CORRECTIVE ACTION PROCESS REPORT/PLAN COVER SHEET

CHAPTER 245 - STORAGE TANK AND SPILL PREVENTION ACT

Storage Tank Facility ID #: 51-115577

Consultant Name: Ramboll US Consulting, Inc.

Consultant Mailing Address: 4245 North Fairfax Drive, Suite 700, Arlington, Virginia 22203

Consultant Email Address: Sstoneking@ramboll.com

Responsible Party Name: Philadelphia Energy Solutions Refining and Marketing LLC (PESRM)

Responsible Party Mailing Address: 111 S. Wacker Dr., Suite 3000, Chicago, IL 60606

Responsible Party Email Address: Anne Garr: agarr@hilcoglobal.com

Media of Concern: ☒ **Soil** ☐ **Groundwater**

Contaminant(s) (*e.g. unleaded gasoline*)**:** Recovered Oil

(check all that apply to the enclosed submission)

☐ **Remedial Action Progress Report**

☐ **Risk Assessment Report** (***e.g. vapor intrusion, ecological, or human health risk calculations***)

☐ **Site Characterization Report – Section 245.310(b)**
- ☐ Residential ☐ Nonresidential

☒ **Site Characterization Report – Statewide Health or Background Standard**
- ☐ Residential ☒ Nonresidential

☒ **Site Characterization Report – Site Specific Standard**
- ☐ Residential ☒ Nonresidential

☐ **Remedial Action Plan – Statewide Health or Background Standard**
- ☐ Residential ☐ Nonresidential

☐ **Remedial Action Plan – Site Specific Standard**
- ☐ Residential ☐ Nonresidential

☐ **Remedial Action Completion Report – Statewide Health or Background Standard**
- ☐ Residential ☐ Nonresidential

☐ **Remedial Action Completion Report – Site Specific Standard**
- ☐ Residential ☐ Nonresidential

☐ **Post Remediation Care Report**

☐ **Environmental Covenant**
- ☐ Draft ☐ Final

☐ **Other:** _____

PRELIMINARY SITE CHARACTERIZATION REPORT (SCR) AMENDMENT

FACILITY I.D. NUMBER 51-115577
TANK NO. 056A
3144 PASSYUNK AVE.
PHILADELPHIA, PA

Prepared on Behalf of:
Philadelphia Energy Solutions Refining and Marketing LLC (PESRM)

Prepared By:
Ramboll US Consulting, Inc.

Date:
October 2022

Incident Number:
57902

Project Number:
1690028299

Version:
2

RAMBOLL

PROFESSIONAL GEOLOGIST STATEMENT

Pursuant to the requirements of the Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2), adopted August 16, 1997, which state that:

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

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

> *Preliminary Site Characterization Report (SCR) Amendment, Facility I.D. Number 51-115577, Tank No. 056A at Former Sunoco Schuylkill River Tank Farm, Philadelphia Energy Solutions, 3144 Passyunk Ave. dated October 2022.*

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

William D Kraft III

William Kraft
PG-003902
Expires September 30, 2023

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FIGURES

APPENDICES

1. INTRODUCTION

On behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), Ramboll US Consulting, Inc. (Ramboll) has prepared this Preliminary Site Characterization Report Amendment (SCR) for a suspected release of petroleum from above ground storage tank (AST) Tank 056A (the Site) at the Schuylkill River Tank Farm Farm (SRTF), which was associated with the former refinery located at 3144 West Passyunk Avenue, Philadelphia, Pennsylvania (the Property), see Figure 1.1. The Site and the SRTF are located on the western side of the Schuylkill River, across the River from the former Refinery. The SCR has been prepared in general accordance with 25 Pennsylvania Code (Pa. Code) Chapter 245, Subchapter D. This SCR presents an overview of the Site background including historical Site use (Section 2), an overview of investigation activities performed in 2022 by Ramboll (Section 3), a summary of 2022 investigation results (Section 4), and a preliminary conceptual Site model (Section 5).

During sampling activities, Ramboll field personnel initially reported concerns regarding potential petroleum-saturated soils, and Ramboll subsequently filed a verbal release notice with the Pennsylvania Department of Environmental Protection (PADEP) on September 30, 2022. However, following a review of field photographs and further discussion with field staff, it appears that the field personnel mistakenly identified the black fine sandy clay/silt as being petroleum-saturated. Photographs of the subsurface soils are included in the photolog (Appendix A). The absence of free product is supported by the analytical results, which are discussed in this report.

2. SITE BACKGROUND

2.1 Site Location, and Description

The Site is located on the west side of the Schuylkill River (approximately 1.5 miles northwest of the Delaware River), and is approximately 4.5 miles southwest from downtown Philadelphia, Pennsylvania. Tank 056A is located in the northeastern portion of the SRTF. Both PESRM and Evergreen Resources Group, LLC[1] (Evergreen) have responsibility for assessment and cleanup activities at the Property. Evergreen is conducting work under the Pennsylvania Act 2 Program at the former Refinery, including the SRTF, and has divided the former Refinery complex into 11 Areas of Interest (AOI). The SRTF is AOI 9, see Figure 2.1. The SRTF is currently idle, but residual product remains in a few tanks. Tank 056A has a capacity of approximately 31,726 gallons and is used to store oil recovered from an oil water separator that is part of the SRTF's stormwater drainage system.

The tank was emptied of most contents in February 2022; approximately 10 inches of material (about 32 barrels) remain in the tank. An inspection performed on April 13, 2022 by a PADEP-certified tank inspector, identified visual evidence (i.e., surficial staining) indicative of a possible historical release of material from the aboveground piping associated with the tank. More specifically, the inspection report cites visible staining of soil along the tank containment berm. Staining was also observed on aboveground flanges, piping and valves associated with the tank.

2.2 Site Regulatory Action

Following the inspection in April 2022, PESRM received a Notice of Violation (NOV) of 25 Pa. Code Chapter 245, Subsection F from the PADEP in relation to Tank 056A on July 15, 2022. The NOV noted that an April 13, 2022 inspection identified certain deficiencies and violations in relation to Tank 056A, including observed product staining on piping, flanges, and in one location on the earthen berm around the tank; no active leaks were identified.

Following receipt of the July 15, 2022 NOV, PESRM submitted the required release notification on July 25, 2022. PADEP subsequently issued a letter dated July 27, 2022, requiring the completion of site characterization activities in accordance with the Corrective Action Process (CAP) and submittal of a site characterization report by October 10, 2022, Appendix B. The SCR was submitted on October 10, 2022 and is amended by this report which was submitted on October 18, 2022.

2.3 SRTF (AOI 9) History

The Property is located on both the eastern and western banks of the Schuylkill River in Philadelphia. The SRTF has an extensive history of petroleum transportation, storage, and processing. Petroleum-related activities began in portions of the Site in the 1860s when Atlantic Petroleum Company (Atlantic) established an oil distribution center. In the 1900s, crude oil processing began, and full-scale gasoline production started during World War II.

Environmental investigations have been conducted at the former Philadelphia Refinery, by various entities, since at least 1980. In 1993 Sunoco entered into a Consent Order and Agreement (CO&A)

[1] Evergreen Resources Management Operations, a series of Evergreen Resources Group, LLC, is managing the legacy remedial work for Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC ("Evergreen") and Sunoco (R&M), LLC. For clarity, Sunoco, Inc. n/k/a ETC Sunoco Holdings LLC, Sunoco, Inc. (R&M) n/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.

with the PADEP; the CO&A was replaced in 2003 which expanded the scope to include the Schuylkill River Tank Farm as well as other areas. Eleven Areas of Interest (AOIs) were identified in conjunction with the former Philadelphia Refinery based on geographic location and historic and current operations, among other factors. The SRTF was identified as AOI-9.

AOI 9 is approximately 211 acres in area and portions of AOI 9 were utilized as a product storage and transshipment tank farm handling finished distillate, liquid petroleum gas products (LPG) products, and gasoline fuels. Additionally, AOI 9 contained a lead compound additive facility, pumps for discharge of finished products to pipeline systems, butane and intermediate storage for refinery, and LPG tank truck loading facilities. AOI 9 was an integral part of the refinery due to underground pipelines beneath the Schuylkill River. The SRTF is currently idle.

Remedial investigation activities are being conducted at AOI 9 by Evergreen under the Pennsylvania Act 2 Program. Final site characterization for AOI 9 has not been approved due to insufficient offsite groundwater delineation. PESRM acquired the Property in June 2020. Following PESRM's acquisition, tank farm operations continued under a designated third-party operator until approximately December 2021 at which point, the tank farm was idled. Remediation activities are being conducted at the Property under Act 2 by both PESRM and Evergreen in accordance with the 2012 Buyer-Seller Agreement and the 2020 First Amendment to that Agreement.

2.4 Surrounding Area Use

The Site is located at the northeastern end of the SRTF. Tank 056A is surrounded on all sides by a containment berm. Beyond the berm are a small, wooded area to the north; an oil/water separator that is part of the SRTF stormwater drainage system to the west; the remainder of the SRTF to the south; and an open gravel area to the east. The SRTF is enclosed with a fence.

The SRTF is bounded by mixed commercial and industrial properties, including another tank farm to the north, mixed commercial and industrial properties to the west, a narrow, wooded area, vehicle storage, and the Schuylkill River to the east, and Mingo Creek to the south, beyond which are additional commercial and industrial properties.

2.5 Area Geology

The greater AOI 9 geology described in the *Second Remedial Investigation Report Addendum, Area of Interest 9, 2021* and the *Remedial Investigation Report Addendum, Area of Interest 9, 2017* is summarized below for local area context. Based on previously installed borings within the SRTF, up to approximately 22 feet (ft) of urban fill are present from the ground surface downward, indicative of prior land-filling operations. The fill is heterogeneous in nature, is frequently described as black to dark gray silt and/or clay characterized by a mixture of sediment with debris including stones, coal, glass, bricks, tile, and shells. Below the urban fill layer approximately 2 ft of Holocene-age mud (a mixture of clay and silt) have been observed in one location in the SRTF, although such deposits might be present at other locations at the base of the urban fill layer. This Holocene-age unit is further underlain by Pleistocene-age deposits comprising of an upper mud layer two to 12 ft of in

thickness, which is underlain by sands and gravels to depths of up to approximately 50 feet below ground surface (ft bgs)[2]. Cretaceous-age deposits are interpreted to be present below the Pleistocene unit and consist of alternating interbedded clay and sand units to a depth of approximately 76 ft bgs. Through prior sampling, the Wissahickon Schist has been identified as the bedrock unit. The weathered zone of the Wissahickon Schist was encountered at depths of approximately 99 to 117 ft bgs.

2.6 Hydrogeology

The greater AOI 9 hydrogeology described in the *Second Remedial Investigation Report Addendum, Aera of Interest 9, 2021* and the *Remedial Investigation Report Addendum, Area of Interest 9, 2017* is summarized below for local area context.

2.6.1 Perched Groundwater AOI 9 Overview

Perched groundwater is encountered in coarser lenses of material within the heterogeneous fill deposits across the site. Hydraulic connection between this perched groundwater and the shallow unconfined aquifer unit has not been confirmed at this time. Perched groundwater was encountered during the September 2022 investigation activities in a single boring.

2.6.2 Unconfined Shallow Aquifer

The unconfined aquifer is located in the Holocene-age mud layer, defined previously above, which is heavily influenced by pumping in the Mingo Creek Flood Control basin (Mingo Creek basin) situated south of the SRTF. According to the City of Philadelphia Water Department (PWD), pumping from the Mingo Creek basin occurs approximately every 1 to 3 days depending on water level conditions. Large-capacity pumps are programmed to control the basin's water surface elevation between -10.5 and -11 feet above mean sea level (amsl). Based on unconfined aquifer water level observations collected by Stantec, the unconfined shallow aquifer is connected to the Mingo Creek basin. As such, groundwater flow in the northern third of SRTF (including in the vicinity of Tank 056A) generally flows to the south while groundwater flow in the central portion of the Tank Farm flows radially outward from a potentiometric high point.

2.6.3 Lower Semi-Confined Aquifer

The lower aquifer consists of the Pleistocene-age sand and gravel units and the Cretaceous-age deposits. Groundwater in the lower semi-confined aquifer generally flows to the south / southwest towards the Schuylkill River, with possible flow under the river toward the Mingo Creek basin pumping wells. Due to the absence of the interbedded clay layers (it pinches out north of the basin), hydraulic connectivity is evident between the unconfined shallow aquifer and the lower semi-confined aquifer unit (i.e., water pressures have equilibrated).

2.7 Historical Site Investigation Activities at AOI 9

No previous Site investigations have occurred within the boundaries of Tank 056A. However, Ramboll reviewed the following reports summarizing historical Site investigation activities within the SRTF:

[2] Prior reports cite the following reference in relation to area geology; Ramboll did not independently review this reference: Owens, J.P., and Mindard, J.P. 1979. Upper Cenozoic Sediments of the Lower Delaware Valley and the Norther Delmarva Peninsula, New Jersey, Pennsylvania, Delaware, and Maryland: U.S. Geological Survey Professional Paper. 1067-D, 47 p.

- *Remedial Investigation Report, Area of Interest 9, PESRM, Philadelphia Refining Complex, Philadelphia, PA,* prepared by *Langan Engineering & Environmental Services, Inc.,* on *December 31, 2015.*

- *Remedial Investigation Report Addendum, Area of Interest 9, PESRM, Philadelphia Refining Complex, Philadelphia, PA,* prepared by *Langan Engineering & Environmental Services, Inc.,* on *February 8, 2017.*

- *Second Remedial Investigation Report Addendum, Area of Interest 9, Former Philadelphia Refinery,* prepared by *Stantec* on *September 20, 2021.*

- *Sitewide Remedial Investigation Report Addendum, Former Philadelphia Refinery,* prepared by *Stantec* on *May 20, 2022*.

3. SITE INVESTIGATION METHODOLOGY

Ramboll conducted Site investigation activities in September 2022 to further evaluate Site conditions. Investigation activities included the collection of soil samples for laboratory analysis using stainless steel hand augers. Sample locations are indicated on Figure 3.1.

Prior to the start of field investigation activities, Ramboll prepared a Site-specific Health and Safety Plan (HASP). In addition, Ramboll also requested a public subsurface utility mark out from the Pennsylvania One Call system, reviewed available drawings depicting subsurface utility lines, and completed a private subsurface utility clearance prior to the commencement of intrusive work.

3.1 Soil Boring Installation and Soil Sample Collection

To evaluate potential impacts to soil, Ramboll installed thirteen hand auger soil borings (SB-01 through SB-13) to depths ranging from 1.2 to 3.5 ft bgs; refusal was encountered at depths of 1.2 to 3.5 ft bgs due to presence of urban fill and/or tightness of silty clay soils. Soil borings were installed within and proximal to areas of previously reported or apparent surface staining.[3] Additional soil borings were installed inside and outside of the Site boundary in an attempt to delineate the horizontal extent of perceived impact (black soils). At each soil boring location, continuous soil cores were collected, screened on-site for the presence of volatile organic vapors using a photoionization detector (PID), described in general accordance with the Unified Soil Classification System (USCS), and inspected for evidence of potential impacts (i.e., visual staining and/or odor). Soil boring logs are included as Appendix C. Due to a PID malfunction, SB-06 through SB-13 were not screened for the presence of organic vapors.

Based on visual observation and organic vapor readings (where applicable), three soil samples were collected from each boring (SB-01 through SB-03) from the following depths: 1.0 to 1.5 ft bgs; 2.0 to 2.5 ft bgs; and 2.5 to 3.0 ft bgs. One sample each was collected from SB-04 through SB-06 from the depth interval with the greatest field evidence of potential contamination. Samples were not collected from other borings (SB-07 through SB-13) as lithology appeared consistent with the aforementioned sample locations and visual observations remained similar. Soil samples were collected and placed into laboratory-provided sample containers, labeled, packaged on ice, and transported under chain-of-custody procedures to Phase Separation Science (PSS) in Baltimore, Maryland (MD) for the analysis of VOCs[4] by USEPA method 8260D, semi-volatile organic compounds (SVOCs) by USEPA method 8270E, and lead by USEPA method 6020B.

3.2 Equipment Decontamination and Quality Assurance and Quality Control (QA/QC)

During all phases of investigation activities, re-useable sampling equipment was decontaminated between sample locations using a non-phosphate detergent and tap water rinse. Following the completion of field investigation activities, an equipment blank was collected for SVOCs by USEPA method 8270E and lead by USEPA method 6020B; complete analytical data reports are included in Appendix D. Additionally, Ramboll included trip blanks for each cooler sent to the lab for the analysis

[3] Soil samples were not collected in the vicinity of the previously noted bonnet leak due to a lack of visual surface staining on the ground directly beneath.

[4] Soil samples for VOCs were collected using TerraCores® in conjunction with USEPA method 5035.

of volatile organic compounds (VOCs) by USEPA method 8260D. Results were reviewed to evaluate data quality and no data quality concerns were identified.

4. RAMBOLL SITE INVESTIGATION RESULTS

4.1 Field Observations

Staining was not observed beneath the pipe flange in the area noted in the March 2022 inspection report, nor beneath the bonnet valve, Figure 3.1. Site soils were observed to consist primarily of six to twelve inches of gravel underlain by a mixture of black fine sandy clay or silt fill, which was observed to include bits of glass, brick and other urban debris. Perched groundwater was encountered at one location (SB-04) in a coarse gravel layer at 1.2 ft bgs. Organic vapor readings ranged from 0.4 to greater than 15,000 parts per million (ppm). Maximum readings of greater than 15,000 ppm were observed at SB-01, SB-02, SB-03, and SB-05 at depths of 0.5 to 3.0 ft bgs.[5] Soil boring logs are included as Appendix C.

Field personnel initially reported concerns regarding potential petroleum-saturated soils and Ramboll subsequently filed a verbal release notice with PADEP on September 30, 2022. However, following a review of field photographs and further discussion with field staff, it appears that the field personnel mistakenly identified the black fine sandy clay/silt as being petroleum-saturated. Photographs of the ground surface and of subsurface soils are included in the photolog (Appendix A). The absence of free product is supported by the analytical results, which are discussed below.

4.2 Soil Results

Twelve soil samples and one field duplicate were collected for laboratory analysis for lead, VOCs, and SVOCs. A summary of detected constituents included on the Short List of Petroleum Products (Table III-5 of the Land Recycling Program Technical Guidance Manual in soil is summarized in Tables 4.1, 4.2, and 4.3; complete laboratory analytical data sheets are included as Appendix D.[6] Concentrations of detected constituents were compared to the following PADEP Statewide Health Standards (SHS) Medium Specific Concentrations (MSCs): Nonresidential Direct Contact for Surface Soil and Subsurface Soil, and Soil to Groundwater for Nonresidential Used Aquifers with total dissolved solids (TDS) of less than or equal to 2,500 milligrams per liter (mg/L). Additionally, lead concentrations in soil were compared to the site-specific standards outlined in the Second Remedial Investigation Report (exceedances were not noted). Reporting limits for all compounds are below the applicable MSCs.

VOCs and SVOCs were not detected above the MSCs for soil. Lead was detected at concentrations exceeding the MSC for soil to groundwater migration (450 milligrams per kilogram [mg/kg]) in two soil samples collected at depths of 1.0 to 1.5 ft bgs and 2.0 to 2.5 ft bgs at SB-03 (located outside of an area of reported staining in the southeast corner of the berm). Measured concentrations of lead in the two soil samples collected from SB-03 were 650 mg/kg and 580 mg/kg. Lead was detected at a concentration of 240 mg/kg (below the soil to groundwater MSC) in a soil sample collected at a depth of 2.5 to 3.0 ft bgs at SB-03. No other exceedances of the MSCs were identified.

[5] Ramboll notes that the PID was not able to hold calibration efforts on day two of the field effort. Due to limited time a new PID could not be supplied. Ramboll notes that erroneously high PID readings can occur for various reasons; Ramboll's use of the PID is as an additional field screening tool to interpret potential Site conditions.

[6] Ramboll notes that full list VOCs and SVOCs were sampled, however, only those constituents listed on Table III-5 are displayed in Table 4.2 through 4.3. All other detected VOCs and SVOCs were compared to applicable regulatory criteria and no exceedances were noted.

5. CONCEPTUAL SITE MODEL

A conceptual Site model (CSM) was developed to provide a simplified and concise summary of potential contamination sources and distribution, potential exposure pathways, and potential current and future human/ecological receptors.

VOCs and SVOCs were not detected above applicable PADEP SHS MSCs for Soil. Lead was detected at concentrations exceeding the MSC for soil to groundwater migration for Used Aquifers with total dissolved solids (TDS) less than or equal to 2,500 mg/kg in two soil samples collected from depths of 1.0 to 1.5 ft bgs (just beneath the gravel surface) and 2.0 to 2.5 ft bgs at SB-03. Lead was also detected in soil collected from a depth of 3.0 to 3.5 ft bgs at SB-03 at a concentration of 240 mg/kg, which is below the PADEP MSC for Soil to Groundwater for Nonresidential Used Aquifers. Concentrations of lead were also observed to decrease with depth at locations (SB-02). No other exceedances are noted in soil at any other sampled location. All detected concentrations of lead at the Site do not exceed the PADEP SHS MSCs Nonresidential Direct Contact for Surface Soil (1,000 mg/kg) or Subsurface Soil (190,000 mg/kg).

Groundwater was not sampled as part of this investigation. Shallow perched groundwater was observed at one location (SB-04) at a depth of approximately 1.2 ft bgs. No obvious indication of impact to the perched water (e.g., sheen, discoloration) was observed. Based on the above, further investigation to evaluate the presence of VOCs or SVOCs in site groundwater is not warranted, but further evaluation is needed to evaluate the presence of lead and the potential for migration to groundwater.

The SRTF is fully fenced and secured, groundwater at and in the vicinity of the Site is not utilized as a source of drinking water, and any workers performing duties on-Site are conducting work under an appropriate safety program. Based on the results of this investigation, Site conditions do not currently pose an unacceptable risk to human health or the environment.

6. REFERENCES

Langan. 2017. Remedial Investigation Report Addendum Area of Interest 9, Philadelphia Energy Solution Refining & Marketing, LLC, Philadelphia Refining Complex, Philadelphia, Pennsylvania. February 8.

Langan. 2015. Remedial Investigation Report Addendum Area of Interest 9, Philadelphia Energy Solution Refining & Marketing, LLC, Philadelphia Refining Complex, Philadelphia, Pennsylvania. February 8.

Owens, J.P., and Mindard, J.P. 1979. Upper Cenozoic Sediments of the Lower Delaware Valley and the Norther Delmarva Peninsula, New Jersey, Pennsylvania, Delaware, and Maryland: U.S. Geological Survey Professional Paper. 1067-D, 47 p.

Stantec Consulting Services, Inc. 2022. Sitewide Remedial Investigation Report Addendum, Former Philadelphia Refinery 3144 Passyunk Avenue, Philadelphia, Pennsylvania. May 20.

TABLES

TABLE 4.1: Summary of Detected Metals in Soil (September 2022)
Preliminary Site Characterization Soil Sampling
Tank 056A, Schuylkill River Tank Farm, Philadelphia, Pennsylvania

Constituent	PADEP Statewide Health Standards (SHS) Medium-Specific Concentrations (MSCs) for Inorganic Regulated Substances in Soil			SB-01			SB-02			SB-03		
	Direct Contact		Soil to Groundwater									
	Nonresidential MSCs		Used Aquifer, Nonresidential TDS </= 2,500	1.0-1.5 ft bgs	2.0-2.5 ft bgs	2.5-3.0 ft bgs	1.0-1.5 ft bgs	2.0-2.5 ft bgs	2.5-3.0 ft bgs	1.0-1.5 ft bgs	2.0-2.5 ft bgs	2.5-3.0 ft bgs
	Surface Soil 0-2 ft bgs	Subsurface Soil 2-15 ft bgs		9/29/2022			9/29/2022			9/29/2022		
Metals (mg/kg)												
Lead	1,000	190,000	450	270	340	340	320	240	130	**650**	**580**	240

Notes:

Soil was analyzed for total lead using United States Environmental Protection Agency (USEPA) Method 6020B. Complete analytical data reporting sheets are included in Appendix D.

Detected concentrations of lead in soil were compared to the Pennsylvania Department of Environmental Protection (PADEP) Statewide Health Standards (SHS) Medium Specific Concentrations (MSCs) for Soil. More specifically, the MSCs selected for comparison are the nonresidential direct contact values for Nonresidential MSCs for Surface Soil and Subsurface Soil and Soil to Groundwater MSCs for Used Aquifer for Nonresidential Areas, total dissolved solids (TDS) of less than or equal to 2,500 milligrams per liter (mg/L).

Duplicate sample results are reported after the slash.
mg/kg - milligrams per kilogram.
ft bgs - feet below ground surface.
Bold and underline values exceed the PADEP SHS MSCs for Soil to Groundwater for Used Aquifer for Nonresidential Areas, TDS of less than or equal to 2,500 mg/L.

TABLE 4.1: Summary of Detected Metals in Soil (September 2022)
Preliminary Site Characterization Soil Sampling
Tank 056A, Schuylkill River Tank Farm, Philadelphia, Pennsylvania

Constituent	PADEP Statewide Health Standards (SHS) Medium-Specific Concentrations (MSCs) for Inorganic Regulated Substances in Soil			SB-04	SB-05	SB-06
	Direct Contact		Soil to Groundwater			
	Nonresidential MSCs		Used Aquifer, Nonresidential TDS </= 2,500	1.0-1.5 ft bgs	0.5-1.0 ft bgs	3.0-3.5 ft bgs
	Surface Soil 0-2 ft bgs	Subsurface Soil 2-15 ft bgs		9/29/2022	9/30/2022	9/30/2022
Metals (mg/kg)						
Lead	1,000	190,000	450	14 / 15	32	30

Notes:
Soil was analyzed for total lead using United States Environmental Protection Agency (USEPA) Method 6020B. Complete analytical data reporting sheets are included in Appendix D.

Detected concentrations of lead in soil were compared to the Pennsylvania Department of Environmental Protection (PADEP) Statewide Health Standards (SHS) Medium Specific Concentrations (MSCs) for Soil. More specifically, the MSCs selected for comparison are the nonresidential direct contact values for Nonresidential MSCs for Surface Soil and Subsurface Soil and Soil to Groundwater MSCs for Used Aquifer for Nonresidential Areas, total dissolved solids (TDS) of less than or equal to 2,500 milligrams per liter (mg/L).

Duplicate sample results are reported after the slash.
mg/kg - milligrams per kilogram.
ft bgs - feet below ground surface.
Bold and underline values exceed the PADEP SHS MSCs for Soil to Groundwater for Used Aquifer for Nonresidential Areas, TDS of less than or equal to 2,500 mg/L.

TABLE 4.2: Summary of Detected Volatile Organic Compounds (VOCs) in Soil (September 2022)
Preliminary Site Characterization Soil Sampling
Tank 056A, Schuylkill River Tank Farm, Philadelphia, Pennsylvania

Constituent	PADEP Statewide Health Standards (SHS) Medium-Specific Concentrations (MSCs) for Organic Regulated Substances in Soil			SB-01			SB-02			SB-03		
	Direct Contact		Soil to Groundwater									
	Nonresidential MSCs		Used Aquifer, Nonresidential TDS </= 2,500	1.0-1.5 ft bgs	2.0-2.5 ft bgs	2.5-3.0 ft bgs	1.0-1.5 ft bgs	2.0-2.5 ft bgs	2.5-3.0 ft bgs	1.0-1.5 ft bgs	2.0-2.5 ft bgs	2.5-3.0 ft bgs
	Surface Soil 0-2 ft bgs	Subsurface Soil 2-15 ft bgs		9/29/2022			9/29/2022			9/29/2022		
Volatile Organic Compounds (VOCs) (mg/kg)												
Benzene	280	330	0.13	0.0014	0.0026	0.0018	0.0020	0.0028	0.0014	0.0015	0.0032	< 0.0012
Isopropylbenzene	10,000	10,000	2,500	< 0.00089	< 0.00096	< 0.0011	< 0.00085	< 0.00087	< 0.00079	< 0.0011	< 0.0013	< 0.0012
Methyl-t-Butyl Ether	8,500	9,800	0.28	< 0.00089	< 0.00096	< 0.0011	< 0.00085	< 0.00087	< 0.00079	< 0.0011	< 0.0013	0.0016
Naphthalene	66	77	25	< 0.00089	< 0.00096	0.0017	< 0.00085	< 0.00087	0.0010	< 0.0011	< 0.0013	< 0.0012
Toluene	10,000	10,000	44	0.0014	0.0063	0.0049	0.0059	0.028	0.0048	0.0014	0.0016	< 0.0012
m&p-Xylene[1]	7,900	9,100	990	0.0015 J	0.0026	0.0026	0.0020	0.0058	0.0017	< 0.0021	< 0.0026	< 0.0024
o-Xylene[1]	7,900	9,100	990	< 0.00089	< 0.00096	< 0.0011	0.0011	0.0020	< 0.00079	< 0.0011	< 0.0013	< 0.0012

Notes:

Soil was analyzed for full list volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260D. Only detected constituents from the Short List of Petroleum Products (Table III-5) are shown. All other detected constituents were compared to applicable regulatory criteria and no exceedances were noted. Complete analytical data reporting sheets are included in Appendix D.

Detected concentrations of lead in soil were compared to the Pennsylvania Department of Environmental Protection (PADEP) Statewide Health Standards (SHS) Medium Specific Concentrations (MSCs) for Inorganic Regulated Substances in Soil. More specifically, Direct Contact values for Nonresidential MSCs for Surface Soil and Subsurface Soil and Soil to Groundwater MSCs for Used Aquifer for Nonresidential Areas, total dissolved solids (TDS) of less than or equal to 2,500 milligrams per liter (mg/L).

1 - Speciated xylene criteria has not been established thus total xylene value was compared.
Duplicate sample results are reported after the slash.
mg/kg - milligrams per kilogram.
ft bgs - feet below ground surface.
"<" - Less than the reporting limit.
J - Estimated value below the reporting limit.

TABLE 4.2: Summary of Detected Volatile Organic Compounds (VOCs) in Soil (September 2022)
Preliminary Site Characterization Soil Sampling
Tank 056A, Schuylkill River Tank Farm, Philadelphia, Pennsylvania

Constituent	PADEP Statewide Health Standards (SHS) Medium-Specific Concentrations (MSCs) for Organic Regulated Substances in Soil			SB-04	SB-05	SB-06
	Direct Contact		Soil to Groundwater			
	Nonresidential MSCs		Used Aquifer, Nonresidential TDS </= 2,500	0.5-1.0 ft bgs	0.5-1.0 ft bgs	3.0-3.5 ft bgs
	Surface Soil 0-2 ft bgs	Subsurface Soil 2-15 ft bgs		9/29/2022	9/30/2022	9/30/2022
Volatile Organic Compounds (VOCs) (mg/kg)						
Benzene	280	330	0.13	< 0.00097 / < 0.00096	< 0.00096	< 0.0010
Isopropylbenzene	10,000	10,000	2,500	< 0.00097 / < 0.00096	< 0.00096	0.0012
Methyl-t-Butyl Ether	8,500	9,800	0.28	< 0.00097 / < 0.00096	< 0.00096	0.0011
Naphthalene	66	77	25	< 0.00097 / < 0.00096	< 0.00096	0.0020
Toluene	10,000	10,000	44	< 0.00097 / < 0.00096	< 0.00096	< 0.0010
m&p-Xylene[1]	7,900	9,100	990	< 0.019 / < 0.019	< 0.0019	< 0.0020
o-Xylene[1]	7,900	9,100	990	< 0.00097 / < 0.00096	< 0.00096	< 0.0010

Notes:

Soil was analyzed for full list volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260D. Only detected constituents from the Short List of Petroleum Products (Table III-5) are shown. All other detected constituents were compared to applicable regulatory criteria and no exceedances were noted. Complete analytical data reporting sheets are included in Appendix D.

Detected concentrations of lead in soil were compared to the Pennsylvania Department of Environmental Protection (PADEP) Statewide Health Standards (SHS) Medium Specific Concentrations (MSCs) for Inorganic Regulated Substances in Soil. More specifically, Direct Contact values for Nonresidential MSCs for Surface Soil and Subsurface Soil and Soil to Groundwater MSCs for Used Aquifer for Nonresidential Areas, total dissolved solids (TDS) of less than or equal to 2,500 milligrams per liter (mg/L).

1 - Speciated xylene criteria has not been established thus total xylene value was compared.
Duplicate sample results are reported after the slash.
mg/kg - milligrams per kilogram.
ft bgs - feet below ground surface.
"<" - Less than the reporting limit.
J - Estimated value below the reporting limit.

TABLE 4.3: Summary of Detected Semi-Volatile Organic Compounds (SVOCs) in Soil (September 2022)
Preliminary Site Characterization Soil Sampling
Tank 056A, Schuylkill River Tank Farm, Philadelphia, Pennsylvania

Constituent	PADEP Statewide Health Standards Medium-Specific (SHS) Concentrations (MSCs) for Organic Regulated Substances in Soil			SB-01			SB-02			SB03		
	Direct Contact		Soil to Groundwater	1.0-1.5 ft bgs	2.0-2.5 ft bgs	2.5-3.0 ft bgs	1.0-1.5 ft bgs	2.0-2.5 ft bgs	2.5-3.0 ft bgs	1.0-1.5 ft bgs	2.0-2.5 ft bgs	2.5-3.0 ft bgs
	Nonresidential MSCs		Used Aquifer, Nonresidential TDS </= 2,500	9/29/2022			9/29/2022			9/29/2022		
	Surface Soil 0-2 ft bgs	Subsurface Soil 2-15 ft bgs										
Semi-Volatile Organic Compounds (SVOCs) (mg/kg)												
Anthracene	190,000	190,000	350	0.023	< 0.011	0.0094 J	0.011	< 0.085	< 0.0093	0.020	0.15	0.010 J
Benzo(a)anthracene	130	190,000	340	0.20	0.018	0.022	0.039	0.022	0.019	0.12	0.52	0.058
Benzo(a)pyrene	91	190,000	46	0.15	0.026	0.021	0.040	0.026	0.027	0.14	0.52	0.069
Benzo(b)fluoranthene	76	190,000	170	0.17	0.025	0.017	0.048	0.030	0.028	0.13	0.46	0.066
Benzo(g,h,i)perylene	190,000	190,000	180	0.084	0.023	0.015	0.057	0.030	0.031	0.096	0.29	0.047
Chrysene	760	190,000	230	0.20	0.017	0.020	0.039	0.022	0.023	0.13	0.50	0.059
Fluorene	130,000	190,000	3,800	< 0.0093	< 0.011	< 0.012	< 0.0095	< 0.011	< 0.0093	< 0.011	0.030	< 0.011
Indeno(1,2,3-c,d)Pyrene	76	190,000	18,000	0.082	0.021	0.015	0.031	0.020	0.023	0.093	0.30	0.045
Phenanthrene	190,000	190,000	10,000	0.067	< 0.011	0.036	0.025	0.012	0.011	0.086	0.55	0.037
Pyrene	96,000	190,000	2,200	0.28	0.021	0.035	0.053	0.028	0.025	0.19	0.91	0.079

Notes:

Soil was analyzed for semi-volatile organic compounds (SVOCs) using United States Environmental Protection Agency (USEPA) Method 8270E. Only detected constituents from the Short List of Petroleum Products (Table III-5) are shown. All other detected constituents were compared to applicable regulatory criteria and no exceedances were noted. Complete analytical data reporting sheets are included in Appendix D.

