Acq On : 22 Feb 2024 3:49 pm
Operator : VOA104:LAC
Sample : l2407681-01d,31h,4.42,5,0.01,,a
Misc : WG1888582,ICAL20679
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Feb 22 16:14:04 2024
Quant Method : K:\VOA104\2024\02\240222A\V104_231215N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Sat Dec 16 09:40:00 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS21.D•

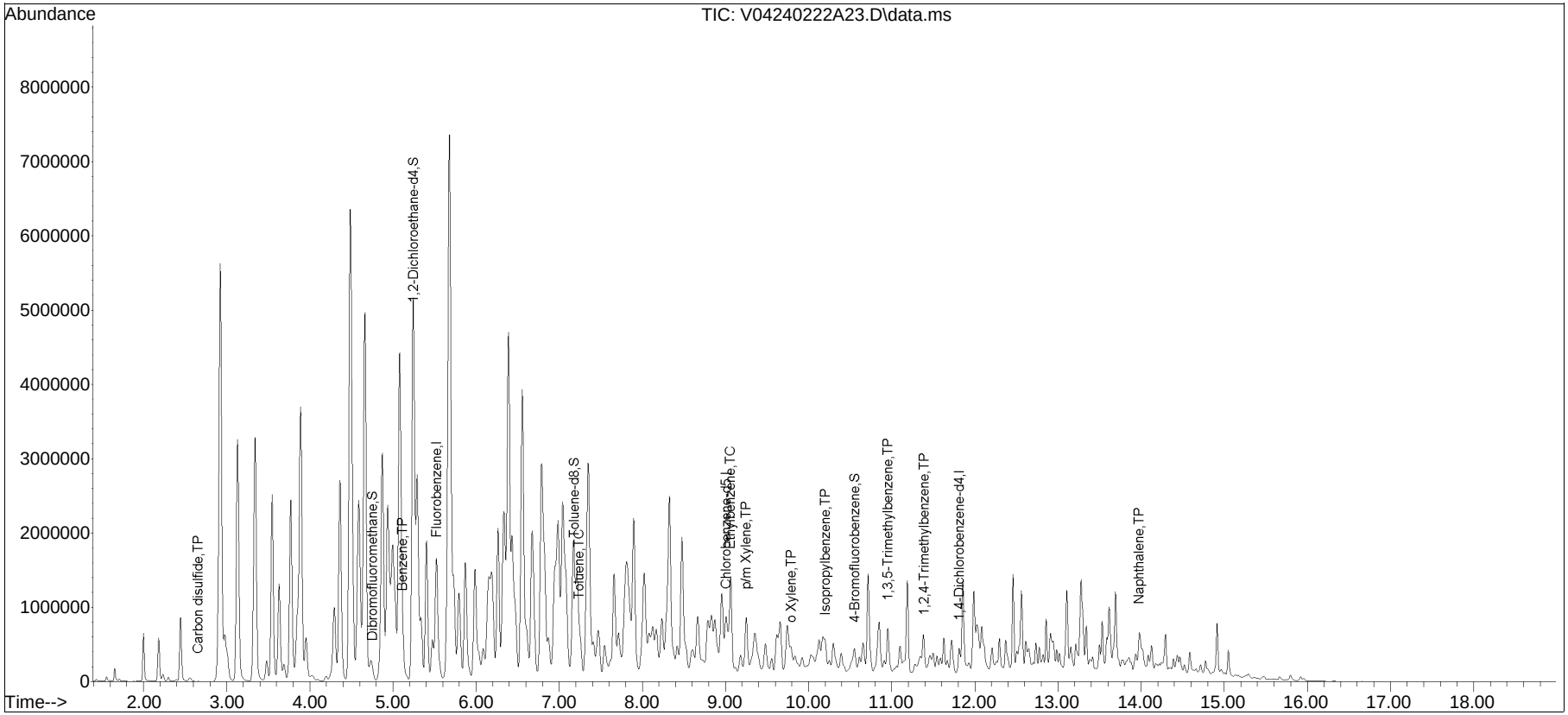


Quantitation Report (QT Reviewed)

Data Path : K:\VOA104\2024\02\240222A\
Data File : V04240222A23.D
Acq On : 22 Feb 2024 5:33 pm
Operator : VOA104:MKS
Sample : l2407681-02d,31h,4.69,5,0.01,,a
Misc : WG1888582,ICAL20679
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Feb 23 13:07:10 2024
Quant Method : K:\VOA104\2024\02\240222A\V104_231215N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Sat Dec 16 09:40:00 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS21.D•

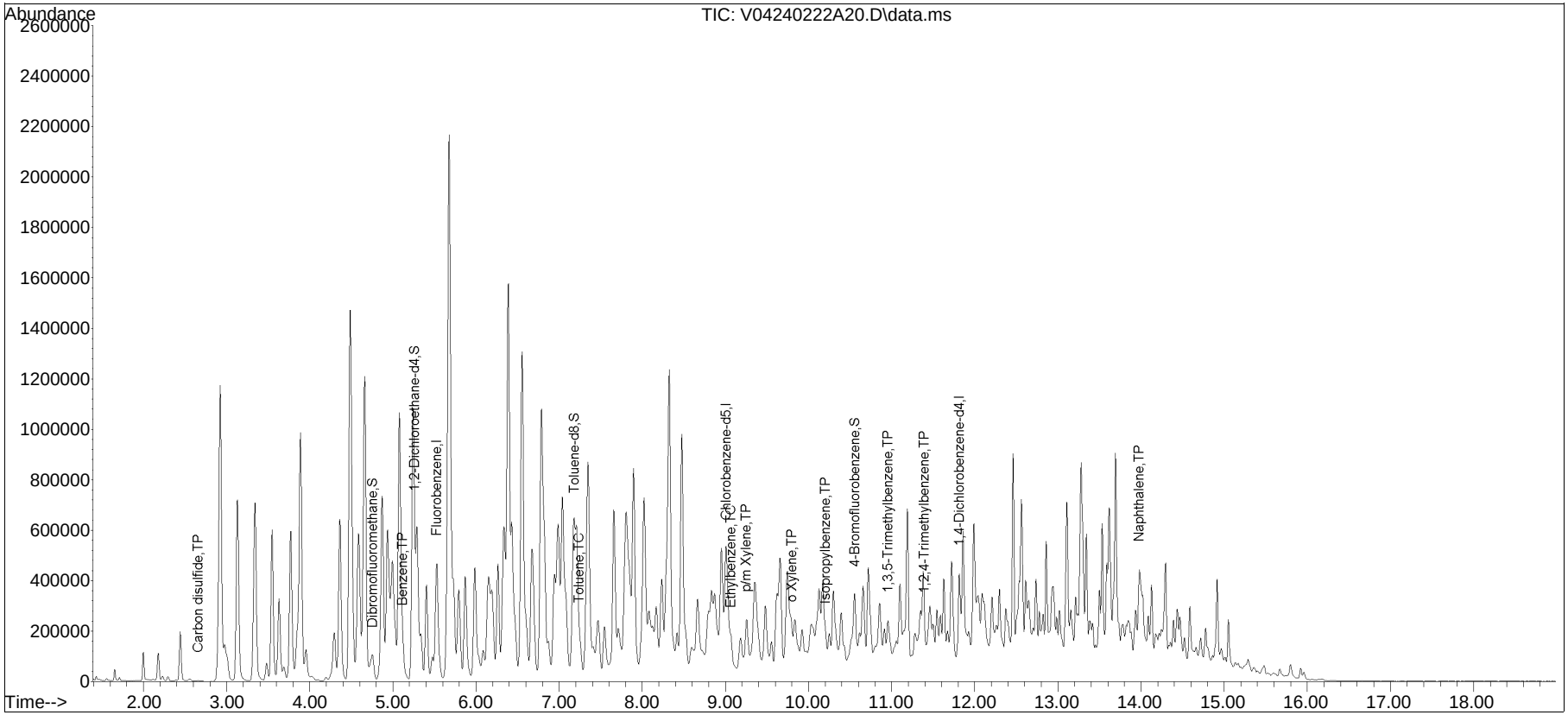


Quantitation Report (QT Reviewed)

Data Path : K:\VOA104\2024\02\240222A\
Data File : V04240222A20.D
Acq On : 22 Feb 2024 4:15 pm
Operator : VOA104:MKS
Sample : l2407681-03d,31h,4.83,5,0.02,,a
Misc : WG1888582,ICAL20679
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 23 13:05:27 2024
Quant Method : K:\VOA104\2024\02\240222A\V104_231215N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Sat Dec 16 09:40:00 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS21.D•

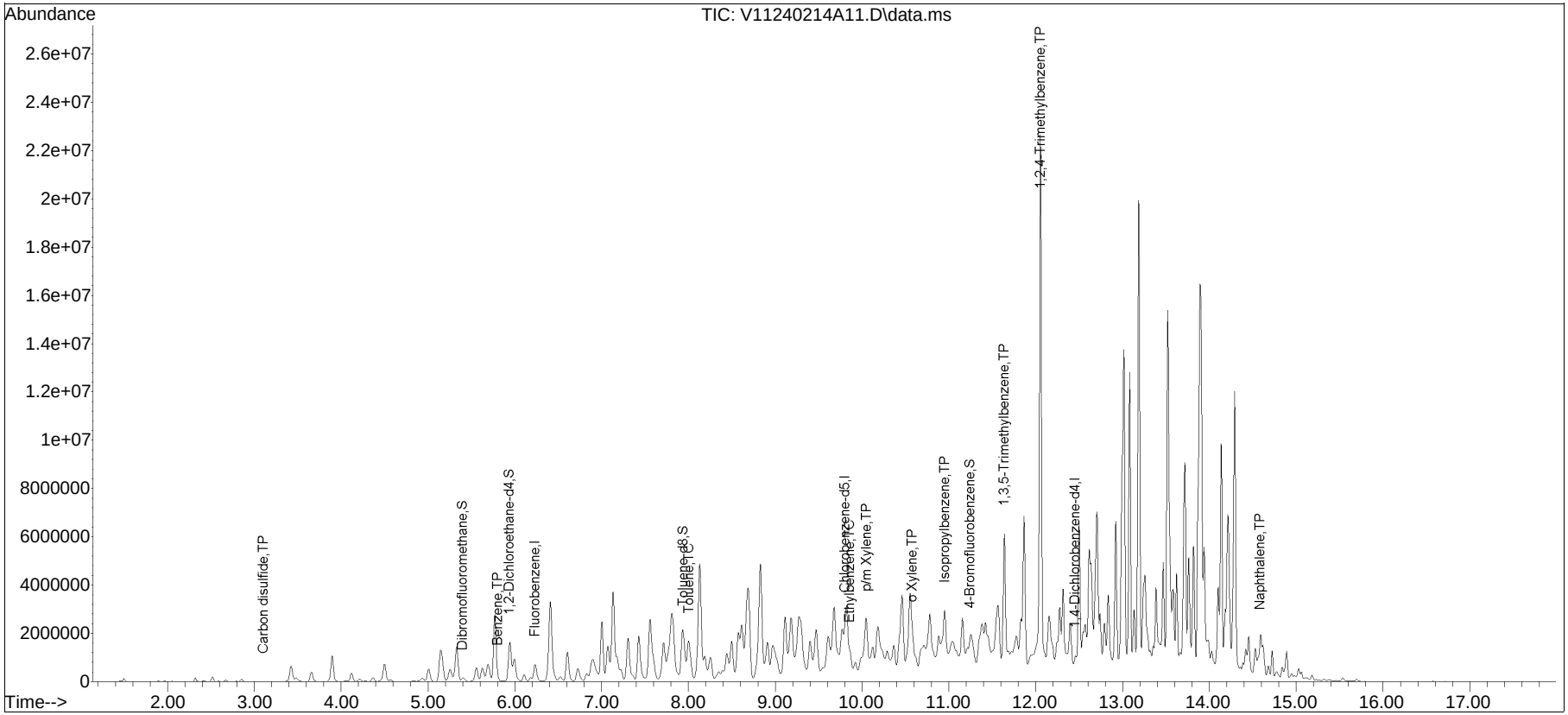


Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2024\02\240214A\
Data File : V11240214A11.D
Acq On : 14 Feb 2024 12:05 pm
Operator : VOA111:AJK
Sample : L2407681-07,31H,4.97,5,0.100,,A
Misc : WG1885534,ICAL20778
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 14 12:48:48 2024
Quant Method : K:\VOA111\2024\02\240214A\V111_240112A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jan 17 09:02:19 2024
Response via : Initial Calibration

Sub List : 8260-PA_ShortList_CS2 - PA Short list+CS21.D•

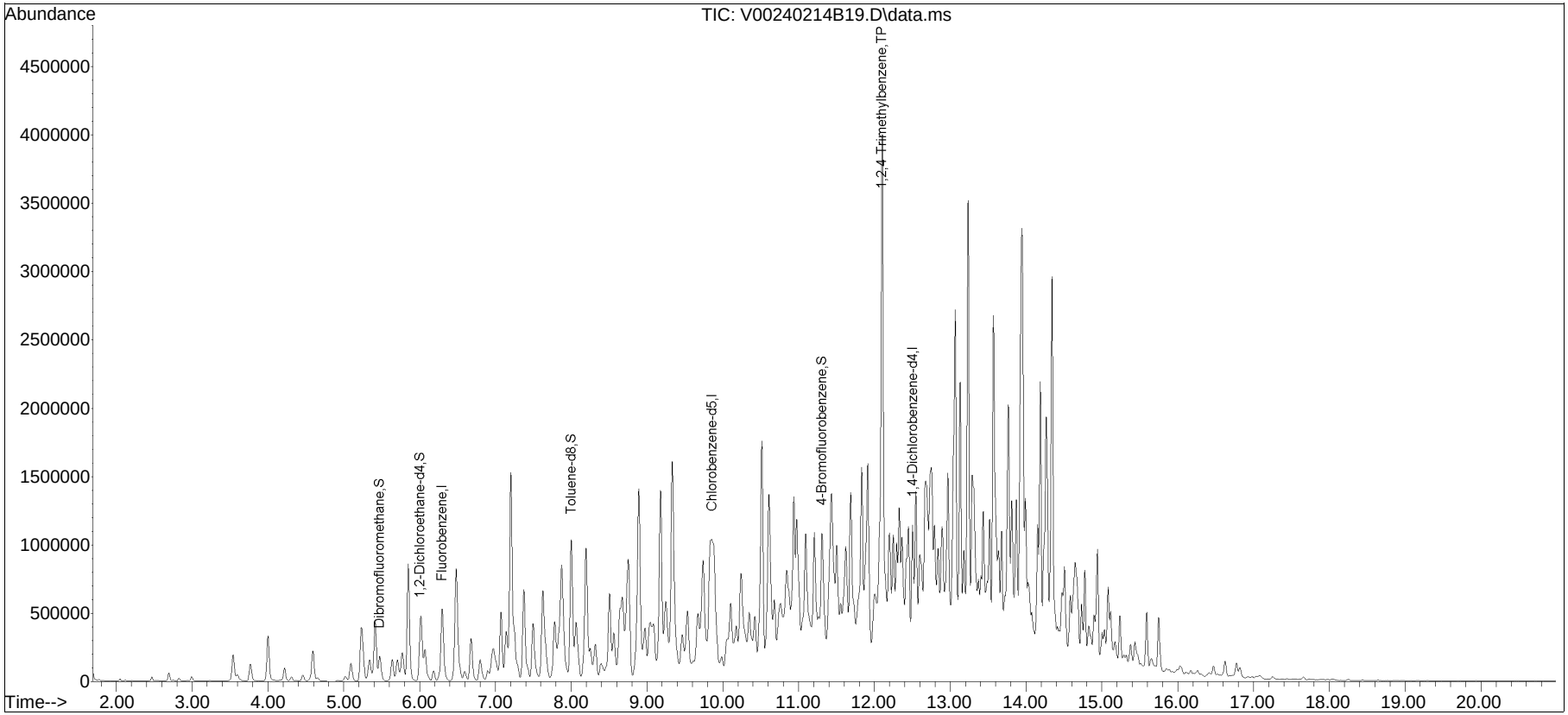


Quantitation Report (QT Reviewed)

Data Path : K:\VOA100\2024\02\240214B\
Data File : V00240214B19.D
Acq On : 14 Feb 2024 9:57 pm
Operator : VOA100:JIC
Sample : L2407681-07D,31H,4.97,5,0.01,,A
Misc : WG1885540,ICAL20838
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 15 06:31:55 2024
Quant Method : K:\VOA100\2024\02\240214B\V100_240207N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Feb 08 09:22:08 2024
Response via : Initial Calibration

Sub List : 8260-1,2,4-TMB - 1,2,4-Trimethylbenzene only•

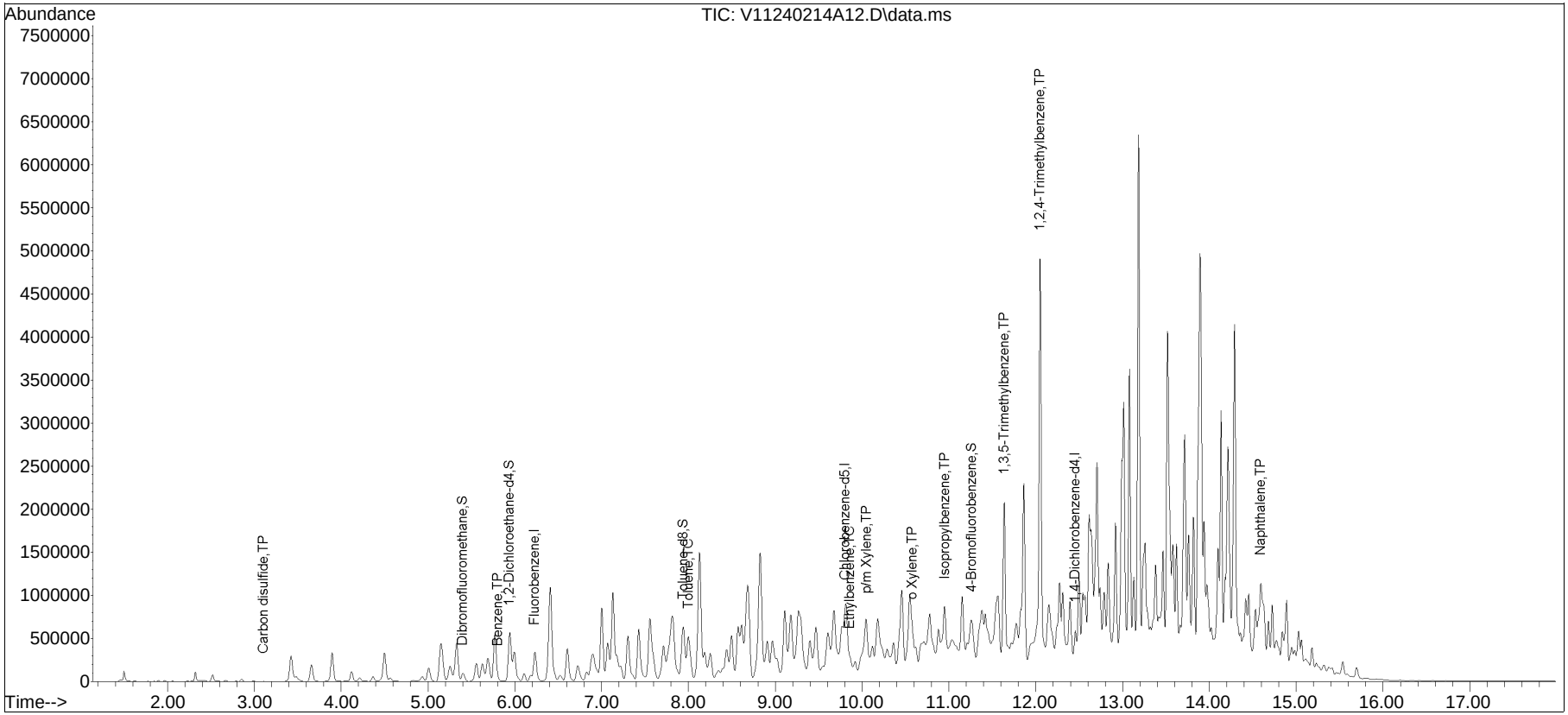


Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2024\02\240214A\
Data File : V11240214A12.D
Acq On : 14 Feb 2024 12:30 pm
Operator : VOA111:SLS
Sample : L2407681-08,31H,5.47,5,0.100,,A
Misc : WG1885534,ICAL20778
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 15 08:25:23 2024
Quant Method : K:\VOA111\2024\02\240214A\V111_240112A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jan 17 09:02:19 2024
Response via : Initial Calibration

Sub List : 8260-PA_ShortList_CS2 - PA Short list+CS21.D•

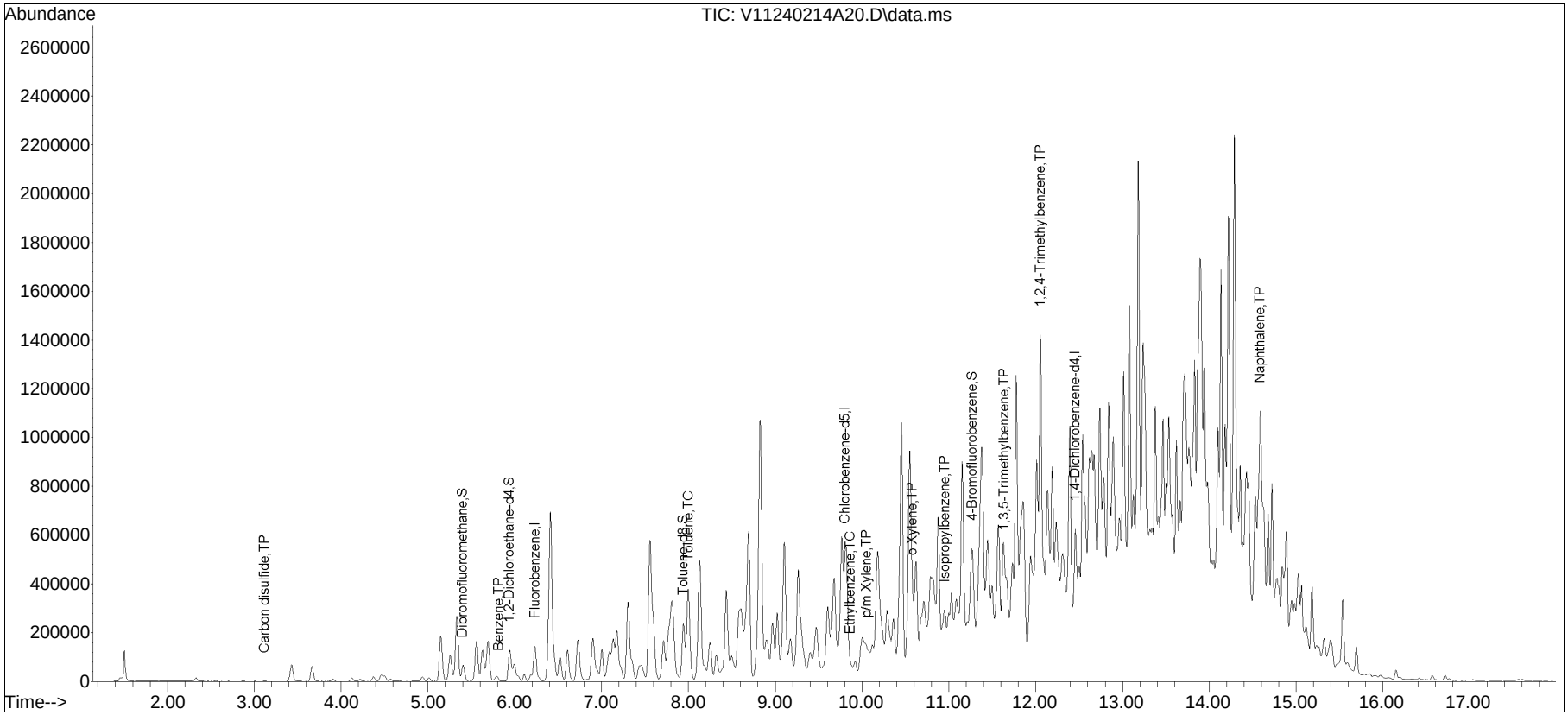


Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2024\02\240214A\
Data File : V11240214A20.D
Acq On : 14 Feb 2024 03:52 pm
Operator : VOA111:SLS
Sample : L2407681-11D,31H,5.61,5,0.01,,A
Misc : WG1885534,ICAL20778
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Feb 14 19:19:33 2024
Quant Method : K:\VOA111\2024\02\240214A\V111_240112A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jan 17 09:02:19 2024
Response via : Initial Calibration

Sub List : 8260-PA_ShortList_CS2 - PA Short list+CS21.D•

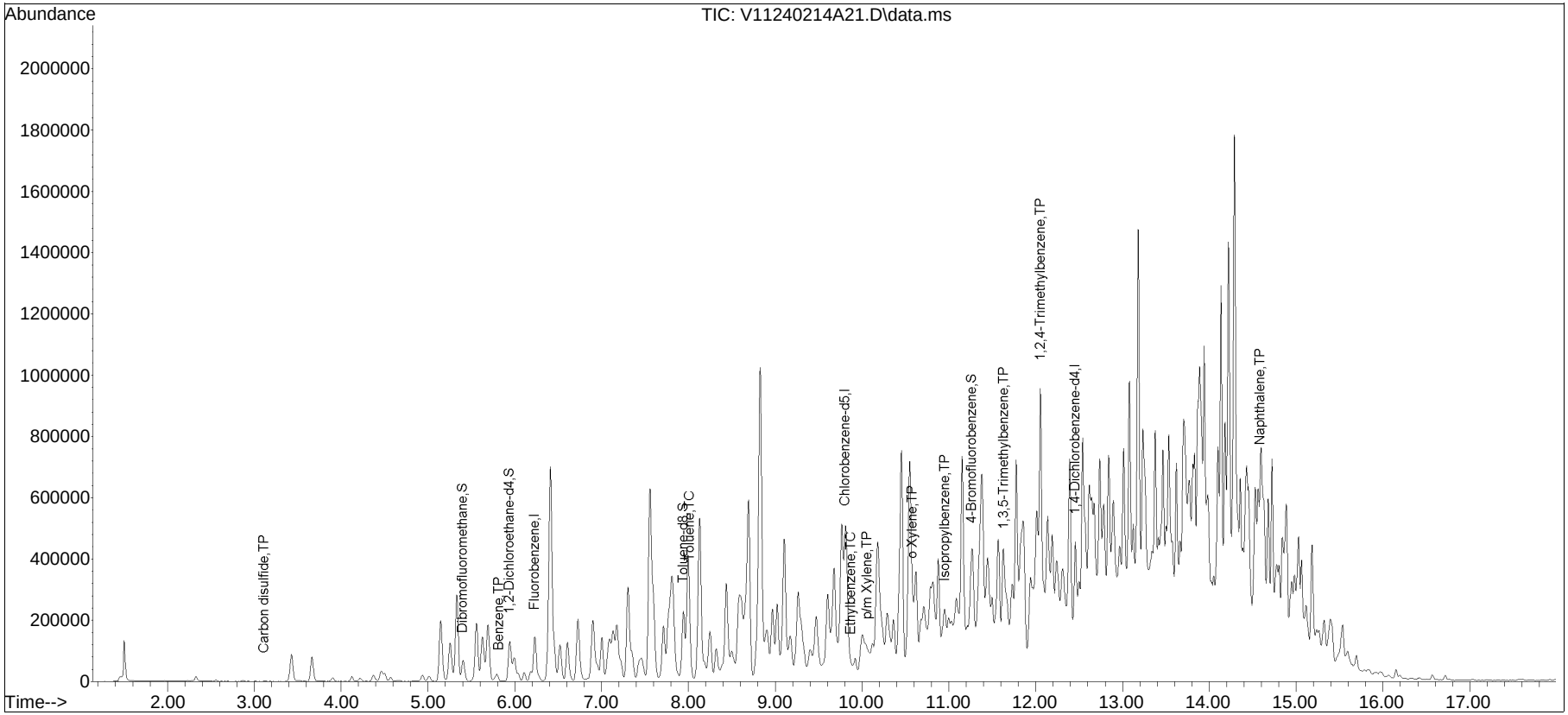


Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2024\02\240214A\
Data File : V11240214A21.D
Acq On : 14 Feb 2024 04:18 pm
Operator : VOA111:SLS
Sample : L2407681-12D,31H,5.80,5,0.01,,A
Misc : WG1885534,ICAL20778
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 14 19:20:01 2024
Quant Method : K:\VOA111\2024\02\240214A\V111_240112A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jan 17 09:02:19 2024
Response via : Initial Calibration

Sub List : 8260-PA_ShortList_CS2 - PA Short list+CS21.D•

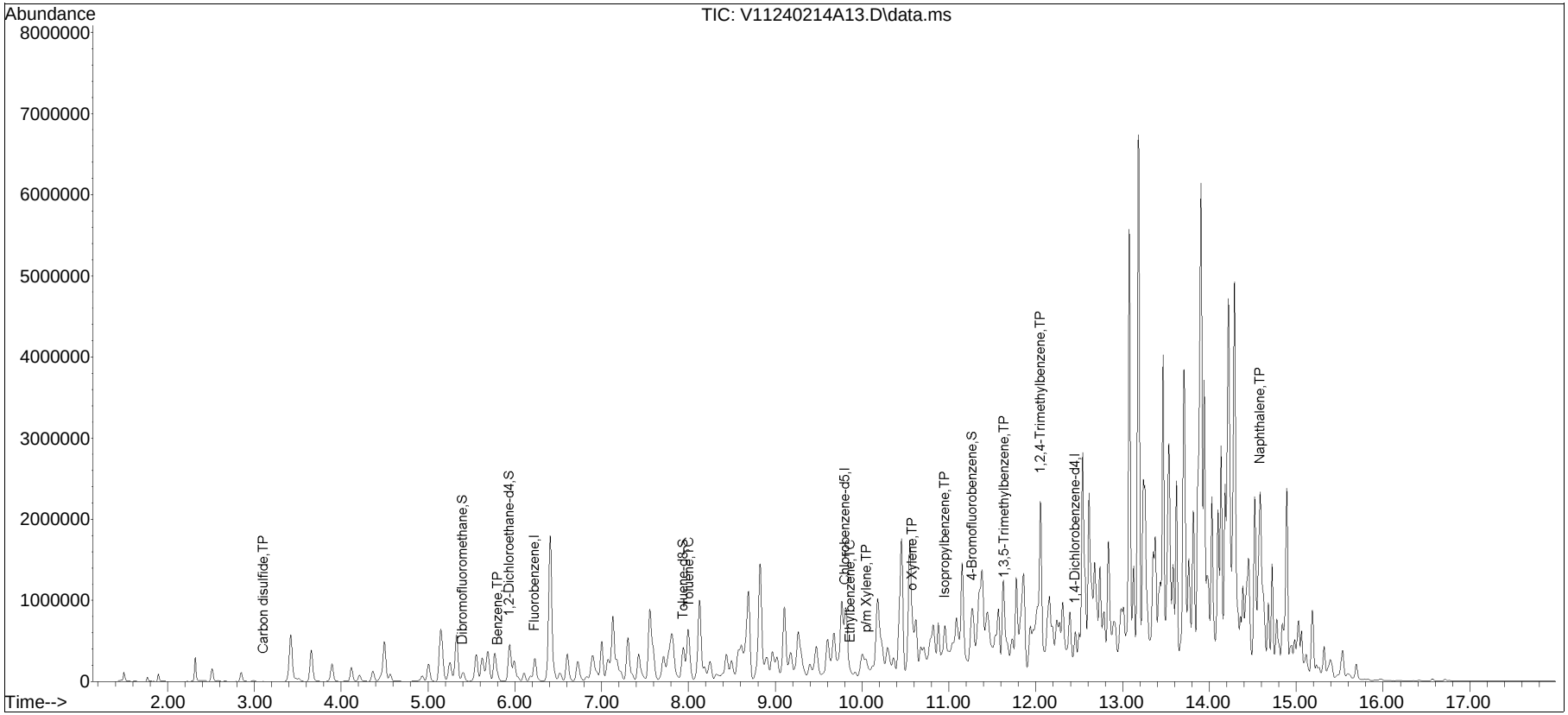


Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2024\02\240214A\
Data File : V11240214A13.D
Acq On : 14 Feb 2024 12:55 pm
Operator : VOA111:SLS
Sample : L2407681-16,31H,6.08,5,0.100,,A
Misc : WG1885534,ICAL20778
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 15 08:26:00 2024
Quant Method : K:\VOA111\2024\02\240214A\V111_240112A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jan 17 09:02:19 2024
Response via : Initial Calibration

Sub List : 8260-PA_ShortList_CS2 - PA Short list+CS21.D•

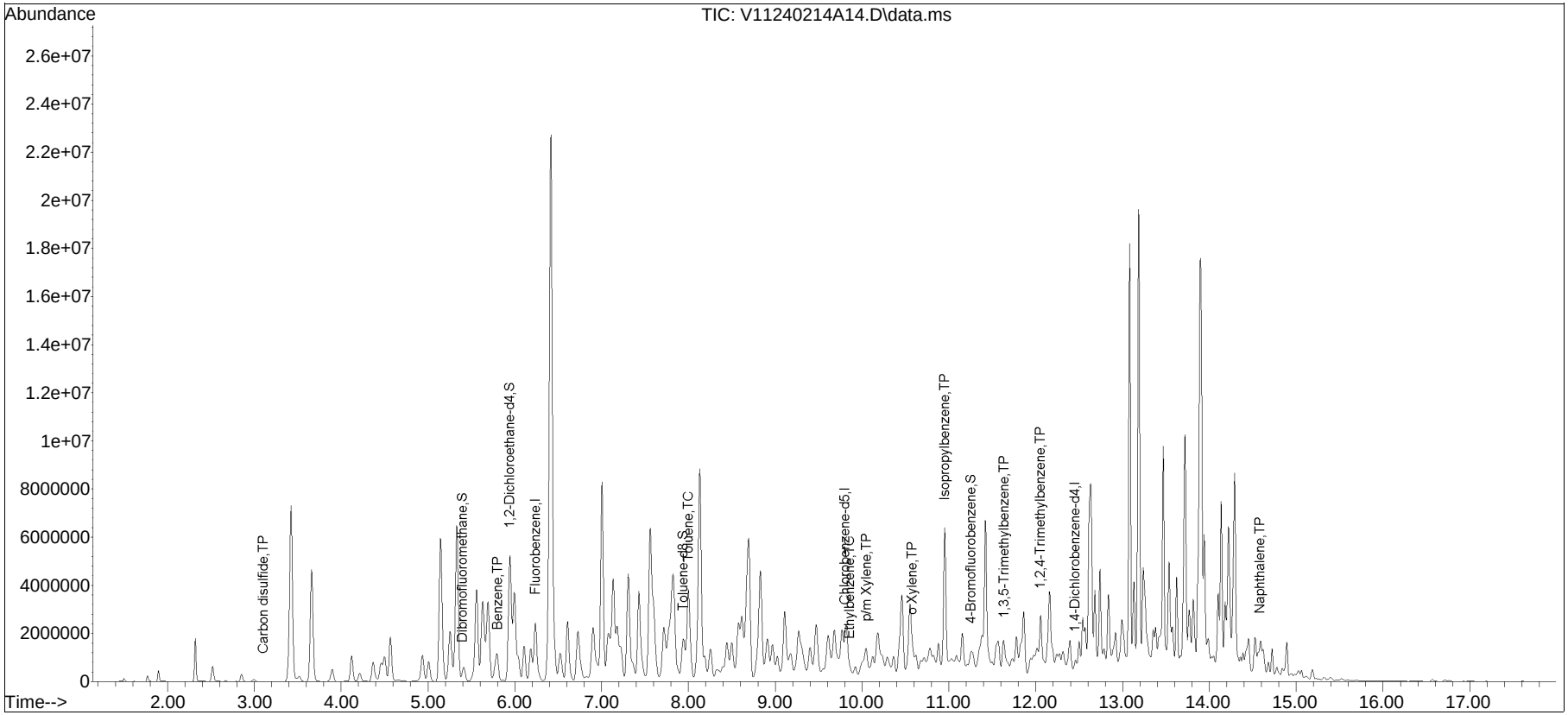


Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2024\02\240214A\
Data File : V11240214A14.D
Acq On : 14 Feb 2024 01:21 pm
Operator : VOA111:SLS
Sample : L2407681-17,31H,4.10,5,0.100,,A
Misc : WG1885534,ICAL20778
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 15 08:26:31 2024
Quant Method : K:\VOA111\2024\02\240214A\V111_240112A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jan 17 09:02:19 2024
Response via : Initial Calibration

Sub List : 8260-PA_ShortList_CS2 - PA Short list+CS21.D•

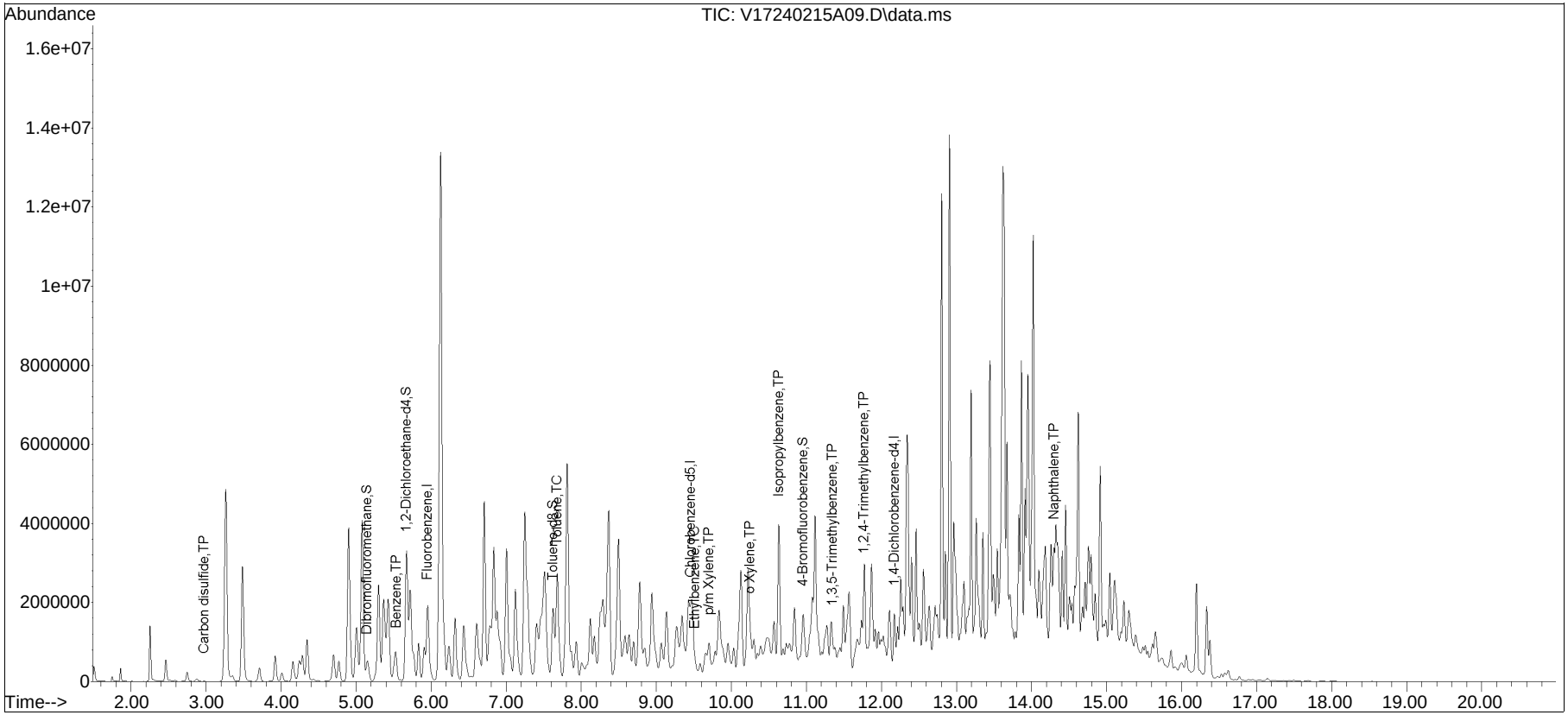


Quantitation Report (QT Reviewed)

Data Path : K:\VOA117\2024\02\240215A\
Data File : V17240215A09.D
Acq On : 15 Feb 2024 11:51 am
Operator : VOA117:MKS
Sample : L2407681-17D,31H,4.10,5,0.02,,A
Misc : WG1885974,ICAL20670
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 15 15:05:14 2024
Quant Method : K:\VOA117\2024\02\240215A\V117_231214N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Dec 15 07:40:27 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList_CS2 - PA Short list+CS21.D•

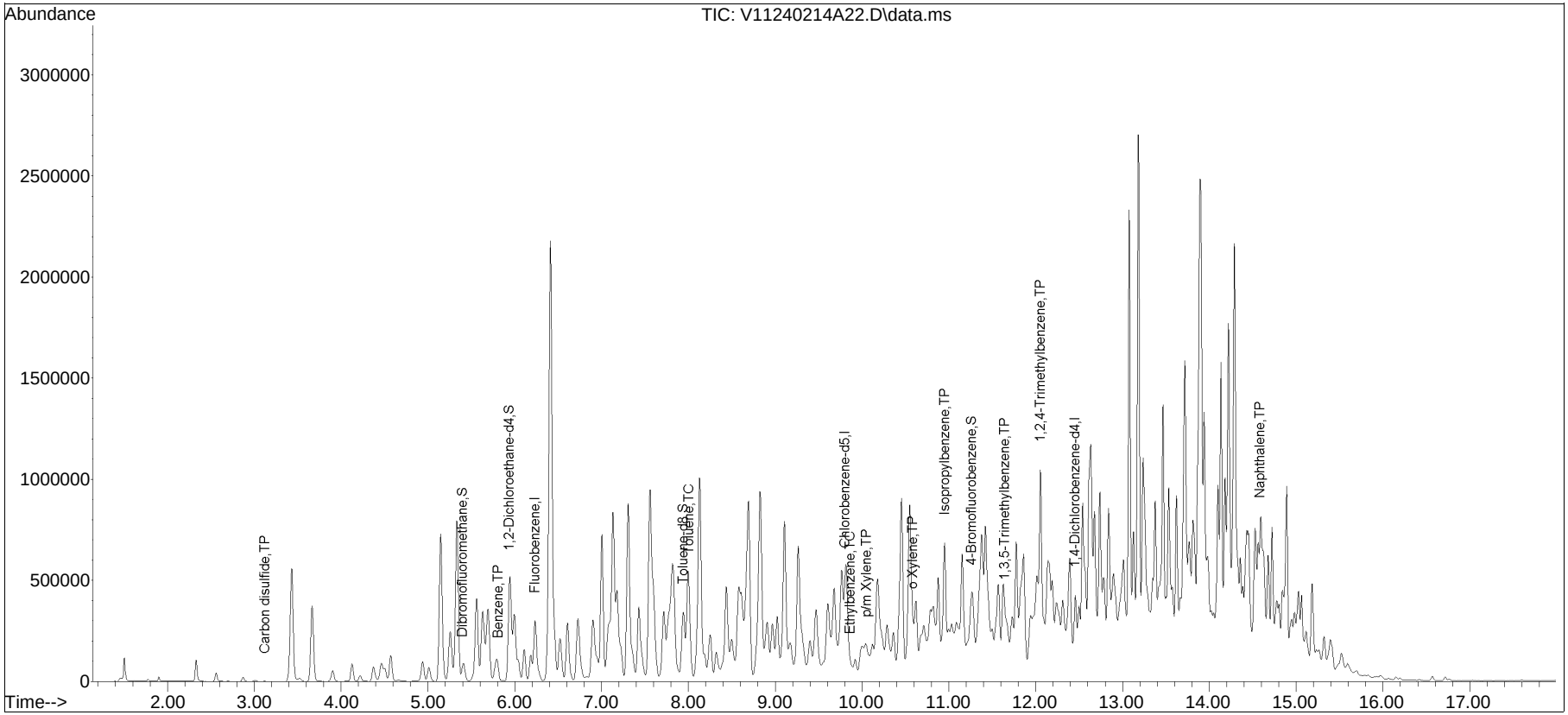


Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2024\02\240214A\
Data File : V11240214A22.D
Acq On : 14 Feb 2024 04:43 pm
Operator : VOA111:SLS
Sample : L2407681-18D,31H,5.01,5,0.01,,A
Misc : WG1885534,ICAL20778
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Feb 15 08:29:42 2024
Quant Method : K:\VOA111\2024\02\240214A\V111_240112A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jan 17 09:02:19 2024
Response via : Initial Calibration

Sub List : 8260-PA_ShortList_CS2 - PA Short list+CS21.D•

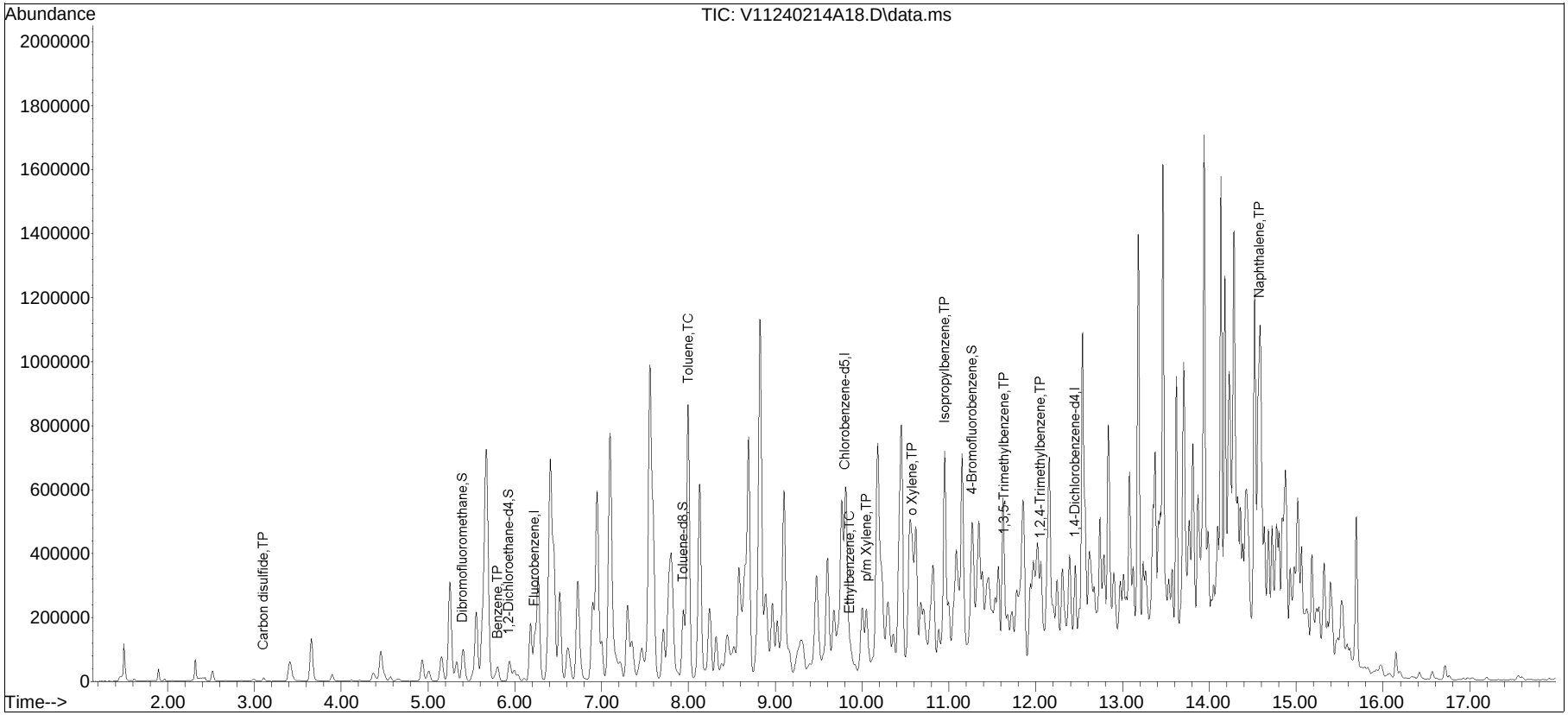


Quantitation Report (QT Reviewed)

Data Path : K:\VOA111\2024\02\240214A\
Data File : V11240214A18.D
Acq On : 14 Feb 2024 03:02 pm
Operator : VOA111:SLS
Sample : L2407681-24,31H,5.00,5,0.100,,A
Misc : WG1885534,ICAL20778
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Feb 14 19:17:56 2024
Quant Method : K:\VOA111\2024\02\240214A\V111_240112A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jan 17 09:02:19 2024
Response via : Initial Calibration

Sub List : 8260-PA_ShortList_CS2 - PA Short list+CS21.D•

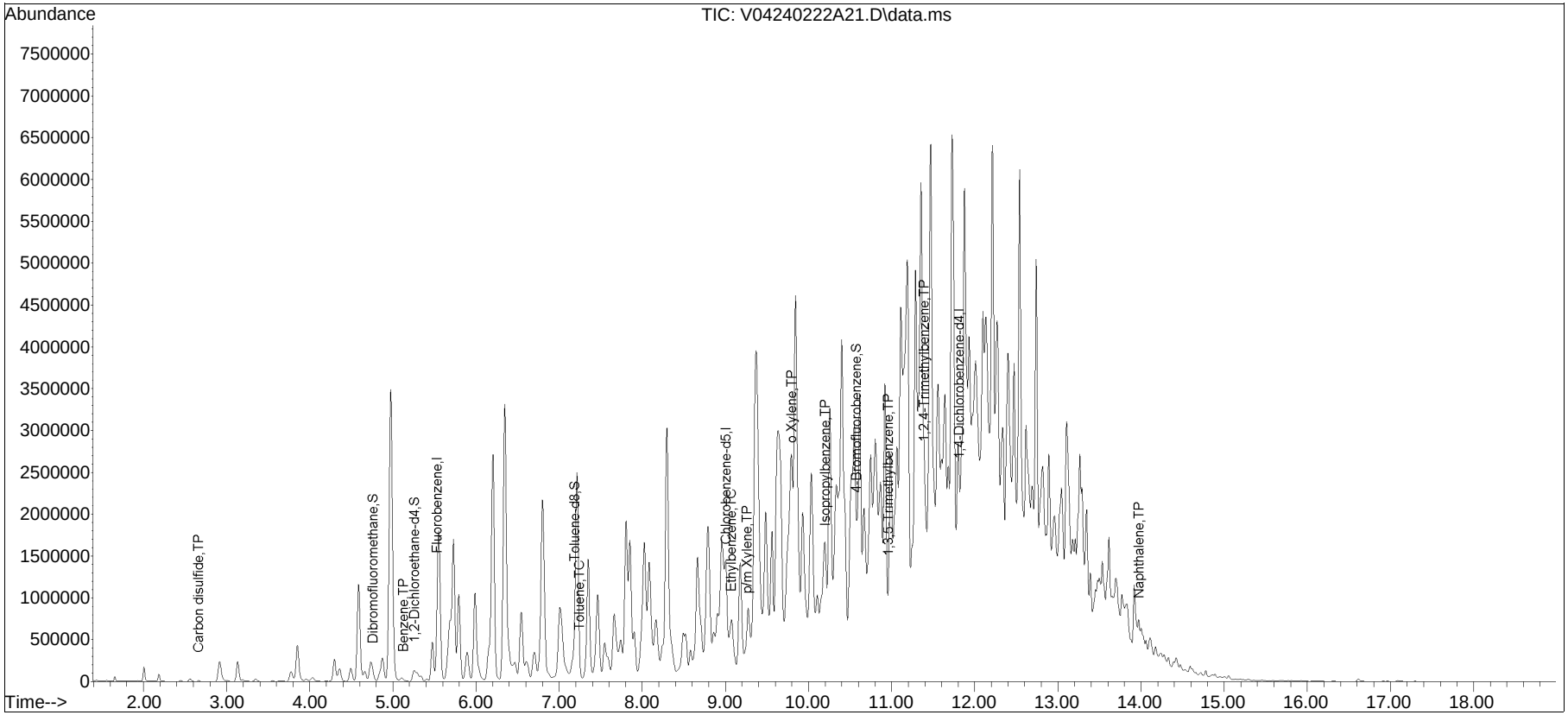


Quantitation Report (QT Reviewed)

Data Path : K:\VOA104\2024\02\240222A\
Data File : V04240222A21.D
Acq On : 22 Feb 2024 4:41 pm
Operator : VOA104:MKS
Sample : l2407681-25,31,4.97,5,,b
Misc : WG1888593,ICAL20679
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Feb 23 13:05:44 2024
Quant Method : K:\VOA104\2024\02\240222A\V104_231215N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Sat Dec 16 09:40:00 2023
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS21.D•

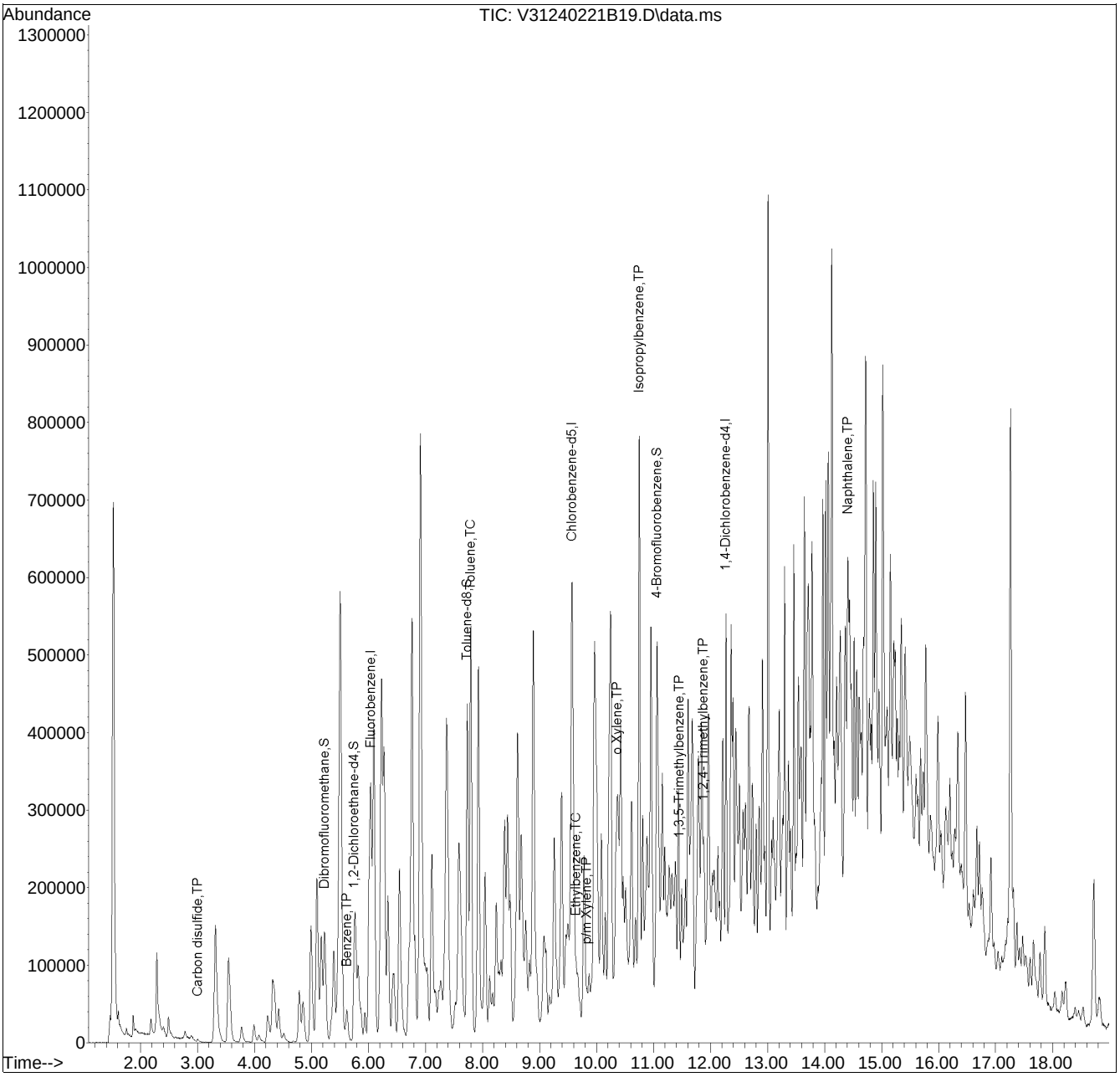


Quantitation Report (QT Reviewed)

Data Path : K:\VOA131\2024\240221B\
Data File : V31240221B19.D
Acq On : 21 Feb 2024 05:24 pm
Operator : VOA131:KJD
Sample : L2407681-26,31,6.09,5,,B
Misc : WG1888118,ICAL20859
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 22 13:41:11 2024
Quant Method : K:\VOA131\2024\240221B\V131_240214N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Feb 15 14:32:02 2024
Response via : Initial Calibration

Sub List : 8260-PA_ShortList_CS2 - PA Short list+CS2•



ANALYTICAL REPORT

March 18, 2024

Revised Report

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Pace Analytical (Alpha) - Westborough,MA

Sample Delivery Group:	L1706140
Samples Received:	02/15/2024
Project Number:	L2407681
Description:	
Report To:	Nadine Yakes 8 Walkup Drive Westborough, MA 01581

Entire Report Reviewed By:

[Preliminary Report]

Haley Torrence
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

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GPSP-25-1.0-1.5 L1706140-01 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 12:30	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227552	1	02/16/24 12:45	02/16/24 12:58	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	5	02/16/24 07:48	02/18/24 00:54	AMS	Mt. Juliet, TN

GPSP-25-4.0-4.5 L1706140-02 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 12:40	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227552	1	02/16/24 12:45	02/16/24 12:58	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	1	02/16/24 07:48	02/17/24 23:50	AMS	Mt. Juliet, TN

GPSP-25-4.5-5.0 L1706140-03 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 12:50	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227552	1	02/16/24 12:45	02/16/24 12:58	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	5	02/16/24 07:48	02/18/24 01:15	AMS	Mt. Juliet, TN

GPSP-26-1.5-2.0 L1706140-07 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 14:05	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	40	02/16/24 07:48	02/18/24 03:23	AMS	Mt. Juliet, TN

GPSP-26-4.5-5.0 L1706140-08 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 14:25	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	10	02/16/24 07:48	02/18/24 03:02	AMS	Mt. Juliet, TN

GPSP-26-4.0-4.5 L1706140-09 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 14:15	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	5	02/16/24 07:48	02/18/24 01:37	AMS	Mt. Juliet, TN

GPSP-27-1.5-2.0 L1706140-10 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 15:10	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	1	02/16/24 07:48	02/18/24 00:32	AMS	Mt. Juliet, TN

GPSP-27-4.0-4.5 L1706140-11 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 15:20	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	200	02/16/24 07:48	02/22/24 06:33	AMS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	40	02/16/24 07:48	02/18/24 04:06	AMS	Mt. Juliet, TN

GPSP-27-4.5-5.0 L1706140-12 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 15:30	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	200	02/16/24 07:48	02/22/24 06:11	AMS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	40	02/16/24 07:48	02/18/24 04:27	AMS	Mt. Juliet, TN

GPSP-MW01-0.5-1.0 L1706140-13 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 15:45	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	40	02/16/24 07:48	02/18/24 04:48	AMS	Mt. Juliet, TN

GPSP-MW01-3.5-4.0 L1706140-14 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 15:55	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	40	02/16/24 07:48	02/18/24 03:45	AMS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	400	02/16/24 07:48	02/22/24 06:54	AMS	Mt. Juliet, TN

GPSP-MW01-4.5-5.0 L1706140-15 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 16:05	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2227580	40	02/16/24 07:48	02/18/24 05:09	AMS	Mt. Juliet, TN

GPSP-24-6.5-7.0 L1706140-23 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 12:05	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2228257	20	02/18/24 13:47	02/20/24 04:43	AMS	Mt. Juliet, TN

GPSP-24-6.0-6.5 L1706140-24 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 11:55	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227589	1	02/16/24 16:10	02/16/24 16:21	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2228257	20	02/18/24 13:47	02/21/24 11:12	AMS	Mt. Juliet, TN

GPSP-24-1.5-2.0 L1706140-25 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 11:45	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227589	1	02/16/24 16:10	02/16/24 16:21	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2228257	10	02/18/24 13:47	02/20/24 03:41	AMS	Mt. Juliet, TN

GPSP-27-4.0-4.5DUP L1706140-28 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 16:15	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227589	1	02/16/24 16:10	02/16/24 16:21	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2228257	20	02/18/24 13:47	02/21/24 10:50	AMS	Mt. Juliet, TN

FB-240209 L1706140-29 GW

Collected by	Collected date/time	Received date/time
	02/09/24 16:25	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2228474	1	02/17/24 15:14	02/18/24 13:00	AMS	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

[Preliminary Report]

Haley Torrence
Project Manager

Report Revision History

Level II Report - Version 1: 02/23/24 10:59
Level II Report - Version 2: 03/04/24 11:10
Level II Report - Version 3: 03/04/24 15:50
Level II Report - Version 4: 03/05/24 09:22
Level II Report - Version 5: 03/08/24 10:00
Level II Report - Version 6: 03/18/24 09:18

Project Narrative

L1706140-29 Pyridine and Benzidine are reporting with critically low recovery in the laboratory control samples. These compounds are a method defined poor performer. Results are estimated.

Sample Delivery Group (SDG) Narrative

An aliquot for analysis was taken from the original container received due to volume requirements of the laboratory's procedure. Rinsing of the original sample container for inclusion in the sample extraction was not performed.

Lab Sample ID	Project Sample ID	Method
L1706140-29	FB-240209	8270C

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	76.2		1	02/16/2024 12:58	WG2227552

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.0705	J	0.0353	0.219	5	02/18/2024 00:54	WG2227580
Anthracene	0.226		0.0390	0.219	5	02/18/2024 00:54	WG2227580
Benzo(a)anthracene	1.65		0.0385	0.219	5	02/18/2024 00:54	WG2227580
Benzo(b)fluoranthene	2.34		0.0408	0.219	5	02/18/2024 00:54	WG2227580
Benzo(k)fluoranthene	0.841		0.0388	0.219	5	02/18/2024 00:54	WG2227580
Benzo(g,h,i)perylene	0.818		0.0400	0.219	5	02/18/2024 00:54	WG2227580
Benzo(a)pyrene	1.85		0.0406	0.219	5	02/18/2024 00:54	WG2227580
Chrysene	1.25		0.0434	0.219	5	02/18/2024 00:54	WG2227580
Dibenz(a,h)anthracene	0.281		0.0606	0.219	5	02/18/2024 00:54	WG2227580
Fluorene	0.101	J	0.0356	0.219	5	02/18/2024 00:54	WG2227580
Indeno(1,2,3-cd)pyrene	1.08		0.0618	0.219	5	02/18/2024 00:54	WG2227580
Naphthalene	0.247		0.0549	0.219	5	02/18/2024 00:54	WG2227580
Phenanthrene	0.480		0.0434	0.219	5	02/18/2024 00:54	WG2227580
Bis(2-ethylhexyl)phthalate	U		0.277	2.19	5	02/18/2024 00:54	WG2227580
Di-n-butyl phthalate	U		0.0748	2.19	5	02/18/2024 00:54	WG2227580
Pyrene	1.57		0.0425	0.219	5	02/18/2024 00:54	WG2227580
2,4-Dimethylphenol	U		0.0571	2.19	5	02/18/2024 00:54	WG2227580
Phenol	U		0.0879	2.19	5	02/18/2024 00:54	WG2227580
2-Methylphenol	U		0.0656	2.19	5	02/18/2024 00:54	WG2227580
3&4-Methyl Phenol	0.0795	J	0.0682	2.19	5	02/18/2024 00:54	WG2227580
(S) 2-Fluorophenol	*67.1*			*12.0-120*		*02/18/2024 00:54*	WG2227580
(S) Phenol-d5	*65.4*			*10.0-120*		*02/18/2024 00:54*	WG2227580
(S) Nitrobenzene-d5	*70.4*			*10.0-122*		*02/18/2024 00:54*	WG2227580
(S) 2-Fluorobiphenyl	*63.0*			*15.0-120*		*02/18/2024 00:54*	WG2227580
(S) 2,4,6-Tribromophenol	*67.4*			*10.0-127*		*02/18/2024 00:54*	WG2227580
(S) p-Terphenyl-d14	*71.0*			*10.0-120*		*02/18/2024 00:54*	WG2227580

Sample Narrative:

L1706140-01 WG2227580: Dilution due to matrix.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.0		1	02/16/2024 12:58	WG2227552

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.441		0.00649	0.0401	1	02/17/2024 23:50	WG2227580
Anthracene	0.201		0.00714	0.0401	1	02/17/2024 23:50	WG2227580
Benzo(a)anthracene	0.294		0.00707	0.0401	1	02/17/2024 23:50	WG2227580
Benzo(b)fluoranthene	0.332		0.00748	0.0401	1	02/17/2024 23:50	WG2227580
Benzo(k)fluoranthene	0.115		0.00713	0.0401	1	02/17/2024 23:50	WG2227580
Benzo(g,h,i)perylene	0.126		0.00734	0.0401	1	02/17/2024 23:50	WG2227580
Benzo(a)pyrene	0.263		0.00746	0.0401	1	02/17/2024 23:50	WG2227580
Chrysene	0.235		0.00797	0.0401	1	02/17/2024 23:50	WG2227580
Dibenz(a,h)anthracene	0.0436		0.0111	0.0401	1	02/17/2024 23:50	WG2227580
Fluorene	0.734		0.00653	0.0401	1	02/17/2024 23:50	WG2227580
Indeno(1,2,3-cd)pyrene	0.153		0.0113	0.0401	1	02/17/2024 23:50	WG2227580
Naphthalene	0.324		0.0101	0.0401	1	02/17/2024 23:50	WG2227580
Phenanthrene	1.54		0.00796	0.0401	1	02/17/2024 23:50	WG2227580
Bis(2-ethylhexyl)phthalate	U		0.0508	0.401	1	02/17/2024 23:50	WG2227580
Di-n-butyl phthalate	U		0.0137	0.401	1	02/17/2024 23:50	WG2227580
Pyrene	0.424		0.00781	0.0401	1	02/17/2024 23:50	WG2227580
2,4-Dimethylphenol	U		0.0105	0.401	1	02/17/2024 23:50	WG2227580
Phenol	U		0.0161	0.401	1	02/17/2024 23:50	WG2227580
2-Methylphenol	U		0.0120	0.401	1	02/17/2024 23:50	WG2227580
3&4-Methyl Phenol	U		0.0125	0.401	1	02/17/2024 23:50	WG2227580
(S) 2-Fluorophenol	*107*			*12.0-120*		*02/17/2024 23:50*	WG2227580
(S) Phenol-d5	*107*			*10.0-120*		*02/17/2024 23:50*	WG2227580
(S) Nitrobenzene-d5	*0.000*	J2		*10.0-122*		*02/17/2024 23:50*	WG2227580
(S) 2-Fluorobiphenyl	*64.2*			*15.0-120*		*02/17/2024 23:50*	WG2227580
(S) 2,4,6-Tribromophenol	*72.6*			*10.0-127*		*02/17/2024 23:50*	WG2227580
(S) p-Terphenyl-d14	*70.9*			*10.0-120*		*02/17/2024 23:50*	WG2227580

Sample Narrative:

L1706140-02 WG2227580: Surrogate failure due to matrix interference

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.0		1	02/16/2024 12:58	WG2227552

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.449		0.0313	0.194	5	02/18/2024 01:15	WG2227580
Anthracene	0.286		0.0346	0.194	5	02/18/2024 01:15	WG2227580
Benzo(a)anthracene	0.619		0.0341	0.194	5	02/18/2024 01:15	WG2227580
Benzo(b)fluoranthene	0.781		0.0362	0.194	5	02/18/2024 01:15	WG2227580
Benzo(k)fluoranthene	0.276		0.0344	0.194	5	02/18/2024 01:15	WG2227580
Benzo(g,h,i)perylene	0.284		0.0355	0.194	5	02/18/2024 01:15	WG2227580
Benzo(a)pyrene	0.636		0.0360	0.194	5	02/18/2024 01:15	WG2227580
Chrysene	0.453		0.0385	0.194	5	02/18/2024 01:15	WG2227580
Dibenz(a,h)anthracene	0.0992	J	0.0538	0.194	5	02/18/2024 01:15	WG2227580
Fluorene	0.699		0.0315	0.194	5	02/18/2024 01:15	WG2227580
Indeno(1,2,3-cd)pyrene	0.373		0.0548	0.194	5	02/18/2024 01:15	WG2227580
Naphthalene	0.244		0.0486	0.194	5	02/18/2024 01:15	WG2227580
Phenanthrene	1.73		0.0385	0.194	5	02/18/2024 01:15	WG2227580
Bis(2-ethylhexyl)phthalate	U		0.245	1.94	5	02/18/2024 01:15	WG2227580
Di-n-butyl phthalate	U		0.0663	1.94	5	02/18/2024 01:15	WG2227580
Pyrene	0.848		0.0377	0.194	5	02/18/2024 01:15	WG2227580
2,4-Dimethylphenol	U		0.0506	1.94	5	02/18/2024 01:15	WG2227580
Phenol	U		0.0780	1.94	5	02/18/2024 01:15	WG2227580
2-Methylphenol	U		0.0582	1.94	5	02/18/2024 01:15	WG2227580
3&4-Methyl Phenol	U		0.0605	1.94	5	02/18/2024 01:15	WG2227580
(S) 2-Fluorophenol	*57.7*			*12.0-120*		*02/18/2024 01:15*	WG2227580
(S) Phenol-d5	*60.5*			*10.0-120*		*02/18/2024 01:15*	WG2227580
(S) Nitrobenzene-d5	*328*	J1		*10.0-122*		*02/18/2024 01:15*	WG2227580
(S) 2-Fluorobiphenyl	*46.4*			*15.0-120*		*02/18/2024 01:15*	WG2227580
(S) 2,4,6-Tribromophenol	*51.2*			*10.0-127*		*02/18/2024 01:15*	WG2227580
(S) p-Terphenyl-d14	*53.3*			*10.0-120*		*02/18/2024 01:15*	WG2227580

Sample Narrative:

L1706140-03 WG2227580: Dilution and surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.3		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.497	J	0.239	1.47	40	02/18/2024 03:23	WG2227580
Anthracene	0.351	J	0.262	1.47	40	02/18/2024 03:23	WG2227580
Benzo(a)anthracene	1.34	J	0.260	1.47	40	02/18/2024 03:23	WG2227580
Benzo(b)fluoranthene	1.32	J	0.275	1.47	40	02/18/2024 03:23	WG2227580
Benzo(k)fluoranthene	0.283	J	0.262	1.47	40	02/18/2024 03:23	WG2227580
Benzo(g,h,i)perylene	0.706	J	0.270	1.47	40	02/18/2024 03:23	WG2227580
Benzo(a)pyrene	1.13	J	0.275	1.47	40	02/18/2024 03:23	WG2227580
Chrysene	1.18	J	0.293	1.47	40	02/18/2024 03:23	WG2227580
Dibenz(a,h)anthracene	U		0.409	1.47	40	02/18/2024 03:23	WG2227580
Fluorene	0.696	J	0.240	1.47	40	02/18/2024 03:23	WG2227580
Indeno(1,2,3-cd)pyrene	U		0.416	1.47	40	02/18/2024 03:23	WG2227580
Naphthalene	0.954	J	0.370	1.47	40	02/18/2024 03:23	WG2227580
Phenanthrene	2.11		0.292	1.47	40	02/18/2024 03:23	WG2227580
Bis(2-ethylhexyl)phthalate	U		1.87	14.7	40	02/18/2024 03:23	WG2227580
Di-n-butyl phthalate	U		0.505	14.7	40	02/18/2024 03:23	WG2227580
Pyrene	5.26		0.287	1.47	40	02/18/2024 03:23	WG2227580
2,4-Dimethylphenol	U		0.385	14.7	40	02/18/2024 03:23	WG2227580
Phenol	U		0.593	14.7	40	02/18/2024 03:23	WG2227580
2-Methylphenol	U		0.443	14.7	40	02/18/2024 03:23	WG2227580
3&4-Methyl Phenol	U		0.461	14.7	40	02/18/2024 03:23	WG2227580
(S) 2-Fluorophenol	*81.6*	J7		*12.0-120*		*02/18/2024 03:23*	WG2227580
(S) Phenol-d5	*89.8*	J7		*10.0-120*		*02/18/2024 03:23*	WG2227580
(S) Nitrobenzene-d5	*189*	J7		*10.0-122*		*02/18/2024 03:23*	WG2227580
(S) 2-Fluorobiphenyl	*79.6*	J7		*15.0-120*		*02/18/2024 03:23*	WG2227580
(S) 2,4,6-Tribromophenol	*61.9*	J7		*10.0-127*		*02/18/2024 03:23*	WG2227580
(S) p-Terphenyl-d14	*90.7*	J7		*10.0-120*		*02/18/2024 03:23*	WG2227580

Sample Narrative:

L1706140-07 WG2227580: Dilution and surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	79.9		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	5.50		0.0675	0.417	10	02/18/2024 03:02	WG2227580
Anthracene	2.02		0.0742	0.417	10	02/18/2024 03:02	WG2227580
Benzo(a)anthracene	2.52		0.0735	0.417	10	02/18/2024 03:02	WG2227580
Benzo(b)fluoranthene	1.33		0.0778	0.417	10	02/18/2024 03:02	WG2227580
Benzo(k)fluoranthene	0.426		0.0741	0.417	10	02/18/2024 03:02	WG2227580
Benzo(g,h,i)perylene	0.327	J	0.0763	0.417	10	02/18/2024 03:02	WG2227580
Benzo(a)pyrene	1.44		0.0775	0.417	10	02/18/2024 03:02	WG2227580
Chrysene	2.19		0.0829	0.417	10	02/18/2024 03:02	WG2227580
Dibenz(a,h)anthracene	0.173	J	0.116	0.417	10	02/18/2024 03:02	WG2227580
Fluorene	12.6		0.0679	0.417	10	02/18/2024 03:02	WG2227580
Indeno(1,2,3-cd)pyrene	0.279	J	0.118	0.417	10	02/18/2024 03:02	WG2227580
Naphthalene	2.48		0.105	0.417	10	02/18/2024 03:02	WG2227580
Phenanthrene	20.3		0.0828	0.417	10	02/18/2024 03:02	WG2227580
Bis(2-ethylhexyl)phthalate	U		0.528	4.17	10	02/18/2024 03:02	WG2227580
Di-n-butyl phthalate	U		0.143	4.17	10	02/18/2024 03:02	WG2227580
Pyrene	6.69		0.0811	0.417	10	02/18/2024 03:02	WG2227580
2,4-Dimethylphenol	U		0.109	4.17	10	02/18/2024 03:02	WG2227580
Phenol	0.222	J	0.168	4.17	10	02/18/2024 03:02	WG2227580
2-Methylphenol	U		0.125	4.17	10	02/18/2024 03:02	WG2227580
3&4-Methyl Phenol	U		0.130	4.17	10	02/18/2024 03:02	WG2227580
(S) 2-Fluorophenol	*76.5*			*12.0-120*		*02/18/2024 03:02*	WG2227580
(S) Phenol-d5	*0.000*	J2		*10.0-120*		*02/18/2024 03:02*	WG2227580
(S) Nitrobenzene-d5	*0.000*	J2		*10.0-122*		*02/18/2024 03:02*	WG2227580
(S) 2-Fluorobiphenyl	*57.3*			*15.0-120*		*02/18/2024 03:02*	WG2227580
(S) 2,4,6-Tribromophenol	*54.9*			*10.0-127*		*02/18/2024 03:02*	WG2227580
(S) p-Terphenyl-d14	*64.9*			*10.0-120*		*02/18/2024 03:02*	WG2227580

Sample Narrative:

L1706140-08 WG2227580: Dilution and surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.3		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	2.26		0.0305	0.189	5	02/18/2024 01:37	WG2227580
Anthracene	0.720		0.0336	0.189	5	02/18/2024 01:37	WG2227580
Benzo(a)anthracene	0.970		0.0332	0.189	5	02/18/2024 01:37	WG2227580
Benzo(b)fluoranthene	0.644		0.0352	0.189	5	02/18/2024 01:37	WG2227580
Benzo(k)fluoranthene	0.211		0.0335	0.189	5	02/18/2024 01:37	WG2227580
Benzo(g,h,i)perylene	0.192		0.0345	0.189	5	02/18/2024 01:37	WG2227580
Benzo(a)pyrene	0.571		0.0350	0.189	5	02/18/2024 01:37	WG2227580
Chrysene	0.859		0.0375	0.189	5	02/18/2024 01:37	WG2227580
Dibenz(a,h)anthracene	0.0755	J	0.0523	0.189	5	02/18/2024 01:37	WG2227580
Fluorene	4.45		0.0307	0.189	5	02/18/2024 01:37	WG2227580
Indeno(1,2,3-cd)pyrene	0.179	J	0.0533	0.189	5	02/18/2024 01:37	WG2227580
Naphthalene	1.26		0.0473	0.189	5	02/18/2024 01:37	WG2227580
Phenanthrene	7.18		0.0375	0.189	5	02/18/2024 01:37	WG2227580
Bis(2-ethylhexyl)phthalate	U		0.239	1.89	5	02/18/2024 01:37	WG2227580
Di-n-butyl phthalate	U		0.0645	1.89	5	02/18/2024 01:37	WG2227580
Pyrene	2.28		0.0367	0.189	5	02/18/2024 01:37	WG2227580
2,4-Dimethylphenol	U		0.0493	1.89	5	02/18/2024 01:37	WG2227580
Phenol	U		0.0759	1.89	5	02/18/2024 01:37	WG2227580
2-Methylphenol	U		0.0566	1.89	5	02/18/2024 01:37	WG2227580
3&4-Methyl Phenol	U		0.0589	1.89	5	02/18/2024 01:37	WG2227580
(S) 2-Fluorophenol	*83.9*			*12.0-120*		*02/18/2024 01:37*	WG2227580
(S) Phenol-d5	*0.000*	J2		*10.0-120*		*02/18/2024 01:37*	WG2227580
(S) Nitrobenzene-d5	*0.000*	J2		*10.0-122*		*02/18/2024 01:37*	WG2227580
(S) 2-Fluorobiphenyl	*58.1*			*15.0-120*		*02/18/2024 01:37*	WG2227580
(S) 2,4,6-Tribromophenol	*25.7*			*10.0-127*		*02/18/2024 01:37*	WG2227580
(S) p-Terphenyl-d14	*62.9*			*10.0-120*		*02/18/2024 01:37*	WG2227580

Sample Narrative:

L1706140-09 WG2227580: Dilution and surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	84.3		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.161		0.00639	0.0395	1	02/18/2024 00:32	WG2227580
Anthracene	0.292		0.00703	0.0395	1	02/18/2024 00:32	WG2227580
Benzo(a)anthracene	0.739		0.00696	0.0395	1	02/18/2024 00:32	WG2227580
Benzo(b)fluoranthene	0.963		0.00736	0.0395	1	02/18/2024 00:32	WG2227580
Benzo(k)fluoranthene	0.293		0.00702	0.0395	1	02/18/2024 00:32	WG2227580
Benzo(g,h,i)perylene	0.270		0.00722	0.0395	1	02/18/2024 00:32	WG2227580
Benzo(a)pyrene	0.729		0.00734	0.0395	1	02/18/2024 00:32	WG2227580
Chrysene	0.594		0.00785	0.0395	1	02/18/2024 00:32	WG2227580
Dibenz(a,h)anthracene	0.0825		0.0109	0.0395	1	02/18/2024 00:32	WG2227580
Fluorene	0.107		0.00643	0.0395	1	02/18/2024 00:32	WG2227580
Indeno(1,2,3-cd)pyrene	0.358		0.0112	0.0395	1	02/18/2024 00:32	WG2227580
Naphthalene	0.120		0.00991	0.0395	1	02/18/2024 00:32	WG2227580
Phenanthrene	0.592		0.00784	0.0395	1	02/18/2024 00:32	WG2227580
Bis(2-ethylhexyl)phthalate	U		0.0500	0.395	1	02/18/2024 00:32	WG2227580
Di-n-butyl phthalate	U		0.0135	0.395	1	02/18/2024 00:32	WG2227580
Pyrene	1.45		0.00768	0.0395	1	02/18/2024 00:32	WG2227580
2,4-Dimethylphenol	U		0.0103	0.395	1	02/18/2024 00:32	WG2227580
Phenol	0.0167	J	0.0159	0.395	1	02/18/2024 00:32	WG2227580
2-Methylphenol	U		0.0119	0.395	1	02/18/2024 00:32	WG2227580
3&4-Methyl Phenol	0.0173	J	0.0123	0.395	1	02/18/2024 00:32	WG2227580
(S) 2-Fluorophenol	*76.7*			*12.0-120*		*02/18/2024 00:32*	WG2227580
(S) Phenol-d5	*72.7*			*10.0-120*		*02/18/2024 00:32*	WG2227580
(S) Nitrobenzene-d5	*74.5*			*10.0-122*		*02/18/2024 00:32*	WG2227580
(S) 2-Fluorobiphenyl	*69.3*			*15.0-120*		*02/18/2024 00:32*	WG2227580
(S) 2,4,6-Tribromophenol	*78.1*			*10.0-127*		*02/18/2024 00:32*	WG2227580
(S) p-Terphenyl-d14	*73.3*			*10.0-120*		*02/18/2024 00:32*	WG2227580

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.5		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	15.7		0.250	1.54	40	02/18/2024 04:06	WG2227580
Anthracene	16.9		0.274	1.54	40	02/18/2024 04:06	WG2227580
Benzo(a)anthracene	23.1		0.272	1.54	40	02/18/2024 04:06	WG2227580
Benzo(b)fluoranthene	25.6		0.287	1.54	40	02/18/2024 04:06	WG2227580
Benzo(k)fluoranthene	8.48		0.274	1.54	40	02/18/2024 04:06	WG2227580
Benzo(g,h,i)perylene	7.68		0.282	1.54	40	02/18/2024 04:06	WG2227580
Benzo(a)pyrene	20.5		0.287	1.54	40	02/18/2024 04:06	WG2227580
Chrysene	20.0		0.306	1.54	40	02/18/2024 04:06	WG2227580
Dibenz(a,h)anthracene	2.16		0.427	1.54	40	02/18/2024 04:06	WG2227580
Fluorene	21.5		0.251	1.54	40	02/18/2024 04:06	WG2227580
Indeno(1,2,3-cd)pyrene	10.2		0.435	1.54	40	02/18/2024 04:06	WG2227580
Naphthalene	51.2		0.386	1.54	40	02/18/2024 04:06	WG2227580
Phenanthrene	95.8		1.53	7.70	200	02/22/2024 06:33	WG2227580
Bis(2-ethylhexyl)phthalate	U		1.95	15.4	40	02/18/2024 04:06	WG2227580
Di-n-butyl phthalate	U		0.527	15.4	40	02/18/2024 04:06	WG2227580
Pyrene	48.5		0.300	1.54	40	02/18/2024 04:06	WG2227580
2,4-Dimethylphenol	U		0.402	15.4	40	02/18/2024 04:06	WG2227580
Phenol	U		0.620	15.4	40	02/18/2024 04:06	WG2227580
2-Methylphenol	U		0.463	15.4	40	02/18/2024 04:06	WG2227580
3&4-Methyl Phenol	U		0.481	15.4	40	02/18/2024 04:06	WG2227580
(S) 2-Fluorophenol	*0.000*	J7		*12.0-120*		*02/22/2024 06:33*	WG2227580
(S) 2-Fluorophenol	*80.1*	J7		*12.0-120*		*02/18/2024 04:06*	WG2227580
(S) Phenol-d5	*78.4*	J7		*10.0-120*		*02/18/2024 04:06*	WG2227580
(S) Phenol-d5	*0.000*	J7		*10.0-120*		*02/22/2024 06:33*	WG2227580
(S) Nitrobenzene-d5	*0.000*	J7		*10.0-122*		*02/22/2024 06:33*	WG2227580
(S) Nitrobenzene-d5	*0.000*	J7		*10.0-122*		*02/18/2024 04:06*	WG2227580
(S) 2-Fluorobiphenyl	*78.9*	J7		*15.0-120*		*02/18/2024 04:06*	WG2227580
(S) 2-Fluorobiphenyl	*0.000*	J7		*15.0-120*		*02/22/2024 06:33*	WG2227580
(S) 2,4,6-Tribromophenol	*0.000*	J7		*10.0-127*		*02/22/2024 06:33*	WG2227580
(S) 2,4,6-Tribromophenol	*41.0*	J7		*10.0-127*		*02/18/2024 04:06*	WG2227580
(S) p-Terphenyl-d14	*98.1*	J7		*10.0-120*		*02/18/2024 04:06*	WG2227580
(S) p-Terphenyl-d14	*0.000*	J7		*10.0-120*		*02/22/2024 06:33*	WG2227580