Detected concentrations of lead in soil were compared to the Pennsylvania Department of Environmental Protection (PADEP) Statewide Health Standards (SHS) Medium Specific Concentrations (MSCs) for Inorganic Regulated Substances in Soil. More specifically, Direct Contact values for Nonresidential MSCs for Surface Soil and Subsurface Soil and Soil to Groundwater MSCs for Used Aquifer for Nonresidential Areas, total dissolved solids (TDS) of less than or equal to 2,500 milligrams per liter (mg/L).

Duplicate sample results are reported after the slash.

mg/kg - milligrams per kilogram.

ft bgs - feet below ground surface.

"<" - Less than the reporting limit.

J - Estimated value below the reporting limit.

TABLE 4.3: Summary of Detected Semi-Volatile Organic Compounds (SVOCs) in Soil (September 2022)
Preliminary Site Characterization Soil Sampling
Tank 056A, Schuylkill River Tank Farm, Philadelphia, Pennsylvania

Constituent	PADEP Statewide Health Standards Medium-Specific (SHS) Concentrations (MSCs) for Organic Regulated Substances in Soil			SB04	SB05	SB06
	Direct Contact		Soil to Groundwater			
	Nonresidential MSCs		Used Aquifer, Nonresidential TDS </= 2,500	1.0-1.5 ft bgs	0.5-1.0 ft bgs	3.0-3.5 ft bgs
	Surface Soil 0-2 ft bgs	Subsurface Soil 2-15 ft bgs		9/29/2022	9/30/2022	9/30/2022
Semi-Volatile Organic Compounds (SVOCs) (mg/kg)						
Anthracene	190,000	190,000	350	< 0.010 / < 0.011	< 0.010	< 0.012
Benzo(a)anthracene	130	190,000	340	< 0.010 / < 0.011	< 0.010	< 0.012
Benzo(a)pyrene	91	190,000	46	< 0.010 / < 0.011	< 0.010	< 0.012
Benzo(b)fluoranthene	76	190,000	170	< 0.010 / < 0.011	< 0.010	< 0.012
Benzo(g,h,i)perylene	190,000	190,000	180	< 0.010 / < 0.011	< 0.010	< 0.012
Chrysene	760	190,000	230	< 0.010 / < 0.011	< 0.010	< 0.012
Fluorene	130,000	190,000	3,800	< 0.010 / < 0.011	< 0.010	< 0.012
Indeno(1,2,3-c,d)Pyrene	76	190,000	18,000	< 0.010 / < 0.011	< 0.010	< 0.012
Phenanthrene	190,000	190,000	10,000	< 0.010 / < 0.011	< 0.010	0.031
Pyrene	96,000	190,000	2,200	< 0.010 / < 0.011	< 0.010	< 0.012

Notes:

Soil was analyzed for semi-volatile organic compounds (SVOCs) using United States Environmental Protection Agency (USEPA) Method 8270E. Only detected constituents from the Short List of Petroleum Products (Table III-5) are shown. All other detected constituents were compared to applicable regulatory criteria and no exceedances were noted. Complete analytical data reporting sheets are included in Appendix D.

Detected concentrations of lead in soil were compared to the Pennsylvania Department of Environmental Protection (PADEP) Statewide Health Standards (SHS) Medium Specific Concentrations (MSCs) for Inorganic Regulated Substances in Soil. More specifically, Direct Contact values for Nonresidential MSCs for Surface Soil and Subsurface Soil and Soil to Groundwater MSCs for Used Aquifer for Nonresidential Areas, total dissolved solids (TDS) of less than or equal to 2,500 milligrams per liter (mg/L).

Duplicate sample results are reported after the slash.

mg/kg - milligrams per kilogram.

ft bgs - feet below ground surface.

"<" - Less than the reporting limit.

J - Estimated value below the reporting limit.

FIGURES

\\tapprodfs\cad\Graeme\1690028299\SiteLoc\SiteLoc_PhilaPA\SiteLoc_PhilaPA.aprx\Ramboll_ANSI_A_Site_Location

PROJECT: 1690028299 | DATED: 10/7/2022 | DESIGNER: DBLANCHARD

Map Scale: 1:24,000 | Map Center: 75°13'15"W 39°53'58"N

PROPERTY BOUNDARY (APPROXIMATE)

KEY MAP (not to scale)

0 1,000 2,000 Feet

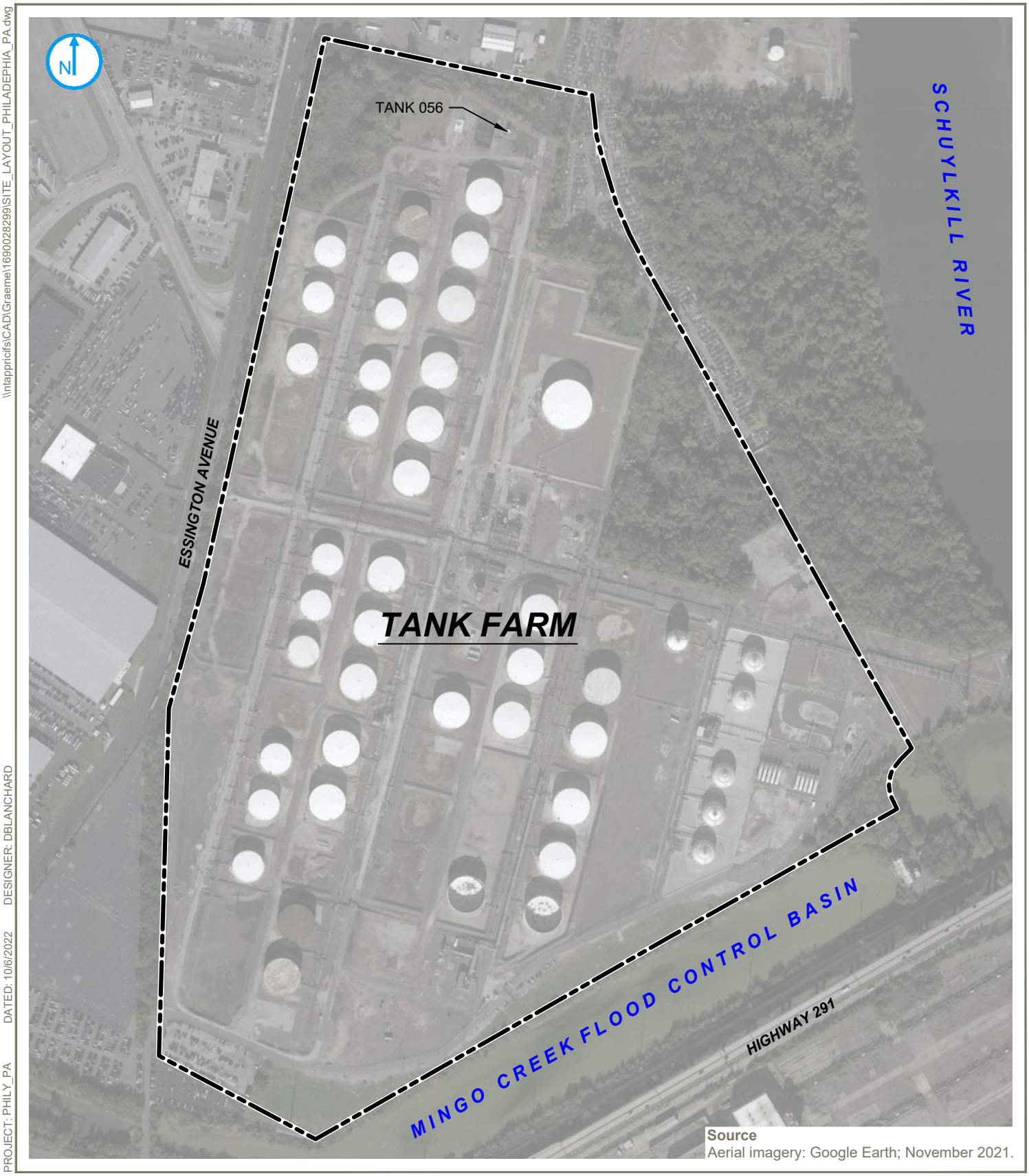
SITE LOCATION

SCHUYLKILL RIVER TANK FARM
TANK 056 LOCATION
PHILADELPHIA, PENNSYLVANIA

FIGURE 1.1

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY

RAMBOLL



\\tapprichfs\CAD\Graeme\169002829\SITE_LAYOUT_PHILADEPHIA_PA.dwg

PROJECT: PHILY_PA DATED: 10/6/2022 DESIGNER: DBLANCHARD

TANK FARM BOUNDARY (APPROXIMATE)

0 500 Feet

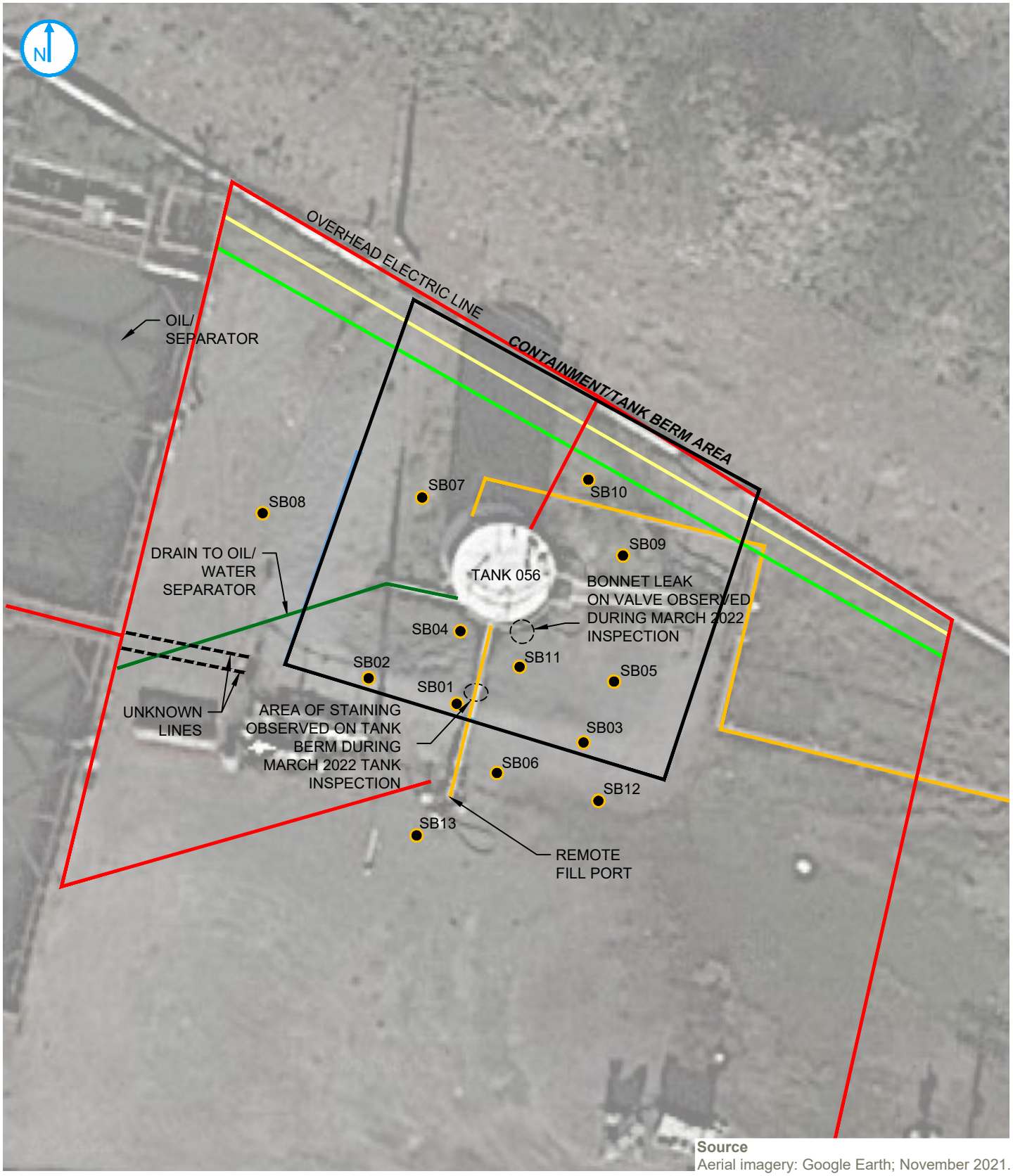
TANK 056 LOCATION

FIGURE 2.1

SCHUYLKILL RIVER TANK FARM
TANK 056 LOCATION
PHILADELPHIA, PENNSYLVANIA

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY

RAMBOLL



Source
Aerial imagery: Google Earth; November 2021.

\\tappricfs\CAD\Graeme\1690028299\SOIL SAMPLE_LOCATIONS_PHILADEPHIA_PA.dwg
DESIGNER: DBLANCHARD
DATED: 10/6/2022
PROJECT: PHILY_PA

SOIL BORING LOCATION
OVERHEAD ELECTRIC LINE
ABOVEGROUND FUEL LINE
STORMWATER LINE
DRAIN TO OIL/WATER SEPARATOR
GAS LINE

0 20 Feet

SOIL SAMPLE LOCATIONS

SCHUYLKILL RIVER TANK FARM
TANK 056 LOCATION
PHILADELPHIA, PENNSYLVANIA

FIGURE 3.1

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY

RAMBOLL

APPENDICIES

APPENDIX A

PHOTOLOG

Photo 1: Photograph of flange where staining was noted by tank inspector in March 2022.

Photo 2: Photograph of flange where tank inspector identified oily residue on exterior of piping in March 2022. No clear staining observed on ground surface and no remaining residue on piping.

RAMBOLL

Site Photographs
Tank 056A
Schuylkill River Tank Farm, Philadelphia, PA
September 29/30, 2022

Photo 3: North side of Tank 056A; no staining observed.

Photo 4: SB01 soils.

Photo 5: SB01 soils.

Photo 6: SB05 soils.

APPENDIX B

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION RELEASE RESPONSE LETTER

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

July 27, 2022

Anne Garr
Philadelphia Energy Solutions Refining & Marketing LLC
111 S. Wacker Drive, Suite 3000
Chicago, IL 60606

Re: Storage Tank Program
Facility ID No. 51-11557
Incident No. 57902
Tank No. 056A
Phila Ref Schuylkill River Tank Farm
3144 W. Passyunk Avenue
Philadelphia City
Philadelphia County

Dear Anne Garr:

The Department of Environmental Protection (DEP) received notification of a reportable release of a regulated substance at the above-named facility that was confirmed on April 13, 2022. This release is a violation of Section 1310 of the Pennsylvania Storage Tank and Spill Prevention Act.

This letter is to advise you that you have certain responsibilities regarding this release under the Corrective Action Process (CAP) regulations in 25 Pa. Code Chapter 245, Subchapter D. You should carefully review these regulations to determine the specific requirements applicable to the release at your facility. The CAP regulations and several helpful fact sheets are available on DEP's website at www.dep.pa.gov, search term: Tank Cleanup. This information can help you address the release quickly and effectively.

Upon confirmation of a release, the CAP regulations require that you immediately implement any necessary interim remedial actions as described in Section 245.306 including: removing regulated substances from leaking tank systems; mitigating fire, explosion and safety hazards; preventing further migration of released substances; and identifying and sampling affected or potentially affected water supplies. Appropriate and timely interim remedial actions can often resolve environmental impacts caused by the release or limit their severity, thus making site cleanup easier and less expensive.

A site characterization must be performed upon confirmation of a release in accordance with Section 245.309 of the CAP regulations. A Site Characterization Report (SCR) detailing the findings of the site characterization must be submitted to this office within 180 days of reporting the release in accordance with Section 245.310. We recommend that you engage the services of an experienced environmental consulting firm, with a Licensed Professional Geologist on staff, to conduct the site characterization and prepare the SCR. Completion of a comprehensive site characterization and submission of a detailed SCR are critical in determining whether additional steps are needed to address the release at your facility.

The Site Characterization Report for this release is due on or before October 10, 2022.

The SCR must address all the elements of Section 245.310. Requests for an extension of the deadline for SCR submittal will only be considered based on valid technical reasons. Requests for an extension must be made in writing to this office at least 30 days before the SCR due date. Your written request must specify the technical reason(s) for the extension and include a new proposed submission date. No extension of the SCR due date will be permitted without written approval from DEP.

You may wish to investigate potential sources of financial assistance. We recommend that you contact the Pennsylvania Department of Community and Economic Development at 866.466.3972 or visit their website at www.newpa.com.

Please forward all documents, reports, and written requests electronically through the OnBase DEP Upload Form accessed at: https://www.dep.pa.gov/DataandTools/Pages/Application-Form-Upload.aspx. When uploading documents, please select the appropriate FORM NAME, such as "STORAGE TANK SITE CHARACTERIZATION REPORT," "STORAGE TANK SITE CHARACTERIZATION REPORT – 245.310(B)," or "STORAGE TANK REQUEST FOR ALTERNATE TIMEFRAME." Or forward by mail to Richard Staron, Professional Geologist Manager, ECB Corrective Action Section, at the address listed on this letter.

If you have any questions, please contact lstrobridg@pa.gov or by telephone at 484.250.5796.

Sincerely,

Thomas D. Canigiani, Jr.
Environmental Group Manager, Storage Tanks
Environmental Cleanup and Brownfields

cc: Ralph DiPietro, Philadelphia L & I
Lisa Strobridge
Re

APPENDIX C

SOIL BORING LOGS

Facility ID	51-115577	Total Depth	3.5 ft bgs
DEP Tank ID	056A	Field Staff	E Ruger & B Bancewicz
Project Location	Philadelphia, PA	Project Manager	Greg Grose
Drilling Method	Hand Auger	Date	9/29/2022
Borehole Diameter	4 inches	Boring ID	SB-01

Sample IDs	Sample Interval	Time	Constituent
PESR_Tank056_SB01_1.0-1.5	1.0-1.5 ft bgs	11:30	TCL SVOCs, TCL VOCs, Total Lead
PESR_Tank056_SB01_2.0-2.5	2.0-2.5 ft bgs	11:35	TCL SVOCs, TCL VOCs, Total Lead
PESR_Tank056_SB01_2.5-3.0	2.5-3.0 ft bgs	11:40	TCL SVOCs, TCL VOCs, Total Lead

Sampled (Y/N)	Start Depth (ft bgs)	End Depth (ft bgs)	Recovery (ft)	Soil Description	Group Symbol	PID	
						Depth Interval (ft bgs)	ppm
	0.0	1.0	1.0	Light grey gravelly well graded coarse SAND (SW), medium dense, dry.	SW	0.0-0.5	3.0
Y	1.0	3.0	2.0	Medium brown stiff lean CLAY (CL), trace fine sand, moist, with an apparent petroleum-like odor.	CL	0.5-1.0	9.8
						1.0-1.5	7.4
						1.5-2.0	>15,000
						2.0-2.5	331.5
						2.5-3.0	>15,000
	3.0	3.5	0.5	Dark grey fine sandy well graded GRAVEL (GW), dense, moist.	GW		

Notes

ft bgs - feet below ground surface

TCL - Target compound list

VOC - Volatile organic compound

SVOC - Semi-volatile organic compound

Facility ID	51-115577	Total Depth	3.0 ft bgs
DEP Tank ID	056A	Field Staff	E Ruger & B Bancewicz
Project Location	Philadelphia, PA	Project Manager	Greg Grose
Drilling Method	Hand Auger	Date	9/29/2022
Borehole Diameter	4 inches	Boring ID	SB-02

Sample IDs	Sample Interval	Time	Constituent
PESR_Tank056_SB02_1.0-1.5	1.0-1.5 ft bgs	13:00	TCL SVOCs, TCL VOCs, Total Lead
PESR_Tank056_SB02_2.0-2.5	2.0-2.5 ft bgs	13:02	TCL SVOCs, TCL VOCs, Total Lead
PESR_Tank056_SB02_2.5-3.0	2.5-3.0 ft bgs	13:04	TCL SVOCs, TCL VOCs, Total Lead

Sampled (Y/N)	Start Depth (ft bgs)	End Depth (ft bgs)	Recovery (ft)	Soil Description	Group Symbol	PID	
						Depth Interval (ft bgs)	ppm
	0.0	1.0	1.0	Light grey gravelly well graded coarse SAND (SW), medium dense, dry.	SW		
Y	1.0	3.0	2.0	Medium brown stiff lean CLAY (CL), trace fine sand, moist, with an apparent petroleum-like odor.	CL	1.0-1.5	>15,000
						1.5-2.0	>15,000
						2.0-2.5	>15,000
						2.5-3.0	538.4

Notes

ft bgs - feet below ground surface

TCL - Target compound list

VOC - Volatile organic compound

SVOC - Semi-volatile organic compound

Facility ID	51-115577	Total Depth	3.0 ft bgs
DEP Tank ID	056A	Field Staff	E Ruger & B Bancewicz
Project Location	Philadelphia, PA	Project Manager	Greg Grose
Drilling Method	Hand Auger	Date	9/29/2022
Borehole Diameter	4 inches	Boring ID	SB-03

Sample IDs	Sample Interval	Time	Constituent
PESR_Tank056_SB03_1.0-1.5	1.0-1.5 ft bgs	13:06	TCL SVOCs, TCL VOCs, Total Lead
PESR_Tank056_SB03_2.0-2.5	2.0-2.5 ft bgs	13:08	TCL SVOCs, TCL VOCs, Total Lead
PESR_Tank056_SB03_2.5-3.0	2.5-3.0 ft bgs	13:10	TCL SVOCs, TCL VOCs, Total Lead

Sampled (Y/N)	Start Depth (ft bgs)	End Depth (ft bgs)	Recovery (ft)	Soil Description	Group Symbol	PID	
						Depth Interval (ft bgs)	ppm
	0.0	1.0	1.0	Light grey gravelly well graded coarse SAND (SW), medium dense, dry.	SW	0.0-0.5	313.6
Y	1.0	3.0	2.0	Medium brown stiff lean CLAY (CL), trace fine sand, moist, with an apparent petroleum-like odor.	CL	0.5-1.0	>15,000
						1.0-1.5	>15,000
						1.5-2.0	>15,000
						2.0-2.5	828.4
						2.5-3.0	6.9

Notes

ft bgs - feet below ground surface

TCL - Target compound list

VOC - Volatile organic compound

SVOC - Semi-volatile organic compound

Facility ID	51-115577	Total Depth	1.2 ft bgs
DEP Tank ID	056A	Field Staff	E Ruger & B Bancewicz
Project Location	Philadelphia, PA	Project Manager	Greg Grose
Drilling Method	Hand Auger	Date	9/29/2022
Borehole Diameter	4 inches	Boring ID	SB-04

Sample IDs	Sample Interval	Time	Constituent
PESR_Tank056_SB04_0.5-1.0	0.5-1.0 ft bgs	14:40	TCL SVOCs, TCL VOCs, Total Lead
QC Sample IDs	**Field Duplicate**	**Time**	**Constituent**
DUP01_20220929	Field Duplicate	14:40	TCL SVOCs, TCL VOCs, Total Lead

Comments: Perched groundwater encountered at 1.2 ft bgs

Sampled (Y/N)	Start Depth (ft bgs)	End Depth (ft bgs)	Recovery (ft)	Soil Description	Group Symbol	PID	
						Depth Interval (ft bgs)	ppm
	0.0	0.5	0.5	Light grey coarse angular GRAVEL (GW), medium dense, dry.	GW	0.0-0.5	0.6
Y	0.5	1.0	0.5	Orange medium coarse gravelly well graded course SAND (SW), moist, medium dense.	SW	0.5-1.0	1.2
						2.0-2.5	
	1.0	1.2	0.2	Perched groundwater encountered. Dark grey fine sandy well graded angular GRAVEL (GW).	GW	1.0-1.2	0.4

Notes

ft bgs - feet below ground surface
TCL - Target compound list
VOC - Volatile organic compound
SVOC - Semi-volatile organic compound

Facility ID	51-115577	Total Depth	3.5 ft bgs
DEP Tank ID	056A	Field Staff	E Ruger & B Bancewicz
Project Location	Philadelphia, PA	Project Manager	Greg Grose
Drilling Method	Hand Auger	Date	9/30/2022
Borehole Diameter	4 inches	Boring ID	SB-05

Sample IDs	Sample Interval	Time	Constituent
PESR_Tank056_SB05_0.5-1.0	0.5-1.0 ft bgs	9:30	TCL SVOCs, TCL VOCs, Total Lead

Sampled (Y/N)	Start Depth (ft bgs)	End Depth (ft bgs)	Recovery (ft)	Soil Description	Group Symbol	PID	
						Depth Interval (ft bgs)	ppm
	0.0	0.5	0.5	Light grey coarse angular GRAVEL (GW), medium dense, dry.	GW	0.0-0.5	>15,000
Y	0.5	1.0	0.5	Tan to light brown high plasticity CLAY (CH), trace fine sand, moist, soft.	CH	0.5-1.0	>15,000
						2.0-2.5	
	1.0	3.5	2.5	High plasticity CLAY (CH), trace gravel, glass debris and fine sand, moist, with an apparent petroleum-like odor.		1.0-3.0	>15,000

Notes

ft bgs - feet below ground surface

TCL - Target compound list

VOC - Volatile organic compound

SVOC - Semi-volatile organic compound

Facility ID	51-115577	Total Depth	3.5 ft bgs
DEP Tank ID	056A	Field Staff	E Ruger & B Bancewicz
Project Location	Philadelphia, PA	Project Manager	Greg Grose
Drilling Method	Hand Auger	Date	9/30/2022
Borehole Diameter	4 inches	Boring ID	SB-06

Sample IDs	Sample Interval	Time	Constituent
PESR_Tank056_SB06_3.0-3.5	0.5-1.0 ft bgs	10:30	TCL SVOCs, TCL VOCs, Total Lead
Comments: PID malfunction.			

Sampled (Y/N)	Start Depth (ft bgs)	End Depth (ft bgs)	Recovery (ft)	Soil Description	Group Symbol	PID	
						Depth Interval (ft bgs)	ppm
	0.0	0.5	0.5	Light grey coarse angular GRAVEL (GW), medium dense, dry.	GW		
Y	0.5	1.0	0.5	Tan to light brown high plasticity CLAY (CH), trace fine sand, moist, soft.	CH		
	1.0	3.5	3.0	High plasticity CLAY (CH), trace gravel, glass debris and fine sand, moist, with an apparent petroleum-like odor.			

Notes

ft bgs - feet below ground surface

TCL - Target compound list

VOC - Volatile organic compound

SVOC - Semi-volatile organic compound

Facility ID	51-115577	Total Depth	2.0 ft bgs
DEP Tank ID	056A	Field Staff	E Ruger & B Bancewicz
Project Location	Philadelphia, PA	Project Manager	Greg Grose
Drilling Method	Hand Auger	Date	9/30/2022
Borehole Diameter	4 inches	Boring ID	SB-07
Comments: PID malfunction.			

Sampled (Y/N)	Start Depth (ft bgs)	End Depth (ft bgs)	Recovery (ft)	Soil Description	Group Symbol	PID	
						Depth Interval (ft bgs)	ppm
	0.0	0.5	0.5	Light grey coarse angular GRAVEL (GW), medium dense, dry.	GW		
	0.5	1.0	0.5	Tan to light brown high plasticity CLAY (CH), trace fine sand, moist, soft.	CH		
	1.0	2.0	1.0	High plasticity CLAY (CH), trace gravel, glass debris and fine sand, moist, with an apparent petroleum-like odor.			

Notes

ft bgs - feet below ground surface

Facility ID	51-115577	Total Depth	0.5 ft bgs
DEP Tank ID	056A	Field Staff	E Ruger & B Bancewicz
Project Location	Philadelphia, PA	Project Manager	Greg Grose
Drilling Method	Hand Auger	Date	9/30/2022
Borehole Diameter	4 inches	Boring ID	SB-08
Comments: PID malfunction. Hand auger refusal on cement at several locations at and around SB-08.			

Sampled (Y/N)	Start Depth (ft bgs)	End Depth (ft bgs)	Recovery (ft)	Soil Description	Group Symbol	PID	
						Depth Interval (ft bgs)	ppm
	0.0	0.5	0.5	Light grey coarse angular GRAVEL (GW), medium dense, dry.	GW		
Y	0.5	1.0	0.5	Tan to light brown high plasticity CLAY (CH), trace fine sand, moist, soft.	CH		

Notes

ft bgs - feet below ground surface

Facility ID	51-115577	Total Depth	3.5 ft bgs
DEP Tank ID	056A	Field Staff	E Ruger & B Bancewicz
Project Location	Philadelphia, PA	Project Manager	Greg Grose
Drilling Method	Hand Auger	Date	9/30/2022
Borehole Diameter	4 inches	Boring ID	SB-09
Comments: PID malfunction.			

Sampled (Y/N)	Start Depth (ft bgs)	End Depth (ft bgs)	Recovery (ft)	Soil Description	Group Symbol	PID	
						Depth Interval (ft bgs)	ppm
	0.0	0.5	0.5	Light grey coarse angular GRAVEL (GW), medium dense, dry.	GW		
	0.5	1.0	0.5	Tan to light brown high plasticity CLAY (CH), trace fine sand, moist, soft.	CH		
	1.0	3.5	2.5	High plasticity CLAY (CH), trace gravel, glass debris and fine sand, moist, with an apparent petroleum-like odor.			

Notes

ft bgs - feet below ground surface

Facility ID	51-115577	Total Depth	3.5 ft bgs
DEP Tank ID	056A	Field Staff	E Ruger & B Bancewicz
Project Location	Philadelphia, PA	Project Manager	Greg Grose
Drilling Method	Hand Auger	Date	9/30/2022
Borehole Diameter	4 inches	Boring ID	SB-10
Comments: PID malfunction.			

Sampled (Y/N)	Start Depth (ft bgs)	End Depth (ft bgs)	Recovery (ft)	Soil Description	Group Symbol	PID	
						Depth Interval (ft bgs)	ppm
	0.0	0.5	0.5	Light grey coarse angular GRAVEL (GW), medium dense, dry.	GW		
	0.5	1.0	0.5	Tan to light brown high plasticity CLAY (CH), trace fine sand, moist, soft.	CH		
	1.0	3.5	2.5	High plasticity CLAY (CH), trace gravel, glass debris and fine sand, moist, with an apparent petroleum-like odor.			

Notes

ft bgs - feet below ground surface

Facility ID	51-115577	Total Depth	3.5 ft bgs
DEP Tank ID	056A	Field Staff	E Ruger & B Bancewicz
Project Location	Philadelphia, PA	Project Manager	Greg Grose
Drilling Method	Hand Auger	Date	9/30/2022
Borehole Diameter	4 inches	Boring ID	SB-11
Comments: PID malfunction.			

Sampled (Y/N)	Start Depth (ft bgs)	End Depth (ft bgs)	Recovery (ft)	Soil Description	Group Symbol	PID	
						Depth Interval (ft bgs)	ppm
	0.0	0.5	0.5	Light grey coarse angular GRAVEL (GW), medium dense, dry.	GW		
	0.5	1.0	0.5	Tan to light brown high plasticity CLAY (CH), trace fine sand, moist, soft.	CH		
	1.0	3.5	2.5	High plasticity CLAY (CH), trace gravel, glass debris and fine sand, moist, with an apparent petroleum-like odor.			

Notes

ft bgs - feet below ground surface

Facility ID	51-115577	Total Depth	3.5 ft bgs
DEP Tank ID	056A	Field Staff	E Ruger & B Bancewicz
Project Location	Philadelphia, PA	Project Manager	Greg Grose
Drilling Method	Hand Auger	Date	9/30/2022
Borehole Diameter	4 inches	Boring ID	SB-12
Comments: PID malfunction.			

Sampled (Y/N)	Start Depth (ft bgs)	End Depth (ft bgs)	Recovery (ft)	Soil Description	Group Symbol	PID	
						Depth Interval (ft bgs)	ppm
	0.0	0.5	0.5	Light grey coarse angular GRAVEL (GW), medium dense, dry.	GW		
	0.5	1.0	0.5	Tan to light brown high plasticity CLAY (CH), trace fine sand, moist, soft.	CH		
	1.0	3.5	2.5	High plasticity CLAY (CH), trace gravel, glass debris and fine sand, moist, with an apparent petroleum-like odor.			

Notes

ft bgs - feet below ground surface

Facility ID	51-115577	Total Depth	3.5 ft bgs
DEP Tank ID	056A	Field Staff	E Ruger & B Bancewicz
Project Location	Philadelphia, PA	Project Manager	Greg Grose
Drilling Method	Hand Auger	Date	9/30/2022
Borehole Diameter	4 inches	Boring ID	SB-13
Comments: PID malfunction.			

Sampled (Y/N)	Start Depth (ft bgs)	End Depth (ft bgs)	Recovery (ft)	Soil Description	Group Symbol	PID	
						Depth Interval (ft bgs)	ppm
	0.0	0.5	0.5	Light grey coarse angular GRAVEL (GW), medium dense, dry.	GW		
	0.5	1.0	0.5	Tan to light brown high plasticity CLAY (CH), trace fine sand, moist, soft.	CH		
	1.0	3.5	2.5	High plasticity CLAY (CH), trace gravel, glass debris and fine sand, moist, with an apparent petroleum-like odor.			