Sample Narrative:

L1706140-11 WG2227580: Dilution and surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.1		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	27.5		0.254	1.56	40	02/18/2024 04:27	WG2227580
Anthracene	29.4		0.279	1.56	40	02/18/2024 04:27	WG2227580
Benzo(a)anthracene	30.0		0.276	1.56	40	02/18/2024 04:27	WG2227580
Benzo(b)fluoranthene	30.6		0.292	1.56	40	02/18/2024 04:27	WG2227580
Benzo(k)fluoranthene	10.3		0.279	1.56	40	02/18/2024 04:27	WG2227580
Benzo(g,h,i)perylene	7.84		0.287	1.56	40	02/18/2024 04:27	WG2227580
Benzo(a)pyrene	24.9		0.292	1.56	40	02/18/2024 04:27	WG2227580
Chrysene	23.2		0.312	1.56	40	02/18/2024 04:27	WG2227580
Dibenz(a,h)anthracene	2.32		0.434	1.56	40	02/18/2024 04:27	WG2227580
Fluorene	40.2		0.255	1.56	40	02/18/2024 04:27	WG2227580
Indeno(1,2,3-cd)pyrene	10.3		0.442	1.56	40	02/18/2024 04:27	WG2227580
Naphthalene	61.1		0.393	1.56	40	02/18/2024 04:27	WG2227580
Phenanthrene	132		1.55	7.83	200	02/22/2024 06:11	WG2227580
Bis(2-ethylhexyl)phthalate	U		1.99	15.6	40	02/18/2024 04:27	WG2227580
Di-n-butyl phthalate	U		0.536	15.6	40	02/18/2024 04:27	WG2227580
Pyrene	69.0		0.304	1.56	40	02/18/2024 04:27	WG2227580
2,4-Dimethylphenol	U		0.409	15.6	40	02/18/2024 04:27	WG2227580
Phenol	0.796	J	0.630	15.6	40	02/18/2024 04:27	WG2227580
2-Methylphenol	U		0.470	15.6	40	02/18/2024 04:27	WG2227580
3&4-Methyl Phenol	0.630	J	0.489	15.6	40	02/18/2024 04:27	WG2227580
(S) 2-Fluorophenol	*90.0*	J7		*12.0-120*		*02/18/2024 04:27*	WG2227580
(S) 2-Fluorophenol	*0.000*	J7		*12.0-120*		*02/22/2024 06:11*	WG2227580
(S) Phenol-d5	*0.000*	J7		*10.0-120*		*02/22/2024 06:11*	WG2227580
(S) Phenol-d5	*90.6*	J7		*10.0-120*		*02/18/2024 04:27*	WG2227580
(S) Nitrobenzene-d5	*0.000*	J7		*10.0-122*		*02/18/2024 04:27*	WG2227580
(S) Nitrobenzene-d5	*0.000*	J7		*10.0-122*		*02/22/2024 06:11*	WG2227580
(S) 2-Fluorobiphenyl	*0.000*	J7		*15.0-120*		*02/22/2024 06:11*	WG2227580
(S) 2-Fluorobiphenyl	*88.8*	J7		*15.0-120*		*02/18/2024 04:27*	WG2227580
(S) 2,4,6-Tribromophenol	*47.0*	J7		*10.0-127*		*02/18/2024 04:27*	WG2227580
(S) 2,4,6-Tribromophenol	*0.000*	J7		*10.0-127*		*02/22/2024 06:11*	WG2227580
(S) p-Terphenyl-d14	*0.000*	J7		*10.0-120*		*02/22/2024 06:11*	WG2227580
(S) p-Terphenyl-d14	*114*	J7		*10.0-120*		*02/18/2024 04:27*	WG2227580

Sample Narrative:

L1706140-12 WG2227580: Dilution and surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.6		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	4.38		0.246	1.52	40	02/18/2024 04:48	WG2227580
Anthracene	9.52		0.270	1.52	40	02/18/2024 04:48	WG2227580
Benzo(a)anthracene	26.5		0.268	1.52	40	02/18/2024 04:48	WG2227580
Benzo(b)fluoranthene	33.0		0.283	1.52	40	02/18/2024 04:48	WG2227580
Benzo(k)fluoranthene	11.1		0.270	1.52	40	02/18/2024 04:48	WG2227580
Benzo(g,h,i)perylene	9.72		0.278	1.52	40	02/18/2024 04:48	WG2227580
Benzo(a)pyrene	26.1		0.283	1.52	40	02/18/2024 04:48	WG2227580
Chrysene	25.3		0.302	1.52	40	02/18/2024 04:48	WG2227580
Dibenz(a,h)anthracene	2.76		0.421	1.52	40	02/18/2024 04:48	WG2227580
Fluorene	4.31		0.248	1.52	40	02/18/2024 04:48	WG2227580
Indeno(1,2,3-cd)pyrene	12.8		0.429	1.52	40	02/18/2024 04:48	WG2227580
Naphthalene	1.63		0.381	1.52	40	02/18/2024 04:48	WG2227580
Phenanthrene	32.3		0.301	1.52	40	02/18/2024 04:48	WG2227580
Bis(2-ethylhexyl)phthalate	U		1.93	15.2	40	02/18/2024 04:48	WG2227580
Di-n-butyl phthalate	U		0.520	15.2	40	02/18/2024 04:48	WG2227580
Pyrene	43.2		0.295	1.52	40	02/18/2024 04:48	WG2227580
2,4-Dimethylphenol	U		0.397	15.2	40	02/18/2024 04:48	WG2227580
Phenol	U		0.612	15.2	40	02/18/2024 04:48	WG2227580
2-Methylphenol	U		0.456	15.2	40	02/18/2024 04:48	WG2227580
3&4-Methyl Phenol	U		0.475	15.2	40	02/18/2024 04:48	WG2227580
(S) 2-Fluorophenol	*58.0*	J7		*12.0-120*		*02/18/2024 04:48*	WG2227580
(S) Phenol-d5	*54.9*	J7		*10.0-120*		*02/18/2024 04:48*	WG2227580
(S) Nitrobenzene-d5	*67.9*	J7		*10.0-122*		*02/18/2024 04:48*	WG2227580
(S) 2-Fluorobiphenyl	*59.2*	J7		*15.0-120*		*02/18/2024 04:48*	WG2227580
(S) 2,4,6-Tribromophenol	*54.9*	J7		*10.0-127*		*02/18/2024 04:48*	WG2227580
(S) p-Terphenyl-d14	*81.4*	J7		*10.0-120*		*02/18/2024 04:48*	WG2227580

Sample Narrative:

L1706140-13 WG2227580: Dilution due to matrix.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	75.6		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	76.3		0.286	1.76	40	02/18/2024 03:45	WG2227580
Anthracene	118		3.14	17.6	400	02/22/2024 06:54	WG2227580
Benzo(a)anthracene	155		3.11	17.6	400	02/22/2024 06:54	WG2227580
Benzo(b)fluoranthene	165		3.28	17.6	400	02/22/2024 06:54	WG2227580
Benzo(k)fluoranthene	53.2		0.314	1.76	40	02/18/2024 03:45	WG2227580
Benzo(g,h,i)perylene	43.9		0.323	1.76	40	02/18/2024 03:45	WG2227580
Benzo(a)pyrene	136		3.28	17.6	400	02/22/2024 06:54	WG2227580
Chrysene	125		3.51	17.6	400	02/22/2024 06:54	WG2227580
Dibenz(a,h)anthracene	13.1		0.488	1.76	40	02/18/2024 03:45	WG2227580
Fluorene	111		2.87	17.6	400	02/22/2024 06:54	WG2227580
Indeno(1,2,3-cd)pyrene	59.5		0.497	1.76	40	02/18/2024 03:45	WG2227580
Naphthalene	8.84		0.442	1.76	40	02/18/2024 03:45	WG2227580
Phenanthrene	476		3.49	17.6	400	02/22/2024 06:54	WG2227580
Bis(2-ethylhexyl)phthalate	U		2.24	17.6	40	02/18/2024 03:45	WG2227580
Di-n-butyl phthalate	U		0.603	17.6	40	02/18/2024 03:45	WG2227580
Pyrene	320		3.43	17.6	400	02/22/2024 06:54	WG2227580
2,4-Dimethylphenol	U		0.460	17.6	40	02/18/2024 03:45	WG2227580
Phenol	U		0.709	17.6	40	02/18/2024 03:45	WG2227580
2-Methylphenol	U		0.529	17.6	40	02/18/2024 03:45	WG2227580
3&4-Methyl Phenol	U		0.550	17.6	40	02/18/2024 03:45	WG2227580
(S) 2-Fluorophenol	*65.2*	J7		*12.0-120*		*02/18/2024 03:45*	WG2227580
(S) 2-Fluorophenol	*0.000*	J7		*12.0-120*		*02/22/2024 06:54*	WG2227580
(S) Phenol-d5	*0.000*	J7		*10.0-120*		*02/22/2024 06:54*	WG2227580
(S) Phenol-d5	*84.1*	J7		*10.0-120*		*02/18/2024 03:45*	WG2227580
(S) Nitrobenzene-d5	*94.2*	J7		*10.0-122*		*02/18/2024 03:45*	WG2227580
(S) Nitrobenzene-d5	*0.000*	J7		*10.0-122*		*02/22/2024 06:54*	WG2227580
(S) 2-Fluorobiphenyl	*76.2*	J7		*15.0-120*		*02/18/2024 03:45*	WG2227580
(S) 2-Fluorobiphenyl	*0.000*	J7		*15.0-120*		*02/22/2024 06:54*	WG2227580
(S) 2,4,6-Tribromophenol	*53.2*	J7		*10.0-127*		*02/18/2024 03:45*	WG2227580
(S) 2,4,6-Tribromophenol	*0.000*	J7		*10.0-127*		*02/22/2024 06:54*	WG2227580
(S) p-Terphenyl-d14	*109*	J7		*10.0-120*		*02/18/2024 03:45*	WG2227580
(S) p-Terphenyl-d14	*0.000*	J7		*10.0-120*		*02/22/2024 06:54*	WG2227580

Sample Narrative:

L1706140-14 WG2227580: Dilution and surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	78.2		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	16.4		0.276	1.70	40	02/18/2024 05:09	WG2227580
Anthracene	13.9		0.303	1.70	40	02/18/2024 05:09	WG2227580
Benzo(a)anthracene	11.5		0.300	1.70	40	02/18/2024 05:09	WG2227580
Benzo(b)fluoranthene	9.36		0.317	1.70	40	02/18/2024 05:09	WG2227580
Benzo(k)fluoranthene	3.13		0.303	1.70	40	02/18/2024 05:09	WG2227580
Benzo(g,h,i)perylene	2.24		0.312	1.70	40	02/18/2024 05:09	WG2227580
Benzo(a)pyrene	8.13		0.317	1.70	40	02/18/2024 05:09	WG2227580
Chrysene	8.58		0.339	1.70	40	02/18/2024 05:09	WG2227580
Dibenz(a,h)anthracene	0.795	J	0.472	1.70	40	02/18/2024 05:09	WG2227580
Fluorene	16.6		0.277	1.70	40	02/18/2024 05:09	WG2227580
Indeno(1,2,3-cd)pyrene	2.74		0.481	1.70	40	02/18/2024 05:09	WG2227580
Naphthalene	2.24		0.427	1.70	40	02/18/2024 05:09	WG2227580
Phenanthrene	4.12		0.337	1.70	40	02/18/2024 05:09	WG2227580
Bis(2-ethylhexyl)phthalate	U		2.16	17.0	40	02/18/2024 05:09	WG2227580
Di-n-butyl phthalate	U		0.583	17.0	40	02/18/2024 05:09	WG2227580
Pyrene	30.2		0.331	1.70	40	02/18/2024 05:09	WG2227580
2,4-Dimethylphenol	U		0.445	17.0	40	02/18/2024 05:09	WG2227580
Phenol	1.30	J	0.685	17.0	40	02/18/2024 05:09	WG2227580
2-Methylphenol	0.684	J	0.511	17.0	40	02/18/2024 05:09	WG2227580
3&4-Methyl Phenol	0.712	J	0.532	17.0	40	02/18/2024 05:09	WG2227580
(S) 2-Fluorophenol	*68.9*	J7		*12.0-120*		*02/18/2024 05:09*	WG2227580
(S) Phenol-d5	*81.7*	J7		*10.0-120*		*02/18/2024 05:09*	WG2227580
(S) Nitrobenzene-d5	*99.4*	J7		*10.0-122*		*02/18/2024 05:09*	WG2227580
(S) 2-Fluorobiphenyl	*72.6*	J7		*15.0-120*		*02/18/2024 05:09*	WG2227580
(S) 2,4,6-Tribromophenol	*52.9*	J7		*10.0-127*		*02/18/2024 05:09*	WG2227580
(S) p-Terphenyl-d14	*80.3*	J7		*10.0-120*		*02/18/2024 05:09*	WG2227580

Sample Narrative:

L1706140-15 WG2227580: Dilution due to matrix.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	73.8		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.242	J	0.146	0.902	20	02/20/2024 04:43	WG2228257
Anthracene	0.341	J	0.161	0.902	20	02/20/2024 04:43	WG2228257
Benzo(a)anthracene	0.691	J	0.159	0.902	20	02/20/2024 04:43	WG2228257
Benzo(b)fluoranthene	0.667	J	0.168	0.902	20	02/20/2024 04:43	WG2228257
Benzo(k)fluoranthene	0.224	J	0.160	0.902	20	02/20/2024 04:43	WG2228257
Benzo(g,h,i)perylene	0.485	J J4	0.165	0.902	20	02/20/2024 04:43	WG2228257
Benzo(a)pyrene	0.704	J	0.168	0.902	20	02/20/2024 04:43	WG2228257
Chrysene	0.451	J	0.179	0.902	20	02/20/2024 04:43	WG2228257
Dibenz(a,h)anthracene	U	J4	0.251	0.902	20	02/20/2024 04:43	WG2228257
Fluorene	0.387	J	0.146	0.902	20	02/20/2024 04:43	WG2228257
Indeno(1,2,3-cd)pyrene	0.339	J J4	0.255	0.902	20	02/20/2024 04:43	WG2228257
Naphthalene	2.26		0.226	0.902	20	02/20/2024 04:43	WG2228257
Phenanthrene	1.49		0.179	0.902	20	02/20/2024 04:43	WG2228257
Bis(2-ethylhexyl)phthalate	U		1.14	9.02	20	02/20/2024 04:43	WG2228257
Di-n-butyl phthalate	U		0.309	9.02	20	02/20/2024 04:43	WG2228257
Pyrene	1.45		0.176	0.902	20	02/20/2024 04:43	WG2228257
2,4-Dimethylphenol	U		0.236	9.02	20	02/20/2024 04:43	WG2228257
Phenol	U		0.363	9.02	20	02/20/2024 04:43	WG2228257
2-Methylphenol	U		0.271	9.02	20	02/20/2024 04:43	WG2228257
3&4-Methyl Phenol	U		0.282	9.02	20	02/20/2024 04:43	WG2228257
(S) 2-Fluorophenol	*48.0*	J7		*12.0-120*		*02/20/2024 04:43*	WG2228257
(S) Phenol-d5	*30.8*	J7		*10.0-120*		*02/20/2024 04:43*	WG2228257
(S) Nitrobenzene-d5	*0.000*	J7		*10.0-122*		*02/20/2024 04:43*	WG2228257
(S) 2-Fluorobiphenyl	*37.5*	J7		*15.0-120*		*02/20/2024 04:43*	WG2228257
(S) 2,4,6-Tribromophenol	*40.1*	J7		*10.0-127*		*02/20/2024 04:43*	WG2228257
(S) p-Terphenyl-d14	*41.2*	J7		*10.0-120*		*02/20/2024 04:43*	WG2228257

Sample Narrative:

L1706140-23 WG2228257: Dilution and surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	72.9		1	02/16/2024 16:21	WG2227589

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.148	0.914	20	02/21/2024 11:12	WG2228257
Anthracene	0.413	J	0.163	0.914	20	02/21/2024 11:12	WG2228257
Benzo(a)anthracene	0.593	J	0.161	0.914	20	02/21/2024 11:12	WG2228257
Benzo(b)fluoranthene	0.675	J	0.170	0.914	20	02/21/2024 11:12	WG2228257
Benzo(k)fluoranthene	0.268	J	0.162	0.914	20	02/21/2024 11:12	WG2228257
Benzo(g,h,i)perylene	U	J4	0.167	0.914	20	02/21/2024 11:12	WG2228257
Benzo(a)pyrene	0.430	J	0.170	0.914	20	02/21/2024 11:12	WG2228257
Chrysene	0.456	J	0.181	0.914	20	02/21/2024 11:12	WG2228257
Dibenz(a,h)anthracene	U	J4	0.254	0.914	20	02/21/2024 11:12	WG2228257
Fluorene	0.303	J	0.148	0.914	20	02/21/2024 11:12	WG2228257
Indeno(1,2,3-cd)pyrene	U	J4	0.258	0.914	20	02/21/2024 11:12	WG2228257
Naphthalene	1.03		0.229	0.914	20	02/21/2024 11:12	WG2228257
Phenanthrene	1.44		0.181	0.914	20	02/21/2024 11:12	WG2228257
Bis(2-ethylhexyl)phthalate	U		1.16	9.14	20	02/21/2024 11:12	WG2228257
Di-n-butyl phthalate	U		0.313	9.14	20	02/21/2024 11:12	WG2228257
Pyrene	1.89		0.178	0.914	20	02/21/2024 11:12	WG2228257
2,4-Dimethylphenol	U		0.239	9.14	20	02/21/2024 11:12	WG2228257
Phenol	U		0.368	9.14	20	02/21/2024 11:12	WG2228257
2-Methylphenol	U		0.274	9.14	20	02/21/2024 11:12	WG2228257
3&4-Methyl Phenol	U		0.285	9.14	20	02/21/2024 11:12	WG2228257
(S) 2-Fluorophenol	*42.8*	J7		*12.0-120*		*02/21/2024 11:12*	WG2228257
(S) Phenol-d5	*41.2*	J7		*10.0-120*		*02/21/2024 11:12*	WG2228257
(S) Nitrobenzene-d5	*0.000*	J7		*10.0-122*		*02/21/2024 11:12*	WG2228257
(S) 2-Fluorobiphenyl	*42.1*	J7		*15.0-120*		*02/21/2024 11:12*	WG2228257
(S) 2,4,6-Tribromophenol	*48.6*	J7		*10.0-127*		*02/21/2024 11:12*	WG2228257
(S) p-Terphenyl-d14	*48.8*	J7		*10.0-120*		*02/21/2024 11:12*	WG2228257

Sample Narrative:

L1706140-24 WG2228257: Dilution and surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	82.5		1	02/16/2024 16:21	WG2227589

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.0653	0.404	10	02/20/2024 03:41	WG2228257
Anthracene	0.125	J	0.0719	0.404	10	02/20/2024 03:41	WG2228257
Benzo(a)anthracene	0.359	J	0.0711	0.404	10	02/20/2024 03:41	WG2228257
Benzo(b)fluoranthene	0.446		0.0753	0.404	10	02/20/2024 03:41	WG2228257
Benzo(k)fluoranthene	0.135	J	0.0718	0.404	10	02/20/2024 03:41	WG2228257
Benzo(g,h,i)perylene	0.324	J J4	0.0738	0.404	10	02/20/2024 03:41	WG2228257
Benzo(a)pyrene	0.325	J	0.0750	0.404	10	02/20/2024 03:41	WG2228257
Chrysene	0.377	J	0.0802	0.404	10	02/20/2024 03:41	WG2228257
Dibenz(a,h)anthracene	U	J4	0.112	0.404	10	02/20/2024 03:41	WG2228257
Fluorene	0.124	J	0.0657	0.404	10	02/20/2024 03:41	WG2228257
Indeno(1,2,3-cd)pyrene	0.316	J J4	0.114	0.404	10	02/20/2024 03:41	WG2228257
Naphthalene	0.280	J	0.101	0.404	10	02/20/2024 03:41	WG2228257
Phenanthrene	0.785		0.0801	0.404	10	02/20/2024 03:41	WG2228257
Bis(2-ethylhexyl)phthalate	U		0.511	4.04	10	02/20/2024 03:41	WG2228257
Di-n-butyl phthalate	U		0.138	4.04	10	02/20/2024 03:41	WG2228257
Pyrene	0.602		0.0785	0.404	10	02/20/2024 03:41	WG2228257
2,4-Dimethylphenol	U		0.105	4.04	10	02/20/2024 03:41	WG2228257
Phenol	U		0.162	4.04	10	02/20/2024 03:41	WG2228257
2-Methylphenol	U		0.121	4.04	10	02/20/2024 03:41	WG2228257
3&4-Methyl Phenol	U		0.126	4.04	10	02/20/2024 03:41	WG2228257
(S) 2-Fluorophenol	*39.4*			*12.0-120*		*02/20/2024 03:41*	WG2228257
(S) Phenol-d5	*38.0*			*10.0-120*		*02/20/2024 03:41*	WG2228257
(S) Nitrobenzene-d5	*45.5*			*10.0-122*		*02/20/2024 03:41*	WG2228257
(S) 2-Fluorobiphenyl	*44.8*			*15.0-120*		*02/20/2024 03:41*	WG2228257
(S) 2,4,6-Tribromophenol	*34.1*			*10.0-127*		*02/20/2024 03:41*	WG2228257
(S) p-Terphenyl-d14	*47.3*			*10.0-120*		*02/20/2024 03:41*	WG2228257

Sample Narrative:

L1706140-25 WG2228257: Dilution and surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.8		1	02/16/2024 16:21	WG2227589

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	5.26		0.126	0.777	20	02/21/2024 10:50	WG2228257
Anthracene	5.62		0.139	0.777	20	02/21/2024 10:50	WG2228257
Benzo(a)anthracene	6.45		0.136	0.777	20	02/21/2024 10:50	WG2228257
Benzo(b)fluoranthene	7.75		0.145	0.777	20	02/21/2024 10:50	WG2228257
Benzo(k)fluoranthene	2.68		0.138	0.777	20	02/21/2024 10:50	WG2228257
Benzo(g,h,i)perylene	1.25	J4	0.142	0.777	20	02/21/2024 10:50	WG2228257
Benzo(a)pyrene	5.39		0.145	0.777	20	02/21/2024 10:50	WG2228257
Chrysene	5.71		0.154	0.777	20	02/21/2024 10:50	WG2228257
Dibenz(a,h)anthracene	0.385	J J4	0.216	0.777	20	02/21/2024 10:50	WG2228257
Fluorene	7.22		0.126	0.777	20	02/21/2024 10:50	WG2228257
Indeno(1,2,3-cd)pyrene	1.64	J4	0.219	0.777	20	02/21/2024 10:50	WG2228257
Naphthalene	19.7		0.195	0.777	20	02/21/2024 10:50	WG2228257
Phenanthrene	25.2		0.154	0.777	20	02/21/2024 10:50	WG2228257
Bis(2-ethylhexyl)phthalate	U		0.984	7.77	20	02/21/2024 10:50	WG2228257
Di-n-butyl phthalate	U		0.266	7.77	20	02/21/2024 10:50	WG2228257
Pyrene	16.0		0.152	0.777	20	02/21/2024 10:50	WG2228257
2,4-Dimethylphenol	U		0.203	7.77	20	02/21/2024 10:50	WG2228257
Phenol	0.391	J	0.313	7.77	20	02/21/2024 10:50	WG2228257
2-Methylphenol	U		0.233	7.77	20	02/21/2024 10:50	WG2228257
3&4-Methyl Phenol	0.377	J	0.243	7.77	20	02/21/2024 10:50	WG2228257
(S) 2-Fluorophenol	*39.8*	J7		*12.0-120*		*02/21/2024 10:50*	WG2228257
(S) Phenol-d5	*38.6*	J7		*10.0-120*		*02/21/2024 10:50*	WG2228257
(S) Nitrobenzene-d5	*45.2*	J7		*10.0-122*		*02/21/2024 10:50*	WG2228257
(S) 2-Fluorobiphenyl	*46.8*	J7		*15.0-120*		*02/21/2024 10:50*	WG2228257
(S) 2,4,6-Tribromophenol	*38.3*	J7		*10.0-127*		*02/21/2024 10:50*	WG2228257
(S) p-Terphenyl-d14	*48.9*	J7		*10.0-120*		*02/21/2024 10:50*	WG2228257

Sample Narrative:

L1706140-28 WG2228257: Dilution and surrogate failure due to matrix interference.

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acenaphthene	U	T8	0.0886	1.00	1	02/18/2024 13:00	WG2228474
Anthracene	U	T8	0.0804	1.00	1	02/18/2024 13:00	WG2228474
Benzo(a)anthracene	U	T8	0.199	1.00	1	02/18/2024 13:00	WG2228474
Benzo(b)fluoranthene	U	T8	0.130	1.00	1	02/18/2024 13:00	WG2228474
Benzo(k)fluoranthene	U	T8	0.120	1.00	1	02/18/2024 13:00	WG2228474
Benzo(g,h,i)perylene	U	T8	0.121	1.00	1	02/18/2024 13:00	WG2228474
Benzo(a)pyrene	U	T8	0.0381	1.00	1	02/18/2024 13:00	WG2228474
Chrysene	U	T8	0.130	1.00	1	02/18/2024 13:00	WG2228474
Dibenz(a,h)anthracene	U	T8	0.0644	1.00	1	02/18/2024 13:00	WG2228474
Fluorene	U	T8	0.0844	1.00	1	02/18/2024 13:00	WG2228474
Indeno(1,2,3-cd)pyrene	U	T8	0.279	1.00	1	02/18/2024 13:00	WG2228474
Naphthalene	U	T8	0.159	1.00	1	02/18/2024 13:00	WG2228474
Phenanthrene	U	T8	0.112	1.00	1	02/18/2024 13:00	WG2228474
Bis(2-ethylhexyl)phthalate	U	T8	0.895	3.00	1	02/18/2024 13:00	WG2228474
Di-n-butyl phthalate	U	T8	0.453	3.00	1	02/18/2024 13:00	WG2228474
Pyrene	U	T8	0.107	1.00	1	02/18/2024 13:00	WG2228474
2,4-Dimethylphenol	U	T8	0.0636	10.0	1	02/18/2024 13:00	WG2228474
Phenol	U	T8	4.33	10.0	1	02/18/2024 13:00	WG2228474
2-Methylphenol	0.204	B J T8	0.0929	10.0	1	02/18/2024 13:00	WG2228474
3&4-Methyl Phenol	0.274	B J T8	0.168	10.0	1	02/18/2024 13:00	WG2228474
(S) 2-Fluorophenol	*29.3*			*10.0-120*		*02/18/2024 13:00*	WG2228474
(S) Phenol-d5	*21.6*			*10.0-120*		*02/18/2024 13:00*	WG2228474
(S) Nitrobenzene-d5	*51.5*			*10.0-127*		*02/18/2024 13:00*	WG2228474
(S) 2-Fluorobiphenyl	*57.7*			*10.0-130*		*02/18/2024 13:00*	WG2228474
(S) 2,4,6-Tribromophenol	*67.5*			*10.0-155*		*02/18/2024 13:00*	WG2228474
(S) p-Terphenyl-d14	*73.0*			*10.0-128*		*02/18/2024 13:00*	WG2228474

QUALITY CONTROL SUMMARY

L1706140-01,02,03

Method Blank (MB)

(MB) R4034934-1 02/16/24 12:58

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1706129-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1706129-02 02/16/24 12:58 • (DUP) R4034934-3 02/16/24 12:58

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	80.4	74.2	1	7.93		10

Laboratory Control Sample (LCS)

(LCS) R4034934-2 02/16/24 12:58

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	90.0-110	

QUALITY CONTROL SUMMARY

L1706140-07,08,09,10,11,12,13,14,15,23

Method Blank (MB)

(MB) R4034945-1 02/16/24 16:37

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1706140-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1706140-11 02/16/24 16:37 • (DUP) R4034945-3 02/16/24 16:37

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	86.5	87.1	1	0.699		10

Laboratory Control Sample (LCS)

(LCS) R4034945-2 02/16/24 16:37

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	90.0-110	

QUALITY CONTROL SUMMARY

L1706140-24,25,28

Method Blank (MB)

(MB) R4034944-1 02/16/24 16:21

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1706184-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1706184-02 02/16/24 16:21 • (DUP) R4034944-3 02/16/24 16:21

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	84.0	83.8	1	0.281		10

Laboratory Control Sample (LCS)

(LCS) R4034944-2 02/16/24 16:21

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	90.0-110	

Method Blank (MB)

(MB) R4035793-2 02/17/24 20:36

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00539	0.0333
Anthracene	U		0.00593	0.0333
Benzo(a)anthracene	U		0.00587	0.0333
Benzo(b)fluoranthene	U		0.00621	0.0333
Benzo(k)fluoranthene	U		0.00592	0.0333
Benzo(g,h,i)perylene	U		0.00609	0.0333
Benzo(a)pyrene	U		0.00619	0.0333
Chrysene	U		0.00662	0.0333
Dibenz(a,h)anthracene	U		0.00923	0.0333
Fluorene	U		0.00542	0.0333
Indeno(1,2,3-cd)pyrene	U		0.00941	0.0333
Naphthalene	U		0.00836	0.0333
Phenanthrene	U		0.00661	0.0333
Bis(2-ethylhexyl)phthalate	U		0.0422	0.333
Di-n-butyl phthalate	U		0.0114	0.333
Pyrene	U		0.00648	0.0333
2,4-Dimethylphenol	U		0.00870	0.333
Phenol	U		0.0134	0.333
2-Methylphenol	U		0.0100	0.333
3&4-Methyl Phenol	U		0.0104	0.333
(S) 2-Fluorophenol	*75.5*			*12.0-120*
(S) Phenol-d5	*73.9*			*10.0-120*
(S) Nitrobenzene-d5	*70.3*			*10.0-122*
(S) 2-Fluorobiphenyl	*72.1*			*15.0-120*
(S) 2,4,6-Tribromophenol	*65.2*			*10.0-127*
(S) p-Terphenyl-d14	*80.8*			*10.0-120*

Laboratory Control Sample (LCS)

(LCS) R4035793-1 02/17/24 20:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.666	0.540	81.1	38.0-120	
Anthracene	0.666	0.548	82.3	42.0-120	
Benzo(a)anthracene	0.666	0.577	86.6	44.0-120	
Benzo(b)fluoranthene	0.666	0.582	87.4	43.0-120	
Benzo(k)fluoranthene	0.666	0.564	84.7	44.0-120	
Benzo(g,h,i)perylene	0.666	0.555	83.3	43.0-120	
Benzo(a)pyrene	0.666	0.599	89.9	45.0-120	

Laboratory Control Sample (LCS)

(LCS) R4035793-1 02/17/24 20:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chrysene	0.666	0.547	82.1	43.0-120	
Dibenz(a,h)anthracene	0.666	0.591	88.7	44.0-120	
Fluorene	0.666	0.559	83.9	41.0-120	
Indeno(1,2,3-cd)pyrene	0.666	0.623	93.5	45.0-120	
Naphthalene	0.666	0.405	60.8	18.0-120	
Phenanthrene	0.666	0.534	80.2	42.0-120	
Bis(2-ethylhexyl)phthalate	0.666	0.590	88.6	41.0-120	
Di-n-butyl phthalate	0.666	0.559	83.9	43.0-120	
Pyrene	0.666	0.559	83.9	41.0-120	
2,4-Dimethylphenol	0.666	0.407	61.1	15.0-120	
Phenol	0.666	0.500	75.1	28.0-120	
2-Methylphenol	0.666	0.515	77.3	35.0-120	
3&4-Methyl Phenol	0.666	0.599	89.9	42.0-120	
(S) 2-Fluorophenol			*84.8*	*12.0-120*	
(S) Phenol-d5			*81.5*	*10.0-120*	
(S) Nitrobenzene-d5			*75.1*	*10.0-122*	
(S) 2-Fluorobiphenyl			*81.7*	*15.0-120*	
(S) 2,4,6-Tribromophenol			*81.8*	*10.0-127*	
(S) p-Terphenyl-d14			*85.0*	*10.0-120*	

L1705942-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1705942-02 02/21/24 03:36 • (MS) R4036730-3 02/21/24 03:58 • (MSD) R4036730-4 02/21/24 04:20

Analyte	Spike Amount (dry) mg/kg	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.782	U	0.453	0.523	58.0	67.0	1	18.0-120			14.4	32
Anthracene	0.782	U	0.517	0.547	66.2	70.0	1	22.0-120			5.51	29
Benzo(a)anthracene	0.782	0.0303	0.519	0.555	62.5	67.1	1	25.0-120			6.78	29
Benzo(b)fluoranthene	0.782	0.0617	0.553	0.622	62.8	71.7	1	19.0-122			11.8	31
Benzo(k)fluoranthene	0.782	0.0221	0.516	0.553	63.2	67.9	1	23.0-120			6.81	30
Benzo(g,h,i)perylene	0.782	0.0265	0.292	0.272	34.0	31.4	1	10.0-120			7.07	33
Benzo(a)pyrene	0.782	0.0363	0.510	0.532	60.7	63.4	1	24.0-120			4.05	30
Chrysene	0.782	0.0340	0.517	0.556	61.9	66.8	1	21.0-120			7.21	29
Dibenz(a,h)anthracene	0.782	U	0.338	0.327	43.2	41.9	1	10.0-120			3.17	32
Fluorene	0.782	U	0.481	0.552	61.6	70.6	1	25.0-120			13.6	30
Indeno(1,2,3-cd)pyrene	0.782	0.0237	0.358	0.345	42.8	41.1	1	10.0-120			3.67	32
Naphthalene	0.782	0.0214	0.358	0.426	43.1	51.8	1	10.0-120			17.4	35
Phenanthrene	0.782	0.0282	0.532	0.536	64.4	65.0	1	17.0-120			0.879	31
Bis(2-ethylhexyl)phthalate	0.782	U	0.549	0.632	70.3	80.9	1	17.0-126			14.1	30

L1705942-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1705942-02 02/21/24 03:36 • (MS) R4036730-3 02/21/24 03:58 • (MSD) R4036730-4 02/21/24 04:20

Analyte	Spike Amount (dry) mg/kg	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Di-n-butyl phthalate	0.782	U	0.500	0.529	64.0	67.7	1	30.0-120			5.70	29
Pyrene	0.782	0.0569	0.577	0.603	66.6	69.9	1	16.0-121			4.37	32
2,4-Dimethylphenol	0.782	U	0.411	0.465	52.6	59.5	1	10.0-120			12.3	33
Phenol	0.782	U	0.406	0.495	52.0	63.4	1	12.0-120			19.8	38
2-Methylphenol	0.782	U	0.435	0.523	55.7	67.0	1	11.0-120			18.4	40
3&4-Methyl Phenol	0.782	U	0.498	0.575	63.7	73.6	1	12.0-123			14.4	38
(S) 2-Fluorophenol					*59.5*	*71.8*		*12.0-120*				
(S) Phenol-d5					*55.7*	*65.6*		*10.0-120*				
(S) Nitrobenzene-d5					*49.5*	*55.3*		*10.0-122*				
(S) 2-Fluorobiphenyl					*58.6*	*69.7*		*15.0-120*				
(S) 2,4,6-Tribromophenol					*82.9*	*88.7*		*10.0-127*				
(S) p-Terphenyl-d14					*69.7*	*73.6*		*10.0-120*				

Method Blank (MB)

(MB) R4036169-2 02/19/24 21:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00539	0.0333
Anthracene	U		0.00593	0.0333
Benzo(a)anthracene	U		0.00587	0.0333
Benzo(b)fluoranthene	U		0.00621	0.0333
Benzo(k)fluoranthene	U		0.00592	0.0333
Benzo(g,h,i)perylene	U		0.00609	0.0333
Benzo(a)pyrene	U		0.00619	0.0333
Chrysene	U		0.00662	0.0333
Dibenz(a,h)anthracene	U		0.00923	0.0333
Fluorene	U		0.00542	0.0333
Indeno(1,2,3-cd)pyrene	U		0.00941	0.0333
Naphthalene	U		0.00836	0.0333
Phenanthrene	U		0.00661	0.0333
Bis(2-ethylhexyl)phthalate	U		0.0422	0.333
Di-n-butyl phthalate	U		0.0114	0.333
Pyrene	U		0.00648	0.0333
2,4-Dimethylphenol	U		0.00870	0.333
Phenol	U		0.0134	0.333
2-Methylphenol	U		0.0100	0.333
3&4-Methyl Phenol	U		0.0104	0.333
(S) 2-Fluorophenol	*55.7*			*12.0-120*
(S) Phenol-d5	*50.0*			*10.0-120*
(S) Nitrobenzene-d5	*53.8*			*10.0-122*
(S) 2-Fluorobiphenyl	*59.8*			*15.0-120*
(S) 2,4,6-Tribromophenol	*50.0*			*10.0-127*
(S) p-Terphenyl-d14	*64.9*			*10.0-120*

Laboratory Control Sample (LCS)

(LCS) R4036169-1 02/19/24 21:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.666	0.489	73.4	38.0-120	
Anthracene	0.666	0.501	75.2	42.0-120	
Benzo(a)anthracene	0.666	0.561	84.2	44.0-120	
Benzo(b)fluoranthene	0.666	0.532	79.9	43.0-120	
Benzo(k)fluoranthene	0.666	0.512	76.9	44.0-120	
Benzo(g,h,i)perylene	0.666	0.927	139	43.0-120	J4
Benzo(a)pyrene	0.666	0.544	81.7	45.0-120	

Laboratory Control Sample (LCS)

(LCS) R4036169-1 02/19/24 21:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chrysene	0.666	0.535	80.3	43.0-120	
Dibenz(a,h)anthracene	0.666	0.938	141	44.0-120	J4
Fluorene	0.666	0.518	77.8	41.0-120	
Indeno(1,2,3-cd)pyrene	0.666	0.988	148	45.0-120	J4
Naphthalene	0.666	0.367	55.1	18.0-120	
Phenanthrene	0.666	0.496	74.5	42.0-120	
Bis(2-ethylhexyl)phthalate	0.666	0.502	75.4	41.0-120	
Di-n-butyl phthalate	0.666	0.446	67.0	43.0-120	
Pyrene	0.666	0.493	74.0	41.0-120	
2,4-Dimethylphenol	0.666	0.342	51.4	15.0-120	
Phenol	0.666	0.433	65.0	28.0-120	
2-Methylphenol	0.666	0.405	60.8	35.0-120	
3&4-Methyl Phenol	0.666	0.465	69.8	42.0-120	
(S) 2-Fluorophenol			*66.2*	*12.0-120*	
(S) Phenol-d5			*64.9*	*10.0-120*	
(S) Nitrobenzene-d5			*50.5*	*10.0-122*	
(S) 2-Fluorobiphenyl			*80.2*	*15.0-120*	
(S) 2,4,6-Tribromophenol			*75.1*	*10.0-127*	
(S) p-Terphenyl-d14			*74.5*	*10.0-120*	

L1706188-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1706188-04 02/19/24 21:53 • (MS) R4036169-3 02/19/24 22:14 • (MSD) R4036169-4 02/19/24 22:48

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.779	U	0.451	0.474	58.0	60.0	1	18.0-120			4.90	32
Anthracene	0.779	U	0.554	0.488	71.2	61.8	1	22.0-120			12.6	29
Benzo(a)anthracene	0.779	U	0.518	0.497	66.6	62.8	1	25.0-120			4.24	29
Benzo(b)fluoranthene	0.779	U	0.322	0.407	41.4	51.5	1	19.0-122			23.2	31
Benzo(k)fluoranthene	0.779	U	0.301	0.392	38.7	49.5	1	23.0-120			26.2	30
Benzo(g,h,i)perylene	0.779	U	0.546	0.511	70.1	64.7	1	10.0-120			6.55	33
Benzo(a)pyrene	0.779	U	0.469	0.475	60.3	60.1	1	24.0-120			1.26	30
Chrysene	0.779	U	0.473	0.463	60.7	58.6	1	21.0-120			2.04	29
Dibenz(a,h)anthracene	0.779	U	0.549	0.445	70.6	56.3	1	10.0-120			20.9	32
Fluorene	0.779	U	0.463	0.509	59.5	64.4	1	25.0-120			9.34	30
Indeno(1,2,3-cd)pyrene	0.779	U	0.594	0.466	76.2	58.9	1	10.0-120			24.1	32
Naphthalene	0.779	U	0.376	0.368	48.3	46.5	1	10.0-120			2.25	35
Phenanthrene	0.779	U	0.483	0.457	62.0	57.9	1	17.0-120			5.34	31
Bis(2-ethylhexyl)phthalate	0.779	U	0.508	0.491	65.2	62.1	1	17.0-126			3.35	30

L1706188-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1706188-04 02/19/24 21:53 • (MS) R4036169-3 02/19/24 22:14 • (MSD) R4036169-4 02/19/24 22:48

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Di-n-butyl phthalate	0.779	U	0.475	0.460	61.0	58.2	1	30.0-120			3.32	29
Pyrene	0.779	U	0.492	0.426	63.2	53.9	1	16.0-121			14.3	32
2,4-Dimethylphenol	0.779	U	0.291	0.253	37.4	32.0	1	10.0-120			14.0	33
Phenol	0.779	U	0.398	0.393	51.1	49.7	1	12.0-120			1.21	38
2-Methylphenol	0.779	U	0.408	0.359	52.5	45.5	1	11.0-120			12.8	40
3&4-Methyl Phenol	0.779	U	0.462	0.424	59.4	53.6	1	12.0-123			8.63	38
(S) 2-Fluorophenol					*57.8*	*54.2*		*12.0-120*				
(S) Phenol-d5					*50.2*	*50.6*		*10.0-120*				
(S) Nitrobenzene-d5					*46.0*	*43.8*		*10.0-122*				
(S) 2-Fluorobiphenyl					*50.9*	*55.0*		*15.0-120*				
(S) 2,4,6-Tribromophenol					*74.7*	*59.7*		*10.0-127*				
(S) p-Terphenyl-d14					*61.7*	*56.2*		*10.0-120*				

Method Blank (MB)

(MB) R4035832-2 02/18/24 12:17

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acenaphthene	U		0.0886	1.00
Anthracene	U		0.0804	1.00
Benzo(a)anthracene	U		0.199	1.00
Benzo(b)fluoranthene	U		0.130	1.00
Benzo(k)fluoranthene	U		0.120	1.00
Benzo(g,h,i)perylene	U		0.121	1.00
Benzo(a)pyrene	U		0.0381	1.00
Chrysene	U		0.130	1.00
Dibenz(a,h)anthracene	U		0.0644	1.00
Fluorene	U		0.0844	1.00
Indeno(1,2,3-cd)pyrene	U		0.279	1.00
Naphthalene	U		0.159	1.00
Phenanthrene	U		0.112	1.00
Bis(2-ethylhexyl)phthalate	U		0.895	3.00
Di-n-butyl phthalate	U		0.453	3.00
Pyrene	U		0.107	1.00
2,4-Dimethylphenol	0.143	J	0.0636	10.0
Phenol	U		4.33	10.0
2-Methylphenol	1.64	J	0.0929	10.0
3&4-Methyl Phenol	2.05	J	0.168	10.0
(S) 2-Fluorophenol	*34.3*			*10.0-120*
(S) Phenol-d5	*22.4*			*10.0-120*
(S) Nitrobenzene-d5	*55.8*			*10.0-127*
(S) 2-Fluorobiphenyl	*62.3*			*10.0-130*
(S) 2,4,6-Tribromophenol	*68.5*			*10.0-155*
(S) p-Terphenyl-d14	*76.1*			*10.0-128*

Laboratory Control Sample (LCS)

(LCS) R4035832-1 02/18/24 11:56

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	50.0	34.5	69.0	41.0-120	
Anthracene	50.0	39.5	79.0	45.0-120	
Benzo(a)anthracene	50.0	41.3	82.6	47.0-120	
Benzo(b)fluoranthene	50.0	42.7	85.4	46.0-120	
Benzo(k)fluoranthene	50.0	42.1	84.2	46.0-120	
Benzo(g,h,i)perylene	50.0	39.2	78.4	48.0-121	
Benzo(a)pyrene	50.0	36.4	72.8	47.0-120	

Laboratory Control Sample (LCS)

(LCS) R4035832-1 02/18/24 11:56

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chrysene	50.0	39.3	78.6	48.0-120	
Dibenz(a,h)anthracene	50.0	40.7	81.4	47.0-120	
Fluorene	50.0	37.7	75.4	47.0-120	
Indeno(1,2,3-cd)pyrene	50.0	41.6	83.2	49.0-122	
Naphthalene	50.0	26.0	52.0	27.0-120	
Phenanthrene	50.0	38.4	76.8	46.0-120	
Bis(2-ethylhexyl)phthalate	50.0	36.9	73.8	43.0-122	
Di-n-butyl phthalate	50.0	43.8	87.6	49.0-121	
Pyrene	50.0	40.5	81.0	47.0-120	
2,4-Dimethylphenol	50.0	23.5	47.0	33.0-120	
Phenol	50.0	19.3	38.6	10.0-120	
2-Methylphenol	50.0	24.3	48.6	28.0-120	
3&4-Methyl Phenol	50.0	27.7	55.4	31.0-120	
(S) 2-Fluorophenol			*27.5*	*10.0-120*	
(S) Phenol-d5			*21.3*	*10.0-120*	
(S) Nitrobenzene-d5			*50.7*	*10.0-127*	
(S) 2-Fluorobiphenyl			*65.7*	*10.0-130*	
(S) 2,4,6-Tribromophenol			*86.5*	*10.0-155*	
(S) p-Terphenyl-d14			*82.9*	*10.0-128*	

L1706254-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1706254-01 02/23/24 08:40 • (MS) R4037633-1 02/23/24 09:02 • (MSD) R4037633-2 02/23/24 09:24

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	50.0	U	57.4	39.7	115	79.4	50	28.0-120		J3	36.5	25
Anthracene	50.0	U	59.9	43.0	120	86.0	50	36.0-120		J3	32.8	23
Benzo(a)anthracene	50.0	U	57.5	43.4	115	86.8	50	39.0-120		J3	27.9	23
Benzo(b)fluoranthene	50.0	U	50.2	36.4	100	72.8	50	37.0-120		J3	31.9	23
Benzo(k)fluoranthene	50.0	U	49.7	35.6	99.4	71.2	50	37.0-120		J3	33.1	26
Benzo(g,h,i)perylene	50.0	U	47.4	35.8	94.8	71.6	50	37.0-123		J3	27.9	25
Benzo(a)pyrene	50.0	U	50.3	37.3	101	74.6	50	37.0-120		J3	29.7	24
Chrysene	50.0	U	52.1	38.2	104	76.4	50	38.0-120		J3	30.8	23
Dibenz(a,h)anthracene	50.0	U	49.2	35.9	98.4	71.8	50	36.0-121		J3	31.3	24
Fluorene	50.0	U	56.6	40.1	113	80.2	50	37.0-120		J3	34.1	24
Indeno(1,2,3-cd)pyrene	50.0	U	48.5	37.6	97.0	75.2	50	38.0-125		J3	25.3	24
Naphthalene	50.0	U	54.5	37.2	109	74.4	50	10.0-120		J3	37.7	31
Phenanthrene	50.0	U	58.7	43.4	117	86.8	50	33.0-120		J3	30.0	22
Bis(2-ethylhexyl)phthalate	50.0	U	60.3	U	121	0.000	50	33.0-126		J3 J6	200	25

L1706254-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1706254-01 02/23/24 08:40 • (MS) R4037633-1 02/23/24 09:02 • (MSD) R4037633-2 02/23/24 09:24

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Di-n-butyl phthalate	50.0	U	60.3	42.4	121	84.8	50	35.0-128		J3	34.9	23
Pyrene	50.0	U	57.3	41.8	115	83.6	50	39.0-120		J3	31.3	22
2,4-Dimethylphenol	50.0	2900	3020	2290	240	0.000	50	15.0-120	V	V	27.5	28
Phenol	50.0	22500	21300	17400	0.000	0.000	50	10.0-120	E V	E V	20.2	40
2-Methylphenol	50.0	15600	15300	12100	0.000	0.000	50	10.0-120	E V	V	23.4	30
3&4-Methyl Phenol	50.0	22100	21000	17400	0.000	0.000	50	10.0-120	E V	E V	18.8	36
(S) 2-Fluorophenol					*53.0*	*37.2*		*10.0-120*	J7	J7		
(S) Phenol-d5					*203*	*211*		*10.0-120*	J7	J7		
(S) Nitrobenzene-d5					*105*	*69.3*		*10.0-127*	J7	J7		
(S) 2-Fluorobiphenyl					*111*	*72.4*		*10.0-130*	J7	J7		
(S) 2,4,6-Tribromophenol					*129*	*77.5*		*10.0-155*	J7	J7		
(S) p-Terphenyl-d14					*126*	*89.0*		*10.0-128*	J7	J7		

Sample Narrative:

OS: Dilution and surrogate failure due to matrix interference.

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

GLOSSARY OF TERMS

Qualifier	Description
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Subcontract Chain of Custody

Pace Analytical (Melville)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
C002 7681

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2407681

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Previous report was PACE #: 70270216

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
L2406140 -01	GPSP-25-1.0-1.5	02-09-24 12:30	SOIL	8270	
-02	GPSP-25-4.0-4.5	02-09-24 12:40	SOIL	8270	
-03	GPSP-25-4.5-5.0	02-09-24 12:50	SOIL	8270	
-04	GPSP-29-4.5-5.0	02-09-24 13:20	SOIL	Hold Sample for SUB analysis	
-05	GPSP-29-3.5-4.0	02-09-24 13:10	SOIL	Hold Sample for SUB analysis	
-06	GPSP-29-1.5-2.0	02-09-24 13:00	SOIL	Hold Sample for SUB analysis	
-07	GPSP-26-1.5-2.0	02-09-24 14:05	SOIL	8270	
-08	GPSP-26-4.5-5.0	02-09-24 14:25	SOIL	8270	

28 total

Sample Receipt Checklist

COC Seal Present/Intact:	__Y__N	If Applicable	
COC Signed/Accurate:	__Y__N	VOA Zero Headspace:	__Y__N
Bottles arrive intact:	__Y__N	Pres. Correct/Check:	__Y__N
Correct bottles used:	__Y__N		
Sufficient volume sent:	__Y__N		
RA Screen <0.5 mR/hr:	__Y__N		

7057174588 48

Relinquished By:	Date/Time:	Received By:	Date/Time:
	2/12/24		2/12 17:30
	2/12 22:00		2/12/24 22:00
	2/14/24		2/13 4:10
	2/13 8:00		2/13/24 8:00
			2-15-24 0900

Form No: AL_subcoc

2/14/24 18:00

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Subcontract Chain of Custody

Pace Analytical (Melville)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2407681

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.9037 Email: nyakes@alphalab.com	Project Location: PA Project Manager: Nadine Yakes **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2407681

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Previous report was PACE #: 70270216

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
L706140 -09	GPSP-26-4.0-4.5	02-09-24 14:15	SOIL	8270	
-10	GPSP-27-1.5-2.0	02-09-24 15:10	SOIL	8270	
-11	GPSP-27-4.0-4.5	02-09-24 15:20	SOIL	8270	
-12	GPSP-27-4.5-5.0	02-09-24 15:30	SOIL	8270	
-13	GPSP-MW01-0.5-1.0	02-09-24 15:45	SOIL	8270	
-14	GPSP-MW01-3.5-4.0	02-09-24 15:55	SOIL	8270	
-15	GPSP-MW01-4.5-5.0	02-09-24 16:05	SOIL	8270	
-16	GPSP-30-3.5-4.0	02-09-24 15:00	SOIL	Hold Sample for SUB analysis	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/12/24	[signature] AK	2/12 17:30
[signature] AK	2/12 22:00	[signature]	2/12/24 22:05
[signature] Paul Lorenz - Pace	2/12/24 2/13 8:00	Paul Lorenz - Pace	2/13 4:10
[signature]	2/14/24 18:00	[signature]	2/13/24 8:00

Form No: AL_subcoc

[signature] 2-15-24 0900
DPA82.0+0=2.0

Subcontract Chain of Custody

Pace Analytical (Melville)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2407681

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.9037 Email: nyakes@alphalab.com	Project Location: PA Project Manager: Nadine Yakes **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2407681

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Previous report was PACE #: 70270216

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
L706614C -17	GPSP-MW02-4.0-4.5	02-09-24 13:55	SOIL	Hold Sample for SUB analysis	
-18	GPSP-MW02-2.5-3.0	02-09-24 13:45	SOIL	Hold Sample for SUB analysis	
-19	GPSP-MW02-1.5-2.0	02-09-24 13:35	SOIL	Hold Sample for SUB analysis	
-20	GPSP-28-6.5-7.0	02-09-24 11:35	SOIL	Hold Sample for SUB analysis	
-21	GPSP-28-0.5-1.0	02-09-24 11:10	SOIL	Hold Sample for SUB analysis	
-22	GPSP-28-6.0-6.5	02-09-24 11:25	SOIL	Hold Sample for SUB analysis	
-23	GPSP-24-6.5-7.0	02-09-24 12:05	SOIL	8270	
-24	GPSP-24-6.0-6.5	02-09-24 11:55	SOIL	8270	
-25	GPSP-24-1.5-2.0	02-09-24 11:45	SOIL	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
	2/12/24	AH	2/13 12:30
AH	2/12 22:00		2/12/24 22:05
	2/12/24	Paul Leone-Pace	2/13 4:10
Paul Leone-Pace	2/13 8:00		2/13/24 8:00
AGRACAI 2/14/24		Taylor McCarty 2/15-24 0900 DPAS 2-040-2-d	

Form No: AL_subcoc

Subcontract Chain of Custody

Pace Analytical (Melville)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2407681

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.9037 Email: nyakes@alphalab.com	Project Location: PA Project Manager: Nadine Yakes **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2407681

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Previous report was PACE #: 70270216

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
L1706140 -26	GPSP-30-2.0-2.5	02-09-24 14:50	SOIL	Hold Sample for SUB analysis	
-27	GPSP-30-1.5-2.0	02-09-24 14:40	SOIL	Hold Sample for SUB analysis	
-28	GPSP-31-2.5-3.0	02-09-24 16:15	SOIL	8270	
-29	FIELD BLANK	02-09-24 16:25	WATER	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/12/24	[signature]	2/12 17:30
[signature]	2/12 22:00	[signature]	2/12/24 22:05
[signature]	2/12/24	Paul Lavoie - Pace	2/13 4:10
Paul Lavoie - Pace	2/13 8:00	[signature]	2/13/24 8:00

Form No: AL_subcoc

[signature] 2/14/24 18:00

[signature] 2-15-24 0900
DPA82.0+0=2.0

L7d6140

Haley Torrence

Project Manager - National

Office: 615.773.9726 | Ext. 9726

haley.torrence@pacelabs.com

From: Nadine Yakes <Nadine.Yakes@pacelabs.com>
Sent: Tuesday, February 13, 2024 11:05 AM
To: Matthew Nemeth <Matthew.Nemeth@pacelabs.com>; Haley Torrence <Haley.Torrence@pacelabs.com>
Subject: Re: 8270 soils

Would you please re-direct these to National?

Haley- the list needed for these is attached - The sticklers for me are the 7,12-Dimethylbenz(a)anthracene & -Methylcholanthrene which we do not run. It looks like from Pace Port you are certified in PA. Melville has run these samples in the past for this client. I bill these out at $222 per sample.

Please advise ASAP if you can not run these and I will have to look for an outside sub.

Thank you,

Nadine

Nadine Yakes

Supervisor - Project Management

Westborough, MA

O: 201-812-9037 | pacelabs.com

WO#: 70287155

Going To National

ct Chain of Custody

Melville)
Road
7

G121

Alpha Job Number
L2407681

Client Informa | **rmation** | **Regulatory Requirements/Report Limits**

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Location: PA
Project Manager: Nadine Yakes

State/Federal Program:
Regulatory Criteria: L1706140

Turnaround & Deliverables Information

Due Date:
Deliverables:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2407681

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Previous report was PACE #: 70270216

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GPSP-30-2.0-2.5	02-09-24 14:50	SOIL	Hold Sample for SUB analysis	
	GPSP-30-1.5-2.0	02-09-24 14:40	SOIL	Hold Sample for SUB analysis	
	GPSP-31-2.5-3.0	02-09-24 16:15	SOIL	8270	
	FIELD BLANK -29	02-09-24 16:25	WATER	8270	

Sample Receipt Checklist

COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
RA Screen <0.5 mR/hr: Y N

If Applicable
VOA Zero Headspace: Y N
Pres. Correct/Check: Y N

DPA8 3.9 +0= 3.9
7057 1745 9112

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/12/24	[signature]	2/12 17:30
[signature]	2/12 22:00	[signature]	2/12/24 22:05
[signature]	2/12/24	Paul Lowe-Pace	2/13 4:10
Paul Lowe-Pace	2/13 8:00	[signature]	2/13/24 8:00

Form No: AL_subcoc

Received by: E. Davon 17 2-16-24/900 (ashcpacelo) 2/16/24 18:00

Subcontract Chain of Custody

Pace Analytical (Melville)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2407681

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.9037 Email: nyakes@alphalab.com	Project Location: PA Project Manager: Nadine Yakes **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria: L1706140

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2407681

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Previous report was PACE #: 70270216

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GPSP-30-2.0-2.5	02-09-24 14:50	SOIL	Hold Sample for SUB analysis	
	GPSP-30-1.5-2.0	02-09-24 14:40	SOIL	Hold Sample for SUB analysis	
	GPSP-31-2.5-3.0	02-09-24 16:15	SOIL	8270	
	FIELD BLANK	02-09-24 16:25	WATER	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/12/24	[signature]	2/12 17:30
[signature]	2/12 22:00	[signature]	2/12/24 22:05
[signature]	2/12/24	Paul Lowe - Pace	2/13 4:10
Paul Lowe - Pace	2/13 8:00	[signature]	2/13/24 8:00

Form No: AL_subcoc

[signature] 2/14/24 18:00

Subcontract Chain of Custody

Pace Analytical (Melville)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2407681

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria: L1706140

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2407681

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Previous report was PACE #: 70270216

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GPSP-26-4.0-4.5	02-09-24 14:15	SOIL	8270	
	GPSP-27-1.5-2.0	02-09-24 15:10	SOIL	8270	
	GPSP-27-4.0-4.5	02-09-24 15:20	SOIL	8270	
	GPSP-27-4.5-5.0	02-09-24 15:30	SOIL	8270	
	GPSP-MW01-0.5-1.0	02-09-24 15:45	SOIL	8270	
	GPSP-MW01-3.5-4.0	02-09-24 15:55	SOIL	8270	
	GPSP-MW01-4.5-5.0	02-09-24 16:05	SOIL	8270	
	GPSP-30-3.5-4.0	02-09-24 15:00	SOIL	Hold Sample for SUB analysis	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/12/24	[signature] AK	2/12 17:30
[signature] AK	2/12 22:00	[signature]	2/12/24 22:05
[signature] Paul Lorene - Pace	2/12/24 2/13 8:00	Paul Lorene - Pace	2/13 24:10
[signature]	2/14/24 18:00	[signature]	2/13/24 18:00

Form No: AL_subcoc

Subcontract Chain of Custody

Pace Analytical (Melville)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2407681

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.9037 Email: nyakes@alphalab.com	Project Location: PA Project Manager: Nadine Yakes **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria: L1706140

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2407681

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Previous report was PACE #: 70270216

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GPSP-MW02-4.0-4.5	02-09-24 13:55	SOIL	Hold Sample for SUB analysis	
	GPSP-MW02-2.5-3.0	02-09-24 13:45	SOIL	Hold Sample for SUB analysis	
	GPSP-MW02-1.5-2.0	02-09-24 13:35	SOIL	Hold Sample for SUB analysis	
	GPSP-28-6.5-7.0	02-09-24 11:35	SOIL	Hold Sample for SUB analysis	
	GPSP-28-0.5-1.0	02-09-24 11:10	SOIL	Hold Sample for SUB analysis	
	GPSP-28-6.0-6.5	02-09-24 11:25	SOIL	Hold Sample for SUB analysis	
	GPSP-24-6.5-7.0	02-09-24 12:05	SOIL	8270	
	GPSP-24-6.0-6.5	02-09-24 11:55	SOIL	8270	
	GPSP-24-1.5-2.0	02-09-24 11:45	SOIL	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature] DAL	2/12/24 2/12 22:00	[signature] DAL	2/12 12:30
[signature]	2/12/24	[signature]	2/12/24 22:05
[signature] Paul Leone - Pace	2/13 8:00	Paul Leone - Pace	2/13 4:10
[signature] 2/14/24		[signature]	2/13/24 8:00

Form No: AL_subcoc

Subcontract Chain of Custody

Pace Analytical (Melville)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2407681

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

L1706140

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2407681

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Previous report was PACE #: 70270216

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GPSP-MW02-4.0-4.5	02-09-24 13:55	SOIL	Hold Sample for SUB analysis	
	GPSP-MW02-2.5-3.0	02-09-24 13:45	SOIL	Hold Sample for SUB analysis	
	GPSP-MW02-1.5-2.0	02-09-24 13:35	SOIL	Hold Sample for SUB analysis	
	GPSP-28-6.5-7.0	02-09-24 11:35	SOIL	Hold Sample for SUB analysis	
	GPSP-28-0.5-1.0	02-09-24 11:10	SOIL	Hold Sample for SUB analysis	
	GPSP-28-6.0-6.5	02-09-24 11:25	SOIL	Hold Sample for SUB analysis	
	GPSP-24-6.5-7.0	02-09-24 12:05	SOIL	8270	
	GPSP-24-6.0-6.5	02-09-24 11:55	SOIL	8270	
	GPSP-24-1.5-2.0	02-09-24 11:45	SOIL	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature] DAL	2/12/24 2/12 22:00	[signature] DAL	2/12 12:30
[signature]	2/12/24	[signature]	2/12/24 22:05
[signature] Paul Leone - Pace	2/12/24 12/13 8:00	Paul Leone - Pace	2/13 4:10
		ASF PACE L1	2/13/24 8:00

Form No: AL_subcoc

L1706140

DC#_Title: ENV-FRM-MELV-0024 v04_SCUR
Effective Date: 10/13/2023

WO#: 70287155

PM: MN2 Due Date: 02/22/24
CLIENT: ALPHA

Client Name: Alpha Project #

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☒ Commercial ☐ Pace ☐ Other

Tracking #:

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals intact: ☐ Yes ☐ No Temperature Blank Present: ☐ Yes ☒ No
Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ Ziplo ☐ None ☐ Other Type of Ice: (Wet) Blue None

Thermometer Used: TH21 Correction Factor: +0.4 ☒ Samples on ice, cooling process has begun
Cooler Temperature(°C): 0.7 Cooler Temperature Corrected(°C): 1.1 Date/Time 5035A kits placed in freezer _____
Temp should be above freezing to 6.0°C

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ Yes ☐ No

Did samples originate from a foreign source including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MELV-0076) and include with SCUR/COC paperwork.

Date and Initials of person examining contents: SH 2/13/24

				COMMENTS:
Chain of Custody Present:	☒Yes	☐No		1.
Chain of Custody Filled Out:	☒Yes	☐No		2.
Chain of Custody Relinquished:	☒Yes	☐No		3.
Sampler Name & Signature on COC:	☒Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☒Yes	☐No		5.
Short Hold Time Analysis (<72hr):	☐Yes	☒No		6.
Rush Turn Around Time Requested	☐Yes	☒No		7.
Sufficient Volume: (Triple volume provided for MS/MSD)	☒Yes	☐No		8.
Correct Containers Used:	☒Yes	☐No		9.
-Pace Containers Used:	☒Yes	☐No		
Containers Intact:	☒Yes	☐No		10.
Filtered volume received for Dissolved tests	☒Yes	☐No	☐N/A	11. Note: if sediment is visible in the dissolved container.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: SL WT OIL OTHER	☒Yes	☐No		12.

Date and Initials of person checking preservation: SH 2/13/24

All containers needing preservation have been pH paper Lot # All containers needing preservation are found to be in compliance with method recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NAOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis	☐Yes	☐No	☒N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl Sample # Initial when completed: / Lot # of added preservative: / Date/Time preservative added:
Samples checked for dechlorination: KI starch test strips Lot # Residual chlorine strips Lot #	☐Yes	☐No	☒N/A	14. Positive for Res. Chlorine? Y N
SM 4500 CN samples checked for sul Lead Acetate Strips Lot #	☐Yes	☐No	☒N/A	15. Positive for Sulfide? Y N
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☒N/A	16.
Trip Blank Present:	☐Yes	☐No	☒N/A	17.
Trip Blank Custody Seals Present	☐Yes	☐No	☒N/A	

DATE AND INITIALS OF PERSON COMPLETING SECOND REVIEW: ASF 2/13/24

Client Notification/ Resolution: Field Data Required? Y / N
Person Contacted: _____ Date/Time: _____
Comments/ Resolution: _____

* PM (Project Manager) review is documented electronically in LIMS.

2/15-NCF-L1706140 PACEAMA

R5

Time estimate: oh **Time spent:** oh

Members

Hailey Robertson (responsible) HT Haley Torrence

Due on *19 February 2024 8:00 AM* for target *Done*

- [x] Login Clarification needed
- [ ] Chain of custody is incomplete
- [ ] Please specify Metals requested
- [ ] Please specify TCLP requested
- [ ] Received additional samples not listed on COC
- [ ] Sample IDs on containers do not match IDs on COC
- [ ] Client did not "X" analysis
- [ ] Chain of Custody is missing
- [ ] If no COC: Received by:_____
- [ ] If no COC: Date/Time:_____
- [ ] If no COC: Temp./Cont.Rec./pH:_____
- [ ] If no COC: Carrier:_____
- [ ] If no COC: Tracking #:_____
- [ ] Client informed by call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____

Comments

Hailey Robertson *15 February 2024 6:03 PM*

Did not receive ID: Field Blank.

Haley Torrence *16 February 2024 10:01 AM*

Emailed 2/16

Haley Torrence *16 February 2024 1:40 PM*

PACEAMA is saying that their records show this sample was scanned and shipped. They are asking us to double check that the sample was not misplaced.

Hailey Robertson *16 February 2024 2:15 PM*

We have not had the samples brought out of the cooler washroom so I am unsure where these samples would have ended up.

Nicolle Faulk *16 February 2024 3:58 PM*

received 2/16. added, done

ANALYTICAL REPORT

March 18, 2024

Revised Report

Pace Analytical (Alpha) - Westborough,MA

Sample Delivery Group:	L1711446
Samples Received:	02/15/2024
Project Number:	L2407681
Description:	
Report To:	Nadine Yakes 8 Walkup Drive Westborough, MA 01581

Entire Report Reviewed By:

Haley Torrence
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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GPSP-25-1.0-1.5 L1711446-01 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 12:30	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227552	1	02/16/24 12:45	02/16/24 12:58	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	5	03/07/24 09:27	03/08/24 03:28	AMS	Mt. Juliet, TN

GPSP-25-4.0-4.5 L1711446-02 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 12:40	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227552	1	02/16/24 12:45	02/16/24 12:58	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	1	03/07/24 09:27	03/08/24 03:07	AMS	Mt. Juliet, TN

GPSP-25-4.5-5.0 L1711446-03 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 12:50	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227552	1	02/16/24 12:45	02/16/24 12:58	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	5	03/07/24 09:27	03/08/24 03:49	AMS	Mt. Juliet, TN

GPSP-29-1.5-2.0 L1711446-04 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 13:00	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2240006	1	03/05/24 15:39	03/05/24 15:57	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	1	02/21/24 15:27	03/13/24 17:30	AGW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	1	02/21/24 15:27	03/13/24 21:05	DSH	Mt. Juliet, TN

GPSP-26-1.5-2.0 L1711446-05 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 14:05	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	40	03/07/24 09:27	03/08/24 16:34	DSH	Mt. Juliet, TN

GPSP-26-4.5-5.0 L1711446-06 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 14:25	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	5	03/07/24 09:27	03/08/24 04:09	AMS	Mt. Juliet, TN

GPSP-26-4.0-4.5 L1711446-07 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 14:15	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	5	03/07/24 09:27	03/08/24 13:48	DSH	Mt. Juliet, TN

GPSP-27-1.5-2.0 L1711446-08 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 15:10	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	5	03/07/24 09:27	03/08/24 14:09	DSH	Mt. Juliet, TN

GPSP-27-4.0-4.5 L1711446-09 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 15:20	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	40	03/07/24 09:27	03/08/24 16:13	DSH	Mt. Juliet, TN

GPSP-27-4.5-5.0 L1711446-10 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 15:30	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	200	03/07/24 09:27	03/12/24 17:29	MBE	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	40	03/07/24 09:27	03/08/24 16:55	DSH	Mt. Juliet, TN

GPSP-MW01-0.5-1.0 L1711446-11 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 15:45	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	40	03/07/24 09:27	03/08/24 17:36	DSH	Mt. Juliet, TN

GPSP-MW01-3.5-4.0 L1711446-12 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 15:55	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	200	03/07/24 09:27	03/12/24 17:51	MBE	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	40	03/07/24 09:27	03/08/24 17:15	DSH	Mt. Juliet, TN

GPSP-MW01-4.5-5.0 L1711446-13 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 16:05	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	40	03/07/24 09:27	03/08/24 15:53	DSH	Mt. Juliet, TN

GPSP-30-3.5-4.0 L1711446-14 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 15:00	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2240006	1	03/05/24 15:39	03/05/24 15:57	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	20	02/21/24 15:27	03/13/24 19:14	AGW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	20	02/21/24 15:27	03/13/24 22:48	DSH	Mt. Juliet, TN

GPSP-MW02-4.0-4.5 L1711446-15 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 13:55	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2240006	1	03/05/24 15:39	03/05/24 15:57	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	1.01	02/21/24 15:27	03/13/24 18:12	AGW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	1.01	02/21/24 15:27	03/13/24 21:46	AMS	Mt. Juliet, TN

GPSP-MW02-2.5-3.0 L1711446-16 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 13:45	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2240006	1	03/05/24 15:39	03/05/24 15:57	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	1	02/21/24 15:27	03/13/24 18:33	AGW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	1	02/21/24 15:27	03/13/24 22:07	AMS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	20	02/21/24 15:27	03/14/24 11:30	AGW	Mt. Juliet, TN

GPSP-MW02-1.5-2.0 L1711446-17 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 13:35	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2240006	1	03/05/24 15:39	03/05/24 15:57	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	1	02/21/24 15:27	03/13/24 17:51	AGW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	1	02/21/24 15:27	03/13/24 21:25	DSH	Mt. Juliet, TN

GPSP-24-6.5-7.0 L1711446-18 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 12:05	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227588	1	02/16/24 16:24	02/16/24 16:37	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	40	03/07/24 09:27	03/08/24 15:32	DSH	Mt. Juliet, TN

GPSP-24-6.0-6.5 L1711446-19 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 11:55	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227589	1	02/16/24 16:10	02/16/24 16:21	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	40	03/07/24 09:27	03/08/24 15:11	DSH	Mt. Juliet, TN

GPSP-24-1.5-2.0 L1711446-20 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 11:45	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227589	1	02/16/24 16:10	02/16/24 16:21	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	20	03/07/24 09:27	03/08/24 14:30	DSH	Mt. Juliet, TN

GPSP-30-2.0-2.5 L1711446-21 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 14:50	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2240006	1	03/05/24 15:39	03/05/24 15:57	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	100	02/21/24 15:27	03/14/24 12:19	AGW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	20	02/21/24 15:27	03/13/24 19:35	AGW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	20	02/21/24 15:27	03/13/24 23:09	DSH	Mt. Juliet, TN

GPSP-30-1.5-2.0 L1711446-22 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 14:40	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2240006	1	03/05/24 15:39	03/05/24 15:57	KDW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	20	02/21/24 15:27	03/13/24 18:53	AGW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2230416	20	02/21/24 15:27	03/13/24 22:27	DSH	Mt. Juliet, TN

GPSP-27-4.0-4.5DUP L1711446-23 Solid

Collected by	Collected date/time	Received date/time
	02/09/24 16:15	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2227589	1	02/16/24 16:10	02/16/24 16:21	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240356	20	03/07/24 09:27	03/08/24 14:50	DSH	Mt. Juliet, TN

FB-240209 L1711446-24 GW

Collected by	Collected date/time	Received date/time
	02/09/24 16:25	02/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG2240442	1	03/06/24 20:24	03/08/24 19:35	DSH	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Haley Torrence

Haley Torrence
Project Manager

Report Revision History

Level II Report - Version 1: 03/14/24 16:26
Level II Report - Version 2: 03/15/24 09:51
Level II Report - Version 3: 03/15/24 11:02

Project Narrative

Sample Delivery Group (SDG) Narrative

An aliquot for analysis was taken from the original container received due to volume requirements of the laboratory's procedure. Rinsing of the original sample container for inclusion in the sample extraction was not performed.

Lab Sample ID	Project Sample ID	Method
L1711446-24	FB-240209	8270C

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	76.2		1	02/16/2024 12:58	WG2227552

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	0.348	2.19	5	03/08/2024 03:28	WG2240356
3-Methylcholanthrene	U	T8	0.391	2.19	5	03/08/2024 03:28	WG2240356
(S) 2-Fluorophenol	*48.9*			*12.0-120*		*03/08/2024 03:28*	WG2240356
(S) Phenol-d5	*45.8*			*10.0-120*		*03/08/2024 03:28*	WG2240356
(S) Nitrobenzene-d5	*47.7*			*10.0-122*		*03/08/2024 03:28*	WG2240356
(S) 2-Fluorobiphenyl	*43.2*			*15.0-120*		*03/08/2024 03:28*	WG2240356
(S) 2,4,6-Tribromophenol	*48.2*			*10.0-127*		*03/08/2024 03:28*	WG2240356
(S) p-Terphenyl-d14	*49.8*			*10.0-120*		*03/08/2024 03:28*	WG2240356

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.0		1	02/16/2024 12:58	WG2227552

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	0.0637	0.401	1	03/08/2024 03:07	WG2240356
3-Methylcholanthrene	U	T8	0.0718	0.401	1	03/08/2024 03:07	WG2240356
(S) 2-Fluorophenol	*42.5*			*12.0-120*		*03/08/2024 03:07*	WG2240356
(S) Phenol-d5	*41.2*			*10.0-120*		*03/08/2024 03:07*	WG2240356
(S) Nitrobenzene-d5	*0.000*	J2		*10.0-122*		*03/08/2024 03:07*	WG2240356
(S) 2-Fluorobiphenyl	*44.5*			*15.0-120*		*03/08/2024 03:07*	WG2240356
(S) 2,4,6-Tribromophenol	*47.1*			*10.0-127*		*03/08/2024 03:07*	WG2240356
(S) p-Terphenyl-d14	*49.4*			*10.0-120*		*03/08/2024 03:07*	WG2240356

Sample Narrative:

L1711446-02 WG2240356: Surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.0		1	02/16/2024 12:58	WG2227552

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	0.308	1.94	5	03/08/2024 03:49	WG2240356
3-Methylcholanthrene	U	T8	0.347	1.94	5	03/08/2024 03:49	WG2240356
(S) 2-Fluorophenol	*44.0*			*12.0-120*		*03/08/2024 03:49*	WG2240356
(S) Phenol-d5	*45.4*			*10.0-120*		*03/08/2024 03:49*	WG2240356
(S) Nitrobenzene-d5	*0.000*	J2		*10.0-122*		*03/08/2024 03:49*	WG2240356
(S) 2-Fluorobiphenyl	*56.9*			*15.0-120*		*03/08/2024 03:49*	WG2240356
(S) 2,4,6-Tribromophenol	*50.8*			*10.0-127*		*03/08/2024 03:49*	WG2240356
(S) p-Terphenyl-d14	*47.5*			*10.0-120*		*03/08/2024 03:49*	WG2240356

Sample Narrative:

L1711446-03 WG2240356: Surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	65.9		1	03/05/2024 15:57	WG2240006

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.287		0.00818	0.0505	1	03/13/2024 17:30	WG2230416
Anthracene	0.241		0.00900	0.0505	1	03/13/2024 17:30	WG2230416
Benzo(a)anthracene	0.331		0.00891	0.0505	1	03/13/2024 17:30	WG2230416
Benzo(b)fluoranthene	0.408		0.00943	0.0505	1	03/13/2024 17:30	WG2230416
Benzo(k)fluoranthene	0.128		0.00899	0.0505	1	03/13/2024 17:30	WG2230416
Benzo(g,h,i)perylene	0.196		0.00924	0.0505	1	03/13/2024 17:30	WG2230416
Benzo(a)pyrene	0.308		0.00939	0.0505	1	03/13/2024 17:30	WG2230416
Chrysene	0.332		0.0100	0.0505	1	03/13/2024 17:30	WG2230416
Dibenz(a,h)anthracene	0.0644		0.0140	0.0505	1	03/13/2024 17:30	WG2230416
Fluorene	0.507		0.00823	0.0505	1	03/13/2024 17:30	WG2230416
Indeno(1,2,3-cd)pyrene	0.243		0.0143	0.0505	1	03/13/2024 17:30	WG2230416
Naphthalene	0.266		0.0127	0.0505	1	03/13/2024 17:30	WG2230416
Phenanthrene	0.964		0.0100	0.0505	1	03/13/2024 17:30	WG2230416
Bis(2-ethylhexyl)phthalate	U		0.0640	0.505	1	03/13/2024 17:30	WG2230416
Di-n-butyl phthalate	U		0.0173	0.505	1	03/13/2024 17:30	WG2230416
Pyrene	0.389		0.00984	0.0505	1	03/13/2024 17:30	WG2230416
2,4-Dimethylphenol	U		0.0132	0.505	1	03/13/2024 17:30	WG2230416
2-Methylphenol	U		0.0152	0.505	1	03/13/2024 17:30	WG2230416
3&4-Methyl Phenol	U		0.0158	0.505	1	03/13/2024 17:30	WG2230416
Phenol	U		0.0203	0.505	1	03/13/2024 17:30	WG2230416
Dimethylbenz (A) Anthracene	U		0.0803	0.505	1	03/13/2024 21:05	WG2230416
3-Methylcholanthrene	U		0.0905	0.505	1	03/13/2024 21:05	WG2230416
(S) 2-Fluorophenol	*58.0*			*12.0-120*		*03/13/2024 17:30*	WG2230416
(S) Phenol-d5	*50.6*			*10.0-120*		*03/13/2024 17:30*	WG2230416
(S) Nitrobenzene-d5	*95.6*			*10.0-122*		*03/13/2024 17:30*	WG2230416
(S) 2-Fluorobiphenyl	*43.4*			*15.0-120*		*03/13/2024 17:30*	WG2230416
(S) 2,4,6-Tribromophenol	*74.1*			*10.0-127*		*03/13/2024 17:30*	WG2230416
(S) p-Terphenyl-d14	*53.4*			*10.0-120*		*03/13/2024 17:30*	WG2230416

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	90.3		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	2.35	14.7	40	03/08/2024 16:34	WG2240356
3-Methylcholanthrene	U	T8	2.63	14.7	40	03/08/2024 16:34	WG2240356
(S) 2-Fluorophenol	*58.0*	J7		*12.0-120*		*03/08/2024 16:34*	WG2240356
(S) Phenol-d5	*68.2*	J7		*10.0-120*		*03/08/2024 16:34*	WG2240356
(S) Nitrobenzene-d5	*155*	J7		*10.0-122*		*03/08/2024 16:34*	WG2240356
(S) 2-Fluorobiphenyl	*69.1*	J7		*15.0-120*		*03/08/2024 16:34*	WG2240356
(S) 2,4,6-Tribromophenol	*52.7*	J7		*10.0-127*		*03/08/2024 16:34*	WG2240356
(S) p-Terphenyl-d14	*74.5*	J7		*10.0-120*		*03/08/2024 16:34*	WG2240356

Sample Narrative:

L1711446-05 WG2240356: Dilution and surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	79.9		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	0.332	2.09	5	03/08/2024 04:09	WG2240356
3-Methylcholanthrene	U	T8	0.373	2.09	5	03/08/2024 04:09	WG2240356
(S) 2-Fluorophenol	*0.000*	J2		*12.0-120*		*03/08/2024 04:09*	WG2240356
(S) Phenol-d5	*0.000*	J2		*10.0-120*		*03/08/2024 04:09*	WG2240356
(S) Nitrobenzene-d5	*0.000*	J2		*10.0-122*		*03/08/2024 04:09*	WG2240356
(S) 2-Fluorobiphenyl	*0.000*	J2		*15.0-120*		*03/08/2024 04:09*	WG2240356
(S) 2,4,6-Tribromophenol	*35.4*			*10.0-127*		*03/08/2024 04:09*	WG2240356
(S) p-Terphenyl-d14	*43.7*			*10.0-120*		*03/08/2024 04:09*	WG2240356

Sample Narrative:

L1711446-06 WG2240356: Surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.3		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	0.300	1.89	5	03/08/2024 13:48	WG2240356
3-Methylcholanthrene	U	T8	0.337	1.89	5	03/08/2024 13:48	WG2240356
(S) 2-Fluorophenol	*69.1*			*12.0-120*		*03/08/2024 13:48*	WG2240356
(S) Phenol-d5	*0.000*	J2		*10.0-120*		*03/08/2024 13:48*	WG2240356
(S) Nitrobenzene-d5	*0.000*	J2		*10.0-122*		*03/08/2024 13:48*	WG2240356
(S) 2-Fluorobiphenyl	*48.1*			*15.0-120*		*03/08/2024 13:48*	WG2240356
(S) 2,4,6-Tribromophenol	*42.0*			*10.0-127*		*03/08/2024 13:48*	WG2240356
(S) p-Terphenyl-d14	*53.7*			*10.0-120*		*03/08/2024 13:48*	WG2240356

Sample Narrative:

L1711446-07 WG2240356: Dilution and surrogate failure due to matrix interference.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	84.3		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	0.314	1.98	5	03/08/2024 14:09	WG2240356
3-Methylcholanthrene	U	T8	0.353	1.98	5	03/08/2024 14:09	WG2240356
(S) 2-Fluorophenol	*49.5*			*12.0-120*		*03/08/2024 14:09*	WG2240356
(S) Phenol-d5	*45.6*			*10.0-120*		*03/08/2024 14:09*	WG2240356
(S) Nitrobenzene-d5	*38.7*			*10.0-122*		*03/08/2024 14:09*	WG2240356
(S) 2-Fluorobiphenyl	*42.0*			*15.0-120*		*03/08/2024 14:09*	WG2240356
(S) 2,4,6-Tribromophenol	*45.7*			*10.0-127*		*03/08/2024 14:09*	WG2240356
(S) p-Terphenyl-d14	*46.9*			*10.0-120*		*03/08/2024 14:09*	WG2240356

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.5		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	2.45	15.4	40	03/08/2024 16:13	WG2240356
3-Methylcholanthrene	U	T8	2.75	15.4	40	03/08/2024 16:13	WG2240356
(S) 2-Fluorophenol	*42.6*	J7		*12.0-120*		*03/08/2024 16:13*	WG2240356
(S) Phenol-d5	*69.1*	J7		*10.0-120*		*03/08/2024 16:13*	WG2240356
(S) Nitrobenzene-d5	*61.6*	J7		*10.0-122*		*03/08/2024 16:13*	WG2240356
(S) 2-Fluorobiphenyl	*48.5*	J7		*15.0-120*		*03/08/2024 16:13*	WG2240356
(S) 2,4,6-Tribromophenol	*46.7*	J7		*10.0-127*		*03/08/2024 16:13*	WG2240356
(S) p-Terphenyl-d14	*50.9*	J7		*10.0-120*		*03/08/2024 16:13*	WG2240356

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.1		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	2.49	15.6	40	03/08/2024 16:55	WG2240356
3-Methylcholanthrene	U	T8	2.80	15.6	40	03/08/2024 16:55	WG2240356
(S) 2-Fluorophenol	*0.000*	J7		*12.0-120*		*03/12/2024 17:29*	WG2240356
(S) Phenol-d5	*0.000*	J7		*10.0-120*		*03/12/2024 17:29*	WG2240356
(S) Nitrobenzene-d5	*0.000*	J7		*10.0-122*		*03/12/2024 17:29*	WG2240356
(S) 2-Fluorobiphenyl	*0.000*	J7		*15.0-120*		*03/12/2024 17:29*	WG2240356
(S) 2,4,6-Tribromophenol	*0.000*	J7		*10.0-127*		*03/12/2024 17:29*	WG2240356
(S) p-Terphenyl-d14	*0.000*	J7		*10.0-120*		*03/12/2024 17:29*	WG2240356

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.6		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	2.42	15.2	40	03/08/2024 17:36	WG2240356
3-Methylcholanthrene	U	T8	2.72	15.2	40	03/08/2024 17:36	WG2240356
(S) 2-Fluorophenol	*67.7*	J7		*12.0-120*		*03/08/2024 17:36*	WG2240356
(S) Phenol-d5	*61.6*	J7		*10.0-120*		*03/08/2024 17:36*	WG2240356
(S) Nitrobenzene-d5	*68.9*	J7		*10.0-122*		*03/08/2024 17:36*	WG2240356
(S) 2-Fluorobiphenyl	*65.2*	J7		*15.0-120*		*03/08/2024 17:36*	WG2240356
(S) 2,4,6-Tribromophenol	*58.5*	J7		*10.0-127*		*03/08/2024 17:36*	WG2240356
(S) p-Terphenyl-d14	*64.6*	J7		*10.0-120*		*03/08/2024 17:36*	WG2240356

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	75.6		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	2.81	17.6	40	03/08/2024 17:15	WG2240356
3-Methylcholanthrene	U	T8	3.15	17.6	40	03/08/2024 17:15	WG2240356
(S) 2-Fluorophenol	*0.000*	J7		*12.0-120*		*03/12/2024 17:51*	WG2240356
(S) Phenol-d5	*0.000*	J7		*10.0-120*		*03/12/2024 17:51*	WG2240356
(S) Nitrobenzene-d5	*0.000*	J7		*10.0-122*		*03/12/2024 17:51*	WG2240356
(S) 2-Fluorobiphenyl	*0.000*	J7		*15.0-120*		*03/12/2024 17:51*	WG2240356
(S) 2,4,6-Tribromophenol	*0.000*	J7		*10.0-127*		*03/12/2024 17:51*	WG2240356
(S) p-Terphenyl-d14	*0.000*	J7		*10.0-120*		*03/12/2024 17:51*	WG2240356

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	78.2		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	2.71	17.0	40	03/08/2024 15:53	WG2240356
3-Methylcholanthrene	U	T8	3.04	17.0	40	03/08/2024 15:53	WG2240356
(S) 2-Fluorophenol	*52.0*	J7		*12.0-120*		*03/08/2024 15:53*	WG2240356
(S) Phenol-d5	*67.9*	J7		*10.0-120*		*03/08/2024 15:53*	WG2240356
(S) Nitrobenzene-d5	*76.1*	J7		*10.0-122*		*03/08/2024 15:53*	WG2240356
(S) 2-Fluorobiphenyl	*54.7*	J7		*15.0-120*		*03/08/2024 15:53*	WG2240356
(S) 2,4,6-Tribromophenol	*46.1*	J7		*10.0-127*		*03/08/2024 15:53*	WG2240356
(S) p-Terphenyl-d14	*68.6*	J7		*10.0-120*		*03/08/2024 15:53*	WG2240356

Sample Narrative:

L1711446-13 WG2240356: Dilution due to matrix.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	82.7		1	03/05/2024 15:57	WG2240006

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	12.6		0.131	0.805	20	03/13/2024 19:14	WG2230416
Anthracene	14.9		0.144	0.805	20	03/13/2024 19:14	WG2230416
Benzo(a)anthracene	18.5		0.141	0.805	20	03/13/2024 19:14	WG2230416
Benzo(b)fluoranthene	19.2		0.150	0.805	20	03/13/2024 19:14	WG2230416
Benzo(k)fluoranthene	6.22		0.143	0.805	20	03/13/2024 19:14	WG2230416
Benzo(g,h,i)perylene	7.41		0.148	0.805	20	03/13/2024 19:14	WG2230416
Benzo(a)pyrene	15.5		0.150	0.805	20	03/13/2024 19:14	WG2230416
Chrysene	14.9		0.160	0.805	20	03/13/2024 19:14	WG2230416
Dibenz(a,h)anthracene	1.95		0.224	0.805	20	03/13/2024 19:14	WG2230416
Fluorene	5.60		0.131	0.805	20	03/13/2024 19:14	WG2230416
Indeno(1,2,3-cd)pyrene	9.46		0.227	0.805	20	03/13/2024 19:14	WG2230416
Naphthalene	0.547	J	0.202	0.805	20	03/13/2024 19:14	WG2230416
Phenanthrene	8.91		0.160	0.805	20	03/13/2024 19:14	WG2230416
Bis(2-ethylhexyl)phthalate	U		1.02	8.05	20	03/13/2024 19:14	WG2230416
Di-n-butyl phthalate	U		0.276	8.05	20	03/13/2024 19:14	WG2230416
Pyrene	38.7		0.157	0.805	20	03/13/2024 19:14	WG2230416
2,4-Dimethylphenol	U		0.210	8.05	20	03/13/2024 19:14	WG2230416
2-Methylphenol	U		0.242	8.05	20	03/13/2024 19:14	WG2230416
3&4-Methyl Phenol	U		0.252	8.05	20	03/13/2024 19:14	WG2230416
Phenol	U		0.324	8.05	20	03/13/2024 19:14	WG2230416
Dimethylbenz (A) Anthracene	U		1.28	8.05	20	03/13/2024 22:48	WG2230416
3-Methylcholanthrene	U		1.44	8.05	20	03/13/2024 22:48	WG2230416
(S) 2-Fluorophenol	*37.9*	J7		*12.0-120*		*03/13/2024 19:14*	WG2230416
(S) Phenol-d5	*42.9*	J7		*10.0-120*		*03/13/2024 19:14*	WG2230416
(S) Nitrobenzene-d5	*39.3*	J7		*10.0-122*		*03/13/2024 19:14*	WG2230416
(S) 2-Fluorobiphenyl	*52.0*	J7		*15.0-120*		*03/13/2024 19:14*	WG2230416
(S) 2,4,6-Tribromophenol	*74.6*	J7		*10.0-127*		*03/13/2024 19:14*	WG2230416
(S) p-Terphenyl-d14	*57.4*	J7		*10.0-120*		*03/13/2024 19:14*	WG2230416

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	80.2		1	03/05/2024 15:57	WG2240006

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.415		0.00678	0.0419	1.01	03/13/2024 18:12	WG2230416
Anthracene	0.161		0.00747	0.0419	1.01	03/13/2024 18:12	WG2230416
Benzo(a)anthracene	0.297		0.00739	0.0419	1.01	03/13/2024 18:12	WG2230416
Benzo(b)fluoranthene	0.275		0.00781	0.0419	1.01	03/13/2024 18:12	WG2230416
Benzo(k)fluoranthene	0.0831		0.00745	0.0419	1.01	03/13/2024 18:12	WG2230416
Benzo(g,h,i)perylene	0.107		0.00767	0.0419	1.01	03/13/2024 18:12	WG2230416
Benzo(a)pyrene	0.208		0.00779	0.0419	1.01	03/13/2024 18:12	WG2230416
Chrysene	0.219		0.00834	0.0419	1.01	03/13/2024 18:12	WG2230416
Dibenz(a,h)anthracene	0.0360	J	0.0116	0.0419	1.01	03/13/2024 18:12	WG2230416
Fluorene	0.879		0.00682	0.0419	1.01	03/13/2024 18:12	WG2230416
Indeno(1,2,3-cd)pyrene	0.112		0.0118	0.0419	1.01	03/13/2024 18:12	WG2230416
Naphthalene	U		0.0105	0.0419	1.01	03/13/2024 18:12	WG2230416
Phenanthrene	1.89		0.00833	0.0419	1.01	03/13/2024 18:12	WG2230416
Bis(2-ethylhexyl)phthalate	U		0.0531	0.419	1.01	03/13/2024 18:12	WG2230416
Di-n-butyl phthalate	U		0.0143	0.419	1.01	03/13/2024 18:12	WG2230416
Pyrene	0.543		0.00815	0.0419	1.01	03/13/2024 18:12	WG2230416
2,4-Dimethylphenol	U		0.0110	0.419	1.01	03/13/2024 18:12	WG2230416
2-Methylphenol	U		0.0126	0.419	1.01	03/13/2024 18:12	WG2230416
3&4-Methyl Phenol	U		0.0131	0.419	1.01	03/13/2024 18:12	WG2230416
Phenol	0.365	J	0.0168	0.419	1.01	03/13/2024 18:12	WG2230416
Dimethylbenz (A) Anthracene	U		0.0666	0.419	1.01	03/13/2024 21:46	WG2230416
3-Methylcholanthrene	U		0.0750	0.419	1.01	03/13/2024 21:46	WG2230416
(S) 2-Fluorophenol	*38.2*			*12.0-120*		*03/13/2024 18:12*	WG2230416
(S) Phenol-d5	*47.6*			*10.0-120*		*03/13/2024 18:12*	WG2230416
(S) Nitrobenzene-d5	*139*	J1		*10.0-122*		*03/13/2024 18:12*	WG2230416
(S) 2-Fluorobiphenyl	*38.2*			*15.0-120*		*03/13/2024 18:12*	WG2230416
(S) 2,4,6-Tribromophenol	*78.8*			*10.0-127*		*03/13/2024 18:12*	WG2230416
(S) p-Terphenyl-d14	*49.3*			*10.0-120*		*03/13/2024 18:12*	WG2230416

Sample Narrative:

L1711446-15 WG2230416: Surrogate failure due to matrix interference

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.0		1	03/05/2024 15:57	WG2240006

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.208		0.00634	0.0392	1	03/13/2024 18:33	WG2230416
Anthracene	0.144		0.00698	0.0392	1	03/13/2024 18:33	WG2230416
Benzo(a)anthracene	0.334		0.00691	0.0392	1	03/13/2024 18:33	WG2230416
Benzo(b)fluoranthene	0.471		0.00731	0.0392	1	03/13/2024 18:33	WG2230416
Benzo(k)fluoranthene	0.148		0.00696	0.0392	1	03/13/2024 18:33	WG2230416
Benzo(g,h,i)perylene	0.181		0.00716	0.0392	1	03/13/2024 18:33	WG2230416
Benzo(a)pyrene	0.293		0.00728	0.0392	1	03/13/2024 18:33	WG2230416
Chrysene	0.386		0.00779	0.0392	1	03/13/2024 18:33	WG2230416
Dibenz(a,h)anthracene	0.0512		0.0109	0.0392	1	03/13/2024 18:33	WG2230416
Fluorene	0.371		0.00638	0.0392	1	03/13/2024 18:33	WG2230416
Indeno(1,2,3-cd)pyrene	0.205		0.0111	0.0392	1	03/13/2024 18:33	WG2230416
Naphthalene	2.21		0.196	0.783	20	03/14/2024 11:30	WG2230416
Phenanthrene	1.01		0.00778	0.0392	1	03/13/2024 18:33	WG2230416
Bis(2-ethylhexyl)phthalate	U		0.0496	0.392	1	03/13/2024 18:33	WG2230416
Di-n-butyl phthalate	U		0.0134	0.392	1	03/13/2024 18:33	WG2230416
Pyrene	0.608		0.00762	0.0392	1	03/13/2024 18:33	WG2230416
2,4-Dimethylphenol	U		0.0102	0.392	1	03/13/2024 18:33	WG2230416
2-Methylphenol	U		0.0118	0.392	1	03/13/2024 18:33	WG2230416
3&4-Methyl Phenol	U		0.0122	0.392	1	03/13/2024 18:33	WG2230416
Phenol	U		0.0158	0.392	1	03/13/2024 18:33	WG2230416
Dimethylbenz (A) Anthracene	U		0.0622	0.392	1	03/13/2024 22:07	WG2230416
3-Methylcholanthrene	U		0.0701	0.392	1	03/13/2024 22:07	WG2230416
(S) 2-Fluorophenol	*28.8*			*12.0-120*		*03/13/2024 18:33*	WG2230416
(S) Phenol-d5	*34.3*			*10.0-120*		*03/13/2024 18:33*	WG2230416
(S) Nitrobenzene-d5	*84.6*			*10.0-122*		*03/13/2024 18:33*	WG2230416
(S) 2-Fluorobiphenyl	*40.5*			*15.0-120*		*03/13/2024 18:33*	WG2230416
(S) 2,4,6-Tribromophenol	*69.0*			*10.0-127*		*03/13/2024 18:33*	WG2230416
(S) p-Terphenyl-d14	*55.9*			*10.0-120*		*03/13/2024 18:33*	WG2230416

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	78.6		1	03/05/2024 15:57	WG2240006

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.0857		0.00685	0.0423	1	03/13/2024 17:51	WG2230416
Anthracene	0.181		0.00754	0.0423	1	03/13/2024 17:51	WG2230416
Benzo(a)anthracene	0.727		0.00746	0.0423	1	03/13/2024 17:51	WG2230416
Benzo(b)fluoranthene	0.839		0.00790	0.0423	1	03/13/2024 17:51	WG2230416
Benzo(k)fluoranthene	0.308		0.00753	0.0423	1	03/13/2024 17:51	WG2230416
Benzo(g,h,i)perylene	0.328		0.00774	0.0423	1	03/13/2024 17:51	WG2230416
Benzo(a)pyrene	0.677		0.00787	0.0423	1	03/13/2024 17:51	WG2230416
Chrysene	0.613		0.00842	0.0423	1	03/13/2024 17:51	WG2230416
Dibenz(a,h)anthracene	0.112		0.0117	0.0423	1	03/13/2024 17:51	WG2230416
Fluorene	0.131		0.00689	0.0423	1	03/13/2024 17:51	WG2230416
Indeno(1,2,3-cd)pyrene	0.418		0.0120	0.0423	1	03/13/2024 17:51	WG2230416
Naphthalene	1.01		0.0106	0.0423	1	03/13/2024 17:51	WG2230416
Phenanthrene	0.469		0.00841	0.0423	1	03/13/2024 17:51	WG2230416
Bis(2-ethylhexyl)phthalate	U		0.0537	0.423	1	03/13/2024 17:51	WG2230416
Di-n-butyl phthalate	U		0.0145	0.423	1	03/13/2024 17:51	WG2230416
Pyrene	0.894		0.00824	0.0423	1	03/13/2024 17:51	WG2230416
2,4-Dimethylphenol	U		0.0111	0.423	1	03/13/2024 17:51	WG2230416
2-Methylphenol	U		0.0127	0.423	1	03/13/2024 17:51	WG2230416
3&4-Methyl Phenol	U		0.0132	0.423	1	03/13/2024 17:51	WG2230416
Phenol	U		0.0170	0.423	1	03/13/2024 17:51	WG2230416
Dimethylbenz (A) Anthracene	U		0.0673	0.423	1	03/13/2024 21:25	WG2230416
3-Methylcholanthrene	U		0.0758	0.423	1	03/13/2024 21:25	WG2230416
(S) 2-Fluorophenol	*46.6*			*12.0-120*		*03/13/2024 17:51*	WG2230416
(S) Phenol-d5	*45.0*			*10.0-120*		*03/13/2024 17:51*	WG2230416
(S) Nitrobenzene-d5	*60.7*			*10.0-122*		*03/13/2024 17:51*	WG2230416
(S) 2-Fluorobiphenyl	*52.1*			*15.0-120*		*03/13/2024 17:51*	WG2230416
(S) 2,4,6-Tribromophenol	*79.9*			*10.0-127*		*03/13/2024 17:51*	WG2230416
(S) p-Terphenyl-d14	*56.2*			*10.0-120*		*03/13/2024 17:51*	WG2230416

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	73.8		1	02/16/2024 16:37	WG2227588

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	2.87	18.0	40	03/08/2024 15:32	WG2240356
3-Methylcholanthrene	U	T8	3.22	18.0	40	03/08/2024 15:32	WG2240356
(S) 2-Fluorophenol	*50.6*	J7		*12.0-120*		*03/08/2024 15:32*	WG2240356
(S) Phenol-d5	*56.9*	J7		*10.0-120*		*03/08/2024 15:32*	WG2240356
(S) Nitrobenzene-d5	*84.7*	J7		*10.0-122*		*03/08/2024 15:32*	WG2240356
(S) 2-Fluorobiphenyl	*57.7*	J7		*15.0-120*		*03/08/2024 15:32*	WG2240356
(S) 2,4,6-Tribromophenol	*52.7*	J7		*10.0-127*		*03/08/2024 15:32*	WG2240356
(S) p-Terphenyl-d14	*61.9*	J7		*10.0-120*		*03/08/2024 15:32*	WG2240356

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	72.9		1	02/16/2024 16:21	WG2227589

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	2.91	18.3	40	03/08/2024 15:11	WG2240356
3-Methylcholanthrene	U	T8	3.27	18.3	40	03/08/2024 15:11	WG2240356
(S) 2-Fluorophenol	*65.9*	J7		*12.0-120*		*03/08/2024 15:11*	WG2240356
(S) Phenol-d5	*66.4*	J7		*10.0-120*		*03/08/2024 15:11*	WG2240356
(S) Nitrobenzene-d5	*91.8*	J7		*10.0-122*		*03/08/2024 15:11*	WG2240356
(S) 2-Fluorobiphenyl	*67.1*	J7		*15.0-120*		*03/08/2024 15:11*	WG2240356
(S) 2,4,6-Tribromophenol	*69.4*	J7		*10.0-127*		*03/08/2024 15:11*	WG2240356
(S) p-Terphenyl-d14	*74.1*	J7		*10.0-120*		*03/08/2024 15:11*	WG2240356

Sample Narrative:

L1711446-19 WG2240356: Dilution due to matrix.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	82.5		1	02/16/2024 16:21	WG2227589

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	1.28	8.07	20	03/08/2024 14:30	WG2240356
3-Methylcholanthrene	U	T8	1.44	8.07	20	03/08/2024 14:30	WG2240356
(S) 2-Fluorophenol	*49.8*	J7		*12.0-120*		*03/08/2024 14:30*	WG2240356
(S) Phenol-d5	*46.0*	J7		*10.0-120*		*03/08/2024 14:30*	WG2240356
(S) Nitrobenzene-d5	*38.5*	J7		*10.0-122*		*03/08/2024 14:30*	WG2240356
(S) 2-Fluorobiphenyl	*48.8*	J7		*15.0-120*		*03/08/2024 14:30*	WG2240356
(S) 2,4,6-Tribromophenol	*39.5*	J7		*10.0-127*		*03/08/2024 14:30*	WG2240356
(S) p-Terphenyl-d14	*53.3*	J7		*10.0-120*		*03/08/2024 14:30*	WG2240356

Sample Narrative:

L1711446-20 WG2240356: Dilution due to matrix.

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.8		1	03/05/2024 15:57	WG2240006

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	8.41		0.122	0.750	20	03/13/2024 19:35	WG2230416
Anthracene	51.0		0.667	3.75	100	03/14/2024 12:19	WG2230416
Benzo(a)anthracene	86.7		0.661	3.75	100	03/14/2024 12:19	WG2230416
Benzo(b)fluoranthene	85.8		0.699	3.75	100	03/14/2024 12:19	WG2230416
Benzo(k)fluoranthene	23.6		0.133	0.750	20	03/13/2024 19:35	WG2230416
Benzo(g,h,i)perylene	23.1		0.137	0.750	20	03/13/2024 19:35	WG2230416
Benzo(a)pyrene	72.3		0.697	3.75	100	03/14/2024 12:19	WG2230416
Chrysene	75.6		0.745	3.75	100	03/14/2024 12:19	WG2230416
Dibenz(a,h)anthracene	7.00		0.208	0.750	20	03/13/2024 19:35	WG2230416
Fluorene	15.4		0.122	0.750	20	03/13/2024 19:35	WG2230416
Indeno(1,2,3-cd)pyrene	31.9		0.212	0.750	20	03/13/2024 19:35	WG2230416
Naphthalene	0.446	J	0.188	0.750	20	03/13/2024 19:35	WG2230416
Phenanthrene	138		0.744	3.75	100	03/14/2024 12:19	WG2230416
Bis(2-ethylhexyl)phthalate	U		0.950	7.50	20	03/13/2024 19:35	WG2230416
Di-n-butyl phthalate	U		0.257	7.50	20	03/13/2024 19:35	WG2230416
Pyrene	160		0.729	3.75	100	03/14/2024 12:19	WG2230416
2,4-Dimethylphenol	U		0.196	7.50	20	03/13/2024 19:35	WG2230416
2-Methylphenol	U		0.225	7.50	20	03/13/2024 19:35	WG2230416
3&4-Methyl Phenol	U		0.234	7.50	20	03/13/2024 19:35	WG2230416
Phenol	U		0.302	7.50	20	03/13/2024 19:35	WG2230416
Dimethylbenz (A) Anthracene	U		1.19	7.50	20	03/13/2024 23:09	WG2230416
3-Methylcholanthrene	U		1.34	7.50	20	03/13/2024 23:09	WG2230416
(S) 2-Fluorophenol	*37.7*	J7		*12.0-120*		*03/13/2024 19:35*	WG2230416
(S) 2-Fluorophenol	*53.7*	J7		*12.0-120*		*03/14/2024 12:19*	WG2230416
(S) Phenol-d5	*51.3*	J7		*10.0-120*		*03/14/2024 12:19*	WG2230416
(S) Phenol-d5	*34.8*	J7		*10.0-120*		*03/13/2024 19:35*	WG2230416
(S) Nitrobenzene-d5	*33.2*	J7		*10.0-122*		*03/13/2024 19:35*	WG2230416
(S) Nitrobenzene-d5	*39.0*	J7		*10.0-122*		*03/14/2024 12:19*	WG2230416
(S) 2-Fluorobiphenyl	*48.9*	J7		*15.0-120*		*03/13/2024 19:35*	WG2230416
(S) 2-Fluorobiphenyl	*51.8*	J7		*15.0-120*		*03/14/2024 12:19*	WG2230416
(S) 2,4,6-Tribromophenol	*48.1*	J7		*10.0-127*		*03/14/2024 12:19*	WG2230416
(S) 2,4,6-Tribromophenol	*60.2*	J7		*10.0-127*		*03/13/2024 19:35*	WG2230416
(S) p-Terphenyl-d14	*84.3*	J7		*10.0-120*		*03/14/2024 12:19*	WG2230416
(S) p-Terphenyl-d14	*72.8*	J7		*10.0-120*		*03/13/2024 19:35*	WG2230416

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.3		1	03/05/2024 15:57	WG2240006

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.591	J	0.124	0.763	20	03/13/2024 18:53	WG2230416
Anthracene	1.07		0.136	0.763	20	03/13/2024 18:53	WG2230416
Benzo(a)anthracene	4.54		0.134	0.763	20	03/13/2024 18:53	WG2230416
Benzo(b)fluoranthene	4.73		0.142	0.763	20	03/13/2024 18:53	WG2230416
Benzo(k)fluoranthene	1.47		0.135	0.763	20	03/13/2024 18:53	WG2230416
Benzo(g,h,i)perylene	1.83		0.140	0.763	20	03/13/2024 18:53	WG2230416
Benzo(a)pyrene	4.03		0.142	0.763	20	03/13/2024 18:53	WG2230416
Chrysene	4.48		0.151	0.763	20	03/13/2024 18:53	WG2230416
Dibenz(a,h)anthracene	0.541	J	0.212	0.763	20	03/13/2024 18:53	WG2230416
Fluorene	0.313	J	0.124	0.763	20	03/13/2024 18:53	WG2230416
Indeno(1,2,3-cd)pyrene	2.22		0.215	0.763	20	03/13/2024 18:53	WG2230416
Naphthalene	0.420	J	0.191	0.763	20	03/13/2024 18:53	WG2230416
Phenanthrene	1.66		0.151	0.763	20	03/13/2024 18:53	WG2230416
Bis(2-ethylhexyl)phthalate	U		0.967	7.63	20	03/13/2024 18:53	WG2230416
Di-n-butyl phthalate	U		0.261	7.63	20	03/13/2024 18:53	WG2230416
Pyrene	7.71		0.149	0.763	20	03/13/2024 18:53	WG2230416
2,4-Dimethylphenol	U		0.199	7.63	20	03/13/2024 18:53	WG2230416
2-Methylphenol	0.262	J	0.229	7.63	20	03/13/2024 18:53	WG2230416
3&4-Methyl Phenol	U		0.238	7.63	20	03/13/2024 18:53	WG2230416
Phenol	0.409	J	0.307	7.63	20	03/13/2024 18:53	WG2230416
Dimethylbenz (A) Anthracene	U		1.21	7.63	20	03/13/2024 22:27	WG2230416
3-Methylcholanthrene	U		1.36	7.63	20	03/13/2024 22:27	WG2230416
(S) 2-Fluorophenol	*41.8*	J7		*12.0-120*		*03/13/2024 18:53*	WG2230416
(S) Phenol-d5	*39.5*	J7		*10.0-120*		*03/13/2024 18:53*	WG2230416
(S) Nitrobenzene-d5	*48.1*	J7		*10.0-122*		*03/13/2024 18:53*	WG2230416
(S) 2-Fluorobiphenyl	*53.5*	J7		*15.0-120*		*03/13/2024 18:53*	WG2230416
(S) 2,4,6-Tribromophenol	*64.8*	J7		*10.0-127*		*03/13/2024 18:53*	WG2230416
(S) p-Terphenyl-d14	*60.6*	J7		*10.0-120*		*03/13/2024 18:53*	WG2230416

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.8		1	02/16/2024 16:21	WG2227589

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	1.24	7.77	20	03/08/2024 14:50	WG2240356
3-Methylcholanthrene	U	T8	1.39	7.77	20	03/08/2024 14:50	WG2240356
(S) 2-Fluorophenol	*55.6*	J7		*12.0-120*		*03/08/2024 14:50*	WG2240356
(S) Phenol-d5	*49.3*	J7		*10.0-120*		*03/08/2024 14:50*	WG2240356
(S) Nitrobenzene-d5	*57.1*	J7		*10.0-122*		*03/08/2024 14:50*	WG2240356
(S) 2-Fluorobiphenyl	*54.3*	J7		*15.0-120*		*03/08/2024 14:50*	WG2240356
(S) 2,4,6-Tribromophenol	*43.0*	J7		*10.0-127*		*03/08/2024 14:50*	WG2240356
(S) p-Terphenyl-d14	*57.1*	J7		*10.0-120*		*03/08/2024 14:50*	WG2240356

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dimethylbenz (A) Anthracene	U	T8	1.71	10.0	1	03/08/2024 19:35	WG2240442
3-Methylcholanthrene	U	T8	0.164	10.0	1	03/08/2024 19:35	WG2240442
(S) 2-Fluorophenol	*39.4*			*10.0-120*		*03/08/2024 19:35*	WG2240442
(S) Phenol-d5	*24.5*			*10.0-120*		*03/08/2024 19:35*	WG2240442
(S) Nitrobenzene-d5	*57.3*			*10.0-127*		*03/08/2024 19:35*	WG2240442
(S) 2-Fluorobiphenyl	*59.1*			*10.0-130*		*03/08/2024 19:35*	WG2240442
(S) 2,4,6-Tribromophenol	*51.5*			*10.0-155*		*03/08/2024 19:35*	WG2240442
(S) p-Terphenyl-d14	*66.7*			*10.0-128*		*03/08/2024 19:35*	WG2240442

QUALITY CONTROL SUMMARY

L1711446-01,02,03

Method Blank (MB)

(MB) R4034934-1 02/16/24 12:58

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1706129-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1706129-02 02/16/24 12:58 • (DUP) R4034934-3 02/16/24 12:58

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	80.4	74.2	1	7.93		10

Laboratory Control Sample (LCS)

(LCS) R4034934-2 02/16/24 12:58

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	90.0-110	

QUALITY CONTROL SUMMARY

L1711446-05,06,07,08,09,10,11,12,13,18

Method Blank (MB)

(MB) R4034945-1 02/16/24 16:37

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1706140-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1706140-11 02/16/24 16:37 • (DUP) R4034945-3 02/16/24 16:37

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	86.5	87.1	1	0.699		10

Laboratory Control Sample (LCS)

(LCS) R4034945-2 02/16/24 16:37

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	90.0-110	

QUALITY CONTROL SUMMARY

L1711446-19,20,23

Method Blank (MB)

(MB) R4034944-1 02/16/24 16:21

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1706184-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1706184-02 02/16/24 16:21 • (DUP) R4034944-3 02/16/24 16:21

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	84.0	83.8	1	0.281		10

Laboratory Control Sample (LCS)

(LCS) R4034944-2 02/16/24 16:21

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	90.0-110	

QUALITY CONTROL SUMMARY

L1711446-04,14,15,16,17,21,22

Method Blank (MB)

(MB) R4041969-1 03/05/24 15:57

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1705753-36 Original Sample (OS) • Duplicate (DUP)

(OS) L1705753-36 03/05/24 15:57 • (DUP) R4041969-3 03/05/24 15:57

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	97.4	97.9	1	0.508		10

Laboratory Control Sample (LCS)

(LCS) R4041969-2 03/05/24 15:57

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	90.0-110	

Method Blank (MB)

(MB) R4036875-2 02/22/24 00:18

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00539	0.0333
Anthracene	U		0.00593	0.0333
Benzo(a)anthracene	U		0.00587	0.0333
Benzo(b)fluoranthene	U		0.00621	0.0333
Benzo(k)fluoranthene	U		0.00592	0.0333
Benzo(g,h,i)perylene	U		0.00609	0.0333
Benzo(a)pyrene	U		0.00619	0.0333
Chrysene	U		0.00662	0.0333
Dibenz(a,h)anthracene	U		0.00923	0.0333
Fluorene	U		0.00542	0.0333
Indeno(1,2,3-cd)pyrene	U		0.00941	0.0333
Naphthalene	U		0.00836	0.0333
Phenanthrene	U		0.00661	0.0333
Bis(2-ethylhexyl)phthalate	U		0.0422	0.333
Di-n-butyl phthalate	U		0.0114	0.333
Pyrene	U		0.00648	0.0333
2,4-Dimethylphenol	U		0.00870	0.333
2-Methylphenol	U		0.0100	0.333
3&4-Methyl Phenol	U		0.0104	0.333
Phenol	U		0.0134	0.333
(S) 2-Fluorophenol	*62.3*		*12.0-120*	
(S) Phenol-d5	*60.2*		*10.0-120*	
(S) Nitrobenzene-d5	*62.2*		*10.0-122*	
(S) 2-Fluorobiphenyl	*61.3*		*15.0-120*	
(S) 2,4,6-Tribromophenol	*62.2*		*10.0-127*	
(S) p-Terphenyl-d14	*68.2*		*10.0-120*	

Method Blank (MB)

(MB) R4045458-1 03/13/24 18:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Dimethylbenz (A) Anthracene	U		0.0529	0.333
3-Methylcholanthrene	U		0.0596	0.333

Laboratory Control Sample (LCS)

(LCS) R4036875-1 02/21/24 23:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.666	0.499	74.9	38.0-120	
Anthracene	0.666	0.516	77.5	42.0-120	
Benzo(a)anthracene	0.666	0.533	80.0	44.0-120	
Benzo(b)fluoranthene	0.666	0.528	79.3	43.0-120	
Benzo(k)fluoranthene	0.666	0.523	78.5	44.0-120	
Benzo(g,h,i)perylene	0.666	0.500	75.1	43.0-120	
Benzo(a)pyrene	0.666	0.550	82.6	45.0-120	
Chrysene	0.666	0.503	75.5	43.0-120	
Dibenz(a,h)anthracene	0.666	0.538	80.8	44.0-120	
Fluorene	0.666	0.516	77.5	41.0-120	
Indeno(1,2,3-cd)pyrene	0.666	0.568	85.3	45.0-120	
Naphthalene	0.666	0.388	58.3	18.0-120	
Phenanthrene	0.666	0.498	74.8	42.0-120	
Bis(2-ethylhexyl)phthalate	0.666	0.553	83.0	41.0-120	
Di-n-butyl phthalate	0.666	0.520	78.1	43.0-120	
Pyrene	0.666	0.512	76.9	41.0-120	
2,4-Dimethylphenol	0.666	0.395	59.3	15.0-120	
2-Methylphenol	0.666	0.471	70.7	35.0-120	
3&4-Methyl Phenol	0.666	0.558	83.8	42.0-120	
Phenol	0.666	0.470	70.6	28.0-120	
(S) 2-Fluorophenol			*79.6*	*12.0-120*	
(S) Phenol-d5			*76.3*	*10.0-120*	
(S) Nitrobenzene-d5			*73.6*	*10.0-122*	
(S) 2-Fluorobiphenyl			*77.2*	*15.0-120*	
(S) 2,4,6-Tribromophenol			*88.7*	*10.0-127*	
(S) p-Terphenyl-d14			*79.6*	*10.0-120*	

L1707316-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707316-01 02/22/24 02:29 • (MS) R4036875-3 02/22/24 02:51 • (MSD) R4036875-4 02/22/24 03:12

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.741	0.00742	0.396	0.395	52.5	52.5	1	18.0-120			0.281	32
Anthracene	0.741	0.0188	0.424	0.422	54.7	54.5	1	22.0-120			0.526	29
Benzo(a)anthracene	0.741	0.0993	0.444	0.455	46.5	48.2	1	25.0-120			2.48	29
Benzo(b)fluoranthene	0.741	0.0983	0.444	0.453	46.7	48.0	1	19.0-122			1.99	31
Benzo(k)fluoranthene	0.741	0.0339	0.423	0.415	52.5	51.6	1	23.0-120			1.86	30
Benzo(g,h,i)perylene	0.741	0.0372	0.338	0.346	40.6	41.8	1	10.0-120			2.28	33
Benzo(a)pyrene	0.741	0.0772	0.448	0.453	50.1	50.8	1	24.0-120			0.988	30

L1707316-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1707316-01 02/22/24 02:29 • (MS) R4036875-3 02/22/24 02:51 • (MSD) R4036875-4 02/22/24 03:12

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chrysene	0.741	0.0885	0.418	0.433	44.5	46.6	1	21.0-120			3.40	29
Dibenz(a,h)anthracene	0.741	0.0107	0.381	0.383	49.9	50.4	1	10.0-120			0.583	32
Fluorene	0.741	0.00946	0.419	0.418	55.3	55.3	1	25.0-120			0.266	30
Indeno(1,2,3-cd)pyrene	0.741	0.0412	0.408	0.416	49.5	50.8	1	10.0-120			1.89	32
Naphthalene	0.741	U	0.320	0.323	43.2	43.7	1	10.0-120			0.692	35
Phenanthrene	0.741	0.105	0.426	0.430	43.4	44.0	1	17.0-120			0.780	31
Bis(2-ethylhexyl)phthalate	0.741	U	0.453	0.460	61.1	62.2	1	17.0-126			1.46	30
Di-n-butyl phthalate	0.741	U	0.421	0.418	56.8	56.6	1	30.0-120			0.531	29
Pyrene	0.741	0.157	0.440	0.465	38.1	41.7	1	16.0-121			5.66	32
2,4-Dimethylphenol	0.741	U	0.326	0.327	44.0	44.3	1	10.0-120			0.341	33
2-Methylphenol	0.741	U	0.376	0.361	50.8	48.8	1	11.0-120			4.23	40
3&4-Methyl Phenol	0.741	U	0.446	0.433	60.2	58.6	1	12.0-123			3.04	38
Phenol	0.741	U	0.359	0.348	48.5	47.1	1	12.0-120			3.14	38
(S) 2-Fluorophenol					*56.9*	*54.4*		*12.0-120*				
(S) Phenol-d5					*54.4*	*50.9*		*10.0-120*				
(S) Nitrobenzene-d5					*54.4*	*54.2*		*10.0-122*				
(S) 2-Fluorobiphenyl					*54.1*	*54.5*		*15.0-120*				
(S) 2,4,6-Tribromophenol					*70.6*	*65.1*		*10.0-127*				
(S) p-Terphenyl-d14					*59.2*	*60.2*		*10.0-120*				

QUALITY CONTROL SUMMARY

L1711446-01,02,03,05,06,07,08,09,10,11,12,13,18,19,20,23

Method Blank (MB)

(MB) R4044053-3 03/08/24 01:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Dimethylbenz (A) Anthracene	U		0.0529	0.333
3-Methylcholanthrene	U		0.0596	0.333

Laboratory Control Sample (LCS)

(LCS) R4044053-2 03/08/24 00:43

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dimethylbenz (A) Anthracene	0.666	0.621	93.2	27.0-124	
3-Methylcholanthrene	0.666	0.532	79.9	32.0-155	

Method Blank (MB)

(MB) R4043899-3 03/08/24 17:05

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dimethylbenz (A) Anthracene	U		1.71	10.0
3-Methylcholanthrene	U		0.164	10.0

Laboratory Control Sample (LCS)

(LCS) R4043899-2 03/08/24 16:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dimethylbenz (A) Anthracene	50.0	32.3	64.6	14.0-124	
3-Methylcholanthrene	50.0	36.3	72.6	30.0-160	

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
T8	Sample(s) received past/too close to holding time expiration.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Subcontract Chain of Custody

Pace Analytical (Melville)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number

C002 7681

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.9037 Email: nyakes@alphalab.com	Project Location: PA Project Manager: Nadine Yakes **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2407681

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Previous report was PACE #: 70270216

L1711446

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
~~L1706140~~ .01 ~~01~~	GPSP-25-1.0-1.5	02-09-24 12:30	SOIL	8270	
02 ~~02~~	GPSP-25-4.0-4.5	02-09-24 12:40	SOIL	8270	
03 ~~03~~	GPSP-25-4.5-5.0	02-09-24 12:50	SOIL	8270	
~~04~~	GPSP-29-4.5-5.0	02-09-24 13:20	SOIL	Hold Sample for SUB analysis	
~~05~~	GPSP-29-3.5-4.0	02-09-24 13:10	SOIL	Hold Sample for SUB analysis	
~~06~~	GPSP-29-1.5-2.0	02-09-24 13:00	SOIL	Hold Sample for SUB analysis	
04 ~~04~~	GPSP-26-1.5-2.0	02-09-24 14:05	SOIL	8270	
05 ~~05~~	GPSP-26-4.5-5.0	02-09-24 14:25	SOIL	8270	
06 ~~06~~					

28 Total

Sample Receipt Checklist

COC Seal Present/Intact:	__Y__N	If Applicable	
COC Signed/Accurate:	__Y__N	VOA Zero Headspace:	__Y__N
Bottles arrive intact:	__Y__N	Pres. Correct/Check:	__Y__N
Correct bottles used:	__Y__N		
Sufficient volume sent:	__Y__N		
RA Screen <0.5 mR/hr:	__Y__N		

705717458848

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/12/24	[signature] NAL	2/12 17:30
[signature] NAL	2/12 22:00	[signature]	2/12/24 22:00
[signature]	2/12/24	[signature] Pace	2/13 4:10
[signature] Pace	2/13 8:00	[signature]	2/13/24 8:00

Form No: AL_subcoc

[signature] 2/14/24 18:00

[signature] 2-15-24 0900

DPA 82.0+0=2.0

Subcontract Chain of Custody

ALPHA ANALYTICAL
World Class Chemistry

Pace Analytical (Melville)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2407681

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.9037 Email: nyakes@alphalab.com	Project Location: PA Project Manager: Nadine Yakes **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2407681

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Previous report was PACE #: 70270216

L1711446 Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
~~L1706140~~ 07 ~~09~~	GPSP-26-4.0-4.5	02-09-24 14:15	SOIL	8270	
08 ~~10~~	GPSP-27-1.5-2.0	02-09-24 15:10	SOIL	8270	
09 ~~11~~	GPSP-27-4.0-4.5	02-09-24 15:20	SOIL	8270	
10 ~~12~~	GPSP-27-4.5-5.0	02-09-24 15:30	SOIL	8270	
11 ~~13~~	GPSP-MW01-0.5-1.0	02-09-24 15:45	SOIL	8270	
12 ~~14~~	GPSP-MW01-3.5-4.0	02-09-24 15:55	SOIL	8270	
13 ~~15~~	GPSP-MW01-4.5-5.0	02-09-24 16:05	SOIL	8270	
14 ~~16~~	GPSP-30-3.5-4.0	02-09-24 15:00	SOIL	Hold Sample for SUB analysis	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/12/24	[signature] AK	2/12 17:30
[signature] AK	2/12 22:00	[signature]	2/12/24 22:05
[signature]	2/12/24	[signature] Pace	2/13 4:10
[signature] Pace	2/13 8:00	[signature]	2/13/24 8:00

Form No: AL_subcoc

[signature] 2/14/24 18:00 [signature] (23) 2-15-24 09:00

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Subcontract Chain of Custody

Pace Analytical (Melville)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2407681

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.9037 Email: nyakes@alphalab.com	Project Location: PA Project Manager: Nadine Yakes **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2407681

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Previous report was PACE #: 70270216

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
~~L1706140~~ 15 ~~17~~	GPSP-MW02-4.0-4.5	02-09-24 13:55	SOIL	Hold Sample for SUB analysis	
16 ~~18~~	GPSP-MW02-2.5-3.0	02-09-24 13:45	SOIL	Hold Sample for SUB analysis	
17 ~~19~~	GPSP-MW02-1.5-2.0	02-09-24 13:35	SOIL	Hold Sample for SUB analysis	
~~20~~	GPSP-28-6.5-7.0	02-09-24 11:35	SOIL	Hold Sample for SUB analysis	
~~21~~	GPSP-28-0.5-1.0	02-09-24 11:10	SOIL	Hold Sample for SUB analysis	
~~22~~	GPSP-28-6.0-6.5	02-09-24 11:25	SOIL	Hold Sample for SUB analysis	
18 ~~23~~	GPSP-24-6.5-7.0	02-09-24 12:05	SOIL	8270	
19 ~~24~~	GPSP-24-6.0-6.5	02-09-24 11:55	SOIL	8270	
20 ~~25~~	GPSP-24-1.5-2.0	02-09-24 11:45	SOIL	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/12/24	[signature] DAL	2/12 12:30
[signature] DAL	2/12 22:00	[signature]	2/12/24 22:05
[signature]	2/12/24	Paul Leone - Pace	2/13 4:10
Paul Leone - Pace	2/13 8:00	[signature]	2/13/24 8:00

Form No: AL_subcoc

[signature] 2/14/24

[signature] 2-15-24 0900
DPAS 2-0+0=2-0

Subcontract Chain of Custody

Pace Analytical (Melville)
575 Broad Hollow Road
Melville, NY 11747

Alpha Job Number
L2407681

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.9037 Email: nyakes@alphalab.com	Project Location: PA Project Manager: Nadine Yakes **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2407681

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Previous report was PACE #: 70270216

L1711446 Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
~~L1706440~~ 21 ~~22~~	GPSP-30-2.0-2.5	02-09-24 14:50	SOIL	Hold Sample for SUB analysis	
22 ~~23~~	GPSP-30-1.5-2.0	02-09-24 14:40	SOIL	Hold Sample for SUB analysis	
23 ~~24~~	GPSP-31-2.5-3.0	02-09-24 16:15	SOIL	8270	
24 ~~25~~	FIELD BLANK	02-09-24 16:25	WATER	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/12/24	[signature]	2/12 17:30
[signature]	2/12 22:00	[signature]	2/12/24 22:05
[signature]	2/12/24	[signature] Pace	2/13 4:10
[signature] Pace	2/13 8:00	[signature]	2/13/24 8:00

Form No: AL_subcoc

[signature] 2/14/24 18:00

[signature] 2-15-24 0900
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WO#: 70287155

Going To National

ct Chain of Custody

Melville)
Road
7

G121

Alpha Job Number
L2407681

ALPHA ANALYTICAL
World Class Chemistry

Client Informa ... **rmation** | **Regulatory Requirements/Report Limits**

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Location: PA
Project Manager: Nadine Yakes

State/Federal Program:
Regulatory Criteria: L1706140

Turnaround & Deliverables Information

Due Date:
Deliverables:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2407681

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Previous report was PACE #: 70270216

L1711446 Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	GPSP-30-2.0-2.5	02-09-24 14:50	SOIL	Hold Sample for SUB analysis	
	GPSP-30-1.5-2.0	02-09-24 14:40	SOIL	Hold Sample for SUB analysis	
	GPSP-31-2.5-3.0	02-09-24 16:15	SOIL	8270	
	FIELD BLANK ~~24~~ 24	02-09-24 16:25	WATER	8270	

Sample Receipt Checklist
COC Seal Present/Intact: ✓ N
COC Signed/Accurate: ✓ N
Bottles arrive intact: ✓ N
Correct bottles used: ✓ N
Sufficient volume sent: ✓ N
RA Screen <0.5 mR/hr: ✓ N
If Applicable
VOA Zero Headspace: ✓ N
Pres. Correct/Check: ✓ N
DPA8 3.9 +0= 3.9
7057 1745 9112

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/12/24	[signature]	2/12 17:30
[signature]	2/12 22:00	[signature]	2/12/24 22:05
[signature]	2/12/24	[signature]	2/13 4:10
[signature]	2/13 8:00	[signature]	2/13/24 8:00

Form No: AL_subcoc

Received by: [signature] 2-16-24/900 (ashepacelo) 2/16/24 18:00

L1706140 - PACEAMA - Relog

R5

Please relog all samples including the ones on HOLD for SV8270AP9.

Thanks!
Haley

NOTICE-- The contents of this email and any attachments may contain confidential, privileged, and/or legally protected information and are for the sole use of the addressee(s). Any review or distribution by others is strictly prohibited. If you are not the intended recipient, please contact the sender immediately and delete any copies.

P Please consider the environment before printing this email

Time estimate: oh **Time spent:** oh

Members

HT Haley Torrence (responsible)

Comments

Haley Torrence *1 March 2024 13:59*

Update: Of the HOLD samples, please only relog the following:

-06, -16, -17, -18, -19, -26, -27

Appendix C

Boring Logs

Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-01

Client: PESRM		Date Start: 09/08/2023
Project Name: PES Refinery		Date Finish: 09/08/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 4.5'
Logged By: Nick Daigle	Sample Interval: 3.5-4.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				5.7		
1				52.2		
				39.4		
2				110.1		
			54	193.5	Gray-brown fine to medium sand with some gravel and fill	
3				236		
				257.2		
4		GPSP-01		323.8		Odor; more black-colored here
				172.8		Hit water at 4.5'
5					**End of Boring**	
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-02

Client: PESRM		Date Start: 09/07/2023
Project Name: PES Refinery		Date Finish: 09/07/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 7.0-7.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0		
1				0		
				0.2		
2				0.1		
				0.3		
3				42.3		
				8.5		
4			96	42.3	Gray-brown fine to medium sand with some gravel and fill	More black-colored here
				31.7		
5				2.9		
				0.2		
6				0.5		
				16.4		
7				68.5		
		GPSP-02		123.4		
8				1.9		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-03

Client: PESRM		Date Start: 09/07/2023
Project Name: PES Refinery		Date Finish: 09/07/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 2.5-3.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				3.6		
1				91.1		
				233.5		
2				270.4		
				194.4		
3		GPSP-03		315.6		Odor
				268.4		
4				228		
			96	112.2	Gray-brown fine to medium sand with some gravel and fill	More black-colored here
5				201.2		
				21.4		
6				168.2		
				81.1		
7				128.3		
				148.1		
8				225.2		Odor; black color
					End of Boring	
9						
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-04

Client: PESRM		Date Start: 09/08/2023
Project Name: PES Refinery		Date Finish: 09/08/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
1		GPSP-04	96	0.3	Gray-brown fine to medium sand with some gravel and fill	
				0.1		
2				0.1		
				0.3		
3				0.6		
				15.6		
4				17.2		
				14.7		
5				2.9		
				5.2		
6				1.1		
				6.6		
7				5.2		
				16.3		
8				12.7		
				11.2		
9					**End of Boring**	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-05

Client: PESRM		Date Start: 09/08/2023
Project Name: PES Refinery		Date Finish: 09/08/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				33.1		
1				47.6		
				50.5		
2				273.1		
				380.9		
3				336.4		
				132.3		
4				241.4		
			96	277.5	Gray-brown fine to medium sand with some gravel and fill	
5		GPSP-05		384.7		Odor
				67.8		
6				111.3		
				151.6		
7				206.1		
				304.1		
8				341.7		
					End of Boring	
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10						
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12						
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-06

Client: PESRM		Date Start: 09/08/2023
Project Name: PES Refinery		Date Finish: 09/08/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 7.5-8.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				2.8	Gray-brown fine to medium sand with some gravel and fill	
1				16.6		
				39.1		
2				32.3		
				21.2		
3				53.6		
				197.6		
4			96	184.7		
				128.9		
5				185.4		More black-colored here; odor
				14.2		
6				10.2		
				29.3		
7				122.7		
				197.2		
8		GPSP-06		211.4		More black-colored here; odor
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-07

Client: PESRM		Date Start: 09/07/2023
Project Name: PES Refinery		Date Finish: 09/07/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 7.0-7.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0		
1				0		
				0.5		
2				2.1		
				0		
3				0.3		
				0.2		
4				0.2		
			96	0.1	Gray-brown fine to medium sand with some gravel and fill	
5				4.3		
				0.4		
6				0.3		
				53.9		
7				23.7		
		GPSP-07		124.9		
8				103.7		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-08

Client: PESRM		Date Start: 09/07/2023
Project Name: PES Refinery		Date Finish: 09/07/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0		
1				3.2		
				6		
2				14.1		
				7.6		
3				47.4		
				4.7		
4			96	25.3	Gray-brown fine to medium sand with some gravel and fill	
				66.6		
5		GPSP-08		263.4		More black-colored here; odor
				15.2		
6				10.1		
				10.5		
7				11.9		
				18.2		
8				53.8		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-09

Client: PESRM		Date Start: 09/08/2023
Project Name: PES Refinery		Date Finish: 09/08/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 2.5-3.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				8.2		
1				36.3		
				102.6		
2				157.2		
				184.2		
3		GPSP-09		185.7		
				103.1		
4			96	46.7	Gray-brown fine to medium sand with some gravel and fill	
				77.3		
5				105.4		
				17.5		
6				25.3		
				57.8		
7				23.5		
				16.7		
8				54.5		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-10

Client: PESRM		Date Start: 09/08/2023
Project Name: PES Refinery		Date Finish: 09/08/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 7.5-8.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				4.9	Gray-brown fine to medium sand with some gravel and fill	
1				7.5		
				28.5		
2				55.6		
				52.1		
3				57.9		
				38.8		
4			96	64.5		
				56.2		
5				40.2		
				229.3		
6				315.6		
				485.1		More black-colored here; odor
7				255.6		
				398.7		
8		GPSP-10		602.1		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-11

Client: PESRM		Date Start: 09/08/2023
Project Name: PES Refinery		Date Finish: 09/08/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				4.2		Mostly asphalt millings to approx 2
1				19.6		
				41.3		
2				86.1		
				195.8		
3				216.8		
				71.7		
4				59.8		
		GPSP-11	96	247.3	Gray-brown fine to medium sand with some gravel and fill	
5				174.6		More black-colored here; odor
				11.6		
6				15.8		
				18.6		
7				82.3		
				122.2		
8				31.3		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-12

Client: PESRM		Date Start: 09/08/2023
Project Name: PES Refinery		Date Finish: 09/08/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 5.0'
Logged By: Nick Daigle	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				8.8		
1				31.6		
				126.1		
2				123.4		
				128.4		
3			60	146.3	Gray-brown fine to medium sand with some gravel and fill	
		GPSP-12		210.7		
4				49.8		
				22.3		
5				177.5		Hit water at 5.0'
					End of Boring	
6						
7						
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-13

Client: PESRM		Date Start: 09/08/2023
Project Name: PES Refinery		Date Finish: 09/08/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 5.5-6.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				24.8		Odors throughout
1				60.7		
				23.2		
2				164.8		
				134.4		
3				219.1		
				127.1		
4			96	348.5	Gray-brown fine to medium sand with some gravel and fill	
				299.6		
5				489.7		
				381.1		
6		GPSP-13		624.2		
				197.3		
7				332.2		More black-colored here
				475.6		
8				457.3		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-14

Client: PESRM		Date Start: 09/08/2023
Project Name: PES Refinery		Date Finish: 09/08/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				4.9		
1				28.2		
				69.2		
2				73.6		
				94.1		
3				219.4		
				3.4		
4				2.1		
			96	113.5	Gray-brown fine to medium sand with some gravel and fill	
5		GPSP-14		325.2		
				8.6		
6				64.2		
				37.3		
7				110.9		
				26.6		
8				213.4		
					End of Boring	
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10						
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12						
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-15

Client: PESRM		Date Start: 09/07/2023
Project Name: PES Refinery		Date Finish: 09/07/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				1.4		
1				58.3		
				18.1		
2				19.2		
				22.6		
3				171.3		
				55.6		
4			96	65.5	Gray-brown fine to medium sand with some gravel and fill	
				29.9		
5		GPSP-15		313.4		Odor; more black-colored
				34.5		
6				31.3		
				91.3		
7				101.4		Odor; more black-colored
				66.7		
8				165.7		
					End of Boring	
9						
10						
11						
12						
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Soil Boring Log

Boring No.: GPSP-16

Client: PESRM		Date Start: 09/07/2023
Project Name: PES Refinery		Date Finish: 09/07/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				1.4		
1				43.2		
				35.6		
2				12.4		
				3.5		
3				8.3		
				111.8		Odor
4				83.7		
		GPSP-16	96	205.2	Gray-brown fine to medium sand with some gravel and fill	Odor
5				143.1		
				83		
6				18.2		
				4.9		
7				42.4		
				129.4		
8				102.6		More black-colored here
					End of Boring	
9						
10						
11						
12						
13						
14						
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Soil Boring Log

Boring No.: GPSP-18

Client: PESRM		Date Start: 09/07/2023
Project Name: PES Refinery		Date Finish: 09/07/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 7.5-8.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				6.5		
1				28.1		
				73.8		
2				26.7		
				90.5		
3				37.2		
				46.6		
4			96	172.2	Gray-brown fine to medium sand with some gravel and fill	
				222.1		
5				207.2		
				16.3		
6				30.4		
				30.3		
7				174.5		
				317.8		
8		GPSP-18		353.3		Odor; more black-colored
					End of Boring	
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
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Soil Boring Log

Boring No.: GPSP-17

Client: PESRM		Date Start: 09/08/2023
Project Name: PES Refinery		Date Finish: 09/08/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 7.0-7.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				1.6		
1				66.2		
				62.3		
2				150.3		
				62.7		
3				38.4		
				71.4		
4			96	98.5	Gray-brown fine to medium sand with some gravel and fill	
				75.4		
5				34.7		
				57.1		
6				132.8		
				129.3		
7				342.1		
		GPSP-17		350.4		More black-colored here; odor
8				348.9		
					End of Boring	
9						
10						
11						
12						
13						
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Soil Boring Log

Boring No.: GPSP-19

Client: PESRM		Date Start: 09/07/2023
Project Name: PES Refinery		Date Finish: 09/07/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				7.6		
1				30.4		
				48.3		
2				45.5		
				33.9		
3				82.4		
				64.1		
4			96	197.4	Gray-brown fine to medium sand with some gravel and fill	
				90.2		
5		GPSP-19		200.7		Odor
				91.2		
6				48.8		
				56.1		
7				53.2		
				165.9		
8				384.4		Too much asphalt to sample here
					End of Boring	
9						
10						
11						
12						
13						
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15						
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-20

Client: PESRM		Date Start: 09/07/2023
Project Name: PES Refinery		Date Finish: 09/07/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 7.0-7.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				7.5		
1				9.4		
				9.2		
2				16.3		
				30.7		
3				143.8		
				113.2		
4			96	27.3	Gray-brown fine to medium sand with some gravel and fill	More black-colored here
				34.6		
5				22.3		
				9.5		
6				29.5		
				159.3		
7				118.5		
		GPSP-20		338.3		
8				328.1		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-21

Client: PESRM		Date Start: 09/07/2023
Project Name: PES Refinery		Date Finish: 09/07/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 7.5-8.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.1		
1				4.2		
				31.5		
2				20.6		
				39.4		
3				47.9		
				26.7		
4			96	117.4	Gray-brown fine to medium sand with some gravel and fill	
				97.2		
5				11.1		
				19.2		
6				8.7		
				6.3		
7				10.2		
				122.5		
8		GPSP-21		232.2		Odor
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-22

Client: PESRM		Date Start: 09/07/2023
Project Name: PES Refinery		Date Finish: 09/07/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 7.5-8.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
1			96	8.1	Gray-brown fine to medium sand with some gravel and fill	
				6.8		
2				1.4		
				2.5		
3				35.1		
				38.2		
4				23.9		
				25.6		
5				78.2		
				122.4		
6				3.5		
				3.3		
7				6.3		
				81.1		
8		GPSP-22		63.3		
				149.8		
9					**End of Boring**	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-23

Client: PESRM		Date Start: 09/08/2023
Project Name: PES Refinery		Date Finish: 09/08/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Nick Daigle	Sample Interval: 7.5-8.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0		
1				0.1		
				0.1		
2				0.4		
				0.5		
3				0		
				1.2		
4			96	1.3	Gray-brown fine to medium sand with some gravel and fill	
				0.4		
5				0.2		
				0		
6				0		
				0.6		
7				0.7		
				0		
8		GPSP-23		3.8		
					End of Boring	
9						
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12						
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-24

Client: PESRM		Date Start: 02/09/2024
Project Name: PES Refinery		Date Finish: 02/09/2024
Project No.: 200.00135.020	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 7.0'
Logged By: Nick Daigle	Sample Intervals: 1.5'-2.0'; 6.0'-6.5'; 6.5'-7.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	PID/FID (ppm)	Lithologic Description	Remarks
			1.2	Brown to black, medium sandy fill with gravel	
1			2.5		
			2.4		
2		GPSP-24-1.5-2.0	5.8		
			5.1		
3			10.2		
			4.8		
4			106		
			460		
5			1445		
			491		
6			347		
		GPSP-24-6.0-6.5	2044		
7		GPSP-24-6.5-7.0	3579		
				END OF BORING (7.0 ft.)	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-25

Client: PESRM		Date Start: 02/09/2024
Project Name: PES Refinery		Date Finish: 02/09/2024
Project No.: 200.00135.020	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 5.0'
Logged By: Nick Daigle	Sample Intervals: 1.0'-1.5'; 4.0'-4.5'; 4.5'-5.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	PID/FID (ppm)	Lithologic Description	Remarks
			1.6	Brown to black, medium sandy fill with gravel	
1			1.3		
		GPSP-25-1.0-1.5	43.2		
2			32.6		
			39.2		
3			288		
			402		
4			727		
		GPSP-25-4.0-4.5	941		
5		GPSP-25-4.5-5.0	749		
				END OF BORING (5.0 ft.)	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-26

Client: PESRM		Date Start: 02/09/2024
Project Name: PES Refinery		Date Finish: 02/09/2024
Project No.: 200.00135.020	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 5.0'
Logged By: Nick Daigle	Sample Intervals: 1.5'-2.0'; 4.0'-4.5'; 4.5'-5.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	PID/FID (ppm)	Lithologic Description	Remarks
			9.2	Brown to black, medium sandy fill with gravel	
1			88.7		
			99.4		
2		GPSP-26-1.5-2.0	118		
			554		
3			1297		
			817		
4			983		
		GPSP-26-4.0-4.5	1534		
5		GPSP-26-4.5-5.0	2341		
				END OF BORING (5.0 ft.)	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-27

Client: PESRM			Date Start: 02/09/2024
Project Name: PES Refinery			Date Finish: 02/09/2024
Project No.: 200.00135.020	Location: Philadelphia, PA		Permit No.:
Drilling Contractor: MB Drilling			Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe		Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner		Total Depth: 5.0'
Logged By: Nick Daigle	Sample Intervals: 1.5'-2.0'; 4.0'-4.5'; 4.5'-5.0'		Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	PID/FID (ppm)	Lithologic Description	Remarks
			0.6	Brown to black, medium sandy fill with gravel	
1			2.4		
			1.8		
2		GPSP-27-1.5-2.0	7.4		
			0.8		
3			19.9		
			58.4		
4			32.1		
		GPSP-27-4.0-4.5	288		Duplicate sample collected
5		GPSP-27-4.5-5.0	90.2		
				END OF BORING (5.0 ft.)	
6					
7					
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-28

Client: PESRM		Date Start: 02/09/2024
Project Name: PES Refinery		Date Finish: 02/09/2024
Project No.: 200.00135.020	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 7.0'
Logged By: Nick Daigle	Sample Intervals: 0.5'-1.0'; 6.0'-6.5'; 6.5'-7.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	PID/FID (ppm)	Lithologic Description	Remarks
			1.2	Brown to black, medium sandy fill with gravel	
1		GPSP-28-0.5-1.0	1.2		
			0.4		
2			0.7		
			31.3		
3			42.7		
			13.5		
4			9.4		
			309		
5			524		
			122		
6			908		
		GPSP-28-6.0-6.5	1092		
7		GPSP-28-6.5-7.0	1121		
				END OF BORING (7.0 ft.)	
8					
9					
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-29

Page 1 of 1

Client: PESRM		Date Start: 02/09/2024
Project Name: PES Refinery		Date Finish: 02/09/2024
Project No.: 200.00135.020	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 5.0'
Logged By: Nick Daigle	Sample Intervals: 1.5'-2.0'; 3.5'-4.0'; 4.5'-5.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	PID/FID (ppm)	Lithologic Description	Remarks
			7.1	Brown to black, medium sandy fill with gravel and some clay	
1			12.4		
			5.7		
2		GPSP-29-1.5-2.0	14.3		
			139		
3			278		
			91.8		
4		GPSP-29-3.5-4.0	876		
			591		
5		GPSP-29-4.5-5.0	199		
				END OF BORING (5.0 ft.)	
6					
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-30

Client: PESRM			Date Start: 02/09/2024
Project Name: PES Refinery			Date Finish: 02/09/2024
Project No.: 200.00135.020	Location: Philadelphia, PA		Permit No.:
Drilling Contractor: MB Drilling			Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe		Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner		Total Depth: 4.0'
Logged By: Nick Daigle	Sample Intervals: 1.5'-2.0'; 2.0'-2.5'; 3.5'-4.0'		Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	PID/FID (ppm)	Lithologic Description	Remarks
			10.7	Brown to black, medium sandy fill with gravel	
1			17.5		
			9.5		
2		GPSP-30-1.5-2.0	32.4		
		GPSP-30-2.0-2.5	52.3		
3			10.4		
			49.7		
4		GPSP-30-3.5-4.0	118		
				END OF BORING (4.0 ft.)	
5					
6					
7					
8					
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-MW01

Client: PESRM		Date Start: 02/09/2024
Project Name: PES Refinery		Date Finish: 02/09/2024
Project No.: 200.00135.020	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 5.0'
Logged By: Nick Daigle	Sample Intervals: 0.5'-1.0'; 3.5'-4.0'; 4.5'-5.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	PID/FID (ppm)	Lithologic Description	Remarks
			0.4	Brown to black, medium sandy fill with gravel	
1		GPSP-MW01-0.5-1.0	35.2		
			8.1		
2			19.4		
			5.6		
3			32.0		
			72.3		
4		GPSP-MW01-3.5-4.0	83.4		
			100		
5		GPSP-MW01-4.5-5.0	104		
				END OF BORING (5.0 ft.)	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: GPSP-MW02

Client: PESRM		Date Start: 02/09/2024
Project Name: PES Refinery		Date Finish: 02/09/2024
Project No.: 200.00135.020	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 5.0'
Logged By: Nick Daigle	Sample Intervals: 1.5'-2.0'; 2.5'-3.0'; 4.0'-4.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	PID/FID (ppm)	Lithologic Description	Remarks
			0.5	Brown to gray to black, medium sandy fill with gravel and brick	
1			0.8		
			114		
2		GPSP-MW02-1.5-2.0	841		
			762		
3		GPSP-MW02-2.5-3.0	2877		
			634		brick
4			953		
		GPSP-MW02-4.0-4.5	2439		
5			868		brick
				END OF BORING (5.0 ft.)	
6					
7					
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Attachment F

Technical Memorandum

To:	Mohamad M. Mazid, PhD, PE Chief Technical Services Department of Environmental Protection Southeast Regional Office Waste Management Program 2 East Main Street Norristown, PA 19401	From:	Kevin Long Nicholas J. Scala, PG, LSRP Terraphase Engineering Inc.
cc:	Amy Piccone, PESRM		
Date:	July 15, 2024	Project No.:	P044.001.011
Subject:	**Site Investigation Report – RCRA Permit PAD 049 791 098** **Spent Caustic Tanks 1086 and 1087** **Philadelphia Energy Solutions Refining and Marketing LLC** **3144 West Passyunk Avenue, Philadelphia, PA 19153**		

Terraphase Engineering Inc. (Terraphase), on behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), has prepared this *Site Investigation Report* to document the results of soil sampling conducted in accordance with the *Soil Sampling Plan* (Terraphase 2022) for the Spent Caustic Tanks 1086 and 1087 (Caustic Tanks or the Site), located within the Former Philadelphia Energy Solutions refinery facility (the "Facility"). The soil sampling was performed to assess whether potential historical releases from the Caustic Tanks have impacted soil beneath the storage area and ultimately, obtain closure of the storage area subject to the requirements of the Code of Federal Regulations (CFR) Title 40, Part 264 Subpart G (as incorporated by reference in 25 Pa. Code § 264(a)).

The Facility is undergoing closure activities in preparation for redevelopment and is located at 3144 West Passyunk Avenue, Philadelphia, Pennsylvania (**Figure 1**). The Caustic Tanks are located north of the Platt Bridge within an area of the Facility referred to as Girard Point (**Figure 2**). PESRM provided Notification of Intent to close the Caustic Tanks to the Pennsylvania Department of Environmental Protection (PADEP) on June 24, 2022. NorthStar Contracting Group, Inc. (NorthStar) completed closure activities of the Caustic Tanks (i.e., removal of all containers on the pad, visual inspection, decontamination, and demolition of the pad) in accordance with the approved *Philadelphia Energy Solutions Refining and Marketing, LLC Philadelphia Refining Complex Hazardous Waste I.D. No. PAD049791098 Closure Plan and Management of Waste Containers and Tanks Procedure* dated February 28, 2018 (Closure Plan) for the Site (Permit No. PAD 049 791 098).

Following the removal of the concrete pad, soil sampling was conducted during January 2023, per the PADEP-approved *Soil Sampling Plan* (Terraphase 2022). The following sections summarize the relevant

File: 20240715-Terraphase-PESRM-CausticTanks-SiteInvestigationReport_F

background information, detail the results of the soil sampling performed, and provide the conclusions. The data were evaluated in accordance with the *Revised Supplement to the Closure Plan for the Point Breeze Hazardous Waste Container Storage Pad, the Girard Point Hazardous Waste Container Storage Pad, and the Two Girard Point Hazardous Waste Aboveground Storage Tanks (EPA ID #PAD049791098)* dated February 9, 2024 (Closure Plan Supplement).

1 Site Setting

This section presents the site setting and includes a description of the Site, topography, geology, and hydrology, and the on-site and off-site land and groundwater use.

1.1 Site Description

The Site is located north of the Platt Bridge within Girard Point of the Facility as depicted on **Figure 2**. During operation, the Site contained two caustic tanks, GP 1086 and GP 1087, located on a concrete pad, which covered an area of 0.2 acres. The layout of the Site prior to its demolition is presented in **Figure 3**.

1.2 Topography

Topography at the Site is generally flat. Regional topography slopes gently to the west towards the Schuylkill River, the nearest water body to the Site. The area containing the Caustic Tanks was graded to drain to the trench located in the central portion of the concrete pad. The trench drains to the north of the Site via drainage piping (**Figure 3**). The average ground surface elevation at the Site is approximately 6.0 feet (ft) above mean sea level.[1]

1.3 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

[1] North American Vertical Datum of 1988.

(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 property consists of a complex series of water-bearing sand units which can comprise one or more hydrostatic units. Historical 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 0.5 to 6.0 ft below ground surface (bgs; GHD 2017).

1.4 Local Geology and Hydrogeology

During the investigation, soil was primarily investigated within the upper 8 ft bgs. Soil generally consists of brown sand and silt. Indicators of anthropogenic fill, including brick, wood, and cinders were observed at varying depths in several borings.

Historically, unconfined aquifer groundwater has been encountered in the area at a depth of approximately 1.5 ft bgs[2]. No saturated soil was identified in any of the soil borings installed by Ransom Consulting, LLC. Based on Figure 14 of the Area of Interest (AOI) 6 *Remedial Investigation Report (RIR)* (GHD 2017) and Figure 3-29 of the *Sitewide Fate and Transport RIR* (Stantec 2022) provided in **Appendix A**, unconfined aquifer groundwater flow in the vicinity of the Caustic Tanks appears to be directed southwest towards the Schuylkill River.

2 Site Investigation Results

This section discusses the soil sampling performed in accordance with the *Soil Sampling Plan* (Terraphase 2022), the applicable Statewide Health (SHS) Medium Specific Concentrations (MSC) proposed in the *Soil Sampling Plan* for use in helping to assess whether there could have been a potential release to the environment (see Section 2.2), and the evaluation of the data.

2.1 Overview

Based upon a review of engineering drawings provided by the Facility, photos collected during the inspection, and historical aerial photographs, the *Soil Sampling Plan* (Terraphase 2022) was developed and submitted to PADEP for approval. The proposed soil sampling scope was conducted in January 2023 and included the installation of 16 soil borings and the collection/analysis of 16 soil samples.

Since there were no documented releases of hazardous waste to the environment from the Caustic Tanks, soil sampling locations were targeted towards features designed to collect and contain fluids

[2] 1.5 ft bgs was determined considering gauging data from nearby unconfined monitoring well, B-39.

and/or stormwater in the event of a release, and areas with visual evidence noting deterioration of the pad. Additional sample locations were identified by placing a 30-ft by 30-ft grid across the concrete pad and adding sampling locations into the center of the grid cells where sampling locations had not already been identified using the first approach.

Laboratory analytical services were provided by Alpha Analytical, Inc. of Westborough, Massachusetts and Eurofins of Buffalo, New York, both of which are PADEP-certified laboratories. Samples were analyzed for the constituents listed in **Table 1**. As part of its work under Act 2, Evergreen Resources Management Operations, a series of Evergreen Resources Group, LLC (Evergreen) worked with PADEP to develop a list of regulated substances that are the focal point of characterization and future remediation activities at the Site. The constituent list in **Table 1** includes the Evergreen and PADEP agreed upon site-specific list of regulated substances being investigated and remediated pursuant to Act 2. In addition, **Table 1** also includes additional constituents typically present in the permitted waste codes and the types of hazardous waste stored at the Caustic Tanks.

2.2 Comparison to MSCs

Consistent with the *Closure Plan Supplement*, soil sampling results were compared to the following SHS 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 (S-GW) Numeric Values for Used Aquifers [TDS ≤ 2,500]

The results of the soil sampling performed in January 2023 are presented on **Table 2** and **Figure 4** and are summarized below**:**

- Non-Res DC MSCs
  - No constituents were detected in surface soil at concentrations greater than the Non-Res DC MSCs for Surface Soil.
  - No constituents were detected in soil at concentrations greater than the Non-Res DC MSCs for Subsurface Soil.
- Non-Res S-GW MSCs
  - Benzene was detected in subsurface soil at concentrations greater than the Non-Res S-GW MSCs at two locations (i.e., CTSP-01 and CTSP-02). The detected concentrations (0.65 and 1.1 milligrams per kilogram [mg/kg], respectively) were not significantly elevated relative to the Non-Res S-GW MSC (0.5 mg/kg).
  - Lead was detected in subsurface soil at concentrations greater than the Non-Res S-GW MSCs at three locations (i.e., CTSP-01, CTSP-03, and CTSP-06).

Measurements of pH in the soil samples collected from this area are likely most indicative of a potential release from the former caustic tanks. The pH measurements were generally neutral, ranging from 6 to 8.2 standard units (SU), and fell within the thresholds used by USEPA for identifying corrosivity of wastes

(i.e., ≤ 2 SU or ≥ to 12.5 SU). Copies of the laboratory results and boring logs are included in **Appendices B** and **C**, respectively.

3 Human Health Risk Assessment

Consistent with the *Closure Plan Supplement*, because select constituents were detected in soil at concentrations greater than SHS MSCs, Terraphase performed a risk assessment to evaluate the potential significance of human health exposures that could be attributable to former releases of hazardous constituents at the Caustic Tanks. The methods used in the risk assessment are based upon PADEP and United States Environmental Protection Agency (USEPA) guidance.

3.1 Chemicals of Concern

In accordance with Section 250.602(c)(1), Terraphase evaluated the sampling results to identify chemicals of concern (COC) which would be attributable to releases from the Caustic Tanks. Constituents found in soil at concentrations greater than the applicable soil SHS MSCs include benzene and lead. Neither of these constituents were known to be stored or used at the Caustic Tanks, and both are commonly detected in soil throughout the Facility. Because both constituents were detected above SHS MSCs, they were evaluated as potential constituents of concern.

To assess whether benzene and lead were COC associated with a release(s) to the environment from the Caustic Tanks, the soil sampling results for the Caustic Tank area were compared to soil sampling results from the same general area of the Facility collected as part of assessment work unrelated to the Caustic Tanks. As shown in **Table 3**, the average benzene concentration in samples collected near the former Caustic Tanks (0.22 mg/kg) is notably lower than the average benzene concentration in samples collected from similar depths throughout AOI 6 (79 mg/kg).[3] Additionally, the maximum benzene concentration in samples collected at the former Caustic Tanks (1.1 mg/kg) is notably lower than the maximum benzene concentration in samples collected from similar depths throughout AOI 6 (1,900 mg/kg). The average lead concentration in samples collected at the former Caustic Tanks (420 mg/kg) is that same as the average lead concentration in samples collected from similar depths throughout AOI 6, and the maximum lead concentration in samples collected at the former Caustic Tanks (2,300 mg/kg) is notably lower than the maximum lead concentration in samples collected from similar depths throughout AOI 6 (7,500 mg/kg). **Figures 5a** and **5b** provide the soil sampling results for benzene and lead, respectively, in this area of the Facility.

The lead concentrations appear to be consistent between the Caustic Tanks dataset and the Evergreen AOI 6 dataset, while the benzene concentrations appear to be lower in the Caustic Tanks dataset relative to the Evergreen AOI 6 dataset. This evaluation, combined with the fact that benzene and lead are both are commonly detected in soil throughout the Facility, demonstrates that the concentrations of benzene and lead detected in soil from the Caustic Tank area above the applicable soil SHS MSCs are

[3] For consistency, the Evergreen data set only includes results from samples collected from a similar interval as the Caustic Tanks (i.e., from depths shallower than 6 ft bgs).

consistent with pre-existing conditions and are not indicative of release(s) to the environment from the Caustic Tanks. Therefore, there are no COC associated with release(s) to the environment from the Caustic Tanks.

3.2 Exposure Assessment

As described in Section 3.1, there are no COC associated with release(s) to the environment from the Site. As such, there are no complete exposure pathways between site-related contamination and human receptors.

3.3 Toxicity Assessment

As discussed in Section 3.1, there are no COC associated with release(s) to the environment from the Site. As such, there is no need to compile toxicity values to support a risk assessment.

3.4 Risk Characterization

As discussed in Section 3.1, there are no COC associated with release(s) to the environment from the Site. As a result, there are no unacceptable site-related risks to human health. Because there are no site-related unacceptable risks to human health following the removal of hazardous waste and the demolition of the Site, the Caustic Tanks have met the closure performance standard under CFR Title 40, Part 264 Subpart G (as incorporated by reference in 25 Pa. Code § 264(a)).

4 Ecological Risk Evaluation

This section presents the ecological risk evaluation performed for the Caustic Tanks. The evaluation was conducted in accordance with 25 Pa. Code § 250.311(b)-(e) to screen for potential impacts to ecological receptors identified in 25 Pa. Code § 250.311(a)[4]. The purpose of the ecological screening is to quickly determine whether surface soil (or sediment if applicable) at a site "have the potential to pose substantial ecological impact or impacts requiring further evaluation." This determination is based on the outcome of several screening steps that include the types of contaminants present, the size of the site, land use considerations, presence or absence for species or habitats of concern, and the presence or absence of complete exposure pathways (See Figure II-16 of the Act 2 Guidance Document).

As discussed in Section 3.1, and consistent with the ecological screening process noted above, there are no constituents associated with release(s) to the environmental from the Site. Therefore, no further ecological evaluation is required.

[4] The receptors identified in 25 Pa. Code § 250.311(a) consist of (i) threatened and endangered as designated by the US Fish and Wildlife Service (ii) exceptional value wetlands as defined in Section 25 Pa. Code § 105.17 (iii) Habitats of concern, and (iv) Species of concern.

5 Summary and Conclusion

Terraphase has prepared this *Site Investigation Report*, on behalf of PESRM, to document the results of soil sampling conducted in accordance with the *Soil Sampling Plan* (Terraphase 2022) for the Caustic Tanks. The soil sampling was performed to assess whether potential historical releases from the Caustic Tanks have impacted soil beneath the storage area and ultimately, obtain closure of the storage area subject to the requirements of the CFR Title 40, Part 264 Subpart G (as incorporated by reference in 25 Pa. Code § 264(a)).

The soil sampling identified concentrations of benzene and lead in soil at concentrations greater than MSCs. Consistent with the *Closure Plan Supplement*, because results from soil samples exceed the applicable soil SHS MSCs, Terraphase prepared a human health risk assessment and ecological risk evaluation. The risk assessment concluded that there are no COC associated with release(s) to the environment for the Caustic Tanks, and, therefore, there is no potential for unacceptable human health risks associated with release(s) to the environment from the Caustic Tanks. Similarly, the ecological screening evaluation presented in Section 4 concluded that no further ecological evaluation of the Site is required due to the absence of COC associated with release(s) to the environment from the Site.

Because there is no evidence of release(s) to the environment from the Caustic Tanks, the closure performance standard and requirements of CFR Title 40, Part 264 Subpart G (as incorporated by reference in 25 Pa. Code § 264(a)) for Clean Closure have been achieved.

6 References

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Philadelphia Energy Solutions Refining and Marketing LLC (PESRM). 2018. *Philadelphia Energy Solutions Refining and Marketing LLC Philadelphia Refining Complex Hazardous Waste ID No. PAD049791098 Closure Plan and Management of Waste Containers and Tanks Procedure.* February 28.

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Attachments (12):

- Table 1 Constituents of Potential Concern
- Table 2 Summary of Soil Analytical Results
- Table 3 Summary Statistics
- Figure 1 Facility Location

- Figure 2 Site Location
- Figure 3 Site Layout
- Figure 4 Soil Sampling Results (Caustic Tanks)
- Figure 5a Benzene Soil Sampling Results (AOI 6)
- Figure 5b Lead Soil Sampling Results (AOI 6)
- Appendix A Selected Figures from Evergreen RIR and Sitewide RIR
- Appendix B Laboratory Reports
- Appendix C Boring Logs

Tables

1 Constituents of Potential Concern
2 Summary of Soil Analytical Results
3 Summary Statistics

Table 1
Constituents of Potential Concern
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	CASRN	Detected in Soil
VOC	Benzene	71-43-2	Y
VOC	Carbon Disulfide	75-15-0	N
VOC	Cumene	98-82-8	Y
VOC	1,2-Dibromoethane	106-93-4	N
VOC	1,2-Dichloroethane	107-06-2	N
VOC	Ethyl Benzene	100-41-4	Y
VOC	Methyl tert-butyl ether	1634-04-4	N
VOC	Toluene	108-88-3	Y
VOC	1,2,4-Trimethylbenzene	95-63-6	Y
VOC	1,3,5-Trimethylbenzene	108-67-8	Y
VOC	Xylenes (total)	1330-20-7	Y
SVOC	Acenaphthene	83-32-9	Y
SVOC	Anthracene	120-12-7	Y
SVOC	Benzo(a)anthracene	56-55-3	Y
SVOC	Benzo(a)pyrene	50-32-8	Y
SVOC	Benzo(b)fluoranthene	205-99-2	Y
SVOC	Benzo(g,h,i)perylene	191-24-2	Y
SVOC	Benzo(k)fluoranthene	207-08-9	Y
SVOC	Chrysene	218-01-9	Y
SVOC	Dibenz(a,h)anthracene	53-70-3	Y
SVOC	7,12-Dimethylbenz(a)anthracene	57-97-6	N
SVOC	2,4-Dimethylphenol	105-67-9	N
SVOC	Fluorene	86-73-7	Y
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	Y
SVOC	3-Methylcholanthrene	56-49-5	N
SVOC	Methylphenol (total)	1319-77-3	N
SVOC	2-Methylphenol	95-48-7	N
SVOC	3-Methylphenol	108-39-4	N
SVOC	4-Methylphenol	106-44-5	N
SVOC	Naphthalene	91-20-3	Y
SVOC	Phenanthrene	85-01-8	Y
SVOC	Phenol	108-95-2	N
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	N
SVOC	Di-n-butylphthalate	84-74-2	N
SVOC	Pyrene	129-00-0	Y
INORG	Antimony	7440-36-0	Y
INORG	Arsenic	7440-38-2	Y
INORG	Chromium III	16065-83-1	Y
INORG	Chromium VI	18540-29-9	N
INORG	Cyanide (total)	57-12-5	Y
INORG	Lead	7439-92-1	Y
INORG	Nickel	7440-02-0	Y
INORG	Vanadium	7440-62-2	Y
WQ	pH	C-006	Y

Notes:
Y - Detected.
N - Not Detected.