Notes

ft bgs - feet below ground surface

APPENDIX D
SEPTEMBER 2022, SOIL SAMPLING ANALYTICAL DATA REPORTING SHEETS

PHASE SEPARATION SCIENCE

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22100301

October 5, 2022

Sam Weaver
Ramboll US Corp. - Princeton
101 Carnegie Center, Suite 200
Princeton, NJ 08540

Reference: PSS Project No: **22100301**
Project Name: Philly Tank Farm
Project Location: Philadelphia, PA
Project ID.: 1690005561

Dear Sam Weaver:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **22100301**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on November 7, 2022, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal
Laboratory Manager

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Explanation of Qualifiers

Project Name: Philly Tank Farm

PSS Project No.: 22100301

Project ID: 1690005561

The following samples were received under chain of custody by Phase Separation Science (PSS) on 10/03/2022 at 08:45 am

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
22100301-001	PESR_Tank056_SB05_0.5-1.0	SOIL	09/30/22 09:30
22100301-002	PESR_Tank056_SB06_3.0-3.5	SOIL	09/30/22 10:30
22100301-003	EB01-20220930	WATER	09/30/22 11:55
22100301-004	TB01-20220930	WATER	09/30/22 00:00

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific. instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: PESR_Tank056_SB05_0.5-1.0 **Date/Time Sampled: 09/30/2022 09:30** **PSS Sample ID: 22100301-001**
Matrix: SOIL **Date/Time Received: 10/03/2022 08:45** **% Solids SM2540G-11: 80.6**

Total Metals — Analytical Method: SW-846 6020 B — Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Lead	**32**	mg/kg	0.60		1	0.45	10/03/22	10/04/22 18:35	1064

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 D — Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.013**	mg/kg	0.019	J	1	0.011	10/03/22	10/03/22 22:46	1045
Benzene	ND	mg/kg	0.00096		1	0.00041	10/03/22	10/03/22 22:46	1045
Bromochloromethane	ND	mg/kg	0.00096		1	0.00045	10/03/22	10/03/22 22:46	1045
Bromodichloromethane	ND	mg/kg	0.00096		1	0.00042	10/03/22	10/03/22 22:46	1045
Bromoform	ND	mg/kg	0.00096		1	0.00049	10/03/22	10/03/22 22:46	1045
Bromomethane	ND	mg/kg	0.00096		1	0.00096	10/03/22	10/03/22 22:46	1045
2-Butanone (MEK)	ND	mg/kg	0.0048		1	0.0022	10/03/22	10/03/22 22:46	1045
Carbon Disulfide	ND	mg/kg	0.00096		1	0.0004	10/03/22	10/03/22 22:46	1045
Carbon tetrachloride	ND	mg/kg	0.00096		1	0.00036	10/03/22	10/03/22 22:46	1045
Chlorobenzene	ND	mg/kg	0.00096		1	0.00052	10/03/22	10/03/22 22:46	1045
Chloroethane	ND	mg/kg	0.00096		1	0.00064	10/03/22	10/03/22 22:46	1045
Chloroform	ND	mg/kg	0.0048		1	0.00063	10/03/22	10/03/22 22:46	1045
Chloromethane	ND	mg/kg	0.00096		1	0.00048	10/03/22	10/03/22 22:46	1045
Cyclohexane	ND	mg/kg	0.00096		1	0.00039	10/03/22	10/03/22 22:46	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.00096		1	0.00084	10/03/22	10/03/22 22:46	1045
Dibromochloromethane	ND	mg/kg	0.00096		1	0.00029	10/03/22	10/03/22 22:46	1045
1,2-Dibromoethane	ND	mg/kg	0.00096		1	0.00048	10/03/22	10/03/22 22:46	1045
1,2-Dichlorobenzene	ND	mg/kg	0.00096		1	0.00042	10/03/22	10/03/22 22:46	1045
1,3-Dichlorobenzene	ND	mg/kg	0.00096		1	0.00043	10/03/22	10/03/22 22:46	1045
1,4-Dichlorobenzene	ND	mg/kg	0.00096		1	0.00084	10/03/22	10/03/22 22:46	1045
Dichlorodifluoromethane	ND	mg/kg	0.00096		1	0.00045	10/03/22	10/03/22 22:46	1045
1,1-Dichloroethane	ND	mg/kg	0.00096		1	0.00041	10/03/22	10/03/22 22:46	1045
1,2-Dichloroethane	ND	mg/kg	0.00096		1	0.00035	10/03/22	10/03/22 22:46	1045
1,1-Dichloroethene	ND	mg/kg	0.00096		1	0.00039	10/03/22	10/03/22 22:46	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.00096		1	0.00041	10/03/22	10/03/22 22:46	1045
1,2-Dichloropropane	ND	mg/kg	0.00096		1	0.00046	10/03/22	10/03/22 22:46	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.00096		1	0.00041	10/03/22	10/03/22 22:46	1045

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: PESR_Tank056_SB05_0.5-1.0 **Date/Time Sampled: 09/30/2022 09:30** **PSS Sample ID: 22100301-001**
Matrix: SOIL **Date/Time Received: 10/03/2022 08:45** **% Solids SM2540G-11: 80.6**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.00096		1	0.00044	10/03/22	10/03/22 22:46	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.00096		1	0.00039	10/03/22	10/03/22 22:46	1045
Ethylbenzene	ND	mg/kg	0.00096		1	0.00036	10/03/22	10/03/22 22:46	1045
2-Hexanone (MBK)	ND	mg/kg	0.00096		1	0.00063	10/03/22	10/03/22 22:46	1045
Isopropylbenzene	ND	mg/kg	0.00096		1	0.00038	10/03/22	10/03/22 22:46	1045
Methyl Acetate	ND	mg/kg	0.024		1	0.0011	10/03/22	10/03/22 22:46	1045
Methylcyclohexane	ND	mg/kg	0.00096		1	0.00042	10/03/22	10/03/22 22:46	1045
Methylene chloride	ND	mg/kg	0.0048		1	0.0035	10/03/22	10/03/22 22:46	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.00096		1	0.00062	10/03/22	10/03/22 22:46	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.00096		1	0.00037	10/03/22	10/03/22 22:46	1045
Naphthalene	ND	mg/kg	0.00096		1	0.00056	10/03/22	10/03/22 22:46	1045
Styrene	ND	mg/kg	0.00096		1	0.00039	10/03/22	10/03/22 22:46	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.00096		1	0.00059	10/03/22	10/03/22 22:46	1045
Tetrachloroethene	ND	mg/kg	0.00096		1	0.00042	10/03/22	10/03/22 22:46	1045
Toluene	ND	mg/kg	0.00096		1	0.00043	10/03/22	10/03/22 22:46	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.00096		1	0.0005	10/03/22	10/03/22 22:46	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.00096		1	0.00043	10/03/22	10/03/22 22:46	1045
1,1,1-Trichloroethane	ND	mg/kg	0.00096		1	0.00035	10/03/22	10/03/22 22:46	1045
1,1,2-Trichloroethane	ND	mg/kg	0.00096		1	0.00033	10/03/22	10/03/22 22:46	1045
Trichloroethene	ND	mg/kg	0.00096		1	0.00052	10/03/22	10/03/22 22:46	1045
Trichlorofluoromethane	ND	mg/kg	0.00096		1	0.00045	10/03/22	10/03/22 22:46	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.00096		1	0.00037	10/03/22	10/03/22 22:46	1045
Vinyl chloride	ND	mg/kg	0.0048		1	0.00032	10/03/22	10/03/22 22:46	1045
m&p-Xylene	ND	mg/kg	0.0019		1	0.0011	10/03/22	10/03/22 22:46	1045
o-Xylene	ND	mg/kg	0.00096		1	0.00036	10/03/22	10/03/22 22:46	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*96*	*%*	*89-111*	*1*	*10/03/22*	*10/03/22 22:46*	*1045*
Dibromofluoromethane	*92*	*%*	*91-108*	*1*	*10/03/22*	*10/03/22 22:46*	*1045*
Toluene-D8	*96*	*%*	*93-104*	*1*	*10/03/22*	*10/03/22 22:46*	*1045*

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: PESR_Tank056_SB05_0.5-1.0 **Date/Time Sampled: 09/30/2022 09:30** **PSS Sample ID: 22100301-001**
Matrix: SOIL **Date/Time Received: 10/03/2022 08:45** **% Solids SM2540G-11: 80.6**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197880 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.010		1	0.0074	10/03/22	10/04/22 12:02	1070
Acenaphthylene	ND	mg/kg	0.010		1	0.007	10/03/22	10/04/22 12:02	1070
Acetophenone	ND	mg/kg	0.041		1	0.026	10/03/22	10/04/22 12:02	1070
Anthracene	ND	mg/kg	0.010		1	0.0053	10/03/22	10/04/22 12:02	1070
Atrazine	ND	mg/kg	0.082		1	0.021	10/03/22	10/04/22 12:02	1070
Benzo(a)anthracene	ND	mg/kg	0.010		1	0.0041	10/03/22	10/04/22 12:02	1070
Benzo(a)pyrene	ND	mg/kg	0.010		1	0.0058	10/03/22	10/04/22 12:02	1070
Benzo(b)fluoranthene	ND	mg/kg	0.010		1	0.0053	10/03/22	10/04/22 12:02	1070
Benzo(g,h,i)perylene	ND	mg/kg	0.010		1	0.0074	10/03/22	10/04/22 12:02	1070
Benzo(k)fluoranthene	ND	mg/kg	0.010		1	0.009	10/03/22	10/04/22 12:02	1070
Biphenyl (Diphenyl)	ND	mg/kg	0.041		1	0.022	10/03/22	10/04/22 12:02	1070
Butyl benzyl phthalate	ND	mg/kg	0.041		1	0.027	10/03/22	10/04/22 12:02	1070
bis(2-chloroethoxy) methane	ND	mg/kg	0.041		1	0.027	10/03/22	10/04/22 12:02	1070
bis(2-chloroethyl) ether	ND	mg/kg	0.041		1	0.0053	10/03/22	10/04/22 12:02	1070
bis(2-chloroisopropyl) ether	ND	mg/kg	0.041		1	0.0062	10/03/22	10/04/22 12:02	1070
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.041		1	0.028	10/03/22	10/04/22 12:02	1070
4-Bromophenylphenyl ether	ND	mg/kg	0.041		1	0.021	10/03/22	10/04/22 12:02	1070
Di-n-butyl phthalate	ND	mg/kg	0.041		1	0.021	10/03/22	10/04/22 12:02	1070
Carbazole	ND	mg/kg	0.041		1	0.032	10/03/22	10/04/22 12:02	1070
Caprolactam	ND	mg/kg	0.082		1	0.015	10/03/22	10/04/22 12:02	1070
4-Chloro-3-methyl phenol	ND	mg/kg	0.041		1	0.036	10/03/22	10/04/22 12:02	1070
4-Chloroaniline	ND	mg/kg	0.041		1	0.032	10/03/22	10/04/22 12:02	1070
2-Chloronaphthalene	ND	mg/kg	0.041		1	0.028	10/03/22	10/04/22 12:02	1070
2-Chlorophenol	ND	mg/kg	0.041		1	0.021	10/03/22	10/04/22 12:02	1070
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.041		1	0.023	10/03/22	10/04/22 12:02	1070
Chrysene	ND	mg/kg	0.010		1	0.0049	10/03/22	10/04/22 12:02	1070
Dibenz(a,h)Anthracene	ND	mg/kg	0.010		1	0.007	10/03/22	10/04/22 12:02	1070
Dibenzofuran	ND	mg/kg	0.041		1	0.024	10/03/22	10/04/22 12:02	1070
3,3-Dichlorobenzidine	ND	mg/kg	0.041		1	0.023	10/03/22	10/04/22 12:02	1070
2,4-Dichlorophenol	ND	mg/kg	0.041		1	0.032	10/03/22	10/04/22 12:02	1070
Diethyl phthalate	ND	mg/kg	0.041		1	0.025	10/03/22	10/04/22 12:02	1070
Dimethyl phthalate	ND	mg/kg	0.041		1	0.024	10/03/22	10/04/22 12:02	1070
2,4-Dimethylphenol	ND	mg/kg	0.041		1	0.039	10/03/22	10/04/22 12:02	1070
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.21		1	0.049	10/03/22	10/04/22 12:02	1070
2,4-Dinitrophenol	ND	mg/kg	0.21		1	0.093	10/03/22	10/04/22 12:02	1070

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: PESR_Tank056_SB05_0.5-1.0 **Date/Time Sampled: 09/30/2022 09:30** **PSS Sample ID: 22100301-001**
Matrix: SOIL **Date/Time Received: 10/03/2022 08:45** **% Solids SM2540G-11: 80.6**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197880 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/kg	0.082		1	0.029	10/03/22	10/04/22 12:02	1070
2,6-Dinitrotoluene	ND	mg/kg	0.082		1	0.024	10/03/22	10/04/22 12:02	1070
Fluoranthene	**0.011**	mg/kg	0.010		1	0.0045	10/03/22	10/04/22 12:02	1070
Fluorene	ND	mg/kg	0.010		1	0.007	10/03/22	10/04/22 12:02	1070
Hexachlorobenzene	ND	mg/kg	0.041		1	0.0078	10/03/22	10/04/22 12:02	1070
Hexachlorobutadiene	ND	mg/kg	0.041		1	0.023	10/03/22	10/04/22 12:02	1070
Hexachlorocyclopentadiene	ND	mg/kg	0.082		1	0.046	10/03/22	10/04/22 12:02	1070
Hexachloroethane	ND	mg/kg	0.041		1	0.026	10/03/22	10/04/22 12:02	1070
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.010		1	0.0094	10/03/22	10/04/22 12:02	1070
Isophorone	ND	mg/kg	0.041		1	0.028	10/03/22	10/04/22 12:02	1070
2-Methylnaphthalene	ND	mg/kg	0.010		1	0.0099	10/03/22	10/04/22 12:02	1070
2-Methyl phenol	ND	mg/kg	0.041		1	0.023	10/03/22	10/04/22 12:02	1070
3&4-Methylphenol	ND	mg/kg	0.041		1	0.03	10/03/22	10/04/22 12:02	1070
Naphthalene	ND	mg/kg	0.010		1	0.0066	10/03/22	10/04/22 12:02	1070
2-Nitroaniline	ND	mg/kg	0.082		1	0.023	10/03/22	10/04/22 12:02	1070
3-Nitroaniline	ND	mg/kg	0.082		1	0.029	10/03/22	10/04/22 12:02	1070
4-Nitroaniline	ND	mg/kg	0.082		1	0.041	10/03/22	10/04/22 12:02	1070
Nitrobenzene	ND	mg/kg	0.041		1	0.031	10/03/22	10/04/22 12:02	1070
2-Nitrophenol	ND	mg/kg	0.041		1	0.033	10/03/22	10/04/22 12:02	1070
4-Nitrophenol	ND	mg/kg	0.21		1	0.063	10/03/22	10/04/22 12:02	1070
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.041		1	0.0037	10/03/22	10/04/22 12:02	1070
N-Nitrosodiphenylamine	ND	mg/kg	0.041		1	0.022	10/03/22	10/04/22 12:02	1070
Di-n-octyl phthalate	ND	mg/kg	0.082		1	0.041	10/03/22	10/04/22 12:02	1070
Pentachlorophenol	ND	mg/kg	0.082		1	0.05	10/03/22	10/04/22 12:02	1070
Phenanthrene	ND	mg/kg	0.010		1	0.0062	10/03/22	10/04/22 12:02	1070
Phenol	ND	mg/kg	0.041		1	0.03	10/03/22	10/04/22 12:02	1070
Pyrene	ND	mg/kg	0.010		1	0.0053	10/03/22	10/04/22 12:02	1070
Pyridine	ND	mg/kg	0.041		1	0.019	10/03/22	10/04/22 12:02	1070
2,4,5-Trichlorophenol	ND	mg/kg	0.041		1	0.0049	10/03/22	10/04/22 12:02	1070
2,4,6-Trichlorophenol	ND	mg/kg	0.041		1	0.032	10/03/22	10/04/22 12:02	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: PESR_Tank056_SB05_0.5-1.0 **Date/Time Sampled: 09/30/2022 09:30** **PSS Sample ID: 22100301-001**
Matrix: SOIL **Date/Time Received: 10/03/2022 08:45** **% Solids SM2540G-11: 80.6**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197880 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*78*	*%*	*52-109*	*1*	*10/03/22*	*10/04/22 12:02*	*1070*
2-Fluorophenol	*70*	*%*	*30-102*	*1*	*10/03/22*	*10/04/22 12:02*	*1070*
Nitrobenzene-d5	*70*	*%*	*39-101*	*1*	*10/03/22*	*10/04/22 12:02*	*1070*
Phenol-d6	*73*	*%*	*36-109*	*1*	*10/03/22*	*10/04/22 12:02*	*1070*
Terphenyl-D14	*88*	*%*	*66-121*	*1*	*10/03/22*	*10/04/22 12:02*	*1070*
2,4,6-Tribromophenol	*81*	*%*	*39-118*	*1*	*10/03/22*	*10/04/22 12:02*	*1070*

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Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: PESR_Tank056_SB06_3.0-3.5 **Date/Time Sampled: 09/30/2022 10:30** **PSS Sample ID: 22100301-002**
Matrix: SOIL **Date/Time Received: 10/03/2022 08:45** **% Solids SM2540G-11: 70.4**

Total Metals — Analytical Method: SW-846 6020 B — Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Lead	**30**	mg/kg	0.67		1	0.51	10/03/22	10/04/22 18:40	1064

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 D — Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	ND	mg/kg	0.020		1	0.011	10/03/22	10/03/22 23:09	1045
Benzene	ND	mg/kg	0.0010		1	0.00043	10/03/22	10/03/22 23:09	1045
Bromochloromethane	ND	mg/kg	0.0010		1	0.00047	10/03/22	10/03/22 23:09	1045
Bromodichloromethane	ND	mg/kg	0.0010		1	0.00044	10/03/22	10/03/22 23:09	1045
Bromoform	ND	mg/kg	0.0010		1	0.00051	10/03/22	10/03/22 23:09	1045
Bromomethane	ND	mg/kg	0.0010		1	0.001	10/03/22	10/03/22 23:09	1045
2-Butanone (MEK)	**0.0060**	mg/kg	0.0050		1	0.0023	10/03/22	10/03/22 23:09	1045
Carbon Disulfide	ND	mg/kg	0.0010		1	0.00042	10/03/22	10/03/22 23:09	1045
Carbon tetrachloride	ND	mg/kg	0.0010		1	0.00037	10/03/22	10/03/22 23:09	1045
Chlorobenzene	ND	mg/kg	0.0010		1	0.00054	10/03/22	10/03/22 23:09	1045
Chloroethane	ND	mg/kg	0.0010		1	0.00066	10/03/22	10/03/22 23:09	1045
Chloroform	ND	mg/kg	0.0050		1	0.00065	10/03/22	10/03/22 23:09	1045
Chloromethane	ND	mg/kg	0.0010		1	0.0005	10/03/22	10/03/22 23:09	1045
Cyclohexane	**0.0022**	mg/kg	0.0010		1	0.0004	10/03/22	10/03/22 23:09	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0010		1	0.00087	10/03/22	10/03/22 23:09	1045
Dibromochloromethane	ND	mg/kg	0.0010		1	0.0003	10/03/22	10/03/22 23:09	1045
1,2-Dibromoethane	ND	mg/kg	0.0010		1	0.0005	10/03/22	10/03/22 23:09	1045
1,2-Dichlorobenzene	ND	mg/kg	0.0010		1	0.00044	10/03/22	10/03/22 23:09	1045
1,3-Dichlorobenzene	ND	mg/kg	0.0010		1	0.00045	10/03/22	10/03/22 23:09	1045
1,4-Dichlorobenzene	ND	mg/kg	0.0010		1	0.00087	10/03/22	10/03/22 23:09	1045
Dichlorodifluoromethane	ND	mg/kg	0.0010		1	0.00047	10/03/22	10/03/22 23:09	1045
1,1-Dichloroethane	ND	mg/kg	0.0010		1	0.00043	10/03/22	10/03/22 23:09	1045
1,2-Dichloroethane	ND	mg/kg	0.0010		1	0.00036	10/03/22	10/03/22 23:09	1045
1,1-Dichloroethene	ND	mg/kg	0.0010		1	0.0004	10/03/22	10/03/22 23:09	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.0010		1	0.00043	10/03/22	10/03/22 23:09	1045
1,2-Dichloropropane	ND	mg/kg	0.0010		1	0.00048	10/03/22	10/03/22 23:09	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.0010		1	0.00043	10/03/22	10/03/22 23:09	1045

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: PESR_Tank056_SB06_3.0-3.5 **Date/Time Sampled: 09/30/2022 10:30** **PSS Sample ID: 22100301-002**
Matrix: SOIL **Date/Time Received: 10/03/2022 08:45** **% Solids SM2540G-11: 70.4**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.0010		1	0.00046	10/03/22	10/03/22 23:09	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0010		1	0.00041	10/03/22	10/03/22 23:09	1045
Ethylbenzene	ND	mg/kg	0.0010		1	0.00037	10/03/22	10/03/22 23:09	1045
2-Hexanone (MBK)	ND	mg/kg	0.0010		1	0.00065	10/03/22	10/03/22 23:09	1045
Isopropylbenzene	**0.0012**	mg/kg	0.0010		1	0.00039	10/03/22	10/03/22 23:09	1045
Methyl Acetate	ND	mg/kg	0.025		1	0.0011	10/03/22	10/03/22 23:09	1045
Methylcyclohexane	**0.0060**	mg/kg	0.0010		1	0.00044	10/03/22	10/03/22 23:09	1045
Methylene chloride	ND	mg/kg	0.0050		1	0.0036	10/03/22	10/03/22 23:09	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0010		1	0.00064	10/03/22	10/03/22 23:09	1045
Methyl-t-Butyl Ether	**0.0011**	mg/kg	0.0010		1	0.00038	10/03/22	10/03/22 23:09	1045
Naphthalene	**0.0020**	mg/kg	0.0010		1	0.00058	10/03/22	10/03/22 23:09	1045
Styrene	ND	mg/kg	0.0010		1	0.0004	10/03/22	10/03/22 23:09	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0010		1	0.00061	10/03/22	10/03/22 23:09	1045
Tetrachloroethene	ND	mg/kg	0.0010		1	0.00044	10/03/22	10/03/22 23:09	1045
Toluene	ND	mg/kg	0.0010		1	0.00045	10/03/22	10/03/22 23:09	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0010		1	0.00052	10/03/22	10/03/22 23:09	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0010		1	0.00045	10/03/22	10/03/22 23:09	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0010		1	0.00036	10/03/22	10/03/22 23:09	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0010		1	0.00034	10/03/22	10/03/22 23:09	1045
Trichloroethene	ND	mg/kg	0.0010		1	0.00054	10/03/22	10/03/22 23:09	1045
Trichlorofluoromethane	ND	mg/kg	0.0010		1	0.00047	10/03/22	10/03/22 23:09	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0010		1	0.00038	10/03/22	10/03/22 23:09	1045
Vinyl chloride	ND	mg/kg	0.0050		1	0.00033	10/03/22	10/03/22 23:09	1045
m&p-Xylene	ND	mg/kg	0.0020		1	0.0011	10/03/22	10/03/22 23:09	1045
o-Xylene	ND	mg/kg	0.0010		1	0.00037	10/03/22	10/03/22 23:09	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*102*	*%*	*89-111*	*1*	*10/03/22*	*10/03/22 23:09*	*1045*
Dibromofluoromethane	*105*	*%*	*91-108*	*1*	*10/03/22*	*10/03/22 23:09*	*1045*
Toluene-D8	*100*	*%*	*93-104*	*1*	*10/03/22*	*10/03/22 23:09*	*1045*

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Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: PESR_Tank056_SB06_3.0-3.5 **Date/Time Sampled: 09/30/2022 10:30** **PSS Sample ID: 22100301-002**
Matrix: SOIL **Date/Time Received: 10/03/2022 08:45** **% Solids SM2540G-11: 70.4**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.012		1	0.0084	10/03/22	10/03/22 14:59	1070
Acenaphthylene	ND	mg/kg	0.012		1	0.008	10/03/22	10/03/22 14:59	1070
Acetophenone	ND	mg/kg	0.047		1	0.03	10/03/22	10/03/22 14:59	1070
Anthracene	ND	mg/kg	0.012		1	0.0061	10/03/22	10/03/22 14:59	1070
Atrazine	ND	mg/kg	0.094		1	0.023	10/03/22	10/03/22 14:59	1070
Benzo(a)anthracene	ND	mg/kg	0.012		1	0.0047	10/03/22	10/03/22 14:59	1070
Benzo(a)pyrene	ND	mg/kg	0.012		1	0.0066	10/03/22	10/03/22 14:59	1070
Benzo(b)fluoranthene	ND	mg/kg	0.012		1	0.0061	10/03/22	10/03/22 14:59	1070
Benzo(g,h,i)perylene	ND	mg/kg	0.012		1	0.0084	10/03/22	10/03/22 14:59	1070
Benzo(k)fluoranthene	ND	mg/kg	0.012		1	0.01	10/03/22	10/03/22 14:59	1070
Biphenyl (Diphenyl)	ND	mg/kg	0.047		1	0.025	10/03/22	10/03/22 14:59	1070
Butyl benzyl phthalate	ND	mg/kg	0.047		1	0.03	10/03/22	10/03/22 14:59	1070
bis(2-chloroethoxy) methane	ND	mg/kg	0.047		1	0.03	10/03/22	10/03/22 14:59	1070
bis(2-chloroethyl) ether	ND	mg/kg	0.047		1	0.0061	10/03/22	10/03/22 14:59	1070
bis(2-chloroisopropyl) ether	ND	mg/kg	0.047		1	0.007	10/03/22	10/03/22 14:59	1070
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.047		1	0.032	10/03/22	10/03/22 14:59	1070
4-Bromophenylphenyl ether	ND	mg/kg	0.047		1	0.024	10/03/22	10/03/22 14:59	1070
Di-n-butyl phthalate	ND	mg/kg	0.047		1	0.024	10/03/22	10/03/22 14:59	1070
Carbazole	ND	mg/kg	0.047		1	0.037	10/03/22	10/03/22 14:59	1070
Caprolactam	ND	mg/kg	0.094		1	0.017	10/03/22	10/03/22 14:59	1070
4-Chloro-3-methyl phenol	ND	mg/kg	0.047		1	0.041	10/03/22	10/03/22 14:59	1070
4-Chloroaniline	ND	mg/kg	0.047		1	0.036	10/03/22	10/03/22 14:59	1070
2-Chloronaphthalene	ND	mg/kg	0.047		1	0.032	10/03/22	10/03/22 14:59	1070
2-Chlorophenol	ND	mg/kg	0.047		1	0.023	10/03/22	10/03/22 14:59	1070
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.047		1	0.026	10/03/22	10/03/22 14:59	1070
Chrysene	ND	mg/kg	0.012		1	0.0056	10/03/22	10/03/22 14:59	1070
Dibenz(a,h)Anthracene	ND	mg/kg	0.012		1	0.008	10/03/22	10/03/22 14:59	1070
Dibenzofuran	ND	mg/kg	0.047		1	0.027	10/03/22	10/03/22 14:59	1070
3,3-Dichlorobenzidine	ND	mg/kg	0.047		1	0.026	10/03/22	10/03/22 14:59	1070
2,4-Dichlorophenol	ND	mg/kg	0.047		1	0.037	10/03/22	10/03/22 14:59	1070
Diethyl phthalate	ND	mg/kg	0.047		1	0.028	10/03/22	10/03/22 14:59	1070
Dimethyl phthalate	ND	mg/kg	0.047		1	0.027	10/03/22	10/03/22 14:59	1070
2,4-Dimethylphenol	ND	mg/kg	0.047		1	0.045	10/03/22	10/03/22 14:59	1070
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.23		1	0.056	10/03/22	10/03/22 14:59	1070
2,4-Dinitrophenol	ND	mg/kg	0.23		1	0.11	10/03/22	10/03/22 14:59	1070

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: PESR_Tank056_SB06_3.0-3.5 **Date/Time Sampled: 09/30/2022 10:30** **PSS Sample ID: 22100301-002**
Matrix: SOIL **Date/Time Received: 10/03/2022 08:45** **% Solids SM2540G-11: 70.4**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/kg	0.094		1	0.033	10/03/22	10/03/22 14:59	1070
2,6-Dinitrotoluene	ND	mg/kg	0.094		1	0.027	10/03/22	10/03/22 14:59	1070
Fluoranthene	ND	mg/kg	0.012		1	0.0052	10/03/22	10/03/22 14:59	1070
Fluorene	ND	mg/kg	0.012		1	0.008	10/03/22	10/03/22 14:59	1070
Hexachlorobenzene	ND	mg/kg	0.047		1	0.0089	10/03/22	10/03/22 14:59	1070
Hexachlorobutadiene	ND	mg/kg	0.047		1	0.027	10/03/22	10/03/22 14:59	1070
Hexachlorocyclopentadiene	ND	mg/kg	0.094		1	0.052	10/03/22	10/03/22 14:59	1070
Hexachloroethane	ND	mg/kg	0.047		1	0.03	10/03/22	10/03/22 14:59	1070
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.012		1	0.011	10/03/22	10/03/22 14:59	1070
Isophorone	ND	mg/kg	0.047		1	0.032	10/03/22	10/03/22 14:59	1070
2-Methylnaphthalene	ND	mg/kg	0.012		1	0.011	10/03/22	10/03/22 14:59	1070
2-Methyl phenol	ND	mg/kg	0.047		1	0.026	10/03/22	10/03/22 14:59	1070
3&4-Methylphenol	ND	mg/kg	0.047		1	0.034	10/03/22	10/03/22 14:59	1070
Naphthalene	ND	mg/kg	0.012		1	0.0075	10/03/22	10/03/22 14:59	1070
2-Nitroaniline	ND	mg/kg	0.094		1	0.027	10/03/22	10/03/22 14:59	1070
3-Nitroaniline	ND	mg/kg	0.094		1	0.033	10/03/22	10/03/22 14:59	1070
4-Nitroaniline	ND	mg/kg	0.094		1	0.047	10/03/22	10/03/22 14:59	1070
Nitrobenzene	ND	mg/kg	0.047		1	0.035	10/03/22	10/03/22 14:59	1070
2-Nitrophenol	ND	mg/kg	0.047		1	0.038	10/03/22	10/03/22 14:59	1070
4-Nitrophenol	ND	mg/kg	0.23		1	0.072	10/03/22	10/03/22 14:59	1070
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.047		1	0.0042	10/03/22	10/03/22 14:59	1070
N-Nitrosodiphenylamine	ND	mg/kg	0.047		1	0.025	10/03/22	10/03/22 14:59	1070
Di-n-octyl phthalate	ND	mg/kg	0.094		1	0.047	10/03/22	10/03/22 14:59	1070
Pentachlorophenol	ND	mg/kg	0.094		1	0.057	10/03/22	10/03/22 14:59	1070
Phenanthrene	**0.031**	mg/kg	0.012		1	0.007	10/03/22	10/03/22 14:59	1070
Phenol	ND	mg/kg	0.047		1	0.035	10/03/22	10/03/22 14:59	1070
Pyrene	ND	mg/kg	0.012		1	0.0061	10/03/22	10/03/22 14:59	1070
Pyridine	ND	mg/kg	0.047		1	0.022	10/03/22	10/03/22 14:59	1070
2,4,5-Trichlorophenol	ND	mg/kg	0.047		1	0.0056	10/03/22	10/03/22 14:59	1070
2,4,6-Trichlorophenol	ND	mg/kg	0.047		1	0.037	10/03/22	10/03/22 14:59	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: PESR_Tank056_SB06_3.0-3.5 **Date/Time Sampled: 09/30/2022 10:30** **PSS Sample ID: 22100301-002**
Matrix: SOIL **Date/Time Received: 10/03/2022 08:45** **% Solids SM2540G-11: 70.4**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*84*	*%*	*52-109*	*1*	*10/03/22*	*10/03/22 14:59*	*1070*
2-Fluorophenol	*77*	*%*	*30-102*	*1*	*10/03/22*	*10/03/22 14:59*	*1070*
Nitrobenzene-d5	*75*	*%*	*39-101*	*1*	*10/03/22*	*10/03/22 14:59*	*1070*
Phenol-d6	*79*	*%*	*36-109*	*1*	*10/03/22*	*10/03/22 14:59*	*1070*
Terphenyl-D14	*96*	*%*	*66-121*	*1*	*10/03/22*	*10/03/22 14:59*	*1070*
2,4,6-Tribromophenol	*88*	*%*	*39-118*	*1*	*10/03/22*	*10/03/22 14:59*	*1070*

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Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: EB01-20220930 **Date/Time Sampled: 09/30/2022 11:55** **PSS Sample ID: 22100301-003**
Matrix: WATER **Date/Time Received: 10/03/2022 08:45**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3510C

Qualifier(s): See Batch 197879 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	0.25		1	0.11	10/03/22	10/04/22 10:45	1070
Acenaphthylene	ND	ug/L	0.25		1	0.11	10/03/22	10/04/22 10:45	1070
Acetophenone	ND	ug/L	1.0		1	0.85	10/03/22	10/04/22 10:45	1070
Anthracene	ND	ug/L	0.25		1	0.1	10/03/22	10/04/22 10:45	1070
Atrazine	ND	ug/L	2.0		1	0.63	10/03/22	10/04/22 10:45	1070
Benzo(a)anthracene	ND	ug/L	0.25		1	0.09	10/03/22	10/04/22 10:45	1070
Benzo(a)pyrene	ND	ug/L	0.25		1	0.11	10/03/22	10/04/22 10:45	1070
Benzo(b)fluoranthene	ND	ug/L	0.25		1	0.13	10/03/22	10/04/22 10:45	1070
Benzo(g,h,i)perylene	ND	ug/L	0.25		1	0.13	10/03/22	10/04/22 10:45	1070
Benzo(k)fluoranthene	ND	ug/L	0.25		1	0.16	10/03/22	10/04/22 10:45	1070
Biphenyl (Diphenyl)	ND	ug/L	1.0		1	0.67	10/03/22	10/04/22 10:45	1070
Butyl benzyl phthalate	ND	ug/L	1.0		1	0.64	10/03/22	10/04/22 10:45	1070
bis(2-chloroethoxy) methane	ND	ug/L	1.0		1	0.77	10/03/22	10/04/22 10:45	1070
bis(2-chloroethyl) ether	ND	ug/L	1.0		1	0.08	10/03/22	10/04/22 10:45	1070
bis(2-chloroisopropyl) ether	ND	ug/L	1.0		1	0.13	10/03/22	10/04/22 10:45	1070
bis(2-ethylhexyl) phthalate	ND	ug/L	1.0		1	0.67	10/03/22	10/04/22 10:45	1070
4-Bromophenylphenyl ether	ND	ug/L	1.0		1	0.67	10/03/22	10/04/22 10:45	1070
Di-n-butyl phthalate	ND	ug/L	1.0		1	0.68	10/03/22	10/04/22 10:45	1070
Carbazole	ND	ug/L	1.0		1	0.18	10/03/22	10/04/22 10:45	1070
Caprolactam	ND	ug/L	2.0		1	1.1	10/03/22	10/04/22 10:45	1070
4-Chloro-3-methyl phenol	ND	ug/L	1.0		1	0.86	10/03/22	10/04/22 10:45	1070
4-Chloroaniline	ND	ug/L	1.0		1	0.88	10/03/22	10/04/22 10:45	1070
2-Chloronaphthalene	ND	ug/L	1.0		1	0.91	10/03/22	10/04/22 10:45	1070
2-Chlorophenol	ND	ug/L	1.0		1	0.7	10/03/22	10/04/22 10:45	1070
4-Chlorophenyl Phenyl ether	ND	ug/L	1.0		1	0.74	10/03/22	10/04/22 10:45	1070
Chrysene	ND	ug/L	0.25		1	0.1	10/03/22	10/04/22 10:45	1070
Dibenz(a,h)Anthracene	ND	ug/L	0.25		1	0.18	10/03/22	10/04/22 10:45	1070
Dibenzofuran	ND	ug/L	1.0		1	0.82	10/03/22	10/04/22 10:45	1070
3,3-Dichlorobenzidine	ND	ug/L	1.0		1	0.46	10/03/22	10/04/22 10:45	1070
2,4-Dichlorophenol	ND	ug/L	1.0		1	0.95	10/03/22	10/04/22 10:45	1070
Diethyl phthalate	ND	ug/L	1.0		1	0.83	10/03/22	10/04/22 10:45	1070
Dimethyl phthalate	ND	ug/L	1.0		1	0.79	10/03/22	10/04/22 10:45	1070
2,4-Dimethylphenol	ND	ug/L	1.0		1	0.78	10/03/22	10/04/22 10:45	1070
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.0		1	1.7	10/03/22	10/04/22 10:45	1070
2,4-Dinitrophenol	ND	ug/L	5.0		1	5	10/03/22	10/04/22 10:45	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: EB01-20220930 **Date/Time Sampled: 09/30/2022 11:55** **PSS Sample ID: 22100301-003**
Matrix: WATER **Date/Time Received: 10/03/2022 08:45**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3510C