Table 2
Summary of Soil Analytical Results
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location				CTSP-01	CTSP-02	CTSP-03	CTSP-04	CTSP-06	CTSP-07	CTSP-10	CTSP-11	CTSP-12	CTSP-13	CTSP-14	CTSP-15	CTSP-16
Field Sample ID	Non-Res Direct	Non-Res Direct	Non-Res Used	CTSP-01-SS01-3.5	CTSP-02-SS01-4.0	CTSP-03-SS01-2.0	CTSP-04-SS01-2.5	CTSP-06-SS01-4.5	CTSP-07-SS01-5.5	CTSP-10-SS01-2.0	CTSP-11-SS01-3.0	CTSP-12-SS01-5.0	CTSP-13-SS01-2.5	CTSP-14-SS01-2.0	CTSP-15-SS01-2.0	CTSP-16-SS01-4.0
Collection Depth (ft bgs)	Contact MSCs for	Contact MSCs for	Aquifer	3.5 - 4.0	4.0 - 4.5	2.0 - 2.5	2.5 - 3.0	4.5 - 5.0	5.5 - 6.0	2.0 - 2.5	3.0 - 3.5	5.0 - 5.5	2.5 - 3.0	2.0 - 2.5	2.0 - 2.5	4.0 - 4.5
Sample Method	Surface Soil	Subsurface Soil	(TDS ≤ 2500)	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Sample Date	(0-2 ft)	(2-15 ft)	Soil-to-GW MSC	1/5/2023	1/5/2023	1/5/2023	1/5/2023	1/5/2023	1/5/2023	1/5/2023	1/5/2023	1/5/2023	1/5/2023	1/5/2023	1/5/2023	1/5/2023
Comments																
Volatile Organic Compounds																
Benzene	280	330	0.5	0.65 (0.034)	1.1 (0.042)	0.1 (0.093)	0.047 (0.035)	0.071 (0.053)	ND (0.0008)	ND (0.03)	0.011 J (0.03)	0.052 J (0.08)	0.071 (0.041)	0.049 (0.033)	ND (0.065)	0.044 (0.033)
Carbon Disulfide	10000	10000	620	ND (0.69)	ND (0.84)	ND (1.8)	ND (0.71)	ND (1.1)	ND (0.016)	ND (0.6)	ND (0.6)	ND (1.6)	ND (0.014)	ND (0.012)	ND (1.3)	ND (0.65)
Cumene	10000	10000	2500	1.3 (0.069)	3.9 (0.084)	10 (0.18)	1.1 (0.071)	1 (0.11)	0.015 (0.0016)	3.5 (0.06)	0.6 (0.06)	0.029 J (0.16)	0.15 (0.083)	0.035 J (0.067)	2.6 (0.13)	0.22 (0.065)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.034)	ND (0.042)	ND (0.093)	ND (0.035)	ND (0.053)	ND (0.0008)	ND (0.03)	ND (0.03)	ND (0.08)	ND (0.00068)	ND (0.00062)	ND (0.065)	ND (0.033)
1,2-Dichloroethane	85	98	0.5	ND (0.069)	ND (0.084)	ND (0.18)	ND (0.071)	ND (0.11)	ND (0.0016)	ND (0.06)	ND (0.06)	ND (0.16)	ND (0.0014)	ND (0.0012)	ND (0.13)	ND (0.065)
Ethyl Benzene	880	1000	70	0.11 (0.069)	0.16 (0.084)	0.2 (0.18)	0.026 J (0.071)	0.1 J (0.11)	ND (0.0016)	0.049 J (0.06)	0.02 J (0.06)	0.15 J (0.16)	0.059 J (0.083)	0.18 (0.067)	0.4 (0.13)	0.074 (0.065)
Methyl tert-butyl ether	8500	9800	2	ND (0.14)	ND (0.17)	ND (0.37)	ND (0.14)	ND (0.21)	ND (0.0032)	ND (0.12)	ND (0.12)	ND (0.32)	ND (0.0027)	ND (0.0025)	ND (0.26)	ND (0.13)
Toluene	10000	10000	100	0.68 (0.069)	0.28 (0.084)	0.19 (0.18)	0.14 (0.071)	0.28 (0.11)	ND (0.0016)	2.3 (0.06)	ND (0.06)	ND (0.16)	0.96 (0.083)	0.5 (0.067)	0.16 (0.13)	0.52 (0.065)
1,2,4-Trimethylbenzene	4700	5400	300	0.093 J (0.14)	0.13 J (0.17)	0.27 J (0.37)	0.049 J (0.14)	3.7 (0.21)	0.00097 J (0.0032)	0.16 (0.12)	0.021 J (0.12)	0.1 J (0.32)	0.14 J (0.16)	0.18 (0.13)	0.7 (0.26)	0.2 (0.13)
1,3,5-Trimethylbenzene	4700	5400	93	0.058 J (0.14)	ND (0.17)	0.073 J (0.37)	0.04 J (0.14)	5.2 (0.21)	0.00085 J (0.0032)	0.076 J (0.12)	ND (0.12)	0.045 J (0.32)	0.042 J (0.16)	0.11 J (0.13)	0.15 J (0.26)	0.031 J (0.13)
Xylenes (total)	7900	9100	1000	0.71 (0.069)	1.1 (0.084)	1.2 (0.18)	0.24 J (0.071)	2.9 (0.11)	0.0047 J (0.0016)	2.8 (0.06)	0.055 J (0.06)	0.19 J (0.16)	1.4 (0.083)	1.3 (0.067)	0.8 J (0.13)	1 (0.065)
Semivolatile Organic Compounds																
Acenaphthene	190000	190000	4700	0.73 (0.29)	1.5 (1.4)	0.85 (2.1)	0.46 (1.1)	0.23 (1.1)	0.61 (1.5)	ND (8.2)	0.31 (0.25)	ND (1)	ND (1.1)	ND (0.99)	ND (2)	ND (1.1)
Anthracene	190000	190000	350	0.44 (0.29)	1.2 (1.4)	0.81 (2.1)	0.58 (1.1)	0.32 (1.1)	ND (1.5)	ND (8.2)	0.7 (0.25)	ND (1)	0.31 (1.1)	0.34 (0.99)	ND (2)	ND (1.1)
Benzo(a)anthracene	130	190000	340	0.17 (0.29)	1.9 (1.4)	1.2 (2.1)	2.3 (1.1)	0.57 (1.1)	0.68 (1.5)	2.1 (8.2)	0.78 (0.25)	0.7 (1)	0.98 (1.1)	1.9 (0.99)	0.24 (2)	0.69 (1.1)
Benzo(a)pyrene	91	190000	46	0.2 (0.29)	2.2 (1.4)	1.5 (2.1)	2.2 (1.1)	0.58 (1.1)	0.85 (1.5)	1.9 (8.2)	0.8 (0.25)	0.81 (1)	1.1 (1.1)	2.3 (0.99)	ND (2)	0.7 (1.1)
Benzo(b)fluoranthene	76	190000	170	0.25 (0.29)	2.5 (1.4)	1.9 (2.1)	2.8 (1.1)	0.83 (1.1)	0.88 (1.5)	2.2 (8.2)	0.92 (0.25)	0.89 (1)	1.4 (1.1)	2.7 (0.99)	0.34 (2)	0.8 (1.1)
Benzo(g,h,i)perylene	190000	190000	180	0.19 (0.29)	1 (1.4)	0.82 (2.1)	0.97 (1.1)	0.33 (1.1)	0.63 (1.5)	0.91 (8.2)	0.52 (0.25)	0.46 (1)	0.62 (1.1)	1.3 (0.99)	ND (2)	0.35 (1.1)
Benzo(k)fluoranthene	76	190000	610	0.093 (0.29)	1 (1.4)	0.74 (2.1)	1.2 (1.1)	0.3 (1.1)	0.4 (1.5)	1.1 (8.2)	0.39 (0.25)	0.42 (1)	0.56 (1.1)	1.2 (0.99)	ND (2)	0.43 (1.1)
Chrysene	760	190000	230	0.17 (0.29)	1.8 (1.4)	1.1 (2.1)	1.9 (1.1)	0.57 (1.1)	0.67 (1.5)	1.9 (8.2)	0.73 (0.25)	0.63 (1)	1 (1.1)	1.8 (0.99)	ND (2)	0.72 (1.1)
Dibenz(a,h)anthracene	22	190000	270	ND (0.29)	0.39 (1.4)	ND (2.1)	0.41 (1.1)	ND (1.1)	ND (1.5)	ND (8.2)	0.15 (0.25)	ND (1)	0.21 (1.1)	0.47 (0.99)	ND (2)	ND (1.1)
7,12-Dimethylbenz(a)anthracene			--	ND (0.56)	ND (2.7)	ND (4.1)	ND (2.1)	ND (2.1)	ND (2.9)	ND (16)	ND (0.49)	ND (1.9)	ND (2.1)	ND (1.9)	ND (3.9)	ND (2.2)
2,4-Dimethylphenol	10000	10000	190	ND (0.29)	ND (1.4)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.5)	ND (8.2)	ND (0.25)	ND (1)	ND (1.1)	ND (0.99)	ND (2)	ND (1.1)
Fluorene	130000	190000	3800	1.2 (0.29)	1.4 (1.4)	1.3 (2.1)	0.53 (1.1)	0.26 (1.1)	0.37 (1.5)	ND (8.2)	0.48 (0.25)	ND (1)	0.21 (1.1)	ND (0.99)	ND (2)	0.15 (1.1)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.14 (0.29)	1 (1.4)	0.82 (2.1)	0.99 (1.1)	0.32 (1.1)	0.54 (1.5)	1.1 (8.2)	0.46 (0.25)	0.43 (1)	0.58 (1.1)	1.3 (0.99)	ND (2)	0.35 (1.1)
3-Methylcholanthrene			--	ND (0.56)	ND (2.7)	ND (4.1)	ND (2.1)	ND (2.1)	ND (2.9)	ND (16)	ND (0.49)	ND (1.9)	ND (2.1)	ND (1.9)	ND (3.9)	ND (2.2)
Methylphenol (total)	10000	10000	530	ND (0.56)	ND (2.7)	ND (4.1)	ND (2.1)	ND (2.1)	ND (2.9)	ND (16)	ND (0.49)	ND (1.9)	ND (2.1)	ND (1.9)	ND (3.9)	ND (2.2)
2-Methylphenol	160000	190000	490	ND (0.29)	ND (1.4)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.5)	ND (8.2)	ND (0.25)	ND (1)	ND (1.1)	ND (0.99)	ND (2)	ND (1.1)
3-Methylphenol	10000	10000	490	ND (0.56)	ND (2.7)	ND (4.1)	ND (2.1)	ND (2.1)	ND (2.9)	ND (16)	ND (0.49)	ND (1.9)	ND (2.1)	ND (1.9)	ND (3.9)	ND (2.2)
4-Methylphenol	16000	190000	49	ND (0.56)	ND (2.7)	ND (4.1)	ND (2.1)	ND (2.1)	ND (2.9)	ND (16)	ND (0.49)	ND (1.9)	ND (2.1)	ND (1.9)	ND (3.9)	ND (2.2)
Naphthalene	66	77	25	ND (0.29)	ND (1.4)	0.41 (2.1)	ND (1.1)	ND (1.1)	ND (1.5)	ND (8.2)	ND (0.25)	ND (1)	ND (1.1)	ND (0.99)	ND (2)	ND (1.1)
Phenanthrene	190000	190000	10000	2.9 (0.29)	3.6 (1.4)	3.7 (2.1)	1.7 (1.1)	1.1 (1.1)	0.62 (1.5)	2.4 (8.2)	1 (0.25)	0.22 (1)	1.5 (1.1)	0.46 (0.99)	ND (2)	1 (1.1)
Phenol	16000	18000	200	ND (0.29)	ND (1.4)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.5)	ND (8.2)	ND (0.25)	ND (1)	ND (1.1)	ND (0.99)	ND (2)	ND (1.1)
bis(2-Ethylhexyl)phthalate	6500	10000	130	ND (0.29)	ND (1.4)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.5)	ND (8.2)	ND (0.25)	ND (1)	ND (1.1)	ND (0.99)	ND (2)	ND (1.1)
Di-n-butylphthalate	10000	10000	4000	ND (0.29)	ND (1.4)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.5)	ND (8.2)	ND (0.25)	ND (1)	ND (1.1)	ND (0.99)	ND (2)	ND (1.1)
Pyrene	96000	190000	2200	0.47 (0.29)	3.2 (1.4)	2.3 (2.1)	3 (1.1)	0.85 (1.1)	0.99 (1.5)	3 (8.2)	1.6 (0.25)	0.85 (1)	1.7 (1.1)	1.9 (0.99)	0.41 (2)	1.3 (1.1)
Physical Properties																
pH			--	6.1	7.2	6.2	6	8.2	6.8	7	7.2	7.8	7.3	7.2	7.3	7.6
Metals																
Antimony	1300	190000	27	1.48 J (2.38)	0.756 J (2.57)	2.05 J (2.76)	0.694 J (2.38)	2.01 J (2.25)	1.69 J (3)	1.02 J (2.19)	0.924 J (2.36)	0.476 J (2.52)	1.5 J (2.44)	0.781 J (2.3)	1.23 J (2.4)	1.13 J (2.4)
Arsenic	61	190000	29	14.9 (0.477)	8.22 (0.514)	13.1 (0.552)	9.64 (0.476)	8.96 (0.449)	28.6 (0.6)	11 (0.438)	9.37 (0.472)	3.53 (0.504)	9.72 (0.488)	5.42 (0.46)	10.4 (0.48)	7.98 (0.48)
Chromium (total)			--	22.8 (0.477)	22 (0.514)	24.9 (0.552)	18.8 (0.476)	22.1 (0.449)	96.2 (0.6)	23.8 (0.438)	15.6 (0.472)	19.6 (0.504)	18.4 (0.488)	23.9 (0.46)	23.8 (0.48)	15.2 (0.48)
Chromium VI	180	140000	190	ND (1)	ND (1.05)	ND (1.16)	ND (0.958)	ND (0.954)	ND (1.22)	ND (0.91)	ND (1)	ND (1.03)	ND (1.01)	ND (0.97)	ND (0.968)	ND (0.98)
Cyanide (total)			--	ND (1.2)	ND (1.2)	ND (1.4)	ND (1.1)	ND (1.1)	0.91 J (1.4)	ND (1.1)	0.35 J (1.2)	0.58 J (1.2)	0.31 J (1.2)	ND (1.2)	ND (1.2)	0.28 J (1.1)
Lead	1000	190000	450	1240 (2.38)	205 (2.57)	2310 (2.76)	84.6 (2.38)	996 (2.25)	316 (3)	251 (2.19)	149 (2.36)	50.2 (2.52)	245 (2.44)	115 (2.3)	244 (2.4)	233 (2.4)
Nickel	64000	190000	650	23.8 (1.19)	12.7 (1.28)	13 (1.38)	6.58 (1.19)	17.7 (1.12)	29.2 (1.5)	20.8 (1.09)	10.4 (1.18)	8.41 (1.26)	13.7 (1.22)	12.1 (1.15)	16 (1.2)	8.75 (1.2)
Vanadium	220	190000	680	31.7 (0.477)	16.2 (0.514)	37.1 (0.552)	13.7 (0.476)	52.1 (0.449)	32.1 (0.6)	57.1 (0.438)	19.5 (0.472)	14 (0.504)	31.5 (0.488)	37.8 (0.46)	50.4 (0.48)	18.8 (0.48)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 No concentrations exceed the Non-Residential Direct Contact MSCs for Subsurface Soil (2-15 ft).
3 Underlined concentrations exceed the Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC.

Abbreviations:
ND - Not Detected
J - Estimated Concentration

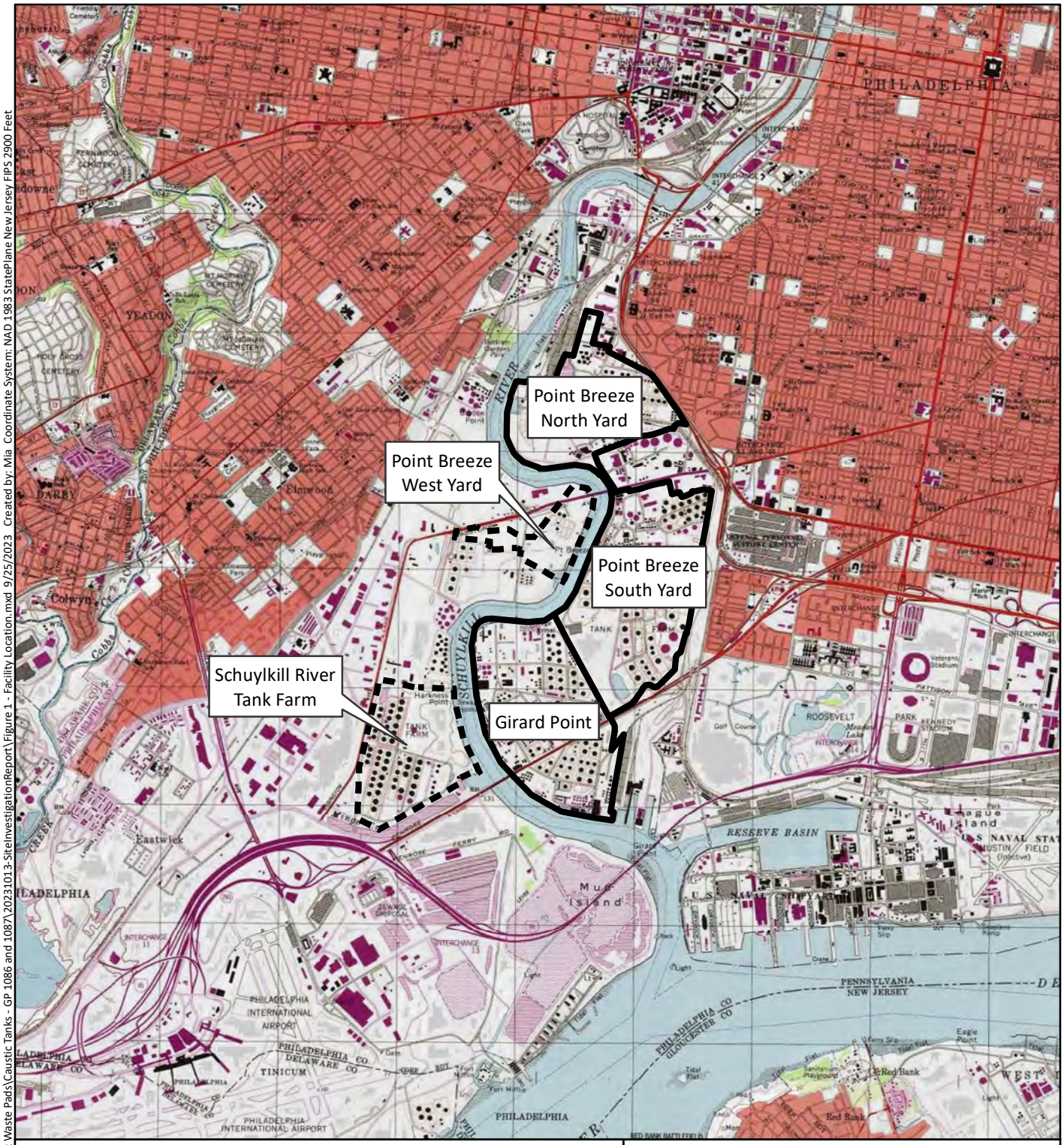
Table 3
Summary Statistics
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Dataset	Chemical	Analyzed	Detected	Percent > MSCs	Mean Detected (mg/kg)	Max Detected (mg/kg)
Caustic Tanks	Benzene	16	12	13%	0.22	1.1
Evergreen (AOI 6)	Benzene	216	133	27%	79	1900
Caustic Tanks	Lead	16	16	19%	420	2300
Evergreen (AOI 6)	Lead	212	212	22%	420	7500

Note:
For consistency, the Evergreen data set only includes results from samples collected from a similar interval as the Caustic Tanks (i.e., from depths shallower than 6 ft bgs).

Figures

1 Facility Location
2 Site Location
3 Site Layout
4 Soil Sampling Results (Caustic Tanks)
5a Benzene Soil Sampling Results (AOI 6)
5b Lead Soil Sampling Results (AOI 6)



0 2,000 4,000 6,000 Feet

1 inch = 4,000 feet

N

Legend

Subject to AST Closure Plan

Not Subject to AST Closure Plan

Base Map: USGS Philadelphia 1994 7.5 Minute Quadrangle.

SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

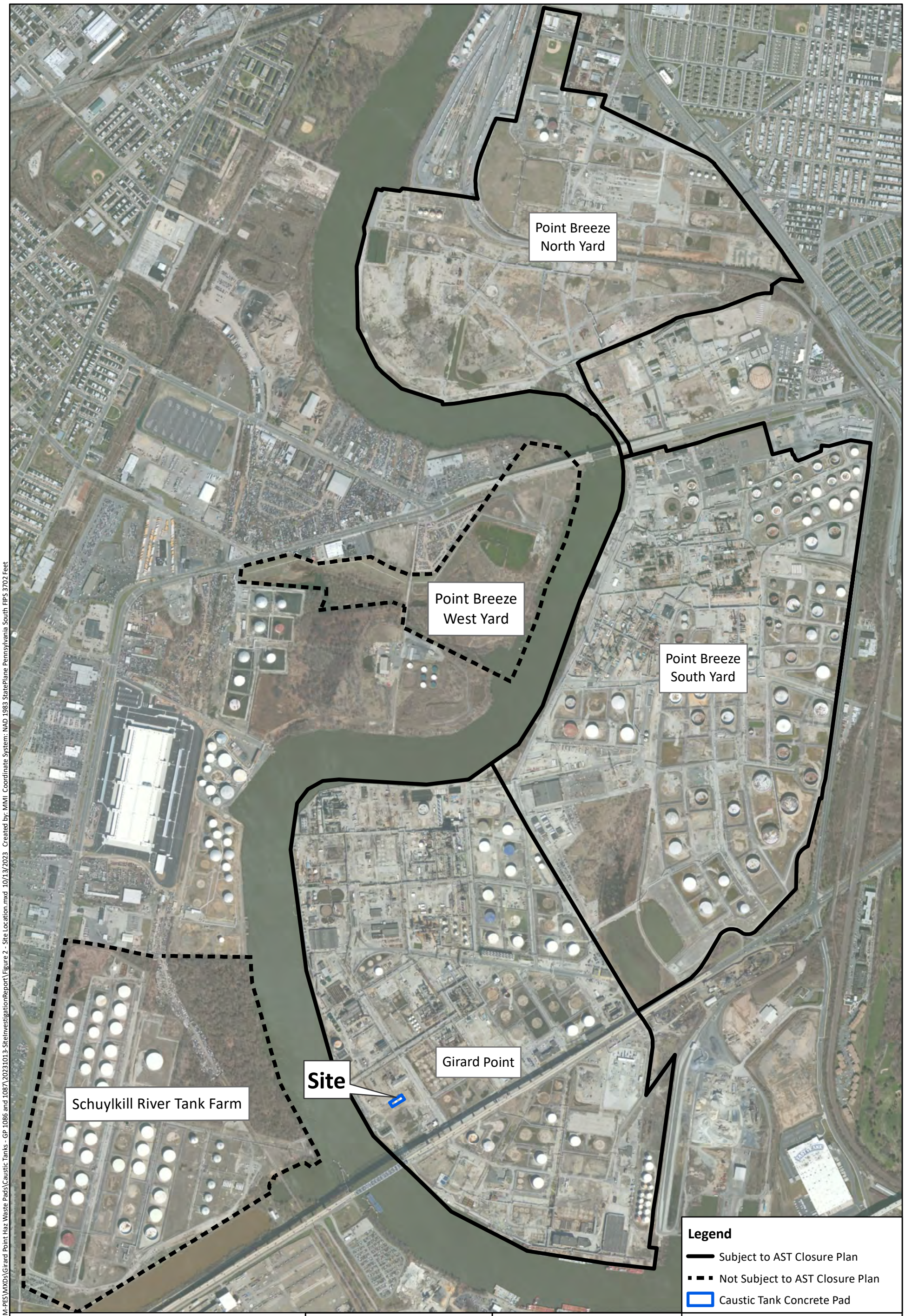
PROJECT: Spent Caustic Tanks 1086 and 1087

PROJECT NUMBER: P044.001.011

Facility Location

Figure 1

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\Caustic Tanks - GP 1086 and 1087\20231013-SiteInvestigationReport\Figure 1 - Facility Location.mxd 9/25/2023 Created by: Mia Coordinate System: NAD 1983 StatePlane New Jersey FIPS 2900 Feet



N

0 500 1,000 1,500 Feet

1 inch = 1,000 feet

Notes: Aerial imagery source Maxar 10/19/2019

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CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Spent Caustic Tanks 1086 and 1087

PROJECT NUMBER: P044.001.011

Site Location

Figure 2

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\Caustic Tanks - GP 1086 and 1087\20231013-SiteInvestigationReport\Figure 2 - Site Location.mxd 10/13/2023 Created by: MMI Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Note:
Aerial imagery source NearMap (March 2022)

0 25 50 Feet
1 inch = 25 feet

N

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CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

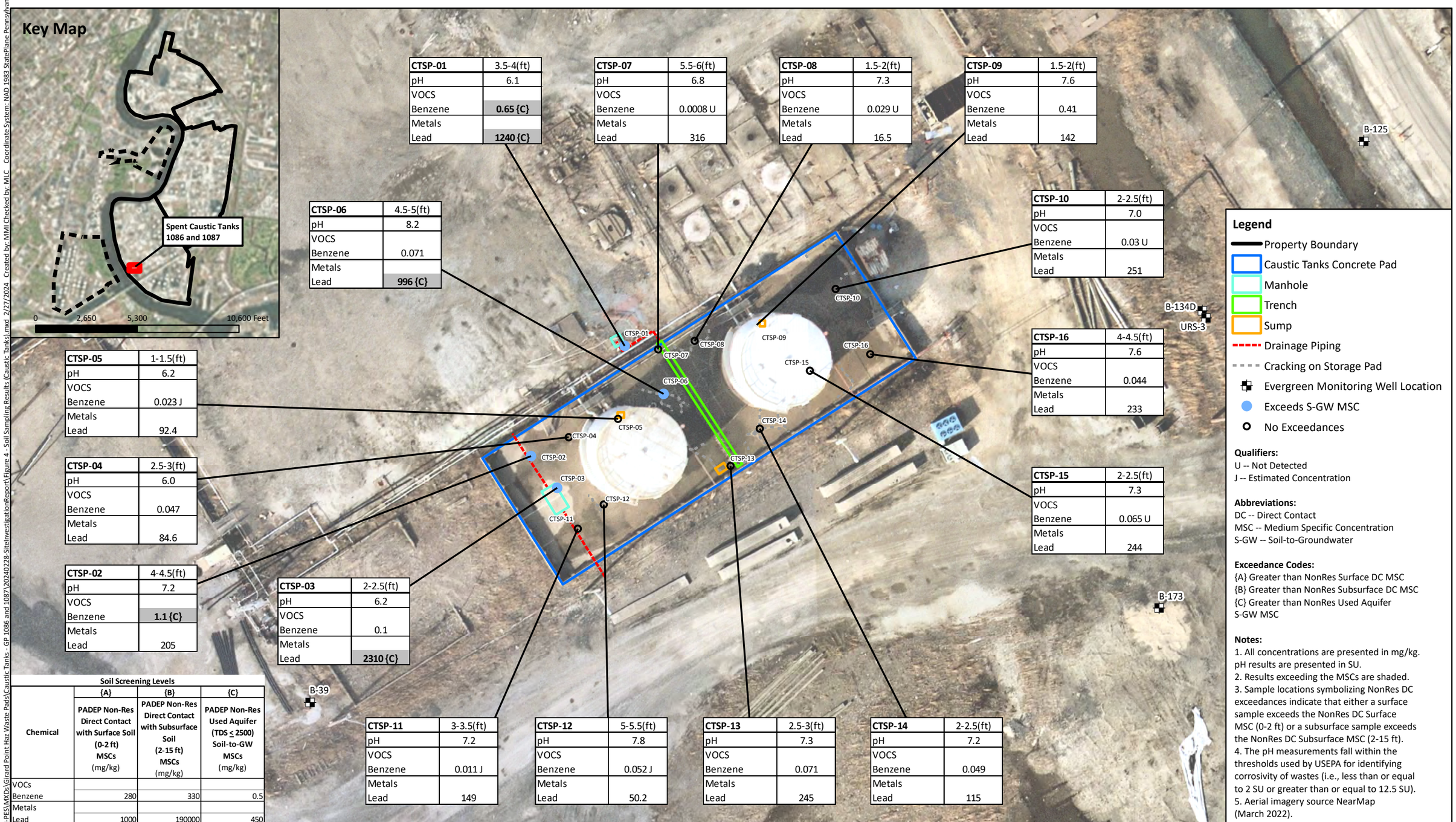
PROJECT: Spent Caustic Tanks 1086 and 1087

PROJECT NUMBER: P044.001.011

Site Layout

Figure 3

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\Caustic Tanks - GP 1086 and 1087\20231013-SiteInvestigationReport\Figure 3 - Site Layout.mxd 10/13/2023 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet



CTSP-01	3.5-4(ft)
pH	6.1
VOCS	
Benzene	**0.65 {C}**
Metals	
Lead	**1240 {C}**

CTSP-07	5.5-6(ft)
pH	6.8
VOCS	
Benzene	0.0008 U
Metals	
Lead	316

CTSP-08	1.5-2(ft)
pH	7.3
VOCS	
Benzene	0.029 U
Metals	
Lead	16.5

CTSP-09	1.5-2(ft)
pH	7.6
VOCS	
Benzene	0.41
Metals	
Lead	142

CTSP-06	4.5-5(ft)
pH	8.2
VOCS	
Benzene	0.071
Metals	
Lead	**996 {C}**

CTSP-10	2-2.5(ft)
pH	7.0
VOCS	
Benzene	0.03 U
Metals	
Lead	251

CTSP-16	4-4.5(ft)
pH	7.6
VOCS	
Benzene	0.044
Metals	
Lead	233

CTSP-05	1-1.5(ft)
pH	6.2
VOCS	
Benzene	0.023 J
Metals	
Lead	92.4

CTSP-04	2.5-3(ft)
pH	6.0
VOCS	
Benzene	0.047
Metals	
Lead	84.6

CTSP-15	2-2.5(ft)
pH	7.3
VOCS	
Benzene	0.065 U
Metals	
Lead	244

CTSP-02	4-4.5(ft)
pH	7.2
VOCS	
Benzene	**1.1 {C}**
Metals	
Lead	205

CTSP-03	2-2.5(ft)
pH	6.2
VOCS	
Benzene	0.1
Metals	
Lead	**2310 {C}**

CTSP-11	3-3.5(ft)
pH	7.2
VOCS	
Benzene	0.011 J
Metals	
Lead	149

CTSP-12	5-5.5(ft)
pH	7.8
VOCS	
Benzene	0.052 J
Metals	
Lead	50.2

CTSP-13	2.5-3(ft)
pH	7.3
VOCS	
Benzene	0.071
Metals	
Lead	245

CTSP-14	2-2.5(ft)
pH	7.2
VOCS	
Benzene	0.049
Metals	
Lead	115

Soil Screening Levels

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

Legend

- Property Boundary
- Caustic Tanks Concrete Pad
- Manhole
- Trench
- Sump
- Drainage Piping
- Cracking on Storage Pad
- Evergreen Monitoring Well Location
- Exceeds S-GW MSC
- No Exceedances

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

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

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

Notes:
1. All concentrations are presented in mg/kg. pH results are presented in SU.
2. Results exceeding the MSCs are shaded.
3. Sample locations symbolizing NonRes DC exceedances indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
4. The pH measurements fall within the thresholds used by USEPA for identifying corrosivity of wastes (i.e., less than or equal to 2 SU or greater than or equal to 12.5 SU).
5. Aerial imagery source NearMap (March 2022).

Sampling Location

CTSP-02	4-4.5(ft)
VOCS	
Benzene	1.1 {CD}
Metals	
Lead	205

Sampling Depth
MSC Exceeded
Result

0 35 70 Feet
1 inch = 35 feet

N

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CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

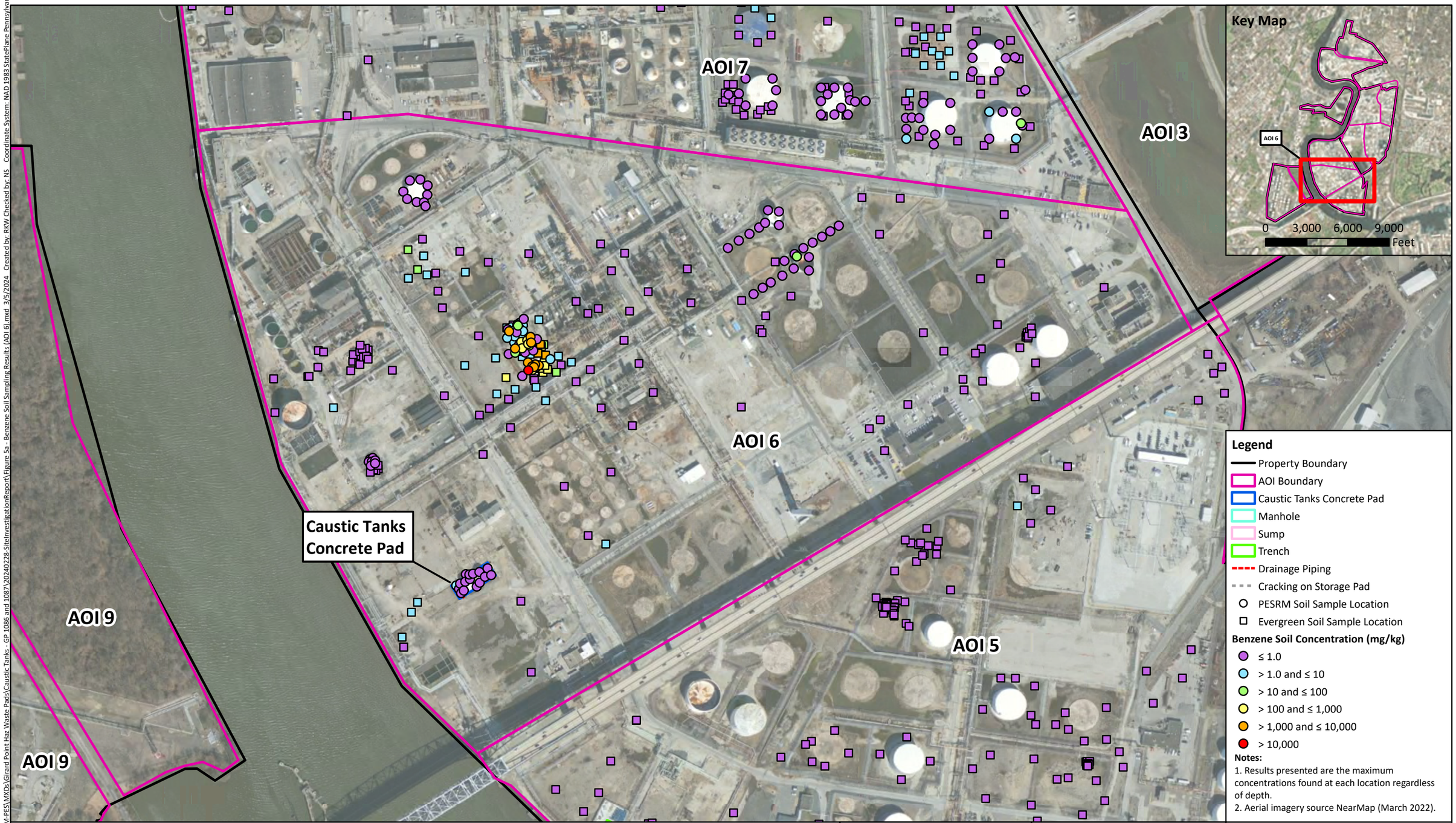
PROJECT: Spent Caustic Tanks 1086 and 1087

PROJECT NUMBER: P044.001.011

Soil Sampling Results (Caustic Tanks 1086 and 1087)

Figure 4

File: N:\GIS\Pr\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\Caustic Tanks - GP 1086 and 1087\20240228-SiteInvestigationReport\Figure 4 - Soil Sampling Results (Caustic Tanks).mxd 2/27/2024 Created by: MMI Checked by: MLC Coordinate System: NAD 1983 StatePlane Pennsylvania South FIP



0 340 680 Feet

1 inch = 340 feet

N

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CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Spent Caustic Tanks 1086 and 1087

PROJECT NUMBER: P044.001.011

Benzene Soil Sampling Results (AOI 6)

Figure 5a

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\Caustic Tanks - GP 1086 and 1087\20240228-SiteInvestigationReport\Figure 5a - Benzene Soil Sampling Results (AOI 6).mxd 3/5/2024 Created by: RKW Checked by: NS Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS

Notes:
1. Results presented are the maximum concentrations found at each location regardless of depth.
2. Aerial imagery source NearMap (March 2022).

0 340 680 Feet

1 inch = 340 feet

N

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CLIENT:	Philadelphia Energy Solutions Refining and Marketing LLC
PROJECT:	Spent Caustic Tanks 1086 and 1087
PROJECT NUMBER:	P044.001.011

Lead Soil Sampling Results (AOI 6)

Figure 5b

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\Girard Point Haz Waste Pads\Caustic Tanks - GP 1086 and 1087\20240228-SiteInvestigationReport\Figure 5b - Lead Soil Sampling Results (AOI 6).mxd 3/5/2024 Created by: RKW Checked by: NS Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 37

Appendix A

Selected Figures from Evergreen RIR and Sitewide RIR

Source: Microsoft Product Screen Shot(s) Reprinted with permission from Microsoft Corporation, Acquisition Date June 2014, Accessed: 2017

0 100 300ft

LEGEND

B-39 SAMPLE LOCATION

3.40 WATER TABLE ELEVATION (ft. AMSL)

0.0 WATER TABLE CONTOUR (ft. AMSL)

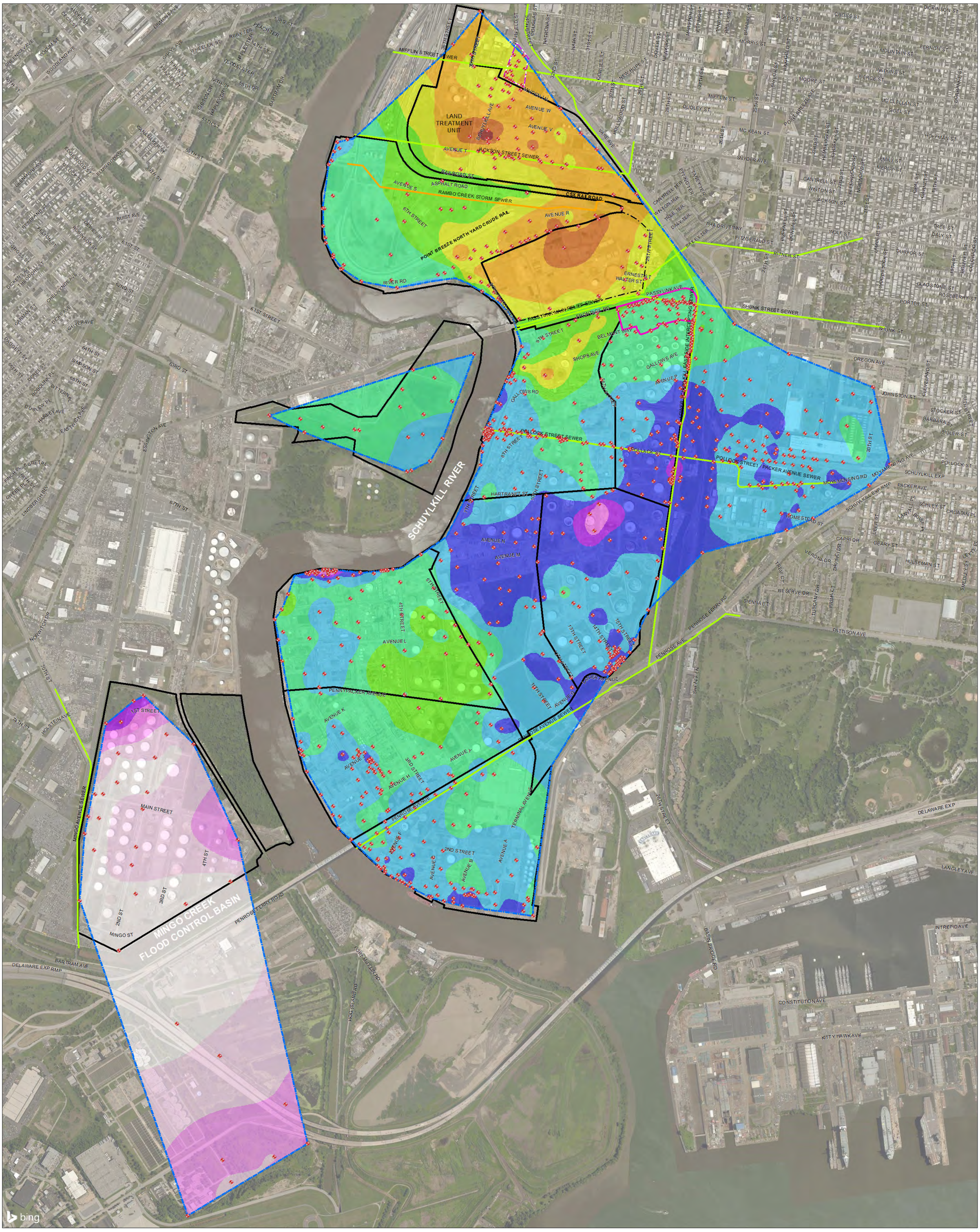
EVERGREEN RESOURCES MANAGEMENT OPERATIONS LLC
PHILADELPHIA REFINERY - 3144 PASSYUNK AVENUE, PHILADELPHIA, PA
REMEDIAL INVESTIGATION REPORT

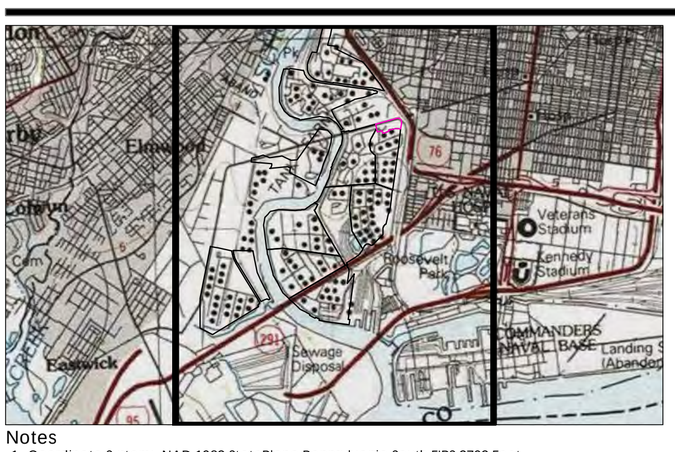
WATER TABLE CONTOURS
MAY 2, 2016

11109613-01
Nov 11, 2017

FIGURE 14

CAD File: P:\drawings\11109000s\11109613\11109613-reports\11109613-01(002)\11109613-01(002)GN\11109613-01(002)GN-WA017.dwg





Notes
1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
North American Vertical Datum of 1988 (NAVD 88)
2. Sources: Stantec, Philadelphia Gas Works (PGW), and Defense Logistics Agency (DLA)
3. Depth to groundwater and LNAPL, where present, were measured in each well to the nearest one-hundredth of a foot using an interface probe.
4. FT NAVD88 = feet referenced to the North American Vertical Datum of 1988
5. Groundwater elevation data was interpolated using point kriging with a linear variogram model in Surfer to produce a surface model. The model is interpreted to be a reasonable approximation of the water-table elevation within the limits of the available well data.
6. Aerial & Topo Copyright:© 2013 National Geographic Society, i-cubed
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Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

LEGEND

- WELL UTILIZED FOR THE JUNE 2018 WATER-TABLE ELEVATION SURFACE
- APPROXIMATE LOCATION OF PHILADELPHIA WATER DEPARTMENT SEWER
- APPROXIMATE LOCATION OF RAMBO CREEK STORM SEWER
- PHILADELPHIA GAS WORKS (PGW) PASSYUNK FACILITY
- VERIZON SOUTH DISTRICT WORK CENTER (SDWC) PROPERTY
- AREA OF INTEREST (AOI) BOUNDARY
- BELMONT TERMINAL
- APPROXIMATE LIMITS OF WATER-TABLE WELL CONTROL

JUNE 2018 WATER-TABLE ELEVATION
FT NAVD88

- 14 - 16
- 12 - 14
- 10 - 12
- 8 - 10
- 6 - 8
- 4 - 6
- 2 - 4
- 0 - 2
- -2 - 0
- -4 - -2
- -6 - -4
- -8 - -6
- -10 - -8

0 500 1,000 1,500 Feet
1:8,100 (At original document size of 24x36)

N

Figure No.
3-29

Title
JUNE 2018 WATER-TABLE ELEVATION

Client/Project
PHILADELPHIA REFINERY OPERATIONS, A SERIES OF
EVERGREEN RESOURCES GROUP, LLC
FORMER PHILADELPHIA REFINERY
3144 PASSYUNK AVENUE, PHILADELPHIA, PA 19145

Project Location
City of Philadelphia,
Philadelphia County,
Pennsylvania

213402454
Prepared by ADK on 8/14/2018
Technical Review by ANP on 9/20/2018
Independent Review by JLM on 10/19/2018

Stantec

EVERGREEN

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Appendix B

Laboratory Reports

ANALYTICAL REPORT

Lab Number:	L2300870
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	Not Specified
Report Date:	01/18/23

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-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: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2300870-01	CTSP-01-SS01-3.5	SOIL	PHILADELPHIA, PA	01/05/23 12:30	01/06/23
L2300870-02	CTSP-02-SS01-4.0	SOIL	PHILADELPHIA, PA	01/05/23 13:30	01/06/23
L2300870-03	CTSP-03-SS01-2.0	SOIL	PHILADELPHIA, PA	01/05/23 14:00	01/06/23
L2300870-04	CTSP-04-SS01-2.5	SOIL	PHILADELPHIA, PA	01/05/23 13:15	01/06/23
L2300870-05	CTSP-05-SS01-1.0	SOIL	PHILADELPHIA, PA	01/05/23 13:00	01/06/23
L2300870-06	CTSP-06-SS01-4.5	SOIL	PHILADELPHIA, PA	01/05/23 12:45	01/06/23
L2300870-07	CTSP-07-SS01-5.5	SOIL	PHILADELPHIA, PA	01/05/23 12:05	01/06/23
L2300870-08	CTSP-08-SS01-1.5	SOIL	PHILADELPHIA, PA	01/05/23 11:50	01/06/23
L2300870-09	CTSP-09-SS01-1.5	SOIL	PHILADELPHIA, PA	01/05/23 10:50	01/06/23
L2300870-10	CTSP-10-SS01-2.0	SOIL	PHILADELPHIA, PA	01/05/23 10:15	01/06/23
L2300870-11	CTSP-11-SS01-3.0	SOIL	PHILADELPHIA, PA	01/05/23 14:20	01/06/23
L2300870-12	CTSP-12-SS01-5.0	SOIL	PHILADELPHIA, PA	01/05/23 13:45	01/06/23
L2300870-13	CTSP-13-SS01-2.5	SOIL	PHILADELPHIA, PA	01/05/23 11:30	01/06/23
L2300870-14	CTSP-14-SS01-2.0	SOIL	PHILADELPHIA, PA	01/05/23 11:05	01/06/23
L2300870-15	CTSP-15-SS01-2.0	SOIL	PHILADELPHIA, PA	01/05/23 10:30	01/06/23
L2300870-16	CTSP-16-SS01-4.0	SOIL	PHILADELPHIA, PA	01/05/23 09:55	01/06/23
L2300870-17	FB-20230105	WATER	PHILADELPHIA, PA	01/05/23 14:30	01/06/23
L2300870-18	TB-20230105	WATER	PHILADELPHIA, PA	01/04/23 00:00	01/06/23

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2300870
Project Number:	Not Specified	**Report Date:**	01/18/23

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:	PHILADELPHIA REFINERY	**Lab Number:**	L2300870
Project Number:	Not Specified	**Report Date:**	01/18/23

Case Narrative (continued)

Report Submission

January 18, 2023: This final report includes the results of all requested analyses.

January 17, 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.

The analysis of Semivolatile Organics was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

Sample Receipt

L2300870-11: The sample identified as "CTSP-11-SS01-3.0" on the chain of custody was identified as "CTSP-11-SS01-4.0" on the container label. At the client's request, the sample is reported as "CTSP-11-SS01-3.0".

L2300870-17 and -18: The Client IDs were changed at the client's request.

Volatile Organics

L2300870-01, -04, 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.

L2300870-03D, -06D, -12D, and -15D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

L2300870-05, -13, -14, and -16: 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.

Surrogate recoveries for the following samples are outside the acceptance criteria; however, the samples were not re-analyzed due to coelution with an obvious interference. Copies of the chromatograms are included as

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Case Narrative (continued)

an attachment to this report:

L2300870-01: 4-bromofluorobenzene (135%)

L2300870-02: 4-bromofluorobenzene (161%)

L2300870-03D: 4-bromofluorobenzene (217%)

L2300870-04: 4-bromofluorobenzene (144%) and dibromofluoromethane (69%)

L2300870-06D: 4-bromofluorobenzene (134%)

L2300870-08: 4-bromofluorobenzene (170%)

L2300870-09: 4-bromofluorobenzene (193%)

L2300870-10: 4-bromofluorobenzene (135%)

L2300870-12D: 4-bromofluorobenzene (218%)

L2300870-15D: 4-bromofluorobenzene (535%)

L2300870-16: 4-bromofluorobenzene (137%)

L2300870-11: The internal standard (IS) response for fluorobenzene (264%) and the surrogate recoveries for toluene-d8 (173%), 4-bromofluorobenzene (1700%), and dibromofluoromethane (32%), were outside the acceptance criteria due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. The sample was analyzed as a High Level Methanol in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported.

Microextractables

The WG1731499-2 LCS recovery for 1,2-dibromoethane (136%), associated with L2300870-17 and -18, is outside Alpha's acceptance criteria, but within the acceptance criteria specified in the method.

Total Metals

The WG1731133-3 MS recoveries for chromium (63%) and lead (38%) performed on L2300870-07, do not apply because the sample concentrations are greater than four times the spike amounts added.

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Case Narrative (continued)

Hexavalent Chromium

L2300870-17: The sample was analyzed with the method required holding time exceeded.

The WG1733988-2 LCS recovery for chromium, hexavalent (78%), associated with L2300870-01 through -08, is outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

The WG1733990-2 LCS recovery for chromium, hexavalent (78%), associated with L2300870-09 through -16, is outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

The WG1733988-4 Insoluble MS recovery for chromium, hexavalent (62%), performed on L2300870-04, is outside the acceptance criteria. The Soluble MS recovery for chromium, hexavalent (0%) was also outside criteria. This has been attributed to matrix interference. A post-spike was performed with a recovery of 86%.

The WG1733990-5 Soluble MS recovery for chromium, hexavalent (50%), performed on L2300870-09, was outside the acceptance criteria. This has been attributed to matrix interference. A post-spike was performed with a recovery of 94%.

Cyanide, Total

The WG1731773-2/-3 LCS/LCSD recoveries for cyanide, total (65%/122%), associated with L2300870-05 and -10 through -14, are outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

The WG1732083-3 LCSD recovery for cyanide, total (74%), associated with L2300870-06 through -09, -15, and -16, is outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

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: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 01/18/23

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-01
Client ID: CTSP-01-SS01-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 12:30
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/10/23 13:14
Analyst: AJK
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.69	0.31	1
Methyl tert butyl ether	ND		mg/kg	0.14	0.014	1
Benzene	0.65		mg/kg	0.034	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.069	0.018	1
Toluene	0.68		mg/kg	0.069	0.037	1
1,2-Dibromoethane	ND		mg/kg	0.034	0.020	1
Ethylbenzene	0.11		mg/kg	0.069	0.0097	1
p/m-Xylene	0.51		mg/kg	0.14	0.038	1
o-Xylene	0.20		mg/kg	0.069	0.020	1
Xylenes, Total	0.71		mg/kg	0.069	0.020	1
Isopropylbenzene	1.3		mg/kg	0.069	0.0075	1
1,3,5-Trimethylbenzene	0.058	J	mg/kg	0.14	0.013	1
1,2,4-Trimethylbenzene	0.093	J	mg/kg	0.14	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	**135**	Q	70-130
Dibromofluoromethane	79		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-02
Client ID: CTSP-02-SS01-4.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 13:30
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/10/23 13:37
Analyst: AJK
Percent Solids: 76%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.84	0.38	1
Methyl tert butyl ether	ND		mg/kg	0.17	0.017	1
Benzene	1.1		mg/kg	0.042	0.014	1
1,2-Dichloroethane	ND		mg/kg	0.084	0.022	1
Toluene	0.28		mg/kg	0.084	0.046	1
1,2-Dibromoethane	ND		mg/kg	0.042	0.025	1
Ethylbenzene	0.16		mg/kg	0.084	0.012	1
p/m-Xylene	0.97		mg/kg	0.17	0.047	1
o-Xylene	0.16		mg/kg	0.084	0.024	1
Xylenes, Total	1.1		mg/kg	0.084	0.024	1
Isopropylbenzene	3.9		mg/kg	0.084	0.0092	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.17	0.016	1
1,2,4-Trimethylbenzene	0.13	J	mg/kg	0.17	0.028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	**161**	Q	70-130
Dibromofluoromethane	78		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-03 D
Client ID: CTSP-03-SS01-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 14:00
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 14:43
Analyst: JIC
Percent Solids: 69%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	1.8	0.84	2
Methyl tert butyl ether	ND		mg/kg	0.37	0.037	2
Benzene	0.10		mg/kg	0.093	0.031	2
1,2-Dichloroethane	ND		mg/kg	0.18	0.048	2
Toluene	0.19		mg/kg	0.18	0.10	2
1,2-Dibromoethane	ND		mg/kg	0.093	0.054	2
Ethylbenzene	0.20		mg/kg	0.18	0.026	2
p/m-Xylene	0.77		mg/kg	0.37	0.10	2
o-Xylene	0.39		mg/kg	0.18	0.054	2
Xylenes, Total	1.2		mg/kg	0.18	0.054	2
Isopropylbenzene	10.		mg/kg	0.18	0.020	2
1,3,5-Trimethylbenzene	0.073	J	mg/kg	0.37	0.036	2
1,2,4-Trimethylbenzene	0.27	J	mg/kg	0.37	0.062	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	**217**	Q	70-130
Dibromofluoromethane	76		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-04
Client ID: CTSP-04-SS01-2.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 13:15
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/10/23 12:51
Analyst: AJK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.71	0.32	1
Methyl tert butyl ether	ND		mg/kg	0.14	0.014	1
Benzene	0.047		mg/kg	0.035	0.012	1
1,2-Dichloroethane	ND		mg/kg	0.071	0.018	1
Toluene	0.14		mg/kg	0.071	0.038	1
1,2-Dibromoethane	ND		mg/kg	0.035	0.021	1
Ethylbenzene	0.026	J	mg/kg	0.071	0.010	1
p/m-Xylene	0.13	J	mg/kg	0.14	0.040	1
o-Xylene	0.11		mg/kg	0.071	0.020	1
Xylenes, Total	0.24	J	mg/kg	0.071	0.020	1
Isopropylbenzene	1.1		mg/kg	0.071	0.0077	1
1,3,5-Trimethylbenzene	0.040	J	mg/kg	0.14	0.014	1
1,2,4-Trimethylbenzene	0.049	J	mg/kg	0.14	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	117		70-130
4-Bromofluorobenzene	**144**	Q	70-130
Dibromofluoromethane	**69**	Q	70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-05
Client ID: CTSP-05-SS01-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 13:00
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 15:35
Analyst: JIC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.54	0.24	1
Methyl tert butyl ether	ND		mg/kg	0.11	0.011	1
Benzene	0.023	J	mg/kg	0.027	0.0089	1
1,2-Dichloroethane	ND		mg/kg	0.054	0.014	1
Toluene	0.33		mg/kg	0.054	0.029	1
1,2-Dibromoethane	ND		mg/kg	0.027	0.016	1
Ethylbenzene	0.018	J	mg/kg	0.054	0.0076	1
p/m-Xylene	0.069	J	mg/kg	0.11	0.030	1
o-Xylene	ND		mg/kg	0.054	0.016	1
Xylenes, Total	0.069	J	mg/kg	0.054	0.016	1
Isopropylbenzene	0.013	J	mg/kg	0.054	0.0058	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.11	0.010	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.11	0.018	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-05
Client ID: CTSP-05-SS01-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 13:00
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/10/23 16:18
Analyst: AJK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.012	0.0055	1
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	0.00021	J	mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	0.0017		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	0.0012	J	mg/kg	0.0024	0.00067	1
o-Xylene	0.00040	J	mg/kg	0.0012	0.00035	1
Xylenes, Total	0.0016	J	mg/kg	0.0012	0.00035	1
Isopropylbenzene	0.0012		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	0.00039	J	mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	0.00045	J	mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	127		70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-06 D
Client ID: CTSP-06-SS01-4.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 12:45
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 16:00
Analyst: JIC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	1.1	0.48	2
Methyl tert butyl ether	ND		mg/kg	0.21	0.021	2
Benzene	0.071		mg/kg	0.053	0.018	2
1,2-Dichloroethane	ND		mg/kg	0.11	0.027	2
Toluene	0.28		mg/kg	0.11	0.058	2
1,2-Dibromoethane	ND		mg/kg	0.053	0.031	2
Ethylbenzene	0.10	J	mg/kg	0.11	0.015	2
p/m-Xylene	2.7		mg/kg	0.21	0.059	2
o-Xylene	0.22		mg/kg	0.11	0.031	2
Xylenes, Total	2.9		mg/kg	0.11	0.031	2
Isopropylbenzene	1.0		mg/kg	0.11	0.012	2
1,3,5-Trimethylbenzene	5.2		mg/kg	0.21	0.020	2
1,2,4-Trimethylbenzene	3.7		mg/kg	0.21	0.035	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	**134**	Q	70-130
Dibromofluoromethane	74		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-07
Client ID: CTSP-07-SS01-5.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 12:05
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 16:26
Analyst: JIC
Percent Solids: 66%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.016	0.0073	1
Methyl tert butyl ether	ND		mg/kg	0.0032	0.00032	1
Benzene	ND		mg/kg	0.00080	0.00027	1
1,2-Dichloroethane	ND		mg/kg	0.0016	0.00041	1
Toluene	ND		mg/kg	0.0016	0.00087	1
1,2-Dibromoethane	ND		mg/kg	0.00080	0.00047	1
Ethylbenzene	ND		mg/kg	0.0016	0.00023	1
p/m-Xylene	0.0019	J	mg/kg	0.0032	0.00090	1
o-Xylene	0.0028		mg/kg	0.0016	0.00047	1
Xylenes, Total	0.0047	J	mg/kg	0.0016	0.00047	1
Isopropylbenzene	0.015		mg/kg	0.0016	0.00018	1
1,3,5-Trimethylbenzene	0.00085	J	mg/kg	0.0032	0.00031	1
1,2,4-Trimethylbenzene	0.00097	J	mg/kg	0.0032	0.00054	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-08
Client ID: CTSP-08-SS01-1.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 11:50
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/10/23 15:09
Analyst: AJK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.58	0.26	1
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	ND		mg/kg	0.029	0.0096	1
1,2-Dichloroethane	ND		mg/kg	0.058	0.015	1
Toluene	0.041	J	mg/kg	0.058	0.031	1
1,2-Dibromoethane	ND		mg/kg	0.029	0.017	1
Ethylbenzene	0.014	J	mg/kg	0.058	0.0082	1
p/m-Xylene	0.040	J	mg/kg	0.12	0.032	1
o-Xylene	0.27		mg/kg	0.058	0.017	1
Xylenes, Total	0.31	J	mg/kg	0.058	0.017	1
Isopropylbenzene	27.	E	mg/kg	0.058	0.0063	1
1,3,5-Trimethylbenzene	0.089	J	mg/kg	0.12	0.011	1
1,2,4-Trimethylbenzene	0.23		mg/kg	0.12	0.019	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	**170**	Q	70-130
Dibromofluoromethane	82		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-08 D
Client ID: CTSP-08-SS01-1.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 11:50
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 16:52
Analyst: JIC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	29.		mg/kg	0.12	0.013	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	129		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified
Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-09
Client ID: CTSP-09-SS01-1.5
Sample Location: PHILADELPHIA, PA
Date Collected: 01/05/23 10:50
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/10/23 14:00
Analyst: AJK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.58	0.26	1
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	0.41		mg/kg	0.029	0.0097	1
1,2-Dichloroethane	ND		mg/kg	0.058	0.015	1
Toluene	0.17		mg/kg	0.058	0.032	1
1,2-Dibromoethane	ND		mg/kg	0.029	0.017	1
Ethylbenzene	0.19		mg/kg	0.058	0.0082	1
p/m-Xylene	0.38		mg/kg	0.12	0.032	1
o-Xylene	0.081		mg/kg	0.058	0.017	1
Xylenes, Total	0.46		mg/kg	0.058	0.017	1
Isopropylbenzene	2.0		mg/kg	0.058	0.0063	1
1,3,5-Trimethylbenzene	0.057	J	mg/kg	0.12	0.011	1
1,2,4-Trimethylbenzene	0.27		mg/kg	0.12	0.019	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	**193**	Q	70-130
Dibromofluoromethane	87		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-10
Client ID: CTSP-10-SS01-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 10:15
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/10/23 14:23
Analyst: AJK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.60	0.28	1
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	ND		mg/kg	0.030	0.010	1
1,2-Dichloroethane	ND		mg/kg	0.060	0.016	1
Toluene	2.3		mg/kg	0.060	0.033	1
1,2-Dibromoethane	ND		mg/kg	0.030	0.018	1
Ethylbenzene	0.049	J	mg/kg	0.060	0.0085	1
p/m-Xylene	0.16		mg/kg	0.12	0.034	1
o-Xylene	2.6		mg/kg	0.060	0.018	1
Xylenes, Total	2.8		mg/kg	0.060	0.018	1
Isopropylbenzene	3.5		mg/kg	0.060	0.0066	1
1,3,5-Trimethylbenzene	0.076	J	mg/kg	0.12	0.012	1
1,2,4-Trimethylbenzene	0.16		mg/kg	0.12	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	**135**	Q	70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-11
Client ID: CTSP-11-SS01-3.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 14:20
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 18:10
Analyst: JIC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.60	0.27	1
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	0.011	J	mg/kg	0.030	0.010	1
1,2-Dichloroethane	ND		mg/kg	0.060	0.015	1
Toluene	ND		mg/kg	0.060	0.032	1
1,2-Dibromoethane	ND		mg/kg	0.030	0.018	1
Ethylbenzene	0.020	J	mg/kg	0.060	0.0084	1
p/m-Xylene	0.055	J	mg/kg	0.12	0.034	1
o-Xylene	ND		mg/kg	0.060	0.017	1
Xylenes, Total	0.055	J	mg/kg	0.060	0.017	1
Isopropylbenzene	0.60		mg/kg	0.060	0.0065	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.12	0.012	1
1,2,4-Trimethylbenzene	0.021	J	mg/kg	0.12	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-11
Client ID: CTSP-11-SS01-3.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 14:20
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/10/23 15:32
Analyst: AJK
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.010	0.0047	1
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	0.0010		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	0.0055		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00030	1
Ethylbenzene	0.0062		mg/kg	0.0010	0.00015	1
p/m-Xylene	0.025		mg/kg	0.0021	0.00058	1
o-Xylene	0.0067		mg/kg	0.0010	0.00030	1
Xylenes, Total	0.032		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.75	E	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	0.0035		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	0.012		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	**173**	Q	70-130
4-Bromofluorobenzene	**1700**	Q	70-130
Dibromofluoromethane	**32**	Q	70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-12 D
Client ID: CTSP-12-SS01-5.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 13:45
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 18:35
Analyst: JIC
Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	1.6	0.72	2
Methyl tert butyl ether	ND		mg/kg	0.32	0.032	2
Benzene	0.052	J	mg/kg	0.080	0.026	2
1,2-Dichloroethane	ND		mg/kg	0.16	0.041	2
Toluene	ND		mg/kg	0.16	0.086	2
1,2-Dibromoethane	ND		mg/kg	0.080	0.046	2
Ethylbenzene	0.15	J	mg/kg	0.16	0.022	2
p/m-Xylene	0.19	J	mg/kg	0.32	0.089	2
o-Xylene	ND		mg/kg	0.16	0.046	2
Xylenes, Total	0.19	J	mg/kg	0.16	0.046	2
Isopropylbenzene	0.029	J	mg/kg	0.16	0.017	2
1,3,5-Trimethylbenzene	0.045	J	mg/kg	0.32	0.031	2
1,2,4-Trimethylbenzene	0.10	J	mg/kg	0.32	0.053	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	**218**	Q	70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-13
Client ID: CTSP-13-SS01-2.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 11:30
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 19:01
Analyst: JIC
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.83	0.38	1
Methyl tert butyl ether	ND		mg/kg	0.16	0.017	1
Benzene	0.071		mg/kg	0.041	0.014	1
1,2-Dichloroethane	ND		mg/kg	0.083	0.021	1
Toluene	0.96		mg/kg	0.083	0.045	1
1,2-Dibromoethane	ND		mg/kg	0.041	0.024	1
Ethylbenzene	0.059	J	mg/kg	0.083	0.012	1
p/m-Xylene	0.41		mg/kg	0.16	0.046	1
o-Xylene	1.0		mg/kg	0.083	0.024	1
Xylenes, Total	1.4		mg/kg	0.083	0.024	1
Isopropylbenzene	0.15		mg/kg	0.083	0.0090	1
1,3,5-Trimethylbenzene	0.042	J	mg/kg	0.16	0.016	1
1,2,4-Trimethylbenzene	0.14	J	mg/kg	0.16	0.028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-13
Client ID: CTSP-13-SS01-2.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 11:30
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/10/23 17:27
Analyst: AJK
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.014	0.0062	1
Methyl tert butyl ether	ND		mg/kg	0.0027	0.00027	1
Benzene	0.0012		mg/kg	0.00068	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00035	1
Toluene	0.010		mg/kg	0.0014	0.00073	1
1,2-Dibromoethane	ND		mg/kg	0.00068	0.00040	1
Ethylbenzene	0.00065	J	mg/kg	0.0014	0.00019	1
p/m-Xylene	0.013		mg/kg	0.0027	0.00076	1
o-Xylene	0.024		mg/kg	0.0014	0.00039	1
Xylenes, Total	0.037		mg/kg	0.0014	0.00039	1
Isopropylbenzene	0.020		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	0.0022	J	mg/kg	0.0027	0.00026	1
1,2,4-Trimethylbenzene	0.0039		mg/kg	0.0027	0.00045	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	115		70-130
4-Bromofluorobenzene	127		70-130
Dibromofluoromethane	78		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-14
Client ID: CTSP-14-SS01-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 11:05
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 19:27
Analyst: JIC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.67	0.30	1
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	0.049		mg/kg	0.033	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.067	0.017	1
Toluene	0.50		mg/kg	0.067	0.036	1
1,2-Dibromoethane	ND		mg/kg	0.033	0.020	1
Ethylbenzene	0.18		mg/kg	0.067	0.0094	1
p/m-Xylene	1.0		mg/kg	0.13	0.037	1
o-Xylene	0.27		mg/kg	0.067	0.019	1
Xylenes, Total	1.3		mg/kg	0.067	0.019	1
Isopropylbenzene	0.035	J	mg/kg	0.067	0.0073	1
1,3,5-Trimethylbenzene	0.11	J	mg/kg	0.13	0.013	1
1,2,4-Trimethylbenzene	0.18		mg/kg	0.13	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified
Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-14
Client ID: CTSP-14-SS01-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 11:05
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/10/23 18:13
Analyst: AJK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.012	0.0056	1
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00025	1
Benzene	0.00025	J	mg/kg	0.00062	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00032	1
Toluene	0.0023		mg/kg	0.0012	0.00067	1
1,2-Dibromoethane	ND		mg/kg	0.00062	0.00036	1
Ethylbenzene	0.0010	J	mg/kg	0.0012	0.00017	1
p/m-Xylene	0.0080		mg/kg	0.0025	0.00069	1
o-Xylene	0.0046		mg/kg	0.0012	0.00036	1
Xylenes, Total	0.013		mg/kg	0.0012	0.00036	1
Isopropylbenzene	0.00086	J	mg/kg	0.0012	0.00014	1
1,3,5-Trimethylbenzene	0.0038		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	0.0044		mg/kg	0.0025	0.00041	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	126		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-15 D
Client ID: CTSP-15-SS01-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 10:30
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 19:53
Analyst: JIC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	1.3	0.59	2
Methyl tert butyl ether	ND		mg/kg	0.26	0.026	2
Benzene	ND		mg/kg	0.065	0.022	2
1,2-Dichloroethane	ND		mg/kg	0.13	0.033	2
Toluene	0.16		mg/kg	0.13	0.070	2
1,2-Dibromoethane	ND		mg/kg	0.065	0.038	2
Ethylbenzene	0.40		mg/kg	0.13	0.018	2
p/m-Xylene	0.68		mg/kg	0.26	0.073	2
o-Xylene	0.12	J	mg/kg	0.13	0.038	2
Xylenes, Total	0.80	J	mg/kg	0.13	0.038	2
Isopropylbenzene	2.6		mg/kg	0.13	0.014	2
1,3,5-Trimethylbenzene	0.15	J	mg/kg	0.26	0.025	2
1,2,4-Trimethylbenzene	0.70		mg/kg	0.26	0.043	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	**535**	Q	70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-16
Client ID: CTSP-16-SS01-4.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 09:55
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 20:19
Analyst: JIC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.65	0.30	1
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	0.044		mg/kg	0.033	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.065	0.017	1
Toluene	0.52		mg/kg	0.065	0.035	1
1,2-Dibromoethane	ND		mg/kg	0.033	0.019	1
Ethylbenzene	0.074		mg/kg	0.065	0.0092	1
p/m-Xylene	0.27		mg/kg	0.13	0.036	1
o-Xylene	0.75		mg/kg	0.065	0.019	1
Xylenes, Total	1.0		mg/kg	0.065	0.019	1
Isopropylbenzene	0.22		mg/kg	0.065	0.0071	1
1,3,5-Trimethylbenzene	0.031	J	mg/kg	0.13	0.013	1
1,2,4-Trimethylbenzene	0.20		mg/kg	0.13	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-16
Client ID: CTSP-16-SS01-4.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 09:55
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/10/23 16:41
Analyst: AJK
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Carbon disulfide	ND		mg/kg	0.011	0.0048	1
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	0.00065		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00027	1
Toluene	0.0053		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	0.00070	J	mg/kg	0.0011	0.00015	1
p/m-Xylene	0.0026		mg/kg	0.0021	0.00059	1
o-Xylene	0.011		mg/kg	0.0011	0.00031	1
Xylenes, Total	0.014		mg/kg	0.0011	0.00031	1
Isopropylbenzene	0.030		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.00070	J	mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	0.0035		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	**137**	Q	70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-17
Client ID: FB-20230105
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 14:30
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/09/23 18:36
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/09/23 16:22

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: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-17
Client ID: FB-20230105
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 14:30
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/09/23 07:59
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Carbon disulfide	ND		ug/l	5.0	0.30	1
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	98		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-18
Client ID: TB-20230105
Sample Location: PHILADELPHIA, PA

Date Collected: 01/04/23 00:00
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/09/23 18:44
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/09/23 16:22

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: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-18
Client ID: TB-20230105
Sample Location: PHILADELPHIA, PA

Date Collected: 01/04/23 00:00
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/09/23 08:22
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Carbon disulfide	ND		ug/l	5.0	0.30	1
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	98		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 01/09/23 17:14
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/09/23 16:22

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 17-18 Batch: WG1731499-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/09/23 07:35
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 17-18 Batch: WG1731829-5					
Carbon disulfide	ND		ug/l	5.0	0.30
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	101		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/09/23 11:30
Analyst: JIC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 05,08,13-14,16 Batch: WG1731870-5					
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	97		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/10/23 11:58
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01-02,04,08-10 Batch: WG1732012-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	103		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/10/23 11:58
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 05,11,13-14,16 Batch: WG1732013-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	105		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/09/23 11:30
Analyst: JIC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 03,06,11-12,15 Batch: WG1732269-5					
Carbon disulfide	ND		mg/kg	0.50	0.23
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	97		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/09/23 11:30
Analyst: JIC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 07 Batch: WG1732270-5					
Carbon disulfide	ND		mg/kg	0.010	0.0046
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	97		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	92		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: Not Specified

Lab Number: L2300870

Report Date: 01/18/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 17-18 Batch: WG1731499-2									
1,2-Dibromoethane	**136**	Q	-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 17-18 Batch: WG1731829-3 WG1731829-4								
Carbon disulfide	110		100		51-130	10		20
Methyl tert butyl ether	90		95		63-130	5		20
Benzene	100		100		70-130	0		20
1,2-Dichloroethane	96		98		70-130	2		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	100		100		70-130	0		20
Isopropylbenzene	110		110		70-130	0		20
1,3,5-Trimethylbenzene	110		110		64-130	0		20
1,2,4-Trimethylbenzene	110		100		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		102		70-130
Toluene-d8	103		104		70-130
4-Bromofluorobenzene	109		109		70-130
Dibromofluoromethane	96		96		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: Not Specified

Lab Number: L2300870

Report Date: 01/18/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 05,08,13-14,16 Batch: WG1731870-3 WG1731870-4								
Methyl tert butyl ether	92		93		66-130	1		30
Benzene	87		86		70-130	1		30
1,2-Dichloroethane	93		92		70-130	1		30
Toluene	82		83		70-130	1		30
1,2-Dibromoethane	84		85		70-130	1		30
Ethylbenzene	82		82		70-130	0		30
p/m-Xylene	83		84		70-130	1		30
o-Xylene	83		83		70-130	0		30
Isopropylbenzene	75		76		70-130	1		30
1,3,5-Trimethylbenzene	77		78		70-130	1		30
1,2,4-Trimethylbenzene	77		78		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		96		70-130
Toluene-d8	96		97		70-130
4-Bromofluorobenzene	93		94		70-130
Dibromofluoromethane	96		96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01-02,04,08-10 Batch: WG1732012-3 WG1732012-4								
Carbon disulfide	80		80		59-130	0		30
Methyl tert butyl ether	88		91		66-130	3		30
Benzene	84		87		70-130	4		30
1,2-Dichloroethane	84		87		70-130	4		30
Toluene	87		88		70-130	1		30
1,2-Dibromoethane	82		85		70-130	4		30
Ethylbenzene	87		88		70-130	1		30
p/m-Xylene	86		85		70-130	1		30
o-Xylene	84		84		70-130	0		30
Isopropylbenzene	89		90		70-130	1		30
1,3,5-Trimethylbenzene	89		89		70-130	0		30
1,2,4-Trimethylbenzene	86		87		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		101		70-130
Toluene-d8	108		107		70-130
4-Bromofluorobenzene	111		111		70-130
Dibromofluoromethane	93		94		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 05,11,13-14,16 Batch: WG1732013-3 WG1732013-4								
Carbon disulfide	80		80		59-130	0		30
Methyl tert butyl ether	88		91		66-130	3		30
Benzene	84		87		70-130	4		30
1,2-Dichloroethane	84		87		70-130	4		30
Toluene	87		88		70-130	1		30
1,2-Dibromoethane	82		85		70-130	4		30
Ethylbenzene	87		88		70-130	1		30
p/m-Xylene	86		85		70-130	1		30
o-Xylene	84		84		70-130	0		30
Isopropylbenzene	89		90		70-130	1		30
1,3,5-Trimethylbenzene	89		89		70-130	0		30
1,2,4-Trimethylbenzene	86		87		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		101		70-130
Toluene-d8	108		107		70-130
4-Bromofluorobenzene	111		111		70-130
Dibromofluoromethane	93		94		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified
Lab Number: L2300870
Report Date: 01/18/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 03,06,11-12,15 Batch: WG1732269-3 WG1732269-4								
Carbon disulfide	84		84		59-130	0		30
Methyl tert butyl ether	92		93		66-130	1		30
Benzene	87		86		70-130	1		30
1,2-Dichloroethane	93		92		70-130	1		30
Toluene	82		83		70-130	1		30
1,2-Dibromoethane	84		85		70-130	1		30
Ethylbenzene	82		82		70-130	0		30
p/m-Xylene	83		84		70-130	1		30
o-Xylene	83		83		70-130	0		30
Isopropylbenzene	75		76		70-130	1		30
1,3,5-Trimethylbenzene	77		78		70-130	1		30
1,2,4-Trimethylbenzene	77		78		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		96		70-130
Toluene-d8	96		97		70-130
4-Bromofluorobenzene	93		94		70-130
Dibromofluoromethane	96		96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

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: WG1732270-3 WG1732270-4								
Carbon disulfide	84		84		59-130	0		30
Methyl tert butyl ether	92		93		66-130	1		30
Benzene	87		86		70-130	1		30
1,2-Dichloroethane	93		92		70-130	1		30
Toluene	82		83		70-130	1		30
1,2-Dibromoethane	84		85		70-130	1		30
Ethylbenzene	82		82		70-130	0		30
p/m-Xylene	83		84		70-130	1		30
o-Xylene	83		83		70-130	0		30
Isopropylbenzene	75		76		70-130	1		30
1,3,5-Trimethylbenzene	77		78		70-130	1		30
1,2,4-Trimethylbenzene	77		78		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		96		70-130
Toluene-d8	96		97		70-130
4-Bromofluorobenzene	93		94		70-130
Dibromofluoromethane	96		96		70-130

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-01
Client ID: CTSP-01-SS01-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 12:30
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	1.48	J	mg/kg	2.38	0.181	1	01/09/23 22:00	01/10/23 08:55	EPA 3050B	1,6010D	EGW
Arsenic, Total	14.9		mg/kg	0.477	0.099	1	01/09/23 22:00	01/10/23 08:55	EPA 3050B	1,6010D	EGW
Chromium, Total	22.8		mg/kg	0.477	0.046	1	01/09/23 22:00	01/10/23 08:55	EPA 3050B	1,6010D	EGW
Lead, Total	1240		mg/kg	2.38	0.128	1	01/09/23 22:00	01/10/23 08:55	EPA 3050B	1,6010D	EGW
Nickel, Total	23.8		mg/kg	1.19	0.115	1	01/09/23 22:00	01/10/23 08:55	EPA 3050B	1,6010D	EGW
Vanadium, Total	31.7		mg/kg	0.477	0.097	1	01/09/23 22:00	01/10/23 08:55	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-02
Client ID: CTSP-02-SS01-4.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 13:30
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 76%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	0.756	J	mg/kg	2.57	0.195	1	01/09/23 22:00	01/10/23 08:58	EPA 3050B	1,6010D	EGW
Arsenic, Total	8.22		mg/kg	0.514	0.107	1	01/09/23 22:00	01/10/23 08:58	EPA 3050B	1,6010D	EGW
Chromium, Total	22.0		mg/kg	0.514	0.049	1	01/09/23 22:00	01/10/23 08:58	EPA 3050B	1,6010D	EGW
Lead, Total	205		mg/kg	2.57	0.138	1	01/09/23 22:00	01/10/23 08:58	EPA 3050B	1,6010D	EGW
Nickel, Total	12.7		mg/kg	1.28	0.124	1	01/09/23 22:00	01/10/23 08:58	EPA 3050B	1,6010D	EGW
Vanadium, Total	16.2		mg/kg	0.514	0.104	1	01/09/23 22:00	01/10/23 08:58	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-03
Client ID: CTSP-03-SS01-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 14:00
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 69%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	2.05	J	mg/kg	2.76	0.210	1	01/09/23 22:00	01/10/23 09:02	EPA 3050B	1,6010D	EGW
Arsenic, Total	13.1		mg/kg	0.552	0.115	1	01/09/23 22:00	01/10/23 09:02	EPA 3050B	1,6010D	EGW
Chromium, Total	24.9		mg/kg	0.552	0.053	1	01/09/23 22:00	01/10/23 09:02	EPA 3050B	1,6010D	EGW
Lead, Total	2310		mg/kg	2.76	0.148	1	01/09/23 22:00	01/10/23 09:02	EPA 3050B	1,6010D	EGW
Nickel, Total	13.0		mg/kg	1.38	0.134	1	01/09/23 22:00	01/10/23 09:02	EPA 3050B	1,6010D	EGW
Vanadium, Total	37.1		mg/kg	0.552	0.112	1	01/09/23 22:00	01/10/23 09:02	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-04
Client ID: CTSP-04-SS01-2.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 13:15
Date Received: 01/06/23
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											
Antimony, Total	0.694	J	mg/kg	2.38	0.181	1	01/09/23 22:00	01/10/23 09:57	EPA 3050B	1,6010D	EGW
Arsenic, Total	9.64		mg/kg	0.476	0.099	1	01/09/23 22:00	01/10/23 09:57	EPA 3050B	1,6010D	EGW
Chromium, Total	18.8		mg/kg	0.476	0.046	1	01/09/23 22:00	01/10/23 09:57	EPA 3050B	1,6010D	EGW
Lead, Total	84.6		mg/kg	2.38	0.127	1	01/09/23 22:00	01/10/23 09:57	EPA 3050B	1,6010D	EGW
Nickel, Total	6.58		mg/kg	1.19	0.115	1	01/09/23 22:00	01/10/23 09:57	EPA 3050B	1,6010D	EGW
Vanadium, Total	13.7		mg/kg	0.476	0.097	1	01/09/23 22:00	01/10/23 09:57	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-05
Client ID: CTSP-05-SS01-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 13:00
Date Received: 01/06/23
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											
Antimony, Total	0.745	J	mg/kg	2.24	0.171	1	01/09/23 22:00	01/10/23 09:05	EPA 3050B	1,6010D	EGW
Arsenic, Total	6.38		mg/kg	0.449	0.093	1	01/09/23 22:00	01/10/23 09:05	EPA 3050B	1,6010D	EGW
Chromium, Total	19.9		mg/kg	0.449	0.043	1	01/09/23 22:00	01/10/23 09:05	EPA 3050B	1,6010D	EGW
Lead, Total	92.4		mg/kg	2.24	0.120	1	01/09/23 22:00	01/10/23 09:05	EPA 3050B	1,6010D	EGW
Nickel, Total	12.0		mg/kg	1.12	0.109	1	01/09/23 22:00	01/10/23 09:05	EPA 3050B	1,6010D	EGW
Vanadium, Total	14.6		mg/kg	0.449	0.091	1	01/09/23 22:00	01/10/23 09:05	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-06
Client ID: CTSP-06-SS01-4.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 12:45
Date Received: 01/06/23
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											
Antimony, Total	2.01	J	mg/kg	2.25	0.171	1	01/09/23 22:00	01/10/23 09:08	EPA 3050B	1,6010D	EGW
Arsenic, Total	8.96		mg/kg	0.449	0.094	1	01/09/23 22:00	01/10/23 09:08	EPA 3050B	1,6010D	EGW
Chromium, Total	22.1		mg/kg	0.449	0.043	1	01/09/23 22:00	01/10/23 09:08	EPA 3050B	1,6010D	EGW
Lead, Total	996		mg/kg	2.25	0.120	1	01/09/23 22:00	01/10/23 09:08	EPA 3050B	1,6010D	EGW
Nickel, Total	17.7		mg/kg	1.12	0.109	1	01/09/23 22:00	01/10/23 09:08	EPA 3050B	1,6010D	EGW
Vanadium, Total	52.1		mg/kg	0.449	0.091	1	01/09/23 22:00	01/10/23 09:08	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-07
Client ID: CTSP-07-SS01-5.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 12:05
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 66%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	1.69	J	mg/kg	3.00	0.228	1	01/09/23 21:21	01/10/23 10:28	EPA 3050B	1,6010D	EGW
Arsenic, Total	28.6		mg/kg	0.600	0.125	1	01/09/23 21:21	01/10/23 10:28	EPA 3050B	1,6010D	EGW
Chromium, Total	96.2		mg/kg	0.600	0.058	1	01/09/23 21:21	01/10/23 10:28	EPA 3050B	1,6010D	EGW
Lead, Total	316		mg/kg	3.00	0.161	1	01/09/23 21:21	01/10/23 10:28	EPA 3050B	1,6010D	EGW
Nickel, Total	29.2		mg/kg	1.50	0.145	1	01/09/23 21:21	01/10/23 10:28	EPA 3050B	1,6010D	EGW
Vanadium, Total	32.1		mg/kg	0.600	0.122	1	01/09/23 21:21	01/10/23 10:28	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-08
Client ID: CTSP-08-SS01-1.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 11:50
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	0.423	J	mg/kg	2.41	0.183	1	01/09/23 21:21	01/10/23 10:25	EPA 3050B	1,6010D	EGW
Arsenic, Total	5.76		mg/kg	0.481	0.100	1	01/09/23 21:21	01/10/23 10:25	EPA 3050B	1,6010D	EGW
Chromium, Total	16.5		mg/kg	0.481	0.046	1	01/09/23 21:21	01/10/23 10:25	EPA 3050B	1,6010D	EGW
Lead, Total	16.5		mg/kg	2.41	0.129	1	01/09/23 21:21	01/10/23 10:25	EPA 3050B	1,6010D	EGW
Nickel, Total	11.6		mg/kg	1.20	0.116	1	01/09/23 21:21	01/10/23 10:25	EPA 3050B	1,6010D	EGW
Vanadium, Total	19.4		mg/kg	0.481	0.098	1	01/09/23 21:21	01/10/23 10:25	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-09
Client ID: CTSP-09-SS01-1.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 10:50
Date Received: 01/06/23
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											
Antimony, Total	0.897	J	mg/kg	2.30	0.175	1	01/09/23 21:21	01/10/23 10:52	EPA 3050B	1,6010D	EGW
Arsenic, Total	7.70		mg/kg	0.460	0.096	1	01/09/23 21:21	01/10/23 10:52	EPA 3050B	1,6010D	EGW
Chromium, Total	12.5		mg/kg	0.460	0.044	1	01/09/23 21:21	01/10/23 10:52	EPA 3050B	1,6010D	EGW
Lead, Total	142		mg/kg	2.30	0.123	1	01/09/23 21:21	01/10/23 10:52	EPA 3050B	1,6010D	EGW
Nickel, Total	7.72		mg/kg	1.15	0.111	1	01/09/23 21:21	01/10/23 10:52	EPA 3050B	1,6010D	EGW
Vanadium, Total	21.0		mg/kg	0.460	0.093	1	01/09/23 21:21	01/10/23 10:52	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-10
Client ID: CTSP-10-SS01-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 10:15
Date Received: 01/06/23
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											
Antimony, Total	1.02	J	mg/kg	2.19	0.166	1	01/09/23 21:21	01/10/23 10:56	EPA 3050B	1,6010D	EGW
Arsenic, Total	11.0		mg/kg	0.438	0.091	1	01/09/23 21:21	01/10/23 10:56	EPA 3050B	1,6010D	EGW
Chromium, Total	23.8		mg/kg	0.438	0.042	1	01/09/23 21:21	01/10/23 10:56	EPA 3050B	1,6010D	EGW
Lead, Total	251		mg/kg	2.19	0.117	1	01/09/23 21:21	01/10/23 10:56	EPA 3050B	1,6010D	EGW
Nickel, Total	20.8		mg/kg	1.09	0.106	1	01/09/23 21:21	01/10/23 10:56	EPA 3050B	1,6010D	EGW
Vanadium, Total	57.1		mg/kg	0.438	0.089	1	01/09/23 21:21	01/10/23 10:56	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-11
Client ID: CTSP-11-SS01-3.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 14:20
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	0.924	J	mg/kg	2.36	0.179	1	01/09/23 21:21	01/10/23 10:59	EPA 3050B	1,6010D	EGW
Arsenic, Total	9.37		mg/kg	0.472	0.098	1	01/09/23 21:21	01/10/23 10:59	EPA 3050B	1,6010D	EGW
Chromium, Total	15.6		mg/kg	0.472	0.045	1	01/09/23 21:21	01/10/23 10:59	EPA 3050B	1,6010D	EGW
Lead, Total	149		mg/kg	2.36	0.126	1	01/09/23 21:21	01/10/23 10:59	EPA 3050B	1,6010D	EGW
Nickel, Total	10.4		mg/kg	1.18	0.114	1	01/09/23 21:21	01/10/23 10:59	EPA 3050B	1,6010D	EGW
Vanadium, Total	19.5		mg/kg	0.472	0.096	1	01/09/23 21:21	01/10/23 10:59	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-12
Client ID: CTSP-12-SS01-5.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 13:45
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	0.476	J	mg/kg	2.52	0.191	1	01/09/23 21:21	01/10/23 11:02	EPA 3050B	1,6010D	EGW
Arsenic, Total	3.53		mg/kg	0.504	0.105	1	01/09/23 21:21	01/10/23 11:02	EPA 3050B	1,6010D	EGW
Chromium, Total	19.6		mg/kg	0.504	0.048	1	01/09/23 21:21	01/10/23 11:02	EPA 3050B	1,6010D	EGW
Lead, Total	50.2		mg/kg	2.52	0.135	1	01/09/23 21:21	01/10/23 11:02	EPA 3050B	1,6010D	EGW
Nickel, Total	8.41		mg/kg	1.26	0.122	1	01/09/23 21:21	01/10/23 11:02	EPA 3050B	1,6010D	EGW
Vanadium, Total	14.0		mg/kg	0.504	0.102	1	01/09/23 21:21	01/10/23 11:02	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-13
Client ID: CTSP-13-SS01-2.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 11:30
Date Received: 01/06/23
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											
Antimony, Total	1.50	J	mg/kg	2.44	0.185	1	01/09/23 21:21	01/10/23 11:05	EPA 3050B	1,6010D	EGW
Arsenic, Total	9.72		mg/kg	0.488	0.101	1	01/09/23 21:21	01/10/23 11:05	EPA 3050B	1,6010D	EGW
Chromium, Total	18.4		mg/kg	0.488	0.047	1	01/09/23 21:21	01/10/23 11:05	EPA 3050B	1,6010D	EGW
Lead, Total	245		mg/kg	2.44	0.131	1	01/09/23 21:21	01/10/23 11:05	EPA 3050B	1,6010D	EGW
Nickel, Total	13.7		mg/kg	1.22	0.118	1	01/09/23 21:21	01/10/23 11:05	EPA 3050B	1,6010D	EGW
Vanadium, Total	31.5		mg/kg	0.488	0.099	1	01/09/23 21:21	01/10/23 11:05	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-14
Client ID: CTSP-14-SS01-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 11:05
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	0.781	J	mg/kg	2.30	0.175	1	01/09/23 21:21	01/10/23 11:08	EPA 3050B	1,6010D	EGW
Arsenic, Total	5.42		mg/kg	0.460	0.096	1	01/09/23 21:21	01/10/23 11:08	EPA 3050B	1,6010D	EGW
Chromium, Total	23.9		mg/kg	0.460	0.044	1	01/09/23 21:21	01/10/23 11:08	EPA 3050B	1,6010D	EGW
Lead, Total	115		mg/kg	2.30	0.123	1	01/09/23 21:21	01/10/23 11:08	EPA 3050B	1,6010D	EGW
Nickel, Total	12.1		mg/kg	1.15	0.111	1	01/09/23 21:21	01/10/23 11:08	EPA 3050B	1,6010D	EGW
Vanadium, Total	37.8		mg/kg	0.460	0.094	1	01/09/23 21:21	01/10/23 11:08	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-15
Client ID: CTSP-15-SS01-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 10:30
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	1.23	J	mg/kg	2.40	0.182	1	01/09/23 21:21	01/10/23 11:12	EPA 3050B	1,6010D	EGW
Arsenic, Total	10.4		mg/kg	0.480	0.100	1	01/09/23 21:21	01/10/23 11:12	EPA 3050B	1,6010D	EGW
Chromium, Total	23.8		mg/kg	0.480	0.046	1	01/09/23 21:21	01/10/23 11:12	EPA 3050B	1,6010D	EGW
Lead, Total	244		mg/kg	2.40	0.128	1	01/09/23 21:21	01/10/23 11:12	EPA 3050B	1,6010D	EGW
Nickel, Total	16.0		mg/kg	1.20	0.116	1	01/09/23 21:21	01/10/23 11:12	EPA 3050B	1,6010D	EGW
Vanadium, Total	50.4		mg/kg	0.480	0.097	1	01/09/23 21:21	01/10/23 11:12	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-16
Client ID: CTSP-16-SS01-4.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 09:55
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	1.13	J	mg/kg	2.40	0.183	1	01/09/23 21:21	01/10/23 11:15	EPA 3050B	1,6010D	EGW
Arsenic, Total	7.98		mg/kg	0.480	0.100	1	01/09/23 21:21	01/10/23 11:15	EPA 3050B	1,6010D	EGW
Chromium, Total	15.2		mg/kg	0.480	0.046	1	01/09/23 21:21	01/10/23 11:15	EPA 3050B	1,6010D	EGW
Lead, Total	233		mg/kg	2.40	0.129	1	01/09/23 21:21	01/10/23 11:15	EPA 3050B	1,6010D	EGW
Nickel, Total	8.75		mg/kg	1.20	0.116	1	01/09/23 21:21	01/10/23 11:15	EPA 3050B	1,6010D	EGW
Vanadium, Total	18.8		mg/kg	0.480	0.098	1	01/09/23 21:21	01/10/23 11:15	EPA 3050B	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2300870
Project Number: Not Specified
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-17
Client ID: FB-20230105
Sample Location: PHILADELPHIA, PA
Date Collected: 01/05/23 14:30
Date Received: 01/06/23
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											
Antimony, Total	ND		ug/l	4.000	0.4290	1	01/08/23 08:30	01/08/23 13:25	EPA 3005A	1,6020B	EGW
Arsenic, Total	ND		ug/l	0.5000	0.1650	1	01/08/23 08:30	01/08/23 13:25	EPA 3005A	1,6020B	EGW
Chromium, Total	ND		ug/l	1.000	0.1780	1	01/08/23 08:30	01/08/23 13:25	EPA 3005A	1,6020B	EGW
Lead, Total	ND		ug/l	1.000	0.3430	1	01/08/23 08:30	01/08/23 13:25	EPA 3005A	1,6020B	EGW
Nickel, Total	0.5588	J	ug/l	2.000	0.5560	1	01/08/23 08:30	01/08/23 13:25	EPA 3005A	1,6020B	EGW
Vanadium, Total	ND		ug/l	5.000	1.570	1	01/08/23 08:30	01/08/23 13:25	EPA 3005A	1,6020B	EGW

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

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): 01-06 Batch: WG1731076-1										
Antimony, Total	ND		mg/kg	2.00	0.152	1	01/09/23 22:00	01/10/23 08:02	1,6010D	EGW
Arsenic, Total	ND		mg/kg	0.400	0.083	1	01/09/23 22:00	01/10/23 08:02	1,6010D	EGW
Chromium, Total	ND		mg/kg	0.400	0.038	1	01/09/23 22:00	01/10/23 08:02	1,6010D	EGW
Lead, Total	ND		mg/kg	2.00	0.107	1	01/09/23 22:00	01/10/23 08:02	1,6010D	EGW
Nickel, Total	ND		mg/kg	1.00	0.097	1	01/09/23 22:00	01/10/23 08:02	1,6010D	EGW
Vanadium, Total	ND		mg/kg	0.400	0.081	1	01/09/23 22:00	01/10/23 08:02	1,6010D	EGW

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): 17 Batch: WG1731080-1										
Antimony, Total	ND		ug/l	4.000	0.4290	1	01/08/23 08:30	01/08/23 13:20	1,6020B	EGW
Arsenic, Total	ND		ug/l	0.5000	0.1650	1	01/08/23 08:30	01/08/23 13:20	1,6020B	EGW
Chromium, Total	ND		ug/l	1.000	0.1780	1	01/08/23 08:30	01/08/23 13:20	1,6020B	EGW
Lead, Total	ND		ug/l	1.000	0.3430	1	01/08/23 08:30	01/08/23 13:20	1,6020B	EGW
Nickel, Total	ND		ug/l	2.000	0.5560	1	01/08/23 08:30	01/08/23 13:20	1,6020B	EGW
Vanadium, Total	ND		ug/l	5.000	1.570	1	01/08/23 08:30	01/08/23 13:20	1,6020B	EGW

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): 07-16 Batch: WG1731133-1										
Antimony, Total	ND		mg/kg	2.00	0.152	1	01/09/23 21:21	01/10/23 09:31	1,6010D	EGW
Arsenic, Total	ND		mg/kg	0.400	0.083	1	01/09/23 21:21	01/10/23 09:31	1,6010D	EGW
Chromium, Total	ND		mg/kg	0.400	0.038	1	01/09/23 21:21	01/10/23 09:31	1,6010D	EGW
Lead, Total	ND		mg/kg	2.00	0.107	1	01/09/23 21:21	01/10/23 09:31	1,6010D	EGW
Nickel, Total	ND		mg/kg	1.00	0.097	1	01/09/23 21:21	01/10/23 09:31	1,6010D	EGW

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

Method Blank Analysis
Batch Quality Control

Vanadium, Total	ND	mg/kg	0.400	0.081	1	01/09/23 21:21	01/10/23 09:31	1,6010D	EGW

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG1731076-2 SRM Lot Number: D116-540								
Antimony, Total	134		-		2-205	-		
Arsenic, Total	105		-		82-119	-		
Chromium, Total	92		-		81-118	-		
Lead, Total	101		-		83-117	-		
Nickel, Total	96		-		82-118	-		
Vanadium, Total	95		-		78-122	-		
Total Metals - Mansfield Lab Associated sample(s): 17 Batch: WG1731080-2								
Antimony, Total	88		-		80-120	-		
Arsenic, Total	98		-		80-120	-		
Chromium, Total	86		-		80-120	-		
Lead, Total	94		-		80-120	-		
Nickel, Total	87		-		80-120	-		
Vanadium, Total	88		-		80-120	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 07-16 Batch: WG1731133-2 SRM Lot Number: D116-540					
Antimony, Total	154	-	2-205	-	
Arsenic, Total	107	-	82-119	-	
Chromium, Total	95	-	81-118	-	
Lead, Total	99	-	83-117	-	
Nickel, Total	98	-	82-118	-	
Vanadium, Total	97	-	78-122	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

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): 01-06 QC Batch ID: WG1731076-3 QC Sample: L2300989-03 Client ID: MS Sample												
Antimony, Total	0.432J	42.6	39.2	92		-	-		75-125	-		20
Arsenic, Total	1.10	10.2	12.1	108		-	-		75-125	-		20
Chromium, Total	7.06	17	23.8	98		-	-		75-125	-		20
Lead, Total	12.6	45.2	56.6	97		-	-		75-125	-		20
Nickel, Total	7.96	42.6	45.4	88		-	-		75-125	-		20
Vanadium, Total	12.7	42.6	54.3	98		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 17 QC Batch ID: WG1731080-3 QC Sample: L2300819-01 Client ID: MS Sample												
Antimony, Total	0.5630J	500	505.7	101		-	-		75-125	-		20
Arsenic, Total	1.261	120	126.8	105		-	-		75-125	-		20
Chromium, Total	ND	200	164.6	82		-	-		75-125	-		20
Lead, Total	ND	530	547.0	103		-	-		75-125	-		20
Nickel, Total	3.786	500	457.3	91		-	-		75-125	-		20
Vanadium, Total	ND	500	449.5	90		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 07-16 QC Batch ID: WG1731133-3 QC Sample: L2300870-07 Client ID: CTSP-07-SS01-5.5												
Antimony, Total	1.69J	58.8	44.3	75		-	-		75-125	-		20
Arsenic, Total	28.6	14.1	45.7	121		-	-		75-125	-		20
Chromium, Total	96.2	23.5	111	**63**	Q	-	-		75-125	-		20
Lead, Total	316	62.3	340	**38**	Q	-	-		75-125	-		20
Nickel, Total	29.2	58.8	77.6	82		-	-		75-125	-		20
Vanadium, Total	32.1	58.8	89.0	97		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: Not Specified

Lab Number: L2300870

Report Date: 01/18/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1731076-4 QC Sample: L2300989-03 Client ID: DUP Sample						
Antimony, Total	0.432J	0.387J	mg/kg	NC		20
Arsenic, Total	1.10	1.43	mg/kg	**26**	Q	20
Chromium, Total	7.06	6.84	mg/kg	3		20
Lead, Total	12.6	10.6	mg/kg	17		20
Nickel, Total	7.96	6.53	mg/kg	20		20
Vanadium, Total	12.7	11.5	mg/kg	10		20
Total Metals - Mansfield Lab Associated sample(s): 07-16 QC Batch ID: WG1731133-4 QC Sample: L2300870-07 Client ID: CTSP-07-SS01-5.5						
Antimony, Total	1.69J	1.50J	mg/kg	NC		20
Arsenic, Total	28.6	31.6	mg/kg	10		20
Chromium, Total	96.2	97.4	mg/kg	1		20
Lead, Total	316	268	mg/kg	16		20
Nickel, Total	29.2	31.4	mg/kg	7		20
Vanadium, Total	32.1	37.2	mg/kg	15		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-01
Client ID: CTSP-01-SS01-3.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 12:30
Date Received: 01/06/23
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	79.9		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	ND		mg/kg	1.2	0.25	1	01/10/23 16:15	01/11/23 11:58	1,9010C/9012B	JER
pH (H)	6.1		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	1.00	0.200	1	01/16/23 13:45	01/17/23 09:55	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-02
Client ID: CTSP-02-SS01-4.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 13:30
Date Received: 01/06/23
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	75.9		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	ND		mg/kg	1.2	0.26	1	01/10/23 16:15	01/11/23 11:59	1,9010C/9012B	JER
pH (H)	7.2		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	1.05	0.211	1	01/16/23 13:45	01/17/23 09:55	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-03
Client ID: CTSP-03-SS01-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 14:00
Date Received: 01/06/23
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	69.2		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	ND		mg/kg	1.4	0.30	1	01/10/23 16:15	01/11/23 12:00	1,9010C/9012B	JER
pH (H)	6.2		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	1.16	0.231	1	01/16/23 13:45	01/17/23 09:55	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-04
Client ID: CTSP-04-SS01-2.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 13:15
Date Received: 01/06/23
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	83.5		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	ND		mg/kg	1.1	0.24	1	01/10/23 16:15	01/11/23 12:01	1,9010C/9012B	JER
pH (H)	6.0		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	0.958	0.192	1	01/16/23 13:45	01/17/23 09:55	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-05
Client ID: CTSP-05-SS01-1.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 13:00
Date Received: 01/06/23
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	88.0		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	ND		mg/kg	1.1	0.23	1	01/10/23 16:15	01/11/23 11:42	1,9010C/9012B	JER
pH (H)	6.2		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	0.909	0.182	1	01/16/23 13:45	01/17/23 09:55	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-06
Client ID: CTSP-06-SS01-4.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 12:45
Date Received: 01/06/23
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	83.9		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	ND		mg/kg	1.1	0.24	1	01/11/23 19:40	01/12/23 11:36	1,9010C/9012B	JER
pH (H)	8.2		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	0.954	0.191	1	01/16/23 13:45	01/17/23 09:55	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-07
Client ID: CTSP-07-SS01-5.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 12:05
Date Received: 01/06/23
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	65.6		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	0.91	J	mg/kg	1.4	0.30	1	01/11/23 19:40	01/12/23 11:39	1,9010C/9012B	JER
pH (H)	6.8		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	1.22	0.244	1	01/16/23 13:45	01/17/23 09:55	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-08
Client ID: CTSP-08-SS01-1.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 11:50
Date Received: 01/06/23
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	82.9		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	ND		mg/kg	1.2	0.25	1	01/11/23 19:40	01/12/23 11:40	1,9010C/9012B	JER
pH (H)	7.3		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	0.965	0.193	1	01/16/23 13:45	01/17/23 09:55	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-09
Client ID: CTSP-09-SS01-1.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 10:50
Date Received: 01/06/23
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	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	0.53	J	mg/kg	1.1	0.23	1	01/11/23 19:40	01/12/23 11:41	1,9010C/9012B	JER
pH (H)	7.6		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	0.933	0.187	1	01/16/23 13:45	01/17/23 10:30	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-10
Client ID: CTSP-10-SS01-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 10:15
Date Received: 01/06/23
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	87.9		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	ND		mg/kg	1.1	0.23	1	01/10/23 16:15	01/11/23 11:45	1,9010C/9012B	JER
pH (H)	7.0		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	0.910	0.182	1	01/16/23 13:45	01/17/23 10:30	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-11
Client ID: CTSP-11-SS01-3.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 14:20
Date Received: 01/06/23
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	80.0		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	0.35	J	mg/kg	1.2	0.25	1	01/10/23 16:15	01/11/23 11:46	1,9010C/9012B	JER
pH (H)	7.2		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	1.00	0.200	1	01/16/23 13:45	01/17/23 10:30	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-12
Client ID: CTSP-12-SS01-5.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 13:45
Date Received: 01/06/23
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	77.6		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	0.58	J	mg/kg	1.2	0.25	1	01/10/23 16:15	01/11/23 11:47	1,9010C/9012B	JER
pH (H)	7.8		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	1.03	0.206	1	01/16/23 13:45	01/17/23 10:30	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-13
Client ID: CTSP-13-SS01-2.5
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 11:30
Date Received: 01/06/23
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	79.1		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	0.31	J	mg/kg	1.2	0.24	1	01/10/23 16:15	01/11/23 11:48	1,9010C/9012B	JER
pH (H)	7.3		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	1.01	0.202	1	01/16/23 13:45	01/17/23 10:30	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-14
Client ID: CTSP-14-SS01-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 11:05
Date Received: 01/06/23
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	82.5		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	ND		mg/kg	1.2	0.25	1	01/10/23 16:15	01/11/23 11:49	1,9010C/9012B	JER
pH (H)	7.2		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	0.970	0.194	1	01/16/23 13:45	01/17/23 10:30	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-15
Client ID: CTSP-15-SS01-2.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 10:30
Date Received: 01/06/23
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	82.6		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	ND		mg/kg	1.2	0.24	1	01/11/23 19:40	01/12/23 11:42	1,9010C/9012B	JER
pH (H)	7.3		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	0.968	0.194	1	01/16/23 13:45	01/17/23 10:30	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-16
Client ID: CTSP-16-SS01-4.0
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 09:55
Date Received: 01/06/23
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	81.6		%	0.100	NA	1	-	01/08/23 18:30	121,2540G	MF
Cyanide, Total	0.28	J	mg/kg	1.1	0.24	1	01/11/23 19:40	01/12/23 11:43	1,9010C/9012B	JER
pH (H)	7.6		SU	-	NA	1	-	01/12/23 20:55	1,9045D	AAS
Chromium, Hexavalent	ND		mg/kg	0.980	0.196	1	01/16/23 13:45	01/17/23 10:30	1,7196A	WMT

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

SAMPLE RESULTS

Lab ID: L2300870-17
Client ID: FB-20230105
Sample Location: PHILADELPHIA, PA

Date Collected: 01/05/23 14:30
Date Received: 01/06/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		ug/l	5.00	1.80	1	01/10/23 05:00	01/10/23 13:13	1,9010C/9012B	JER
Chromium, Hexavalent	ND		ug/l	10.0	3.00	1	01/07/23 06:30	01/07/23 06:58	1,7196A	KAF

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870

Project Number: Not Specified **Report Date:** 01/18/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 17 Batch: WG1730899-1										
Chromium, Hexavalent	ND		ug/l	10.0	3.00	1	01/07/23 06:30	01/07/23 06:57	1,7196A	KAF
General Chemistry - Westborough Lab for sample(s): 17 Batch: WG1731602-1										
Cyanide, Total	ND		ug/l	5.00	1.80	1	01/10/23 05:00	01/10/23 13:06	1,9010C/9012B	JER
General Chemistry - Westborough Lab for sample(s): 01-04 Batch: WG1731769-1										
Cyanide, Total	ND		mg/kg	0.84	0.18	1	01/10/23 16:15	01/11/23 11:53	1,9010C/9012B	JER
General Chemistry - Westborough Lab for sample(s): 05,10-14 Batch: WG1731773-1										
Cyanide, Total	ND		mg/kg	0.94	0.20	1	01/10/23 16:15	01/11/23 11:18	1,9010C/9012B	JER
General Chemistry - Westborough Lab for sample(s): 06-09,15-16 Batch: WG1732083-1										
Cyanide, Total	0.20	J	mg/kg	0.87	0.18	1	01/11/23 19:40	01/12/23 11:30	1,9010C/9012B	JER
General Chemistry - Westborough Lab for sample(s): 01-08 Batch: WG1733988-1										
Chromium, Hexavalent	ND		mg/kg	0.800	0.160	1	01/16/23 13:45	01/17/23 09:55	1,7196A	WMT
General Chemistry - Westborough Lab for sample(s): 09-16 Batch: WG1733990-1										
Chromium, Hexavalent	ND		mg/kg	0.800	0.160	1	01/16/23 13:45	01/17/23 10:30	1,7196A	WMT

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 17 Batch: WG1730899-2								
Chromium, Hexavalent	101		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 17 Batch: WG1731602-2 WG1731602-3								
Cyanide, Total	99		87		85-115	13		20
General Chemistry - Westborough Lab Associated sample(s): 01-04 Batch: WG1731769-2 WG1731769-3								
Cyanide, Total	91		90		80-120	0		35
General Chemistry - Westborough Lab Associated sample(s): 05,10-14 Batch: WG1731773-2 WG1731773-3								
Cyanide, Total	**65**	Q	**122**	Q	80-120	13		35
General Chemistry - Westborough Lab Associated sample(s): 06-09,15-16 Batch: WG1732083-2 WG1732083-3								
Cyanide, Total	94		**74**	Q	80-120	19		35
General Chemistry - Westborough Lab Associated sample(s): 01-16 Batch: WG1732909-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01-08 Batch: WG1733988-2								
Chromium, Hexavalent	**78**	Q	-		80-120	-		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Parameter	LCS %Recovery		LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 09-16 Batch: WG1733990-2						
Chromium, Hexavalent	**78**	Q	-	80-120	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 17 QC Batch ID: WG1730899-4 QC Sample: L2300870-17 Client ID: FB-20230105												
Chromium, Hexavalent	ND	100	101	101		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 17 QC Batch ID: WG1731602-4 WG1731602-5 QC Sample: L2300579-01 Client ID: MS Sample												
Cyanide, Total	ND	200	200	100		187	94		80-120	7		20
General Chemistry - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1731769-4 WG1731769-5 QC Sample: L2301121-01 Client ID: MS Sample												
Cyanide, Total	ND	12	11	95		12	100		75-125	9		35
General Chemistry - Westborough Lab Associated sample(s): 05,10-14 QC Batch ID: WG1731773-4 WG1731773-5 QC Sample: L2300870-05 Client ID: CTSP-05-SS01-1.0												
Cyanide, Total	ND	11	11	100		9.8	92		75-125	12		35
General Chemistry - Westborough Lab Associated sample(s): 06-09,15-16 QC Batch ID: WG1732083-4 WG1732083-5 QC Sample: L2300935-01 Client ID: MS Sample												
Cyanide, Total	ND	11	10	93		10	96		75-125	0		35
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1733988-4 QC Sample: L2300870-04 Client ID: CTSP-04-SS01-2.5												
Chromium, Hexavalent	ND	1590	993	**62**	Q	-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 09-16 QC Batch ID: WG1733990-4 QC Sample: L2300870-09 Client ID: CTSP-09-SS01-1.5												
Chromium, Hexavalent	ND	1160	983	85		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: Not Specified

Lab Number: L2300870

Report Date: 01/18/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 17 QC Batch ID: WG1730899-3 QC Sample: L2300870-17 Client ID: FB-20230105						
Chromium, Hexavalent	ND	ND	ug/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-16 QC Batch ID: WG1731216-1 QC Sample: L2300870-01 Client ID: CTSP-01-SS01-3.5						
Solids, Total	79.9	79.2	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 01-16 QC Batch ID: WG1732909-2 QC Sample: L2300886-01 Client ID: DUP Sample						
pH	8.2	8.2	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1733988-6 QC Sample: L2300870-04 Client ID: CTSP-04-SS01-2.5						
Chromium, Hexavalent	ND	ND	mg/kg	NC		20
General Chemistry - Westborough Lab Associated sample(s): 09-16 QC Batch ID: WG1733990-6 QC Sample: L2300870-09 Client ID: CTSP-09-SS01-1.5						
Chromium, Hexavalent	ND	ND	mg/kg	NC		20

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300870-01A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260HLW(14)
L2300870-01B	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-01C	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-01D	Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2300870-01E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2300870-01F	Glass 120ml/4oz unpreserved	A	N/A	N/A	3.9	Y	Absent		SUB-8270()
L2300870-01G	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-02A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2300870-02B	Vial water preserved	B	NA		3.8	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-02C	Vial water preserved	B	NA		3.8	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-02D	Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2300870-02E	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2300870-02F	Glass 120ml/4oz unpreserved	B	N/A	N/A	3.8	Y	Absent		SUB-8270()
L2300870-02G	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-03A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2300870-03B	Vial water preserved	B	NA		3.8	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-03C	Vial water preserved	B	NA		3.8	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-03D	Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2300870-03E	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2300870-03F	Glass 120ml/4oz unpreserved	B	N/A	N/A	3.8	Y	Absent		SUB-8270()
L2300870-03G	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300870-04A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2300870-04B	Vial water preserved	B	NA		3.8	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-04C	Vial water preserved	B	NA		3.8	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-04D	Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2300870-04E	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2300870-04F	Glass 120ml/4oz unpreserved	B	N/A	N/A	3.8	Y	Absent		SUB-8270()
L2300870-04G	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-05A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2300870-05B	Vial water preserved	B	NA		3.8	Y	Absent	07-JAN-23 02:19	PA-8260H(14),PA-8260HLW(14)
L2300870-05C	Vial water preserved	B	NA		3.8	Y	Absent	07-JAN-23 02:19	PA-8260H(14),PA-8260HLW(14)
L2300870-05D	Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2300870-05E	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2300870-05F	Glass 120ml/4oz unpreserved	B	N/A	N/A	3.8	Y	Absent		SUB-8270()
L2300870-05G	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-06A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2300870-06B	Vial water preserved	B	NA		3.8	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-06C	Vial water preserved	B	NA		3.8	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-06D	Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2300870-06E	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2300870-06F	Glass 120ml/4oz unpreserved	B	N/A	N/A	3.8	Y	Absent		SUB-8270()
L2300870-06G	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-07A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260HLW(14)
L2300870-07B	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-07C	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-07D	Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2300870-07E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2300870-07F	Glass 120ml/4oz unpreserved	A	N/A	N/A	3.9	Y	Absent		SUB-8270()

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300870-07G	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-08A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260HLW(14)
L2300870-08B	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-08C	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-08D	Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2300870-08E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2300870-08F	Glass 120ml/4oz unpreserved	A	N/A	N/A	3.9	Y	Absent		SUB-8270()
L2300870-08G	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-09A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260HLW(14)
L2300870-09B	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-09C	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-09D	Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2300870-09E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2300870-09F	Glass 120ml/4oz unpreserved	A	N/A	N/A	3.9	Y	Absent		SUB-8270()
L2300870-09G	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-10A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260HLW(14)
L2300870-10B	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-10C	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-10D	Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2300870-10E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2300870-10F	Glass 120ml/4oz unpreserved	A	N/A	N/A	3.9	Y	Absent		SUB-8270()
L2300870-10G	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-11A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2300870-11B	Vial water preserved	B	NA		3.8	Y	Absent	07-JAN-23 02:19	PA-8260H(14),PA-8260HLW(14)
L2300870-11C	Vial water preserved	B	NA		3.8	Y	Absent	07-JAN-23 02:19	PA-8260H(14),PA-8260HLW(14)
L2300870-11D	Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2300870-11E	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300870-11F	Glass 120ml/4oz unpreserved	B	N/A	N/A	3.8	Y	Absent		SUB-8270()
L2300870-11G	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-12A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2300870-12B	Vial water preserved	B	NA		3.8	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-12C	Vial water preserved	B	NA		3.8	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-12D	Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2300870-12E	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2300870-12F	Glass 120ml/4oz unpreserved	B	N/A	N/A	3.8	Y	Absent		SUB-8270()
L2300870-12G	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-13A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2300870-13B	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260H(14),PA-8260HLW(14)
L2300870-13C	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260H(14),PA-8260HLW(14)
L2300870-13D	Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2300870-13E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2300870-13F	Glass 120ml/4oz unpreserved	A	N/A	N/A	3.9	Y	Absent		SUB-8270()
L2300870-13G	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-14A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2300870-14B	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260H(14),PA-8260HLW(14)
L2300870-14C	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260H(14),PA-8260HLW(14)
L2300870-14D	Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),PB-TI(180),SB-TI(180),V-TI(180)
L2300870-14E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2300870-14F	Glass 120ml/4oz unpreserved	A	N/A	N/A	3.9	Y	Absent		SUB-8270()
L2300870-14G	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-15A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260HLW(14)
L2300870-15B	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-15C	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260HLW(14)
L2300870-15D	Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),CR-TI(180),NI-TI(180),SB-TI(180),PB-TI(180),V-TI(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: Not Specified

Lab Number: L2300870
Report Date: 01/18/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300870-15E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2300870-15F	Glass 120ml/4oz unpreserved	A	N/A	N/A	3.9	Y	Absent		SUB-8270()
L2300870-15G	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-16A	Vial MeOH preserved	A	NA		3.9	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2300870-16B	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260H(14),PA-8260HLW(14)
L2300870-16C	Vial water preserved	A	NA		3.9	Y	Absent	07-JAN-23 02:19	PA-8260H(14),PA-8260HLW(14)
L2300870-16D	Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		AS-TI(180),NI-TI(180),CR-TI(180),SB-TI(180),PB-TI(180),V-TI(180)
L2300870-16E	Plastic 120ml unpreserved	A	NA		3.9	Y	Absent		TS(7)
L2300870-16F	Glass 120ml/4oz unpreserved	A	N/A	N/A	3.9	Y	Absent		SUB-8270()
L2300870-16G	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		TCN-9010(14),PH-9045(1),HEXCR-7196(30)
L2300870-17A	Vial HCl preserved	B	NA		3.8	Y	Absent		PA-8260(14)
L2300870-17B	Vial HCl preserved	B	NA		3.8	Y	Absent		PA-8260(14)
L2300870-17C	Vial HCl preserved	B	NA		3.8	Y	Absent		PA-8260(14)
L2300870-17D	Vial Na2S2O3 preserved	B	NA		3.8	Y	Absent		8011(14)
L2300870-17E	Vial Na2S2O3 preserved	B	NA		3.8	Y	Absent		8011(14)
L2300870-17F	Plastic 250ml unpreserved	B	7	7	3.8	Y	Absent		HEXCR-7196-PPB(1)
L2300870-17G	Plastic 250ml HNO3 preserved	B	<2	<2	3.8	Y	Absent		SB-6020T-PPB(180),CR-6020T-PPB(180),AS-6020T-PPB(180),PB-6020T-PPB(180),NI-6020T-PPB(180),V-6020T-PPB(180)
L2300870-17H	Plastic 250ml NaOH preserved	B	>12	>12	3.8	Y	Absent		TCN-9010-PPB(14)
L2300870-17I	Amber 250ml unpreserved	B	7	7	3.8	Y	Absent		SUB-8270(7)
L2300870-17J	Amber 250ml unpreserved	B	7	7	3.8	Y	Absent		SUB-8270(7)
L2300870-18A	Vial HCl preserved	B	NA		3.8	Y	Absent		PA-8260(14)
L2300870-18B	Vial HCl preserved	B	NA		3.8	Y	Absent		PA-8260(14)
L2300870-18C	Vial Na2S2O3 preserved	B	NA		3.8	Y	Absent		8011(14)
L2300870-18D	Vial Na2S2O3 preserved	B	NA		3.8	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2300870
Project Number:	Not Specified	**Report Date:**	01/18/23

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:	PHILADELPHIA REFINERY	**Lab Number:**	L2300870
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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

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2300870
Project Number:	Not Specified	**Report Date:**	01/18/23

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.)

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2300870
Project Number: Not Specified **Report Date:** 01/18/23

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 624/624.1: 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, SM4500Cl-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, **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), **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

PAGE 1 OF 2

Date Rec'd in Lab: 1/6/23

ALPHA Job #: L2300870

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609.584.0090
Fax: 609.584.1190
Email: william.schmidt@ransomenv.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #:
Project Manager: Bill Schmidt
ALPHA Quote #:

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 #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS: Table 1 (attached) — pH

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Table 1 (attached)	pH	Sample Specific Comments	TOTAL # BOTTLES
00870-01	CTSP-01-SS01-3.5	1.5.23	12:30	S	TR	✓	✓		
02	CTSP-02-SS01-4.0	↓	13:30	↓	↓	✓	✓		
03	CTSP-03-SS01-2.0		14:00			✓	✓		
04	CTSP-04-SS01-2.5		13:15			✓	✓		
05	CTSP-05-SS01-1.0		13:00			✓	✓		
06	CTSP-06-SS01-4.5		12:45			✓	✓		
07	CTSP-07-SS01-5.5		12:05			✓	✓		
08	CTSP-08-SS01-1.5		11:50			✓	✓		
09	CTSP-09-SS01-1.5		10:50			✓	✓		
10	CTSP-10-SS01-2.0		10:15			✓	✓		

Container Type	
Preservative	

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	1-6-23 1100	[illegible]	1-6-23 1100
[illegible]	1-6-23 1500	Paul Marcelle	1/6/23 1640
Paul Marcelle	1/6/23	[illegible]	[illegible]

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.

FORM NO: 01-01 (rev. 14-OCT-07)

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 1/6/23

ALPHA Job #: L2300870

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Hamilton, NJ 08619
Phone: 609.584.0090
Fax: 609.584.1190
Email: william.schmidt@ransomenv.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #:
Project Manager: Bill Schmidt
ALPHA Quote #:

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 #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS Table 1	PH	Sample Specific Comments	TOTAL # BOTTLES
00870-11	CTSP-11-SS01-3.0	1.5.23	14:20	S	TR	✓	✓		
12	CTSP-12-SS01-5.0	↓	13:45	↓	↓	✓	✓		
13	CTSP-13-SS01-2.5	↓	11:30	↓	↓	✓	✓		
14	CTSP-14-SS01-2.0	↓	11:05	↓	↓	✓	✓		
15	CTSP-15-SS01-2.0	↓	10:30	↓	↓	✓	✓		
16	CTSP-16-SS01-4.0	↓	9:55	↓	↓	✓	✓		
17	Field blank	↓	14:30	FB(AQ)	↓	✓			
18	Trip Blank	1.4.23	-	-	-	✓			

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	1-6-23 1100	[signature]	1-6-23 1100
[signature]	1-6-23 1500	Paul Marcella	1/6/23 1640
Paul Marcella	1/6/23		

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.

FORM NO: 01-01 (rev. 14-OCT-07)

Table 1
Proposed Target Analyte List and Analytical Methods
Tanks 1086 and 1087 Storage Pad and the Girard Point Waste Storage Pad
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Constituents for Analysis	Analytical Method
Volatile Organic Compounds	*SW-846 Method 8260*
Benzene	
1,2-Dibromoethane (EBD)	
1,2-Dichloroethane (EDC)	
Carbon Disulfide	
Ethyl Benzene	
Isopropylbenzene (Cumene)	
Methyl Tertiary Butyl Ether (MTBE)	
Toluene	
1,2,4-Trimethylbenzene	
1,3,5-Trimethylbenzene	
Xylenes (total)	
Semi-Volatile Compounds	*SW-846 Method 8270*
Acenaphthene	
Anthracene	
Benzo(a)anthracene	
Benzo(a)pyrene	
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Benzo(g,h,i)perylene	
bis(2-Ethylhexyl)phthalate	
Chrysene	
Dibenz(a,h)anthracene	
Di-n-butylphthalate	
7,12-Dimethylbenz(a)anthracene	
2,4-Dimethylphenol	
Fluorene	
Indeno(1,2,3-cd)pyrene	
3-Methylcholanthrene	
2-Methylphenol	
3-Methylphenol	
4-Methylphenol	
Naphthalene	
o-cresol	
m-cresol	
p-resol	
Phenanthrene	
Phenol	
Pyrene	
Metals	*SW-846 Method 6010*
Antimony	
Arsenic	
Cyanide (total)	*SW-846 Method 9012*
Lead	*SW-846 Method 6010*
Nickel	
Vanadium	
Chromium (total)	
Chromium (hexavalent)	*SW-846 Method 7196*

Notes:
1) The Evergreen and PADEP agreed upon Philadelphia Refinery Target Compound List is provided in regular font.
2) Additional analytes based on the waste codes for the waste stored at the GP Waste Stroage Pad are italicized.
3) The Tanks 1086 and 1087 Storage Pad samples will also be analyzed for pH.

Serial_No:01182313:10

pg 1 of 2

Subcontract Chain of Custody

Eurofins TestAmerica (Buffalo)
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2300870

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2300870

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Quote 48025988, 5d TAT OK per lab

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	CTSP-01-SS01-3.5	01-05-23 12:30	SOIL	8270	
	CTSP-02-SS01-4.0	01-05-23 13:30	SOIL	8270	
	CTSP-03-SS01-2.0	01-05-23 14:00	SOIL	8270	
	CTSP-04-SS01-2.5	01-05-23 13:15	SOIL	8270	
	CTSP-05-SS01-1.0	01-05-23 13:00	SOIL	8270	
	CTSP-06-SS01-4.5	01-05-23 12:45	SOIL	8270	
	CTSP-07-SS01-5.5	01-05-23 12:05	SOIL	8270	
	CTSP-08-SS01-1.5	01-05-23 11:50	SOIL	8270	
	CTSP-09-SS01-1.5	01-05-23 10:50	SOIL	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
	1/9/23		

Form No: AL_subcoc

PO 2082

Subcontract Chain of Custody

Eurofins TestAmerica (Buffalo)
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2300870

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2300870

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Quote 48025988, 5d TAT OK per lab

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	CTSP-10-SS01-2.0	01-05-23 10:15	SOIL	8270	
	CTSP-11-SS01-3.0	01-05-23 14:20	SOIL	8270	
	CTSP-12-SS01-5.0	01-05-23 13:45	SOIL	8270	
	CTSP-13-SS01-2.5	01-05-23 11:30	SOIL	8270	
	CTSP-14-SS01-2.0	01-05-23 11:05	SOIL	8270	
	CTSP-15-SS01-2.0	01-05-23 10:30	SOIL	8270	
	CTSP-16-SS01-4.0	01-05-23 09:55	SOIL	8270	
	FB-20230105	01-05-23 14:30	WATER	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
	1/9/23		

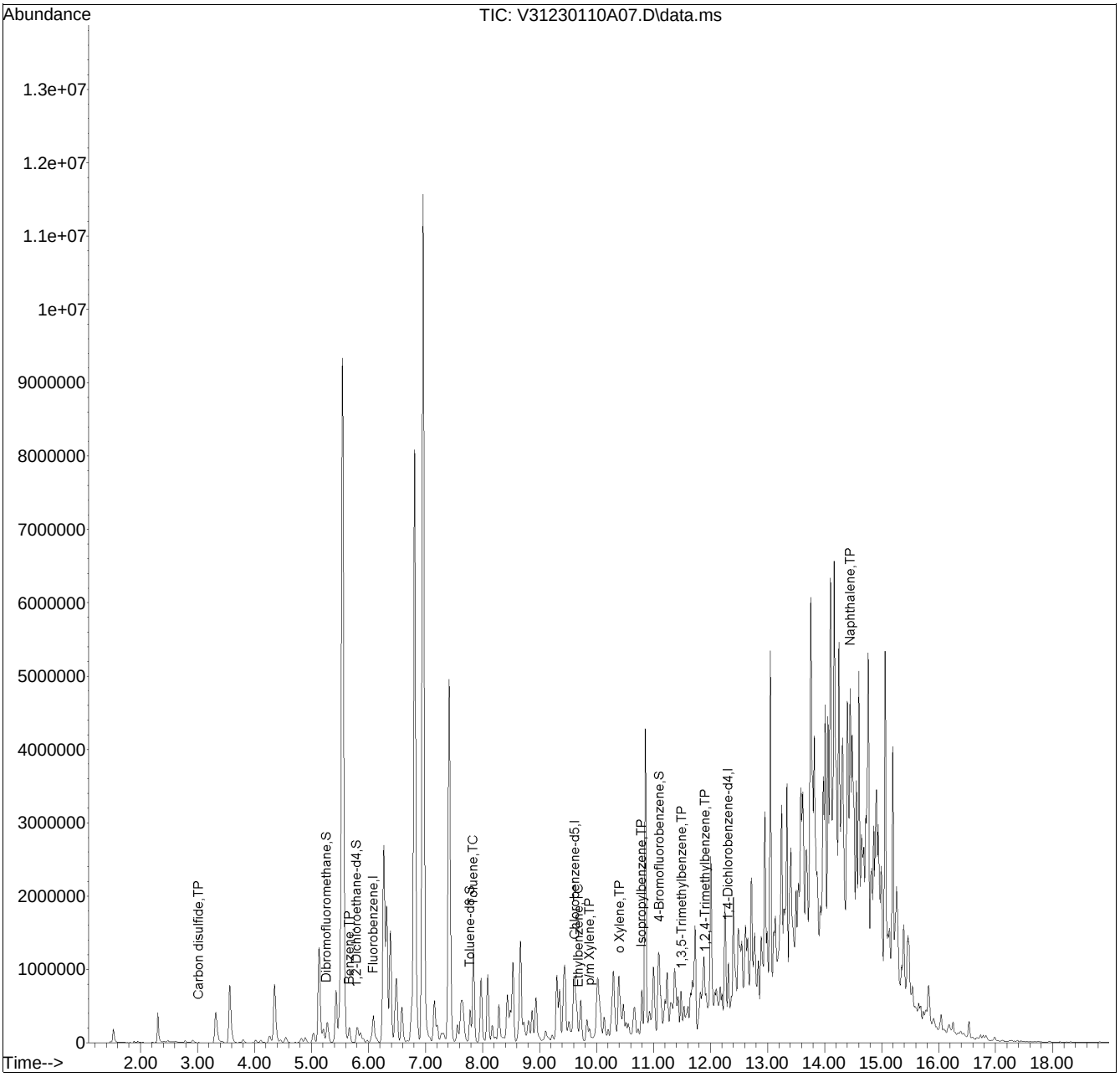
Form No: AL_subcoc

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2023\230110A\
Data File : V31230110A07.D
Acq On : 10 Jan 2023 01:14 pm
Operator : VOA131:AJK
Sample : L2300870-01,31H,5.58,5,0.100,,A,R2F
Misc : WG1732012,ICAL19531
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jan 10 17:35:14 2023
Quant Method : I:\VOLATILES\VOA131\2023\230110A\V31_221128A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Nov 29 14:00:36 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS230110A01.D•



Quantitation Report (QT Reviewed)

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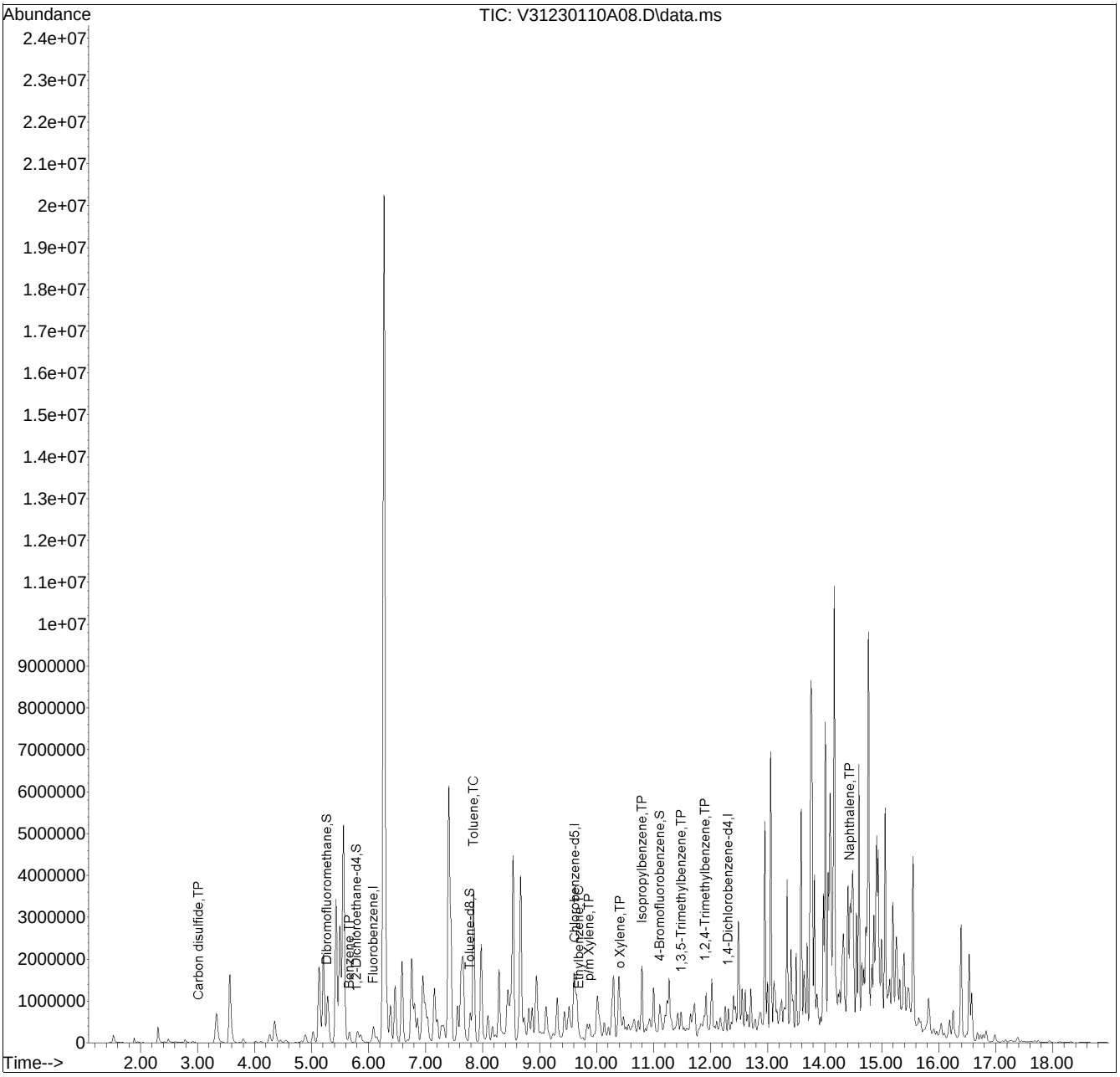
Operator : VOA131:AJK
Sample : L2300870-02,31H,4.81,5,0.100,,A,R2F
Misc : WG1732012,ICAL19531
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 10 17:35:27 2023
Quant Method : I:\VOLATILES\VOA131\2023\230110A\V31_221128A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Nov 29 14:00:36 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS230110A01.D•



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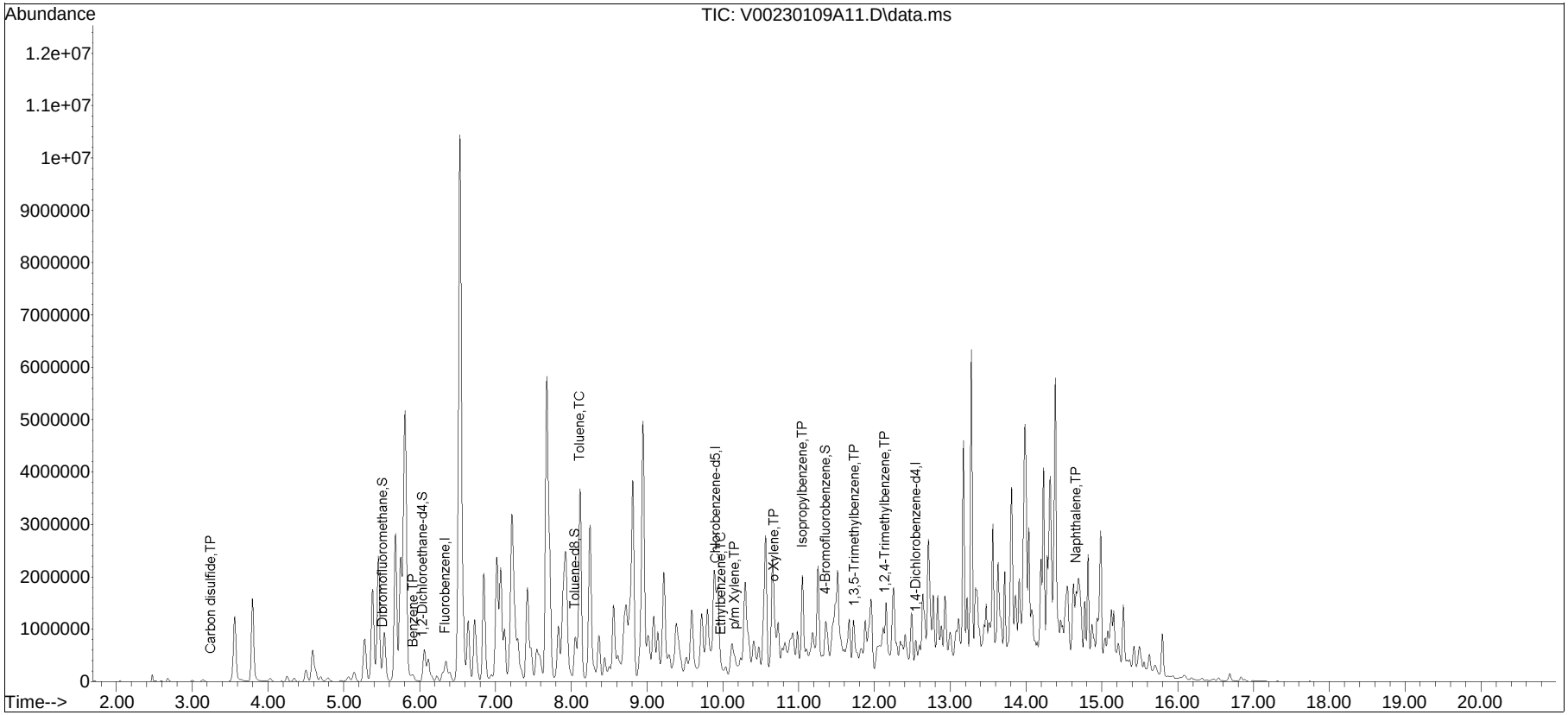
Acq On : 9 Jan 2023 2:43 pm
Operator : VOA100:JIC
Sample : l2300870-03d,31h,5.12,5,0.05,,a,r2f
Misc : WG1732269,ICAL19501
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 10 10:39:39 2023
Quant Method : I:\VOLATILES\VOA100\2023\230109A\V100_221117A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Nov 18 08:27:02 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+_CS2 - PA Short list + CS209A01.D•



Quantitation Report (QT Reviewed)

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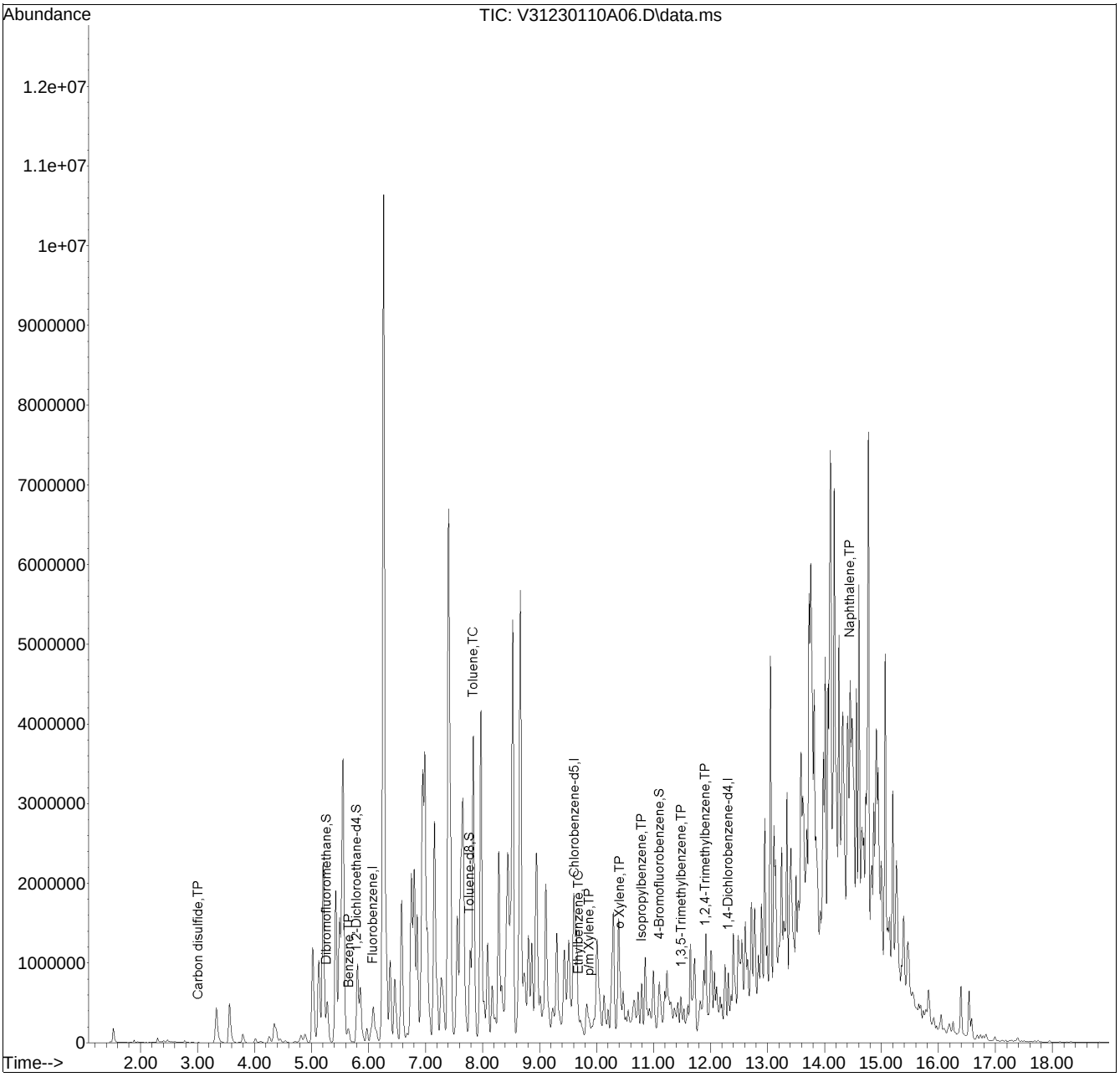
Data File : V31230110A06.D
Acq On : 10 Jan 2023 12:51 pm
Operator : VOA131:AJK
Sample : L2300870-04,31H,4.92,5,0.100,,A,R2F
Misc : WG1732012,ICAL19531
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 10 21:58:05 2023
Quant Method : I:\VOLATILES\VOA131\2023\230110A\V31_221128A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Nov 29 14:00:36 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS230110A01.D•



Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA100\2023\230109A\
Data File : V00230109A14.D
Acq On : 9 Jan 2023 4:00 pm
Operator : VOA100:JIC
Sample : l2300870-06d,31h,6.86,5,0.05,,a,r2f
Misc : WG1732269,ICAL19501
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 10 10:42:56 2023
Quant Method : I:\VOLATILES\VOA100\2023\230109A\V100_221117A_8260.m
Quant Title : VOLATILES BY GC/MS
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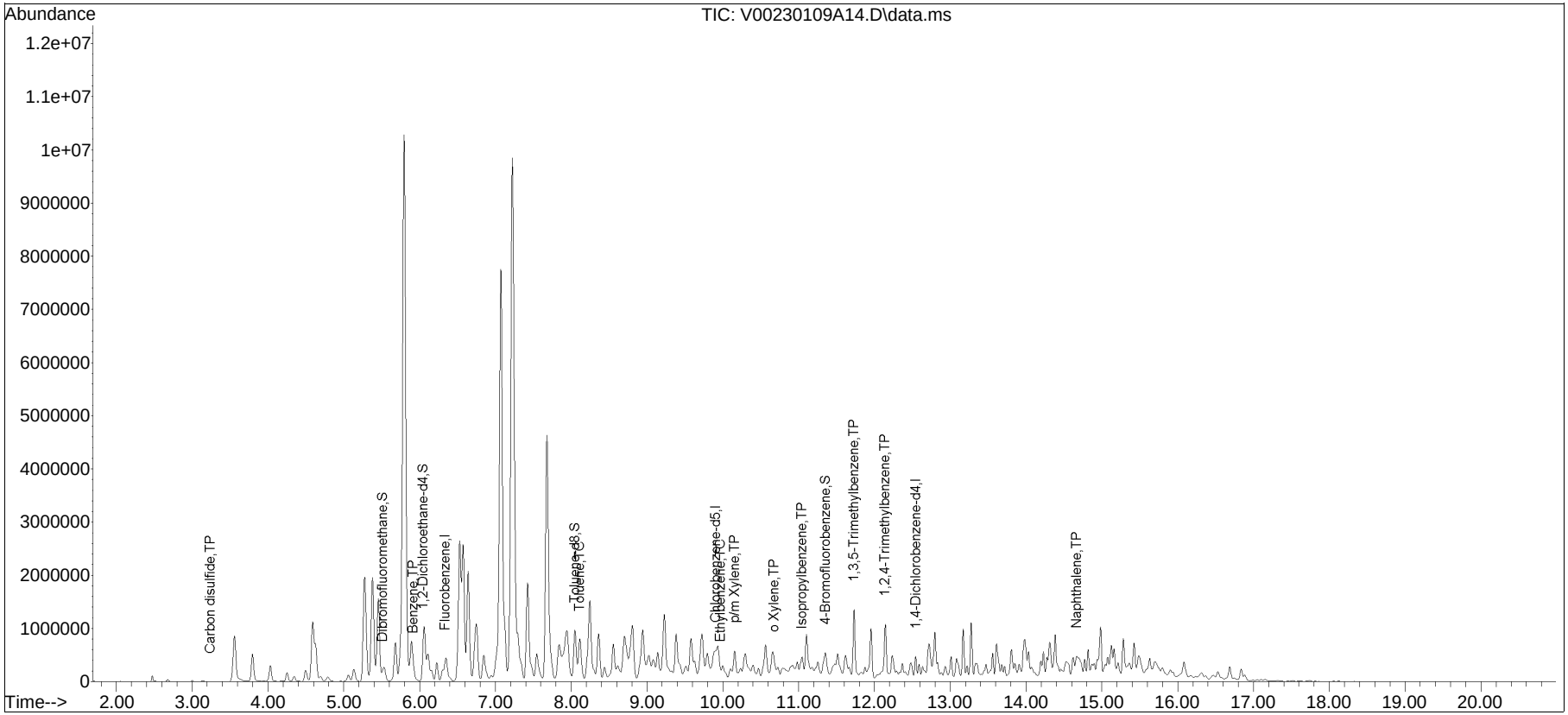
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+_CS2 - PA Short list + CS209A01.D•



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Acq On : 10 Jan 2023 03:09 pm
Operator : VOA131:AJK
Sample : L2300870-08,31H,6.33,5,0.100,,A,R2F
Misc : WG1732012,ICAL19531
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 10 17:37:40 2023
Quant Method : I:\VOLATILES\VOA131\2023\230110A\V31_221128A_8260.m
Quant Title : VOLATILES BY GC/MS
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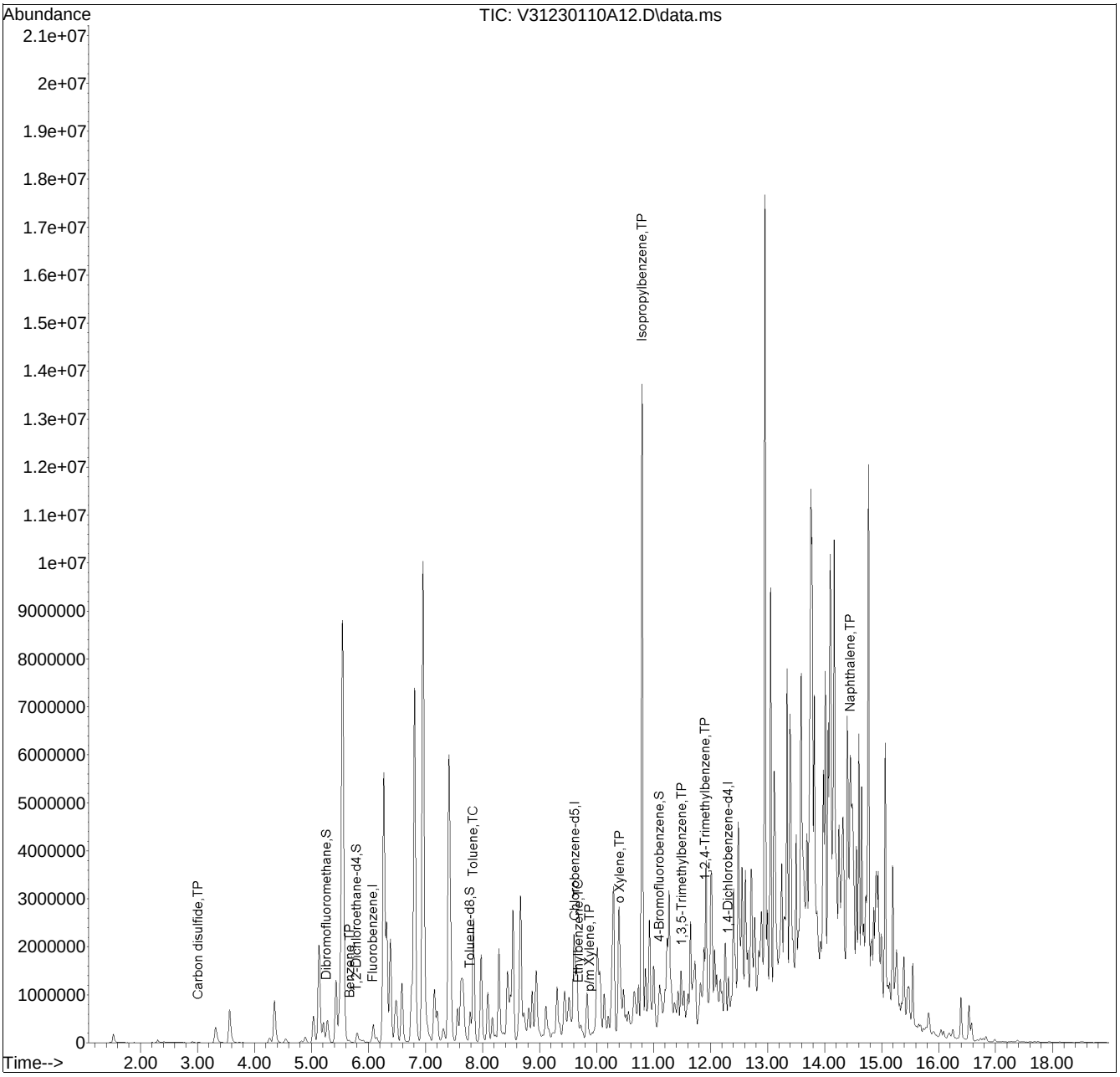
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS230110A01.D•

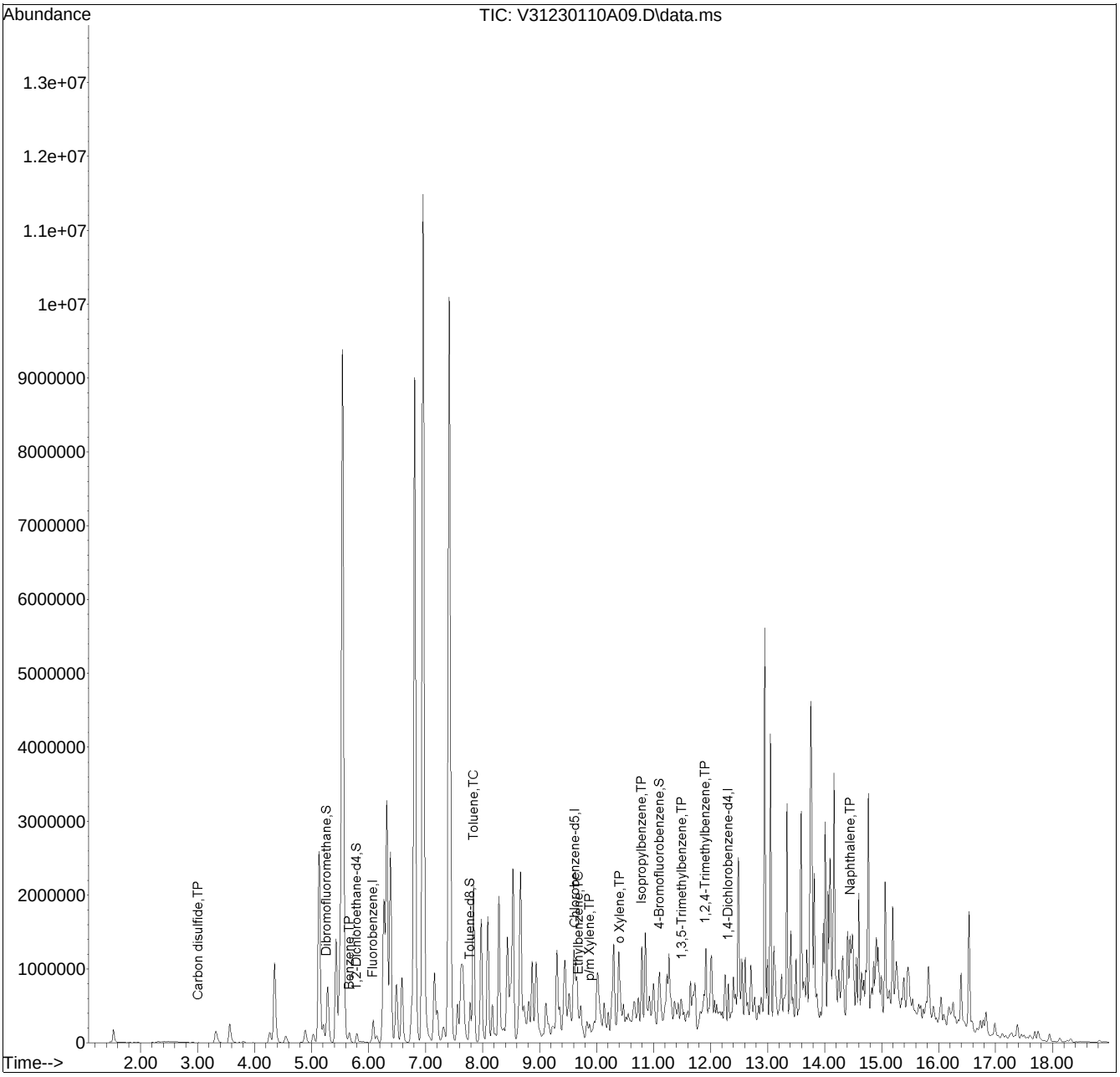


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2023\230110A\
Data File : V31230110A09.D
Acq On : 10 Jan 2023 02:00 pm
Operator : VOA131:AJK
Sample : L2300870-09,31H,5.85,5,0.100,,A,R2F
Misc : WG1732012,ICAL19531
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 10 21:58:33 2023
Quant Method : I:\VOLATILES\VOA131\2023\230110A\V31_221128A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Nov 29 14:00:36 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS230110A01.D•



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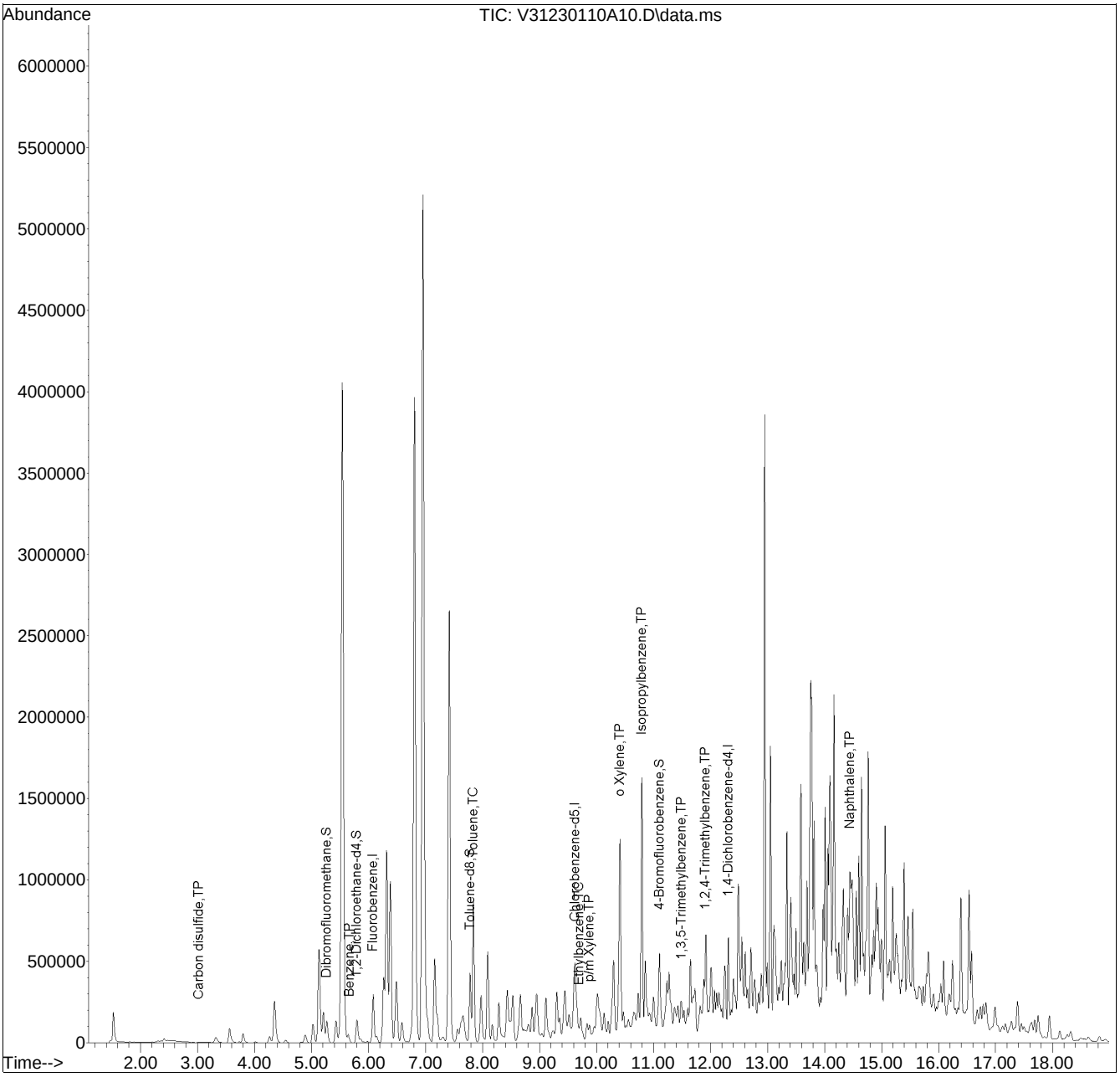
Data Path : I:\VOLATILES\VOA131\2023\230110A\
Data File : V31230110A10.D
Acq On : 10 Jan 2023 02:23 pm
Operator : VOA131:AJK
Sample : L2300870-10,31H,5.31,5,0.100,,A,R2F
Misc : WG1732012,ICAL19531
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 10 17:36:05 2023
Quant Method : I:\VOLATILES\VOA131\2023\230110A\V31_221128A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Nov 29 14:00:36 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS230110A01.D•

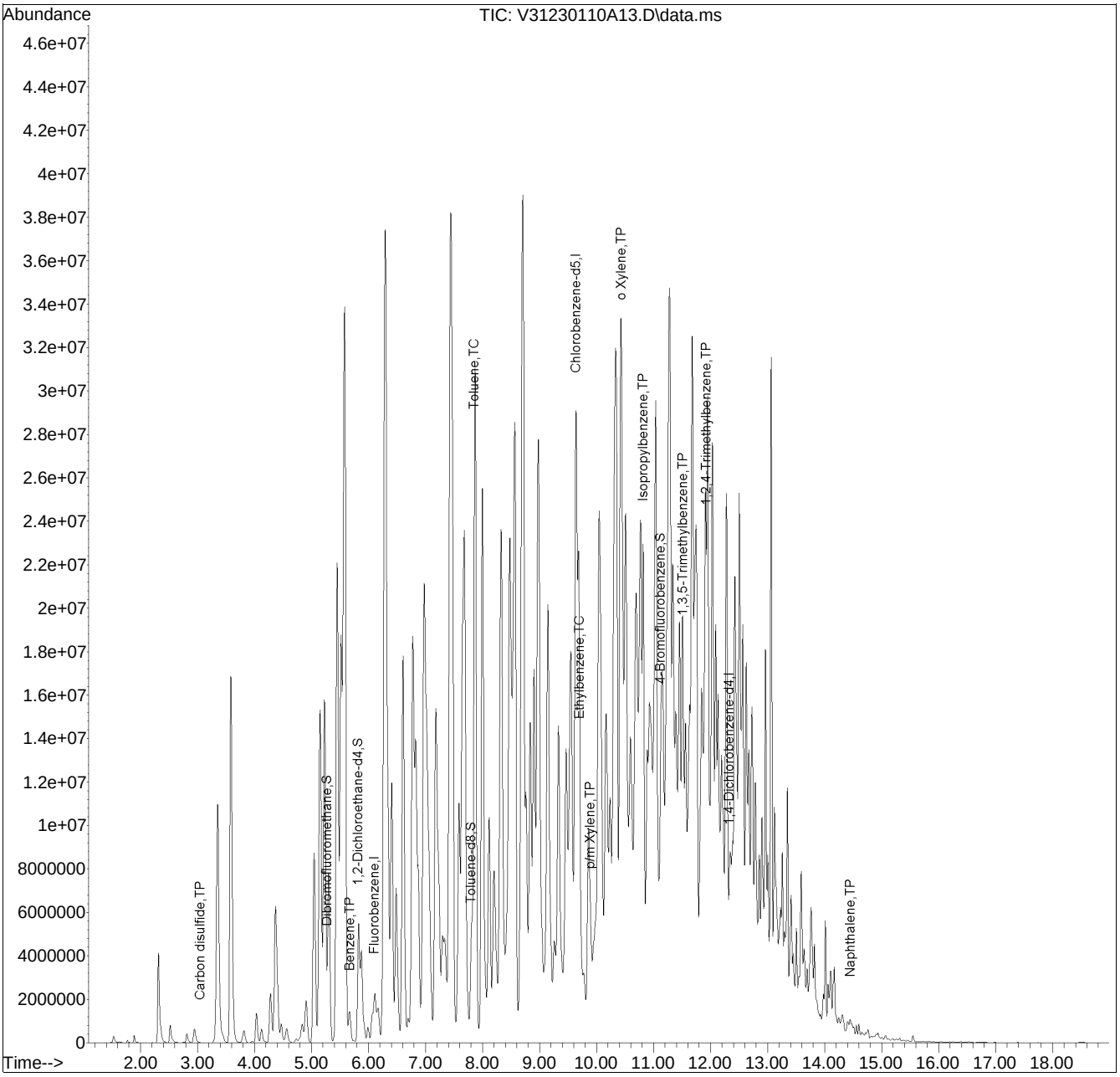


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2023\230110A\
Data File : V31230110A13.D
Acq On : 10 Jan 2023 03:32 pm
Operator : VOA131:AJK
Sample : L2300870-11,31,6.01,5,,B,R2F
Misc : WG1732013,ICAL19531
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 10 17:39:16 2023
Quant Method : I:\VOLATILES\VOA131\2023\230110A\V31_221128A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Nov 29 14:00:36 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS230110A01.D•

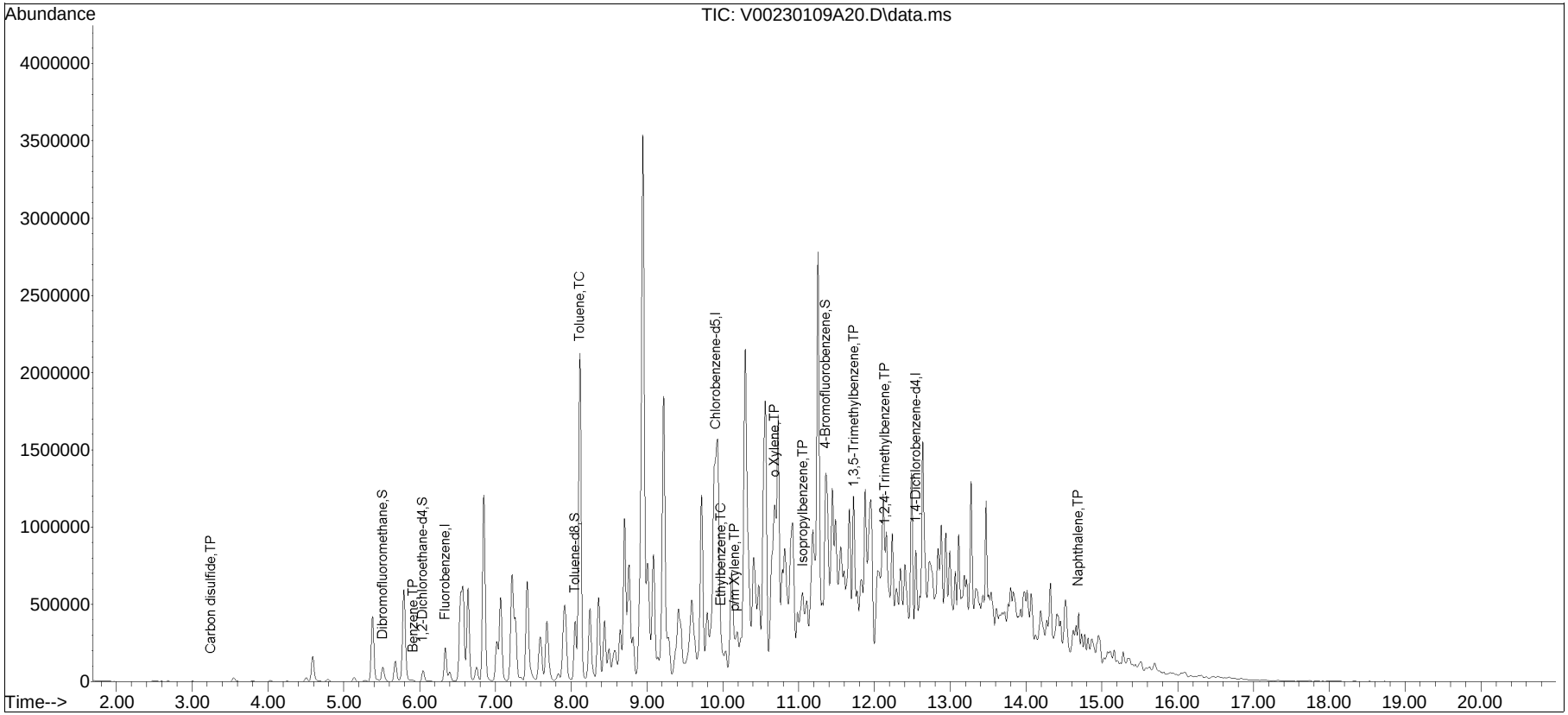


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA100\2023\230109A\
Data File : V00230109A20.D
Acq On : 9 Jan 2023 6:35 pm
Operator : VOA100:JIC
Sample : l2300870-12d,31h,4.95,5,0.05,,a,r2f
Misc : WG1732269,ICAL19501
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jan 10 10:47:14 2023
Quant Method : I:\VOLATILES\VOA100\2023\230109A\V100_221117A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Nov 18 08:27:02 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+_CS2 - PA Short list + CS209A01.D•



Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA100\2023\230109A\
Data File : V00230109A23.D
Acq On : 9 Jan 2023 7:53 pm
Operator : VOA100:JIC
Sample : l2300870-15d,31h,5.57,5,0.05,,a,r2f
Misc : WG1732269,ICAL19501
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jan 10 10:50:11 2023
Quant Method : I:\VOLATILES\VOA100\2023\230109A\V100_221117A_8260.m
Quant Title : VOLATILES BY GC/MS
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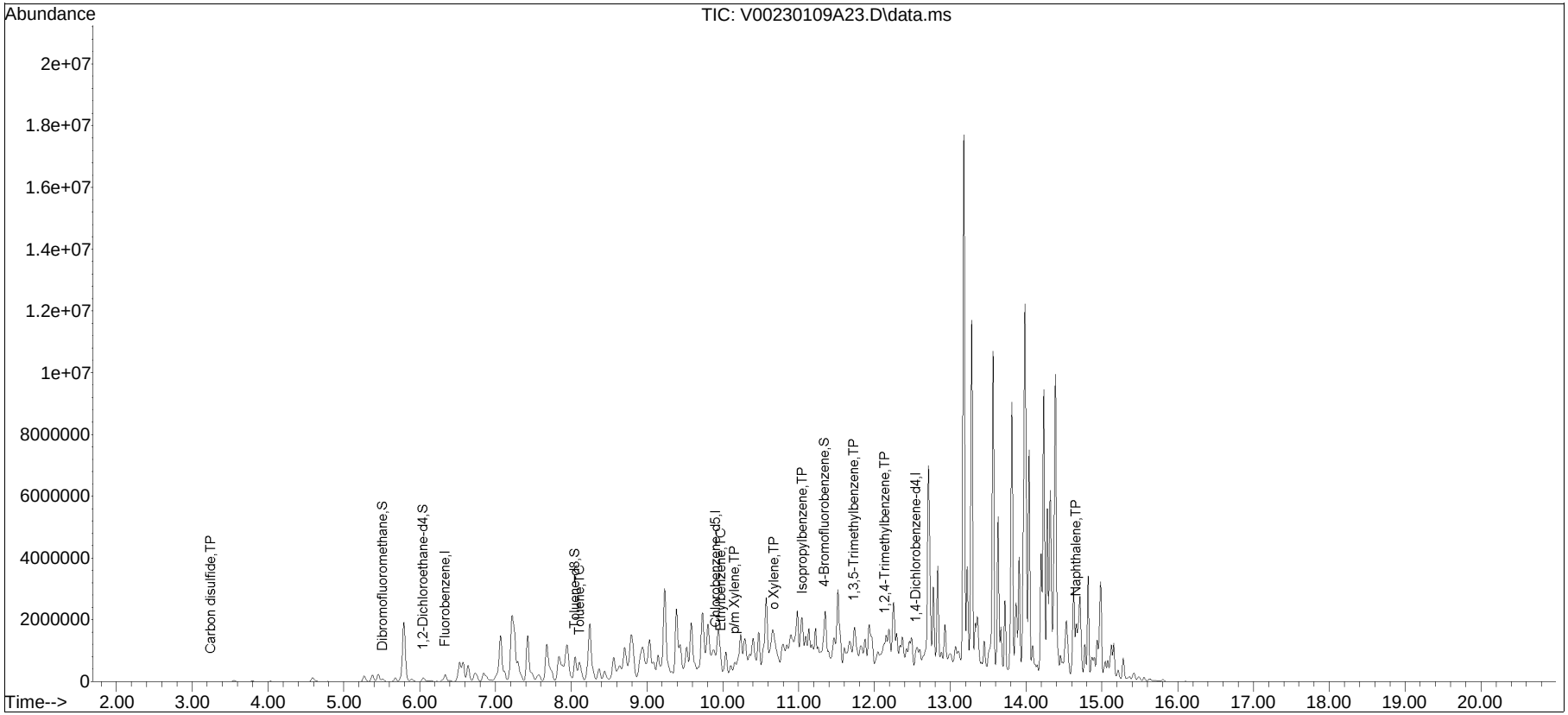
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+_CS2 - PA Short list + CS209A01.D•

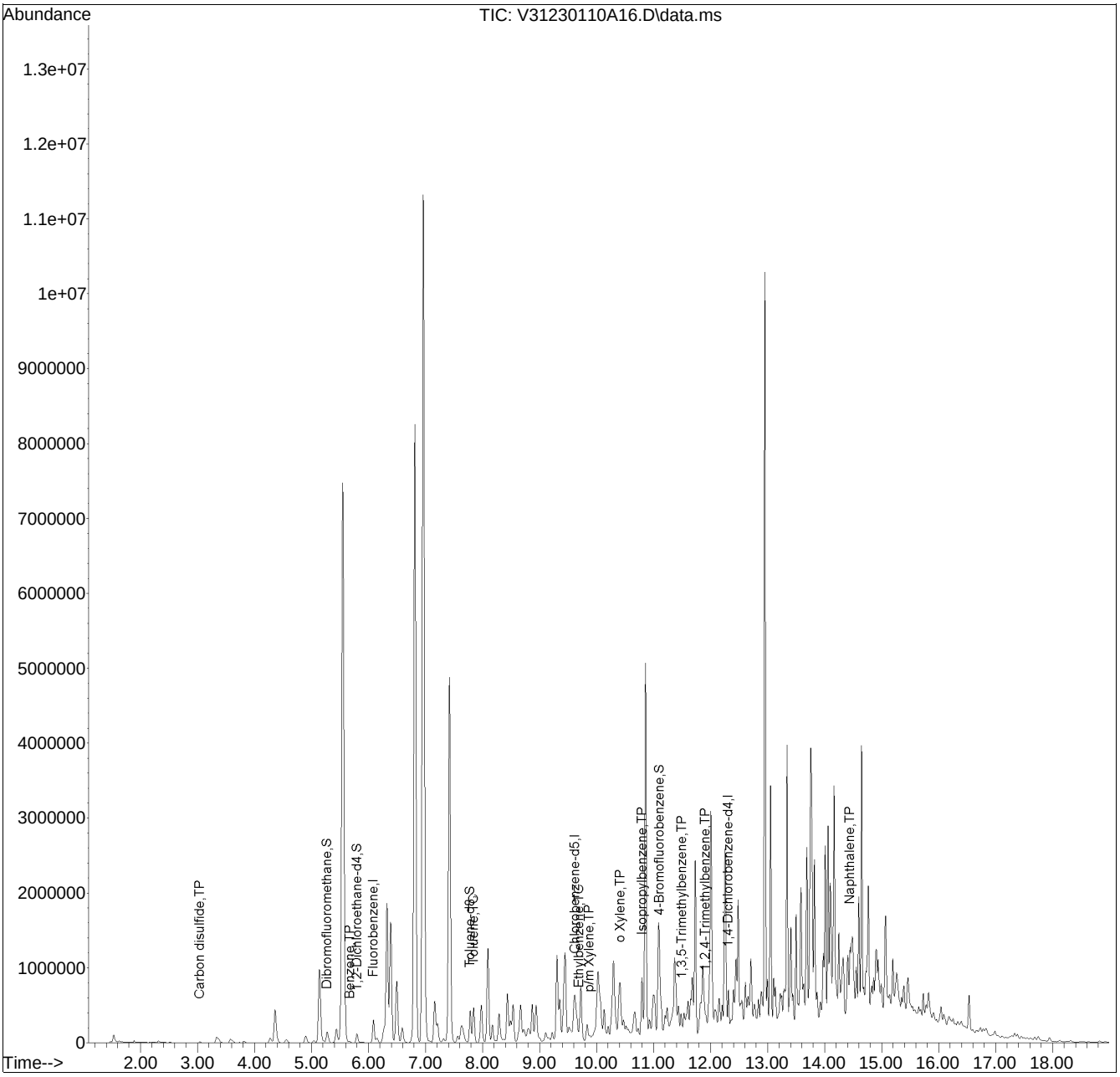


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2023\230110A\
Data File : V31230110A16.D
Acq On : 10 Jan 2023 04:41 pm
Operator : VOA131:AJK
Sample : L2300870-16,31,5.77,5,,C,R2F
Misc : WG1732013,ICAL19531
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jan 10 17:31:45 2023
Quant Method : I:\VOLATILES\VOA131\2023\230110A\V31_221128A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Nov 29 14:00:36 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList+CS2 - PA Short list+CS230110A01.D•



eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Sub Reports
Alpha Analytical Inc
8 Walkup Drive
Westboro, Massachusetts 01581

Generated 1/18/2023 12:42:36 PM

JOB DESCRIPTION

L2300870

JOB NUMBER

480-205282-1

Eurofins Buffalo
10 Hazelwood Drive
Amherst NY 14228-2298

See page two for job notes and contact information.

my EOL

Eurofins Buffalo

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing Northeast, LLC Buffalo and its client. All questions regarding this report should be directed to the Eurofins Environment Testing Northeast, LLC Buffalo Project Manager or designee who has signed this report.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northeast, LLC Project Manager.