Qualifier(s): See Batch 197879 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	ug/L	2.0		1	0.93	10/03/22	10/04/22 10:45	1070
2,6-Dinitrotoluene	ND	ug/L	2.0		1	0.92	10/03/22	10/04/22 10:45	1070
Fluoranthene	ND	ug/L	0.25		1	0.09	10/03/22	10/04/22 10:45	1070
Fluorene	ND	ug/L	0.25		1	0.13	10/03/22	10/04/22 10:45	1070
Hexachlorobenzene	ND	ug/L	1.0		1	0.15	10/03/22	10/04/22 10:45	1070
Hexachlorobutadiene	ND	ug/L	1.0		1	0.74	10/03/22	10/04/22 10:45	1070
Hexachlorocyclopentadiene	ND	ug/L	2.0		1	0.94	10/03/22	10/04/22 10:45	1070
Hexachloroethane	ND	ug/L	1.0		1	0.84	10/03/22	10/04/22 10:45	1070
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	0.25		1	0.22	10/03/22	10/04/22 10:45	1070
Isophorone	ND	ug/L	1.0		1	0.89	10/03/22	10/04/22 10:45	1070
2-Methylnaphthalene	ND	ug/L	0.25		1	0.19	10/03/22	10/04/22 10:45	1070
2-Methyl phenol	ND	ug/L	1.0		1	0.76	10/03/22	10/04/22 10:45	1070
3&4-Methylphenol	ND	ug/L	1.0		1	0.86	10/03/22	10/04/22 10:45	1070
Naphthalene	ND	ug/L	0.25		1	0.12	10/03/22	10/04/22 10:45	1070
2-Nitroaniline	ND	ug/L	2.0		1	0.88	10/03/22	10/04/22 10:45	1070
3-Nitroaniline	ND	ug/L	2.0		1	1.1	10/03/22	10/04/22 10:45	1070
4-Nitroaniline	ND	ug/L	2.0		1	1.5	10/03/22	10/04/22 10:45	1070
Nitrobenzene	ND	ug/L	1.0		1	0.15	10/03/22	10/04/22 10:45	1070
2-Nitrophenol	ND	ug/L	1.0		1	1.2	10/03/22	10/04/22 10:45	1070
4-Nitrophenol	ND	ug/L	5.0		1	1.8	10/03/22	10/04/22 10:45	1070
N-Nitrosodi-n-propyl amine	ND	ug/L	1.0		1	0.08	10/03/22	10/04/22 10:45	1070
N-Nitrosodiphenylamine	ND	ug/L	1.0		1	0.75	10/03/22	10/04/22 10:45	1070
Di-n-octyl phthalate	ND	ug/L	2.0		1	0.9	10/03/22	10/04/22 10:45	1070
Pentachlorophenol	ND	ug/L	2.0		1	0.85	10/03/22	10/04/22 10:45	1070
Phenanthrene	ND	ug/L	0.25		1	0.13	10/03/22	10/04/22 10:45	1070
Phenol	ND	ug/L	1.0		1	0.91	10/03/22	10/04/22 10:45	1070
Pyrene	ND	ug/L	0.25		1	0.1	10/03/22	10/04/22 10:45	1070
Pyridine	ND	ug/L	1.0		1	0.72	10/03/22	10/04/22 10:45	1070
2,4,5-Trichlorophenol	ND	ug/L	1.0		1	1	10/03/22	10/04/22 10:45	1070
2,4,6-Trichlorophenol	ND	ug/L	1.0		1	1	10/03/22	10/04/22 10:45	1070

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: EB01-20220930 **Date/Time Sampled: 09/30/2022 11:55** **PSS Sample ID: 22100301-003**
Matrix: WATER **Date/Time Received: 10/03/2022 08:45**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3510C

Qualifier(s): See Batch 197879 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*73*	*%*	*59-108*	*1*	*10/03/22*	*10/04/22 10:45*	*1070*
2-Fluorophenol	*67*	*%*	*47-100*	*1*	*10/03/22*	*10/04/22 10:45*	*1070*
Nitrobenzene-d5	*68*	*%*	*47-108*	*1*	*10/03/22*	*10/04/22 10:45*	*1070*
Phenol-d6	*70*	*%*	*57-102*	*1*	*10/03/22*	*10/04/22 10:45*	*1070*
Terphenyl-D14	*85*	*%*	*77-120*	*1*	*10/03/22*	*10/04/22 10:45*	*1070*
2,4,6-Tribromophenol	*74*	*%*	*55-120*	*1*	*10/03/22*	*10/04/22 10:45*	*1070*

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Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: TB01-20220930 **Date/Time Sampled: 09/30/2022 00:00** **PSS Sample ID: 22100301-004**
Matrix: WATER **Date/Time Received: 10/03/2022 08:45**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 197857 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	5.0		1	1.5	10/03/22	10/03/22 16:58	1011
Benzene	ND	ug/L	1.0		1	0.19	10/03/22	10/03/22 16:58	1011
Bromochloromethane	ND	ug/L	1.0		1	0.28	10/03/22	10/03/22 16:58	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	10/03/22	10/03/22 16:58	1011
Bromoform	ND	ug/L	1.0		1	0.17	10/03/22	10/03/22 16:58	1011
Bromomethane	ND	ug/L	1.0		1	0.21	10/03/22	10/03/22 16:58	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	10/03/22	10/03/22 16:58	1011
Carbon Disulfide	ND	ug/L	1.0		1	0.35	10/03/22	10/03/22 16:58	1011
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	10/03/22	10/03/22 16:58	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	10/03/22	10/03/22 16:58	1011
Chloroethane	ND	ug/L	1.0		1	0.23	10/03/22	10/03/22 16:58	1011
Chloroform	ND	ug/L	1.0		1	0.21	10/03/22	10/03/22 16:58	1011
Chloromethane	ND	ug/L	1.0		1	0.33	10/03/22	10/03/22 16:58	1011
Cyclohexane	ND	ug/L	1.0		1	0.32	10/03/22	10/03/22 16:58	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		1	0.19	10/03/22	10/03/22 16:58	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	10/03/22	10/03/22 16:58	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	0.22	10/03/22	10/03/22 16:58	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	10/03/22	10/03/22 16:58	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	10/03/22	10/03/22 16:58	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	10/03/22	10/03/22 16:58	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	10/03/22	10/03/22 16:58	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	10/03/22	10/03/22 16:58	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	10/03/22	10/03/22 16:58	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	0.19	10/03/22	10/03/22 16:58	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	10/03/22	10/03/22 16:58	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	10/03/22	10/03/22 16:58	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	10/03/22	10/03/22 16:58	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	10/03/22	10/03/22 16:58	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	10/03/22	10/03/22 16:58	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	10/03/22	10/03/22 16:58	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	10/03/22	10/03/22 16:58	1011
Isopropylbenzene	ND	ug/L	1.0		1	0.13	10/03/22	10/03/22 16:58	1011
Methyl Acetate	ND	ug/L	1.0		1	0.24	10/03/22	10/03/22 16:58	1011
Methylcyclohexane	ND	ug/L	1.0		1	0.14	10/03/22	10/03/22 16:58	1011
Methylene chloride	ND	ug/L	1.0		1	0.71	10/03/22	10/03/22 16:58	1011

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22100301

Sample ID: TB01-20220930 **Date/Time Sampled: 09/30/2022 00:00** **PSS Sample ID: 22100301-004**
Matrix: WATER **Date/Time Received: 10/03/2022 08:45**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 D — Preparation Method: SW5030B

Qualifier(s): See Batch 197857 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	10/03/22	10/03/22 16:58	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	10/03/22	10/03/22 16:58	1011
Naphthalene	ND	ug/L	1.0		1	0.2	10/03/22	10/03/22 16:58	1011
Styrene	ND	ug/L	1.0		1	0.17	10/03/22	10/03/22 16:58	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	10/03/22	10/03/22 16:58	1011
Tetrachloroethene	ND	ug/L	1.0		1	0.23	10/03/22	10/03/22 16:58	1011
Toluene	ND	ug/L	1.0		1	0.52	10/03/22	10/03/22 16:58	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	0.3	10/03/22	10/03/22 16:58	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	0.26	10/03/22	10/03/22 16:58	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	10/03/22	10/03/22 16:58	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	10/03/22	10/03/22 16:58	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	10/03/22	10/03/22 16:58	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	10/03/22	10/03/22 16:58	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	0.17	10/03/22	10/03/22 16:58	1011
Vinyl chloride	ND	ug/L	1.0		1	0.34	10/03/22	10/03/22 16:58	1011
m&p-Xylene	ND	ug/L	2.0		1	0.4	10/03/22	10/03/22 16:58	1011
o-Xylene	ND	ug/L	1.0		1	0.18	10/03/22	10/03/22 16:58	1011

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*90*	*%*	*88-120*	*1*	*10/03/22*	*10/03/22 16:58*	*1011*
Dibromofluoromethane	*99*	*%*	*92-107*	*1*	*10/03/22*	*10/03/22 16:58*	*1011*
Toluene-D8	*99*	*%*	*95-106*	*1*	*10/03/22*	*10/03/22 16:58*	*1011*

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Project Name: Philly Tank Farm

PSS Project No.: 22100301

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

Preservative not indicated on COC for VOC for sample 004. Received containers preserved with HCl.

Analytical:

TCL Volatile Organic Compounds

Batch: 197857
Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

Batch: 197874
Method exceedance: Laboratory control sample (LCS) exceedance identified; see QC summary.

Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

Analytical:

TCL Semivolatile Organic Compounds

Batch: 197855
Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

Method exceedance: Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) exceedances identified; see QC summary.

Batch: 197879
Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

Batch: 197880
Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

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Lab Chronology

Project Name: Philly Tank Farm
PSS Project No.: 22100301

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SM2540G	PESR_Tank056_SB05_0.5-1.0	Initial	22100301-001	S	197892	197892	10/04/2022 17:30	10/04/2022 17:30
	PESR_Tank056_SB06_3.0-3.5	Initial	22100301-002	S	197892	197892	10/04/2022 17:30	10/04/2022 17:30
	197892-1-BLK	BLK	197892-1-BLK	S	197892	197892	10/04/2022 17:30	10/04/2022 17:30
	PESR_Tank056_SB05_0.5-1.0 D	MD	22100301-001 D	S	197892	197892	10/04/2022 17:30	10/04/2022 17:30
	14355-Comp-N-CE D	MD	22100316-001 D	S	197892	197892	10/04/2022 17:30	10/04/2022 17:30
SW-846 6020 B	PESR_Tank056_SB05_0.5-1.0	Initial	22100301-001	S	92585	197915	10/03/2022 14:05	10/04/2022 18:35
	PESR_Tank056_SB06_3.0-3.5	Initial	22100301-002	S	92585	197915	10/03/2022 14:05	10/04/2022 18:40
	92585-1-BKS	BKS	92585-1-BKS	S	92585	197915	10/03/2022 14:05	10/04/2022 17:48
	92585-1-BLK	BLK	92585-1-BLK	S	92585	197915	10/03/2022 14:05	10/04/2022 17:43
	Soil Piles S	MS	22093018-001 S	S	92585	197915	10/03/2022 14:05	10/04/2022 18:14
	Soil Piles SD	MSD	22093018-001 S	S	92585	197915	10/03/2022 14:05	10/04/2022 18:19
SW-846 8260 D	TB01-20220930	Initial	22100301-004	W	92604	197857	10/03/2022 08:48	10/03/2022 16:58
	92604-1-BKS	BKS	92604-1-BKS	W	92604	197857	10/03/2022 08:48	10/03/2022 08:48
	92604-1-BLK	BLK	92604-1-BLK	W	92604	197857	10/03/2022 08:48	10/03/2022 10:28
	14784-SB307-GW S	MS	22092818-016 S	W	92604	197857	10/03/2022 08:48	10/03/2022 15:04
	14784-SB307-GW SD	MSD	22092818-016 S	W	92604	197857	10/03/2022 08:48	10/03/2022 15:27
	PESR_Tank056_SB05_0.5-1.0	Initial	22100301-001	S	92612	197874	10/03/2022 14:04	10/03/2022 22:46
	PESR_Tank056_SB06_3.0-3.5	Initial	22100301-002	S	92612	197874	10/03/2022 14:04	10/03/2022 23:09
	92612-1-BKS	BKS	92612-1-BKS	S	92612	197874	10/03/2022 14:04	10/03/2022 14:35
	92612-1-BLK	BLK	92612-1-BLK	S	92612	197874	10/03/2022 14:04	10/03/2022 17:11
	92612-1-BSD	BSD	92612-1-BSD	S	92612	197874	10/03/2022 14:04	10/03/2022 14:57
	GTA-NW8-2-5' S	MS	22093005-009 S	S	92612	197874	10/03/2022 14:04	10/03/2022 15:19
	GTA-NW8-2-5' SD	MSD	22093005-009 S	S	92612	197874	10/03/2022 14:04	10/03/2022 15:42
SW-846 8270 E	PESR_Tank056_SB06_3.0-3.5	Initial	22100301-002	S	92574	197855	10/03/2022 10:40	10/03/2022 14:59
	92574-1-BKS	BKS	92574-1-BKS	S	92574	197855	10/03/2022 09:08	10/03/2022 12:51
	92574-1-BLK	BLK	92574-1-BLK	S	92574	197855	10/03/2022 09:08	10/03/2022 12:25
	92574-1-BSD	BSD	92574-1-BSD	S	92574	197855	10/03/2022 09:08	10/03/2022 13:17
	PESR_Tank056_SB04_0.5-1.0 S	MS	22093003-010 S	S	92574	197855	10/03/2022 09:08	10/03/2022 13:42
	PESR_Tank056_SB04_0.5-1.0 SD	MSD	22093003-010 S	S	92574	197855	10/03/2022 09:08	10/03/2022 14:08
	EB01-20220930	Initial	22100301-003	W	92581	197879	10/03/2022 10:21	10/04/2022 10:45
	92581-1-BKS	BKS	92581-1-BKS	W	92581	197879	10/03/2022 10:21	10/04/2022 09:27
	92581-1-BLK	BLK	92581-1-BLK	W	92581	197879	10/03/2022 10:21	10/04/2022 09:02
	92581-1-BSD	BSD	92581-1-BSD	W	92581	197879	10/03/2022 10:21	10/04/2022 09:53
	PESR_Tank056_SB05_0.5-1.0	Initial	22100301-001	S	92574	197880	10/03/2022 10:40	10/04/2022 12:02

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 6020 B Prep Method: SW3050B
Seq Number: 197915 Matrix: Solid Date Prep: 10/03/22
MB Sample Id: 92585-1-BLK LCS Sample Id: 92585-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Lead	<0.3191	23.64	22.49	95	80-120	mg/kg	

Analytical Method: SM2540G
Seq Number: 197892 Matrix: Soil
Parent Sample Id: 22100301-001 MD Sample Id: 22100301-001 D

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
Solids, percent	80.6	80.6	0	10	%	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8270 E Prep Method: SW3550C
Seq Number: 197855 Matrix: Solid Date Prep: 10/03/22
MB Sample Id: 92574-1-BLK LCS Sample Id: 92574-1-BKS LCSD Sample Id: 92574-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acenaphthene	<0.005988	1.333	1.126	84	1.194	90	67-111	6	25	mg/kg	
Acenaphthylene	<0.005655	1.333	1.165	87	1.225	92	65-118	5	25	mg/kg	
Acetophenone	<0.02129	1.333	1.135	85	1.222	92	68-111	7	25	mg/kg	
Anthracene	<0.004325	1.333	1.221	92	1.304	98	77-116	7	25	mg/kg	
Atrazine	<0.01663	1.333	0.8037	60	0.8341	63	33-76	4	25	mg/kg	
Benzo(a)anthracene	<0.003327	1.333	1.133	85	1.185	89	77-124	4	25	mg/kg	
Benzo(a)pyrene	<0.004657	1.333	1.397	105	1.463	110	91-141	5	25	mg/kg	
Benzo(b)fluoranthene	<0.004325	1.333	1.153	86	1.175	88	80-142	2	25	mg/kg	
Benzo(g,h,i)perylene	<0.005988	1.333	1.450	109	1.520	114	83-134	5	25	mg/kg	
Benzo(k)fluoranthene	<0.007319	1.333	1.338	100	1.439	108	80-126	7	25	mg/kg	
Biphenyl (Diphenyl)	<0.01763	1.333	1.592	119	1.832	138	75-111	14	25	mg/kg	H
Butyl benzyl phthalate	<0.02162	1.333	1.372	103	1.454	109	83-125	6	25	mg/kg	
bis(2-chloroethoxy) methane	<0.02162	1.333	1.130	85	1.182	89	68-110	4	25	mg/kg	
bis(2-chloroethyl) ether	<0.004325	1.333	1.072	80	1.130	85	66-114	5	25	mg/kg	
bis(2-chloroisopropyl) ether	<0.004990	1.333	1.008	76	1.107	83	52-125	9	25	mg/kg	
bis(2-ethylhexyl) phthalate	<0.02295	1.333	1.445	108	1.542	116	86-128	6	25	mg/kg	
4-Bromophenylphenyl ether	<0.01730	1.333	1.180	89	1.224	92	78-128	4	25	mg/kg	
Di-n-butyl phthalate	<0.01730	1.333	1.338	100	1.426	107	83-116	6	25	mg/kg	
Carbazole	<0.02595	1.333	1.207	91	1.274	96	81-109	5	25	mg/kg	
Caprolactam	<0.01198	1.333	1.241	93	1.298	97	64-123	4	25	mg/kg	
4-Chloro-3-methyl phenol	<0.02894	1.333	1.227	92	1.273	96	76-112	4	25	mg/kg	
4-Chloroaniline	<0.02562	1.333	1.045	78	1.117	84	64-107	7	25	mg/kg	
2-Chloronaphthalene	<0.02295	1.333	1.193	89	1.268	95	79-117	6	25	mg/kg	
2-Chlorophenol	<0.01663	1.333	1.144	86	1.204	90	66-107	5	25	mg/kg	
4-Chlorophenyl Phenyl ether	<0.01863	1.333	1.316	99	1.368	103	73-127	4	25	mg/kg	
Chrysene	<0.003992	1.333	1.217	91	1.277	96	77-122	5	25	mg/kg	
Dibenz(a,h)Anthracene	<0.005655	1.333	1.265	95	1.323	99	85-136	4	25	mg/kg	
Dibenzofuran	<0.01929	1.333	1.159	87	1.229	92	73-117	6	25	mg/kg	
3,3-Dichlorobenzidine	<0.01830	1.333	1.284	96	1.368	103	84-132	6	25	mg/kg	
2,4-Dichlorophenol	<0.02628	1.333	1.204	90	1.248	94	66-119	4	25	mg/kg	
Diethyl phthalate	<0.01996	1.333	1.206	90	1.290	97	77-124	7	25	mg/kg	
Dimethyl phthalate	<0.01929	1.333	1.183	89	1.245	93	69-120	5	25	mg/kg	
2,4-Dimethylphenol	<0.03160	1.333	1.198	90	1.269	95	71-119	6	25	mg/kg	
4,6-Dinitro-2-methyl phenol	<0.03959	1.333	1.253	94	1.275	96	62-146	2	25	mg/kg	
2,4-Dinitrophenol	<0.07552	1.333	1.305	98	1.326	100	49-139	2	25	mg/kg	
2,4-Dinitrotoluene	<0.02329	1.333	1.252	94	1.304	98	76-131	4	25	mg/kg	
2,6-Dinitrotoluene	<0.01929	1.333	1.240	93	1.290	97	72-131	4	25	mg/kg	
Fluoranthene	<0.003659	1.333	1.211	91	1.273	96	77-118	5	25	mg/kg	
Fluorene	<0.005655	1.333	1.219	91	1.304	98	74-120	7	25	mg/kg	
Hexachlorobenzene	<0.006321	1.333	1.295	97	1.364	102	82-119	5	25	mg/kg	
Hexachlorobutadiene	<0.01896	1.333	1.187	89	1.244	93	70-125	5	25	mg/kg	
Hexachlorocyclopentadiene	<0.03693	1.333	1.327	100	1.361	102	55-152	3	25	mg/kg	
Hexachloroethane	<0.02129	1.333	1.217	91	1.303	98	70-118	7	25	mg/kg	
Indeno(1,2,3-c,d)Pyrene	<0.007651	1.333	1.199	90	1.245	93	80-144	4	25	mg/kg	
Isophorone	<0.02262	1.333	1.374	103	1.445	108	66-138	5	25	mg/kg	
2-Methylnaphthalene	<0.007984	1.333	1.178	88	1.231	92	69-108	4	25	mg/kg	
2-Methyl phenol	<0.01830	1.333	1.158	87	1.229	92	67-111	6	25	mg/kg	
3&4-Methylphenol	<0.02428	1.333	1.126	84	1.204	90	68-112	7	25	mg/kg	
Naphthalene	<0.005323	1.333	1.127	85	1.196	90	66-104	6	25	mg/kg	
2-Nitroaniline	<0.01896	1.333	1.340	101	1.390	104	72-124	4	25	mg/kg	
3-Nitroaniline	<0.02329	1.333	1.246	93	1.337	100	78-119	7	25	mg/kg	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8270 E
Prep Method: SW3550C
Seq Number: 197855
Matrix: Solid
Date Prep: 10/03/22
MB Sample Id: 92574-1-BLK
LCS Sample Id: 92574-1-BKS
LCSD Sample Id: 92574-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
4-Nitroaniline	<0.03327	1.333	1.323	99	1.394	105	75-128	5	25	mg/kg	
Nitrobenzene	<0.02495	1.333	1.098	82	1.148	86	63-106	4	25	mg/kg	
2-Nitrophenol	<0.02661	1.333	1.214	91	1.264	95	68-118	4	25	mg/kg	
4-Nitrophenol	<0.05123	1.333	1.206	90	1.242	93	70-137	3	25	mg/kg	
N-Nitrosodi-n-propyl amine	<0.002994	1.333	1.066	80	1.138	85	59-120	7	25	mg/kg	
N-Nitrosodiphenylamine	<0.01763	1.333	1.228	92	1.285	96	77-113	5	25	mg/kg	
Di-n-octyl phthalate	<0.03360	1.333	1.449	109	1.546	116	87-128	6	25	mg/kg	
Pentachlorophenol	<0.04025	1.333	1.036	78	1.045	78	49-136	1	25	mg/kg	
Phenanthrene	<0.004990	1.333	1.170	88	1.221	92	75-109	4	25	mg/kg	
Phenol	<0.02462	1.333	0.9680	73	1.016	76	59-111	5	25	mg/kg	
Pyrene	<0.004325	1.333	1.178	88	1.233	93	76-120	5	25	mg/kg	
Pyridine	<0.01530	1.333	1.042	78	1.108	83	53-100	6	25	mg/kg	
2,4,5-Trichlorophenol	<0.003992	1.333	1.241	93	1.276	96	66-125	3	25	mg/kg	
2,4,6-Trichlorophenol	<0.02628	1.333	1.089	82	1.119	84	64-121	3	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
2-Fluorobiphenyl	87		82		86		52-109	%
2-Fluorophenol	90		80		85		30-102	%
Nitrobenzene-d5	84		77		82		39-101	%
Phenol-d6	86		81		86		36-109	%
Terphenyl-D14	91		83		86		66-121	%
2,4,6-Tribromophenol	80		86		89		39-118	%

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8270 E Prep Method: SW3510C
Seq Number: 197879 Matrix: Water Date Prep: 10/03/22
MB Sample Id: 92581-1-BLK LCS Sample Id: 92581-1-BKS LCSD Sample Id: 92581-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acenaphthene	<0.1100	40.00	33.22	83	32.43	81	68-108	2	20	ug/L	
Acenaphthylene	<0.1100	40.00	34.50	86	33.79	84	68-112	2	20	ug/L	
Acetophenone	<0.8500	40.00	32.98	82	32.55	81	67-113	1	20	ug/L	
Anthracene	<0.1000	40.00	35.96	90	34.70	87	75-114	4	20	ug/L	
Atrazine	<0.6300	40.00	23.65	59	23.27	58	16-109	2	20	ug/L	
Benzo(a)anthracene	<0.09000	40.00	34.36	86	33.24	83	77-116	3	20	ug/L	
Benzo(a)pyrene	<0.1100	40.00	40.54	101	39.42	99	84-138	3	20	ug/L	
Benzo(b)fluoranthene	<0.1300	40.00	37.39	93	36.00	90	77-139	4	20	ug/L	
Benzo(g,h,i)perylene	<0.1300	40.00	42.03	105	41.16	103	79-127	2	20	ug/L	
Benzo(k)fluoranthene	<0.1600	40.00	34.20	86	34.08	85	73-122	0	20	ug/L	
Biphenyl (Diphenyl)	<0.6700	40.00	43.71	109	42.40	106	70-114	3	20	ug/L	
Butyl benzyl phthalate	<0.6400	40.00	40.48	101	39.14	98	78-130	3	20	ug/L	
bis(2-chloroethoxy) methane	<0.7700	40.00	32.89	82	32.65	82	61-117	1	20	ug/L	
bis(2-chloroethyl) ether	<0.08000	40.00	30.97	77	30.54	76	64-113	1	20	ug/L	
bis(2-chloroisopropyl) ether	<0.1300	40.00	28.24	71	27.79	69	60-114	2	20	ug/L	
bis(2-ethylhexyl) phthalate	<0.6700	40.00	42.27	106	40.91	102	81-131	3	20	ug/L	
4-Bromophenylphenyl ether	<0.6700	40.00	34.18	85	33.75	84	77-125	1	20	ug/L	
Di-n-butyl phthalate	<0.6800	40.00	39.26	98	38.16	95	74-124	3	20	ug/L	
Carbazole	<0.1800	40.00	36.06	90	35.24	88	71-114	2	20	ug/L	
Caprolactam	<1.130	40.00	35.78	89	34.99	87	59-122	2	20	ug/L	
4-Chloro-3-methyl phenol	<0.8600	40.00	35.93	90	35.00	88	68-127	3	20	ug/L	
4-Chloroaniline	<0.8800	40.00	36.41	91	35.76	89	53-113	2	20	ug/L	
2-Chloronaphthalene	<0.9100	40.00	34.89	87	34.30	86	74-115	2	20	ug/L	
2-Chlorophenol	<0.7000	40.00	33.17	83	32.69	82	64-113	1	20	ug/L	
4-Chlorophenyl Phenyl ether	<0.7400	40.00	38.22	96	37.40	94	77-119	2	20	ug/L	
Chrysene	<0.1000	40.00	34.62	87	34.18	85	76-121	1	20	ug/L	
Dibenz(a,h)Anthracene	<0.1800	40.00	36.94	92	36.22	91	80-130	2	20	ug/L	
Dibenzofuran	<0.8200	40.00	34.17	85	33.43	84	75-111	2	20	ug/L	
3,3-Dichlorobenzidine	<0.4600	40.00	44.33	111	43.33	108	80-128	2	20	ug/L	
2,4-Dichlorophenol	<0.9500	40.00	35.14	88	34.47	86	65-123	2	20	ug/L	
Diethyl phthalate	<0.8300	40.00	35.39	88	34.56	86	74-126	2	20	ug/L	
Dimethyl phthalate	<0.7900	40.00	35.20	88	33.97	85	71-118	4	20	ug/L	
2,4-Dimethylphenol	<0.7800	40.00	33.68	84	33.07	83	67-124	2	20	ug/L	
4,6-Dinitro-2-methyl phenol	<1.680	40.00	37.36	93	36.78	92	46-154	2	20	ug/L	
2,4-Dinitrophenol	<5.000	40.00	38.47	96	37.68	94	42-141	2	20	ug/L	
2,4-Dinitrotoluene	<0.9300	40.00	36.56	91	35.70	89	69-129	2	20	ug/L	
2,6-Dinitrotoluene	<0.9200	40.00	36.56	91	35.57	89	64-131	3	20	ug/L	
Fluoranthene	<0.09000	40.00	35.86	90	34.76	87	76-118	3	20	ug/L	
Fluorene	<0.1300	40.00	35.50	89	35.02	88	75-116	1	20	ug/L	
Hexachlorobenzene	<0.1500	40.00	38.28	96	37.12	93	67-134	3	20	ug/L	
Hexachlorobutadiene	<0.7400	40.00	34.68	87	34.11	85	71-118	2	20	ug/L	
Hexachlorocyclopentadiene	<0.9400	40.00	37.70	94	37.01	93	42-143	2	20	ug/L	
Hexachloroethane	<0.8400	40.00	35.19	88	34.56	86	60-123	2	20	ug/L	
Indeno(1,2,3-c,d)Pyrene	<0.2200	40.00	36.13	90	35.77	89	74-137	1	20	ug/L	
Isophorone	<0.8900	40.00	40.54	101	39.62	99	52-128	2	20	ug/L	
2-Methylnaphthalene	<0.1900	40.00	33.98	85	33.70	84	60-116	1	20	ug/L	
2-Methyl phenol	<0.7600	40.00	33.27	83	32.87	82	65-117	1	20	ug/L	
3&4-Methylphenol	<0.8600	40.00	32.95	82	32.35	81	63-120	2	20	ug/L	
Naphthalene	<0.1200	40.00	32.54	81	31.98	80	65-102	2	20	ug/L	
2-Nitroaniline	<0.8800	40.00	39.92	100	39.18	98	71-122	2	20	ug/L	
3-Nitroaniline	<1.070	40.00	41.74	104	40.80	102	69-120	2	20	ug/L	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8270 E Prep Method: SW3510C
Seq Number: 197879 Matrix: Water Date Prep: 10/03/22
MB Sample Id: 92581-1-BLK LCS Sample Id: 92581-1-BKS LCSD Sample Id: 92581-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
4-Nitroaniline	<1.540	40.00	40.57	101	39.36	98	57-133	3	20	ug/L	
Nitrobenzene	<0.1500	40.00	32.26	81	31.52	79	61-110	2	20	ug/L	
2-Nitrophenol	<1.190	40.00	35.54	89	35.08	88	59-127	1	20	ug/L	
4-Nitrophenol	<1.750	40.00	38.17	95	36.94	92	68-147	3	20	ug/L	
N-Nitrosodi-n-propyl amine	<0.08000	40.00	33.13	83	32.43	81	58-122	2	20	ug/L	
N-Nitrosodiphenylamine	<0.7500	40.00	36.00	90	35.17	88	72-115	2	20	ug/L	
Di-n-octyl phthalate	<0.9000	40.00	42.28	106	40.72	102	78-137	4	20	ug/L	
Pentachlorophenol	<0.8500	40.00	31.31	78	30.06	75	52-147	4	20	ug/L	
Phenanthrene	<0.1300	40.00	34.49	86	33.40	84	69-116	3	20	ug/L	
Phenol	<0.9100	40.00	28.03	70	27.88	70	61-111	1	20	ug/L	
Pyrene	<0.1000	40.00	34.35	86	33.68	84	80-114	2	20	ug/L	
Pyridine	<0.7200	40.00	29.63	74	28.07	70	39-110	5	20	ug/L	
2,4,5-Trichlorophenol	<1.030	40.00	36.96	92	36.10	90	69-124	2	20	ug/L	
2,4,6-Trichlorophenol	<1.030	40.00	32.36	81	31.62	79	66-124	2	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
2-Fluorobiphenyl	80		82		82		59-108	%
2-Fluorophenol	76		78		78		47-100	%
Nitrobenzene-d5	75		75		76		47-108	%
Phenol-d6	78		79		79		57-102	%
Terphenyl-D14	88		80		80		77-120	%
2,4,6-Tribromophenol	83		83		84		55-120	%

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8260 D Prep Method: SW5030
Seq Number: 197874 Matrix: Solid Date Prep: 10/03/22
MB Sample Id: 92612-1-BLK LCS Sample Id: 92612-1-BKS LCSD Sample Id: 92612-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acetone	<0.01100	0.06000	0.04564	76	0.04583	76	40-147	0	25	mg/kg	
Benzene	<0.00043	0.06000	0.06051	101	0.06018	100	85-118	1	25	mg/kg	
Bromochloromethane	<0.00047	0.06000	0.05854	98	0.05999	100	84-121	2	25	mg/kg	
Bromodichloromethane	<0.00044	0.06000	0.06371	106	0.06307	105	88-121	1	25	mg/kg	
Bromoform	<0.00051	0.06000	0.05562	93	0.05605	93	78-129	1	25	mg/kg	
Bromomethane	<0.001000	0.06000	0.06572	110	0.06644	111	66-117	1	25	mg/kg	
2-Butanone (MEK)	<0.002300	0.06000	0.05222	87	0.04932	82	62-115	6	25	mg/kg	
Carbon Disulfide	<0.00042	0.06000	0.06414	107	0.06105	102	79-128	5	25	mg/kg	
Carbon tetrachloride	<0.00037	0.06000	0.06277	105	0.06319	105	87-121	1	25	mg/kg	
Chlorobenzene	<0.00054	0.06000	0.05842	97	0.06033	101	85-119	3	25	mg/kg	
Chloroethane	<0.00066	0.06000	0.05350	89	0.05534	92	75-115	3	25	mg/kg	
Chloroform	<0.00065	0.06000	0.05914	99	0.06046	101	82-116	2	25	mg/kg	
Chloromethane	<0.0005	0.06000	0.05571	93	0.05657	94	69-124	2	25	mg/kg	
Cyclohexane	<0.0004	0.06000	0.05520	92	0.05862	98	72-132	6	25	mg/kg	
1,2-Dibromo-3-chloropropane	<0.00087	0.06000	0.05538	92	0.05434	91	64-141	2	25	mg/kg	
Dibromochloromethane	<0.0003	0.06000	0.05531	92	0.05551	93	87-122	0	25	mg/kg	
1,2-Dibromoethane	<0.0005	0.06000	0.05954	99	0.06037	101	87-117	1	25	mg/kg	
1,2-Dichlorobenzene	<0.00044	0.06000	0.05911	99	0.05722	95	83-121	3	25	mg/kg	
1,3-Dichlorobenzene	<0.00045	0.06000	0.06046	101	0.05985	100	84-121	1	25	mg/kg	
1,4-Dichlorobenzene	<0.00087	0.06000	0.05920	99	0.05850	98	84-121	1	25	mg/kg	
Dichlorodifluoromethane	<0.00047	0.06000	0.05628	94	0.05688	95	56-134	1	25	mg/kg	
1,1-Dichloroethane	<0.00043	0.06000	0.06399	107	0.06026	100	83-120	6	25	mg/kg	
1,2-Dichloroethane	<0.00036	0.06000	0.06508	108	0.06122	102	85-118	6	25	mg/kg	
1,1-Dichloroethene	<0.0004	0.06000	0.05835	97	0.05875	98	83-122	1	25	mg/kg	
1,2-Dichloropropane	<0.00048	0.06000	0.06152	103	0.06061	101	84-120	1	25	mg/kg	
cis-1,2-Dichloroethene	<0.00043	0.06000	0.06089	101	0.05909	98	84-120	3	25	mg/kg	
cis-1,3-Dichloropropene	<0.00043	0.06000	0.05814	97	0.05862	98	84-120	1	25	mg/kg	
trans-1,2-Dichloroethene	<0.00046	0.06000	0.06032	101	0.05986	100	84-121	1	25	mg/kg	
trans-1,3-Dichloropropene	<0.00041	0.06000	0.05873	98	0.05790	97	80-123	1	25	mg/kg	
Ethylbenzene	<0.00037	0.06000	0.05980	100	0.06077	101	87-121	2	25	mg/kg	
2-Hexanone (MBK)	<0.00065	0.06000	0.05331	89	0.05264	88	72-119	1	25	mg/kg	
Isopropylbenzene	<0.00039	0.06000	0.05916	99	0.05879	98	85-121	1	25	mg/kg	
Methyl Acetate	<0.001100	0.06000	0.05853	98	0.05251	88	75-123	11	25	mg/kg	
Methylcyclohexane	<0.00044	0.06000	0.06110	102	0.06111	102	84-123	0	25	mg/kg	
Methylene chloride	<0.003600	0.06000	0.06038	101	0.05604	93	81-117	7	25	mg/kg	
4-Methyl-2-Pentanone (MIBK)	<0.00064	0.06000	0.05339	89	0.05117	85	75-118	4	25	mg/kg	
Methyl-t-Butyl Ether	<0.00038	0.06000	0.07384	123	0.06897	115	74-122	7	25	mg/kg	H
Naphthalene	<0.00058	0.06000	0.06076	101	0.06139	102	77-120	1	25	mg/kg	
Styrene	<0.0004	0.06000	0.06197	103	0.06304	105	83-124	2	25	mg/kg	
1,1,2,2-Tetrachloroethane	<0.00061	0.06000	0.05763	96	0.05715	95	75-123	1	25	mg/kg	
Tetrachloroethene	<0.00044	0.06000	0.06304	105	0.06107	102	82-119	3	25	mg/kg	
Toluene	<0.00045	0.06000	0.05840	97	0.05903	98	84-118	1	25	mg/kg	
1,2,3-Trichlorobenzene	<0.00052	0.06000	0.06157	103	0.06061	101	76-127	2	25	mg/kg	
1,2,4-Trichlorobenzene	<0.00045	0.06000	0.06082	101	0.06065	101	82-131	0	25	mg/kg	
1,1,1-Trichloroethane	<0.00036	0.06000	0.06604	110	0.06509	108	84-121	1	25	mg/kg	
1,1,2-Trichloroethane	<0.00034	0.06000	0.06181	103	0.06038	101	83-118	2	25	mg/kg	
Trichloroethene	<0.00054	0.06000	0.06149	102	0.06109	102	85-118	1	25	mg/kg	
Trichlorofluoromethane	<0.00047	0.06000	0.06153	103	0.06141	102	81-121	0	25	mg/kg	
1,1,2-Trichlorotrifluoroethane	<0.00038	0.06000	0.06073	101	0.06079	101	83-122	0	25	mg/kg	
Vinyl chloride	<0.00033	0.06000	0.05874	98	0.06017	100	69-129	2	25	mg/kg	
m&p-Xylene	<0.001100	0.1200	0.1191	99	0.1189	99	86-123	0	25	mg/kg	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8260 D Prep Method: SW5030
Seq Number: 197874 Matrix: Solid Date Prep: 10/03/22
MB Sample Id: 92612-1-BLK LCS Sample Id: 92612-1-BKS LCSD Sample Id: 92612-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
o-Xylene	<0.00037	0.06000	0.06024	100	0.06245	104	84-121	4	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
4-Bromofluorobenzene	96		96		97		89-111	%
Dibromofluoromethane	94		101		103		91-108	%
Toluene-D8	98		102		101		93-104	%