Authorization

Generated
1/18/2023 12:42:36 PM

Authorized for release by
John Beninati, Project Manager
John.Beninati@et.eurofinsus.com
(716)504-9874

Table of Contents

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QC Sample Results 28
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Method Summary 43
Sample Summary 44
Chain of Custody 45
Receipt Checklists 47

Definitions/Glossary

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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
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

Case Narrative

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Job ID: 480-205282-1

Laboratory: Eurofins Buffalo

Narrative

Job Narrative
480-205282-1

Comments
No additional comments.

Receipt
The samples were received on 1/10/2023 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1º C.

GC/MS Semi VOA
Method 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (LCS 480-655704/2-A). These results have been reported and qualified.

Method 8270D: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 480-655711 and analytical batch 480-655925 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

Method 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 480-655711 and analytical batch 480-655925 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8270D: The following samples were diluted due to color, appearance, and viscosity: CTSP-02-SS01-4.0 (480-205282-2), CTSP-03-SS01-2.0 (480-205282-3), CTSP-04-SS01-2.5 (480-205282-4), CTSP-05-SS01-1.0 (480-205282-5), CTSP-06-SS01-4.5 (480-205282-6), CTSP-07-SS01-5.5 (480-205282-7), CTSP-08-SS01-1.5 (480-205282-8), CTSP-09-SS01-1.5 (480-205282-9), CTSP-10-SS01-2.0 (480-205282-10), CTSP-12-SS01-5.0 (480-205282-12), CTSP-13-SS01-2.5 (480-205282-13), CTSP-14-SS01-2.0 (480-205282-14), CTSP-15-SS01-2.0 (480-205282-15), CTSP-16-SS01-4.0 (480-205282-16), (480-205282-A-2-A MS) and (480-205282-A-2-B MSD). Elevated reporting limits (RL) are provided.

Method 8270D: The following sample required a dilution due to the nature of the sample matrix: CTSP-10-SS01-2.0 (480-205282-10). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: CTSP-03-SS01-2.0 (480-205282-3) and CTSP-08-SS01-1.5 (480-205282-8). These results have been reported and qualified.

Method 8270D: The laboratory control sample (LCS) for preparation batch 480-655711 and analytical batch 480-655925 recovered outside control limits for the following analytes: Benzo[b]fluoranthene. These analytes were biased high in the LCS and were not detected above the reporting limit (RL) in the associated samples; therefore, the data have been reported.

Method 8270D: The following samples were diluted due to color, appearance, and viscosity: CTSP-02-SS01-4.0 (480-205282-2), CTSP-03-SS01-2.0 (480-205282-3), CTSP-04-SS01-2.5 (480-205282-4), CTSP-05-SS01-1.0 (480-205282-5), CTSP-06-SS01-4.5 (480-205282-6), CTSP-09-SS01-1.5 (480-205282-9), CTSP-13-SS01-2.5 (480-205282-13) and CTSP-14-SS01-2.0 (480-205282-14). Elevated reporting limits (RL) are provided.

Method 8270D: The following sample was diluted due to the nature of the sample matrix: CTSP-09-SS01-1.5 (480-205282-9). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Method 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 480-656122/1-A). These results have been reported and qualified.

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

Case Narrative

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Job ID: 480-205282-1 (Continued)

Laboratory: Eurofins Buffalo (Continued)

Organic Prep
Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 480-655704.

Method 3550C: Due to the matrix, the initial volume(s) used for the following sample deviated from the standard procedure: CTSP-10-SS01-2.0 (480-205282-10). The reporting limits (RLs) have been adjusted proportionately.

Method 3550C: Elevated reporting limits are provided for the following sample due to insufficient sample provided for preparation: CTSP-02-SS01-4.0 (480-205282-2).

Method 3550C: Due to the matrix, the following sample could not be concentrated to the final method required volume: CTSP-09-SS01-1.5 (480-205282-9). The reporting limits (RLs) are elevated proportionately.

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

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-01-SS01-3.5 — Lab Sample ID: 480-205282-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	730		290	43	ug/Kg	1	☼	8270D	Total/NA
Anthracene	440		290	72	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	170	J	290	29	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	200	J	290	43	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	250	J *+	290	46	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	190	J	290	31	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	93	J	290	38	ug/Kg	1	☼	8270D	Total/NA
Chrysene	170	J	290	65	ug/Kg	1	☼	8270D	Total/NA
Fluorene	1200		290	34	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	140	J	290	36	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	2900		290	43	ug/Kg	1	☼	8270D	Total/NA
Pyrene	470		290	34	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: CTSP-02-SS01-4.0 — Lab Sample ID: 480-205282-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	1500		1400	200	ug/Kg	5	☼	8270D	Total/NA
Anthracene	1200	J	1400	340	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	1900		1400	140	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	2200		1400	200	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	2500		1400	220	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	1000	J	1400	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	1000	J	1400	180	ug/Kg	5	☼	8270D	Total/NA
Chrysene	1800		1400	310	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	390	J	1400	250	ug/Kg	5	☼	8270D	Total/NA
Fluorene	1400		1400	160	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1000	J	1400	170	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	3600		1400	200	ug/Kg	5	☼	8270D	Total/NA
Pyrene	3200		1400	160	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: CTSP-03-SS01-2.0 — Lab Sample ID: 480-205282-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	850	J	2100	310	ug/Kg	10	☼	8270D	Total/NA
Anthracene	810	J	2100	520	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]anthracene	1200	J	2100	210	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene	1500	J	2100	310	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	1900	J	2100	330	ug/Kg	10	☼	8270D	Total/NA
Benzo[g,h,i]perylene	820	J	2100	220	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene	740	J	2100	270	ug/Kg	10	☼	8270D	Total/NA
Chrysene	1100	J	2100	470	ug/Kg	10	☼	8270D	Total/NA
Fluorene	1300	J	2100	250	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	820	J	2100	260	ug/Kg	10	☼	8270D	Total/NA
Naphthalene	410	J	2100	270	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene	3700		2100	310	ug/Kg	10	☼	8270D	Total/NA
Pyrene	2300		2100	250	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: CTSP-04-SS01-2.5 — Lab Sample ID: 480-205282-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	460	J	1100	160	ug/Kg	5	☼	8270D	Total/NA
Anthracene	580	J	1100	260	ug/Kg	5	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-04-SS01-2.5 (Continued) — Lab Sample ID: 480-205282-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	2300		1100	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	2200		1100	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	2800		1100	170	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	970	J	1100	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	1200		1100	140	ug/Kg	5	☼	8270D	Total/NA
Chrysene	1900		1100	240	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	410	J	1100	190	ug/Kg	5	☼	8270D	Total/NA
Fluorene	530	J	1100	130	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	990	J	1100	130	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	1700		1100	160	ug/Kg	5	☼	8270D	Total/NA
Pyrene	3000		1100	130	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: CTSP-05-SS01-1.0 — Lab Sample ID: 480-205282-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	150	J	990	150	ug/Kg	5	☼	8270D	Total/NA
Anthracene	590	J	990	240	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	3900		990	99	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	4300		990	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	4800		990	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	2300		990	100	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	2500		990	130	ug/Kg	5	☼	8270D	Total/NA
Chrysene	3400		990	220	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	750	J	990	170	ug/Kg	5	☼	8270D	Total/NA
Fluorene	180	J	990	120	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	2100		990	120	ug/Kg	5	☼	8270D	Total/NA
Naphthalene	230	J	990	130	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	1200		990	150	ug/Kg	5	☼	8270D	Total/NA
Pyrene	4600		990	120	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: CTSP-06-SS01-4.5 — Lab Sample ID: 480-205282-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	230	J	1100	160	ug/Kg	5	☼	8270D	Total/NA
Anthracene	320	J	1100	270	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	570	J	1100	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	580	J	1100	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	830	J	1100	170	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	330	J	1100	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	300	J	1100	140	ug/Kg	5	☼	8270D	Total/NA
Chrysene	570	J	1100	240	ug/Kg	5	☼	8270D	Total/NA
Fluorene	260	J	1100	130	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	320	J	1100	130	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	1100		1100	160	ug/Kg	5	☼	8270D	Total/NA
Pyrene	850	J	1100	130	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: CTSP-07-SS01-5.5 — Lab Sample ID: 480-205282-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	610	J	1500	220	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	680	J	1500	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	850	J	1500	220	ug/Kg	5	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-07-SS01-5.5 (Continued) — Lab Sample ID: 480-205282-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	880	J *+	1500	240	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	630	J	1500	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	400	J	1500	190	ug/Kg	5	☼	8270D	Total/NA
Chrysene	670	J	1500	330	ug/Kg	5	☼	8270D	Total/NA
Fluorene	370	J	1500	180	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	540	J	1500	180	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	620	J	1500	220	ug/Kg	5	☼	8270D	Total/NA
Pyrene	990	J	1500	180	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: CTSP-08-SS01-1.5 — Lab Sample ID: 480-205282-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	1600		1000	150	ug/Kg	5	☼	8270D	Total/NA
Anthracene	1200		1000	250	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	830	J	1000	100	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	620	J	1000	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	920	J *+	1000	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	430	J	1000	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	410	J	1000	130	ug/Kg	5	☼	8270D	Total/NA
Chrysene	840	J	1000	220	ug/Kg	5	☼	8270D	Total/NA
Fluorene	3200		1000	120	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	400	J	1000	120	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	7100		1000	150	ug/Kg	5	☼	8270D	Total/NA
Pyrene	1600		1000	120	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: CTSP-09-SS01-1.5 — Lab Sample ID: 480-205282-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	2100	J	20000	2000	ug/Kg	10	☼	8270D	Total/NA
Pyrene	3600	J	20000	2400	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: CTSP-10-SS01-2.0 — Lab Sample ID: 480-205282-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	2100	J	8200	820	ug/Kg	20	☼	8270D	Total/NA
Benzo[a]pyrene	1900	J	8200	1200	ug/Kg	20	☼	8270D	Total/NA
Benzo[b]fluoranthene	2200	J *+	8200	1300	ug/Kg	20	☼	8270D	Total/NA
Benzo[g,h,i]perylene	910	J	8200	870	ug/Kg	20	☼	8270D	Total/NA
Benzo[k]fluoranthene	1100	J	8200	1100	ug/Kg	20	☼	8270D	Total/NA
Chrysene	1900	J	8200	1800	ug/Kg	20	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1100	J	8200	1000	ug/Kg	20	☼	8270D	Total/NA
Phenanthrene	2400	J	8200	1200	ug/Kg	20	☼	8270D	Total/NA
Pyrene	3000	J	8200	970	ug/Kg	20	☼	8270D	Total/NA

Client Sample ID: CTSP-11-SS01-3.0 — Lab Sample ID: 480-205282-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	310		250	37	ug/Kg	1	☼	8270D	Total/NA
Anthracene	700		250	63	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	780		250	25	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	800		250	37	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	920		250	40	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	520		250	27	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-11-SS01-3.0 (Continued) — Lab Sample ID: 480-205282-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[k]fluoranthene	390		250	33	ug/Kg	1	☼	8270D	Total/NA
Chrysene	730		250	57	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	150	J	250	45	ug/Kg	1	☼	8270D	Total/NA
Fluorene	480		250	30	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	460		250	31	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	1000		250	37	ug/Kg	1	☼	8270D	Total/NA
Pyrene	1600		250	30	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: CTSP-12-SS01-5.0 — Lab Sample ID: 480-205282-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	700	J	1000	100	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	810	J	1000	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	890	J *+	1000	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	460	J	1000	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	420	J	1000	130	ug/Kg	5	☼	8270D	Total/NA
Chrysene	630	J	1000	220	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	430	J	1000	120	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	220	J	1000	150	ug/Kg	5	☼	8270D	Total/NA
Pyrene	850	J	1000	120	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: CTSP-13-SS01-2.5 — Lab Sample ID: 480-205282-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	310	J	1100	270	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	980	J	1100	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	1100		1100	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	1400		1100	170	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	620	J	1100	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	560	J	1100	140	ug/Kg	5	☼	8270D	Total/NA
Chrysene	1000	J	1100	240	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	210	J	1100	190	ug/Kg	5	☼	8270D	Total/NA
Fluorene	210	J	1100	130	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	580	J	1100	130	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	1500		1100	160	ug/Kg	5	☼	8270D	Total/NA
Pyrene	1700		1100	130	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: CTSP-14-SS01-2.0 — Lab Sample ID: 480-205282-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	340	J	990	250	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]anthracene	1900		990	99	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	2300		990	150	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	2700		990	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	1300		990	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	1200		990	130	ug/Kg	5	☼	8270D	Total/NA
Chrysene	1800		990	220	ug/Kg	5	☼	8270D	Total/NA
Dibenz(a,h)anthracene	470	J	990	180	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1300		990	120	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	460	J	990	150	ug/Kg	5	☼	8270D	Total/NA
Pyrene	1900		990	120	ug/Kg	5	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Detection Summary

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-15-SS01-2.0 — Lab Sample ID: 480-205282-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	240	J	2000	200	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene	340	J *+	2000	320	ug/Kg	10	☼	8270D	Total/NA
Pyrene	410	J	2000	240	ug/Kg	10	☼	8270D	Total/NA

Client Sample ID: CTSP-16-SS01-4.0 — Lab Sample ID: 480-205282-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	690	J	1100	110	ug/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene	700	J	1100	160	ug/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene	800	J *+	1100	180	ug/Kg	5	☼	8270D	Total/NA
Benzo[g,h,i]perylene	350	J	1100	120	ug/Kg	5	☼	8270D	Total/NA
Benzo[k]fluoranthene	430	J	1100	140	ug/Kg	5	☼	8270D	Total/NA
Chrysene	720	J	1100	250	ug/Kg	5	☼	8270D	Total/NA
Fluorene	150	J	1100	130	ug/Kg	5	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	350	J	1100	140	ug/Kg	5	☼	8270D	Total/NA
Phenanthrene	1000	J	1100	160	ug/Kg	5	☼	8270D	Total/NA
Pyrene	1300		1100	130	ug/Kg	5	☼	8270D	Total/NA

Client Sample ID: FB-20230105 — Lab Sample ID: 480-205282-17

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-01-SS01-3.5

Lab Sample ID: 480-205282-1
Date Collected: 01/05/23 12:30
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 58.2

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	730		290	43	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Anthracene	440		290	72	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Benzo[a]anthracene	170	J	290	29	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Benzo[a]pyrene	200	J	290	43	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Benzo[b]fluoranthene	250	J *+	290	46	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Benzo[g,h,i]perylene	190	J	290	31	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Benzo[k]fluoranthene	93	J	290	38	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Bis(2-ethylhexyl) phthalate	ND		290	99	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
2,4-Dimethylphenol	ND		290	70	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
7,12-Dimethylbenz(a)anthracene	ND		560	84	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Chrysene	170	J	290	65	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Dibenz(a,h)anthracene	ND		290	51	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Di-n-butyl phthalate	ND		290	49	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Fluorene	1200		290	34	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Indeno[1,2,3-cd]pyrene	140	J	290	36	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Naphthalene	ND		290	38	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
2-Methylphenol	ND		290	34	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
3-Methylphenol	ND		560	44	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
3-Methylcholanthrene	ND		560	94	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
4-Methylphenol	ND		560	34	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Phenanthrene	2900		290	43	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Phenol	ND		290	44	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Pyrene	470		290	34	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1
Total Cresols	ND		560	34	ug/Kg	☼	01/11/23 15:39	01/14/23 02:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*99*		*54 - 120*	*01/11/23 15:39*	*01/14/23 02:53*	*1*
2-Fluorobiphenyl (Surr)	*92*		*60 - 120*	*01/11/23 15:39*	*01/14/23 02:53*	*1*
2-Fluorophenol (Surr)	*87*		*52 - 120*	*01/11/23 15:39*	*01/14/23 02:53*	*1*
Phenol-d5 (Surr)	*96*		*54 - 120*	*01/11/23 15:39*	*01/14/23 02:53*	*1*
Nitrobenzene-d5 (Surr)	*97*		*53 - 120*	*01/11/23 15:39*	*01/14/23 02:53*	*1*
p-Terphenyl-d14 (Surr)	*108*		*79 - 130*	*01/11/23 15:39*	*01/14/23 02:53*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	41.8		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	58.2		0.1	0.1	%			01/10/23 15:32	1

Client Sample ID: CTSP-02-SS01-4.0

Lab Sample ID: 480-205282-2
Date Collected: 01/05/23 13:30
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 80.2

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	1500		1400	200	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Anthracene	1200	J	1400	340	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Benzo[a]anthracene	1900		1400	140	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Benzo[a]pyrene	2200		1400	200	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Benzo[b]fluoranthene	2500		1400	220	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Benzo[g,h,i]perylene	1000	J	1400	150	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-02-SS01-4.0

Lab Sample ID: 480-205282-2
Date Collected: 01/05/23 13:30
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 80.2

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	**1000**	**J**	1400	180	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Bis(2-ethylhexyl) phthalate	ND		1400	470	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
2,4-Dimethylphenol	ND		1400	330	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
7,12-Dimethylbenz(a)anthracene	ND		2700	400	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Chrysene	**1800**		1400	310	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Dibenz(a,h)anthracene	**390**	**J**	1400	250	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Di-n-butyl phthalate	ND		1400	240	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Fluorene	**1400**		1400	160	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Indeno[1,2,3-cd]pyrene	**1000**	**J**	1400	170	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Naphthalene	ND		1400	180	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
2-Methylphenol	ND		1400	160	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
3-Methylphenol	ND		2700	210	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
3-Methylcholanthrene	ND		2700	450	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
4-Methylphenol	ND		2700	160	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Phenanthrene	**3600**		1400	200	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Phenol	ND		1400	210	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Pyrene	**3200**		1400	160	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5
Total Cresols	ND		2700	160	ug/Kg	☼	01/16/23 15:44	01/17/23 16:02	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*54 - 120*	*01/16/23 15:44*	*01/17/23 16:02*	*5*
2-Fluorobiphenyl (Surr)	*85*		*60 - 120*	*01/16/23 15:44*	*01/17/23 16:02*	*5*
2-Fluorophenol (Surr)	*71*		*52 - 120*	*01/16/23 15:44*	*01/17/23 16:02*	*5*
Phenol-d5 (Surr)	*77*		*54 - 120*	*01/16/23 15:44*	*01/17/23 16:02*	*5*
Nitrobenzene-d5 (Surr)	*81*		*53 - 120*	*01/16/23 15:44*	*01/17/23 16:02*	*5*
p-Terphenyl-d14 (Surr)	*102*		*79 - 130*	*01/16/23 15:44*	*01/17/23 16:02*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**19.8**		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	**80.2**		0.1	0.1	%			01/10/23 15:32	1

Client Sample ID: CTSP-03-SS01-2.0

Lab Sample ID: 480-205282-3
Date Collected: 01/05/23 14:00
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 79.4

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**850**	**J**	2100	310	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Anthracene	**810**	**J**	2100	520	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Benzo[a]anthracene	**1200**	**J**	2100	210	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Benzo[a]pyrene	**1500**	**J**	2100	310	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Benzo[b]fluoranthene	**1900**	**J**	2100	330	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Benzo[g,h,i]perylene	**820**	**J**	2100	220	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Benzo[k]fluoranthene	**740**	**J**	2100	270	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Bis(2-ethylhexyl) phthalate	ND		2100	720	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
2,4-Dimethylphenol	ND		2100	510	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
7,12-Dimethylbenz(a)anthracene	ND		4100	600	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Chrysene	**1100**	**J**	2100	470	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Dibenz(a,h)anthracene	ND		2100	370	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-03-SS01-2.0

Lab Sample ID: 480-205282-3
Date Collected: 01/05/23 14:00
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 79.4

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		2100	360	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Fluorene	**1300**	**J**	2100	250	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Indeno[1,2,3-cd]pyrene	**820**	**J**	2100	260	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Naphthalene	**410**	**J**	2100	270	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
2-Methylphenol	ND		2100	250	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
3-Methylphenol	ND		4100	320	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
3-Methylcholanthrene	ND		4100	680	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
4-Methylphenol	ND		4100	250	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Phenanthrene	**3700**		2100	310	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Phenol	ND		2100	320	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Pyrene	**2300**		2100	250	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10
Total Cresols	ND		4100	250	ug/Kg	☼	01/16/23 15:44	01/17/23 16:26	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*86*		*54 - 120*	*01/16/23 15:44*	*01/17/23 16:26*	*10*
2-Fluorobiphenyl (Surr)	*91*		*60 - 120*	*01/16/23 15:44*	*01/17/23 16:26*	*10*
2-Fluorophenol (Surr)	*71*		*52 - 120*	*01/16/23 15:44*	*01/17/23 16:26*	*10*
Phenol-d5 (Surr)	*80*		*54 - 120*	*01/16/23 15:44*	*01/17/23 16:26*	*10*
Nitrobenzene-d5 (Surr)	*116*		*53 - 120*	*01/16/23 15:44*	*01/17/23 16:26*	*10*
p-Terphenyl-d14 (Surr)	*110*		*79 - 130*	*01/16/23 15:44*	*01/17/23 16:26*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**20.6**		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	**79.4**		0.1	0.1	%			01/10/23 15:32	1

Client Sample ID: CTSP-04-SS01-2.5

Lab Sample ID: 480-205282-4
Date Collected: 01/05/23 13:15
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 77.9

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**460**	**J**	1100	160	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Anthracene	**580**	**J**	1100	260	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Benzo[a]anthracene	**2300**		1100	110	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Benzo[a]pyrene	**2200**		1100	160	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Benzo[b]fluoranthene	**2800**		1100	170	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Benzo[g,h,i]perylene	**970**	**J**	1100	110	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Benzo[k]fluoranthene	**1200**		1100	140	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Bis(2-ethylhexyl) phthalate	ND		1100	360	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
2,4-Dimethylphenol	ND		1100	260	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
7,12-Dimethylbenz(a)anthracene	ND		2100	310	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Chrysene	**1900**		1100	240	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Dibenz(a,h)anthracene	**410**	**J**	1100	190	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Di-n-butyl phthalate	ND		1100	180	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Fluorene	**530**	**J**	1100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Indeno[1,2,3-cd]pyrene	**990**	**J**	1100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Naphthalene	ND		1100	140	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
2-Methylphenol	ND		1100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
3-Methylphenol	ND		2100	160	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-04-SS01-2.5

Lab Sample ID: 480-205282-4
Date Collected: 01/05/23 13:15
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 77.9

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Methylcholanthrene	ND		2100	340	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
4-Methylphenol	ND		2100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Phenanthrene	**1700**		1100	160	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Phenol	ND		1100	160	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Pyrene	**3000**		1100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5
Total Cresols	ND		2100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 16:51	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*68*		*54 - 120*	*01/16/23 15:44*	*01/17/23 16:51*	*5*
2-Fluorobiphenyl (Surr)	*76*		*60 - 120*	*01/16/23 15:44*	*01/17/23 16:51*	*5*
2-Fluorophenol (Surr)	*62*		*52 - 120*	*01/16/23 15:44*	*01/17/23 16:51*	*5*
Phenol-d5 (Surr)	*68*		*54 - 120*	*01/16/23 15:44*	*01/17/23 16:51*	*5*
Nitrobenzene-d5 (Surr)	*71*		*53 - 120*	*01/16/23 15:44*	*01/17/23 16:51*	*5*
p-Terphenyl-d14 (Surr)	*92*		*79 - 130*	*01/16/23 15:44*	*01/17/23 16:51*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**22.1**		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	**77.9**		0.1	0.1	%			01/10/23 15:32	1

Client Sample ID: CTSP-05-SS01-1.0

Lab Sample ID: 480-205282-5
Date Collected: 01/05/23 13:00
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 83.7

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**150**	**J**	990	150	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Anthracene	**590**	**J**	990	240	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Benzo[a]anthracene	**3900**		990	99	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Benzo[a]pyrene	**4300**		990	150	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Benzo[b]fluoranthene	**4800**		990	160	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Benzo[g,h,i]perylene	**2300**		990	100	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Benzo[k]fluoranthene	**2500**		990	130	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Bis(2-ethylhexyl) phthalate	ND		990	340	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
2,4-Dimethylphenol	ND		990	240	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
7,12-Dimethylbenz(a)anthracene	ND		1900	280	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Chrysene	**3400**		990	220	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Dibenz(a,h)anthracene	**750**	**J**	990	170	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Di-n-butyl phthalate	ND		990	170	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Fluorene	**180**	**J**	990	120	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Indeno[1,2,3-cd]pyrene	**2100**		990	120	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Naphthalene	**230**	**J**	990	130	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
2-Methylphenol	ND		990	120	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
3-Methylphenol	ND		1900	150	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
3-Methylcholanthrene	ND		1900	320	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
4-Methylphenol	ND		1900	120	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Phenanthrene	**1200**		990	150	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Phenol	ND		990	150	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Pyrene	**4600**		990	120	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5
Total Cresols	ND		1900	120	ug/Kg	☼	01/16/23 15:44	01/17/23 17:15	5

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-05-SS01-1.0

Lab Sample ID: 480-205282-5
Date Collected: 01/05/23 13:00
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 83.7

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	87		54 - 120	01/16/23 15:44	01/17/23 17:15	5
2-Fluorobiphenyl (Surr)	100		60 - 120	01/16/23 15:44	01/17/23 17:15	5
2-Fluorophenol (Surr)	78		52 - 120	01/16/23 15:44	01/17/23 17:15	5
Phenol-d5 (Surr)	97		54 - 120	01/16/23 15:44	01/17/23 17:15	5
Nitrobenzene-d5 (Surr)	83		53 - 120	01/16/23 15:44	01/17/23 17:15	5
p-Terphenyl-d14 (Surr)	130		79 - 130	01/16/23 15:44	01/17/23 17:15	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	16.3		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	83.7		0.1	0.1	%			01/10/23 15:32	1

Client Sample ID: CTSP-06-SS01-4.5

Lab Sample ID: 480-205282-6
Date Collected: 01/05/23 12:45
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 78.5

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	230	J	1100	160	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Anthracene	320	J	1100	270	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Benzo[a]anthracene	570	J	1100	110	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Benzo[a]pyrene	580	J	1100	160	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Benzo[b]fluoranthene	830	J	1100	170	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Benzo[g,h,i]perylene	330	J	1100	110	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Benzo[k]fluoranthene	300	J	1100	140	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Bis(2-ethylhexyl) phthalate	ND		1100	370	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
2,4-Dimethylphenol	ND		1100	260	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
7,12-Dimethylbenz(a)anthracene	ND		2100	310	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Chrysene	570	J	1100	240	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Dibenz(a,h)anthracene	ND		1100	190	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Di-n-butyl phthalate	ND		1100	180	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Fluorene	260	J	1100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Indeno[1,2,3-cd]pyrene	320	J	1100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Naphthalene	ND		1100	140	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
2-Methylphenol	ND		1100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
3-Methylphenol	ND		2100	160	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
3-Methylcholanthrene	ND		2100	350	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
4-Methylphenol	ND		2100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Phenanthrene	1100		1100	160	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Phenol	ND		1100	160	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Pyrene	850	J	1100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5
Total Cresols	ND		2100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 17:39	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	56		54 - 120	01/16/23 15:44	01/17/23 17:39	5
2-Fluorobiphenyl (Surr)	77		60 - 120	01/16/23 15:44	01/17/23 17:39	5
2-Fluorophenol (Surr)	71		52 - 120	01/16/23 15:44	01/17/23 17:39	5
Phenol-d5 (Surr)	77		54 - 120	01/16/23 15:44	01/17/23 17:39	5
Nitrobenzene-d5 (Surr)	78		53 - 120	01/16/23 15:44	01/17/23 17:39	5
p-Terphenyl-d14 (Surr)	90		79 - 130	01/16/23 15:44	01/17/23 17:39	5

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-06-SS01-4.5

Lab Sample ID: 480-205282-6
Date Collected: 01/05/23 12:45
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 78.5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	21.5		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	78.5		0.1	0.1	%			01/10/23 15:32	1

Client Sample ID: CTSP-07-SS01-5.5

Lab Sample ID: 480-205282-7
Date Collected: 01/05/23 12:05
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 56.3

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	610	J	1500	220	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Anthracene	ND		1500	370	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Benzo[a]anthracene	680	J	1500	150	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Benzo[a]pyrene	850	J	1500	220	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Benzo[b]fluoranthene	880	J *+	1500	240	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Benzo[g,h,i]perylene	630	J	1500	160	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Benzo[k]fluoranthene	400	J	1500	190	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Bis(2-ethylhexyl) phthalate	ND		1500	510	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
2,4-Dimethylphenol	ND		1500	360	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
7,12-Dimethylbenz(a)anthracene	ND		2900	430	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Chrysene	670	J	1500	330	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Dibenz(a,h)anthracene	ND		1500	260	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Di-n-butyl phthalate	ND		1500	260	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Fluorene	370	J	1500	180	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Indeno[1,2,3-cd]pyrene	540	J	1500	180	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Naphthalene	ND		1500	190	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
2-Methylphenol	ND		1500	180	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
3-Methylphenol	ND		2900	230	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
3-Methylcholanthrene	ND		2900	480	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
4-Methylphenol	ND		2900	180	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Phenanthrene	620	J	1500	220	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Phenol	ND		1500	230	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Pyrene	990	J	1500	180	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5
Total Cresols	ND		2900	180	ug/Kg	☼	01/11/23 15:39	01/14/23 04:54	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*54 - 120*	*01/11/23 15:39*	*01/14/23 04:54*	*5*
2-Fluorobiphenyl (Surr)	*71*		*60 - 120*	*01/11/23 15:39*	*01/14/23 04:54*	*5*
2-Fluorophenol (Surr)	*55*		*52 - 120*	*01/11/23 15:39*	*01/14/23 04:54*	*5*
Phenol-d5 (Surr)	*66*		*54 - 120*	*01/11/23 15:39*	*01/14/23 04:54*	*5*
Nitrobenzene-d5 (Surr)	*60*		*53 - 120*	*01/11/23 15:39*	*01/14/23 04:54*	*5*
p-Terphenyl-d14 (Surr)	*104*		*79 - 130*	*01/11/23 15:39*	*01/14/23 04:54*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	43.7		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	56.3		0.1	0.1	%			01/10/23 15:32	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-08-SS01-1.5

Lab Sample ID: 480-205282-8
Date Collected: 01/05/23 11:50
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 83.2

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1600**		1000	150	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Anthracene	**1200**		1000	250	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Benzo[a]anthracene	**830**	**J**	1000	100	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Benzo[a]pyrene	**620**	**J**	1000	150	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Benzo[b]fluoranthene	**920**	**J *+**	1000	160	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Benzo[g,h,i]perylene	**430**	**J**	1000	110	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Benzo[k]fluoranthene	**410**	**J**	1000	130	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Bis(2-ethylhexyl) phthalate	ND		1000	340	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
2,4-Dimethylphenol	ND		1000	240	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
7,12-Dimethylbenz(a)anthracene	ND		1900	290	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Chrysene	**840**	**J**	1000	220	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Dibenz(a,h)anthracene	ND		1000	180	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Di-n-butyl phthalate	ND		1000	170	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Fluorene	**3200**		1000	120	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Indeno[1,2,3-cd]pyrene	**400**	**J**	1000	120	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Naphthalene	ND		1000	130	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
2-Methylphenol	ND		1000	120	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
3-Methylphenol	ND		1900	150	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
3-Methylcholanthrene	ND		1900	320	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
4-Methylphenol	ND		1900	120	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Phenanthrene	**7100**		1000	150	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Phenol	ND		1000	150	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Pyrene	**1600**		1000	120	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5
Total Cresols	ND		1900	120	ug/Kg	☼	01/11/23 15:39	01/14/23 05:18	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*54 - 120*	*01/11/23 15:39*	*01/14/23 05:18*	*5*
2-Fluorobiphenyl (Surr)	*87*		*60 - 120*	*01/11/23 15:39*	*01/14/23 05:18*	*5*
2-Fluorophenol (Surr)	*33*	*S1-*	*52 - 120*	*01/11/23 15:39*	*01/14/23 05:18*	*5*
Phenol-d5 (Surr)	*57*		*54 - 120*	*01/11/23 15:39*	*01/14/23 05:18*	*5*
Nitrobenzene-d5 (Surr)	*121*	*S1+*	*53 - 120*	*01/11/23 15:39*	*01/14/23 05:18*	*5*
p-Terphenyl-d14 (Surr)	*105*		*79 - 130*	*01/11/23 15:39*	*01/14/23 05:18*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**16.8**		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	**83.2**		0.1	0.1	%			01/10/23 15:32	1

Client Sample ID: CTSP-09-SS01-1.5

Lab Sample ID: 480-205282-9
Date Collected: 01/05/23 10:50
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 82.2

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		20000	3000	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Anthracene	ND		20000	5000	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Benzo[a]anthracene	**2100**	**J**	20000	2000	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Benzo[a]pyrene	ND		20000	3000	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Benzo[b]fluoranthene	ND		20000	3200	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Benzo[g,h,i]perylene	ND		20000	2100	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-09-SS01-1.5

Lab Sample ID: 480-205282-9
Date Collected: 01/05/23 10:50
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 82.2

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		20000	2600	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Bis(2-ethylhexyl) phthalate	ND		20000	6900	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
2,4-Dimethylphenol	ND		20000	4900	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
7,12-Dimethylbenz(a)anthracene	ND		39000	5800	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Chrysene	ND		20000	4500	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Dibenz(a,h)anthracene	ND		20000	3600	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Di-n-butyl phthalate	ND		20000	3400	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Fluorene	ND		20000	2400	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Indeno[1,2,3-cd]pyrene	ND		20000	2500	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Naphthalene	ND		20000	2600	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
2-Methylphenol	ND		20000	2400	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
3-Methylphenol	ND		39000	3100	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
3-Methylcholanthrene	ND		39000	6500	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
4-Methylphenol	ND		39000	2400	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Phenanthrene	ND		20000	3000	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Phenol	ND		20000	3100	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Pyrene	**3600**	**J**	20000	2400	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10
Total Cresols	ND		39000	2400	ug/Kg	☼	01/16/23 15:44	01/17/23 18:04	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*0*	*S1-*	*54 - 120*	*01/16/23 15:44*	*01/17/23 18:04*	*10*
2-Fluorobiphenyl (Surr)	*96*		*60 - 120*	*01/16/23 15:44*	*01/17/23 18:04*	*10*
2-Fluorophenol (Surr)	*133*	*S1+*	*52 - 120*	*01/16/23 15:44*	*01/17/23 18:04*	*10*
Phenol-d5 (Surr)	*165*	*S1+*	*54 - 120*	*01/16/23 15:44*	*01/17/23 18:04*	*10*
Nitrobenzene-d5 (Surr)	*150*	*S1+*	*53 - 120*	*01/16/23 15:44*	*01/17/23 18:04*	*10*
p-Terphenyl-d14 (Surr)	*196*	*S1+*	*79 - 130*	*01/16/23 15:44*	*01/17/23 18:04*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**17.8**		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	**82.2**		0.1	0.1	%			01/10/23 15:32	1

Client Sample ID: CTSP-10-SS01-2.0

Lab Sample ID: 480-205282-10
Date Collected: 01/05/23 10:15
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 81.0

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8200	1200	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Anthracene	ND		8200	2000	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Benzo[a]anthracene	**2100**	**J**	8200	820	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Benzo[a]pyrene	**1900**	**J**	8200	1200	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Benzo[b]fluoranthene	**2200**	**J *+**	8200	1300	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Benzo[g,h,i]perylene	**910**	**J**	8200	870	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Benzo[k]fluoranthene	**1100**	**J**	8200	1100	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Bis(2-ethylhexyl) phthalate	ND		8200	2800	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
2,4-Dimethylphenol	ND		8200	2000	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
7,12-Dimethylbenz(a)anthracene	ND		16000	2400	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Chrysene	**1900**	**J**	8200	1800	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Dibenz(a,h)anthracene	ND		8200	1500	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-10-SS01-2.0

Lab Sample ID: 480-205282-10
Date Collected: 01/05/23 10:15
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 81.0

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		8200	1400	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Fluorene	ND		8200	970	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Indeno[1,2,3-cd]pyrene	**1100**	**J**	8200	1000	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Naphthalene	ND		8200	1100	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
2-Methylphenol	ND		8200	970	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
3-Methylphenol	ND		16000	1300	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
3-Methylcholanthrene	ND		16000	2700	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
4-Methylphenol	ND		16000	970	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Phenanthrene	**2400**	**J**	8200	1200	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Phenol	ND		8200	1300	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Pyrene	**3000**	**J**	8200	970	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20
Total Cresols	ND		16000	970	ug/Kg	☼	01/11/23 15:39	01/14/23 06:06	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*97*		*54 - 120*	*01/11/23 15:39*	*01/14/23 06:06*	*20*
2-Fluorobiphenyl (Surr)	*80*		*60 - 120*	*01/11/23 15:39*	*01/14/23 06:06*	*20*
2-Fluorophenol (Surr)	*72*		*52 - 120*	*01/11/23 15:39*	*01/14/23 06:06*	*20*
Phenol-d5 (Surr)	*85*		*54 - 120*	*01/11/23 15:39*	*01/14/23 06:06*	*20*
Nitrobenzene-d5 (Surr)	*87*		*53 - 120*	*01/11/23 15:39*	*01/14/23 06:06*	*20*
p-Terphenyl-d14 (Surr)	*123*		*79 - 130*	*01/11/23 15:39*	*01/14/23 06:06*	*20*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**19.0**		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	**81.0**		0.1	0.1	%			01/10/23 15:32	1

Client Sample ID: CTSP-11-SS01-3.0

Lab Sample ID: 480-205282-11
Date Collected: 01/05/23 14:20
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 65.6

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**310**		250	37	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Anthracene	**700**		250	63	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Benzo[a]anthracene	**780**		250	25	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Benzo[a]pyrene	**800**		250	37	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Benzo[b]fluoranthene	**920**		250	40	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Benzo[g,h,i]perylene	**520**		250	27	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Benzo[k]fluoranthene	**390**		250	33	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Bis(2-ethylhexyl) phthalate	ND		250	87	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
2,4-Dimethylphenol	ND		250	61	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
7,12-Dimethylbenz(a)anthracene	ND		490	73	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Chrysene	**730**		250	57	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Dibenz(a,h)anthracene	**150**	**J**	250	45	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Di-n-butyl phthalate	ND		250	43	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Fluorene	**480**		250	30	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Indeno[1,2,3-cd]pyrene	**460**		250	31	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Naphthalene	ND		250	33	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
2-Methylphenol	ND		250	30	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
3-Methylphenol	ND		490	39	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-11-SS01-3.0

Lab Sample ID: 480-205282-11
Date Collected: 01/05/23 14:20
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 65.6

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Methylcholanthrene	ND		490	82	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
4-Methylphenol	ND		490	30	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Phenanthrene	**1000**		250	37	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Phenol	ND		250	39	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Pyrene	**1600**		250	30	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1
Total Cresols	ND		490	30	ug/Kg	☼	01/16/23 15:44	01/17/23 18:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*88*		*54 - 120*	*01/16/23 15:44*	*01/17/23 18:28*	*1*
2-Fluorobiphenyl (Surr)	*88*		*60 - 120*	*01/16/23 15:44*	*01/17/23 18:28*	*1*
2-Fluorophenol (Surr)	*79*		*52 - 120*	*01/16/23 15:44*	*01/17/23 18:28*	*1*
Phenol-d5 (Surr)	*83*		*54 - 120*	*01/16/23 15:44*	*01/17/23 18:28*	*1*
Nitrobenzene-d5 (Surr)	*85*		*53 - 120*	*01/16/23 15:44*	*01/17/23 18:28*	*1*
p-Terphenyl-d14 (Surr)	*111*		*79 - 130*	*01/16/23 15:44*	*01/17/23 18:28*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**34.4**		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	**65.6**		0.1	0.1	%			01/10/23 15:32	1

Client Sample ID: CTSP-12-SS01-5.0

Lab Sample ID: 480-205282-12
Date Collected: 01/05/23 13:45
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 82.9

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	150	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Anthracene	ND		1000	250	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Benzo[a]anthracene	**700**	**J**	1000	100	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Benzo[a]pyrene	**810**	**J**	1000	150	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Benzo[b]fluoranthene	**890**	**J *+**	1000	160	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Benzo[g,h,i]perylene	**460**	**J**	1000	110	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Benzo[k]fluoranthene	**420**	**J**	1000	130	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Bis(2-ethylhexyl) phthalate	ND		1000	340	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
2,4-Dimethylphenol	ND		1000	240	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
7,12-Dimethylbenz(a)anthracene	ND		1900	290	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Chrysene	**630**	**J**	1000	220	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Dibenz(a,h)anthracene	ND		1000	180	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Di-n-butyl phthalate	ND		1000	170	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Fluorene	ND		1000	120	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Indeno[1,2,3-cd]pyrene	**430**	**J**	1000	120	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Naphthalene	ND		1000	130	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
2-Methylphenol	ND		1000	120	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
3-Methylphenol	ND		1900	150	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
3-Methylcholanthrene	ND		1900	320	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
4-Methylphenol	ND		1900	120	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Phenanthrene	**220**	**J**	1000	150	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Phenol	ND		1000	150	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Pyrene	**850**	**J**	1000	120	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5
Total Cresols	ND		1900	120	ug/Kg	☼	01/11/23 15:39	01/14/23 06:54	5

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-12-SS01-5.0

Lab Sample ID: 480-205282-12
Date Collected: 01/05/23 13:45
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 82.9

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	79		54 - 120	01/11/23 15:39	01/14/23 06:54	5
2-Fluorobiphenyl (Surr)	83		60 - 120	01/11/23 15:39	01/14/23 06:54	5
2-Fluorophenol (Surr)	75		52 - 120	01/11/23 15:39	01/14/23 06:54	5
Phenol-d5 (Surr)	83		54 - 120	01/11/23 15:39	01/14/23 06:54	5
Nitrobenzene-d5 (Surr)	77		53 - 120	01/11/23 15:39	01/14/23 06:54	5
p-Terphenyl-d14 (Surr)	105		79 - 130	01/11/23 15:39	01/14/23 06:54	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	17.1		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	82.9		0.1	0.1	%			01/10/23 15:32	1

Client Sample ID: CTSP-13-SS01-2.5

Lab Sample ID: 480-205282-13
Date Collected: 01/05/23 11:30
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 77.8

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	160	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Anthracene	310	J	1100	270	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Benzo[a]anthracene	980	J	1100	110	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Benzo[a]pyrene	1100		1100	160	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Benzo[b]fluoranthene	1400		1100	170	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Benzo[g,h,i]perylene	620	J	1100	110	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Benzo[k]fluoranthene	560	J	1100	140	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Bis(2-ethylhexyl) phthalate	ND		1100	370	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
2,4-Dimethylphenol	ND		1100	260	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
7,12-Dimethylbenz(a)anthracene	ND		2100	310	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Chrysene	1000	J	1100	240	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Dibenz(a,h)anthracene	210	J	1100	190	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Di-n-butyl phthalate	ND		1100	190	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Fluorene	210	J	1100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Indeno[1,2,3-cd]pyrene	580	J	1100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Naphthalene	ND		1100	140	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
2-Methylphenol	ND		1100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
3-Methylphenol	ND		2100	170	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
3-Methylcholanthrene	ND		2100	350	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
4-Methylphenol	ND		2100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Phenanthrene	1500		1100	160	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Phenol	ND		1100	170	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Pyrene	1700		1100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5
Total Cresols	ND		2100	130	ug/Kg	☼	01/16/23 15:44	01/17/23 18:52	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	65		54 - 120	01/16/23 15:44	01/17/23 18:52	5
2-Fluorobiphenyl (Surr)	77		60 - 120	01/16/23 15:44	01/17/23 18:52	5
2-Fluorophenol (Surr)	63		52 - 120	01/16/23 15:44	01/17/23 18:52	5
Phenol-d5 (Surr)	76		54 - 120	01/16/23 15:44	01/17/23 18:52	5
Nitrobenzene-d5 (Surr)	68		53 - 120	01/16/23 15:44	01/17/23 18:52	5
p-Terphenyl-d14 (Surr)	100		79 - 130	01/16/23 15:44	01/17/23 18:52	5

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-13-SS01-2.5

Lab Sample ID: 480-205282-13
Date Collected: 01/05/23 11:30
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 77.8

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	22.2		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	77.8		0.1	0.1	%			01/10/23 15:32	1

Client Sample ID: CTSP-14-SS01-2.0

Lab Sample ID: 480-205282-14
Date Collected: 01/05/23 11:05
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 83.2

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		990	150	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Anthracene	340	J	990	250	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Benzo[a]anthracene	1900		990	99	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Benzo[a]pyrene	2300		990	150	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Benzo[b]fluoranthene	2700		990	160	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Benzo[g,h,i]perylene	1300		990	110	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Benzo[k]fluoranthene	1200		990	130	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Bis(2-ethylhexyl) phthalate	ND		990	340	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
2,4-Dimethylphenol	ND		990	240	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
7,12-Dimethylbenz(a)anthracene	ND		1900	290	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Chrysene	1800		990	220	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Dibenz(a,h)anthracene	470	J	990	180	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Di-n-butyl phthalate	ND		990	170	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Fluorene	ND		990	120	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Indeno[1,2,3-cd]pyrene	1300		990	120	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Naphthalene	ND		990	130	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
2-Methylphenol	ND		990	120	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
3-Methylphenol	ND		1900	150	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
3-Methylcholanthrene	ND		1900	320	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
4-Methylphenol	ND		1900	120	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Phenanthrene	460	J	990	150	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Phenol	ND		990	150	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Pyrene	1900		990	120	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5
Total Cresols	ND		1900	120	ug/Kg	☼	01/16/23 15:44	01/17/23 19:16	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*64*		*54 - 120*	*01/16/23 15:44*	*01/17/23 19:16*	*5*
2-Fluorobiphenyl (Surr)	*80*		*60 - 120*	*01/16/23 15:44*	*01/17/23 19:16*	*5*
2-Fluorophenol (Surr)	*64*		*52 - 120*	*01/16/23 15:44*	*01/17/23 19:16*	*5*
Phenol-d5 (Surr)	*73*		*54 - 120*	*01/16/23 15:44*	*01/17/23 19:16*	*5*
Nitrobenzene-d5 (Surr)	*67*		*53 - 120*	*01/16/23 15:44*	*01/17/23 19:16*	*5*
p-Terphenyl-d14 (Surr)	*100*		*79 - 130*	*01/16/23 15:44*	*01/17/23 19:16*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	16.8		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	83.2		0.1	0.1	%			01/10/23 15:32	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-15-SS01-2.0

Lab Sample ID: 480-205282-15
Date Collected: 01/05/23 10:30
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 83.3

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		2000	290	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Anthracene	ND		2000	490	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Benzo[a]anthracene	**240**	**J**	2000	200	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Benzo[a]pyrene	ND		2000	290	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Benzo[b]fluoranthene	**340**	**J *+**	2000	320	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Benzo[g,h,i]perylene	ND		2000	210	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Benzo[k]fluoranthene	ND		2000	260	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Bis(2-ethylhexyl) phthalate	ND		2000	680	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
2,4-Dimethylphenol	ND		2000	480	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
7,12-Dimethylbenz(a)anthracene	ND		3900	580	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Chrysene	ND		2000	450	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Dibenz(a,h)anthracene	ND		2000	350	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Di-n-butyl phthalate	ND		2000	340	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Fluorene	ND		2000	240	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Indeno[1,2,3-cd]pyrene	ND		2000	250	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Naphthalene	ND		2000	260	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
2-Methylphenol	ND		2000	240	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
3-Methylphenol	ND		3900	310	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
3-Methylcholanthrene	ND		3900	650	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
4-Methylphenol	ND		3900	240	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Phenanthrene	ND		2000	290	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Phenol	ND		2000	310	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Pyrene	**410**	**J**	2000	240	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10
Total Cresols	ND		3900	240	ug/Kg	☼	01/11/23 15:39	01/14/23 08:06	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*58*		*54 - 120*	*01/11/23 15:39*	*01/14/23 08:06*	*10*
2-Fluorobiphenyl (Surr)	*72*		*60 - 120*	*01/11/23 15:39*	*01/14/23 08:06*	*10*
2-Fluorophenol (Surr)	*56*		*52 - 120*	*01/11/23 15:39*	*01/14/23 08:06*	*10*
Phenol-d5 (Surr)	*70*		*54 - 120*	*01/11/23 15:39*	*01/14/23 08:06*	*10*
Nitrobenzene-d5 (Surr)	*70*		*53 - 120*	*01/11/23 15:39*	*01/14/23 08:06*	*10*
p-Terphenyl-d14 (Surr)	*94*		*79 - 130*	*01/11/23 15:39*	*01/14/23 08:06*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**16.7**		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	**83.3**		0.1	0.1	%			01/10/23 15:32	1

Client Sample ID: CTSP-16-SS01-4.0

Lab Sample ID: 480-205282-16
Date Collected: 01/05/23 09:55
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 74.2

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	160	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Anthracene	ND		1100	280	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Benzo[a]anthracene	**690**	**J**	1100	110	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Benzo[a]pyrene	**700**	**J**	1100	160	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Benzo[b]fluoranthene	**800**	**J *+**	1100	180	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Benzo[g,h,i]perylene	**350**	**J**	1100	120	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-16-SS01-4.0

Lab Sample ID: 480-205282-16
Date Collected: 01/05/23 09:55
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 74.2

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	**430**	**J**	1100	140	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Bis(2-ethylhexyl) phthalate	ND		1100	380	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
2,4-Dimethylphenol	ND		1100	270	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
7,12-Dimethylbenz(a)anthracene	ND		2200	320	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Chrysene	**720**	**J**	1100	250	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Dibenz(a,h)anthracene	ND		1100	200	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Di-n-butyl phthalate	ND		1100	190	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Fluorene	**150**	**J**	1100	130	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Indeno[1,2,3-cd]pyrene	**350**	**J**	1100	140	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Naphthalene	ND		1100	140	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
2-Methylphenol	ND		1100	130	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
3-Methylphenol	ND		2200	170	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
3-Methylcholanthrene	ND		2200	360	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
4-Methylphenol	ND		2200	130	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Phenanthrene	**1000**	**J**	1100	160	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Phenol	ND		1100	170	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Pyrene	**1300**		1100	130	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5
Total Cresols	ND		2200	130	ug/Kg	☼	01/11/23 15:39	01/14/23 08:30	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*67*		*54 - 120*	*01/11/23 15:39*	*01/14/23 08:30*	*5*
2-Fluorobiphenyl (Surr)	*89*		*60 - 120*	*01/11/23 15:39*	*01/14/23 08:30*	*5*
2-Fluorophenol (Surr)	*79*		*52 - 120*	*01/11/23 15:39*	*01/14/23 08:30*	*5*
Phenol-d5 (Surr)	*84*		*54 - 120*	*01/11/23 15:39*	*01/14/23 08:30*	*5*
Nitrobenzene-d5 (Surr)	*79*		*53 - 120*	*01/11/23 15:39*	*01/14/23 08:30*	*5*
p-Terphenyl-d14 (Surr)	*109*		*79 - 130*	*01/11/23 15:39*	*01/14/23 08:30*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**25.8**		0.1	0.1	%			01/10/23 15:32	1
Percent Solids (EPA Moisture)	**74.2**		0.1	0.1	%			01/10/23 15:32	1

Client Sample ID: FB-20230105

Lab Sample ID: 480-205282-17
Date Collected: 01/05/23 14:30
Matrix: Water
Date Received: 01/10/23 10:00

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		5.2	0.52	ug/L		01/11/23 15:07	01/13/23 00:54	1
2-Methylphenol	ND		5.2	0.42	ug/L		01/11/23 15:07	01/13/23 00:54	1
3-Methylcholanthrene	ND		10	2.6	ug/L		01/11/23 15:07	01/13/23 00:54	1
3-Methylphenol	ND		10	0.42	ug/L		01/11/23 15:07	01/13/23 00:54	1
4-Methylphenol	ND		10	0.38	ug/L		01/11/23 15:07	01/13/23 00:54	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.65	ug/L		01/11/23 15:07	01/13/23 00:54	1
Acenaphthene	ND		5.2	0.43	ug/L		01/11/23 15:07	01/13/23 00:54	1
Anthracene	ND		5.2	0.29	ug/L		01/11/23 15:07	01/13/23 00:54	1
Benzo[a]anthracene	ND		5.2	0.38	ug/L		01/11/23 15:07	01/13/23 00:54	1
Benzo[a]pyrene	ND		5.2	0.49	ug/L		01/11/23 15:07	01/13/23 00:54	1
Benzo[b]fluoranthene	ND		5.2	0.35	ug/L		01/11/23 15:07	01/13/23 00:54	1
Benzo[g,h,i]perylene	ND		5.2	0.36	ug/L		01/11/23 15:07	01/13/23 00:54	1

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: FB-20230105

Date Collected: 01/05/23 14:30
Date Received: 01/10/23 10:00

Lab Sample ID: 480-205282-17

Matrix: Water

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		5.2	0.76	ug/L		01/11/23 15:07	01/13/23 00:54	1
Bis(2-ethylhexyl) phthalate	ND		5.2	2.3	ug/L		01/11/23 15:07	01/13/23 00:54	1
Chrysene	ND		5.2	0.34	ug/L		01/11/23 15:07	01/13/23 00:54	1
Dibenz(a,h)anthracene	ND		5.2	0.44	ug/L		01/11/23 15:07	01/13/23 00:54	1
Di-n-butyl phthalate	ND		5.2	0.32	ug/L		01/11/23 15:07	01/13/23 00:54	1
Fluorene	ND		5.2	0.38	ug/L		01/11/23 15:07	01/13/23 00:54	1
Indeno[1,2,3-cd]pyrene	ND		5.2	0.49	ug/L		01/11/23 15:07	01/13/23 00:54	1
Naphthalene	ND		5.2	0.79	ug/L		01/11/23 15:07	01/13/23 00:54	1
Phenanthrene	ND		5.2	0.46	ug/L		01/11/23 15:07	01/13/23 00:54	1
Phenol	ND		5.2	0.41	ug/L		01/11/23 15:07	01/13/23 00:54	1
Pyrene	ND		5.2	0.35	ug/L		01/11/23 15:07	01/13/23 00:54	1
Total Cresols	ND		21	0.42	ug/L		01/11/23 15:07	01/13/23 00:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*89*		*46 - 120*	*01/11/23 15:07*	*01/13/23 00:54*	*1*
p-Terphenyl-d14 (Surr)	*110*		*60 - 148*	*01/11/23 15:07*	*01/13/23 00:54*	*1*
Phenol-d5 (Surr)	*57*		*22 - 120*	*01/11/23 15:07*	*01/13/23 00:54*	*1*
2-Fluorophenol (Surr)	*72*		*35 - 120*	*01/11/23 15:07*	*01/13/23 00:54*	*1*
2,4,6-Tribromophenol (Surr)	*101*		*41 - 120*	*01/11/23 15:07*	*01/13/23 00:54*	*1*
2-Fluorobiphenyl (Surr)	*103*		*48 - 120*	*01/11/23 15:07*	*01/13/23 00:54*	*1*

Surrogate Summary

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	PHL	NBZ	TPHd14
Lab Sample ID	Client Sample ID	(54-120)	(60-120)	(52-120)	(54-120)	(53-120)	(79-130)
480-205282-1	CTSP-01-SS01-3.5	99	92	87	96	97	108
480-205282-2	CTSP-02-SS01-4.0	76	85	71	77	81	102
480-205282-3	CTSP-03-SS01-2.0	86	91	71	80	116	110
480-205282-4	CTSP-04-SS01-2.5	68	76	62	68	71	92
480-205282-5	CTSP-05-SS01-1.0	87	100	78	97	83	130
480-205282-6	CTSP-06-SS01-4.5	56	77	71	77	78	90
480-205282-7	CTSP-07-SS01-5.5	76	71	55	66	60	104
480-205282-8	CTSP-08-SS01-1.5	85	87	33 S1-	57	121 S1+	105
480-205282-9	CTSP-09-SS01-1.5	0 S1-	96	133 S1+	165 S1+	150 S1+	196 S1+
480-205282-10	CTSP-10-SS01-2.0	97	80	72	85	87	123
480-205282-11	CTSP-11-SS01-3.0	88	88	79	83	85	111
480-205282-12	CTSP-12-SS01-5.0	79	83	75	83	77	105
480-205282-13	CTSP-13-SS01-2.5	65	77	63	76	68	100
480-205282-14	CTSP-14-SS01-2.0	64	80	64	73	67	100
480-205282-15	CTSP-15-SS01-2.0	58	72	56	70	70	94
480-205282-16	CTSP-16-SS01-4.0	67	89	79	84	79	109
LCS 480-655711/2-A	Lab Control Sample	114	102	90	101	94	126
LCS 480-656122/2-A	Lab Control Sample	106	103	88	99	94	124
MB 480-655711/1-A	Method Blank	77	86	75	83	78	103
MB 480-656122/1-A	Method Blank	82	101	87	97	92	131 S1+

Surrogate Legend

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

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		NBZ	TPHd14	PHL	2FP	TBP	FBP
Lab Sample ID	Client Sample ID	(46-120)	(60-148)	(22-120)	(35-120)	(41-120)	(48-120)
480-205282-17	FB-20230105	89	110	57	72	101	103
LCS 480-655704/2-A	Lab Control Sample	81	113	53	62	125 S1+	88
LCSD 480-655704/3-A	Lab Control Sample Dup	79	104	54	65	116	80
MB 480-655704/1-A	Method Blank	64	94	38	49	78	66

Surrogate Legend

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

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

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

Lab Sample ID: MB 480-655704/1-A
Matrix: Water
Analysis Batch: 655780

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 655704

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5.0	0.41	ug/L		01/11/23 15:07	01/12/23 17:26	1
Anthracene	ND		5.0	0.28	ug/L		01/11/23 15:07	01/12/23 17:26	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		01/11/23 15:07	01/12/23 17:26	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		01/11/23 15:07	01/12/23 17:26	1
7,12-Dimethylbenz(a)anthracene	ND		10	0.62	ug/L		01/11/23 15:07	01/12/23 17:26	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		01/11/23 15:07	01/12/23 17:26	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		01/11/23 15:07	01/12/23 17:26	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		01/11/23 15:07	01/12/23 17:26	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		01/11/23 15:07	01/12/23 17:26	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		01/11/23 15:07	01/12/23 17:26	1
Chrysene	ND		5.0	0.33	ug/L		01/11/23 15:07	01/12/23 17:26	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		01/11/23 15:07	01/12/23 17:26	1
2-Methylphenol	ND		5.0	0.40	ug/L		01/11/23 15:07	01/12/23 17:26	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		01/11/23 15:07	01/12/23 17:26	1
3-Methylphenol	ND		10	0.40	ug/L		01/11/23 15:07	01/12/23 17:26	1
Fluorene	ND		5.0	0.36	ug/L		01/11/23 15:07	01/12/23 17:26	1
3-Methylcholanthrene	ND		10	2.5	ug/L		01/11/23 15:07	01/12/23 17:26	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		01/11/23 15:07	01/12/23 17:26	1
4-Methylphenol	ND		10	0.36	ug/L		01/11/23 15:07	01/12/23 17:26	1
Naphthalene	ND		5.0	0.76	ug/L		01/11/23 15:07	01/12/23 17:26	1
Phenanthrene	ND		5.0	0.44	ug/L		01/11/23 15:07	01/12/23 17:26	1
Phenol	ND		5.0	0.39	ug/L		01/11/23 15:07	01/12/23 17:26	1
Pyrene	ND		5.0	0.34	ug/L		01/11/23 15:07	01/12/23 17:26	1
Total Cresols	ND		20	0.40	ug/L		01/11/23 15:07	01/12/23 17:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*49*		*35 - 120*	*01/11/23 15:07*	*01/12/23 17:26*	*1*
Phenol-d5 (Surr)	*38*		*22 - 120*	*01/11/23 15:07*	*01/12/23 17:26*	*1*
2,4,6-Tribromophenol (Surr)	*78*		*41 - 120*	*01/11/23 15:07*	*01/12/23 17:26*	*1*
Nitrobenzene-d5 (Surr)	*64*		*46 - 120*	*01/11/23 15:07*	*01/12/23 17:26*	*1*
p-Terphenyl-d14 (Surr)	*94*		*60 - 148*	*01/11/23 15:07*	*01/12/23 17:26*	*1*
2-Fluorobiphenyl (Surr)	*66*		*48 - 120*	*01/11/23 15:07*	*01/12/23 17:26*	*1*

Lab Sample ID: LCS 480-655704/2-A
Matrix: Water
Analysis Batch: 655780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 655704

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	32.0	26.3		ug/L		82	60 - 120
Anthracene	32.0	33.5		ug/L		105	67 - 120
2,4-Dimethylphenol	32.0	28.3		ug/L		89	47 - 120
Benzo[a]anthracene	32.0	33.8		ug/L		105	70 - 121
Benzo[a]pyrene	32.0	34.3		ug/L		107	60 - 123
Benzo[b]fluoranthene	32.0	35.1		ug/L		110	66 - 126
Benzo[g,h,i]perylene	32.0	34.1		ug/L		107	66 - 150
Benzo[k]fluoranthene	32.0	35.0		ug/L		109	65 - 124
Bis(2-ethylhexyl) phthalate	32.0	33.0		ug/L		103	63 - 139
Chrysene	32.0	33.0		ug/L		103	69 - 120

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

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

Lab Sample ID: LCS 480-655704/2-A
Matrix: Water
Analysis Batch: 655780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 655704

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dibenz(a,h)anthracene	32.0	35.3		ug/L		110	65 - 135
2-Methylphenol	32.0	26.6		ug/L		83	39 - 120
Di-n-butyl phthalate	32.0	35.3		ug/L		110	69 - 131
3-Methylphenol	32.0	27.4		ug/L		86	39 - 120
Fluorene	32.0	29.3		ug/L		92	66 - 120
Indeno[1,2,3-cd]pyrene	32.0	35.9		ug/L		112	69 - 146
4-Methylphenol	32.0	27.4		ug/L		86	29 - 131
Naphthalene	32.0	21.8		ug/L		68	57 - 120
Phenanthrene	32.0	32.5		ug/L		101	68 - 120
Phenol	32.0	18.2		ug/L		57	17 - 120
Pyrene	32.0	33.0		ug/L		103	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*62*		*35 - 120*
Phenol-d5 (Surr)	*53*		*22 - 120*
2,4,6-Tribromophenol (Surr)	*125*	*S1+*	*41 - 120*
Nitrobenzene-d5 (Surr)	*81*		*46 - 120*
p-Terphenyl-d14 (Surr)	*113*		*60 - 148*
2-Fluorobiphenyl (Surr)	*88*		*48 - 120*

Lab Sample ID: LCSD 480-655704/3-A
Matrix: Water
Analysis Batch: 655780

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 655704

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acenaphthene	32.0	26.4		ug/L		83	60 - 120	0	24
Anthracene	32.0	30.2		ug/L		94	67 - 120	10	15
2,4-Dimethylphenol	32.0	26.7		ug/L		83	47 - 120	6	42
Benzo[a]anthracene	32.0	31.2		ug/L		98	70 - 121	8	15
Benzo[a]pyrene	32.0	32.1		ug/L		100	60 - 123	7	15
Benzo[b]fluoranthene	32.0	33.2		ug/L		104	66 - 126	5	15
Benzo[g,h,i]perylene	32.0	32.0		ug/L		100	66 - 150	6	15
Benzo[k]fluoranthene	32.0	32.1		ug/L		100	65 - 124	9	22
Bis(2-ethylhexyl) phthalate	32.0	31.1		ug/L		97	63 - 139	6	15
Chrysene	32.0	30.4		ug/L		95	69 - 120	8	15
Dibenz(a,h)anthracene	32.0	32.9		ug/L		103	65 - 135	7	15
2-Methylphenol	32.0	27.2		ug/L		85	39 - 120	2	27
Di-n-butyl phthalate	32.0	33.2		ug/L		104	69 - 131	6	15
3-Methylphenol	32.0	27.9		ug/L		87	39 - 120	2	30
Fluorene	32.0	27.7		ug/L		87	66 - 120	6	15
Indeno[1,2,3-cd]pyrene	32.0	34.0		ug/L		106	69 - 146	5	15
4-Methylphenol	32.0	27.9		ug/L		87	29 - 131	2	24
Naphthalene	32.0	22.4		ug/L		70	57 - 120	3	29
Phenanthrene	32.0	29.8		ug/L		93	68 - 120	9	15
Phenol	32.0	18.8		ug/L		59	17 - 120	3	34
Pyrene	32.0	30.5		ug/L		95	70 - 125	8	19

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

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

Lab Sample ID: LCSD 480-655704/3-A
Matrix: Water
Analysis Batch: 655780

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 655704

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorophenol (Surr)	65		35 - 120
Phenol-d5 (Surr)	54		22 - 120
2,4,6-Tribromophenol (Surr)	116		41 - 120
Nitrobenzene-d5 (Surr)	79		46 - 120
p-Terphenyl-d14 (Surr)	104		60 - 148
2-Fluorobiphenyl (Surr)	80		48 - 120

Lab Sample ID: MB 480-655711/1-A
Matrix: Solid
Analysis Batch: 655925

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 655711

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		170	24	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Anthracene	ND		170	41	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
2,4-Dimethylphenol	ND		170	40	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Benzo[a]anthracene	ND		170	17	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
7,12-Dimethylbenz(a)anthracene	ND		320	48	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Benzo[a]pyrene	ND		170	24	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Benzo[b]fluoranthene	ND		170	26	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Benzo[k]fluoranthene	ND		170	21	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Bis(2-ethylhexyl) phthalate	ND		170	57	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Chrysene	ND		170	37	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Dibenz(a,h)anthracene	ND		170	29	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
2-Methylphenol	ND		170	20	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Di-n-butyl phthalate	ND		170	28	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
3-Methylphenol	ND		320	25	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Fluorene	ND		170	20	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
3-Methylcholanthrene	ND		320	54	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Indeno[1,2,3-cd]pyrene	ND		170	21	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
4-Methylphenol	ND		320	20	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Naphthalene	ND		170	21	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Phenanthrene	ND		170	24	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Phenol	ND		170	25	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Pyrene	ND		170	20	ug/Kg		01/11/23 15:39	01/14/23 00:51	1
Total Cresols	ND		320	20	ug/Kg		01/11/23 15:39	01/14/23 00:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	75		52 - 120	01/11/23 15:39	01/14/23 00:51	1
Phenol-d5 (Surr)	83		54 - 120	01/11/23 15:39	01/14/23 00:51	1
2,4,6-Tribromophenol (Surr)	77		54 - 120	01/11/23 15:39	01/14/23 00:51	1
Nitrobenzene-d5 (Surr)	78		53 - 120	01/11/23 15:39	01/14/23 00:51	1
p-Terphenyl-d14 (Surr)	103		79 - 130	01/11/23 15:39	01/14/23 00:51	1
2-Fluorobiphenyl (Surr)	86		60 - 120	01/11/23 15:39	01/14/23 00:51	1

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

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

Lab Sample ID: LCS 480-655711/2-A
Matrix: Solid
Analysis Batch: 655925

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 655711

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1630	1650		ug/Kg		101	62 - 120
Anthracene	1630	1750		ug/Kg		107	62 - 120
2,4-Dimethylphenol	1630	1630		ug/Kg		100	59 - 120
Benzo[a]anthracene	1630	1760		ug/Kg		108	65 - 120
Benzo[a]pyrene	1630	1770		ug/Kg		109	64 - 120
Benzo[b]fluoranthene	1630	2090	*+	ug/Kg		128	64 - 120
Benzo[g,h,i]perylene	1630	1780		ug/Kg		109	45 - 145
Benzo[k]fluoranthene	1630	1680		ug/Kg		103	65 - 120
Bis(2-ethylhexyl) phthalate	1630	2020		ug/Kg		124	61 - 133
Chrysene	1630	1620		ug/Kg		99	64 - 120
Dibenz(a,h)anthracene	1630	1760		ug/Kg		108	54 - 132
2-Methylphenol	1630	1630		ug/Kg		100	54 - 120
Di-n-butyl phthalate	1630	1870		ug/Kg		115	58 - 130
3-Methylphenol	1630	1830		ug/Kg		112	55 - 120
Fluorene	1630	1700		ug/Kg		104	63 - 120
Indeno[1,2,3-cd]pyrene	1630	1840		ug/Kg		113	56 - 134
4-Methylphenol	1630	1830		ug/Kg		112	55 - 120
Naphthalene	1630	1480		ug/Kg		91	55 - 120
Phenanthrene	1630	1660		ug/Kg		102	60 - 120
Phenol	1630	1620		ug/Kg		99	53 - 120
Pyrene	1630	1960		ug/Kg		120	61 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*90*		*52 - 120*
Phenol-d5 (Surr)	*101*		*54 - 120*
2,4,6-Tribromophenol (Surr)	*114*		*54 - 120*
Nitrobenzene-d5 (Surr)	*94*		*53 - 120*
p-Terphenyl-d14 (Surr)	*126*		*79 - 130*
2-Fluorobiphenyl (Surr)	*102*		*60 - 120*

Lab Sample ID: MB 480-656122/1-A
Matrix: Solid
Analysis Batch: 656167

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 656122

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		170	25	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Anthracene	ND		170	41	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
2,4-Dimethylphenol	ND		170	40	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Benzo[a]anthracene	ND		170	17	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
7,12-Dimethylbenz(a)anthracene	ND		320	48	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Benzo[a]pyrene	ND		170	25	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Benzo[b]fluoranthene	ND		170	26	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Benzo[k]fluoranthene	ND		170	22	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Bis(2-ethylhexyl) phthalate	ND		170	57	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Chrysene	ND		170	37	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Dibenz(a,h)anthracene	ND		170	29	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
2-Methylphenol	ND		170	20	ug/Kg		01/16/23 15:44	01/17/23 15:13	1

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

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

Lab Sample ID: MB 480-656122/1-A
Matrix: Solid
Analysis Batch: 656167

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 656122

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		170	28	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
3-Methylphenol	ND		320	25	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Fluorene	ND		170	20	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
3-Methylcholanthrene	ND		320	54	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Indeno[1,2,3-cd]pyrene	ND		170	21	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
4-Methylphenol	ND		320	20	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Naphthalene	ND		170	22	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Phenanthrene	ND		170	25	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Phenol	ND		170	25	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Pyrene	ND		170	20	ug/Kg		01/16/23 15:44	01/17/23 15:13	1
Total Cresols	ND		320	20	ug/Kg		01/16/23 15:44	01/17/23 15:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*87*		*52 - 120*	*01/16/23 15:44*	*01/17/23 15:13*	*1*
Phenol-d5 (Surr)	*97*		*54 - 120*	*01/16/23 15:44*	*01/17/23 15:13*	*1*
2,4,6-Tribromophenol (Surr)	*82*		*54 - 120*	*01/16/23 15:44*	*01/17/23 15:13*	*1*
Nitrobenzene-d5 (Surr)	*92*		*53 - 120*	*01/16/23 15:44*	*01/17/23 15:13*	*1*
p-Terphenyl-d14 (Surr)	*131*	*S1+*	*79 - 130*	*01/16/23 15:44*	*01/17/23 15:13*	*1*
2-Fluorobiphenyl (Surr)	*101*		*60 - 120*	*01/16/23 15:44*	*01/17/23 15:13*	*1*

Lab Sample ID: LCS 480-656122/2-A
Matrix: Solid
Analysis Batch: 656167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 656122

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1630	1640		ug/Kg		100	62 - 120
Anthracene	1630	1750		ug/Kg		107	62 - 120
2,4-Dimethylphenol	1630	1620		ug/Kg		99	59 - 120
Benzo[a]anthracene	1630	1760		ug/Kg		108	65 - 120
Benzo[a]pyrene	1630	1750		ug/Kg		107	64 - 120
Benzo[b]fluoranthene	1630	1940		ug/Kg		119	64 - 120
Benzo[g,h,i]perylene	1630	1710		ug/Kg		105	45 - 145
Benzo[k]fluoranthene	1630	1780		ug/Kg		109	65 - 120
Bis(2-ethylhexyl) phthalate	1630	2040		ug/Kg		125	61 - 133
Chrysene	1630	1620		ug/Kg		99	64 - 120
Dibenz(a,h)anthracene	1630	1720		ug/Kg		105	54 - 132
2-Methylphenol	1630	1650		ug/Kg		101	54 - 120
Di-n-butyl phthalate	1630	1850		ug/Kg		114	58 - 130
3-Methylphenol	1630	1690		ug/Kg		103	55 - 120
Fluorene	1630	1710		ug/Kg		105	63 - 120
Indeno[1,2,3-cd]pyrene	1630	1780		ug/Kg		109	56 - 134
4-Methylphenol	1630	1690		ug/Kg		103	55 - 120
Naphthalene	1630	1480		ug/Kg		91	55 - 120
Phenanthrene	1630	1710		ug/Kg		105	60 - 120
Phenol	1630	1620		ug/Kg		99	53 - 120
Pyrene	1630	1920		ug/Kg		118	61 - 133