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8260 D
Prep Method: SW5030B
Seq Number: 197857
Matrix: Water
Date Prep: 10/03/22
MB Sample Id: 92604-1-BLK
LCS Sample Id: 92604-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acetone	<1.500	50.00	41.16	82	49-154	ug/L	
Benzene	<0.1900	50.00	47.85	96	76-112	ug/L	
Bromochloromethane	<0.2800	50.00	57.34	115	74-119	ug/L	
Bromodichloromethane	<0.1800	50.00	48.66	97	78-117	ug/L	
Bromoform	<0.1700	50.00	56.50	113	69-123	ug/L	
Bromomethane	<0.2100	50.00	48.79	98	42-118	ug/L	
2-Butanone (MEK)	<1.300	50.00	48.94	98	55-136	ug/L	
Carbon Disulfide	<0.3500	50.00	46.80	94	80-124	ug/L	
Carbon tetrachloride	<0.2200	50.00	50.15	100	77-119	ug/L	
Chlorobenzene	<0.2300	50.00	52.03	104	76-114	ug/L	
Chloroethane	<0.2300	50.00	35.81	72	61-113	ug/L	
Chloroform	0.2100	50.00	46.09	92	75-113	ug/L	
Chloromethane	<0.3300	50.00	34.30	69	41-148	ug/L	
Cyclohexane	<0.3200	50.00	41.59	83	76-135	ug/L	
1,2-Dibromo-3-chloropropane	<0.1900	50.00	44.71	89	52-131	ug/L	
Dibromochloromethane	<0.1800	50.00	51.86	104	79-121	ug/L	
1,2-Dibromoethane	<0.2200	50.00	52.42	105	77-119	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	55.81	112	75-121	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	55.40	111	77-120	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	39.16	78	49-122	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	54.74	109	76-118	ug/L	
1,1-Dichloroethane	<0.1900	50.00	42.84	86	75-118	ug/L	
1,2-Dichloroethane	<0.1800	50.00	41.98	84	72-115	ug/L	
cis-1,2-Dichloroethene	<0.1900	50.00	52.60	105	75-119	ug/L	
1,1-Dichloroethene	<0.1800	50.00	47.62	95	74-119	ug/L	
1,2-Dichloropropane	<0.1700	50.00	43.52	87	76-115	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	46.69	93	83-122	ug/L	
trans-1,3-Dichloropropene	<0.1500	50.00	46.21	92	76-118	ug/L	
trans-1,2-Dichloroethene	<0.2900	50.00	52.00	104	73-121	ug/L	
Ethylbenzene	<0.1500	50.00	48.78	98	78-118	ug/L	
2-Hexanone (MBK)	<0.8300	50.00	37.48	75	55-136	ug/L	
Isopropylbenzene	<0.1300	50.00	51.23	102	76-126	ug/L	
Methyl Acetate	<0.2400	50.00	50.83	102	61-117	ug/L	
Methylcyclohexane	<0.1400	50.00	49.96	100	82-126	ug/L	
Methylene chloride	<0.7100	50.00	48.73	97	75-113	ug/L	
4-Methyl-2-Pentanone (MIBK)	<0.6000	50.00	41.59	83	57-127	ug/L	
Methyl-t-Butyl Ether	<0.1700	50.00	48.21	96	71-114	ug/L	
Naphthalene	<0.2000	50.00	53.35	107	60-122	ug/L	
Styrene	<0.1700	50.00	53.03	106	81-124	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	48.84	98	66-123	ug/L	
Tetrachloroethene	<0.2300	50.00	58.81	118	76-123	ug/L	
Toluene	<0.5200	50.00	50.39	101	77-112	ug/L	
1,2,3-Trichlorobenzene	<0.3000	50.00	54.24	108	73-129	ug/L	
1,2,4-Trichlorobenzene	<0.2600	50.00	54.59	109	73-130	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	47.87	96	79-118	ug/L	
Trichloroethene	<0.1900	50.00	50.18	100	77-112	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	49.44	99	75-115	ug/L	
Trichlorofluoromethane	<0.1700	50.00	44.32	89	74-125	ug/L	
1,1,2-Trichlorotrifluoroethane	<0.1700	50.00	48.10	96	77-123	ug/L	
Vinyl chloride	<0.3400	50.00	37.24	74	53-151	ug/L	
m&p-Xylene	<0.4000	100	102.7	103	79-121	ug/L	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8260 D
Prep Method: SW5030B
Seq Number: 197857
Matrix: Water
Date Prep: 10/03/22
MB Sample Id: 92604-1-BLK
LCS Sample Id: 92604-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
o-Xylene	<0.1800	50.00	51.57	103	78-122	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
4-Bromofluorobenzene	90		88		88-120	%
Dibromofluoromethane	101		102		92-107	%
Toluene-D8	100		99		95-106	%

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

Analytical Method: SW-846 6020 B
Seq Number: 197915 Matrix: Solid
CCV Sample Id: CCV 1 Analyzed Date: 10/04/22 17:02

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	98.31	98	90-110	ug/kg	

Analytical Method: SW-846 6020 B
Seq Number: 197915 Matrix: Solid
CCV Sample Id: CCV 2 Analyzed Date: 10/04/22 18:04

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	99.49	99	90-110	ug/kg	

Analytical Method: SW-846 6020 B
Seq Number: 197915 Matrix: Solid
CCV Sample Id: CCV 3 Analyzed Date: 10/04/22 19:11

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	96.94	97	90-110	ug/kg	

Analytical Method: SW-846 6020 B
Seq Number: 197915 Matrix: Solid
Parent Sample Id: ICV 1 ICV Sample Id: ICV 1 Analyzed Date: 10/04/22 15:44

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Lead	50.00	53.47	107	90-110	ug/kg	

Analytical Method: SW-846 8270 E

Seq Number: 197855 Matrix: Solid

CCV Sample Id: CCV-01 Analyzed Date: 10/03/22 11:54

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Acenaphthene	40.00	36.06	90	80-120	mg/kg	
Acenaphthylene	40.00	37.18	93	80-120	mg/kg	
Acetophenone	40.00	35.71	89	80-120	mg/kg	
Anthracene	40.00	38.98	97	80-120	mg/kg	
Atrazine	40.00	37.70	94	80-120	mg/kg	
Benzo(a)anthracene	40.00	38.39	96	80-120	mg/kg	
Benzo(a)pyrene	40.00	44.61	112	80-120	mg/kg	
Benzo(b)fluoranthene	40.00	38.92	97	80-120	mg/kg	
Benzo(g,h,i)perylene	40.00	46.87	117	80-120	mg/kg	
Benzo(k)fluoranthene	40.00	40.35	101	80-120	mg/kg	
Biphenyl (Diphenyl)	40.00	47.99	120	80-120	mg/kg	
Butyl benzyl phthalate	40.00	43.73	109	80-120	mg/kg	
bis(2-chloroethoxy) methane	40.00	34.49	86	80-120	mg/kg	
bis(2-chloroethyl) ether	40.00	34.82	87	80-120	mg/kg	
bis(2-chloroisopropyl) ether	40.00	29.29	73	80-120	mg/kg	X
bis(2-ethylhexyl) phthalate	40.00	46.20	116	80-120	mg/kg	
4-Bromophenylphenyl ether	40.00	37.97	95	80-120	mg/kg	
Di-n-butyl phthalate	40.00	40.39	101	80-120	mg/kg	
Carbazole	40.00	38.17	95	80-120	mg/kg	
Caprolactam	40.00	37.70	94	80-120	mg/kg	
4-Chloro-3-methyl phenol	40.00	38.83	97	80-120	mg/kg	
4-Chloroaniline	40.00	38.45	96	80-120	mg/kg	
2-Chloronaphthalene	40.00	37.59	94	80-120	mg/kg	
2-Chlorophenol	40.00	37.20	93	80-120	mg/kg	
4-Chlorophenyl Phenyl ether	40.00	41.63	104	80-120	mg/kg	
Chrysene	40.00	39.57	99	80-120	mg/kg	
Dibenz(a,h)Anthracene	40.00	41.89	105	80-120	mg/kg	
Dibenzofuran	40.00	36.21	91	80-120	mg/kg	
3,3-Dichlorobenzidine	40.00	47.90	120	80-120	mg/kg	
2,4-Dichlorophenol	40.00	38.51	96	80-120	mg/kg	
Diethyl phthalate	40.00	35.11	88	80-120	mg/kg	
Dimethyl phthalate	40.00	36.60	92	80-120	mg/kg	
2,4-Dimethylphenol	40.00	36.19	90	80-120	mg/kg	
4,6-Dinitro-2-methyl phenol	40.00	40.02	100	80-120	mg/kg	
2,4-Dinitrophenol	40.00	41.24	103	80-120	mg/kg	
2,4-Dinitrotoluene	40.00	39.63	99	80-120	mg/kg	
2,6-Dinitrotoluene	40.00	39.89	100	80-120	mg/kg	
Fluoranthene	40.00	38.10	95	80-120	mg/kg	
Fluorene	40.00	37.87	95	80-120	mg/kg	
Hexachlorobenzene	40.00	40.39	101	80-120	mg/kg	
Hexachlorobutadiene	40.00	41.17	103	80-120	mg/kg	
Hexachlorocyclopentadiene	40.00	44.51	111	80-120	mg/kg	
Hexachloroethane	40.00	40.84	102	80-120	mg/kg	
Indeno(1,2,3-c,d)Pyrene	40.00	41.45	104	80-120	mg/kg	
Isophorone	40.00	45.17	113	80-120	mg/kg	
2-Methylnaphthalene	40.00	36.90	92	80-120	mg/kg	
2-Methyl phenol	40.00	36.34	91	80-120	mg/kg	
3&4-Methylphenol	40.00	35.05	88	80-120	mg/kg	
Naphthalene	40.00	35.96	90	80-120	mg/kg	
2-Nitroaniline	40.00	39.41	99	80-120	mg/kg	
3-Nitroaniline	40.00	41.61	104	80-120	mg/kg	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8270 E

Seq Number: 197855 Matrix: Solid

CCV Sample Id: CCV-01 Analyzed Date: 10/03/22 11:54

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
4-Nitroaniline	40.00	39.31	98	80-120	mg/kg	
Nitrobenzene	40.00	36.51	91	80-120	mg/kg	
2-Nitrophenol	40.00	40.19	100	80-120	mg/kg	
4-Nitrophenol	40.00	36.96	92	80-120	mg/kg	
N-Nitrosodi-n-propyl amine	40.00	35.72	89	80-120	mg/kg	
N-Nitrosodiphenylamine	40.00	38.81	97	80-120	mg/kg	
Di-n-octyl phthalate	40.00	44.94	112	80-120	mg/kg	
Pentachlorophenol	40.00	34.77	87	80-120	mg/kg	
Phenanthrene	40.00	37.04	93	80-120	mg/kg	
Phenol	40.00	36.38	91	80-120	mg/kg	
Pyrene	40.00	38.16	95	80-120	mg/kg	
Pyridine	40.00	36.29	91	80-120	mg/kg	
2,4,5-Trichlorophenol	40.00	39.97	100	80-120	mg/kg	
2,4,6-Trichlorophenol	40.00	34.73	87	80-120	mg/kg	

Surrogate	CCV Result	Limits	Units	Flag
2-Fluorobiphenyl	92	80-120	%	
2-Fluorophenol	93	80-120	%	
Nitrobenzene-d5	91	80-120	%	
Phenol-d6	92	80-120	%	
Terphenyl-D14	99	80-120	%	
2,4,6-Tribromophenol	110	80-120	%	

Analytical Method: SW-846 8270 E

Seq Number: 197879 Matrix: Water

CCV Sample Id: CCV-01 Analyzed Date: 10/04/22 08:36

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Acenaphthene	40000	36220	91	80-120	ug/L	
Acenaphthylene	40000	37120	93	80-120	ug/L	
Acetophenone	40000	37350	93	80-120	ug/L	
Anthracene	40000	39620	99	80-120	ug/L	
Caprolactam	40000	37740	94	80-120	ug/L	
Biphenyl (Diphenyl)	40000	54680	137	80-120	ug/L	X
Atrazine	40000	37430	94	80-120	ug/L	
Benzo(a)anthracene	40000	37710	94	80-120	ug/L	
Benzo(a)pyrene	40000	44890	112	80-120	ug/L	
Benzo(b)fluoranthene	40000	37130	93	80-120	ug/L	
Benzo(g,h,i)perylene	40000	46770	117	80-120	ug/L	
Benzo(k)fluoranthene	40000	43250	108	80-120	ug/L	
Butyl benzyl phthalate	40000	45350	113	80-120	ug/L	
bis(2-chloroethoxy) methane	40000	34800	87	80-120	ug/L	
bis(2-chloroethyl) ether	40000	35960	90	80-120	ug/L	
bis(2-chloroisopropyl) ether	40000	35110	88	80-120	ug/L	
bis(2-ethylhexyl) phthalate	40000	48980	122	80-120	ug/L	X
4-Bromophenylphenyl ether	40000	36610	92	80-120	ug/L	
Di-n-butyl phthalate	40000	42550	106	80-120	ug/L	
Carbazole	40000	38480	96	80-120	ug/L	
4-Chloro-3-methyl phenol	40000	37860	95	80-120	ug/L	
4-Chloroaniline	40000	38520	96	80-120	ug/L	
2-Chloronaphthalene	40000	38940	97	80-120	ug/L	
2-Chlorophenol	40000	37150	93	80-120	ug/L	
4-Chlorophenyl phenyl ether	40000	40440	101	80-120	ug/L	
Chrysene	40000	39270	98	80-120	ug/L	
Dibenz(a,h)Anthracene	40000	41680	104	80-120	ug/L	
Dibenzofuran	40000	36130	90	80-120	ug/L	
3,3-Dichlorobenzidine	40000	49190	123	80-120	ug/L	X
2,4-Dichlorophenol	40000	37730	94	80-120	ug/L	
Diethyl phthalate	40000	37490	94	80-120	ug/L	
Dimethyl phthalate	40000	36400	91	80-120	ug/L	
2,4-Dimethylphenol	40000	35000	88	80-120	ug/L	
4,6-Dinitro-2-methyl phenol	40000	38110	95	80-120	ug/L	
2,4-Dinitrophenol	40000	38980	97	80-120	ug/L	
2,4-Dinitrotoluene	40000	39100	98	80-120	ug/L	
2,6-Dinitrotoluene	40000	38640	97	80-120	ug/L	
Fluoranthene	40000	38030	95	80-120	ug/L	
Fluorene	40000	39670	99	80-120	ug/L	
Hexachlorobenzene	40000	41270	103	80-120	ug/L	
Hexachlorobutadiene	40000	39570	99	80-120	ug/L	
Hexachlorocyclopentadiene	40000	40700	102	80-120	ug/L	
Hexachloroethane	40000	42300	106	80-120	ug/L	
Indeno(1,2,3-c,d)Pyrene	40000	39130	98	80-120	ug/L	
Isophorone	40000	45130	113	80-120	ug/L	
2-Methylnaphthalene	40000	37320	93	80-120	ug/L	
2-Methyl phenol	40000	36970	92	80-120	ug/L	
3&4-Methylphenol	40000	36730	92	80-120	ug/L	
Naphthalene	40000	36440	91	80-120	ug/L	
4-Nitroaniline	40000	38560	96	80-120	ug/L	
3-Nitroaniline	40000	40850	102	80-120	ug/L	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8270 E

Seq Number: 197879 Matrix: Water

CCV Sample Id: CCV-01 Analyzed Date: 10/04/22 08:36

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
2-Nitroaniline	40000	38920	97	80-120	ug/L	
Nitrobenzene	40000	36060	90	80-120	ug/L	
2-Nitrophenol	40000	39290	98	80-120	ug/L	
4-Nitrophenol	40000	35030	88	80-120	ug/L	
N-Nitrosodi-n-propyl amine	40000	34650	87	80-120	ug/L	
N-Nitrosodiphenylamine	40000	39120	98	80-120	ug/L	
Di-n-octyl phthalate	40000	48810	122	80-120	ug/L	X
Pentachlorophenol	40000	32700	82	80-120	ug/L	
Phenanthrene	40000	37120	93	80-120	ug/L	
Phenol	40000	35280	88	80-120	ug/L	
Pyrene	40000	39690	99	80-120	ug/L	
Pyridine	40000	35360	88	80-120	ug/L	
2,4,6-Trichlorophenol	40000	33870	85	80-120	ug/L	
2,4,5-Trichlorophenol	40000	38520	96	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
2-Fluorobiphenyl	92	80-120	%	
2-Fluorophenol	96	80-120	%	
Nitrobenzene-d5	89	80-120	%	
Phenol-d6	94	80-120	%	
Terphenyl-D14	100	80-120	%	
2,4,6-Tribromophenol	100	80-120	%	

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Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8270 E

Seq Number: 197880 Matrix: Solid

CCV Sample Id: CCV-01 Analyzed Date: 10/04/22 08:36

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Acenaphthene	40.00	36.22	91	80-120	mg/kg	
Acenaphthylene	40.00	37.12	93	80-120	mg/kg	
Acetophenone	40.00	37.35	93	80-120	mg/kg	
Anthracene	40.00	39.62	99	80-120	mg/kg	
Atrazine	40.00	37.43	94	80-120	mg/kg	
Benzo(a)anthracene	40.00	37.71	94	80-120	mg/kg	
Benzo(a)pyrene	40.00	44.89	112	80-120	mg/kg	
Benzo(b)fluoranthene	40.00	37.13	93	80-120	mg/kg	
Benzo(g,h,i)perylene	40.00	46.77	117	80-120	mg/kg	
Benzo(k)fluoranthene	40.00	43.25	108	80-120	mg/kg	
Biphenyl (Diphenyl)	40.00	54.68	137	80-120	mg/kg	X
Butyl benzyl phthalate	40.00	45.35	113	80-120	mg/kg	
bis(2-chloroethoxy) methane	40.00	34.80	87	80-120	mg/kg	
bis(2-chloroethyl) ether	40.00	35.96	90	80-120	mg/kg	
bis(2-chloroisopropyl) ether	40.00	35.11	88	80-120	mg/kg	
bis(2-ethylhexyl) phthalate	40.00	48.98	122	80-120	mg/kg	X
4-Bromophenylphenyl ether	40.00	36.61	92	80-120	mg/kg	
Di-n-butyl phthalate	40.00	42.55	106	80-120	mg/kg	
Carbazole	40.00	38.48	96	80-120	mg/kg	
Caprolactam	40.00	37.74	94	80-120	mg/kg	
4-Chloro-3-methyl phenol	40.00	37.86	95	80-120	mg/kg	
4-Chloroaniline	40.00	38.52	96	80-120	mg/kg	
2-Chloronaphthalene	40.00	38.94	97	80-120	mg/kg	
2-Chlorophenol	40.00	37.15	93	80-120	mg/kg	
4-Chlorophenyl Phenyl ether	40.00	40.44	101	80-120	mg/kg	
Chrysene	40.00	39.27	98	80-120	mg/kg	
Dibenz(a,h)Anthracene	40.00	41.68	104	80-120	mg/kg	
Dibenzofuran	40.00	36.13	90	80-120	mg/kg	
3,3-Dichlorobenzidine	40.00	49.19	123	80-120	mg/kg	X
2,4-Dichlorophenol	40.00	37.73	94	80-120	mg/kg	
Diethyl phthalate	40.00	37.49	94	80-120	mg/kg	
Dimethyl phthalate	40.00	36.40	91	80-120	mg/kg	
2,4-Dimethylphenol	40.00	35.00	88	80-120	mg/kg	
4,6-Dinitro-2-methyl phenol	40.00	38.11	95	80-120	mg/kg	
2,4-Dinitrophenol	40.00	38.98	97	80-120	mg/kg	
2,4-Dinitrotoluene	40.00	39.10	98	80-120	mg/kg	
2,6-Dinitrotoluene	40.00	38.64	97	80-120	mg/kg	
Fluoranthene	40.00	38.03	95	80-120	mg/kg	
Fluorene	40.00	39.67	99	80-120	mg/kg	
Hexachlorobenzene	40.00	41.27	103	80-120	mg/kg	
Hexachlorobutadiene	40.00	39.57	99	80-120	mg/kg	
Hexachlorocyclopentadiene	40.00	40.70	102	80-120	mg/kg	
Hexachloroethane	40.00	42.30	106	80-120	mg/kg	
Indeno(1,2,3-c,d)Pyrene	40.00	39.13	98	80-120	mg/kg	
Isophorone	40.00	45.13	113	80-120	mg/kg	
2-Methylnaphthalene	40.00	37.32	93	80-120	mg/kg	
2-Methyl phenol	40.00	36.97	92	80-120	mg/kg	
3&4-Methylphenol	40.00	36.73	92	80-120	mg/kg	
Naphthalene	40.00	36.44	91	80-120	mg/kg	
2-Nitroaniline	40.00	38.92	97	80-120	mg/kg	
3-Nitroaniline	40.00	40.85	102	80-120	mg/kg	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8270 E

Seq Number: 197880 Matrix: Solid

CCV Sample Id: CCV-01 Analyzed Date: 10/04/22 08:36

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
4-Nitroaniline	40.00	38.56	96	80-120	mg/kg	
Nitrobenzene	40.00	36.06	90	80-120	mg/kg	
2-Nitrophenol	40.00	39.29	98	80-120	mg/kg	
4-Nitrophenol	40.00	35.03	88	80-120	mg/kg	
N-Nitrosodi-n-propyl amine	40.00	34.65	87	80-120	mg/kg	
N-Nitrosodiphenylamine	40.00	39.12	98	80-120	mg/kg	
Di-n-octyl phthalate	40.00	48.81	122	80-120	mg/kg	X
Pentachlorophenol	40.00	32.70	82	80-120	mg/kg	
Phenanthrene	40.00	37.12	93	80-120	mg/kg	
Phenol	40.00	35.28	88	80-120	mg/kg	
Pyrene	40.00	39.69	99	80-120	mg/kg	
Pyridine	40.00	35.36	88	80-120	mg/kg	
2,4,5-Trichlorophenol	40.00	38.52	96	80-120	mg/kg	
2,4,6-Trichlorophenol	40.00	33.87	85	80-120	mg/kg	

Surrogate	CCV Result	Limits	Units	Flag
2-Fluorobiphenyl	92	80-120	%	
2-Fluorophenol	96	80-120	%	
Nitrobenzene-d5	89	80-120	%	
Phenol-d6	94	80-120	%	
Terphenyl-D14	100	80-120	%	
2,4,6-Tribromophenol	100	80-120	%	

Analytical Method: SW-846 8270 E

Seq Number: 196024 Matrix: Water

Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 08/03/22 00:05

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Acenaphthene	40000	35780	89	70-130	ug/L	
Acenaphthylene	40000	37040	93	70-130	ug/L	
Acetophenone	40000	37040	93	70-130	ug/L	
Anthracene	40000	36570	91	70-130	ug/L	
Atrazine	40000	39640	99	70-130	ug/L	
Benzo(a)anthracene	40000	39710	99	70-130	ug/L	
Benzo(a)pyrene	40000	45280	113	70-130	ug/L	
Benzo(b)fluoranthene	40000	38210	96	70-130	ug/L	
Benzo(g,h,i)perylene	40000	44080	110	70-130	ug/L	
Benzo(k)fluoranthene	40000	43660	109	70-130	ug/L	
Biphenyl (Diphenyl)	40000	35200	88	70-130	ug/L	
Butyl benzyl phthalate	40000	43650	109	70-130	ug/L	
bis(2-chloroethoxy) methane	40000	38240	96	70-130	ug/L	
bis(2-chloroethyl) ether	40000	38130	95	70-130	ug/L	
bis(2-chloroisopropyl) ether	40000	35070	88	70-130	ug/L	
bis(2-ethylhexyl) phthalate	40000	43550	109	70-130	ug/L	
4-Bromophenylphenyl ether	40000	39720	99	70-130	ug/L	
Di-n-butyl phthalate	40000	37570	94	70-130	ug/L	
Carbazole	40000	38290	96	70-130	ug/L	
Caprolactam	40000	41570	104	70-130	ug/L	
4-Chloro-3-methyl phenol	40000	40260	101	70-130	ug/L	
4-Chloroaniline	40000	40100	100	70-130	ug/L	
2-Chloronaphthalene	40000	33240	83	70-130	ug/L	
2-Chlorophenol	40000	39140	98	70-130	ug/L	
4-Chlorophenyl Phenyl ether	40000	35190	88	70-130	ug/L	
Chrysene	40000	39200	98	70-130	ug/L	
Dibenz(a,h)Anthracene	40000	40490	101	70-130	ug/L	
Dibenzofuran	40000	36900	92	70-130	ug/L	
3,3-Dichlorobenzidine	40000	45160	113	70-130	ug/L	
2,4-Dichlorophenol	40000	40320	101	70-130	ug/L	
Diethyl phthalate	40000	36800	92	70-130	ug/L	
Dimethyl phthalate	40000	37510	94	70-130	ug/L	
2,4-Dimethylphenol	40000	38300	96	70-130	ug/L	
4,6-Dinitro-2-methyl phenol	40000	38010	95	70-130	ug/L	
2,4-Dinitrophenol	40000	37700	94	70-130	ug/L	
2,4-Dinitrotoluene	40000	42140	105	70-130	ug/L	
2,6-Dinitrotoluene	40000	42140	105	70-130	ug/L	
Fluoranthene	40000	38440	96	70-130	ug/L	
Fluorene	40000	33370	83	70-130	ug/L	
Hexachlorobenzene	40000	36280	91	70-130	ug/L	
Hexachlorobutadiene	40000	39150	98	70-130	ug/L	
Hexachlorocyclopentadiene	40000	43360	108	70-130	ug/L	
Hexachloroethane	40000	37810	95	70-130	ug/L	
Indeno(1,2,3-c,d)Pyrene	40000	41350	103	70-130	ug/L	
Isophorone	40000	49770	124	70-130	ug/L	
2-Methylnaphthalene	40000	36520	91	70-130	ug/L	
2-Methyl phenol	40000	38360	96	70-130	ug/L	
3&4-Methylphenol	40000	37840	95	70-130	ug/L	
Naphthalene	40000	35340	88	70-130	ug/L	
2-Nitroaniline	40000	41390	103	70-130	ug/L	
3-Nitroaniline	40000	42280	106	70-130	ug/L	

Analytical Method: SW-846 8270 E

Seq Number: 196024 Matrix: Water

Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 08/03/22 00:05

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
4-Nitroaniline	40000	42680	107	70-130	ug/L	
Nitrobenzene	40000	38560	96	70-130	ug/L	
2-Nitrophenol	40000	42260	106	70-130	ug/L	
4-Nitrophenol	40000	40350	101	70-130	ug/L	
N-Nitrosodi-n-propyl amine	40000	38410	96	70-130	ug/L	
N-Nitrosodiphenylamine	40000	38550	96	70-130	ug/L	
Di-n-octyl phthalate	40000	42170	105	70-130	ug/L	
Pentachlorophenol	40000	39930	100	70-130	ug/L	
Phenanthrene	40000	35070	88	70-130	ug/L	
Phenol	40000	36940	92	70-130	ug/L	
Pyrene	40000	39360	98	70-130	ug/L	
Pyridine	40000	41350	103	70-130	ug/L	
2,4,5-Trichlorophenol	40000	41800	105	70-130	ug/L	
2,4,6-Trichlorophenol	40000	37550	94	70-130	ug/L	

Surrogate	ICV Result	Limits	Units	Flag
2-Fluorobiphenyl	92	70-130	%	
2-Fluorophenol	95	70-130	%	
Nitrobenzene-d5	96	70-130	%	
Phenol-d6	94	70-130	%	
Terphenyl-D14	101	70-130	%	
2,4,6-Tribromophenol	107	70-130	%	

Analytical Method: SW-846 8260 D

Seq Number: 197857 Matrix: Water

CCV Sample Id: CCV-01 Analyzed Date: 10/03/22 08:48

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Acetone	50.00	41.16	82	80-120	ug/L	
Benzene	50.00	47.85	96	80-120	ug/L	
Bromochloromethane	50.00	57.34	115	80-120	ug/L	
Bromodichloromethane	50.00	48.66	97	80-120	ug/L	
Bromoform	50.00	56.50	113	80-120	ug/L	
Bromomethane	50.00	48.79	98	80-120	ug/L	
2-Butanone (MEK)	50.00	48.94	98	80-120	ug/L	
Carbon Disulfide	50.00	46.80	94	80-120	ug/L	
Carbon tetrachloride	50.00	50.15	100	80-120	ug/L	
Chlorobenzene	50.00	52.03	104	80-120	ug/L	
Chloroethane	50.00	35.81	72	80-120	ug/L	X
Chloroform	50.00	46.09	92	80-120	ug/L	
Chloromethane	50.00	34.30	69	80-120	ug/L	X
Cyclohexane	50.00	41.59	83	80-120	ug/L	
1,2-Dibromo-3-chloropropane	50.00	44.71	89	80-120	ug/L	
Dibromochloromethane	50.00	51.86	104	80-120	ug/L	
1,2-Dibromoethane	50.00	52.42	105	80-120	ug/L	
1,2-Dichlorobenzene	50.00	55.81	112	80-120	ug/L	
1,3-Dichlorobenzene	50.00	55.40	111	80-120	ug/L	
Dichlorodifluoromethane	50.00	39.16	78	80-120	ug/L	X
1,4-Dichlorobenzene	50.00	54.74	109	80-120	ug/L	
1,1-Dichloroethane	50.00	42.84	86	80-120	ug/L	
1,2-Dichloroethane	50.00	41.98	84	80-120	ug/L	
cis-1,2-Dichloroethene	50.00	52.60	105	80-120	ug/L	
1,1-Dichloroethene	50.00	47.62	95	80-120	ug/L	
1,2-Dichloropropane	50.00	43.52	87	80-120	ug/L	
cis-1,3-Dichloropropene	50.00	46.69	93	80-120	ug/L	
trans-1,3-Dichloropropene	50.00	46.21	92	80-120	ug/L	
trans-1,2-Dichloroethene	50.00	52.00	104	80-120	ug/L	
Ethylbenzene	50.00	48.78	98	80-120	ug/L	
2-Hexanone (MBK)	50.00	37.48	75	80-120	ug/L	X
Isopropylbenzene	50.00	51.23	102	80-120	ug/L	
Methyl Acetate	50.00	50.83	102	80-120	ug/L	
Methylcyclohexane	50.00	49.96	100	80-120	ug/L	
Methylene chloride	50.00	48.73	97	80-120	ug/L	
4-Methyl-2-Pentanone (MIBK)	50.00	41.59	83	80-120	ug/L	
Methyl-t-Butyl Ether	50.00	48.21	96	80-120	ug/L	
Naphthalene	50.00	53.35	107	80-120	ug/L	
Styrene	50.00	53.03	106	80-120	ug/L	
1,1,2,2-Tetrachloroethane	50.00	48.84	98	80-120	ug/L	
Tetrachloroethene	50.00	58.81	118	80-120	ug/L	
Toluene	50.00	50.39	101	80-120	ug/L	
1,2,3-Trichlorobenzene	50.00	54.24	108	80-120	ug/L	
1,2,4-Trichlorobenzene	50.00	54.59	109	80-120	ug/L	
1,1,1-Trichloroethane	50.00	47.87	96	80-120	ug/L	
Trichloroethene	50.00	50.18	100	80-120	ug/L	
1,1,2-Trichloroethane	50.00	49.44	99	80-120	ug/L	
Trichlorofluoromethane	50.00	44.32	89	80-120	ug/L	
1,1,2-Trichlorotrifluoroethane	50.00	48.10	96	80-120	ug/L	
Vinyl chloride	50.00	37.24	74	80-120	ug/L	X
m&p-Xylene	100	102.7	103	80-120	ug/L	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8260 D

Seq Number: 197857 Matrix: Water

CCV Sample Id: CCV-01 Analyzed Date: 10/03/22 08:48

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
o-Xylene	50.00	51.57	103	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
4-Bromofluorobenzene	88	80-120	%	
Dibromofluoromethane	102	80-120	%	
Toluene-D8	99	80-120	%	

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Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8260 D

Seq Number: 197874 Matrix: Solid

CCV Sample Id: CCV, VOC-1 Analyzed Date: 10/03/22 14:04

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Dichlorodifluoromethane	0.06000	0.05499	92	80-120	mg/kg	
Chloromethane	0.06000	0.05532	92	80-120	mg/kg	
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.06000	0.05851	98	80-120	mg/kg	
Vinyl Chloride	0.06000	0.05847	97	80-120	mg/kg	
Bromomethane	0.06000	0.06578	110	80-120	mg/kg	
Chloroethane	0.06000	0.05142	86	80-120	mg/kg	
Acetone	0.06000	0.04919	82	80-120	mg/kg	
Cyclohexane	0.06000	0.05809	97	80-120	mg/kg	
Trichlorofluoromethane	0.06000	0.05963	99	80-120	mg/kg	
1,1-Dichloroethene	0.06000	0.05888	98	80-120	mg/kg	
Methylene Chloride	0.06000	0.05612	94	80-120	mg/kg	
trans-1,2-Dichloroethene	0.06000	0.05910	99	80-120	mg/kg	
Methyl-t-butyl ether	0.06000	0.07385	123	80-120	mg/kg	X
1,1-Dichloroethane	0.06000	0.05841	97	80-120	mg/kg	
2-Butanone	0.06000	0.04851	81	80-120	mg/kg	
cis-1,2-Dichloroethene	0.06000	0.05871	98	80-120	mg/kg	
Bromochloromethane	0.06000	0.05903	98	80-120	mg/kg	
Chloroform	0.06000	0.05690	95	80-120	mg/kg	
1,1,1-Trichloroethane	0.06000	0.06287	105	80-120	mg/kg	
1,2-Dichloroethane	0.06000	0.05881	98	80-120	mg/kg	
Carbon Tetrachloride	0.06000	0.06221	104	80-120	mg/kg	
Benzene	0.06000	0.05903	98	80-120	mg/kg	
1,2-Dichloropropane	0.06000	0.06070	101	80-120	mg/kg	
Carbon Disulfide	0.06000	0.06052	101	80-120	mg/kg	
Methylcyclohexane	0.06000	0.06061	101	80-120	mg/kg	
Trichloroethene	0.06000	0.06061	101	80-120	mg/kg	
Methyl Acetate	0.06000	0.05500	92	80-120	mg/kg	
Bromodichloromethane	0.06000	0.06228	104	80-120	mg/kg	
cis-1,3-Dichloropropene	0.06000	0.05777	96	80-120	mg/kg	
4-Methyl-2-Pentanone	0.06000	0.05201	87	80-120	mg/kg	
trans-1,3-Dichloropropene	0.06000	0.05586	93	80-120	mg/kg	
1,1,2-Trichloroethane	0.06000	0.05868	98	80-120	mg/kg	
Toluene	0.06000	0.05829	97	80-120	mg/kg	
2-Hexanone	0.06000	0.05223	87	80-120	mg/kg	
1,2-Dibromoethane	0.06000	0.06381	106	80-120	mg/kg	
Dibromochloromethane	0.06000	0.05847	97	80-120	mg/kg	
Bromoform	0.06000	0.05783	96	80-120	mg/kg	
Tetrachloroethene	0.06000	0.05982	100	80-120	mg/kg	
Chlorobenzene	0.06000	0.06205	103	80-120	mg/kg	
Ethylbenzene	0.06000	0.06135	102	80-120	mg/kg	
m,p-Xylenes	0.1200	0.1248	104	80-120	mg/kg	
Styrene	0.06000	0.06236	104	80-120	mg/kg	
1,1,2,2-Tetrachloroethane	0.06000	0.05843	97	80-120	mg/kg	
o-Xylene	0.06000	0.06188	103	80-120	mg/kg	
Isopropylbenzene	0.06000	0.06108	102	80-120	mg/kg	
1,3-Dichlorobenzene	0.06000	0.06031	101	80-120	mg/kg	
1,4-Dichlorobenzene	0.06000	0.05995	100	80-120	mg/kg	
1,2-Dichlorobenzene	0.06000	0.05981	100	80-120	mg/kg	
1,2-Dibromo-3-Chloropropane	0.06000	0.05473	91	80-120	mg/kg	
1,2,4-Trichlorobenzene	0.06000	0.05762	96	80-120	mg/kg	
Naphthalene	0.06000	0.05729	95	80-120	mg/kg	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8260 D

Seq Number: 197874 Matrix: Solid

CCV Sample Id: CCV, VOC-1 Analyzed Date: 10/03/22 14:04

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
1,2,3-Trichlorobenzene	0.06000	0.05752	96	80-120	mg/kg	

Surrogate	CCV Result	Limits	Units	Flag
4-Bromofluorobenzene	97	80-120	%	
Dibromofluoromethane	98	80-120	%	
Toluene-D8	100	80-120	%	

Analytical Method: SW-846 8260 D

Seq Number: 196353 Matrix: Water

Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 08/15/22 13:39

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Acetone	50.00	54.16	108	70-130	ug/L	
Benzene	50.00	56.25	113	70-130	ug/L	
Bromochloromethane	50.00	56.97	114	70-130	ug/L	
Bromodichloromethane	50.00	57.61	115	70-130	ug/L	
Bromoform	50.00	54.78	110	70-130	ug/L	
Bromomethane	50.00	56.21	112	70-130	ug/L	
2-Butanone (MEK)	50.00	54.55	109	70-130	ug/L	
Carbon Disulfide	50.00	58.56	117	70-130	ug/L	
Carbon tetrachloride	50.00	57.52	115	70-130	ug/L	
Chlorobenzene	50.00	56.07	112	70-130	ug/L	
Chloroethane	50.00	53.53	107	70-130	ug/L	
Chloroform	50.00	54.47	109	70-130	ug/L	
Chloromethane	50.00	55.09	110	70-130	ug/L	
Cyclohexane	50.00	57.86	116	70-130	ug/L	
1,2-Dibromo-3-chloropropane	50.00	56.55	113	70-130	ug/L	
Dibromochloromethane	50.00	55.02	110	70-130	ug/L	
1,2-Dibromoethane	50.00	58.74	117	70-130	ug/L	
1,2-Dichlorobenzene	50.00	58.38	117	70-130	ug/L	
1,3-Dichlorobenzene	50.00	57.53	115	70-130	ug/L	
Dichlorodifluoromethane	50.00	54.21	108	70-130	ug/L	
1,4-Dichlorobenzene	50.00	57.33	115	70-130	ug/L	
1,1-Dichloroethane	50.00	56.41	113	70-130	ug/L	
1,2-Dichloroethane	50.00	54.50	109	70-130	ug/L	
cis-1,2-Dichloroethene	50.00	57.31	115	70-130	ug/L	
1,1-Dichloroethene	50.00	55.40	111	70-130	ug/L	
1,2-Dichloropropane	50.00	57.29	115	70-130	ug/L	
cis-1,3-Dichloropropene	50.00	55.82	112	70-130	ug/L	
trans-1,3-Dichloropropene	50.00	55.72	111	70-130	ug/L	
trans-1,2-Dichloroethene	50.00	56.84	114	70-130	ug/L	
Ethylbenzene	50.00	56.70	113	70-130	ug/L	
2-Hexanone (MBK)	50.00	56.67	113	70-130	ug/L	
Isopropylbenzene	50.00	59.62	119	70-130	ug/L	
Methyl Acetate	50.00	59.73	119	70-130	ug/L	
Methylcyclohexane	50.00	56.82	114	70-130	ug/L	
Methylene chloride	50.00	56.18	112	70-130	ug/L	
4-Methyl-2-Pentanone (MIBK)	50.00	58.27	117	70-130	ug/L	
Methyl-t-Butyl Ether	50.00	59.91	120	70-130	ug/L	
Naphthalene	50.00	58.87	118	70-130	ug/L	
Styrene	50.00	58.77	118	70-130	ug/L	
1,1,2,2-Tetrachloroethane	50.00	59.48	119	70-130	ug/L	
Tetrachloroethene	50.00	55.17	110	70-130	ug/L	
Toluene	50.00	55.21	110	70-130	ug/L	
1,2,3-Trichlorobenzene	50.00	58.23	116	70-130	ug/L	
1,2,4-Trichlorobenzene	50.00	57.72	115	70-130	ug/L	
1,1,1-Trichloroethane	50.00	56.98	114	70-130	ug/L	
Trichloroethene	50.00	56.37	113	70-130	ug/L	
1,1,2-Trichloroethane	50.00	56.36	113	70-130	ug/L	
Trichlorofluoromethane	50.00	54.73	109	70-130	ug/L	
1,1,2-Trichlorotrifluoroethane	50.00	55.17	110	70-130	ug/L	
Vinyl chloride	50.00	52.14	104	70-130	ug/L	
m&p-Xylene	100	112.6	113	70-130	ug/L	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8260 D

Seq Number: 196353 Matrix: Water
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 08/15/22 13:39

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
o-Xylene	50.00	56.32	113	70-130	ug/L	

Surrogate	ICV Result	Limits	Units	Flag
4-Bromofluorobenzene	102	70-130	%	
Dibromofluoromethane	101	70-130	%	
Toluene-D8	99	70-130	%	

Analytical Method: SW-846 8260 D

Seq Number: 197640 Matrix: Solid

Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 09/25/22 11:30

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Acetone	0.06000	0.04862	81	70-130	mg/kg	
Benzene	0.06000	0.06041	101	70-130	mg/kg	
Bromochloromethane	0.06000	0.06107	102	70-130	mg/kg	
Bromodichloromethane	0.06000	0.06132	102	70-130	mg/kg	
Bromoform	0.06000	0.05140	86	70-130	mg/kg	
Bromomethane	0.06000	0.06906	115	70-130	mg/kg	
2-Butanone (MEK)	0.06000	0.04984	83	70-130	mg/kg	
Carbon Disulfide	0.06000	0.06375	106	70-130	mg/kg	
Carbon tetrachloride	0.06000	0.06109	102	70-130	mg/kg	
Chlorobenzene	0.06000	0.06184	103	70-130	mg/kg	
Chloroethane	0.06000	0.05806	97	70-130	mg/kg	
Chloroform	0.06000	0.05845	97	70-130	mg/kg	
Chloromethane	0.06000	0.05985	100	70-130	mg/kg	
Cyclohexane	0.06000	0.06077	101	70-130	mg/kg	
1,2-Dibromo-3-chloropropane	0.06000	0.05127	85	70-130	mg/kg	
Dibromochloromethane	0.06000	0.05324	89	70-130	mg/kg	
1,2-Dibromoethane	0.06000	0.06088	101	70-130	mg/kg	
1,2-Dichlorobenzene	0.06000	0.05957	99	70-130	mg/kg	
1,3-Dichlorobenzene	0.06000	0.05941	99	70-130	mg/kg	
1,4-Dichlorobenzene	0.06000	0.05963	99	70-130	mg/kg	
Dichlorodifluoromethane	0.06000	0.06248	104	70-130	mg/kg	
1,1-Dichloroethane	0.06000	0.06043	101	70-130	mg/kg	
1,2-Dichloroethane	0.06000	0.05730	96	70-130	mg/kg	
1,1-Dichloroethene	0.06000	0.05928	99	70-130	mg/kg	
1,2-Dichloropropane	0.06000	0.06090	102	70-130	mg/kg	
cis-1,2-Dichloroethene	0.06000	0.06149	102	70-130	mg/kg	
cis-1,3-Dichloropropene	0.06000	0.05532	92	70-130	mg/kg	
trans-1,2-Dichloroethene	0.06000	0.06126	102	70-130	mg/kg	
trans-1,3-Dichloropropene	0.06000	0.05213	87	70-130	mg/kg	
Ethylbenzene	0.06000	0.06074	101	70-130	mg/kg	
2-Hexanone (MBK)	0.06000	0.05102	85	70-130	mg/kg	
Isopropylbenzene	0.06000	0.06121	102	70-130	mg/kg	
Methyl Acetate	0.06000	0.05694	95	70-130	mg/kg	
Methylcyclohexane	0.06000	0.06272	105	70-130	mg/kg	
Methylene chloride	0.06000	0.05726	95	70-130	mg/kg	
4-Methyl-2-Pentanone (MIBK)	0.06000	0.05108	85	70-130	mg/kg	
Methyl-t-Butyl Ether	0.06000	0.05336	89	70-130	mg/kg	
Naphthalene	0.06000	0.06193	103	70-130	mg/kg	
Styrene	0.06000	0.06015	100	70-130	mg/kg	
1,1,2,2-Tetrachloroethane	0.06000	0.05639	94	70-130	mg/kg	
Tetrachloroethene	0.06000	0.06084	101	70-130	mg/kg	
Toluene	0.06000	0.05984	100	70-130	mg/kg	
1,2,3-Trichlorobenzene	0.06000	0.05923	99	70-130	mg/kg	
1,2,4-Trichlorobenzene	0.06000	0.05926	99	70-130	mg/kg	
1,1,1-Trichloroethane	0.06000	0.06122	102	70-130	mg/kg	
1,1,2-Trichloroethane	0.06000	0.05958	99	70-130	mg/kg	
Trichloroethene	0.06000	0.05993	100	70-130	mg/kg	
Trichlorofluoromethane	0.06000	0.06138	102	70-130	mg/kg	
1,1,2-Trichlorotrifluoroethane	0.06000	0.06084	101	70-130	mg/kg	
Vinyl chloride	0.06000	0.06553	109	70-130	mg/kg	
m&p-Xylene	0.1200	0.1231	103	70-130	mg/kg	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22100301

Analytical Method: SW-846 8260 D

Seq Number: 197640 Matrix: Solid
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 09/25/22 11:30

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
o-Xylene	0.06000	0.06011	100	70-130	mg/kg	

Surrogate	ICV Result	Limits	Units	Flag
4-Bromofluorobenzene	98	70-130	%	
Dibromofluoromethane	98	70-130	%	
Toluene-D8	99	70-130	%	

X = Recovery outside of QC Criteria

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CHAIN OF CUSTODY FORM

All fields must be completed accurately. Shaded sections for lab use only.

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① PSS CLIENT: Ramboll | OFFICE LOCATION: Princeton, NJ 101 Carnegie Ctr. #200

BILL TO (if different): | PHONE #: (814)758-7321

CONTACT: Sam Weaver | EMAIL: sweaver@ramboll.com

PROJECT NAME: Philly Tank Farm | PROJECT #: 1690005561

SITE LOCATION: Philadelphia, PA | P.O. #:

SAMPLER(S): Bart Bancewicz, Ed Ruger | DW CERT #:

PSS Work Order #: 22100301 | PAGE 1 OF 1

Matrix Codes: SW=Surface Water | DW=Drinking Water | GW=Ground Water | WW=Waste Water | O=Oil | S=Soil | SOL=Solid | A=Air | WI=Wipe

② ③

PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	VOCs	SVOCs	Lead
1	PESR_Tank056_SB05_0.5-1.0	9/30/22	930	S	5		X	X	X
2	PESR_Tank056_SB06_3.0-3.5		1030	S	5		X	X	X
3	EB01-20220930		1155	WQ	1			X	X (BB)
4	TB01-20220930		—	WQ	5		X		

Preservatives Use Codes — Preservative Codes: 1 - HCL; 2 - H_2SO_4; 3 - HNO_3; 4 - NaOH; 5 - E624KIT; 6 - ICE; 7 - Sodium Thiosulfate; 8 - Ascorbic Acid; 9 - TerraCore Kit

Analysis/ Method Required

B B

9/30/22

⑤

Relinquished By:	Date	Time	Received By:
(1) B.B	9/30/22	1515	Fed Ex
(2) Fed Ex 278604785286, 278604785275	10/1/22	0830	
(3)	10/3/22	0845	
(4)			

④

Requested TAT (One TAT per COC): ☐ 5-Day ☐ 3-Day ☑ 2-Day ☐ Next Day ☐ Emergency ☐ Other

STATE RESULTS REPORTED TO: ☐ MD ☐ DE ☑ PA ☐ VA ☐ WV ☐ OTHER

COMPLIANCE? ☐ DW ☐ WW

EDD FORMAT TYPE: EDD

Ice Present: PRES

Custody Seal: ABS

Coolers: 2 Temp: 4.1-5.6°C

Shipping Carrier: PSS

Special Instructions: Email results to tcarroll@ramboll.com

This chain of custody is a legal document. The client (PSS Client), by signing, or having client's agent sign, this "Chain of Custody Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

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Sample Receipt Checklist

Project Name: Philly Tank Farm
PSS Project No.: 22100301

Client Name Ramboll US Corp. - Princeton
Disposal Date 11/07/2022

Received By Jillian Chapman
Date Received 10/03/2022 08:45:00 AM
Delivered By PSS Personnel
Tracking No Not Applicable
Logged In By Jillian Chapman

Shipping Container(s)
No. of Coolers 2

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	5.6
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

		Sampler Name	Bart Bancewicz/Ed Ruger
COC agrees with sample labels?	Yes	MD DW Cert. No.	N/A
Chain of Custody	Yes		

Sample Container

		Custody Seal(s) Intact?	Not Applicable
Appropriate for Specified Analysis?	Yes	Seal(s) Signed / Dated	Not Applicable
Intact?	Yes		
Labeled and Labels Legible?	Yes		

Holding Time

		Total No. of Samples Received	4
All Samples Received Within Holding Time(s)?	Yes	Total No. of Containers Received	13

Preservation

Total Metals	(pH<2)	N/A
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Preservative not indicated on COC for VOC for sample 004. Received containers preserved with HCl.

Samples Inspected/Checklist Completed By: Jillian Chapman Date: 10/03/2022

PM Review and Approval: Amber Confer Date: 10/03/2022

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

October 4, 2022

Sam Weaver
Ramboll US Corp. - Princeton
101 Carnegie Center, Suite 200
Princeton, NJ 08540

Reference: PSS Project No: **22093003**
Project Name: Philly Tank Farm
Project Location: Philadelphia, PA
Project ID.: 1690005561

Dear Sam Weaver:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **22093003**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on November 4, 2022, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal
Laboratory Manager

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Explanation of Qualifiers

Project Name: Philly Tank Farm

PSS Project No.: 22093003

Project ID: 1690005561

The following samples were received under chain of custody by Phase Separation Science (PSS) on 09/30/2022 at 10:25 am

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
22093003-001	PESR_Tank056_SB01_1.0-1.5	SOIL	09/29/22 11:30
22093003-002	PESR_Tank056_SB01_2.0-2.5	SOIL	09/29/22 11:35
22093003-003	PESR_Tank056_SB01_2.5-3.0	SOIL	09/29/22 11:40
22093003-004	PESR_Tank056_SB02_1.0-1.5	SOIL	09/29/22 13:00
22093003-005	PESR_Tank056_SB02_2.0-2.5	SOIL	09/29/22 13:02
22093003-006	PESR_Tank056_SB02_2.5-3.0	SOIL	09/29/22 13:04
22093003-007	PESR_Tank056_SB03_1.0-1.5	SOIL	09/29/22 13:06
22093003-008	PESR_Tank056_SB03_2.0-2.5	SOIL	09/29/22 13:08
22093003-009	PESR_Tank056_SB03_2.5-3.0	SOIL	09/29/22 13:10
22093003-010	PESR_Tank056_SB04_0.5-1.0	SOIL	09/29/22 14:40
22093003-011	DUP01-20220929	SOIL	09/29/22 00:00
22093003-012	EB01-20220929	WATER	09/29/22 15:50
22093003-013	TB01-2022092	WATER	09/29/22 00:00

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific. instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

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Explanation of Qualifiers

Project Name: Philly Tank Farm

PSS Project No.: 22093003

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_1.0-1.5 **Date/Time Sampled: 09/29/2022 11:30** **PSS Sample ID: 22093003-001**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 89.5**

Total Metals — Analytical Method: SW-846 6020 B — Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Lead	**270**	mg/kg	0.49		1	0.37	10/03/22	10/04/22 00:54	1064

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 D — Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.027**	mg/kg	0.018		1	0.0098	10/03/22	10/03/22 17:56	1045
Benzene	**0.0014**	mg/kg	0.00089		1	0.00038	10/03/22	10/03/22 17:56	1045
Bromochloromethane	ND	mg/kg	0.00089		1	0.00042	10/03/22	10/03/22 17:56	1045
Bromodichloromethane	ND	mg/kg	0.00089		1	0.00039	10/03/22	10/03/22 17:56	1045
Bromoform	ND	mg/kg	0.00089		1	0.00045	10/03/22	10/03/22 17:56	1045
Bromomethane	ND	mg/kg	0.00089		1	0.00089	10/03/22	10/03/22 17:56	1045
2-Butanone (MEK)	**0.020**	mg/kg	0.0044		1	0.002	10/03/22	10/03/22 17:56	1045
Carbon Disulfide	ND	mg/kg	0.00089		1	0.00037	10/03/22	10/03/22 17:56	1045
Carbon tetrachloride	ND	mg/kg	0.00089		1	0.00033	10/03/22	10/03/22 17:56	1045
Chlorobenzene	ND	mg/kg	0.00089		1	0.00048	10/03/22	10/03/22 17:56	1045
Chloroethane	ND	mg/kg	0.00089		1	0.00059	10/03/22	10/03/22 17:56	1045
Chloroform	ND	mg/kg	0.0044		1	0.00058	10/03/22	10/03/22 17:56	1045
Chloromethane	ND	mg/kg	0.00089		1	0.00044	10/03/22	10/03/22 17:56	1045
Cyclohexane	ND	mg/kg	0.00089		1	0.00036	10/03/22	10/03/22 17:56	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.00089		1	0.00077	10/03/22	10/03/22 17:56	1045
Dibromochloromethane	ND	mg/kg	0.00089		1	0.00027	10/03/22	10/03/22 17:56	1045
1,2-Dibromoethane	ND	mg/kg	0.00089		1	0.00044	10/03/22	10/03/22 17:56	1045
1,2-Dichlorobenzene	ND	mg/kg	0.00089		1	0.00039	10/03/22	10/03/22 17:56	1045
1,3-Dichlorobenzene	ND	mg/kg	0.00089		1	0.0004	10/03/22	10/03/22 17:56	1045
1,4-Dichlorobenzene	ND	mg/kg	0.00089		1	0.00077	10/03/22	10/03/22 17:56	1045
Dichlorodifluoromethane	ND	mg/kg	0.00089		1	0.00042	10/03/22	10/03/22 17:56	1045
1,1-Dichloroethane	ND	mg/kg	0.00089		1	0.00038	10/03/22	10/03/22 17:56	1045
1,2-Dichloroethane	ND	mg/kg	0.00089		1	0.00032	10/03/22	10/03/22 17:56	1045
1,1-Dichloroethene	ND	mg/kg	0.00089		1	0.00036	10/03/22	10/03/22 17:56	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.00089		1	0.00038	10/03/22	10/03/22 17:56	1045
1,2-Dichloropropane	ND	mg/kg	0.00089		1	0.00043	10/03/22	10/03/22 17:56	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.00089		1	0.00038	10/03/22	10/03/22 17:56	1045

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_1.0-1.5 **Date/Time Sampled: 09/29/2022 11:30** **PSS Sample ID: 22093003-001**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 89.5**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.00089		1	0.00041	10/03/22	10/03/22 17:56	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.00089		1	0.00036	10/03/22	10/03/22 17:56	1045
Ethylbenzene	ND	mg/kg	0.00089		1	0.00033	10/03/22	10/03/22 17:56	1045
2-Hexanone (MBK)	ND	mg/kg	0.00089		1	0.00058	10/03/22	10/03/22 17:56	1045
Isopropylbenzene	ND	mg/kg	0.00089		1	0.00035	10/03/22	10/03/22 17:56	1045
Methyl Acetate	ND	mg/kg	0.022		1	0.00098	10/03/22	10/03/22 17:56	1045
Methylcyclohexane	ND	mg/kg	0.00089		1	0.00039	10/03/22	10/03/22 17:56	1045
Methylene chloride	ND	mg/kg	0.0044		1	0.0032	10/03/22	10/03/22 17:56	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.00089		1	0.00057	10/03/22	10/03/22 17:56	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.00089		1	0.00034	10/03/22	10/03/22 17:56	1045
Naphthalene	ND	mg/kg	0.00089		1	0.00052	10/03/22	10/03/22 17:56	1045
Styrene	ND	mg/kg	0.00089		1	0.00036	10/03/22	10/03/22 17:56	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.00089		1	0.00054	10/03/22	10/03/22 17:56	1045
Tetrachloroethene	ND	mg/kg	0.00089		1	0.00039	10/03/22	10/03/22 17:56	1045
Toluene	**0.0014**	mg/kg	0.00089		1	0.0004	10/03/22	10/03/22 17:56	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.00089		1	0.00046	10/03/22	10/03/22 17:56	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.00089		1	0.0004	10/03/22	10/03/22 17:56	1045
1,1,1-Trichloroethane	ND	mg/kg	0.00089		1	0.00032	10/03/22	10/03/22 17:56	1045
1,1,2-Trichloroethane	ND	mg/kg	0.00089		1	0.0003	10/03/22	10/03/22 17:56	1045
Trichloroethene	ND	mg/kg	0.00089		1	0.00048	10/03/22	10/03/22 17:56	1045
Trichlorofluoromethane	ND	mg/kg	0.00089		1	0.00042	10/03/22	10/03/22 17:56	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.00089		1	0.00034	10/03/22	10/03/22 17:56	1045
Vinyl chloride	ND	mg/kg	0.0044		1	0.00029	10/03/22	10/03/22 17:56	1045
m&p-Xylene	**0.0015**	mg/kg	0.0018	J	1	0.00098	10/03/22	10/03/22 17:56	1045
o-Xylene	ND	mg/kg	0.00089		1	0.00033	10/03/22	10/03/22 17:56	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*106*	*%*	*89-111*	*1*	*10/03/22*	*10/03/22 17:56*	*1045*
Dibromofluoromethane	*99*	*%*	*91-108*	*1*	*10/03/22*	*10/03/22 17:56*	*1045*
Toluene-D8	*102*	*%*	*93-104*	*1*	*10/03/22*	*10/03/22 17:56*	*1045*

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_1.0-1.5 **Date/Time Sampled: 09/29/2022 11:30** **PSS Sample ID: 22093003-001**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 89.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.0093		1	0.0067	10/03/22	10/03/22 20:08	1070
Acenaphthylene	ND	mg/kg	0.0093		1	0.0063	10/03/22	10/03/22 20:08	1070
Acetophenone	ND	mg/kg	0.037		1	0.024	10/03/22	10/03/22 20:08	1070
Anthracene	**0.023**	mg/kg	0.0093		1	0.0048	10/03/22	10/03/22 20:08	1070
Atrazine	ND	mg/kg	0.074		1	0.019	10/03/22	10/03/22 20:08	1070
Benzo(a)anthracene	**0.20**	mg/kg	0.0093		1	0.0037	10/03/22	10/03/22 20:08	1070
Benzo(a)pyrene	**0.15**	mg/kg	0.0093		1	0.0052	10/03/22	10/03/22 20:08	1070
Benzo(b)fluoranthene	**0.17**	mg/kg	0.0093		1	0.0048	10/03/22	10/03/22 20:08	1070
Benzo(g,h,i)perylene	**0.084**	mg/kg	0.0093		1	0.0067	10/03/22	10/03/22 20:08	1070
Benzo(k)fluoranthene	**0.13**	mg/kg	0.0093		1	0.0082	10/03/22	10/03/22 20:08	1070
Biphenyl (Diphenyl)	ND	mg/kg	0.037		1	0.02	10/03/22	10/03/22 20:08	1070
Butyl benzyl phthalate	ND	mg/kg	0.037		1	0.024	10/03/22	10/03/22 20:08	1070
bis(2-chloroethoxy) methane	ND	mg/kg	0.037		1	0.024	10/03/22	10/03/22 20:08	1070
bis(2-chloroethyl) ether	ND	mg/kg	0.037		1	0.0048	10/03/22	10/03/22 20:08	1070
bis(2-chloroisopropyl) ether	ND	mg/kg	0.037		1	0.0056	10/03/22	10/03/22 20:08	1070
bis(2-ethylhexyl) phthalate	**0.026**	mg/kg	0.037	J	1	0.026	10/03/22	10/03/22 20:08	1070
4-Bromophenylphenyl ether	ND	mg/kg	0.037		1	0.019	10/03/22	10/03/22 20:08	1070
Di-n-butyl phthalate	ND	mg/kg	0.037		1	0.019	10/03/22	10/03/22 20:08	1070
Carbazole	ND	mg/kg	0.037		1	0.029	10/03/22	10/03/22 20:08	1070
Caprolactam	ND	mg/kg	0.074		1	0.013	10/03/22	10/03/22 20:08	1070
4-Chloro-3-methyl phenol	ND	mg/kg	0.037		1	0.032	10/03/22	10/03/22 20:08	1070
4-Chloroaniline	ND	mg/kg	0.037		1	0.029	10/03/22	10/03/22 20:08	1070
2-Chloronaphthalene	ND	mg/kg	0.037		1	0.026	10/03/22	10/03/22 20:08	1070
2-Chlorophenol	ND	mg/kg	0.037		1	0.019	10/03/22	10/03/22 20:08	1070
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.037		1	0.021	10/03/22	10/03/22 20:08	1070
Chrysene	**0.20**	mg/kg	0.0093		1	0.0045	10/03/22	10/03/22 20:08	1070
Dibenz(a,h)Anthracene	**0.028**	mg/kg	0.0093		1	0.0063	10/03/22	10/03/22 20:08	1070
Dibenzofuran	ND	mg/kg	0.037		1	0.022	10/03/22	10/03/22 20:08	1070
3,3-Dichlorobenzidine	ND	mg/kg	0.037		1	0.02	10/03/22	10/03/22 20:08	1070
2,4-Dichlorophenol	ND	mg/kg	0.037		1	0.029	10/03/22	10/03/22 20:08	1070
Diethyl phthalate	ND	mg/kg	0.037		1	0.022	10/03/22	10/03/22 20:08	1070
Dimethyl phthalate	ND	mg/kg	0.037		1	0.022	10/03/22	10/03/22 20:08	1070
2,4-Dimethylphenol	ND	mg/kg	0.037		1	0.035	10/03/22	10/03/22 20:08	1070
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.19		1	0.044	10/03/22	10/03/22 20:08	1070
2,4-Dinitrophenol	ND	mg/kg	0.19		1	0.084	10/03/22	10/03/22 20:08	1070

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_1.0-1.5 **Date/Time Sampled: 09/29/2022 11:30** **PSS Sample ID: 22093003-001**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 89.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/kg	0.074		1	0.026	10/03/22	10/03/22 20:08	1070
2,6-Dinitrotoluene	ND	mg/kg	0.074		1	0.022	10/03/22	10/03/22 20:08	1070
Fluoranthene	**0.30**	mg/kg	0.0093		1	0.0041	10/03/22	10/03/22 20:08	1070
Fluorene	ND	mg/kg	0.0093		1	0.0063	10/03/22	10/03/22 20:08	1070
Hexachlorobenzene	ND	mg/kg	0.037		1	0.0071	10/03/22	10/03/22 20:08	1070
Hexachlorobutadiene	ND	mg/kg	0.037		1	0.021	10/03/22	10/03/22 20:08	1070
Hexachlorocyclopentadiene	ND	mg/kg	0.074		1	0.041	10/03/22	10/03/22 20:08	1070
Hexachloroethane	ND	mg/kg	0.037		1	0.024	10/03/22	10/03/22 20:08	1070
Indeno(1,2,3-c,d)Pyrene	**0.082**	mg/kg	0.0093		1	0.0086	10/03/22	10/03/22 20:08	1070
Isophorone	ND	mg/kg	0.037		1	0.025	10/03/22	10/03/22 20:08	1070
2-Methylnaphthalene	ND	mg/kg	0.0093		1	0.0089	10/03/22	10/03/22 20:08	1070
2-Methyl phenol	ND	mg/kg	0.037		1	0.02	10/03/22	10/03/22 20:08	1070
3&4-Methylphenol	ND	mg/kg	0.037		1	0.027	10/03/22	10/03/22 20:08	1070
Naphthalene	ND	mg/kg	0.0093		1	0.0059	10/03/22	10/03/22 20:08	1070
2-Nitroaniline	ND	mg/kg	0.074		1	0.021	10/03/22	10/03/22 20:08	1070
3-Nitroaniline	ND	mg/kg	0.074		1	0.026	10/03/22	10/03/22 20:08	1070
4-Nitroaniline	ND	mg/kg	0.074		1	0.037	10/03/22	10/03/22 20:08	1070
Nitrobenzene	ND	mg/kg	0.037		1	0.028	10/03/22	10/03/22 20:08	1070
2-Nitrophenol	ND	mg/kg	0.037		1	0.03	10/03/22	10/03/22 20:08	1070
4-Nitrophenol	ND	mg/kg	0.19		1	0.057	10/03/22	10/03/22 20:08	1070
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.037		1	0.0033	10/03/22	10/03/22 20:08	1070
N-Nitrosodiphenylamine	ND	mg/kg	0.037		1	0.02	10/03/22	10/03/22 20:08	1070
Di-n-octyl phthalate	ND	mg/kg	0.074		1	0.038	10/03/22	10/03/22 20:08	1070
Pentachlorophenol	ND	mg/kg	0.074		1	0.045	10/03/22	10/03/22 20:08	1070
Phenanthrene	**0.067**	mg/kg	0.0093		1	0.0056	10/03/22	10/03/22 20:08	1070
Phenol	ND	mg/kg	0.037		1	0.028	10/03/22	10/03/22 20:08	1070
Pyrene	**0.28**	mg/kg	0.0093		1	0.0048	10/03/22	10/03/22 20:08	1070
Pyridine	ND	mg/kg	0.037		1	0.017	10/03/22	10/03/22 20:08	1070
2,4,5-Trichlorophenol	ND	mg/kg	0.037		1	0.0045	10/03/22	10/03/22 20:08	1070
2,4,6-Trichlorophenol	ND	mg/kg	0.037		1	0.029	10/03/22	10/03/22 20:08	1070

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_1.0-1.5 **Date/Time Sampled: 09/29/2022 11:30** **PSS Sample ID: 22093003-001**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 89.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*77*	*%*	*52-109*	*1*	*10/03/22*	*10/03/22 20:08*	*1070*
2-Fluorophenol	*67*	*%*	*30-102*	*1*	*10/03/22*	*10/03/22 20:08*	*1070*
Nitrobenzene-d5	*69*	*%*	*39-101*	*1*	*10/03/22*	*10/03/22 20:08*	*1070*
Phenol-d6	*68*	*%*	*36-109*	*1*	*10/03/22*	*10/03/22 20:08*	*1070*
Terphenyl-D14	*88*	*%*	*66-121*	*1*	*10/03/22*	*10/03/22 20:08*	*1070*
2,4,6-Tribromophenol	*74*	*%*	*39-118*	*1*	*10/03/22*	*10/03/22 20:08*	*1070*

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_2.0-2.5 **Date/Time Sampled: 09/29/2022 11:35** **PSS Sample ID: 22093003-002**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.6**

Total Metals — Analytical Method: SW-846 6020 B — Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Lead	**340**	mg/kg	0.66		1	0.5	10/03/22	10/04/22 01:14	1064

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 D — Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.041**	mg/kg	0.019		1	0.011	10/03/22	10/03/22 18:18	1045
Benzene	**0.0026**	mg/kg	0.00096		1	0.00041	10/03/22	10/03/22 18:18	1045
Bromochloromethane	ND	mg/kg	0.00096		1	0.00045	10/03/22	10/03/22 18:18	1045
Bromodichloromethane	ND	mg/kg	0.00096		1	0.00042	10/03/22	10/03/22 18:18	1045
Bromoform	ND	mg/kg	0.00096		1	0.00049	10/03/22	10/03/22 18:18	1045
Bromomethane	ND	mg/kg	0.00096		1	0.00096	10/03/22	10/03/22 18:18	1045
2-Butanone (MEK)	**0.0066**	mg/kg	0.0048		1	0.0022	10/03/22	10/03/22 18:18	1045
Carbon Disulfide	ND	mg/kg	0.00096		1	0.0004	10/03/22	10/03/22 18:18	1045
Carbon tetrachloride	ND	mg/kg	0.00096		1	0.00036	10/03/22	10/03/22 18:18	1045
Chlorobenzene	ND	mg/kg	0.00096		1	0.00052	10/03/22	10/03/22 18:18	1045
Chloroethane	ND	mg/kg	0.00096		1	0.00063	10/03/22	10/03/22 18:18	1045
Chloroform	ND	mg/kg	0.0048		1	0.00062	10/03/22	10/03/22 18:18	1045
Chloromethane	ND	mg/kg	0.00096		1	0.00048	10/03/22	10/03/22 18:18	1045
Cyclohexane	ND	mg/kg	0.00096		1	0.00038	10/03/22	10/03/22 18:18	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.00096		1	0.00084	10/03/22	10/03/22 18:18	1045
Dibromochloromethane	ND	mg/kg	0.00096		1	0.00029	10/03/22	10/03/22 18:18	1045
1,2-Dibromoethane	ND	mg/kg	0.00096		1	0.00048	10/03/22	10/03/22 18:18	1045
1,2-Dichlorobenzene	ND	mg/kg	0.00096		1	0.00042	10/03/22	10/03/22 18:18	1045
1,3-Dichlorobenzene	ND	mg/kg	0.00096		1	0.00043	10/03/22	10/03/22 18:18	1045
1,4-Dichlorobenzene	ND	mg/kg	0.00096		1	0.00084	10/03/22	10/03/22 18:18	1045
Dichlorodifluoromethane	ND	mg/kg	0.00096		1	0.00045	10/03/22	10/03/22 18:18	1045
1,1-Dichloroethane	ND	mg/kg	0.00096		1	0.00041	10/03/22	10/03/22 18:18	1045
1,2-Dichloroethane	ND	mg/kg	0.00096		1	0.00035	10/03/22	10/03/22 18:18	1045
1,1-Dichloroethene	ND	mg/kg	0.00096		1	0.00038	10/03/22	10/03/22 18:18	1045
1,2-Dichloropropane	ND	mg/kg	0.00096		1	0.00046	10/03/22	10/03/22 18:18	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.00096		1	0.00041	10/03/22	10/03/22 18:18	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.00096		1	0.00041	10/03/22	10/03/22 18:18	1045