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

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

Lab Sample ID: LCS 480-656122/2-A
Matrix: Solid
Analysis Batch: 656167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 656122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*88*		*52 - 120*
Phenol-d5 (Surr)	*99*		*54 - 120*
2,4,6-Tribromophenol (Surr)	*106*		*54 - 120*
Nitrobenzene-d5 (Surr)	*94*		*53 - 120*
p-Terphenyl-d14 (Surr)	*124*		*79 - 130*
2-Fluorobiphenyl (Surr)	*103*		*60 - 120*

Method: Moisture - Percent Moisture

Lab Sample ID: 480-205282-16 DU
Matrix: Solid
Analysis Batch: 655588

Client Sample ID: CTSP-16-SS01-4.0
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	25.8			25.8		%				0	20
Percent Solids	74.2			74.2		%				0	20

QC Association Summary

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

GC/MS Semi VOA

Prep Batch: 655704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-205282-17	FB-20230105	Total/NA	Water	3510C	
MB 480-655704/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-655704/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 480-655704/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Prep Batch: 655711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-205282-1	CTSP-01-SS01-3.5	Total/NA	Solid	3550C	
480-205282-7	CTSP-07-SS01-5.5	Total/NA	Solid	3550C	
480-205282-8	CTSP-08-SS01-1.5	Total/NA	Solid	3550C	
480-205282-10	CTSP-10-SS01-2.0	Total/NA	Solid	3550C	
480-205282-12	CTSP-12-SS01-5.0	Total/NA	Solid	3550C	
480-205282-15	CTSP-15-SS01-2.0	Total/NA	Solid	3550C	
480-205282-16	CTSP-16-SS01-4.0	Total/NA	Solid	3550C	
MB 480-655711/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-655711/2-A	Lab Control Sample	Total/NA	Solid	3550C	

Analysis Batch: 655780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-655704/1-A	Method Blank	Total/NA	Water	8270D	655704
LCS 480-655704/2-A	Lab Control Sample	Total/NA	Water	8270D	655704
LCSD 480-655704/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	655704

Analysis Batch: 655785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-205282-17	FB-20230105	Total/NA	Water	8270D	655704

Analysis Batch: 655925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-205282-1	CTSP-01-SS01-3.5	Total/NA	Solid	8270D	655711
480-205282-7	CTSP-07-SS01-5.5	Total/NA	Solid	8270D	655711
480-205282-8	CTSP-08-SS01-1.5	Total/NA	Solid	8270D	655711
480-205282-10	CTSP-10-SS01-2.0	Total/NA	Solid	8270D	655711
480-205282-12	CTSP-12-SS01-5.0	Total/NA	Solid	8270D	655711
480-205282-15	CTSP-15-SS01-2.0	Total/NA	Solid	8270D	655711
480-205282-16	CTSP-16-SS01-4.0	Total/NA	Solid	8270D	655711
MB 480-655711/1-A	Method Blank	Total/NA	Solid	8270D	655711
LCS 480-655711/2-A	Lab Control Sample	Total/NA	Solid	8270D	655711

Prep Batch: 656122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-205282-2	CTSP-02-SS01-4.0	Total/NA	Solid	3550C	
480-205282-3	CTSP-03-SS01-2.0	Total/NA	Solid	3550C	
480-205282-4	CTSP-04-SS01-2.5	Total/NA	Solid	3550C	
480-205282-5	CTSP-05-SS01-1.0	Total/NA	Solid	3550C	
480-205282-6	CTSP-06-SS01-4.5	Total/NA	Solid	3550C	
480-205282-9	CTSP-09-SS01-1.5	Total/NA	Solid	3550C	
480-205282-11	CTSP-11-SS01-3.0	Total/NA	Solid	3550C	
480-205282-13	CTSP-13-SS01-2.5	Total/NA	Solid	3550C	
480-205282-14	CTSP-14-SS01-2.0	Total/NA	Solid	3550C	
MB 480-656122/1-A	Method Blank	Total/NA	Solid	3550C	

QC Association Summary

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

GC/MS Semi VOA (Continued)

Prep Batch: 656122 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-656122/2-A	Lab Control Sample	Total/NA	Solid	3550C	

Analysis Batch: 656167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-205282-2	CTSP-02-SS01-4.0	Total/NA	Solid	8270D	656122
480-205282-3	CTSP-03-SS01-2.0	Total/NA	Solid	8270D	656122
480-205282-4	CTSP-04-SS01-2.5	Total/NA	Solid	8270D	656122
480-205282-5	CTSP-05-SS01-1.0	Total/NA	Solid	8270D	656122
480-205282-6	CTSP-06-SS01-4.5	Total/NA	Solid	8270D	656122
480-205282-9	CTSP-09-SS01-1.5	Total/NA	Solid	8270D	656122
480-205282-11	CTSP-11-SS01-3.0	Total/NA	Solid	8270D	656122
480-205282-13	CTSP-13-SS01-2.5	Total/NA	Solid	8270D	656122
480-205282-14	CTSP-14-SS01-2.0	Total/NA	Solid	8270D	656122
MB 480-656122/1-A	Method Blank	Total/NA	Solid	8270D	656122
LCS 480-656122/2-A	Lab Control Sample	Total/NA	Solid	8270D	656122

General Chemistry

Analysis Batch: 655588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-205282-1	CTSP-01-SS01-3.5	Total/NA	Solid	Moisture	
480-205282-2	CTSP-02-SS01-4.0	Total/NA	Solid	Moisture	
480-205282-3	CTSP-03-SS01-2.0	Total/NA	Solid	Moisture	
480-205282-4	CTSP-04-SS01-2.5	Total/NA	Solid	Moisture	
480-205282-5	CTSP-05-SS01-1.0	Total/NA	Solid	Moisture	
480-205282-6	CTSP-06-SS01-4.5	Total/NA	Solid	Moisture	
480-205282-7	CTSP-07-SS01-5.5	Total/NA	Solid	Moisture	
480-205282-8	CTSP-08-SS01-1.5	Total/NA	Solid	Moisture	
480-205282-9	CTSP-09-SS01-1.5	Total/NA	Solid	Moisture	
480-205282-10	CTSP-10-SS01-2.0	Total/NA	Solid	Moisture	
480-205282-11	CTSP-11-SS01-3.0	Total/NA	Solid	Moisture	
480-205282-12	CTSP-12-SS01-5.0	Total/NA	Solid	Moisture	
480-205282-13	CTSP-13-SS01-2.5	Total/NA	Solid	Moisture	
480-205282-14	CTSP-14-SS01-2.0	Total/NA	Solid	Moisture	
480-205282-15	CTSP-15-SS01-2.0	Total/NA	Solid	Moisture	
480-205282-16	CTSP-16-SS01-4.0	Total/NA	Solid	Moisture	
480-205282-16 DU	CTSP-16-SS01-4.0	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-01-SS01-3.5
Lab Sample ID: 480-205282-1
Date Collected: 01/05/23 12:30
Matrix: Solid
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Client Sample ID: CTSP-01-SS01-3.5
Lab Sample ID: 480-205282-1
Date Collected: 01/05/23 12:30
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 58.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			655711	SJM	EET BUF	01/11/23 15:39
Total/NA	Analysis	8270D		1	655925	JMM	EET BUF	01/14/23 02:53

Client Sample ID: CTSP-02-SS01-4.0
Lab Sample ID: 480-205282-2
Date Collected: 01/05/23 13:30
Matrix: Solid
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Client Sample ID: CTSP-02-SS01-4.0
Lab Sample ID: 480-205282-2
Date Collected: 01/05/23 13:30
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 80.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			656122	SJM	EET BUF	01/16/23 15:44
Total/NA	Analysis	8270D		5	656167	JMM	EET BUF	01/17/23 16:02

Client Sample ID: CTSP-03-SS01-2.0
Lab Sample ID: 480-205282-3
Date Collected: 01/05/23 14:00
Matrix: Solid
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Client Sample ID: CTSP-03-SS01-2.0
Lab Sample ID: 480-205282-3
Date Collected: 01/05/23 14:00
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 79.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			656122	SJM	EET BUF	01/16/23 15:44
Total/NA	Analysis	8270D		10	656167	JMM	EET BUF	01/17/23 16:26

Client Sample ID: CTSP-04-SS01-2.5
Lab Sample ID: 480-205282-4
Date Collected: 01/05/23 13:15
Matrix: Solid
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-04-SS01-2.5 — Lab Sample ID: 480-205282-4

Date Collected: 01/05/23 13:15 — **Matrix: Solid**
Date Received: 01/10/23 10:00 — **Percent Solids: 77.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			656122	SJM	EET BUF	01/16/23 15:44
Total/NA	Analysis	8270D		5	656167	JMM	EET BUF	01/17/23 16:51

Client Sample ID: CTSP-05-SS01-1.0 — Lab Sample ID: 480-205282-5

Date Collected: 01/05/23 13:00 — **Matrix: Solid**
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Client Sample ID: CTSP-05-SS01-1.0 — Lab Sample ID: 480-205282-5

Date Collected: 01/05/23 13:00 — **Matrix: Solid**
Date Received: 01/10/23 10:00 — **Percent Solids: 83.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			656122	SJM	EET BUF	01/16/23 15:44
Total/NA	Analysis	8270D		5	656167	JMM	EET BUF	01/17/23 17:15

Client Sample ID: CTSP-06-SS01-4.5 — Lab Sample ID: 480-205282-6

Date Collected: 01/05/23 12:45 — **Matrix: Solid**
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Client Sample ID: CTSP-06-SS01-4.5 — Lab Sample ID: 480-205282-6

Date Collected: 01/05/23 12:45 — **Matrix: Solid**
Date Received: 01/10/23 10:00 — **Percent Solids: 78.5**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			656122	SJM	EET BUF	01/16/23 15:44
Total/NA	Analysis	8270D		5	656167	JMM	EET BUF	01/17/23 17:39

Client Sample ID: CTSP-07-SS01-5.5 — Lab Sample ID: 480-205282-7

Date Collected: 01/05/23 12:05 — **Matrix: Solid**
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-07-SS01-5.5 — Lab Sample ID: 480-205282-7

Date Collected: 01/05/23 12:05 — **Matrix: Solid**
Date Received: 01/10/23 10:00 — **Percent Solids: 56.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			655711	SJM	EET BUF	01/11/23 15:39
Total/NA	Analysis	8270D		5	655925	JMM	EET BUF	01/14/23 04:54

Client Sample ID: CTSP-08-SS01-1.5 — Lab Sample ID: 480-205282-8

Date Collected: 01/05/23 11:50 — **Matrix: Solid**
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Client Sample ID: CTSP-08-SS01-1.5 — Lab Sample ID: 480-205282-8

Date Collected: 01/05/23 11:50 — **Matrix: Solid**
Date Received: 01/10/23 10:00 — **Percent Solids: 83.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			655711	SJM	EET BUF	01/11/23 15:39
Total/NA	Analysis	8270D		5	655925	JMM	EET BUF	01/14/23 05:18

Client Sample ID: CTSP-09-SS01-1.5 — Lab Sample ID: 480-205282-9

Date Collected: 01/05/23 10:50 — **Matrix: Solid**
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Client Sample ID: CTSP-09-SS01-1.5 — Lab Sample ID: 480-205282-9

Date Collected: 01/05/23 10:50 — **Matrix: Solid**
Date Received: 01/10/23 10:00 — **Percent Solids: 82.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			656122	SJM	EET BUF	01/16/23 15:44
Total/NA	Analysis	8270D		10	656167	JMM	EET BUF	01/17/23 18:04

Client Sample ID: CTSP-10-SS01-2.0 — Lab Sample ID: 480-205282-10

Date Collected: 01/05/23 10:15 — **Matrix: Solid**
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-10-SS01-2.0 — Lab Sample ID: 480-205282-10

Date Collected: 01/05/23 10:15 — **Matrix: Solid**
Date Received: 01/10/23 10:00 — **Percent Solids: 81.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			655711	SJM	EET BUF	01/11/23 15:39
Total/NA	Analysis	8270D		20	655925	JMM	EET BUF	01/14/23 06:06

Client Sample ID: CTSP-11-SS01-3.0 — Lab Sample ID: 480-205282-11

Date Collected: 01/05/23 14:20 — **Matrix: Solid**
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Client Sample ID: CTSP-11-SS01-3.0 — Lab Sample ID: 480-205282-11

Date Collected: 01/05/23 14:20 — **Matrix: Solid**
Date Received: 01/10/23 10:00 — **Percent Solids: 65.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			656122	SJM	EET BUF	01/16/23 15:44
Total/NA	Analysis	8270D		1	656167	JMM	EET BUF	01/17/23 18:28

Client Sample ID: CTSP-12-SS01-5.0 — Lab Sample ID: 480-205282-12

Date Collected: 01/05/23 13:45 — **Matrix: Solid**
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Client Sample ID: CTSP-12-SS01-5.0 — Lab Sample ID: 480-205282-12

Date Collected: 01/05/23 13:45 — **Matrix: Solid**
Date Received: 01/10/23 10:00 — **Percent Solids: 82.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			655711	SJM	EET BUF	01/11/23 15:39
Total/NA	Analysis	8270D		5	655925	JMM	EET BUF	01/14/23 06:54

Client Sample ID: CTSP-13-SS01-2.5 — Lab Sample ID: 480-205282-13

Date Collected: 01/05/23 11:30 — **Matrix: Solid**
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-13-SS01-2.5 — Lab Sample ID: 480-205282-13

Date Collected: 01/05/23 11:30 — **Matrix: Solid**
Date Received: 01/10/23 10:00 — **Percent Solids: 77.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			656122	SJM	EET BUF	01/16/23 15:44
Total/NA	Analysis	8270D		5	656167	JMM	EET BUF	01/17/23 18:52

Client Sample ID: CTSP-14-SS01-2.0 — Lab Sample ID: 480-205282-14

Date Collected: 01/05/23 11:05 — **Matrix: Solid**
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Client Sample ID: CTSP-14-SS01-2.0 — Lab Sample ID: 480-205282-14

Date Collected: 01/05/23 11:05 — **Matrix: Solid**
Date Received: 01/10/23 10:00 — **Percent Solids: 83.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			656122	SJM	EET BUF	01/16/23 15:44
Total/NA	Analysis	8270D		5	656167	JMM	EET BUF	01/17/23 19:16

Client Sample ID: CTSP-15-SS01-2.0 — Lab Sample ID: 480-205282-15

Date Collected: 01/05/23 10:30 — **Matrix: Solid**
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Client Sample ID: CTSP-15-SS01-2.0 — Lab Sample ID: 480-205282-15

Date Collected: 01/05/23 10:30 — **Matrix: Solid**
Date Received: 01/10/23 10:00 — **Percent Solids: 83.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			655711	SJM	EET BUF	01/11/23 15:39
Total/NA	Analysis	8270D		10	655925	JMM	EET BUF	01/14/23 08:06

Client Sample ID: CTSP-16-SS01-4.0 — Lab Sample ID: 480-205282-16

Date Collected: 01/05/23 09:55 — **Matrix: Solid**
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	655588	JMM	EET BUF	01/10/23 15:32

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Client Sample ID: CTSP-16-SS01-4.0

Lab Sample ID: 480-205282-16
Date Collected: 01/05/23 09:55
Matrix: Solid
Date Received: 01/10/23 10:00
Percent Solids: 74.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3550C			655711	SJM	EET BUF	01/11/23 15:39
Total/NA	Analysis	8270D		5	655925	JMM	EET BUF	01/14/23 08:30

Client Sample ID: FB-20230105

Lab Sample ID: 480-205282-17
Date Collected: 01/05/23 14:30
Matrix: Water
Date Received: 01/10/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			655704	LSC	EET BUF	01/11/23 15:07
Total/NA	Analysis	8270D		1	655785	JMM	EET BUF	01/13/23 00:54

Laboratory References:

EET BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Laboratory: Eurofins Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	68-00281	07-31-23

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
8270D	3510C	Water	Total Cresols
8270D	3550C	Solid	Total Cresols
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	EET BUF
Moisture	Percent Moisture	EPA	EET BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET BUF
3550C	Ultrasonic Extraction	SW846	EET BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Alpha Analytical Inc
Project/Site: L2300870

Job ID: 480-205282-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-205282-1	CTSP-01-SS01-3.5	Solid	01/05/23 12:30	01/10/23 10:00
480-205282-2	CTSP-02-SS01-4.0	Solid	01/05/23 13:30	01/10/23 10:00
480-205282-3	CTSP-03-SS01-2.0	Solid	01/05/23 14:00	01/10/23 10:00
480-205282-4	CTSP-04-SS01-2.5	Solid	01/05/23 13:15	01/10/23 10:00
480-205282-5	CTSP-05-SS01-1.0	Solid	01/05/23 13:00	01/10/23 10:00
480-205282-6	CTSP-06-SS01-4.5	Solid	01/05/23 12:45	01/10/23 10:00
480-205282-7	CTSP-07-SS01-5.5	Solid	01/05/23 12:05	01/10/23 10:00
480-205282-8	CTSP-08-SS01-1.5	Solid	01/05/23 11:50	01/10/23 10:00
480-205282-9	CTSP-09-SS01-1.5	Solid	01/05/23 10:50	01/10/23 10:00
480-205282-10	CTSP-10-SS01-2.0	Solid	01/05/23 10:15	01/10/23 10:00
480-205282-11	CTSP-11-SS01-3.0	Solid	01/05/23 14:20	01/10/23 10:00
480-205282-12	CTSP-12-SS01-5.0	Solid	01/05/23 13:45	01/10/23 10:00
480-205282-13	CTSP-13-SS01-2.5	Solid	01/05/23 11:30	01/10/23 10:00
480-205282-14	CTSP-14-SS01-2.0	Solid	01/05/23 11:05	01/10/23 10:00
480-205282-15	CTSP-15-SS01-2.0	Solid	01/05/23 10:30	01/10/23 10:00
480-205282-16	CTSP-16-SS01-4.0	Solid	01/05/23 09:55	01/10/23 10:00
480-205282-17	FB-20230105	Water	01/05/23 14:30	01/10/23 10:00

pg 1 of 2

Subcontract Chain of Custody

Eurofins TestAmerica (Buffalo)
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2300870

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2300870

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Quote 48025988, 5d TAT OK per lab

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	CTSP-01-SS01-3.5	01-05-23 12:30	SOIL	8270	
	CTSP-02-SS01-4.0	01-05-23 13:30	SOIL	8270	
	CTSP-03-SS01-2.0	01-05-23 14:00	SOIL	8270	
	CTSP-04-SS01-2.5	01-05-23 13:15	SOIL	8270	
	CTSP-05-SS01-1.0	01-05-23 13:00	SOIL	8270	
	CTSP-06-SS01-4.5	01-05-23 12:45	SOIL	8270	
	CTSP-07-SS01-5.5	01-05-23 12:05	SOIL	8270	
	CTSP-08-SS01-1.5	01-05-23 11:50	SOIL	8270	
	CTSP-09-SS01-1.5	01-05-23 10:50	SOIL	8270	

480-205282 Chain of Custody

Temp 2.1# 1±(E

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	1/9/23	[signature]	1/10/23 1000

Form No: AL_subcoc

pg 2 of 2

Subcontract Chain of Custody

Eurofins TestAmerica (Buffalo)
10 Hazlewood Drive
Amherst, NY 14228

Alpha Job Number
L2300870

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 201.812.9037
Email: nyakes@alphalab.com

Project Information

Project Location: PA
Project Manager: Nadine Yakes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2300870

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com Quote 48025988, 5d TAT OK per lab

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	CTSP-10-SS01-2.0	01-05-23 10:15	SOIL	8270	
	CTSP-11-SS01-3.0	01-05-23 14:20	SOIL	8270	
	CTSP-12-SS01-5.0	01-05-23 13:45	SOIL	8270	
	CTSP-13-SS01-2.5	01-05-23 11:30	SOIL	8270	
	CTSP-14-SS01-2.0	01-05-23 11:05	SOIL	8270	
	CTSP-15-SS01-2.0	01-05-23 10:30	SOIL	8270	
	CTSP-16-SS01-4.0	01-05-23 09:55	SOIL	8270	
	FB-20230105	01-05-23 14:30	WATER	8270	

Relinquished By:	Date/Time:	Received By:	Date/Time:
	1/9/23	[illegible]	1/10/23 1000

Form No: AL_subcoc

Serial_No:01182313:10

Login Sample Receipt Checklist

Client: Alpha Analytical Inc

Job Number: 480-205282-1

Login Number: 205282
List Number: 1
Creator: Kolb, Chris M

List Source: Eurofins Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
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.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	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	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	alpha
Samples received within 48 hours of sampling.	False	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Appendix C

Boring Logs

Ransom Consulting, LLC

Soil Boring Log

Boring No.: CTSP-01

Page 1 of 1

Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 3.5-4.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.0	Brown fine-medium sand, some silt, little fine gravel	Trace brick fragments
1				0.1		
				0.1		
2			18"/48"	0.1		
				0.2		
3				0.3		
				0.5		
4		CTSP-01-SS01		0.6		
				0.2	Brown silt, some fine-medium sand, little fine gravel	
5				0.3		
				0.4		
6			30"/48"	0.2		
				0.2		
7				0.2		
				0.1	Brown fine-medium sand, little silt	
8				0.1		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

		Boring No.: CTSP-02
		Page 1 of 1
Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.2	Brown fine-coarse sand, trace silt	
1				0.3	Brown silt and fine-medium sand	
				0.4		
2			21"/48"	0.5		
				0.7	Drak brown silt, little fine-medium sand, trace fine gravel	
3				0.8		
				1.0		
4				1.1		
		CTSP-02-SS01		1.6		
5				1.4		
				1.3		
6			30"/48"	1.3		
				1.1		
7				1.3		
				1.0		
8				1.1		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

		Boring No.: CTSP-03
		Page 1 of 1
Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.0-2.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				1.8	Dark brown fine-medium sand, some silt, little fine gravel	
1				2.4		
				3.4		
2			35"/48"	17.1		
		CTSP-03-SS01		99.8		
3				76.8		
				60.2		
4				47.4		
				11.0		
5				4.5		
				3.2		
6			25"/48"	3.5		
				3.8	Dark brown silt, little fine sand	
7				4.1		
				3.9		
8				4.0		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: CTSP-04

Client: PESRM			Date Start: 01/05/2023
Project Name: PES Refinery			Date Finish: 01/05/2023
Project No.: 200.00135		Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling			Ground Elevation: N/A
Driller:		Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"		Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert		Sample Interval: 2.5-3.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.1	Brown fine-coarse sand, little fine gravel, trace silt	
1				0.2		
				0.3	Dark brown to black fine-medium sand, little silt, trace gravel	
2			34"/48"	0.5		
				3.9		
3		CTSP-04-SS01		7.0		
				2.3		
4				2.1	Dark brown silt, little fine sand	
				0.4		
5				0.6	Dark brown fine-medium sand, little silt	
				0.8		
6			24"/48"	1.1		
				0.9		
7				0.7	Dark brown silt, little fine-medium sand	
				0.7		
8				0.7		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

		Boring No.: CTSP-05
		Page 1 of 1
Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 1.0-1.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.6	Brown fine-coarse sand, little fine-coarse gravel	
1				0.8		
		CTSP-05-SS01		4.0	Dark brown fine-medium sand, little silt, little fine gravel	
2				0.4		
			32"/48"	0.9		
3				0.4		
				0.4		
4				0.3		
				0.2	Drak brown fine-coarse sand, little silt, little fine gravel	
5				0.3		
				0.3		
6			24"/48"	0.3		
				0.4		
7				0.3		
				0.2		
8				0.2		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: CTSP-06

Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.1	Brown fine-medium sand, little silt	Trace brick fragments
1				0.3	Dark brown fine-medium sand, some silt, little fine gravel	
				0.7		
2			34"/48"	1.1		
				6.6		
3				5.5		
				2.4		
4				0.9		
				11.9	Dark brown silt, some fine-medium sand, trace fine gravel	
5		CTSP-06-SS01		12.9		
				9.7		
6			20"/48"	8.0		
				7.1		
7				3.1		
				3.0		
8				2.5		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

		Boring No.: CTSP-07
		Page 1 of 1
Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 5.5-6.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.0	Brown fine-medium sand, some silt	Trace brick fragments
1				0.0		
				0.1		
2			37"/48"	0.2		
				0.3		
3				0.4	Dark brown silt, some fine sand, trace fine gravel	
				0.4		
4				0.3		
				1.0		
5				2.1		
				3.1		
6		CTSP-07-SS01	18"/48"	4.4	Dark brown silt, trace fine sand	
				0.9		
7				0.2		
				0.1		
8				0.0		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

		Boring No.: CTSP-08
		Page 1 of 1
Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 1.5-2.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.1	Brown fine-coarse sand, little silt, little fine-medium gravel	
1				0.2		
				0.6	Dark brown silt, some fine-medium sand, little fine gravel	
2		CTSP-08-SS01	37"/48"	37.2		
				25.2		
3				13.1		
				2.5		
4				1.9		
				1.7		
5				1.7		
				2.2		
6			18"/48"	21.0		
				1.8		
7				1.7		
				1.6		
8				1.4		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

		Boring No.: CTSP-09
		Page 1 of 1
Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 1.5-2.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.0	Brown fine-coarse sand, little fine-medium gravel, trace silt	
1				0.1		
				2.1	Dark brown fine-coarse sand, little fine gravel	
2		CTSP-09-SS01	36"/48"	14.3		
				3.7	Brown fine-medium sand, little silt, little fine-coarse gravel	
3				2.3		
				1.4		
4				0.2	Brown silt	
				0.1	Brown fine-medium sand, some silt, little gravel	
5				0.0		
				0.0		
6			34"/48"	0.0		
				0.0		Brick fragments
7				0.0		
				0.0		
8				0.0		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: CTSP-10

Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.0-2.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.8	Brown fine-medium sand, little gravel, trace silt	
1				0.9	Dark brown silt, some fine-coarse sand	
				1.9		
2				13.0	Same with brick fragments	
		CTSP-10-SS01	41"/48"	148.6	Dark brown fine-coarse sand, little silt, little gravel	
3				37.2		wood fragments
				5.7	Brown clay, little silt	
4				2.4		
				3.5	Brown clay and silt	
5				1.7		
				0.2	Brown clay trace silt	
6			39"/48"	0.0		
				0.0		
7				0.0		
				0.0		
8				0.0		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

		Boring No.: CTSP-11
		Page 1 of 1
Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				1.3	Dark brown fine-medium sand, some silt, little fine gravel	
1				1.8		
				2.1		
2			43"/48"	3.1		
				8.3		
3				10.1		
		CTSP-11-SS01		17.4		
4				7.7		
				9.3	Dark brown fine-medium sand, little silt	
5				7.2		
				4.1		
6			43"/48"	5.0		
				6.5		
7				5.0		
				5.1	Dark brown silt	
8				5.0		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

		Boring No.: CTSP-12
		Page 1 of 1
Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 5.0-5.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.1	Brown fine-medium sand, little silt	
1				0.2	Dark brown silt, some fine sand, little fine gravel	
				0.3		
2			41"/48"	0.5		
				0.7		
3				0.7		
				1.1		
4				2.4		
				3.4		
5				9.8		
		CTSP-12-SS01		17.4		
6			39"/48"	10.9	Grey fine-medium sand, trace silt	
				2.4	Brown silt, little fine sand	
7				2.0		
				2.0		
8				1.9		
					End of Boring	
9						
10						
11						
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Ransom Consulting, LLC

Soil Boring Log

		Boring No.: CTSP-13
		Page 1 of 1
Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.5-3.0'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.0	Brown fine-medium sand, little fine gravel, trace silt	
1				0.1		
				0.0	Dark brown silt, some fine sand, little fine gravel	
2				0.2		
				2.0		
3		CTSP-13-SS01	25"/48"	3.1		
				1.1	Dark brown silt, little clay, little fine sand	
4				0.2		
				0.3	Brown fine sand, some silt	
5				0.7		
				0.4	Brown fine-coarse sand, little silt, trace fine gravel	
6			30"/48"	0.3		
				0.2		
7				0.3		
				0.3	Brown fine-medium sand, little silt	
8				0.4		
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Ransom Consulting, LLC

Soil Boring Log

		Boring No.: CTSP-14
		Page 1 of 1
Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.0-2.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.0	Brown fine-coarse sand, little fine gravel	
1				0.0		
				0.1	Brown fine-medium sand, little silt, trace fine gravel	Trace brick fragments and cinders
2				0.1		
		CTSP-14-SS01	37"/48"	1.1		
3				0.4	Brown silt, some fine sand, trace fine gravel	
				0.2		
4				0.0		
				0.0		
5				0.0		
				0.0		
6			34"/48"	0.0		
				0.0		
7				0.0		
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8				0.0		
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Ransom Consulting, LLC

Soil Boring Log

Boring No.: CTSP-15

Page 1 of 1

Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 2.0-2.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.4	Brown fine-coarse sand, little fine gravel, trace silt	
1				0.7		
				1.1	Dark brown silt, little fine sand, trace fine gravel	Brick fragments
2				1.9		
		CTSP-15-SS01	33"/48"	101.0		
3				3.1		
				2.1		
4				2.0		
				1.0		
5				0.8		
				0.2		
6			39"/48"	0.1	Dark brown silt and clay	
				0.1		
7				0.1		
				0.1	Mottled silt	
8				0.1		
					End of Boring	
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Ransom Consulting, LLC

Soil Boring Log

		Boring No.: CTSP-16
		Page 1 of 1
Client: PESRM		Date Start: 01/05/2023
Project Name: PES Refinery		Date Finish: 01/05/2023
Project No.: 200.00135	Location: Philadelphia, PA	Permit No.:
Drilling Contractor: MB Drilling		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate liner	Total Depth: 8.0'
Logged By: Todd Reichert	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Blow Counts	Sample No.	Recovery (inches)	PID/FID (ppm)	Lithologic Description	Remarks
				0.0	Brown fine sand, little fine gravel, trace silt.	
1				0.0		
				0.0	Brown silt, some fine-medium sand, little fine gravel	
2				0.0		
			34/48"	0.1		
3				0.2		
				0.7		
4				1.5		
		CTSP-16-SS01		5.5		
5				2.6		staining @ 5' bgs
				3.0	Brown clay, some silt, trace fine sand	
6			44/48"	2.6		
				3.3		
7				1.8		
				0.0		
8				0.0		
					End of Boring	
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Attachment G

PESRM Media Plan

Hazardous Waste Public Meeting – June 3, 2024

Point Breeze Hazardous Waste Container Storage Pad, Girard Point Spent Caustic Hazardous Waste Storage Tanks Nos. 1086 and 1087, and Girard Point Hazardous Waste Container Storage Pad

The following notifications were made:

1. Flyer distributed via the HRP email distribution listserv on May 3, May 9[1], May 20, May 28, and June 3, 2024 (Exhibit A)
2. Social media posts (Exhibit B) including:
    a. LinkedIn on May 3, May 20, May 27, and June 3, 2024
    b. X (formerly Twitter) on May 3, May 20, May 27, and June 3, 2024
    c. Instagram on May 3, May 20, May 27, and June 3, 2024
    d. Facebook on May 13[2], May 20, May 27, and June 3, 2024
3. Newspaper publication in the Daily News and Philadelphia Inquirer on May 3, 2024 (Exhibit C)
4. Sign posted on Frontage Road property fence on May 3, 2024 (Exhibit D).
5. Flyer distributed via email to offices of local elected officials on May 10, 2024 (Exhibit E) including the offices of:
    a. Council President Kenyatta Johnson
    b. State Representative Jordan Harris
    c. State Representative Regina Young
    d. State Senator Anthony Williams
6. Paper flyers posted within the community on May 3, 2024 (Exhibit F) including:
    a. Salvation Army
    b. Eastwick Library
    c. ShopRite on Island Avenue
    d. St. Edmund Community Center
    e. Thomas F. Donatucci Library
    f. ShopRite on Oregon Avenue
7. Electronic community message board posts (Exhibit G) including:
    a. Philly Patch on May 3, 2024
    b. PHL17 Community Calendar on May 3, 2024
    c. 6abc Community Calendar on June 3, 2024[3]

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[1] The May 9 email corrected a broken hyperlink in the May 3 email.

[2] The public meeting flyer was not posted on Facebook on May 3, 2024 in error. The error was noted on May 13, 2024 and corrected that same day.

[3] The notice was submitted to 6abc for publication on May 3 and on May 17; however, due to a technical issue, 6abc did not post the meeting notice until June 3. Associated correspondence is included in Exhibit G.

Exhibit A

Email promotion

Notice of Public Meeting

Monday, June 3rd, 2024
6:00 PM ET

Philadelphia Energy Solutions Refining & Marketing LLC (PESRM) will hold a virtual public meeting to provide the community with an update on the closure of three permitted hazardous waste storage areas – (1) the Point Breeze Hazardous Waste Container Storage Pad, (2) the two Girard Point Spent Caustic Hazardous Waste Storage Tanks, Nos. 1086 and 1087 and (3) the Girard Point Hazardous Waste Container Storage Pad, located at the former Refinery property at 3144 West Passyunk Avenue, Philadelphia. The closure of the storage areas is part of the planned redevelopment of the property. PESRM proposes to use a risk-based approach, as described in the Revised Supplement to the Closure Plan, which is available here: https://tinyurl.com/5n6uk3em

The former refinery processed crude oil into various fuels and chemicals. To assist in the proper management of waste generated as part of the refining process, a hazardous waste permit under EPA ID No. PAD049791098 was obtained to allow storage of hazardous waste in two tanks and two container storage areas for up to one year prior to off-site disposal. Hazardous waste is no longer stored in these three areas. The Point Breeze Hazardous Waste Container Storage Pad, Girard Point Spent Caustic Hazardous Waste Storage Tanks, and the Girard Point Hazardous Waste Container Storage Pad have been demolished. Underlying soil was sampled. The results of the soil sampling will be discussed during the public meeting.

The meeting will provide the community with an opportunity to ask questions. People who would like to ask questions during the meeting are encouraged to submit them in advance at https://www.thebellwetherdistrict.com/contact/ by no later than **June 3rd at 12 pm.** Questions will also be taken during the meeting.

The Bellwether District
AN HRP PROJECT

For additional information, contact:
Mia Fioravanti, Hilco Redevelopment Partners
mfioravanti@hilcoglobal.com
3144 West Passyunk Avenue, Philadelphia, PA 19145

From: The Bellwether District Events
To: Smiley, Alexandra
Subject: Upcoming Community Meeting at The Bellwether District (Net-Results Preview HTML Email)
Date: Thursday, May 2, 2024 11:19:04 AM

This message is from an EXTERNAL SENDER - be CAUTIOUS, particularly with links and attachments.

JOIN US TO HEAR RECENT UPDATES FROM THE BELLWETHER DISTRICT

Our team will be hosting a virtual meeting on Monday June 3rd to provide an update on the closure of three permitted hazardous waste storage areas. The closure of the storage areas is part of the planned redevelopment of the former refinery as it is transformed to The Bellwether District. Register here.

If you would like to submit questions in advance of the meeting, please visit : thebellwetherdistrict.com/contact/

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Hilco Redevelopment Partners (HRP)
3144 West Passyunk Ave Philadelphia, PA 19145
If you do not wish to receive future emails, click here

From: The Bellwether District Events
To: Smiley, Alexandra
Subject: Upcoming Community Meeting at The Bellwether District
Date: Thursday, May 9, 2024 4:00:37 PM

This message is from an EXTERNAL SENDER - be CAUTIOUS, particularly with links and attachments.

JOIN US TO HEAR RECENT UPDATES FROM THE BELLWETHER DISTRICT

Our team will be hosting a virtual meeting on Monday June 3rd to provide an update on the closure of three permitted hazardous waste storage areas. In this meeting we will review the risk-based approach, as described in the Revised Supplement to the Closure Plan, that will be utilized. The closure of the storage areas is part of the planned redevelopment of the former refinery as it is transformed to The Bellwether District. Register here.

If you would like to submit questions in advance of the meeting, please visit : thebellwetherdistrict.com/contact/

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Hilco Redevelopment Partners (HRP)
3144 West Passyunk Ave Philadelphia, PA 19145
If you do not wish to receive future emails, click here

From: The Bellwether District
To: Smiley, Alexandra
Subject: Upcoming Community Meeting at The Bellwether District
Date: Monday, May 20, 2024 3:01:12 PM

This message is from an EXTERNAL SENDER - be CAUTIOUS, particularly with links and attachments.

JOIN US TO HEAR RECENT UPDATES FROM THE BELLWETHER DISTRICT

Our team will be hosting a virtual meeting on Monday June 3rd to provide an update on the closure of three permitted hazardous waste storage areas. In this meeting we will review the risk-based approach, as described in the Revised Supplement to the Closure Plan, that will be utilized. The closure of the storage areas is part of the planned redevelopment of the former refinery as it is transformed to The Bellwether District. Register here.

If you would like to submit questions in advance of the meeting, please visit : thebellwetherdistrict.com/contact/

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Hilco Redevelopment Partners (HRP)
3144 West Passyunk Ave Philadelphia, PA 19145
If you do not wish to receive future emails, click here

From: The Bellwether District Events
To: Smiley, Alexandra
Subject: Upcoming Community Meeting at The Bellwether District
Date: Tuesday, May 28, 2024 11:00:55 AM

This message is from an EXTERNAL SENDER - be CAUTIOUS, particularly with links and attachments.

JOIN US TO HEAR RECENT UPDATES FROM THE BELLWETHER DISTRICT

Our team will be hosting a virtual meeting on Monday June 3rd to provide an update on the closure of three permitted hazardous waste storage areas. In this meeting we will review the risk-based approach, as described in the Revised Supplement to the Closure Plan, that will be utilized. The closure of the storage areas is part of the planned redevelopment of the former refinery as it is transformed to The Bellwether District. Register here.

If you would like to submit questions in advance of the meeting, please visit : thebellwetherdistrict.com/contact/

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Hilco Redevelopment Partners (HRP)
3144 West Passyunk Ave Philadelphia, PA 19145
If you do not wish to receive future emails, click here

From: The Bellwether District <TheBellwetherDistrictevents@hilcoglobal.com>
Sent: Monday, June 3, 2024 12:30 PM
To: Smiley, Alexandra <asmiley@hilcoglobal.com>
Subject: TONIGHT: Community Meeting at The Bellwether District

This message is from an EXTERNAL SENDER - be CAUTIOUS, particularly with links and attachments.

Notice of Public Meeting

Monday, June 3rd, 2024
6:00 PM ET

Philadelphia Energy Solutions Refining & Marketing LLC (PESRM) will hold a virtual public meeting to provide the community with an update on the closure of three permitted hazardous waste storage areas – (1) the Point Breeze Hazardous Waste Container Storage Pad, (2) the two Girard Point Spent Caustic Hazardous Waste Storage Tanks, Nos. 1086 and 1087 and (3) the Girard Point Hazardous Waste Container Storage Pad, located at the former Refinery property at 3144 West Passyunk Avenue, Philadelphia. The closure of the storage areas is part of the planned redevelopment of the property. PESRM proposes to use a risk-based approach, as described in the Revised Supplement to the Closure Plan, which is available here: https://tinyurl.com/5n6uk3em

The former refinery processed crude oil into various fuels and chemicals. To assist in the proper management of waste generated as part of the refining process, a hazardous waste permit under EPA ID No. PAD049791098 was obtained to allow storage of hazardous waste in two tanks and two container storage areas for up to one year prior to off-site disposal. Hazardous waste is no longer stored in these three areas. The Point Breeze Hazardous Waste Container Storage Pad, Girard Point Spent Caustic Hazardous Waste Storage Tanks, and the Girard Point Hazardous Waste Container Storage Pad have been demolished. Underlying soil was sampled. The results of the soil sampling will be discussed during the public meeting.

The meeting will provide the community with an opportunity to ask questions. People who would like to ask questions during the meeting are encouraged to submit them in advance at https://www.thebellwetherdistrict.com/contact/ by no later than **June 3rd at 12 pm.** Questions will also be taken during the meeting.

The Bellwether District
AN HRP PROJECT

For additional information, contact:
Mia Fioravanti, Hilco Redevelopment Partners
mfioravanti@hilcoglobal.com
3144 West Passyunk Avenue, Philadelphia, PA 19145

JOIN US TO HEAR RECENT UPDATES FROM THE BELLWETHER DISTRICT

Tonight our team will be hosting a virtual meeting to provide an update on the closure of three permitted hazardous waste storage areas. In this meeting we will review the risk-based approach, as described in the Revised Supplement to the Closure Plan, that will be utilized. The closure of the storage areas is part of the planned redevelopment of the former refinery as it is transformed to The Bellwether District. Register here.

If you would like to submit questions in advance of the meeting, please visit :

thebellwetherdistrict.com/contact/

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Hilco Redevelopment Partners (HRP)
◆ 3144 West Passyunk Ave◆ Philadelphia, PA 19145 ◆

If you do not wish to receive future emails, click here

Exhibit B

Social media posts

LinkedIn

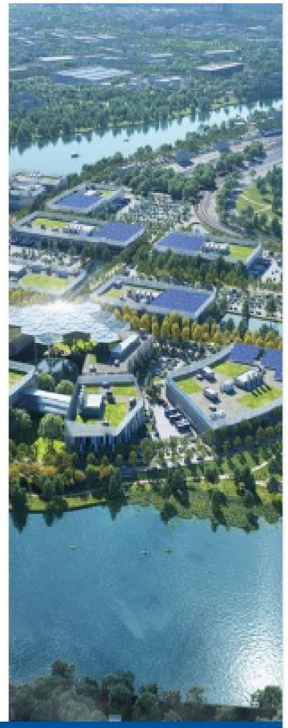
The Bellwether District's Post

The Bellwether District
1,638 followers
1w

📢 Upcoming meeting: Our team will be hosting a virtual meeting on Monday June 3rd to provide an update on the closure of three permitted hazardous waste storage areas. The closure of the storage areas is part of the planned redevelopment of the former refinery as it is transformed by Hilco Redevelopment Partners to become #thebellwetherdistrict. Register here: https://lnkd.in/eziJjkx8

Notice of Public Meeting

Monday, June 3rd, 2024
6:00 PM ET



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The Bellwether District
AN HRP PROJECT

For additional information, contact:
Mia Fioravanti, Hilco Redevelopment Partners
mfioravanti@hilcoglobal.com
3144 West Passyunk Avenue, Philadelphia, PA 19145

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Engineering
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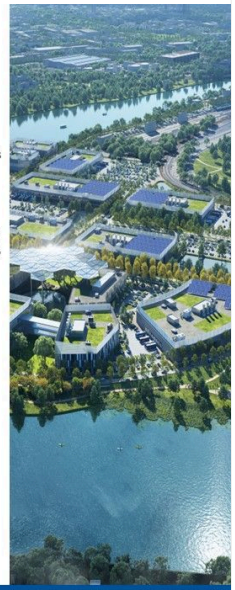
The Bellwether District's Post

The Bellwether District
1,682 followers
2w

📢 Upcoming meeting: Our team will be hosting a virtual meeting on Monday June 3rd to provide an update on the closure of three permitted hazardous waste storage areas. The closure of the storage areas is part of the planned redevelopment of the former refinery as it is transformed by Hilco Redevelopment Partners to become #thebellwetherdistrict. Register at the link here: https://lnkd.in/eziJjkx8

Notice of Public Meeting

Monday, June 3rd, 2024
6:00 PM ET



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The Bellwether District
AN HRP PROJECT

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mfioravanti@hilcoglobal.com
3144 West Passyunk Avenue, Philadelphia, PA 19145

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The Bellwether District's Post

The Bellwether District
1,683 followers
2w

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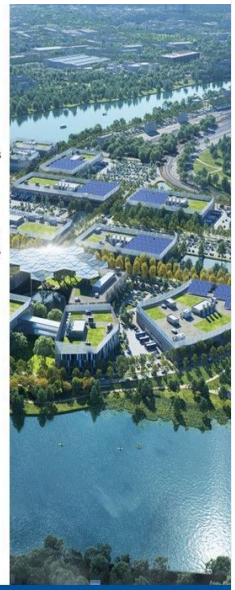

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The Bellwether District's Post

The Bellwether District
1,683 followers
6d

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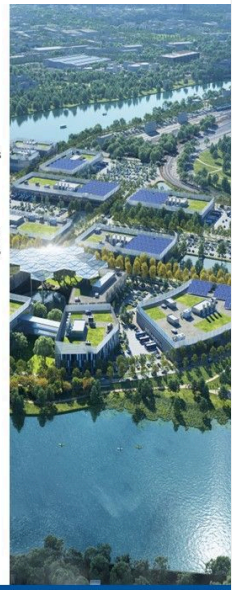
Notice of Public Meeting

Monday, June 3rd, 2024
6:00 PM ET



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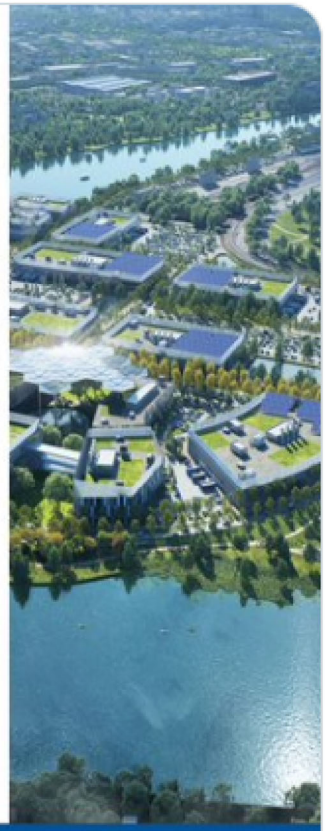

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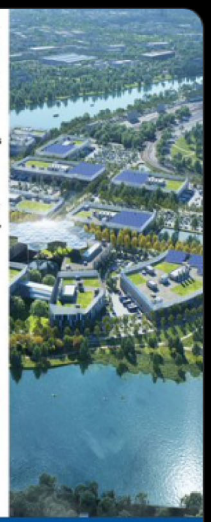

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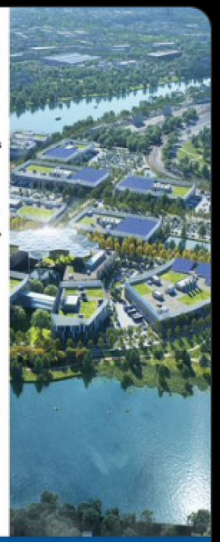

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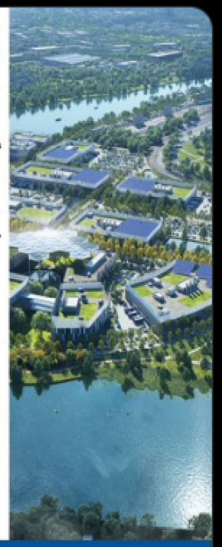

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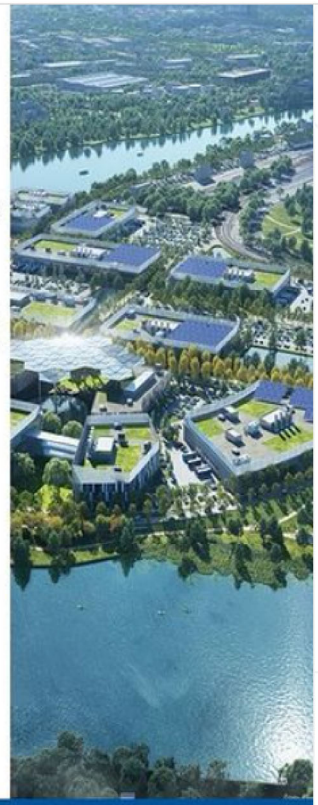

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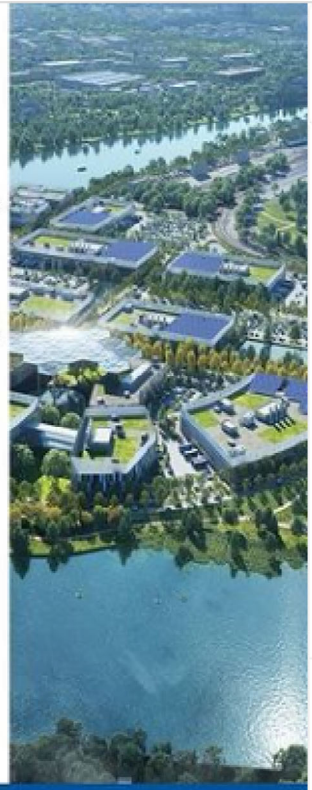

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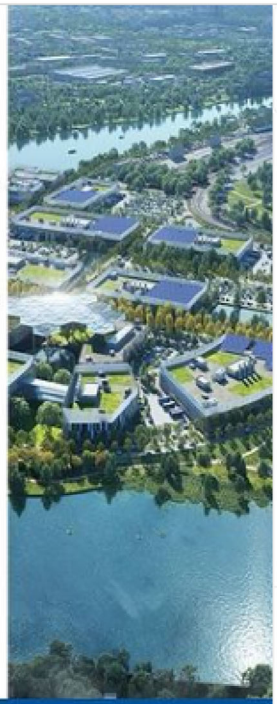

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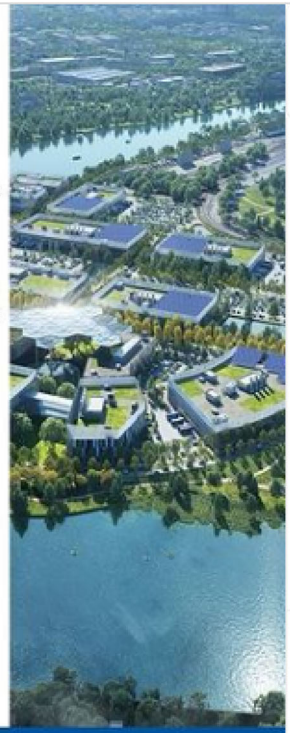

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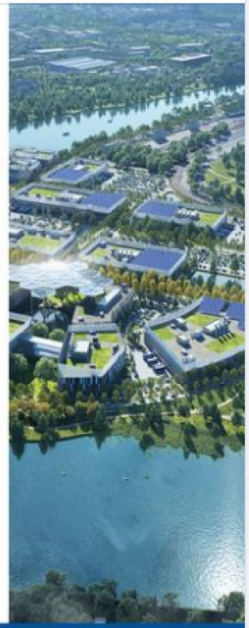

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Philadelphia Energy Solutions Refining & Marketing LLC (PESRM) will hold a virtual public meeting to provide the community with an update on the closure of three permitted hazardous waste storage areas – (1) the Point Breeze Hazardous Waste Container Storage Pad, (2) the two Girard Point Spent Caustic Hazardous Waste Storage Tanks, Nos. 1086 and 1087 and (3) the Girard Point Hazardous Waste Container Storage Pad, located at the former Refinery property at 3144 West Passyunk Avenue, Philadelphia. The closure of the storage areas is part of the planned redevelopment of the property. PESRM proposes to use a risk-based approach, as described in the Revised Supplement to the Closure Plan, which is available here: https://tinyurl.com/5n6uk3em

The former refinery processed crude oil into various fuels and chemicals. To assist in the proper management of waste generated as part of the refining process, a hazardous waste permit under EPA ID No. PAD049791098 was obtained to allow storage of hazardous waste in two tanks and two container storage areas for up to one year prior to off-site disposal. Hazardous waste is no longer stored in these three areas. The Point Breeze Hazardous Waste Container Storage Pad, Girard Point Spent Caustic Hazardous Waste Storage Tanks, and the Girard Point Hazardous Waste Container Storage Pad have been demolished. Underlying soil was sampled. The results of the soil sampling will be discussed during the public meeting.

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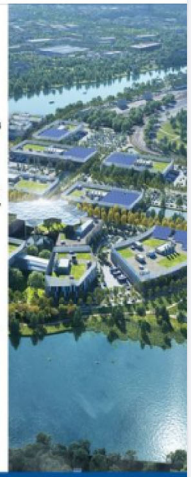

The Bellwether District
AN HRP PROJECT

For additional information, contact:
Mia Fioravanti, Hilco Redevelopment Partners
mfioravanti@hilcoglobal.com
3144 West Passyunk Avenue, Philadelphia, PA 19145

2

Like Comment Share

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Notice of Public Meeting

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The Bellwether District
AN HRP PROJECT

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Mia Fioravanti, Hilco Redevelopment Partners
mfioravanti@hilcoglobal.com
3144 West Passyunk Avenue, Philadelphia, PA 19145

The Bellwether District
May 27 at 10:54 AM

Upcoming meeting: Our team will be hosting a virtual meeting on Monday June 3rd to provide an update on the closure of three permitted hazardous waste storage areas. The closure of the storage areas is part of the planned redevelopment of the former refinery as it is transformed by **Hilco Redevelopment Partners** to become **#thebellwetherdistrict**. Register at the link here: https://hilcoglobal.zoom.us/.../WN_dKEOu5m_TG2Im6o_kHeljA...

4 2

Write a comment...

Search Facebook

The Bellwether District
June 3 at 1:18 PM ·

Upcoming meeting: Our team will be hosting a virtual meeting tonight to provide an update on the closure of three permitted hazardous waste storage areas. The closure of the storage areas is part of the planned redevelopment of the former refinery as it is transformed by HRP Group to become #thebellwetherdistrict. Register at the link here: https://hilcoglobal.zoom.us/.../WN_dKEOu5m_TG2Im6o_kHeljA...

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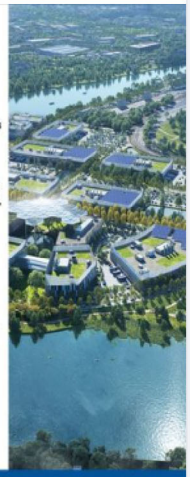

The Bellwether District
AN HRP PROJECT

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mfioravanti@hilcoglobal.com
3144 West Passyunk Avenue, Philadelphia, PA 19145

3 1 share

Like Comment Share

Exhibit C

Newspaper notices

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 400
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 100 S. Independence Mall West, Suite 600, Philadelphia, PA 19106.
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

Meeting Notices

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

5/3/2024

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

Helene Sweeney

Nancy S. Fisher
Notary Public

My Commission Expires:

Commonwealth of Pennsylvania - Notary Seal
Nancy S Fisher, Notary Public
Philadelphia County
My Commission Expires June 27, 2027
Commission Number 1433937

Ad No: 162953
Customer No: 104799

COPY OF ADVERTISEMENT

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Monday, June 3rd, 2024
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The Philadelphia Inquirer

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

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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

Meeting Notices

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

5/3/2024

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Nancy S. Fisher

Notary Public

My Commission Expires:

Commonwealth of Pennsylvania - Notary Seal
Nancy S Fisher, Notary Public
Philadelphia County
My Commission Expires June 27, 2027
Commission Number 1433937

Ad No: 162954
Customer No: 104799

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Exhibit D

Sign posted on fence

Public Noticed Posted by the Bellwether District Site Fence

Exhibit E

Correspondence with local elected officials

From:	Fioravanti, Mia
To:	Tiphanie White
Subject:	Upcoming Bellwether District Public Meeting
Date:	Friday, May 10, 2024 5:36:42 PM
Attachments:	HRP_HazWasteMeeting_TBWD_June3v2.jpg

Tiphanie,

I hope all is well.

On Monday, June 3rd at 6:00 PM, HRP's environmental remediation team, along with our consultants at Terraphase Engineering, will hold a virtual public meeting to share information about the closure of three hazardous waste storage locations at The Bellwether District.

This work, which is detailed in the attached notice, has been performed in coordination with the PA Department of Environmental Protection and the US Environmental Protection Agency.

If your office receives any questions, please feel free to direct people to our web contact form (https://www.thebellwetherdistrict.com/contact/).

Thank you and have a great weekend!

Mia Fioravanti
Vice President of Corporate Affairs
Hilco Redevelopment Partners (HRP)
3144 West Passyunk Avenue
Philadelphia, PA 19145
Mobile: (610) 551-8390
www.hilcoredev.com | mfioravanti@hilcoglobal.com

From:	Fioravanti, Mia
To:	Patton, Cortez; Waters, Ethel
Subject:	Upcoming Bellwether District Public Meeting
Date:	Friday, May 10, 2024 5:35:59 PM
Attachments:	HRP_HazWasteMeeting_TBWD_June3v2.jpg

Cortez and Ethel,

I hope all is well.

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Mobile: (610) 551-8390
www.hilcoredev.com | mfioravanti@hilcoglobal.com

From:	Fioravanti, Mia
To:	Mills, Belinda; Fassett, Kevin A.
Subject:	Upcoming Bellwether District Public Meeting
Date:	Friday, May 10, 2024 5:34:55 PM
Attachments:	HRP_HazWasteMeeting_TBWD_June3v2.jpg

Belinda and Kevin,

I hope all is well.

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Philadelphia, PA 19145
Mobile: (610) 551-8390
www.hilcoredev.com | mfioravanti@hilcoglobal.com

From:	Fioravanti, Mia
To:	Carr, Nakia; Taylor, Ryan E.
Subject:	Upcoming Bellwether District Public Meeting
Date:	Friday, May 10, 2024 5:33:58 PM
Attachments:	HRP_HazWasteMeeting_TBWD_June3v2.jpg

Nakia and Ryan,

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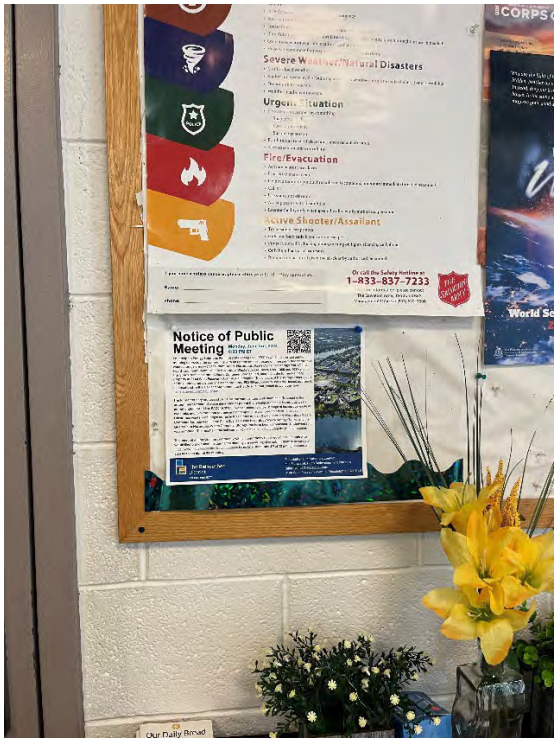
Mobile: (610) 551-8390
www.hilcoredev.com | mfioravanti@hilcoglobal.com

Exhibit F

Flyers posted on local message boards

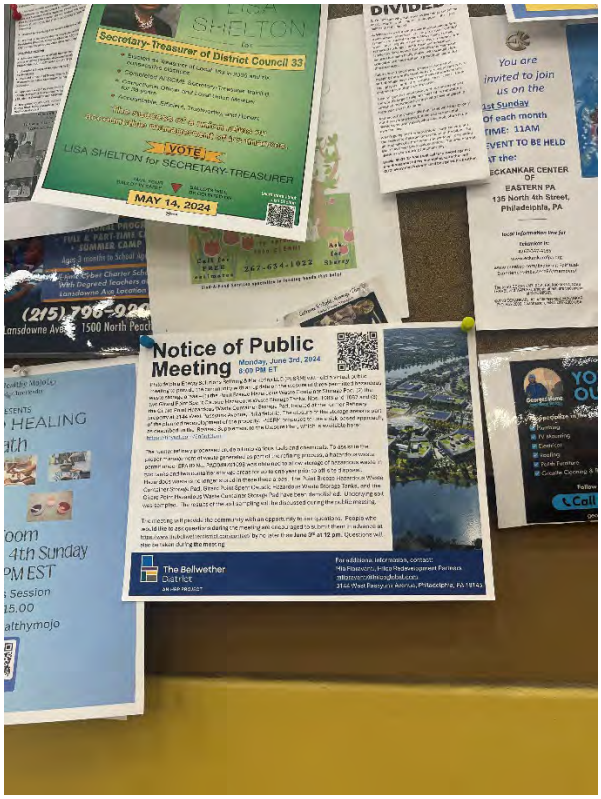
Public Notice Flyers Posted at the Following Locations:

Salvation Army

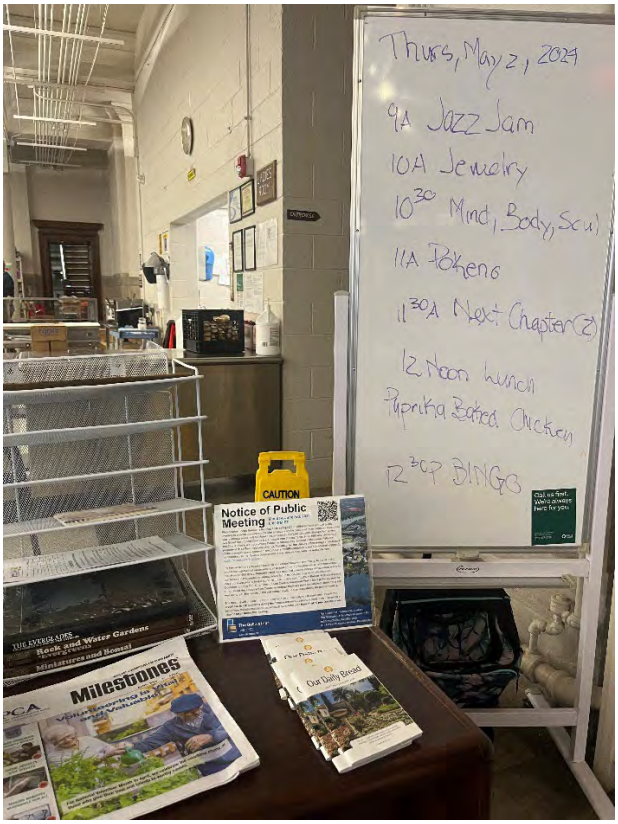


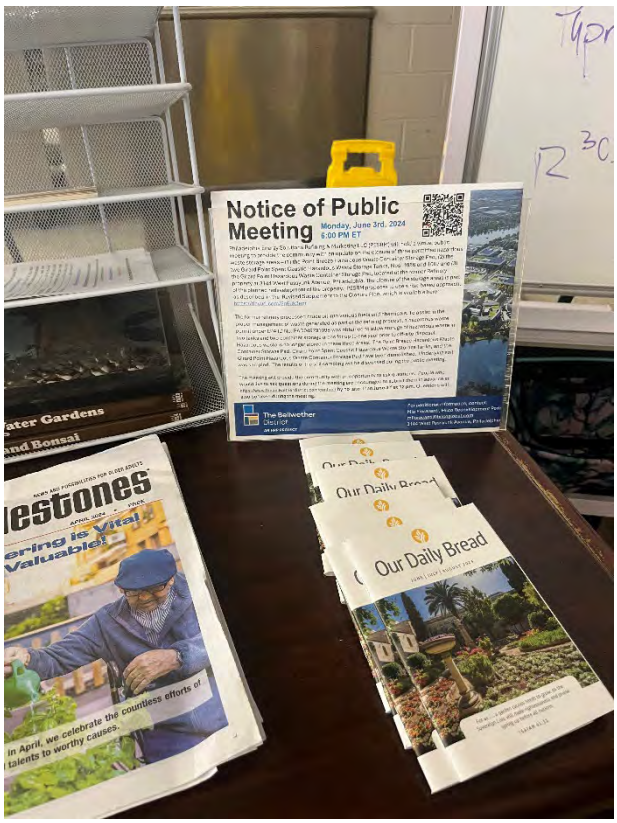
Eastwick Library

ShopRite on Island Avenue

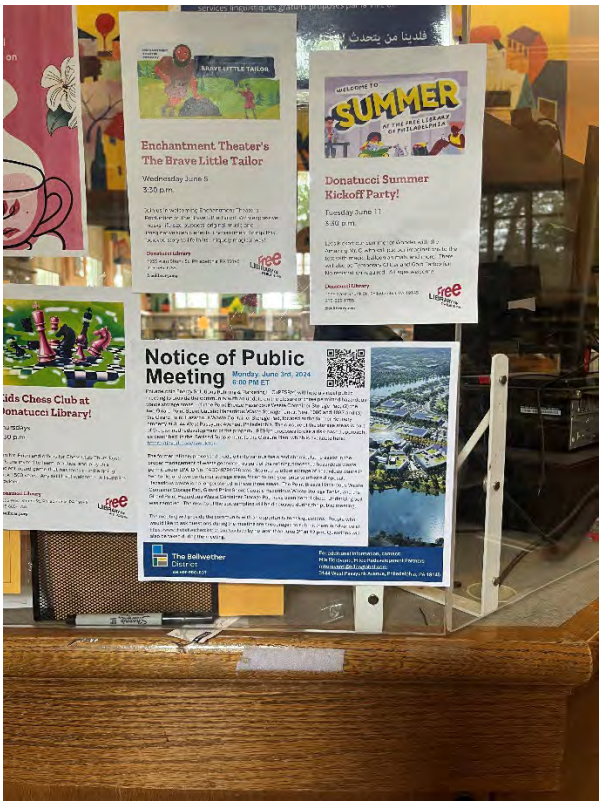


St. Edmond Community Center





Thomas F. Donatucci Library



ShopRite on Oregon Avenue

Exhibit G

Electronic community message board posts

This post was contributed by a community member. The views expressed here are the author's own.

Philadelphia | Local Event

The Bellwether District Notice of Pubic Meeting

Megan Smith, Neighbor

JUN
3

ice of Public Meeting

Monday, June 3rd, 2024
6:00 PM ET

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The Bellwether District
AN HRP PROJECT

For additional information, contact:
Mia Fioravanti, Hilco Redevelopment Partners
mfioravanti@hilcoglobal.com
3144 West Passyunk Avenue, Philadelphia, PA 19145

Event Details

Featured Events

May 22, 2024
Join Rock Voices, the community choir that ONLY sings rock music,

Event Details

Mon, Jun 3, 2024 at 6:00 PM Add to calendar

Virtual

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Interested Share

Tour: Where History Meets Contemporary

May 17, 2024
Descendants: The Musical

May 18, 2024
TileFest '24: For the Love of Tile

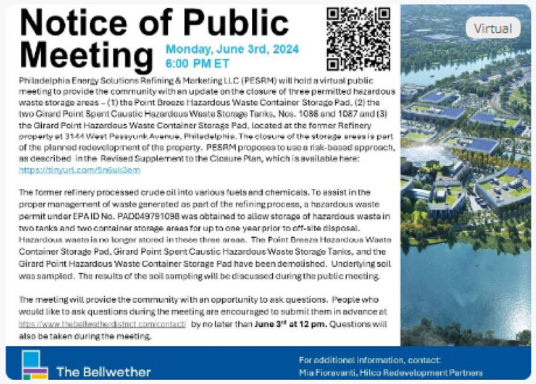
+ Add your event

Featured Classifieds

Announcement
A Entrepreneurs DREAM! EZ 5 MINUTE SALE!

+ Add your classified

PHL17 Community Calendar



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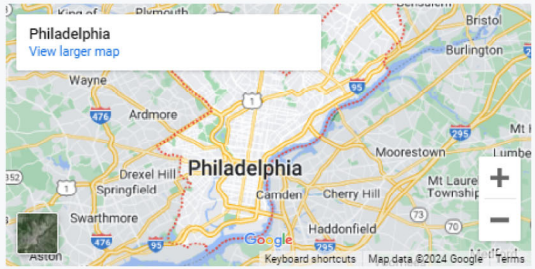
The Bellwether

For additional information, contact:
Mia Fioravanti, Hilco Redevelopment Partners



Share this event

Suggest Edit | Flag Event

Promote | Bookmark | Embed

VIRTUAL

The Bellwether District Public Meeting

Monday, June 03, 2024 , 6:00pm-8:00pm
Add to Calendar

Event Format
Virtual
Learn More

Originating Location
Virtual
Philadelphia, PA

Price
Free

Description
On Monday, June 03, 2024, at 6:00 p.m., The Bellwether District will host a virtual public meeting to provide a regulatory closure update for the three permitted hazardous waste storage areas at the site. The meeting will provide the community with an opportunity to ask questions. People who would like to ask questions during the meeting are encouraged to submit them in advance to https://www.thebellwetherdistrict.com/contact/ no later than June 03 at 12:00 p.m. Questions will also be taken during the meeting.

Register here:
https://hilcoglobal.zoom.us/webinar/register/WN*dKEOu5m*TG2lm6o_kH

Share this event

Suggest Edit Flag Event

Register here:
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Visit Event Website

Event Contact
The Bellwether District
Mia Fioravanti
MFioravanti@hilcoglobal.com

COMMUNITY CALENDAR

View As: Week

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Week of Sunday, Jun 2, 2024

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Sun 2	Ongoing through Sun, Dec 15	Chatter Splatter Day Care is OPEN! (537 Foundry Road Eagleville, PA 19403) More Info: chattersplatterplaygroup.com…
	6:30 – 8:30 p.m.	The Second City Comedian Rhapsody (Bristol Riverside Theatre, 120 Radcliffe Street, Bristol, PA, USA) More Info: www.brtstage.org
Mon 3	Ongoing through Sun, Dec 15	Chatter Splatter Day Care is OPEN! (537 Foundry Road Eagleville, PA 19403) More Info: chattersplatterplaygroup.com…
	9 a.m. – 5 p.m.	Morris Arboretum & Gardens' Garden Railway: Dinos! (100 E. Northwestern Avenue, Philadelphia, PA 19118) More Info: morrisarboretum.org
	9 a.m. – 5 p.m.	Morris Arboretum & Gardens' Garden Railway: Dinos! (100 E. Northwestern Avenue, Philadelphia, PA 19118) More Info: morrisarboretum.org
	10 a.m. – 7 p.m.	Gilded Shadows (Park Towne Place, 2200 Benjamin Franklin Parkway) More Info: www.inliquid.org…
	10 a.m. – 3 p.m.	Tour Andalusia Historic House, Gardens & Arboretum (1237 State Road. Andalusia, PA) More Info: andalusiapa.org
	12 – 4 p.m.	Tickets through Time at Historic Waynesborough (2049 Waynesborough Road, Paoli, PA 19301) More Info: form.jotform.com…
	6 – 7:30 p.m.	The Bellwether District Community Meeting (Virtual) More Info: hilcoglobal.zoom.us…
	7 – 8 p.m.	Mindfulness and Compassion - A path for transformation (The Starting Point, 215 Highland ave Unit C, Haddon Township, NJ 08108) More Info: startingpoint.org…
	7:30 – 8:30 p.m.	Monthly Financial Literacy Webinar (Zoom Webinar) More Info: www.ettingoffwm.com
Tue 4	Ongoing through Sun, Dec 15	Chatter Splatter Day Care is OPEN! (537 Foundry Road Eagleville, PA 19403) More Info: chattersplatterplaygroup.com…
	9 a.m. – 2 p.m.	Chester County 50plus EXPO (Church Farm School, 1001 E. Lincoln Highway, Exton, PA 19341) More Info: www.50plusexpopa.com
	9 a.m. – 5 p.m.	Morris Arboretum & Gardens' Garden Railway: Dinos! (100 E. Northwestern Avenue, Philadelphia, PA 19118) More Info: morrisarboretum.org

AN EVENT

Done. The following event has been successfully submitted.

The Bellwether District Community Meeting

WHEN	Monday, June 3, 2024, 6 – 7:30pm EDT
LOCATION	Virtual
CATEGORY	Community Events / Volunteerism
CONTACT NAME	Mia Fioravanti
CONTACT EMAIL	mfioravanti@hilcoglobal.com
COST	FREE
EVENT IMAGE	
WEB LINK	hilcoglobal.zoom.us…
EVENT DETAILS	On Monday, June 03, 2024, at 6:00 p.m., The Bellwether District will host a virtual public meeting to provide a regulatory closure update for the three permitted hazardous waste storage areas at the site. The meeting will provide the community with an opportunity to ask questions. People who would like to ask questions during the meeting are encouraged to submit them in advance to www.thebellwetherdistrict.com… no later than June 03 at 12:00 p.m. Questions will also be taken during the meeting.

The calendar owner has been notified of your submission.

From:	Smiley, Alexandra
To:	Piccone, Amy
Cc:	Fioravanti, Mia
Subject:	FW: FW: New event for 6abc : The Bellwether District Community Meeting
Date:	Monday, June 3, 2024 1:54:26 PM
Attachments:	image003.png image001.png

Amy,

Fast follow to the email I just sent- it looks like it is live!

Best,

Alexandra Smiley
Director of Communications

Mobile: 8472203454
111 South Wacker Drive
Suite 3000
Chicago IL 60606
hrpgroup.com

From: Bridget Kernan <bridget@bridgetkernan.com>
Sent: Monday, June 3, 2024 12:53 PM
To: Smiley, Alexandra <ASmiley@hilcoglobal.com>; Fioravanti, Mia <MFioravanti@hilcoglobal.com>
Subject: Fwd: FW: New event for 6abc : The Bellwether District Community Meeting

This message is from an EXTERNAL SENDER - be CAUTIOUS, particularly with links and attachments.

Alex -- their ears must have been ringing. See below.

---------- Forwarded message ---------
From: **Alderfer, Bruce** <Bruce.Alderfer@abc.com>
Date: Mon, Jun 3, 2024 at 1:51 PM
Subject: RE: FW: New event for 6abc : The Bellwether District Community Meeting
To: Bullick, Jennifer A. <Jennifer.A.Bullick@abc.com>, Bridget Kernan <bridget@bridgetkernan.com>

Sorry for the delay – I was out sick for most of last week. I'm happy to report that we found the problem on our end and fixed it, and the meeting is now showing up: https://6abc.com/community/calendar/

Bruce Alderfer
Senior Manager of Digital News Content | 6abc
4100 City Avenue, Philadelphia, PA 19131
WPVI-TV Philadelphia | bruce.alderfer@abc.com

215.581.4653 office | 215.559.4964 mobile

From: Bullick, Jennifer A. <Jennifer.A.Bullick@abc.com>
Sent: Wednesday, May 29, 2024 12:37 PM
To: Bridget Kernan <bridget@bridgetkernan.com>
Cc: Alderfer, Bruce <Bruce.Alderfer@abc.com>
Subject: RE: FW: New event for 6abc : The Bellwether District Community Meeting

+ Bruce to advise.

Thanks!
Jen

From: Bridget Kernan <bridget@bridgetkernan.com>
Sent: Wednesday, May 29, 2024 12:24 PM
To: Bullick, Jennifer A. <Jennifer.A.Bullick@abc.com>
Subject: Fwd: FW: New event for 6abc : The Bellwether District Community Meeting

This Message is From an External Sender
Caution: Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi, Jennifer:

The below is from Mia Fioravanti -- she was the recipient of the email on 5/17 but she does not see a call to action to give final approval to the listing. Can you advise? Or if there's someone else on your team who's a better contact (Bruce?), I'm happy to further investigate with them.

Apologies for the runaround! :)
Bridget

---------- Forwarded message ---------
From: **Fioravanti, Mia** <MFioravanti@hilcoglobal.com>
Date: Wed, May 29, 2024 at 11:04 AM
Subject: FW: New event for 6abc : The Bellwether District Community Meeting
To: Smiley, Alexandra <ASmiley@hilcoglobal.com>, Bridget Kernan <bridget@bridgetkernan.com>

This is the only email I've received. Let me know how to proceed.

Mia Fioravanti
Vice President of Corporate Affairs
Hilco Redevelopment Partners (HRP)
3144 West Passyunk Avenue
Philadelphia, PA 19145
Mobile: (610) 551-8390
www.hilcoredev.com | mfioravanti@hilcoglobal.com

From: calendar.1207900@trumba.com <calendar.1207900@trumba.com>
Sent: Friday, May 17, 2024 8:45 AM
To: Fioravanti, Mia <MFioravanti@hilcoglobal.com>
Subject: New event for 6abc : The Bellwether District Community Meeting

You don't often get email from calendar.1207900@trumba.com. Learn why this is important

This message is from an EXTERNAL SENDER - be CAUTIOUS, particularly with links and attachments.

Thank you for submitting the following event to the 6abc calendar.

The Bellwether District Community Meeting

DATE	Monday, June 3, 2024
TIME	6:00 pm – 7:30 pm EDT
WHERE	Virtual
CATEGORY	Meetings / Hearings
CONTACT NAME	Mia Fioravanti
CONTACT PHONE	215-581-4653
CONTACT EMAIL	mfioravanti@hilcoglobal.com
COST	Free
DESCRIPTION	On Monday, June 03, 2024, at 6:00 p.m., The Bellwether District will host a virtual public meeting to provide a regulatory closure update for the three permitted hazardous waste storage areas at the site. The meeting will provide the community with an opportunity to ask questions. People who would like to ask questions during the meeting are encouraged to submit them in advance to www.thebellwetherdistrict.com… no later than June 03 at 12:00 p.m. Questions will also be taken during the meeting.
MORE	https://hilcoglobal.zoom.us/webinar/register/WN_dKEOu5m_TG2lm6o_kHeljA#/registration

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Withdraw event submission

Replies to this email will be forwarded to **the calendar publisher**.

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--
Bridget Kernan
Bridget Kernan Strategies
bridget@bridgetkernan.com
bridgetkernan.com

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Bridget Kernan
Bridget Kernan Strategies
bridget@bridgetkernan.com
bridgetkernan.com

Closure of Hazardous Waste Storage Areas

Public Information Session

Former Philadelphia Energy Solutions Refinery, Facility ID Nos. 51-33624 and 51-33620
Philadelphia Energy Solutions Refining and Marketing LLC (PESRM)
3144 West Passyunk Avenue, Philadelphia, Pennsylvania

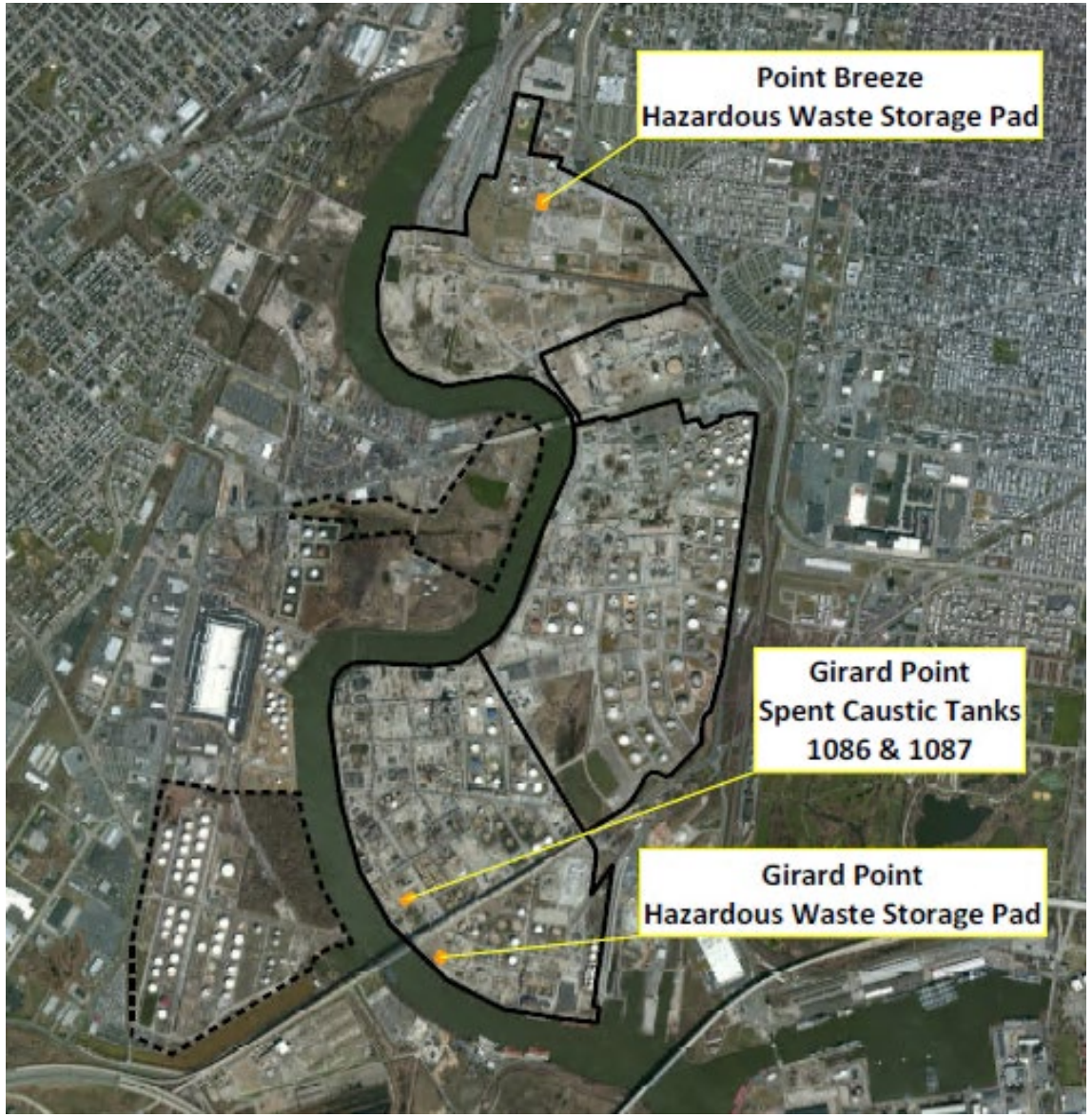
Presented by:
Kevin Long (Principal Consultant) and Abigail Spiers (Consultant)
Terraphase Engineering Inc.