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_2.0-2.5 **Date/Time Sampled: 09/29/2022 11:35** **PSS Sample ID: 22093003-002**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.6**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.00096		1	0.00044	10/03/22	10/03/22 18:18	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.00096		1	0.00039	10/03/22	10/03/22 18:18	1045
Ethylbenzene	ND	mg/kg	0.00096		1	0.00036	10/03/22	10/03/22 18:18	1045
2-Hexanone (MBK)	ND	mg/kg	0.00096		1	0.00062	10/03/22	10/03/22 18:18	1045
Isopropylbenzene	ND	mg/kg	0.00096		1	0.00037	10/03/22	10/03/22 18:18	1045
Methyl Acetate	ND	mg/kg	0.024		1	0.0011	10/03/22	10/03/22 18:18	1045
Methylcyclohexane	ND	mg/kg	0.00096		1	0.00042	10/03/22	10/03/22 18:18	1045
Methylene chloride	ND	mg/kg	0.0048		1	0.0035	10/03/22	10/03/22 18:18	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.00096		1	0.00061	10/03/22	10/03/22 18:18	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.00096		1	0.00037	10/03/22	10/03/22 18:18	1045
Naphthalene	ND	mg/kg	0.00096		1	0.00056	10/03/22	10/03/22 18:18	1045
Styrene	ND	mg/kg	0.00096		1	0.00038	10/03/22	10/03/22 18:18	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.00096		1	0.00059	10/03/22	10/03/22 18:18	1045
Tetrachloroethene	ND	mg/kg	0.00096		1	0.00042	10/03/22	10/03/22 18:18	1045
Toluene	**0.0063**	mg/kg	0.00096		1	0.00043	10/03/22	10/03/22 18:18	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.00096		1	0.0005	10/03/22	10/03/22 18:18	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.00096		1	0.00043	10/03/22	10/03/22 18:18	1045
1,1,1-Trichloroethane	ND	mg/kg	0.00096		1	0.00035	10/03/22	10/03/22 18:18	1045
1,1,2-Trichloroethane	ND	mg/kg	0.00096		1	0.00033	10/03/22	10/03/22 18:18	1045
Trichloroethene	ND	mg/kg	0.00096		1	0.00052	10/03/22	10/03/22 18:18	1045
Trichlorofluoromethane	ND	mg/kg	0.00096		1	0.00045	10/03/22	10/03/22 18:18	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.00096		1	0.00037	10/03/22	10/03/22 18:18	1045
Vinyl chloride	ND	mg/kg	0.0048		1	0.00032	10/03/22	10/03/22 18:18	1045
m&p-Xylene	**0.0026**	mg/kg	0.0019		1	0.0011	10/03/22	10/03/22 18:18	1045
o-Xylene	ND	mg/kg	0.00096		1	0.00036	10/03/22	10/03/22 18:18	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*98*	*%*	*89-111*	*1*	*10/03/22*	*10/03/22 18:18*	*1045*
Dibromofluoromethane	*99*	*%*	*91-108*	*1*	*10/03/22*	*10/03/22 18:18*	*1045*
Toluene-D8	*102*	*%*	*93-104*	*1*	*10/03/22*	*10/03/22 18:18*	*1045*

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_2.0-2.5 **Date/Time Sampled: 09/29/2022 11:35** **PSS Sample ID: 22093003-002**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.6**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.011		1	0.0082	10/03/22	10/03/22 19:16	1070
Acenaphthylene	ND	mg/kg	0.011		1	0.0078	10/03/22	10/03/22 19:16	1070
Acetophenone	ND	mg/kg	0.046		1	0.029	10/03/22	10/03/22 19:16	1070
Anthracene	ND	mg/kg	0.011		1	0.0059	10/03/22	10/03/22 19:16	1070
Atrazine	ND	mg/kg	0.091		1	0.023	10/03/22	10/03/22 19:16	1070
Benzo(a)anthracene	**0.018**	mg/kg	0.011		1	0.0046	10/03/22	10/03/22 19:16	1070
Benzo(a)pyrene	**0.026**	mg/kg	0.011		1	0.0064	10/03/22	10/03/22 19:16	1070
Benzo(b)fluoranthene	**0.025**	mg/kg	0.011		1	0.0059	10/03/22	10/03/22 19:16	1070
Benzo(g,h,i)perylene	**0.023**	mg/kg	0.011		1	0.0082	10/03/22	10/03/22 19:16	1070
Benzo(k)fluoranthene	**0.020**	mg/kg	0.011		1	0.01	10/03/22	10/03/22 19:16	1070
Biphenyl (Diphenyl)	ND	mg/kg	0.046		1	0.024	10/03/22	10/03/22 19:16	1070
Butyl benzyl phthalate	ND	mg/kg	0.046		1	0.03	10/03/22	10/03/22 19:16	1070
bis(2-chloroethoxy) methane	ND	mg/kg	0.046		1	0.03	10/03/22	10/03/22 19:16	1070
bis(2-chloroethyl) ether	ND	mg/kg	0.046		1	0.0059	10/03/22	10/03/22 19:16	1070
bis(2-chloroisopropyl) ether	ND	mg/kg	0.046		1	0.0068	10/03/22	10/03/22 19:16	1070
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.046		1	0.031	10/03/22	10/03/22 19:16	1070
4-Bromophenylphenyl ether	ND	mg/kg	0.046		1	0.024	10/03/22	10/03/22 19:16	1070
Di-n-butyl phthalate	ND	mg/kg	0.046		1	0.024	10/03/22	10/03/22 19:16	1070
Carbazole	ND	mg/kg	0.046		1	0.036	10/03/22	10/03/22 19:16	1070
Caprolactam	ND	mg/kg	0.091		1	0.016	10/03/22	10/03/22 19:16	1070
4-Chloro-3-methyl phenol	ND	mg/kg	0.046		1	0.04	10/03/22	10/03/22 19:16	1070
4-Chloroaniline	ND	mg/kg	0.046		1	0.035	10/03/22	10/03/22 19:16	1070
2-Chloronaphthalene	ND	mg/kg	0.046		1	0.031	10/03/22	10/03/22 19:16	1070
2-Chlorophenol	ND	mg/kg	0.046		1	0.023	10/03/22	10/03/22 19:16	1070
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.046		1	0.026	10/03/22	10/03/22 19:16	1070
Chrysene	**0.017**	mg/kg	0.011		1	0.0055	10/03/22	10/03/22 19:16	1070
Dibenz(a,h)Anthracene	ND	mg/kg	0.011		1	0.0078	10/03/22	10/03/22 19:16	1070
Dibenzofuran	ND	mg/kg	0.046		1	0.026	10/03/22	10/03/22 19:16	1070
3,3-Dichlorobenzidine	ND	mg/kg	0.046		1	0.025	10/03/22	10/03/22 19:16	1070
2,4-Dichlorophenol	ND	mg/kg	0.046		1	0.036	10/03/22	10/03/22 19:16	1070
Diethyl phthalate	ND	mg/kg	0.046		1	0.027	10/03/22	10/03/22 19:16	1070
Dimethyl phthalate	ND	mg/kg	0.046		1	0.026	10/03/22	10/03/22 19:16	1070
2,4-Dimethylphenol	ND	mg/kg	0.046		1	0.043	10/03/22	10/03/22 19:16	1070
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.23		1	0.054	10/03/22	10/03/22 19:16	1070
2,4-Dinitrophenol	ND	mg/kg	0.23		1	0.1	10/03/22	10/03/22 19:16	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_2.0-2.5 **Date/Time Sampled: 09/29/2022 11:35** **PSS Sample ID: 22093003-002**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.6**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/kg	0.091		1	0.032	10/03/22	10/03/22 19:16	1070
2,6-Dinitrotoluene	ND	mg/kg	0.091		1	0.026	10/03/22	10/03/22 19:16	1070
Fluoranthene	**0.021**	mg/kg	0.011		1	0.005	10/03/22	10/03/22 19:16	1070
Fluorene	ND	mg/kg	0.011		1	0.0078	10/03/22	10/03/22 19:16	1070
Hexachlorobenzene	ND	mg/kg	0.046		1	0.0087	10/03/22	10/03/22 19:16	1070
Hexachlorobutadiene	ND	mg/kg	0.046		1	0.026	10/03/22	10/03/22 19:16	1070
Hexachlorocyclopentadiene	ND	mg/kg	0.091		1	0.051	10/03/22	10/03/22 19:16	1070
Hexachloroethane	ND	mg/kg	0.046		1	0.029	10/03/22	10/03/22 19:16	1070
Indeno(1,2,3-c,d)Pyrene	**0.021**	mg/kg	0.011		1	0.01	10/03/22	10/03/22 19:16	1070
Isophorone	ND	mg/kg	0.046		1	0.031	10/03/22	10/03/22 19:16	1070
2-Methylnaphthalene	ND	mg/kg	0.011		1	0.011	10/03/22	10/03/22 19:16	1070
2-Methyl phenol	ND	mg/kg	0.046		1	0.025	10/03/22	10/03/22 19:16	1070
3&4-Methylphenol	ND	mg/kg	0.046		1	0.033	10/03/22	10/03/22 19:16	1070
Naphthalene	ND	mg/kg	0.011		1	0.0073	10/03/22	10/03/22 19:16	1070
2-Nitroaniline	ND	mg/kg	0.091		1	0.026	10/03/22	10/03/22 19:16	1070
3-Nitroaniline	ND	mg/kg	0.091		1	0.032	10/03/22	10/03/22 19:16	1070
4-Nitroaniline	ND	mg/kg	0.091		1	0.046	10/03/22	10/03/22 19:16	1070
Nitrobenzene	ND	mg/kg	0.046		1	0.034	10/03/22	10/03/22 19:16	1070
2-Nitrophenol	ND	mg/kg	0.046		1	0.036	10/03/22	10/03/22 19:16	1070
4-Nitrophenol	ND	mg/kg	0.23		1	0.07	10/03/22	10/03/22 19:16	1070
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.046		1	0.0041	10/03/22	10/03/22 19:16	1070
N-Nitrosodiphenylamine	ND	mg/kg	0.046		1	0.024	10/03/22	10/03/22 19:16	1070
Di-n-octyl phthalate	ND	mg/kg	0.091		1	0.046	10/03/22	10/03/22 19:16	1070
Pentachlorophenol	ND	mg/kg	0.091		1	0.055	10/03/22	10/03/22 19:16	1070
Phenanthrene	ND	mg/kg	0.011		1	0.0068	10/03/22	10/03/22 19:16	1070
Phenol	ND	mg/kg	0.046		1	0.034	10/03/22	10/03/22 19:16	1070
Pyrene	**0.021**	mg/kg	0.011		1	0.0059	10/03/22	10/03/22 19:16	1070
Pyridine	ND	mg/kg	0.046		1	0.021	10/03/22	10/03/22 19:16	1070
2,4,5-Trichlorophenol	ND	mg/kg	0.046		1	0.0055	10/03/22	10/03/22 19:16	1070
2,4,6-Trichlorophenol	ND	mg/kg	0.046		1	0.036	10/03/22	10/03/22 19:16	1070

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_2.0-2.5 **Date/Time Sampled: 09/29/2022 11:35** **PSS Sample ID: 22093003-002**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.6**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*77*	*%*	*52-109*	*1*	*10/03/22*	*10/03/22 19:16*	*1070*
2-Fluorophenol	*67*	*%*	*30-102*	*1*	*10/03/22*	*10/03/22 19:16*	*1070*
Nitrobenzene-d5	*69*	*%*	*39-101*	*1*	*10/03/22*	*10/03/22 19:16*	*1070*
Phenol-d6	*69*	*%*	*36-109*	*1*	*10/03/22*	*10/03/22 19:16*	*1070*
Terphenyl-D14	*91*	*%*	*66-121*	*1*	*10/03/22*	*10/03/22 19:16*	*1070*
2,4,6-Tribromophenol	*74*	*%*	*39-118*	*1*	*10/03/22*	*10/03/22 19:16*	*1070*

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_2.5-3.0 **Date/Time Sampled: 09/29/2022 11:40** **PSS Sample ID: 22093003-003**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.0**

Total Metals — Analytical Method: SW-846 6020 B — Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Lead	**340**	mg/kg	0.52		1	0.39	10/03/22	10/04/22 01:19	1064

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 D — Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.070**	mg/kg	0.023		1	0.013	10/03/22	10/03/22 18:41	1045
Benzene	**0.0018**	mg/kg	0.0011		1	0.00049	10/03/22	10/03/22 18:41	1045
Bromochloromethane	ND	mg/kg	0.0011		1	0.00054	10/03/22	10/03/22 18:41	1045
Bromodichloromethane	ND	mg/kg	0.0011		1	0.0005	10/03/22	10/03/22 18:41	1045
Bromoform	ND	mg/kg	0.0011		1	0.00058	10/03/22	10/03/22 18:41	1045
Bromomethane	ND	mg/kg	0.0011		1	0.0011	10/03/22	10/03/22 18:41	1045
2-Butanone (MEK)	**0.0089**	mg/kg	0.0057		1	0.0026	10/03/22	10/03/22 18:41	1045
Carbon Disulfide	ND	mg/kg	0.0011		1	0.00048	10/03/22	10/03/22 18:41	1045
Carbon tetrachloride	ND	mg/kg	0.0011		1	0.00042	10/03/22	10/03/22 18:41	1045
Chlorobenzene	ND	mg/kg	0.0011		1	0.00061	10/03/22	10/03/22 18:41	1045
Chloroethane	ND	mg/kg	0.0011		1	0.00075	10/03/22	10/03/22 18:41	1045
Chloroform	ND	mg/kg	0.0057		1	0.00074	10/03/22	10/03/22 18:41	1045
Chloromethane	ND	mg/kg	0.0011		1	0.00057	10/03/22	10/03/22 18:41	1045
Cyclohexane	ND	mg/kg	0.0011		1	0.00046	10/03/22	10/03/22 18:41	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0011		1	0.00099	10/03/22	10/03/22 18:41	1045
Dibromochloromethane	ND	mg/kg	0.0011		1	0.00034	10/03/22	10/03/22 18:41	1045
1,2-Dibromoethane	ND	mg/kg	0.0011		1	0.00057	10/03/22	10/03/22 18:41	1045
1,2-Dichlorobenzene	ND	mg/kg	0.0011		1	0.0005	10/03/22	10/03/22 18:41	1045
1,3-Dichlorobenzene	ND	mg/kg	0.0011		1	0.00051	10/03/22	10/03/22 18:41	1045
1,4-Dichlorobenzene	ND	mg/kg	0.0011		1	0.00099	10/03/22	10/03/22 18:41	1045
Dichlorodifluoromethane	ND	mg/kg	0.0011		1	0.00054	10/03/22	10/03/22 18:41	1045
1,1-Dichloroethane	ND	mg/kg	0.0011		1	0.00049	10/03/22	10/03/22 18:41	1045
1,2-Dichloroethane	ND	mg/kg	0.0011		1	0.00041	10/03/22	10/03/22 18:41	1045
1,1-Dichloroethene	ND	mg/kg	0.0011		1	0.00046	10/03/22	10/03/22 18:41	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.0011		1	0.00049	10/03/22	10/03/22 18:41	1045
1,2-Dichloropropane	ND	mg/kg	0.0011		1	0.00055	10/03/22	10/03/22 18:41	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.0011		1	0.00049	10/03/22	10/03/22 18:41	1045

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_2.5-3.0 **Date/Time Sampled: 09/29/2022 11:40** **PSS Sample ID: 22093003-003**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.0**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.0011		1	0.00052	10/03/22	10/03/22 18:41	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0011		1	0.00047	10/03/22	10/03/22 18:41	1045
Ethylbenzene	ND	mg/kg	0.0011		1	0.00042	10/03/22	10/03/22 18:41	1045
2-Hexanone (MBK)	ND	mg/kg	0.0011		1	0.00074	10/03/22	10/03/22 18:41	1045
Isopropylbenzene	ND	mg/kg	0.0011		1	0.00044	10/03/22	10/03/22 18:41	1045
Methyl Acetate	ND	mg/kg	0.028		1	0.0013	10/03/22	10/03/22 18:41	1045
Methylcyclohexane	**0.0017**	mg/kg	0.0011		1	0.0005	10/03/22	10/03/22 18:41	1045
Methylene chloride	ND	mg/kg	0.0057		1	0.0041	10/03/22	10/03/22 18:41	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0011		1	0.00073	10/03/22	10/03/22 18:41	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.0011		1	0.00043	10/03/22	10/03/22 18:41	1045
Naphthalene	**0.0017**	mg/kg	0.0011		1	0.00066	10/03/22	10/03/22 18:41	1045
Styrene	ND	mg/kg	0.0011		1	0.00046	10/03/22	10/03/22 18:41	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0011		1	0.00069	10/03/22	10/03/22 18:41	1045
Tetrachloroethene	ND	mg/kg	0.0011		1	0.0005	10/03/22	10/03/22 18:41	1045
Toluene	**0.0049**	mg/kg	0.0011		1	0.00051	10/03/22	10/03/22 18:41	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0011		1	0.00059	10/03/22	10/03/22 18:41	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0011		1	0.00051	10/03/22	10/03/22 18:41	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0011		1	0.00041	10/03/22	10/03/22 18:41	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0011		1	0.00039	10/03/22	10/03/22 18:41	1045
Trichloroethene	ND	mg/kg	0.0011		1	0.00061	10/03/22	10/03/22 18:41	1045
Trichlorofluoromethane	ND	mg/kg	0.0011		1	0.00054	10/03/22	10/03/22 18:41	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0011		1	0.00043	10/03/22	10/03/22 18:41	1045
Vinyl chloride	ND	mg/kg	0.0057		1	0.00038	10/03/22	10/03/22 18:41	1045
m&p-Xylene	**0.0026**	mg/kg	0.0023		1	0.0013	10/03/22	10/03/22 18:41	1045
o-Xylene	ND	mg/kg	0.0011		1	0.00042	10/03/22	10/03/22 18:41	1045

Surrogate(s)	*Recovery*		*Limits*					
4-Bromofluorobenzene	*112*	*%*	*89-111*	*	*1*	*10/03/22*	*10/03/22 18:41*	*1045*
Dibromofluoromethane	*99*	*%*	*91-108*		*1*	*10/03/22*	*10/03/22 18:41*	*1045*
Toluene-D8	*102*	*%*	*93-104*		*1*	*10/03/22*	*10/03/22 18:41*	*1045*

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_2.5-3.0 **Date/Time Sampled: 09/29/2022 11:40** **PSS Sample ID: 22093003-003**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.0**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.012		1	0.0084	10/03/22	10/03/22 15:51	1070
Acenaphthylene	ND	mg/kg	0.012		1	0.008	10/03/22	10/03/22 15:51	1070
Acetophenone	ND	mg/kg	0.047		1	0.03	10/03/22	10/03/22 15:51	1070
Anthracene	**0.0094**	mg/kg	0.012	J	1	0.0061	10/03/22	10/03/22 15:51	1070
Atrazine	ND	mg/kg	0.094		1	0.023	10/03/22	10/03/22 15:51	1070
Benzo(a)anthracene	**0.022**	mg/kg	0.012		1	0.0047	10/03/22	10/03/22 15:51	1070
Benzo(a)pyrene	**0.021**	mg/kg	0.012		1	0.0065	10/03/22	10/03/22 15:51	1070
Benzo(b)fluoranthene	**0.017**	mg/kg	0.012		1	0.0061	10/03/22	10/03/22 15:51	1070
Benzo(g,h,i)perylene	**0.015**	mg/kg	0.012		1	0.0084	10/03/22	10/03/22 15:51	1070
Benzo(k)fluoranthene	**0.017**	mg/kg	0.012		1	0.01	10/03/22	10/03/22 15:51	1070
Biphenyl (Diphenyl)	ND	mg/kg	0.047		1	0.025	10/03/22	10/03/22 15:51	1070
Butyl benzyl phthalate	ND	mg/kg	0.047		1	0.03	10/03/22	10/03/22 15:51	1070
bis(2-chloroethoxy) methane	ND	mg/kg	0.047		1	0.03	10/03/22	10/03/22 15:51	1070
bis(2-chloroethyl) ether	ND	mg/kg	0.047		1	0.0061	10/03/22	10/03/22 15:51	1070
bis(2-chloroisopropyl) ether	ND	mg/kg	0.047		1	0.007	10/03/22	10/03/22 15:51	1070
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.047		1	0.032	10/03/22	10/03/22 15:51	1070
4-Bromophenylphenyl ether	ND	mg/kg	0.047		1	0.024	10/03/22	10/03/22 15:51	1070
Di-n-butyl phthalate	ND	mg/kg	0.047		1	0.024	10/03/22	10/03/22 15:51	1070
Carbazole	ND	mg/kg	0.047		1	0.036	10/03/22	10/03/22 15:51	1070
Caprolactam	ND	mg/kg	0.094		1	0.017	10/03/22	10/03/22 15:51	1070
4-Chloro-3-methyl phenol	ND	mg/kg	0.047		1	0.041	10/03/22	10/03/22 15:51	1070
4-Chloroaniline	ND	mg/kg	0.047		1	0.036	10/03/22	10/03/22 15:51	1070
2-Chloronaphthalene	ND	mg/kg	0.047		1	0.032	10/03/22	10/03/22 15:51	1070
2-Chlorophenol	ND	mg/kg	0.047		1	0.023	10/03/22	10/03/22 15:51	1070
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.047		1	0.026	10/03/22	10/03/22 15:51	1070
Chrysene	**0.020**	mg/kg	0.012		1	0.0056	10/03/22	10/03/22 15:51	1070
Dibenz(a,h)Anthracene	ND	mg/kg	0.012		1	0.008	10/03/22	10/03/22 15:51	1070
Dibenzofuran	ND	mg/kg	0.047		1	0.027	10/03/22	10/03/22 15:51	1070
3,3-Dichlorobenzidine	ND	mg/kg	0.047		1	0.026	10/03/22	10/03/22 15:51	1070
2,4-Dichlorophenol	ND	mg/kg	0.047		1	0.037	10/03/22	10/03/22 15:51	1070
Diethyl phthalate	ND	mg/kg	0.047		1	0.028	10/03/22	10/03/22 15:51	1070
Dimethyl phthalate	ND	mg/kg	0.047		1	0.027	10/03/22	10/03/22 15:51	1070
2,4-Dimethylphenol	ND	mg/kg	0.047		1	0.044	10/03/22	10/03/22 15:51	1070
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.23		1	0.056	10/03/22	10/03/22 15:51	1070
2,4-Dinitrophenol	ND	mg/kg	0.23		1	0.11	10/03/22	10/03/22 15:51	1070

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_2.5-3.0 **Date/Time Sampled: 09/29/2022 11:40** **PSS Sample ID: 22093003-003**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.0**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/kg	0.094		1	0.033	10/03/22	10/03/22 15:51	1070
2,6-Dinitrotoluene	ND	mg/kg	0.094		1	0.027	10/03/22	10/03/22 15:51	1070
Fluoranthene	**0.038**	mg/kg	0.012		1	0.0051	10/03/22	10/03/22 15:51	1070
Fluorene	ND	mg/kg	0.012		1	0.008	10/03/22	10/03/22 15:51	1070
Hexachlorobenzene	ND	mg/kg	0.047		1	0.0089	10/03/22	10/03/22 15:51	1070
Hexachlorobutadiene	ND	mg/kg	0.047		1	0.027	10/03/22	10/03/22 15:51	1070
Hexachlorocyclopentadiene	ND	mg/kg	0.094		1	0.052	10/03/22	10/03/22 15:51	1070
Hexachloroethane	ND	mg/kg	0.047		1	0.03	10/03/22	10/03/22 15:51	1070
Indeno(1,2,3-c,d)Pyrene	**0.015**	mg/kg	0.012		1	0.011	10/03/22	10/03/22 15:51	1070
Isophorone	ND	mg/kg	0.047		1	0.032	10/03/22	10/03/22 15:51	1070
2-Methylnaphthalene	ND	mg/kg	0.012		1	0.011	10/03/22	10/03/22 15:51	1070
2-Methyl phenol	ND	mg/kg	0.047		1	0.026	10/03/22	10/03/22 15:51	1070
3&4-Methylphenol	ND	mg/kg	0.047		1	0.034	10/03/22	10/03/22 15:51	1070
Naphthalene	ND	mg/kg	0.012		1	0.0075	10/03/22	10/03/22 15:51	1070
2-Nitroaniline	ND	mg/kg	0.094		1	0.027	10/03/22	10/03/22 15:51	1070
3-Nitroaniline	ND	mg/kg	0.094		1	0.033	10/03/22	10/03/22 15:51	1070
4-Nitroaniline	ND	mg/kg	0.094		1	0.047	10/03/22	10/03/22 15:51	1070
Nitrobenzene	ND	mg/kg	0.047		1	0.035	10/03/22	10/03/22 15:51	1070
2-Nitrophenol	ND	mg/kg	0.047		1	0.037	10/03/22	10/03/22 15:51	1070
4-Nitrophenol	ND	mg/kg	0.23		1	0.072	10/03/22	10/03/22 15:51	1070
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.047		1	0.0042	10/03/22	10/03/22 15:51	1070
N-Nitrosodiphenylamine	ND	mg/kg	0.047		1	0.025	10/03/22	10/03/22 15:51	1070
Di-n-octyl phthalate	ND	mg/kg	0.094		1	0.047	10/03/22	10/03/22 15:51	1070
Pentachlorophenol	ND	mg/kg	0.094		1	0.057	10/03/22	10/03/22 15:51	1070
Phenanthrene	**0.036**	mg/kg	0.012		1	0.007	10/03/22	10/03/22 15:51	1070
Phenol	ND	mg/kg	0.047		1	0.035	10/03/22	10/03/22 15:51	1070
Pyrene	**0.035**	mg/kg	0.012		1	0.0061	10/03/22	10/03/22 15:51	1070
Pyridine	ND	mg/kg	0.047		1	0.022	10/03/22	10/03/22 15:51	1070
2,4,5-Trichlorophenol	ND	mg/kg	0.047		1	0.0056	10/03/22	10/03/22 15:51	1070
2,4,6-Trichlorophenol	ND	mg/kg	0.047		1	0.037	10/03/22	10/03/22 15:51	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB01_2.5-3.0 **Date/Time Sampled: 09/29/2022 11:40** **PSS Sample ID: 22093003-003**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.0**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*79*	*%*	*52-109*	*1*	*10/03/22*	*10/03/22 15:51*	*1070*
2-Fluorophenol	*73*	*%*	*30-102*	*1*	*10/03/22*	*10/03/22 15:51*	*1070*
Nitrobenzene-d5	*73*	*%*	*39-101*	*1*	*10/03/22*	*10/03/22 15:51*	*1070*
Phenol-d6	*76*	*%*	*36-109*	*1*	*10/03/22*	*10/03/22 15:51*	*1070*
Terphenyl-D14	*93*	*%*	*66-121*	*1*	*10/03/22*	*10/03/22 15:51*	*1070*
2,4,6-Tribromophenol	*84*	*%*	*39-118*	*1*	*10/03/22*	*10/03/22 15:51*	*1070*

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_1.0-1.5 **Date/Time Sampled: 09/29/2022 13:00** **PSS Sample ID: 22093003-004**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 88.2**

Total Metals — Analytical Method: SW-846 6020 B — Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Lead	**320**	mg/kg	0.50		1	0.38	10/03/22	10/04/22 01:24	1064

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 D — Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.027**	mg/kg	0.017		1	0.0094	10/03/22	10/03/22 19:03	1045
Benzene	**0.0020**	mg/kg	0.00085		1	0.00037	10/03/22	10/03/22 19:03	1045
Bromochloromethane	ND	mg/kg	0.00085		1	0.0004	10/03/22	10/03/22 19:03	1045
Bromodichloromethane	ND	mg/kg	0.00085		1	0.00037	10/03/22	10/03/22 19:03	1045
Bromoform	ND	mg/kg	0.00085		1	0.00043	10/03/22	10/03/22 19:03	1045
Bromomethane	ND	mg/kg	0.00085		1	0.00085	10/03/22	10/03/22 19:03	1045
2-Butanone (MEK)	**0.0052**	mg/kg	0.0043		1	0.002	10/03/22	10/03/22 19:03	1045
Carbon Disulfide	ND	mg/kg	0.00085		1	0.00036	10/03/22	10/03/22 19:03	1045
Carbon tetrachloride	ND	mg/kg	0.00085		1	0.00031	10/03/22	10/03/22 19:03	1045
Chlorobenzene	ND	mg/kg	0.00085		1	0.00046	10/03/22	10/03/22 19:03	1045
Chloroethane	ND	mg/kg	0.00085		1	0.00056	10/03/22	10/03/22 19:03	1045
Chloroform	ND	mg/kg	0.0043		1	0.00055	10/03/22	10/03/22 19:03	1045
Chloromethane	ND	mg/kg	0.00085		1	0.00043	10/03/22	10/03/22 19:03	1045
Cyclohexane	ND	mg/kg	0.00085		1	0.00034	10/03/22	10/03/22 19:03	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.00085		1	0.00074	10/03/22	10/03/22 19:03	1045
Dibromochloromethane	ND	mg/kg	0.00085		1	0.00026	10/03/22	10/03/22 19:03	1045
1,2-Dibromoethane	ND	mg/kg	0.00085		1	0.00043	10/03/22	10/03/22 19:03	1045
1,2-Dichlorobenzene	ND	mg/kg	0.00085		1	0.00037	10/03/22	10/03/22 19:03	1045
1,3-Dichlorobenzene	ND	mg/kg	0.00085		1	0.00038	10/03/22	10/03/22 19:03	1045
1,4-Dichlorobenzene	ND	mg/kg	0.00085		1	0.00074	10/03/22	10/03/22 19:03	1045
Dichlorodifluoromethane	ND	mg/kg	0.00085		1	0.0004	10/03/22	10/03/22 19:03	1045
1,1-Dichloroethane	ND	mg/kg	0.00085		1	0.00037	10/03/22	10/03/22 19:03	1045
1,2-Dichloroethane	ND	mg/kg	0.00085		1	0.00031	10/03/22	10/03/22 19:03	1045
1,1-Dichloroethene	ND	mg/kg	0.00085		1	0.00034	10/03/22	10/03/22 19:03	1045
1,2-Dichloropropane	ND	mg/kg	0.00085		1	0.00041	10/03/22	10/03/22 19:03	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.00085		1	0.00037	10/03/22	10/03/22 19:03	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.00085		1	0.00037	10/03/22	10/03/22 19:03	1045

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_1.0-1.5 **Date/Time Sampled: 09/29/2022 13:00** **PSS Sample ID: 22093003-004**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 88.2**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.00085		1	0.00039	10/03/22	10/03/22 19:03	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.00085		1	0.00035	10/03/22	10/03/22 19:03	1045
Ethylbenzene	ND	mg/kg	0.00085		1	0.00031	10/03/22	10/03/22 19:03	1045
2-Hexanone (MBK)	ND	mg/kg	0.00085		1	0.00055	10/03/22	10/03/22 19:03	1045
Isopropylbenzene	ND	mg/kg	0.00085		1	0.00033	10/03/22	10/03/22 19:03	1045
Methyl Acetate	ND	mg/kg	0.021		1	0.00094	10/03/22	10/03/22 19:03	1045
Methylcyclohexane	ND	mg/kg	0.00085		1	0.00037	10/03/22	10/03/22 19:03	1045
Methylene chloride	ND	mg/kg	0.0043		1	0.0031	10/03/22	10/03/22 19:03	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.00085		1	0.00054	10/03/22	10/03/22 19:03	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.00085		1	0.00032	10/03/22	10/03/22 19:03	1045
Naphthalene	ND	mg/kg	0.00085		1	0.00049	10/03/22	10/03/22 19:03	1045
Styrene	ND	mg/kg	0.00085		1	0.00034	10/03/22	10/03/22 19:03	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.00085		1	0.00052	10/03/22	10/03/22 19:03	1045
Tetrachloroethene	ND	mg/kg	0.00085		1	0.00037	10/03/22	10/03/22 19:03	1045
Toluene	**0.0059**	mg/kg	0.00085		1	0.00038	10/03/22	10/03/22 19:03	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.00085		1	0.00044	10/03/22	10/03/22 19:03	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.00085		1	0.00038	10/03/22	10/03/22 19:03	1045
1,1,1-Trichloroethane	ND	mg/kg	0.00085		1	0.00031	10/03/22	10/03/22 19:03	1045
1,1,2-Trichloroethane	ND	mg/kg	0.00085		1	0.00029	10/03/22	10/03/22 19:03	1045
Trichloroethene	ND	mg/kg	0.00085		1	0.00046	10/03/22	10/03/22 19:03	1045
Trichlorofluoromethane	ND	mg/kg	0.00085		1	0.0004	10/03/22	10/03/22 19:03	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.00085		1	0.00032	10/03/22	10/03/22 19:03	1045
Vinyl chloride	ND	mg/kg	0.0043		1	0.00028	10/03/22	10/03/22 19:03	1045
m&p-Xylene	**0.0020**	mg/kg	0.0017		1	0.00094	10/03/22	10/03/22 19:03	1045
o-Xylene	**0.0011**	mg/kg	0.00085		1	0.00031	10/03/22	10/03/22 19:03	1045

Surrogate(s)	*Recovery*		*Limits*					
4-Bromofluorobenzene	*115*	*%*	*89-111*	*	*1*		*10/03/22*	*10/03/22 19:03*	*1045*
Dibromofluoromethane	*94*	*%*	*91-108*		*1*		*10/03/22*	*10/03/22 19:03*	*1045*
Toluene-D8	*101*	*%*	*93-104*		*1*		*10/03/22*	*10/03/22 19:03*	*1045*