June 3, 2024

Closure of Hazardous Waste Storage Areas

Agenda

- Purpose of Meeting
- Regulating Hazardous Waste Storage
- Historic Fill & Other Sources
- Revised *Supplement to Closure Plan*
- Background & Update for Each Area
- Conclusions
- Next Steps
- Questions and Comments



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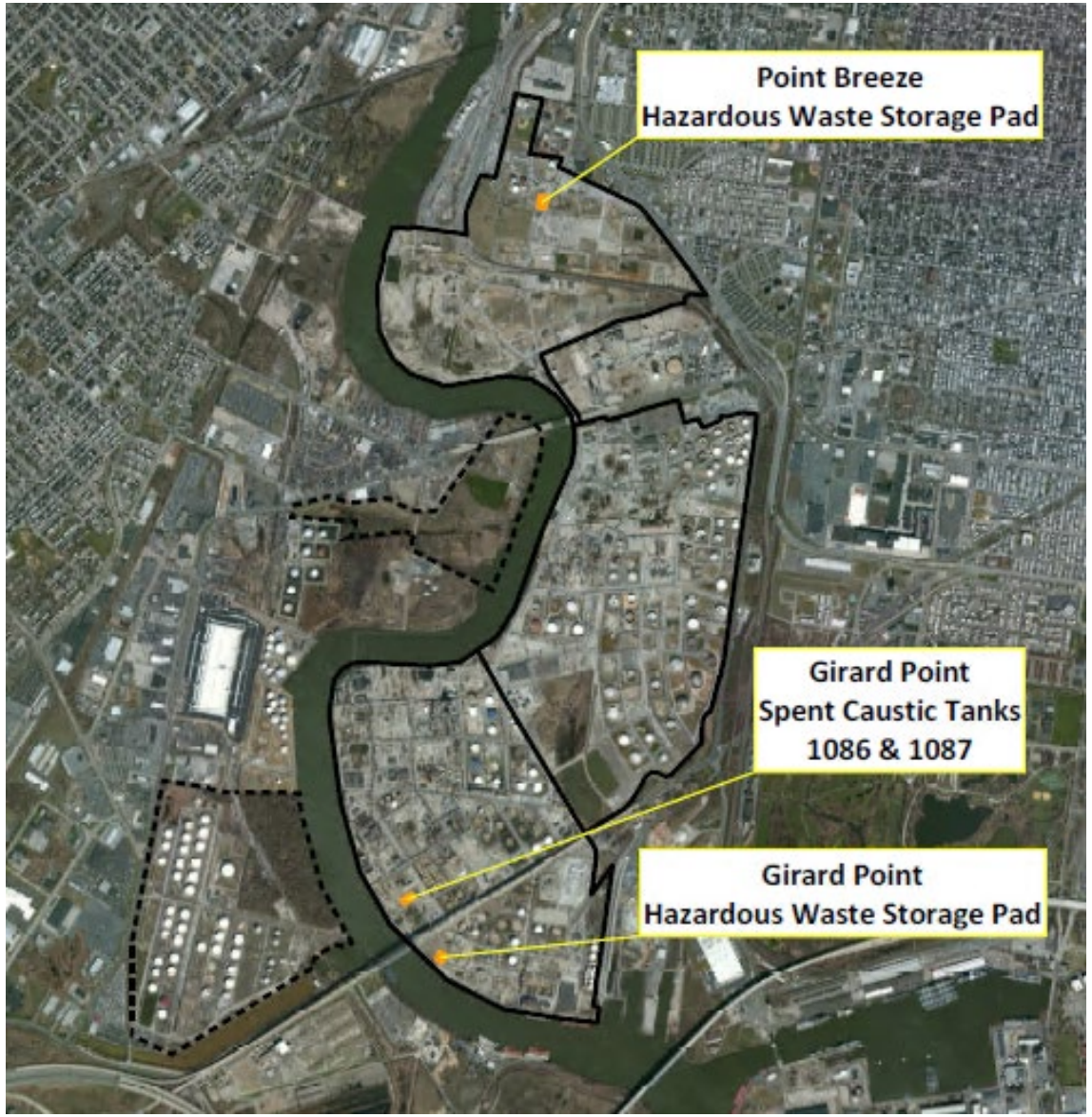
Closure of Hazardous Waste Storage Areas

Purpose of Meeting

- **Status** of efforts to close on-site areas where hazardous waste was permitted to be stored
- Provide public an opportunity to offer **comments** and ask **questions** on the closure process and efforts



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Closure of Hazardous Waste Storage Areas

Regulating Hazardous Waste Storage

Hazardous waste is generated at **industrial** sites, including refineries, from processes involving toxic, corrosive, ignitable, or reactive substances

Federal and state **regulations**, particularly the Resource Conservation and Recovery Act (RCRA), govern the management of hazardous waste

Regulations ensure "cradle-to-grave" **tracking** of hazardous waste from generation to disposal

On-site storage of hazardous waste is allowed for **limited** periods (e.g., up to 90 days)

Storage areas must comply with stringent **standards** to prevent environmental contamination

Handling hazardous waste must undergo regular inspections and follow **strict** containment, labeling, and record-keeping protocols

When a storage area closes, it must follow a closure process to decontaminate and **safely** decommission the area

Closure process ensures the removal of hazardous waste and remediation of contamination, **eliminating** long-term environmental risks

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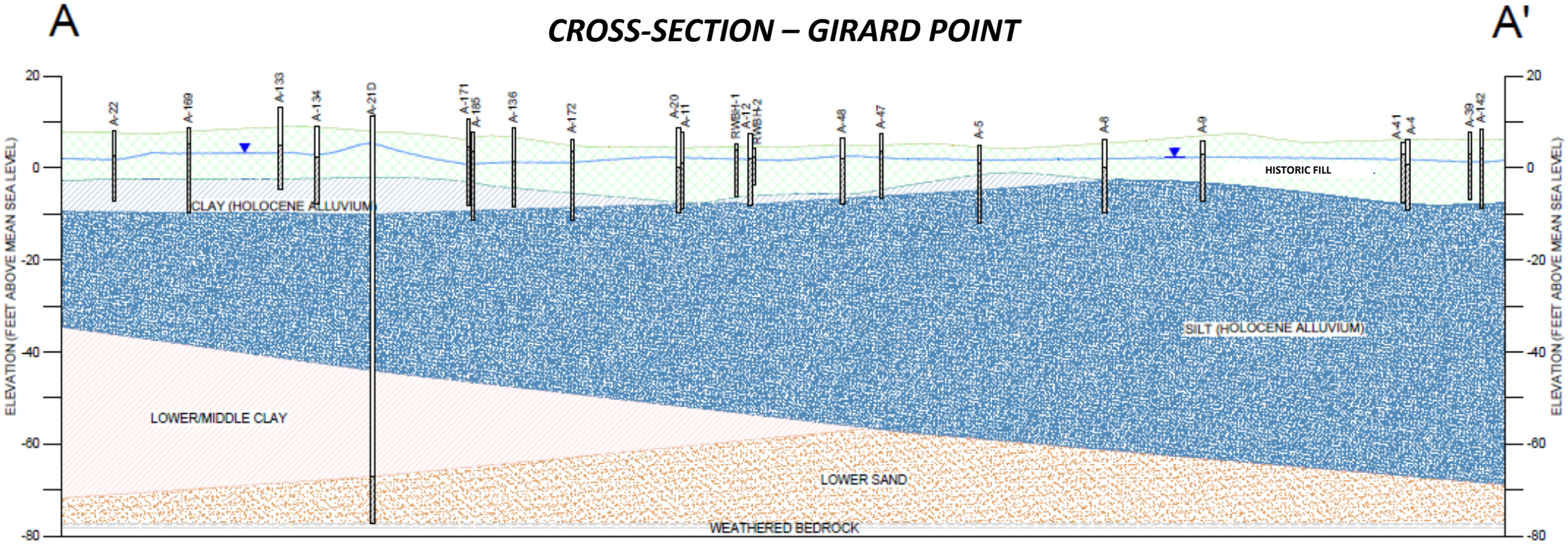
Closure of Hazardous Waste Storage Areas

Historic Fill

- During development of sites in the past, **fill material** (e.g., soil, rock, stone, gravel, asphalt, brick) was used to level the grade ("historic fill")
- Chemicals commonly found in historic fill include **metals** (e.g., arsenic & lead) and semivolatile organic chemicals (e.g., **polycyclic aromatic hydrocarbons** [PAHs] like benzo(a)pyrene & naphthalene)
- PAHs are chemicals formed through **incomplete combustion** of organic materials (e.g., coal, oil, gas, wood). Found in crude oil, tar, and charred portions of grilled meat.



Philadelphia Refinery Operations
A Series of Evergreen Resources Group, LLC.
2 Righter Parkway, Suite 200
Wilmington, DE 19803

Closure of Hazardous Waste Storage Areas

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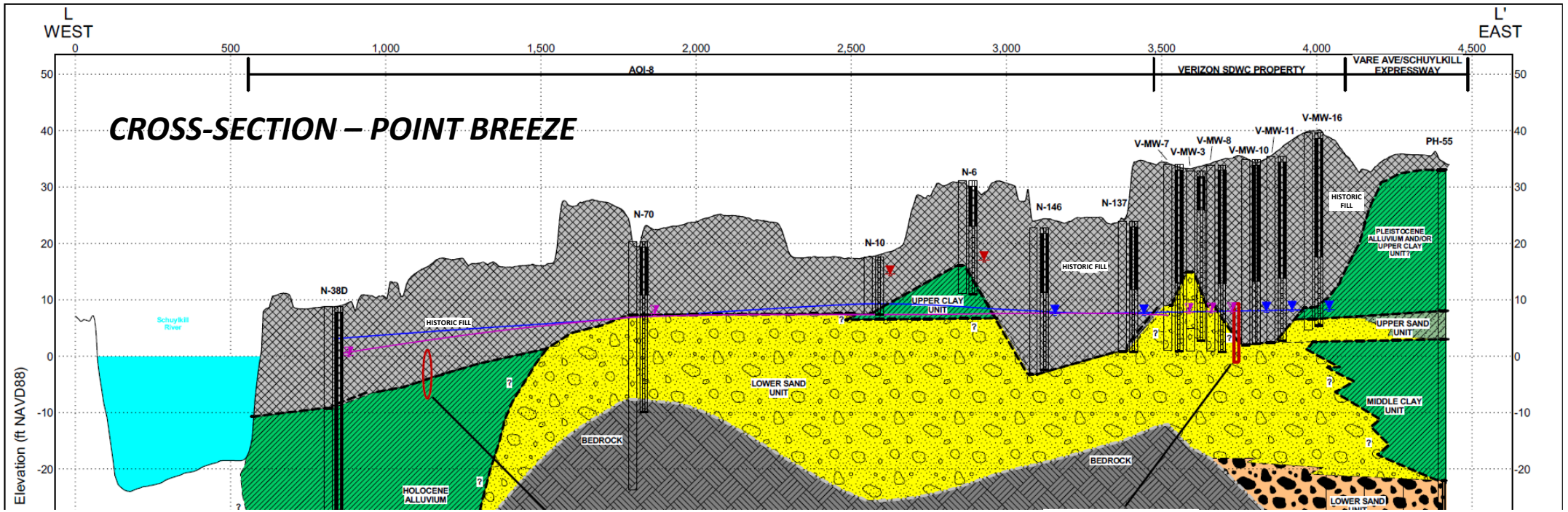

Philadelphia Refinery Operations
A Series of Evergreen Resources Group, LLC.
2 Righter Parkway, Suite 200
Wilmington, DE 19803

Closure of Hazardous Waste Storage Areas

Pre-Existing Contamination from Other Refinery Related Sources

- In addition to historic fill, **other pre-existing contamination** present due other refinery related impacts
- **Challenge** to determine if contamination associated with release from the storage areas
- Contamination identified that is NOT associated with release from the storage areas will be **addressed under Act 2**

Aerial photograph of the Atlantic Refining Company - 1926
(Library Company of Philadelphia) https://philadelphiaencyclopedia.org/

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Closure of Hazardous Waste Storage Areas

Pre-Existing Contamination from Other Refinery Related Sources

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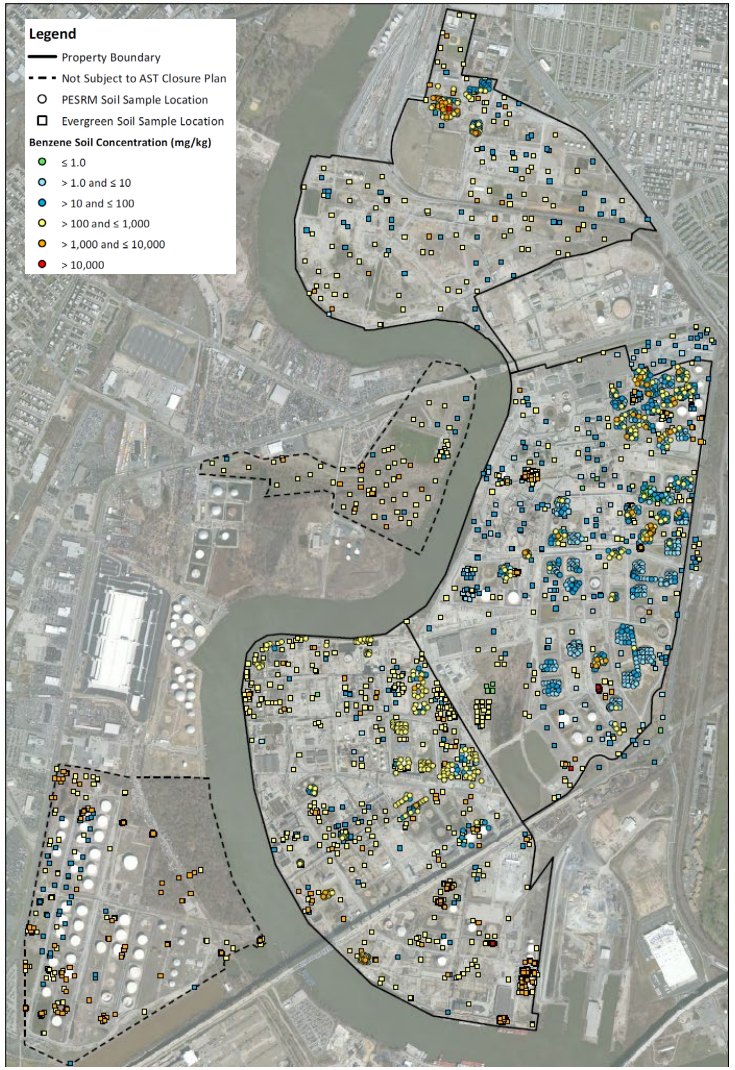
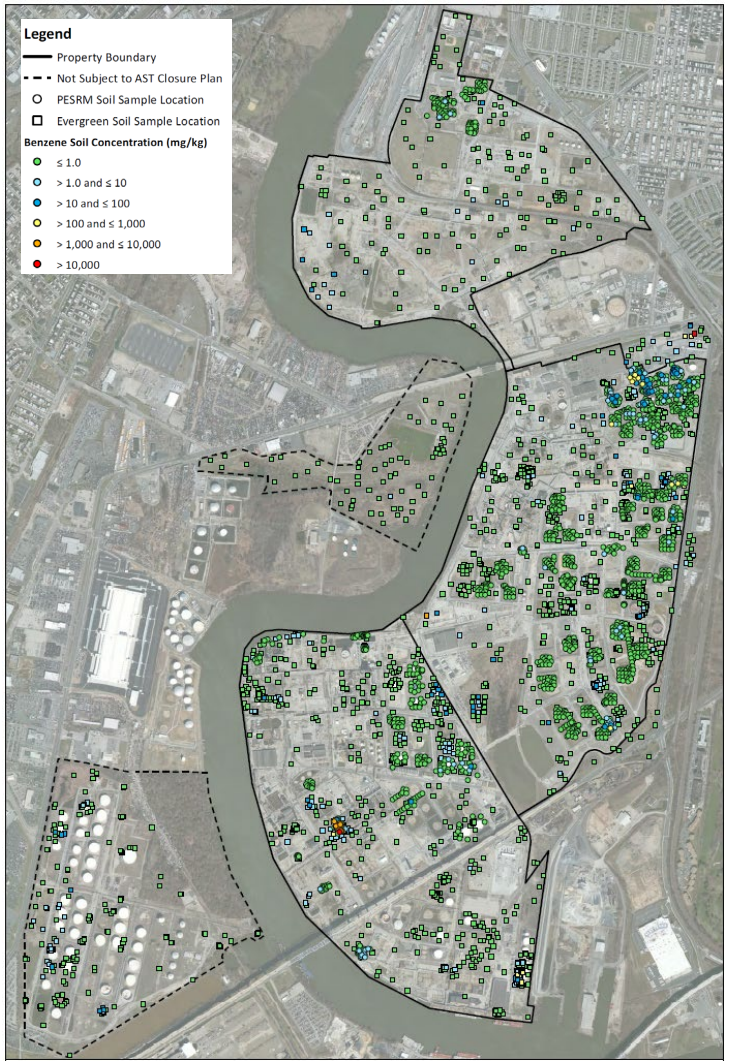


Lead



Benzene

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Pennsylvania's
Land Recycling Program ("Act 2")

- Cleanup program established in 1995
- Encourages **cleanup/reuse** of contaminated **commercial** & **industrial** sites
- Sets standards which are **protective** of human health and the environment
- Three remediation standards which can be used to **demonstrate** that a release has been **adequately characterized** and **remediated** under Act 2
- Statewide Health Standard uses **generic risk-based cleanup levels** derived by PADEP ("Medium-Specific Concentrations"; MSC)
- Used to demonstrate that chemical concentrations are at **acceptable** levels and considers:
  - (1) risk to human health from **direct contact** with chemicals in soil and
  - (2) the **protection of groundwater** for potable and nonpotable uses (i.e., **leaching** of chemicals in soil)

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

https://www.dep.pa.gov/Business/Land/LandRecycling/Pages/default.aspx

Table 3—Medium-Specific Concentrations (MSCs) for Organic Regulated Substances in Soil
A. Direct Contact Numeric Values

REGULATED SUBSTANCE	*CASRN*	*Residential 0-15 feet*		*Nonresidential*			
				Surface Soil 0-2 feet		*Subsurface Soil 2-15 feet*	
ACENAPHTHENE	83-32-9	13,000	G	190,000	C	190,000	C
ACENAPHTHYLENE	208-96-8	13,000	G	190,000	C	190,000	C
ACEPHATE	30560-19-1	880	G	10,000	G	190,000	C
ACETALDEHYDE	75-07-0	170	N	720	N	830	N
ACETONE	67-64-1	10,000	C	10,000	C	10,000	C
ACETONITRILE	75-05-8	1,100	N	4,800	N	5,500	N
ACETOPHENONE	98-86-2	10,000	C	10,000	C	10,000	C
ACETYLAMINOFLUORENE, 2- (2AAF)	53-96-3	4.9	G	24	G	190,000	C
ACROLEIN	107-02-8	0.38	N	1.6	N	1.8	N
ACRYLAMIDE	79-06-1	1.7	N	22	N	26	N
ACRYLIC ACID	79-10-7	19	N	79	N	91	N
ACRYLONITRILE	107-13-1	6.6	N	33	N	38	N
ALACHLOR	15972-60-8	330	G	1,600	G	190,000	C
ALDICARB	116-06-3	220	G	3,200	G	190,000	C
ALDICARB SULFONE	1646-88-4	220	G	3,200	G	190,000	C
ALDICARB SULFOXIDE	1646-87-3	220	G	3,200	G	190,000	C
ALDRIN	309-00-2	1.1	G	5.4	G	190,000	C
ALLYL ALCOHOL	107-18-6	1.9	N	8	N	9.1	N
AMETRYN	834-12-8	2,000	G	29,000	G	190,000	C
AMINOBIPHENYL, 4-	92-67-1	0.89	G	4.3	G	190,000	C
AMITROLE	61-82-5	20	G	97	G	190,000	C
AMMONIA	7664-41-7	1,900	N	8,000	N	9,100	N
AMMONIUM SULFAMATE	7773-06-0	44,000	G	190,000	C	190,000	C
ANILINE	62-53-3	19	N	79	N	91	N
ANTHRACENE	120-12-7	66,000	G	190,000	C	190,000	C
ATRAZINE	1912-24-9	81	G	400	G	190,000	C
AZINPHOS-METHYL (GUTHION)	86-50-0	660	G	9,600	G	190,000	C
BAYGON (PROPOXUR)	114-26-1	880	G	13,000	G	190,000	C
BENOMYL	17804-35-2	11,000	G	160,000	G	190,000	C
BENTAZON	25057-89-0	6,600	G	96,000	G	190,000	C
BENZENE	71-43-2	57	N	290	N	330	N
BENZIDINE	92-87-5	0.018	G	0.4	G	190,000	C
BENZO[A]ANTHRACENE	56-55-3	6	G	130	G	190,000	C
BENZO[A]PYRENE	50-32-8	0.58	G	12	G	190,000	C
BENZO[B]FLUORANTHENE	205-99-2	3.5	G	76	G	190,000	C
BENZO[GHI]PERYLENE	191-24-2	13,000	G	190,000	C	190,000	C
BENZO[K]FLUORANTHENE	207-08-9	4	G	76	G	190,000	C
BENZOIC ACID	65-85-0	190,000	C	190,000	C	190,000	C
BENZOTRICHLORIDE	98-07-7	1.4	G	7	G	10,000	C
BENZYL ALCOHOL	100-51-6	10,000	C	10,000	C	10,000	C
BENZYL CHLORIDE	100-44-7	9	N	45	N	52	N
BETA PROPIOLACTONE	57-57-8	0.11	N	0.56	N	0.64	N
BHC, ALPHA	319-84-6	3	G	14	G	190,000	C
BHC, BETA-	319-85-7	10	G	51	G	190,000	C
BHC, GAMMA (LINDANE)	58-89-9	17	G	83	G	190,000	C
BIPHENYL, 1,1-	92-52-4	2,300	G	11,000	G	190,000	C
BIS(2-CHLOROETHOXY)METHANE	111-91-1	660	G	9,600	G	10,000	C
BIS(2-CHLOROETHYL)ETHER	111-44-4	1.3	N	6.7	N	7.7	N
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	44	N	220	N	250	N
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0072	N	0.036	N	0.041	N
BIS[2-ETHYLHEXYL] PHTHALATE	117-81-7	1,300	G	6,500	G	10,000	C
BISPHENOL A	80-05-7	11,000	G	160,000	G	190,000	C
BROMACIL	314-40-9	22,000	G	190,000	C	190,000	C
BROMOCHLOROMETHANE	74-97-5	770	N	3,200	N	3,600	N
BROMODICHLOROMETHANE	75-27-4	12	N	60	N	69	N
BROMOMETHANE	74-83-9	96	N	400	N	460	N
BROMOXYNIL	1689-84-5	4,400	G	64,000	G	190,000	C
BROMOXYNIL OCTANOATE	1689-99-2	4,400	G	64,000	G	190,000	C
BUTADIENE, 1,3-	106-99-0	5.5	G	27	G	85	N

All concentration ns in mg/kg

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Closure of Hazardous Waste Storage Areas

Revised *Supplement to the Closure Plan*

- Pursuing risk-based clean closure
- After demolition, soil samples collected
- Compare measured concentrations to SHS MSC
- If concentrations ≤ SHS MSC → risk-based clean closure **requirements are met**

- If concentrations > SHS MSC, then closure to include human health and ecological risk assessment:
  - Determine if concentrations > SHS MSC are **related to release** from the storage areas or related to **pre-existing** contamination unrelated to the storage areas using **multiple lines of evidence**
  - If concentrations > SHS MSC are related to release from the storage areas, **characterize risks** for complete or potentially complete exposure pathways and **complete remedial action** if risks are **unacceptable**
  - If concentrations > SHS MSC are NOT related to release from the storage areas → risk-based clean closure **requirements are met**

Philadelphia Energy Solutions Refining and Marketing LLC
c/o Hilco Redevelopment Partners
111 South Wacker Drive, Suite 3000
Chicago, Illinois 60606

February 9, 2024

Via Electronic Mail

Dr. Mohamad Mazid
PA Department of Environmental Protection
South East Regional Office
2 East Main Street
Norristown, PA 19104

RE: Revised Supplement to the Closure Plan for the Point Breeze Hazardous Waste Container Storage Pad, the Girard Point Hazardous Waste Container Storage Pad, and the Two Girard Point Hazardous Waste Aboveground Storage Tanks (EPA ID #PAD049791098)

Dear Dr. Mazid:

Philadelphia Energy Solutions Refining and Marketing LLC ("PESRM") hereby submits to the Pennsylvania Department of Environmental Protection ("Department") this Supplement to the Closure Plan for the Point Breeze Hazardous Waste Container Storage Pad, the Girard Point Hazardous Waste Container Storage Pad, and the Two Girard Point Hazardous Waste Aboveground Storage Tanks located at 3144 Passyunk Avenue, Philadelphia, PA 19145 and identified in the Resource Conservation and Recovery Act ("RCRA") Part B Permit #PAD049791098 (the "Permit").

PESRM is pursuing closure of the hazardous waste storage areas in accordance with the Permit. Following the demolition of the concrete pads in each storage area, PESRM collected samples of the underlying soil in accordance with PADEP-approved soil sampling plans submitted in December 2021 and August 2022. The samples were submitted for laboratory analysis to assess whether soil has been impacted by previously unidentified releases to the environment from historic operations of the hazardous waste storage areas.

Part II.I of the Permit provides that "The Permittee shall close the facility as required by 40 CFR 264.111 and in accordance with the Closure Plan." On September 13, 2023, PESRM and the Department amended the January 15, 2020, Consent Order and Agreement ("CO&A") to clarify that the United States Environmental Protection Agency ("USEPA") has interpreted 40 CFR 264.111 to allow for a risk-based clean closure. The following describes how PESRM intends to evaluate the results of soil samples collected from the former hazardous waste storage areas and is provided as a Supplement to the Closure Plan for the Point Breeze Hazardous Waste Container Storage Pad, the Girard Point Hazardous Waste Container Storage Pad, and the Two Girard Point Hazardous Waste Aboveground Storage Tanks located at 3144 Passyunk Avenue, Philadelphia, PA 19145 and identified under RCRA Permit #PAD049791098:

(1) Chemical concentrations in soil will first be compared to PADEP Statewide Health Standard (SHS) Medium Specific Concentrations (MSCs) for non-residential soil direct contact and non-residential soil-to-groundwater (used aquifer) protection. If soil sampling results from a given storage area are less than or equal to MSCs, the area is considered to have met the requirements for risk-based clean closure.

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Closure of Hazardous Waste Storage Areas

Point Breeze Haz Waste Storage Pad

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Closure of Hazardous Waste Storage Areas

Point Breeze Haz Waste Storage Pad

- Submitted soil sampling **plan** to PADEP on 12/29/21
- Sampling conducted March and August 2022
- Installed 46 **borings**
- Collected 55 soil **samples**
  - Targeted towards features designed to collect and contain **fluids** and/or **stormwater**;
  - Supplemented by **random** locations determined using a 30-ft x 30-ft **grid**
  - Follow-up samples to further characterize **nature** and **extent** of concentrations > MSCs
- **Analyzed** for regulated substances & additional constituents based on types of hazardous waste stored

terraphase engineering

Technical Memorandum

To:	Mohamad M. Mazid, PhD, PE Chief Technical Services Department of Environmental Protection Southeast Regional Office Waste Management Program 2 East Main Street Norristown, PA 19401	From:	Kevin L. Long Nicholas J. Scala, PG, LSRP Terraphase Engineering Inc.
cc:	Joseph Jeray, PE, PESRM		
Date:	September 9, 2021 Updated December 8, 2021 Updated December 29, 2021	Project No.:	P044.001.002
Subject:	**Soil Sampling Plan – RCRA Permit PAD 049 791 098** **Point Breeze Hazardous Waste Container Storage Area** **Philadelphia Energy Solutions Refining and Marketing LLC** **3144 West Passyunk Avenue, Philadelphia, PA 19145**		

Terraphase Engineering Inc. (Terraphase), on behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), has prepared this *Soil Sampling Plan* to assess whether potential historical releases from the Point Breeze Hazardous Waste Container Storage Area (PB Waste Storage Area) at the former Philadelphia Refinery have impacted soil beneath the storage area and ultimately, obtain closure of the storage area subject to the requirements of 40 CFR Part 264, as incorporated by reference in 25 Pa. Code Chapter 264a. PESRM provided Notification of Intent to close the PB Waste Storage Area to the Pennsylvania Department of Environmental Protection (PADEP) on July 2, 2021. NorthStar Contracting Group, Inc. (NorthStar) will perform the closure of the PB Waste Storage Area in accordance with the closure timeline submitted to PADEP in August 2021, additional details in the content shared with PADEP on September 30, 2021, and the approved Closure Plan embedded in the Permit No. PAD 049 791 098. Closure of the PB Waste Storage Area is anticipated to start during the 1st quarter of 2022. Soil sampling will be conducted following removal of the concrete pad.

The following sections summarize relevant background information, detail the proposed soil sampling scope of work, and provide a proposed project schedule.

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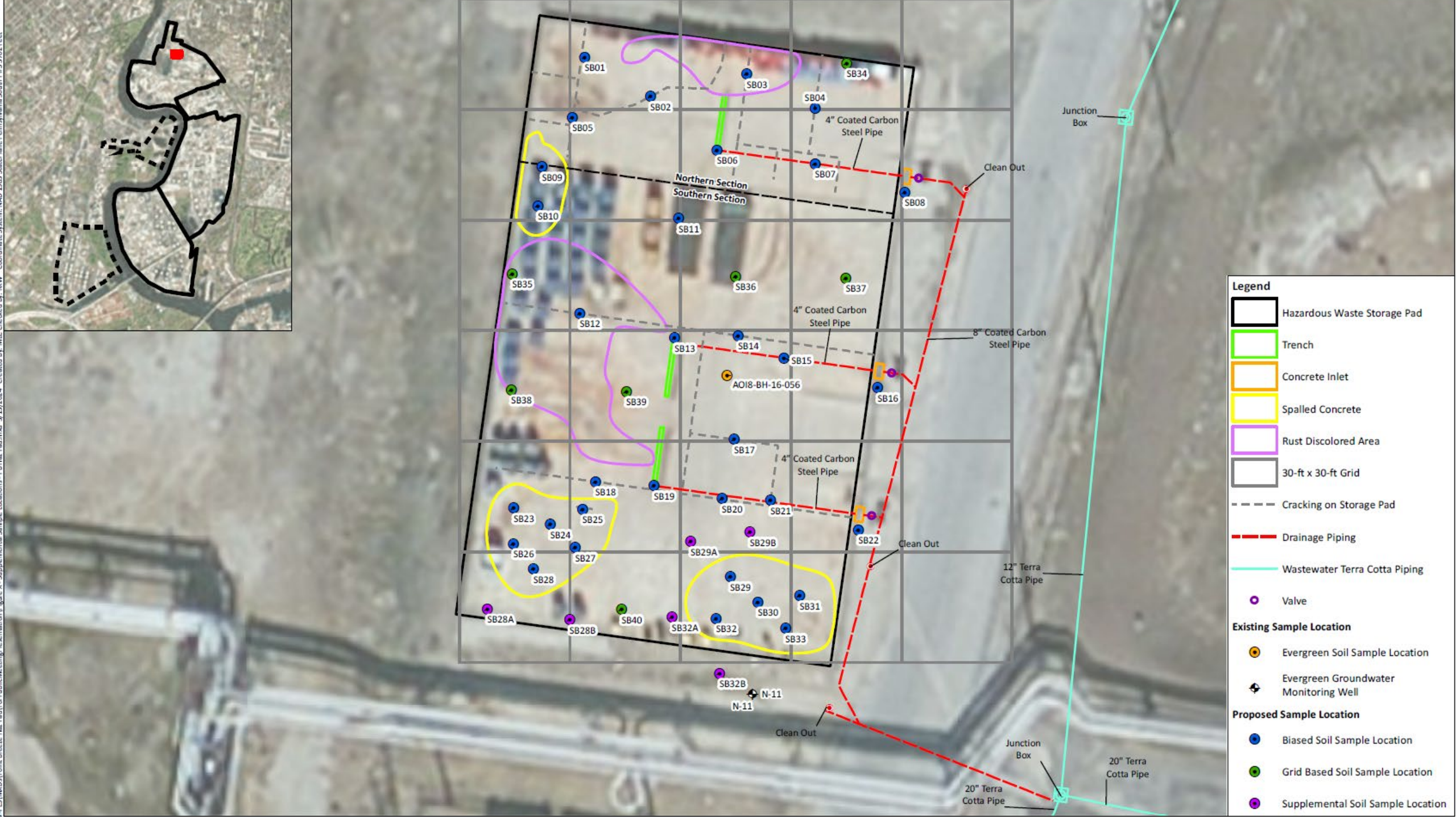
SB01
SB02
SB03
SB04
SB05
SB06
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SB25
SB26
SB27
SB28
SB28A
SB28B
SB29
SB29A
SB29B
SB30
SB31
SB32
SB32A
SB32B
SB33
SB34
SB35
SB36
SB37
SB38
SB39
SB40
AOI8-BH-16-056
N-11
N-11
Northern Section
Southern Section
4" Coated Carbon Steel Pipe
4" Coated Carbon Steel Pipe
4" Coated Carbon Steel Pipe
8" Coated Carbon Steel Pipe
Clean Out
Clean Out
Clean Out
Junction Box
Junction Box
12" Terra Cotta Pipe
20" Terra Cotta Pipe
20" Terra Cotta Pipe
Legend
Hazardous Waste Storage Pad
Trench
Concrete Inlet
Spalled Concrete
Rust Discolored Area
30-ft x 30-ft Grid
Cracking on Storage Pad
Drainage Piping
Wastewater Terra Cotta Piping
Valve
Existing Sample Location
Evergreen Soil Sample Location
Evergreen Groundwater Monitoring Well
Proposed Sample Location
Biased Soil Sample Location
Grid Based Soil Sample Location
Supplemental Soil Sample Location

Closure of Hazardous Waste Storage Areas
Point Breeze Haz Waste Storage Pad

Found at concentrations > the NonRes Soil **Direct Contact** MSC:

Polycyclic Aromatic Hydrocarbons (PAHs)
- Benzo(a)anthracene – B(a)A
- Benzo(a)pyrene – B(a)P
- Benzo(b)fluoranthene – B(b)F

Metals
- Lead

Found at concentrations > the NonRes **Soil-GW Protection** MSC:

Polycyclic Aromatic Hydrocarbons (PAHs)
- Benzo(a)pyrene – B(a)P
- Chrysene

Metals
- Lead

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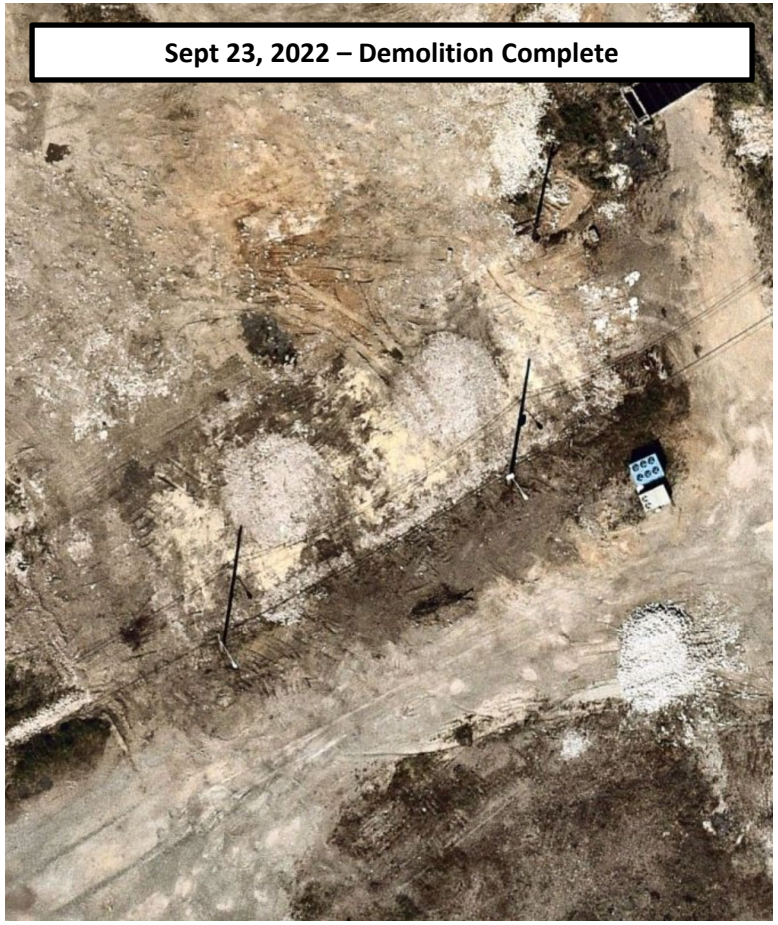
PB Waste Storage Unit
0
2,500
5,000
10,000 Feet
SB01
SB02
SB03
SB04
SB05
SB06
SB07
SB08
SB09
SB10
SB11
SB12
SB13
SB14
SB15
SB16
SB17
SB18
SB19
SB20
SB21
SB22
SB23
SB24
SB25
SB26
SB27
SB28
SB28A
SB28B
SB29
SB29A
SB29B
SB30
SB31
SB32
SB32A
SB32B
SB33
SB34
SB35
SB36
SB37
SB38
SB39
SB40
Direct Contact MSCs
• B(a)A, B(a)P, B(b)F
• Lead
Soil-GW Prot. MSCs
• B(a)P, Chrysene
• Lead
Legend
Hazardous Waste Storage Pad
PESRM Soil Sample Location
Exceeds DC MSC
Exceeds S-GW MSC
No Exceedances

Closure of Hazardous Waste Storage Areas

Girard Point Spent Caustic Tanks 1086 & 1087



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Closure of Hazardous Waste Storage Areas
Spent Caustic Tanks 1086 & 1087

- Submitted soil sampling **plan** to PADEP on 8/19/22
- Sampling conducted January 2023
- Installed 16 **borings**
- Collected 16 soil **samples**
  - Targeted towards features designed to collect and contain **fluids** and/or **stormwater** and areas with visual evidence of **deterioration**;
  - Supplemented by **random** locations determined using a 30-ft x 30-ft **grid**
- **Analyzed** for regulated substances, additional constituents based upon types of hazardous waste stored, **and pH**

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Technical Memorandum

To: Mohamad M. Mazid, PhD, PE
Chief Technical Services
Department of Environmental Protection
Southeast Regional Office
Waste Management Program
2 East Main Street
Norristown, PA 19401

From: Kevin L. Long
Nicholas J. Scala, PG, LSRP
Terraphase Engineering Inc.

cc: Joseph Jeray, PE, PESRM

Date: August 19, 2022 Project No.: P044.001.011

Subject: **Soil Sampling Plan – RCRA Permit PAD 049 791 098**
Girard Point Hazardous Waste Storage Pad and Spent Caustic Tanks 1086 and 1087 Removal
Philadelphia Energy Solutions Refining and Marketing LLC
3144 West Passyunk Avenue, Philadelphia, PA 19145

Terraphase Engineering Inc. (Terraphase), on behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), has prepared this *Soil Sampling Plan* to assess potential historical releases from the Girard Point Hazardous Waste Storage Pad (GP Waste Storage Pad) and tanks GP 1086 and 1087 (spent caustic) at the former Philadelphia Refinery located at 3144 West Passyunk Avenue in Philadelphia, Pennsylvania (the "Facility"). The *Soil Sampling Plan* has been designed to evaluate the potential presence of impacted soil beneath the GP Waste Storage Pad and the GP 1086 and 1087 secondary containment structure, and ultimately, obtain closure subject to the requirements of 40 CFR Part 264, as incorporated by reference in 25 Pa. Code Chapter 264a. PESRM provided Notification of Intent to close the GP Waste Storage Pad and GP 1086 and 1087 to the Pennsylvania Department of Environmental Protection (PADEP) on June 24, 2022. NorthStar Contracting Group, Inc. (NorthStar) will perform the closure of the GP Waste Storage Pad and GP 1086 and 1087 in accordance with the closure timeline submitted to PADEP on August 5, 2022, and the approved Closure Plan embedded in the Permit No. PAD 049 791 098. Soil sampling will be conducted in each area following removal of the tanks and the concrete containment pads. Closure of GP 1086 and 1087 is anticipated to start during the 3rd quarter of 2022, and closure of the GP Waste Storage Pad is anticipated to start in the 1st quarter of 2023.

The following sections summarize relevant background information, detail the proposed soil sampling scope of work, and provide a proposed project schedule.

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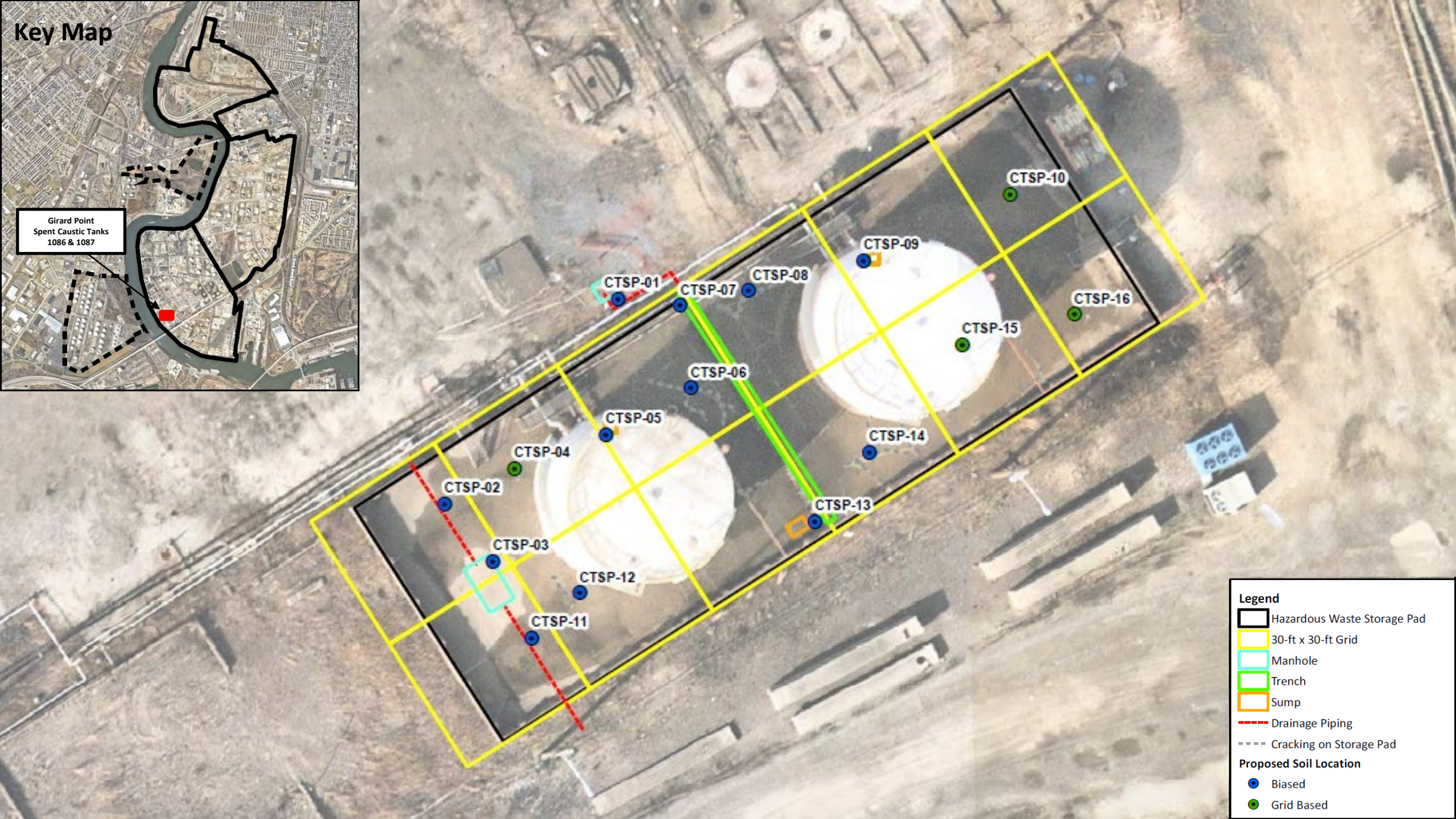
Key Map
Girard Point
Spent Caustic Tanks
1086 & 1087
CTSP-01
CTSP-02
CTSP-03
CTSP-04
CTSP-05
CTSP-06
CTSP-07
CTSP-08
CTSP-09
CTSP-10
CTSP-11
CTSP-12
CTSP-13
CTSP-14
CTSP-15
CTSP-16
Legend
Hazardous Waste Storage Pad
30-ft x 30-ft Grid
Manhole
Trench
Sump
Drainage Piping
Cracking on Storage Pad
Proposed Soil Location
Biased
Grid Based

Closure of Hazardous Waste Storage Areas
Spent Caustic Tanks 1086 & 1087

Found at concentrations > the NonRes Soil **Direct Contact** MSC:

None

Found at concentrations > the NonRes **Soil-GW Protection** MSC:

Volatile Organic Compounds (VOCs)
- Benzene

Metals
- Lead

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Direct Contact MSCs

- None

Soil-GW Prot. MSCs

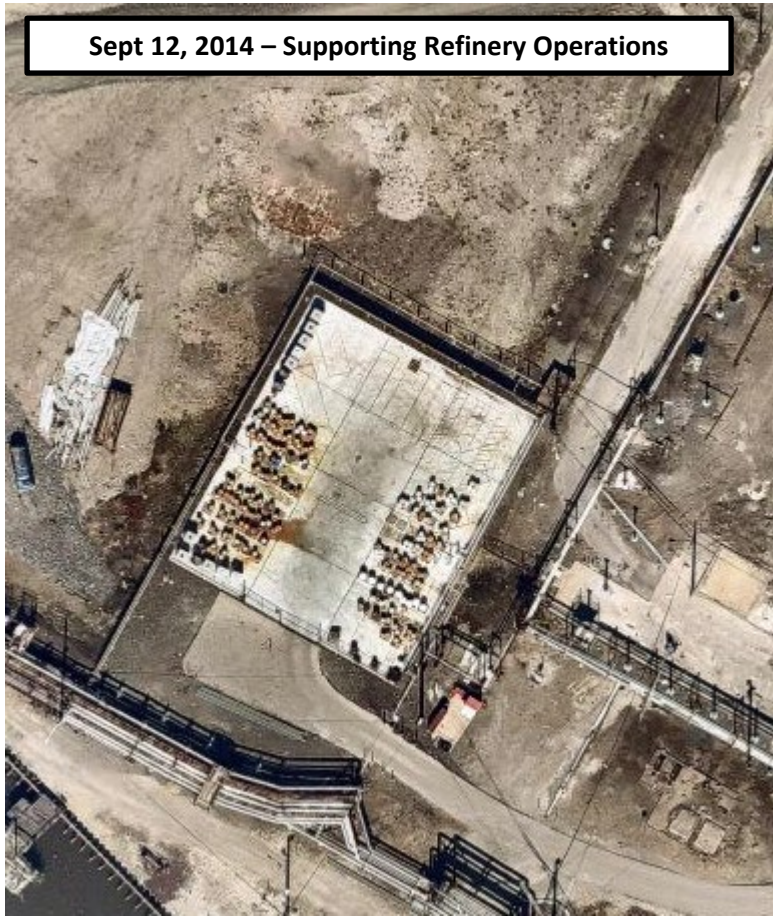
- Benzene
- Lead

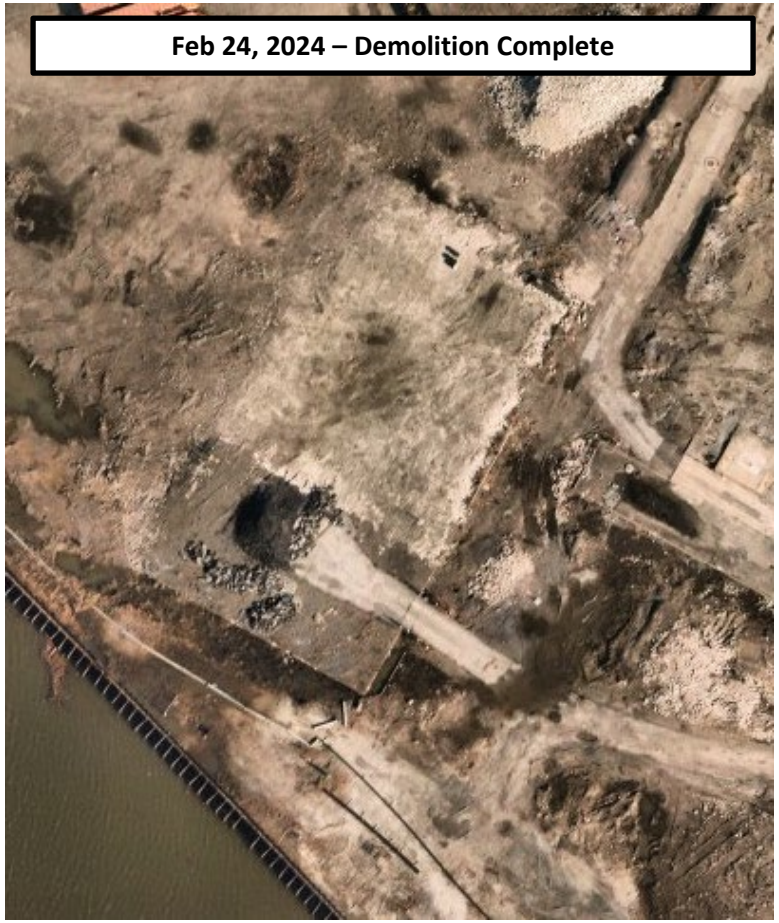
Corrosivity

- pH 6-8.2 SU

Closure of Hazardous Waste Storage Areas

Girard Point Hazardous Waste Pad





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Closure of Hazardous Waste Storage Areas

Girard Point Hazardous Waste Storage Pad

- Submitted a soil sampling **plan** to PADEP on 8/19/22
- Sampling conducted September 2023
- Installed 31 **borings**
- Collected 45 **samples**
  - Targeted towards features designed to collect and contain **fluids** and/or **stormwater** & areas with visual evidence of **deterioration**
  - Supplemented by **random** locations using a 30x30-ft **grid**
  - Follow-up samples to further characterize **nature** and **extent** of concentrations
- **Analyzed** for regulated substances & additional constituents based upon types of hazardous waste stored

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Technical Memorandum

To:	Mohamad M. Mazid, PhD, PE Chief Technical Services Department of Environmental Protection Southeast Regional Office Waste Management Program 2 East Main Street Norristown, PA 19401	From:	Kevin L. Long Nicholas J. Scala, PG, LSRP Terraphase Engineering Inc.
cc:	Joseph Jeray, PE, PESRM		
Date:	August 19, 2022	Project No.:	P044.001.011
Subject:	**Soil Sampling Plan – RCRA Permit PAD 049 791 098** **Girard Point Hazardous Waste Storage Pad and Spent Caustic Tanks 1086 and 1087 Removal** **Philadelphia Energy Solutions Refining and Marketing LLC** **3144 West Passyunk Avenue, Philadelphia, PA 19145**		

Terraphase Engineering Inc. (Terraphase), on behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), has prepared this *Soil Sampling Plan* to assess potential historical releases from the Girard Point Hazardous Waste Storage Pad (GP Waste Storage Pad) and tanks GP 1086 and 1087 (spent caustic) at the former Philadelphia Refinery located at 3144 West Passyunk Avenue in Philadelphia, Pennsylvania (the "Facility"). The *Soil Sampling Plan* has been designed to evaluate the potential presence of impacted soil beneath the GP Waste Storage Pad and the GP 1086 and 1087 secondary containment structure, and ultimately, obtain closure subject to the requirements of 40 CFR Part 264, as incorporated by reference in 25 Pa. Code Chapter 264a. PESRM provided Notification of Intent to close the GP Waste Storage Pad and GP 1086 and 1087 to the Pennsylvania Department of Environmental Protection (PADEP) on June 24, 2022. NorthStar Contracting Group, Inc. (NorthStar) will perform the closure of the GP Waste Storage Pad and GP 1086 and 1087 in accordance with the closure timeline submitted to PADEP on August 5, 2022, and the approved Closure Plan embedded in the Permit No. PAD 049 791 098. Soil sampling will be conducted in each area following removal of the tanks and the concrete containment pads. Closure of GP 1086 and 1087 is anticipated to start during the 3rd quarter of 2022, and closure of the GP Waste Storage Pad is anticipated to start in the 1st quarter of 2023.

The following sections summarize relevant background information, detail the proposed soil sampling scope of work, and provide a proposed project schedule.

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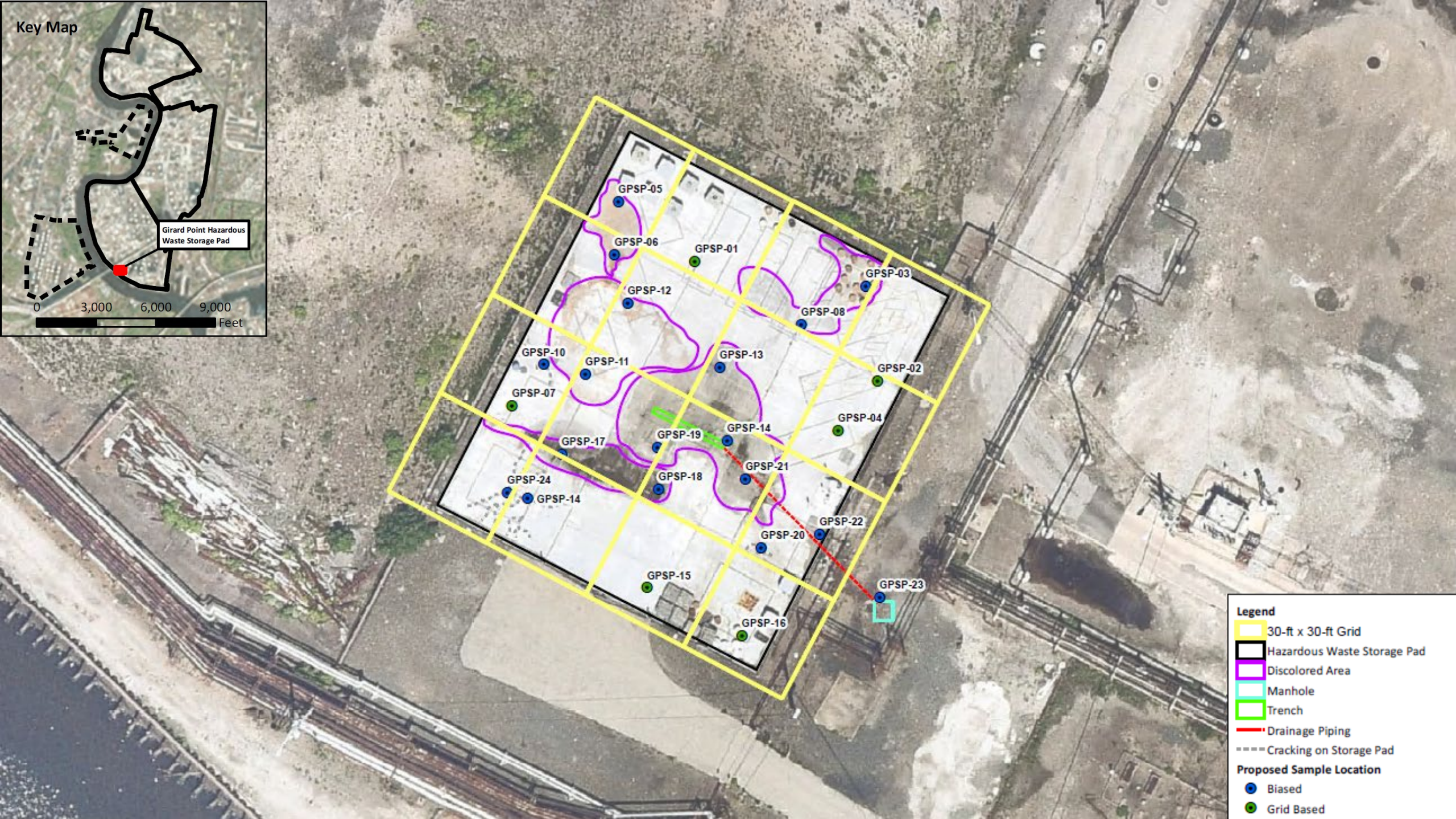
Key Map
Girard Point Hazardous Waste Storage Pad
0
3,000
6,000
9,000
Feet
GPSP-05
GPSP-06
GPSP-01
GPSP-03
GPSP-12
GPSP-08
GPSP-10
GPSP-11
GPSP-13
GPSP-02
GPSP-07
GPSP-04
GPSP-14
GPSP-19
GPSP-17
GPSP-21
GPSP-18
GPSP-24
GPSP-14
GPSP-22
GPSP-20
GPSP-15
GPSP-23
GPSP-16
Legend
30-ft x 30-ft Grid
Hazardous Waste Storage Pad
Discolored Area
Manhole
Trench
Drainage Piping
Cracking on Storage Pad
Proposed Sample Location
Biased
Grid Based

Closure of Hazardous Waste Storage Areas
Girard Point Hazardous Waste Storage Pad

Found at concentrations > the NonRes Soil **Direct Contact** MSC:

Polycyclic Aromatic Hydrocarbons (PAHs)
- Naphthalene

Found at concentrations > the NonRes **Soil-GW Protection** MSC:

Polycyclic Aromatic Hydrocarbons (PAHs)
- Benzo(a)pyrene – B(a)P
- Naphthalene

Volatile Organic Compounds (VOCs)
- Benzene

Metals
- Arsenic
- Lead

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Direct Contact MSCs

- Naphthalene

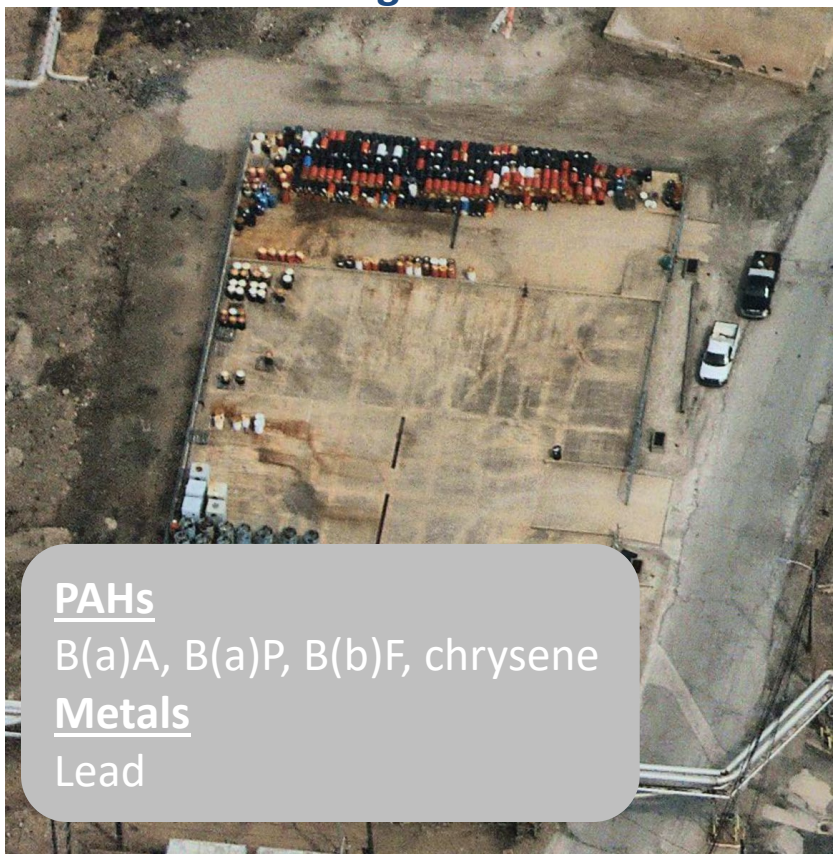
Soil-GW Prot. MSCs

- B(a)P, Naphthalene
- Benzene
- Arsenic, Lead

Closure of Hazardous Waste Storage Areas

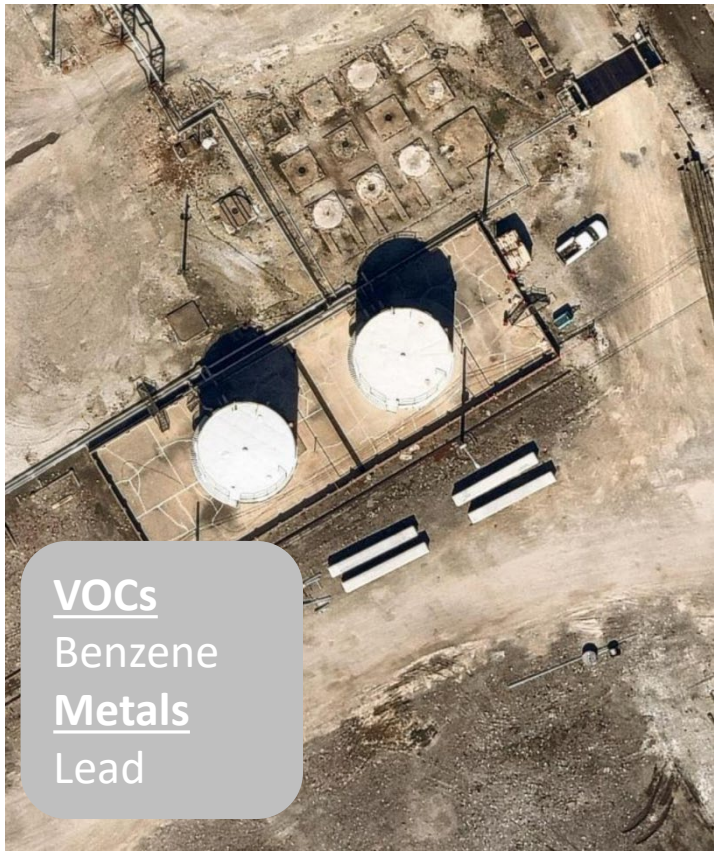
Summary of Chemicals Detected > MSCs

Point Breeze Storage Pad



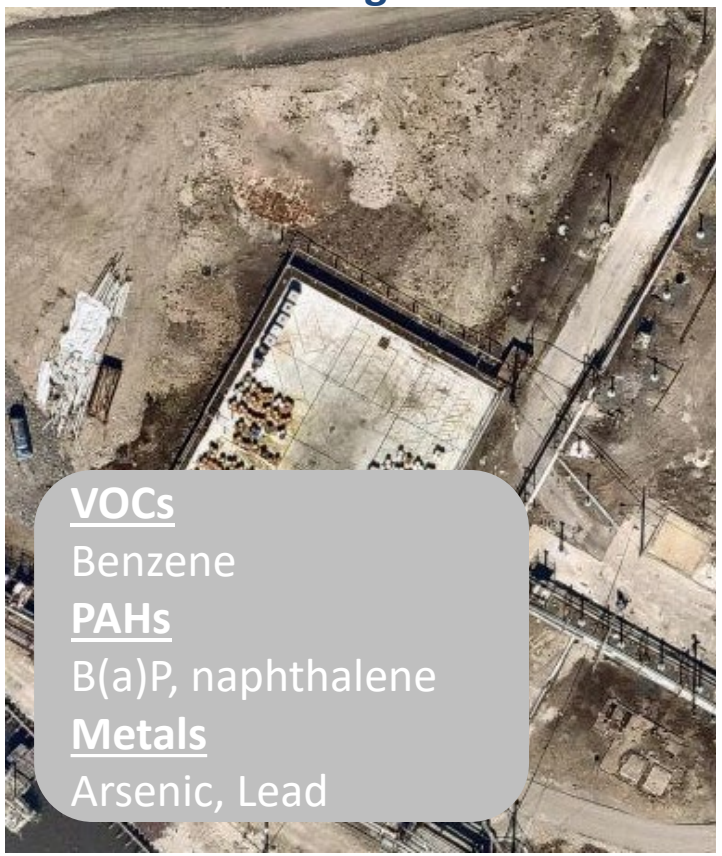
PAHs
B(a)A, B(a)P, B(b)F, chrysene
Metals
Lead

Girard Point Spent Caustic Tanks



VOCs
Benzene
Metals
Lead

Girard Point Storage Pad



VOCs
Benzene
PAHs
B(a)P, naphthalene
Metals
Arsenic, Lead

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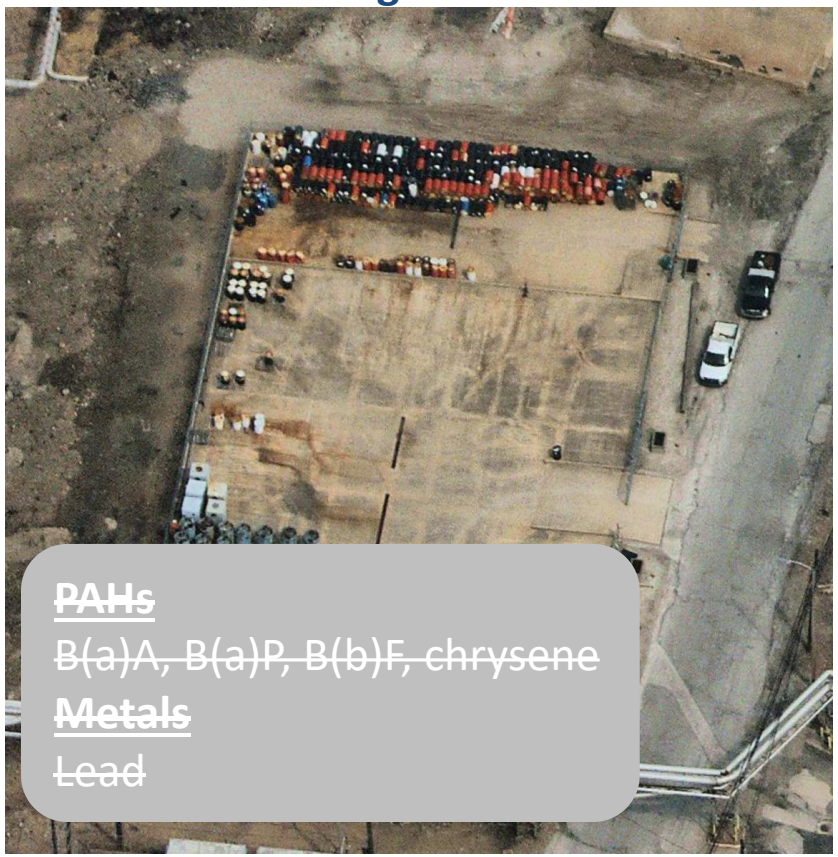
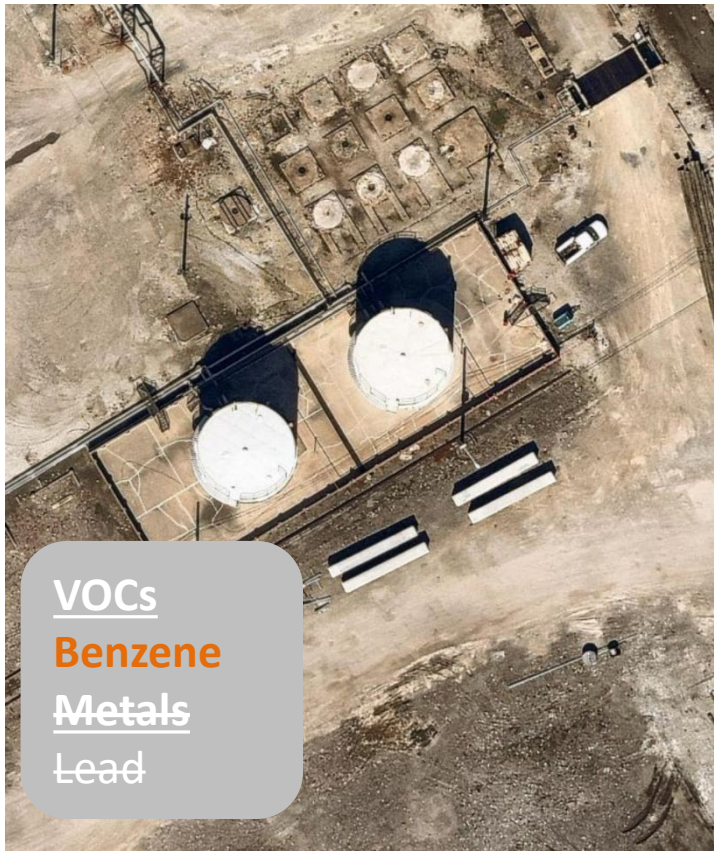
Closure of Hazardous Waste Storage Areas

Summary of Chemicals Detected > MSCs

Point Breeze Storage Pad



Girard Point Spent Caustic Tanks



Girard Point Storage Pad

Notes:

~~B(a)P~~ – Chemical associated with historic fill

Benzene – Additional review to determine if present due to release from the area

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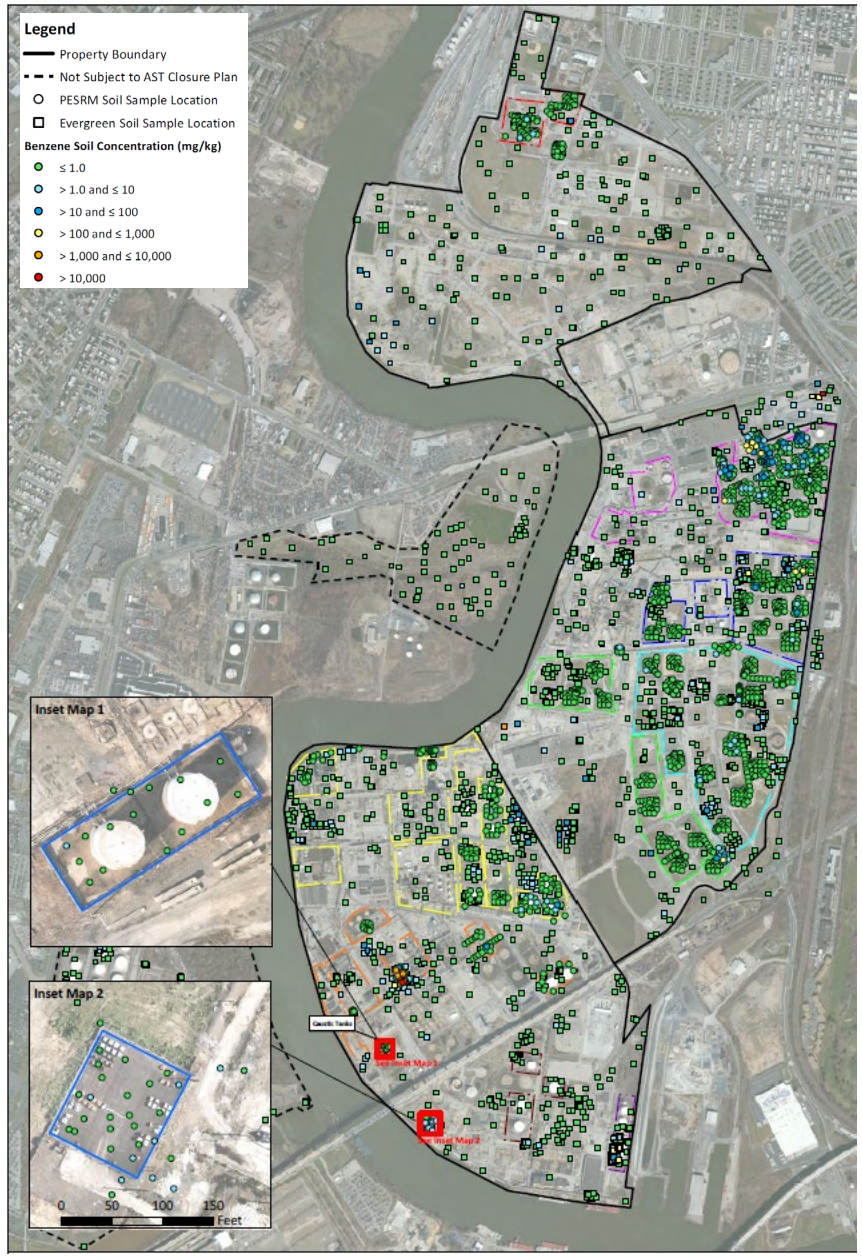
Closure of Hazardous Waste Storage Areas

Benzene

- Benzene, associated with **pre-existing contamination**, is present in soil throughout the Facility
- Range of concentrations observed at the GP Haz Waste Pad and Spent Caustic Tank areas are **consistent with** those **observed throughout** the Facility
- Spatial distribution and range of concentrations is **not consistent with** a **release** to the environment **from** the waste **storage areas**
- Benzene is NOT associated with a release from the waste storage areas



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Closure of Hazardous Waste Storage Areas

Lines of Evidence

Lines of Evidence	Point Breeze Storage Pad	Girard Point Spent Caustic Tanks	Girard Point Storage Pad
Known releases from this storage area to the environment?	No	No	No
Could chemicals detected in soil been stored in the area?	Yes	Yes	Yes
Spatial distribution of chemicals in soil suggest a release from this storage area?	No	No	No
Is historic fill present in the part of the site where this storage area was located?	Yes	Yes	Yes
Are the chemicals detected in soil also present in historic fill?	Yes	Yes	Yes
Is pre-existing contamination, associated with former refinery use, present in the area of the storage area?	Yes	Yes	Yes
Are the chemicals detected in soil also associated with pre-existing contamination?	Yes	Yes	Yes
Conclusion:	**Chemicals not related to a release from the storage area - Will be addressed under Act 2.**		

Green shading indicates chemical concentrations in soil are NOT related to a release from the storage area

Blue shading indicates chemical concentrations in soil may be related to a release from the storage area

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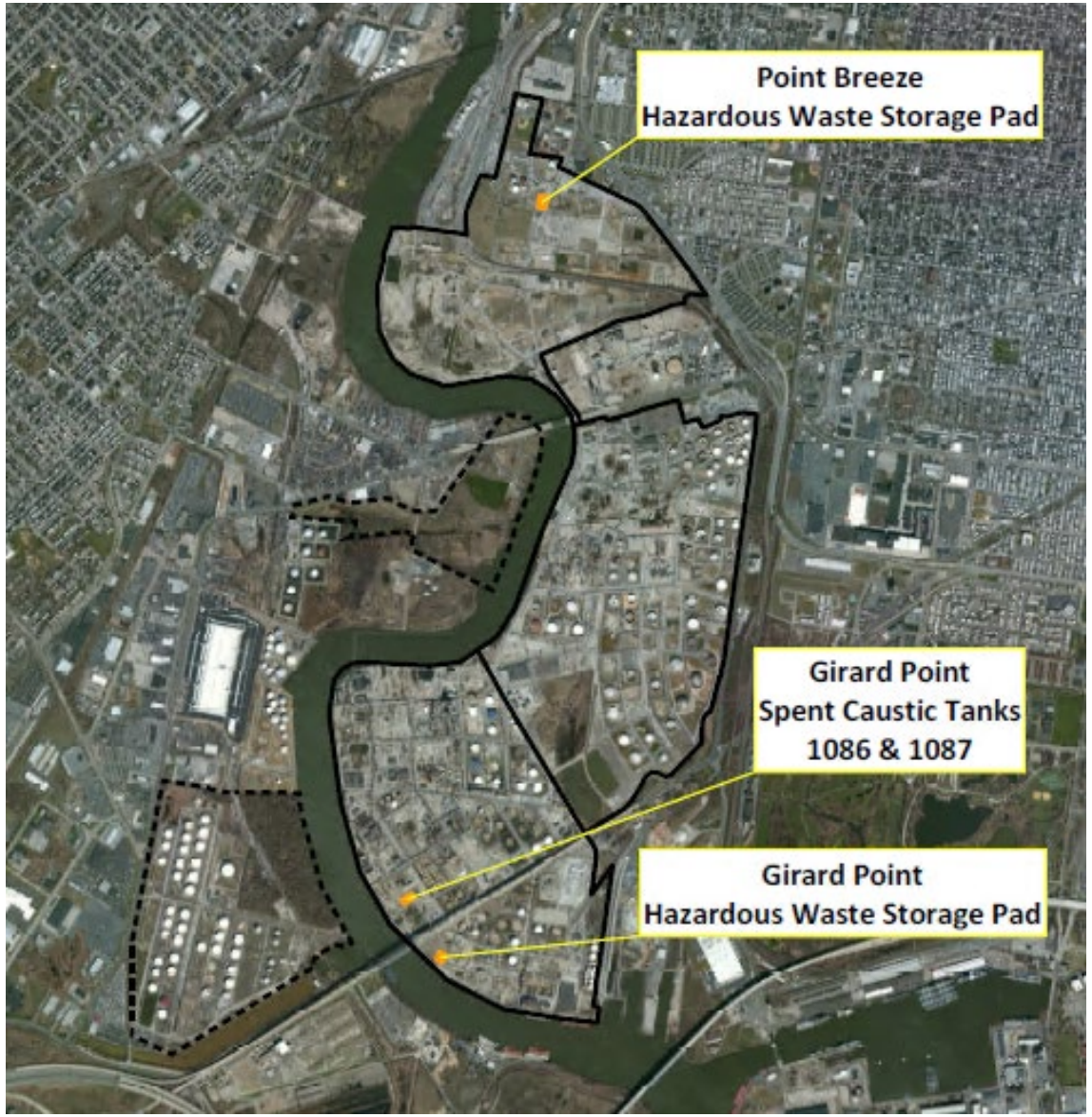
Closure of Hazardous Waste Storage Areas

Conclusions

- Sampling identified some **metals**, **PAHs**, and **benzene** in soil > SHS MSCs
- The concentrations are associated with **historic fill** and **other refinery** related impacts – not due to releases from these storage areas
- This contamination will be managed under **Act 2**
- Since storage areas **did not have releases** to the environment, they have **met** the **requirements** for RCRA Clean Closure certification



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Closure of Hazardous Waste Storage Areas

Next Steps

- PADEP **currently reviewing** Site Investigation Reports submitted to present the soil sampling results from each area
- PESRM to **address/respond** to feedback (if any) from PADEP and **finalize** the Site Investigation Reports
- PESRM to submit a **Request for Closure** Certification to PADEP for approval

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QUESTIONS
COMMENTS

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THANK YOU

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Closure of Hazardous Waste Storage Areas

Public Information Session

Former Philadelphia Energy Solutions Refinery, Facility ID Nos. 51-33624 and 51-33620
Philadelphia Energy Solutions Refining and Marketing LLC (PESRM)
3144 West Passyunk Avenue, Philadelphia, Pennsylvania

Presented by:
Kevin Long (Principal Consultant) and Abigail Spiers (Consultant)
Terraphase Engineering Inc.

June 3, 2024

PESRM - Hazardous Waste Public Meeting
June 3, 2024

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ALAN	GALESPIE	Yes	No	PHILAOFFICEFURN@AOL.COM	210 W. CRYSTAL LAKE AVE., HADDONFIELD, N.J., 08033
Andrew	Bakey	Yes	Yes	abakey@docbakey.com	900 N 9th Street - Apt 628, Philadelphia PA 19123
Anthony	Albence	Yes	Yes	cua20064@aol.com	PO Box 8184 Wilmington DE 19803
Michael	Bell	Yes	No	michael.bell@pha.phila.gov	1220 S. 16th Street
Jojo	Kwenin	Yes	No	anthony_kwenin@millerknoll.com	130 N 18th St
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Adam	Goldberg	Yes	No	agoldberg@langan.com	1818 Market Street, Philadelphia PA 19103
Francis	Petriccione	Yes	No	fpetriccione@palmnet.org	439 Abington Ave
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samantha	phillips beers	Yes	No	samantha.beers@steptoe-johnson.com	1120 s 46th street philadelphia pa
Salvador	Garrett	Yes	No	salvadorgarrett@horizonisp.net	No
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Betty	Beaufort	Yes	Yes	Bettybeeten@gmail.com	1330 S Garnet St
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Genevieve	LaMarr LeMee	Yes	Yes	Genevieve.LaMarrLeMee@phila.gov	1515 Arch Street
Demitri	Johnson	Yes	Yes	djc510@stanford.edu	afawe
Karl	Smolarz	Yes	Yes	ksmolarz@edgeprincipal.com	1700 Broadway, New York, NY 10019
Christina	Delva-Phillips	Yes	No	tina18delva@gmail.com	607 East 23rd Street
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Ted	Topakas	Yes	No	tetopakas@nooter.com	900 Northbrook Drive, m
Dan	Scholnick	Yes	No	daniel.scholnick@gmail.com	4919 Florence Ave
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Martin	McDermott	Yes	No	Mmcdermott@keller-na.com	801 Cassatt Road, Suite 120 Berwyn, PA 19312
Norman	Vossschulte	Yes	Yes	nvossschulte@eagles.nfl.com	1 Novacare Way, Philadelphia 19145
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Kelsey	Hunt	Yes	No	kelsey.hunt@keller-na.com	801 Cassatt Road, Suite 120 Berwyn, PA 19312
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Marc	Preim	Yes	Yes	Marc.preim@stvinc.com	6 Galway Ln
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PESRM - Hazardous Waste Public Meeting
June 3, 2024

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Q & A Response: The Bellwether District Public Meeting - Closure of Permitted Hazardous Waste Storage Areas (June 3rd, 2024)

Below are questions received during a virtual public meeting on the Closure of Permitted Hazardous Waste Storage Areas at The Bellwether District. No questions were submitted prior to the meeting.

Questions are copied directly as asked with spelling and grammatical errors corrected.

Q1 (written): Hi Julianna, I am a Stanford fellow researching California oil refinery closures. I am fascinated by Hilco's Bellwether project. Is there any chance you or Kevin would be open to schedule a brief call to discuss this project?

A: Julianna Connolly from HRP Group or Kevin Long from Terraphase will follow up after the meeting via the email address submitted during registration.

Q2 (written): By remediating these sites, what effect is there on the aquifer that is beneath the entire refinery? I am from NJ and the aquifer is polluted in all three layers. It services our water companies and farmers. My concern is that there will be migration of these pollutants into our NJ water for years after remediation is completed. And then who pays for the legacy pollution? Sunoco, Hilco, or NJ taxpayers?

A: We did not find evidence of releases from these three hazards waste storage areas. With respect to these three areas, we do not see impact to soil or groundwater, and we do not have any reason to believe there is impact to groundwater locally or at a distance away in New Jersey.

With respect to the site more broadly, the former refinery, there are impacts to groundwater. HRP Group is responsible for releases that occurred after September 2012, and Sunoco and Evergreen are responsible for releases that occurred prior to that date. Tomorrow Evergreen has a public meeting, and that might be a better place to ask this question because they have done the broadest sampling and investigation and remediation of groundwater at the site.

You are welcome to also join our meeting on June 18th, which is our broader public meeting. Though with respect to the releases that have occurred after September 2012, none of those are so broad or have been present for so long that they have the potential to impact groundwater quality at that distance in New Jersey.

Q3 (verbal): Working in the public health sector, we're concerned about the benzene, obviously, because it could get into the air. And I know we're looking specifically on-site. I want to know if there are plans to protect the public health when these projects start getting

underway, that we're monitoring, at least in the community for any types of raises or anything, because again, benzene, in public health standards, in our air should be 0.

A: With respect to benzene monitoring at the perimeter of the site, that is something that we did for a few years during the deconstruction. HRP acquired the property and the somewhat non-operating refinery in the summer of 2020. For a little over a year prior to that, PESRM was conducting fence line monitoring for benzene during the operation of the refinery. We continued that monitoring for a couple of years during the demolition and all that data is available on our website. If you can't find it, we can point you to where it is.

The benzene samples were collected over a 2-week period, sent to a laboratory, and then the laboratory results were received approximately two weeks after that. While we're working very actively on a construction site, we wanted information in real time, so that we can take action while it's happening, not a month later.

So, we have set up a perimeter of monitors, that monitor dust and total volatile organic compounds. So not benzene, specifically, because it is hard to measure one individual compound in real time. We currently monitor 10 locations. It was originally six locations, because we started construction on the southern portion of this property. Now we're working in the north as well, so we added four additional locations. We have 10 locations where we continually monitor dust and total VOCs and our team gets notices in real time.

On our website is a plan that explains how that monitoring is done and where those locations are. Our data is posted monthly. So, if you want to take a look at those, or if you can't find them, submit a question, and we can point you to them. And then, certainly, if you have questions on the data, we can follow up.

Q4 (written): How do I get information about HRP's next public meeting?

A: For information about the later HRP meeting on June 18th, an email will go out and it will be posted on our website and our social media starting tomorrow.