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_1.0-1.5 **Date/Time Sampled: 09/29/2022 13:00** **PSS Sample ID: 22093003-004**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 88.2**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.0095		1	0.0068	10/03/22	10/03/22 21:50	1070
Acenaphthylene	ND	mg/kg	0.0095		1	0.0064	10/03/22	10/03/22 21:50	1070
Acetophenone	ND	mg/kg	0.038		1	0.024	10/03/22	10/03/22 21:50	1070
Anthracene	**0.011**	mg/kg	0.0095		1	0.0049	10/03/22	10/03/22 21:50	1070
Atrazine	ND	mg/kg	0.076		1	0.019	10/03/22	10/03/22 21:50	1070
Benzo(a)anthracene	**0.039**	mg/kg	0.0095		1	0.0038	10/03/22	10/03/22 21:50	1070
Benzo(a)pyrene	**0.040**	mg/kg	0.0095		1	0.0053	10/03/22	10/03/22 21:50	1070
Benzo(b)fluoranthene	**0.048**	mg/kg	0.0095		1	0.0049	10/03/22	10/03/22 21:50	1070
Benzo(g,h,i)perylene	**0.057**	mg/kg	0.0095		1	0.0068	10/03/22	10/03/22 21:50	1070
Benzo(k)fluoranthene	**0.035**	mg/kg	0.0095		1	0.0083	10/03/22	10/03/22 21:50	1070
Biphenyl (Diphenyl)	ND	mg/kg	0.038		1	0.02	10/03/22	10/03/22 21:50	1070
Butyl benzyl phthalate	ND	mg/kg	0.038		1	0.025	10/03/22	10/03/22 21:50	1070
bis(2-chloroethoxy) methane	ND	mg/kg	0.038		1	0.025	10/03/22	10/03/22 21:50	1070
bis(2-chloroethyl) ether	ND	mg/kg	0.038		1	0.0049	10/03/22	10/03/22 21:50	1070
bis(2-chloroisopropyl) ether	ND	mg/kg	0.038		1	0.0057	10/03/22	10/03/22 21:50	1070
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.038		1	0.026	10/03/22	10/03/22 21:50	1070
4-Bromophenylphenyl ether	ND	mg/kg	0.038		1	0.02	10/03/22	10/03/22 21:50	1070
Di-n-butyl phthalate	ND	mg/kg	0.038		1	0.02	10/03/22	10/03/22 21:50	1070
Carbazole	ND	mg/kg	0.038		1	0.029	10/03/22	10/03/22 21:50	1070
Caprolactam	ND	mg/kg	0.076		1	0.014	10/03/22	10/03/22 21:50	1070
4-Chloro-3-methyl phenol	ND	mg/kg	0.038		1	0.033	10/03/22	10/03/22 21:50	1070
4-Chloroaniline	ND	mg/kg	0.038		1	0.029	10/03/22	10/03/22 21:50	1070
2-Chloronaphthalene	ND	mg/kg	0.038		1	0.026	10/03/22	10/03/22 21:50	1070
2-Chlorophenol	ND	mg/kg	0.038		1	0.019	10/03/22	10/03/22 21:50	1070
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.038		1	0.021	10/03/22	10/03/22 21:50	1070
Chrysene	**0.039**	mg/kg	0.0095		1	0.0045	10/03/22	10/03/22 21:50	1070
Dibenz(a,h)Anthracene	**0.014**	mg/kg	0.0095		1	0.0064	10/03/22	10/03/22 21:50	1070
Dibenzofuran	ND	mg/kg	0.038		1	0.022	10/03/22	10/03/22 21:50	1070
3,3-Dichlorobenzidine	ND	mg/kg	0.038		1	0.021	10/03/22	10/03/22 21:50	1070
2,4-Dichlorophenol	ND	mg/kg	0.038		1	0.03	10/03/22	10/03/22 21:50	1070
Diethyl phthalate	ND	mg/kg	0.038		1	0.023	10/03/22	10/03/22 21:50	1070
Dimethyl phthalate	ND	mg/kg	0.038		1	0.022	10/03/22	10/03/22 21:50	1070
2,4-Dimethylphenol	ND	mg/kg	0.038		1	0.036	10/03/22	10/03/22 21:50	1070
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.19		1	0.045	10/03/22	10/03/22 21:50	1070
2,4-Dinitrophenol	ND	mg/kg	0.19		1	0.086	10/03/22	10/03/22 21:50	1070

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_1.0-1.5 **Date/Time Sampled: 09/29/2022 13:00** **PSS Sample ID: 22093003-004**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 88.2**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/kg	0.076		1	0.026	10/03/22	10/03/22 21:50	1070
2,6-Dinitrotoluene	ND	mg/kg	0.076		1	0.022	10/03/22	10/03/22 21:50	1070
Fluoranthene	**0.057**	mg/kg	0.0095		1	0.0042	10/03/22	10/03/22 21:50	1070
Fluorene	ND	mg/kg	0.0095		1	0.0064	10/03/22	10/03/22 21:50	1070
Hexachlorobenzene	ND	mg/kg	0.038		1	0.0072	10/03/22	10/03/22 21:50	1070
Hexachlorobutadiene	ND	mg/kg	0.038		1	0.022	10/03/22	10/03/22 21:50	1070
Hexachlorocyclopentadiene	ND	mg/kg	0.076		1	0.042	10/03/22	10/03/22 21:50	1070
Hexachloroethane	ND	mg/kg	0.038		1	0.024	10/03/22	10/03/22 21:50	1070
Indeno(1,2,3-c,d)Pyrene	**0.031**	mg/kg	0.0095		1	0.0087	10/03/22	10/03/22 21:50	1070
Isophorone	ND	mg/kg	0.038		1	0.026	10/03/22	10/03/22 21:50	1070
2-Methylnaphthalene	ND	mg/kg	0.0095		1	0.0091	10/03/22	10/03/22 21:50	1070
2-Methyl phenol	ND	mg/kg	0.038		1	0.021	10/03/22	10/03/22 21:50	1070
3&4-Methylphenol	ND	mg/kg	0.038		1	0.028	10/03/22	10/03/22 21:50	1070
Naphthalene	ND	mg/kg	0.0095		1	0.006	10/03/22	10/03/22 21:50	1070
2-Nitroaniline	ND	mg/kg	0.076		1	0.022	10/03/22	10/03/22 21:50	1070
3-Nitroaniline	ND	mg/kg	0.076		1	0.026	10/03/22	10/03/22 21:50	1070
4-Nitroaniline	ND	mg/kg	0.076		1	0.038	10/03/22	10/03/22 21:50	1070
Nitrobenzene	ND	mg/kg	0.038		1	0.028	10/03/22	10/03/22 21:50	1070
2-Nitrophenol	ND	mg/kg	0.038		1	0.03	10/03/22	10/03/22 21:50	1070
4-Nitrophenol	ND	mg/kg	0.19		1	0.058	10/03/22	10/03/22 21:50	1070
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.038		1	0.0034	10/03/22	10/03/22 21:50	1070
N-Nitrosodiphenylamine	ND	mg/kg	0.038		1	0.02	10/03/22	10/03/22 21:50	1070
Di-n-octyl phthalate	ND	mg/kg	0.076		1	0.038	10/03/22	10/03/22 21:50	1070
Pentachlorophenol	ND	mg/kg	0.076		1	0.046	10/03/22	10/03/22 21:50	1070
Phenanthrene	**0.025**	mg/kg	0.0095		1	0.0057	10/03/22	10/03/22 21:50	1070
Phenol	ND	mg/kg	0.038		1	0.028	10/03/22	10/03/22 21:50	1070
Pyrene	**0.053**	mg/kg	0.0095		1	0.0049	10/03/22	10/03/22 21:50	1070
Pyridine	ND	mg/kg	0.038		1	0.017	10/03/22	10/03/22 21:50	1070
2,4,5-Trichlorophenol	ND	mg/kg	0.038		1	0.0045	10/03/22	10/03/22 21:50	1070
2,4,6-Trichlorophenol	ND	mg/kg	0.038		1	0.03	10/03/22	10/03/22 21:50	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_1.0-1.5 **Date/Time Sampled: 09/29/2022 13:00** **PSS Sample ID: 22093003-004**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 88.2**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*82*	*%*	*52-109*	*1*	*10/03/22*	*10/03/22 21:50*	*1070*
2-Fluorophenol	*69*	*%*	*30-102*	*1*	*10/03/22*	*10/03/22 21:50*	*1070*
Nitrobenzene-d5	*71*	*%*	*39-101*	*1*	*10/03/22*	*10/03/22 21:50*	*1070*
Phenol-d6	*74*	*%*	*36-109*	*1*	*10/03/22*	*10/03/22 21:50*	*1070*
Terphenyl-D14	*93*	*%*	*66-121*	*1*	*10/03/22*	*10/03/22 21:50*	*1070*
2,4,6-Tribromophenol	*77*	*%*	*39-118*	*1*	*10/03/22*	*10/03/22 21:50*	*1070*

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_2.0-2.5 **Date/Time Sampled: 09/29/2022 13:02** **PSS Sample ID: 22093003-005**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 78.4**

Total Metals — Analytical Method: SW-846 6020 B — Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Lead	**240**	mg/kg	0.44		1	0.34	10/03/22	10/04/22 01:29	1064

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 D — Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.049**	mg/kg	0.017		1	0.0095	10/03/22	10/03/22 19:25	1045
Benzene	**0.0028**	mg/kg	0.00087		1	0.00037	10/03/22	10/03/22 19:25	1045
Bromochloromethane	ND	mg/kg	0.00087		1	0.00041	10/03/22	10/03/22 19:25	1045
Bromodichloromethane	ND	mg/kg	0.00087		1	0.00038	10/03/22	10/03/22 19:25	1045
Bromoform	ND	mg/kg	0.00087		1	0.00044	10/03/22	10/03/22 19:25	1045
Bromomethane	ND	mg/kg	0.00087		1	0.00087	10/03/22	10/03/22 19:25	1045
2-Butanone (MEK)	ND	mg/kg	0.0043		1	0.002	10/03/22	10/03/22 19:25	1045
Carbon Disulfide	ND	mg/kg	0.00087		1	0.00036	10/03/22	10/03/22 19:25	1045
Carbon tetrachloride	ND	mg/kg	0.00087		1	0.00032	10/03/22	10/03/22 19:25	1045
Chlorobenzene	ND	mg/kg	0.00087		1	0.00047	10/03/22	10/03/22 19:25	1045
Chloroethane	ND	mg/kg	0.00087		1	0.00057	10/03/22	10/03/22 19:25	1045
Chloroform	ND	mg/kg	0.0043		1	0.00056	10/03/22	10/03/22 19:25	1045
Chloromethane	ND	mg/kg	0.00087		1	0.00043	10/03/22	10/03/22 19:25	1045
Cyclohexane	ND	mg/kg	0.00087		1	0.00035	10/03/22	10/03/22 19:25	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.00087		1	0.00075	10/03/22	10/03/22 19:25	1045
Dibromochloromethane	ND	mg/kg	0.00087		1	0.00026	10/03/22	10/03/22 19:25	1045
1,2-Dibromoethane	ND	mg/kg	0.00087		1	0.00043	10/03/22	10/03/22 19:25	1045
1,2-Dichlorobenzene	ND	mg/kg	0.00087		1	0.00038	10/03/22	10/03/22 19:25	1045
1,3-Dichlorobenzene	ND	mg/kg	0.00087		1	0.00039	10/03/22	10/03/22 19:25	1045
1,4-Dichlorobenzene	ND	mg/kg	0.00087		1	0.00075	10/03/22	10/03/22 19:25	1045
Dichlorodifluoromethane	ND	mg/kg	0.00087		1	0.00041	10/03/22	10/03/22 19:25	1045
1,1-Dichloroethane	ND	mg/kg	0.00087		1	0.00037	10/03/22	10/03/22 19:25	1045
1,2-Dichloroethane	ND	mg/kg	0.00087		1	0.00031	10/03/22	10/03/22 19:25	1045
1,1-Dichloroethene	ND	mg/kg	0.00087		1	0.00035	10/03/22	10/03/22 19:25	1045
1,2-Dichloropropane	ND	mg/kg	0.00087		1	0.00042	10/03/22	10/03/22 19:25	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.00087		1	0.00037	10/03/22	10/03/22 19:25	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.00087		1	0.00037	10/03/22	10/03/22 19:25	1045

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_2.0-2.5 **Date/Time Sampled: 09/29/2022 13:02** **PSS Sample ID: 22093003-005**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 78.4**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.00087		1	0.0004	10/03/22	10/03/22 19:25	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.00087		1	0.00036	10/03/22	10/03/22 19:25	1045
Ethylbenzene	ND	mg/kg	0.00087		1	0.00032	10/03/22	10/03/22 19:25	1045
2-Hexanone (MBK)	ND	mg/kg	0.00087		1	0.00056	10/03/22	10/03/22 19:25	1045
Isopropylbenzene	ND	mg/kg	0.00087		1	0.00034	10/03/22	10/03/22 19:25	1045
Methyl Acetate	ND	mg/kg	0.022		1	0.00095	10/03/22	10/03/22 19:25	1045
Methylcyclohexane	ND	mg/kg	0.00087		1	0.00038	10/03/22	10/03/22 19:25	1045
Methylene chloride	ND	mg/kg	0.0043		1	0.0031	10/03/22	10/03/22 19:25	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.00087		1	0.00055	10/03/22	10/03/22 19:25	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.00087		1	0.00033	10/03/22	10/03/22 19:25	1045
Naphthalene	ND	mg/kg	0.00087		1	0.0005	10/03/22	10/03/22 19:25	1045
Styrene	ND	mg/kg	0.00087		1	0.00035	10/03/22	10/03/22 19:25	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.00087		1	0.00053	10/03/22	10/03/22 19:25	1045
Tetrachloroethene	ND	mg/kg	0.00087		1	0.00038	10/03/22	10/03/22 19:25	1045
Toluene	**0.028**	mg/kg	0.00087		1	0.00039	10/03/22	10/03/22 19:25	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.00087		1	0.00045	10/03/22	10/03/22 19:25	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.00087		1	0.00039	10/03/22	10/03/22 19:25	1045
1,1,1-Trichloroethane	ND	mg/kg	0.00087		1	0.00031	10/03/22	10/03/22 19:25	1045
1,1,2-Trichloroethane	ND	mg/kg	0.00087		1	0.00029	10/03/22	10/03/22 19:25	1045
Trichloroethene	ND	mg/kg	0.00087		1	0.00047	10/03/22	10/03/22 19:25	1045
Trichlorofluoromethane	ND	mg/kg	0.00087		1	0.00041	10/03/22	10/03/22 19:25	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.00087		1	0.00033	10/03/22	10/03/22 19:25	1045
Vinyl chloride	ND	mg/kg	0.0043		1	0.00029	10/03/22	10/03/22 19:25	1045
m&p-Xylene	**0.0058**	mg/kg	0.0017		1	0.00095	10/03/22	10/03/22 19:25	1045
o-Xylene	**0.0020**	mg/kg	0.00087		1	0.00032	10/03/22	10/03/22 19:25	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*98*	*%*	*89-111*	*1*	*10/03/22*	*10/03/22 19:25*	*1045*
Dibromofluoromethane	*93*	*%*	*91-108*	*1*	*10/03/22*	*10/03/22 19:25*	*1045*
Toluene-D8	*100*	*%*	*93-104*	*1*	*10/03/22*	*10/03/22 19:25*	*1045*

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_2.0-2.5 **Date/Time Sampled: 09/29/2022 13:02** **PSS Sample ID: 22093003-005**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 78.4**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.011		1	0.0076	10/03/22	10/03/22 21:24	1070
Acenaphthylene	ND	mg/kg	0.011		1	0.0072	10/03/22	10/03/22 21:24	1070
Acetophenone	ND	mg/kg	0.042		1	0.027	10/03/22	10/03/22 21:24	1070
Anthracene	ND	mg/kg	0.011		1	0.0055	10/03/22	10/03/22 21:24	1070
Atrazine	ND	mg/kg	0.085		1	0.021	10/03/22	10/03/22 21:24	1070
Benzo(a)anthracene	**0.022**	mg/kg	0.011		1	0.0042	10/03/22	10/03/22 21:24	1070
Benzo(a)pyrene	**0.026**	mg/kg	0.011		1	0.0059	10/03/22	10/03/22 21:24	1070
Benzo(b)fluoranthene	**0.030**	mg/kg	0.011		1	0.0055	10/03/22	10/03/22 21:24	1070
Benzo(g,h,i)perylene	**0.030**	mg/kg	0.011		1	0.0076	10/03/22	10/03/22 21:24	1070
Benzo(k)fluoranthene	**0.021**	mg/kg	0.011		1	0.0093	10/03/22	10/03/22 21:24	1070
Biphenyl (Diphenyl)	ND	mg/kg	0.042		1	0.022	10/03/22	10/03/22 21:24	1070
Butyl benzyl phthalate	ND	mg/kg	0.042		1	0.028	10/03/22	10/03/22 21:24	1070
bis(2-chloroethoxy) methane	ND	mg/kg	0.042		1	0.028	10/03/22	10/03/22 21:24	1070
bis(2-chloroethyl) ether	ND	mg/kg	0.042		1	0.0055	10/03/22	10/03/22 21:24	1070
bis(2-chloroisopropyl) ether	ND	mg/kg	0.042		1	0.0063	10/03/22	10/03/22 21:24	1070
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.042		1	0.029	10/03/22	10/03/22 21:24	1070
4-Bromophenylphenyl ether	ND	mg/kg	0.042		1	0.022	10/03/22	10/03/22 21:24	1070
Di-n-butyl phthalate	ND	mg/kg	0.042		1	0.022	10/03/22	10/03/22 21:24	1070
Carbazole	ND	mg/kg	0.042		1	0.033	10/03/22	10/03/22 21:24	1070
Caprolactam	ND	mg/kg	0.085		1	0.015	10/03/22	10/03/22 21:24	1070
4-Chloro-3-methyl phenol	ND	mg/kg	0.042		1	0.037	10/03/22	10/03/22 21:24	1070
4-Chloroaniline	ND	mg/kg	0.042		1	0.033	10/03/22	10/03/22 21:24	1070
2-Chloronaphthalene	ND	mg/kg	0.042		1	0.029	10/03/22	10/03/22 21:24	1070
2-Chlorophenol	ND	mg/kg	0.042		1	0.021	10/03/22	10/03/22 21:24	1070
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.042		1	0.024	10/03/22	10/03/22 21:24	1070
Chrysene	**0.022**	mg/kg	0.011		1	0.0051	10/03/22	10/03/22 21:24	1070
Dibenz(a,h)Anthracene	ND	mg/kg	0.011		1	0.0072	10/03/22	10/03/22 21:24	1070
Dibenzofuran	ND	mg/kg	0.042		1	0.025	10/03/22	10/03/22 21:24	1070
3,3-Dichlorobenzidine	ND	mg/kg	0.042		1	0.023	10/03/22	10/03/22 21:24	1070
2,4-Dichlorophenol	ND	mg/kg	0.042		1	0.033	10/03/22	10/03/22 21:24	1070
Diethyl phthalate	ND	mg/kg	0.042		1	0.025	10/03/22	10/03/22 21:24	1070
Dimethyl phthalate	ND	mg/kg	0.042		1	0.025	10/03/22	10/03/22 21:24	1070
2,4-Dimethylphenol	ND	mg/kg	0.042		1	0.04	10/03/22	10/03/22 21:24	1070
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.21		1	0.05	10/03/22	10/03/22 21:24	1070
2,4-Dinitrophenol	ND	mg/kg	0.21		1	0.096	10/03/22	10/03/22 21:24	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_2.0-2.5 **Date/Time Sampled: 09/29/2022 13:02** **PSS Sample ID: 22093003-005**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 78.4**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/kg	0.085		1	0.03	10/03/22	10/03/22 21:24	1070
2,6-Dinitrotoluene	ND	mg/kg	0.085		1	0.025	10/03/22	10/03/22 21:24	1070
Fluoranthene	**0.031**	mg/kg	0.011		1	0.0047	10/03/22	10/03/22 21:24	1070
Fluorene	ND	mg/kg	0.011		1	0.0072	10/03/22	10/03/22 21:24	1070
Hexachlorobenzene	ND	mg/kg	0.042		1	0.008	10/03/22	10/03/22 21:24	1070
Hexachlorobutadiene	ND	mg/kg	0.042		1	0.024	10/03/22	10/03/22 21:24	1070
Hexachlorocyclopentadiene	ND	mg/kg	0.085		1	0.047	10/03/22	10/03/22 21:24	1070
Hexachloroethane	ND	mg/kg	0.042		1	0.027	10/03/22	10/03/22 21:24	1070
Indeno(1,2,3-c,d)Pyrene	**0.020**	mg/kg	0.011		1	0.0097	10/03/22	10/03/22 21:24	1070
Isophorone	ND	mg/kg	0.042		1	0.029	10/03/22	10/03/22 21:24	1070
2-Methylnaphthalene	ND	mg/kg	0.011		1	0.01	10/03/22	10/03/22 21:24	1070
2-Methyl phenol	ND	mg/kg	0.042		1	0.023	10/03/22	10/03/22 21:24	1070
3&4-Methylphenol	ND	mg/kg	0.042		1	0.031	10/03/22	10/03/22 21:24	1070
Naphthalene	ND	mg/kg	0.011		1	0.0068	10/03/22	10/03/22 21:24	1070
2-Nitroaniline	ND	mg/kg	0.085		1	0.024	10/03/22	10/03/22 21:24	1070
3-Nitroaniline	ND	mg/kg	0.085		1	0.03	10/03/22	10/03/22 21:24	1070
4-Nitroaniline	ND	mg/kg	0.085		1	0.042	10/03/22	10/03/22 21:24	1070
Nitrobenzene	ND	mg/kg	0.042		1	0.032	10/03/22	10/03/22 21:24	1070
2-Nitrophenol	ND	mg/kg	0.042		1	0.034	10/03/22	10/03/22 21:24	1070
4-Nitrophenol	ND	mg/kg	0.21		1	0.065	10/03/22	10/03/22 21:24	1070
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.042		1	0.0038	10/03/22	10/03/22 21:24	1070
N-Nitrosodiphenylamine	ND	mg/kg	0.042		1	0.022	10/03/22	10/03/22 21:24	1070
Di-n-octyl phthalate	ND	mg/kg	0.085		1	0.043	10/03/22	10/03/22 21:24	1070
Pentachlorophenol	ND	mg/kg	0.085		1	0.051	10/03/22	10/03/22 21:24	1070
Phenanthrene	**0.012**	mg/kg	0.011		1	0.0063	10/03/22	10/03/22 21:24	1070
Phenol	ND	mg/kg	0.042		1	0.031	10/03/22	10/03/22 21:24	1070
Pyrene	**0.028**	mg/kg	0.011		1	0.0055	10/03/22	10/03/22 21:24	1070
Pyridine	ND	mg/kg	0.042		1	0.019	10/03/22	10/03/22 21:24	1070
2,4,5-Trichlorophenol	ND	mg/kg	0.042		1	0.0051	10/03/22	10/03/22 21:24	1070
2,4,6-Trichlorophenol	ND	mg/kg	0.042		1	0.033	10/03/22	10/03/22 21:24	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_2.0-2.5 **Date/Time Sampled: 09/29/2022 13:02** **PSS Sample ID: 22093003-005**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 78.4**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*79*	*%*	*52-109*	*1*	*10/03/22*	*10/03/22 21:24*	*1070*
2-Fluorophenol	*68*	*%*	*30-102*	*1*	*10/03/22*	*10/03/22 21:24*	*1070*
Nitrobenzene-d5	*68*	*%*	*39-101*	*1*	*10/03/22*	*10/03/22 21:24*	*1070*
Phenol-d6	*71*	*%*	*36-109*	*1*	*10/03/22*	*10/03/22 21:24*	*1070*
Terphenyl-D14	*89*	*%*	*66-121*	*1*	*10/03/22*	*10/03/22 21:24*	*1070*
2,4,6-Tribromophenol	*78*	*%*	*39-118*	*1*	*10/03/22*	*10/03/22 21:24*	*1070*

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_2.5-3.0 **Date/Time Sampled: 09/29/2022 13:04** **PSS Sample ID: 22093003-006**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 89.5**

Total Metals — Analytical Method: SW-846 6020 B — Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Lead	**130**	mg/kg	0.40		1	0.3	10/03/22	10/04/22 01:34	1064

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 D — Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.025**	mg/kg	0.016		1	0.0086	10/03/22	10/03/22 19:48	1045
Benzene	**0.0014**	mg/kg	0.00079		1	0.00034	10/03/22	10/03/22 19:48	1045
Bromochloromethane	ND	mg/kg	0.00079		1	0.00037	10/03/22	10/03/22 19:48	1045
Bromodichloromethane	ND	mg/kg	0.00079		1	0.00035	10/03/22	10/03/22 19:48	1045
Bromoform	ND	mg/kg	0.00079		1	0.0004	10/03/22	10/03/22 19:48	1045
Bromomethane	ND	mg/kg	0.00079		1	0.00079	10/03/22	10/03/22 19:48	1045
2-Butanone (MEK)	**0.0048**	mg/kg	0.0039		1	0.0018	10/03/22	10/03/22 19:48	1045
Carbon Disulfide	ND	mg/kg	0.00079		1	0.00033	10/03/22	10/03/22 19:48	1045
Carbon tetrachloride	ND	mg/kg	0.00079		1	0.00029	10/03/22	10/03/22 19:48	1045
Chlorobenzene	ND	mg/kg	0.00079		1	0.00042	10/03/22	10/03/22 19:48	1045
Chloroethane	ND	mg/kg	0.00079		1	0.00052	10/03/22	10/03/22 19:48	1045
Chloroform	ND	mg/kg	0.0039		1	0.00051	10/03/22	10/03/22 19:48	1045
Chloromethane	ND	mg/kg	0.00079		1	0.00039	10/03/22	10/03/22 19:48	1045
Cyclohexane	ND	mg/kg	0.00079		1	0.00031	10/03/22	10/03/22 19:48	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.00079		1	0.00068	10/03/22	10/03/22 19:48	1045
Dibromochloromethane	ND	mg/kg	0.00079		1	0.00024	10/03/22	10/03/22 19:48	1045
1,2-Dibromoethane	ND	mg/kg	0.00079		1	0.00039	10/03/22	10/03/22 19:48	1045
1,2-Dichlorobenzene	ND	mg/kg	0.00079		1	0.00035	10/03/22	10/03/22 19:48	1045
1,3-Dichlorobenzene	ND	mg/kg	0.00079		1	0.00035	10/03/22	10/03/22 19:48	1045
1,4-Dichlorobenzene	ND	mg/kg	0.00079		1	0.00068	10/03/22	10/03/22 19:48	1045
Dichlorodifluoromethane	ND	mg/kg	0.00079		1	0.00037	10/03/22	10/03/22 19:48	1045
1,1-Dichloroethane	ND	mg/kg	0.00079		1	0.00034	10/03/22	10/03/22 19:48	1045
1,2-Dichloroethane	ND	mg/kg	0.00079		1	0.00028	10/03/22	10/03/22 19:48	1045
1,1-Dichloroethene	ND	mg/kg	0.00079		1	0.00031	10/03/22	10/03/22 19:48	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.00079		1	0.00034	10/03/22	10/03/22 19:48	1045
1,2-Dichloropropane	ND	mg/kg	0.00079		1	0.00038	10/03/22	10/03/22 19:48	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.00079		1	0.00034	10/03/22	10/03/22 19:48	1045

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_2.5-3.0 **Date/Time Sampled: 09/29/2022 13:04** **PSS Sample ID: 22093003-006**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 89.5**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.00079		1	0.00036	10/03/22	10/03/22 19:48	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.00079		1	0.00032	10/03/22	10/03/22 19:48	1045
Ethylbenzene	ND	mg/kg	0.00079		1	0.00029	10/03/22	10/03/22 19:48	1045
2-Hexanone (MBK)	ND	mg/kg	0.00079		1	0.00051	10/03/22	10/03/22 19:48	1045
Isopropylbenzene	ND	mg/kg	0.00079		1	0.00031	10/03/22	10/03/22 19:48	1045
Methyl Acetate	ND	mg/kg	0.020		1	0.00086	10/03/22	10/03/22 19:48	1045
Methylcyclohexane	ND	mg/kg	0.00079		1	0.00035	10/03/22	10/03/22 19:48	1045
Methylene chloride	ND	mg/kg	0.0039		1	0.0028	10/03/22	10/03/22 19:48	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.00079		1	0.0005	10/03/22	10/03/22 19:48	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.00079		1	0.0003	10/03/22	10/03/22 19:48	1045
Naphthalene	**0.0010**	mg/kg	0.00079		1	0.00046	10/03/22	10/03/22 19:48	1045
Styrene	ND	mg/kg	0.00079		1	0.00031	10/03/22	10/03/22 19:48	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.00079		1	0.00048	10/03/22	10/03/22 19:48	1045
Tetrachloroethene	ND	mg/kg	0.00079		1	0.00035	10/03/22	10/03/22 19:48	1045
Toluene	**0.0048**	mg/kg	0.00079		1	0.00035	10/03/22	10/03/22 19:48	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.00079		1	0.00041	10/03/22	10/03/22 19:48	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.00079		1	0.00035	10/03/22	10/03/22 19:48	1045
1,1,1-Trichloroethane	ND	mg/kg	0.00079		1	0.00028	10/03/22	10/03/22 19:48	1045
1,1,2-Trichloroethane	ND	mg/kg	0.00079		1	0.00027	10/03/22	10/03/22 19:48	1045
Trichloroethene	ND	mg/kg	0.00079		1	0.00042	10/03/22	10/03/22 19:48	1045
Trichlorofluoromethane	ND	mg/kg	0.00079		1	0.00037	10/03/22	10/03/22 19:48	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.00079		1	0.0003	10/03/22	10/03/22 19:48	1045
Vinyl chloride	ND	mg/kg	0.0039		1	0.00026	10/03/22	10/03/22 19:48	1045
m&p-Xylene	**0.0017**	mg/kg	0.0016		1	0.00086	10/03/22	10/03/22 19:48	1045
o-Xylene	ND	mg/kg	0.00079		1	0.00029	10/03/22	10/03/22 19:48	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*111*	*%*	*89-111*	*1*	*10/03/22*	*10/03/22 19:48*	*1045*
Dibromofluoromethane	*94*	*%*	*91-108*	*1*	*10/03/22*	*10/03/22 19:48*	*1045*
Toluene-D8	*98*	*%*	*93-104*	*1*	*10/03/22*	*10/03/22 19:48*	*1045*

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_2.5-3.0 **Date/Time Sampled: 09/29/2022 13:04** **PSS Sample ID: 22093003-006**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 89.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197880 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.0093		1	0.0067	10/03/22	10/04/22 11:37	1070
Acenaphthylene	ND	mg/kg	0.0093		1	0.0063	10/03/22	10/04/22 11:37	1070
Acetophenone	ND	mg/kg	0.037		1	0.024	10/03/22	10/04/22 11:37	1070
Anthracene	ND	mg/kg	0.0093		1	0.0048	10/03/22	10/04/22 11:37	1070
Atrazine	ND	mg/kg	0.074		1	0.019	10/03/22	10/04/22 11:37	1070
Benzo(a)anthracene	**0.019**	mg/kg	0.0093		1	0.0037	10/03/22	10/04/22 11:37	1070
Benzo(a)pyrene	**0.027**	mg/kg	0.0093		1	0.0052	10/03/22	10/04/22 11:37	1070
Benzo(b)fluoranthene	**0.028**	mg/kg	0.0093		1	0.0048	10/03/22	10/04/22 11:37	1070
Benzo(g,h,i)perylene	**0.031**	mg/kg	0.0093		1	0.0067	10/03/22	10/04/22 11:37	1070
Benzo(k)fluoranthene	**0.023**	mg/kg	0.0093		1	0.0082	10/03/22	10/04/22 11:37	1070
Biphenyl (Diphenyl)	ND	mg/kg	0.037		1	0.02	10/03/22	10/04/22 11:37	1070
Butyl benzyl phthalate	ND	mg/kg	0.037		1	0.024	10/03/22	10/04/22 11:37	1070
bis(2-chloroethoxy) methane	ND	mg/kg	0.037		1	0.024	10/03/22	10/04/22 11:37	1070
bis(2-chloroethyl) ether	ND	mg/kg	0.037		1	0.0048	10/03/22	10/04/22 11:37	1070
bis(2-chloroisopropyl) ether	ND	mg/kg	0.037		1	0.0056	10/03/22	10/04/22 11:37	1070
bis(2-ethylhexyl) phthalate	**0.058**	mg/kg	0.037		1	0.026	10/03/22	10/04/22 11:37	1070
4-Bromophenylphenyl ether	ND	mg/kg	0.037		1	0.019	10/03/22	10/04/22 11:37	1070
Di-n-butyl phthalate	ND	mg/kg	0.037		1	0.019	10/03/22	10/04/22 11:37	1070
Carbazole	ND	mg/kg	0.037		1	0.029	10/03/22	10/04/22 11:37	1070
Caprolactam	ND	mg/kg	0.074		1	0.013	10/03/22	10/04/22 11:37	1070
4-Chloro-3-methyl phenol	ND	mg/kg	0.037		1	0.032	10/03/22	10/04/22 11:37	1070
4-Chloroaniline	ND	mg/kg	0.037		1	0.029	10/03/22	10/04/22 11:37	1070
2-Chloronaphthalene	ND	mg/kg	0.037		1	0.026	10/03/22	10/04/22 11:37	1070
2-Chlorophenol	ND	mg/kg	0.037		1	0.019	10/03/22	10/04/22 11:37	1070
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.037		1	0.021	10/03/22	10/04/22 11:37	1070
Chrysene	**0.023**	mg/kg	0.0093		1	0.0045	10/03/22	10/04/22 11:37	1070
Dibenz(a,h)Anthracene	**0.0086**	mg/kg	0.0093	J	1	0.0063	10/03/22	10/04/22 11:37	1070
Dibenzofuran	ND	mg/kg	0.037		1	0.022	10/03/22	10/04/22 11:37	1070
3,3-Dichlorobenzidine	ND	mg/kg	0.037		1	0.02	10/03/22	10/04/22 11:37	1070
2,4-Dichlorophenol	ND	mg/kg	0.037		1	0.029	10/03/22	10/04/22 11:37	1070
Diethyl phthalate	ND	mg/kg	0.037		1	0.022	10/03/22	10/04/22 11:37	1070
Dimethyl phthalate	ND	mg/kg	0.037		1	0.022	10/03/22	10/04/22 11:37	1070
2,4-Dimethylphenol	ND	mg/kg	0.037		1	0.035	10/03/22	10/04/22 11:37	1070
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.19		1	0.044	10/03/22	10/04/22 11:37	1070
2,4-Dinitrophenol	ND	mg/kg	0.19		1	0.084	10/03/22	10/04/22 11:37	1070

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_2.5-3.0 **Date/Time Sampled: 09/29/2022 13:04** **PSS Sample ID: 22093003-006**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 89.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197880 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/kg	0.074		1	0.026	10/03/22	10/04/22 11:37	1070
2,6-Dinitrotoluene	ND	mg/kg	0.074		1	0.022	10/03/22	10/04/22 11:37	1070
Fluoranthene	**0.026**	mg/kg	0.0093		1	0.0041	10/03/22	10/04/22 11:37	1070
Fluorene	ND	mg/kg	0.0093		1	0.0063	10/03/22	10/04/22 11:37	1070
Hexachlorobenzene	ND	mg/kg	0.037		1	0.0071	10/03/22	10/04/22 11:37	1070
Hexachlorobutadiene	ND	mg/kg	0.037		1	0.021	10/03/22	10/04/22 11:37	1070
Hexachlorocyclopentadiene	ND	mg/kg	0.074		1	0.041	10/03/22	10/04/22 11:37	1070
Hexachloroethane	ND	mg/kg	0.037		1	0.024	10/03/22	10/04/22 11:37	1070
Indeno(1,2,3-c,d)Pyrene	**0.023**	mg/kg	0.0093		1	0.0086	10/03/22	10/04/22 11:37	1070
Isophorone	ND	mg/kg	0.037		1	0.025	10/03/22	10/04/22 11:37	1070
2-Methylnaphthalene	ND	mg/kg	0.0093		1	0.0089	10/03/22	10/04/22 11:37	1070
2-Methyl phenol	ND	mg/kg	0.037		1	0.02	10/03/22	10/04/22 11:37	1070
3&4-Methylphenol	ND	mg/kg	0.037		1	0.027	10/03/22	10/04/22 11:37	1070
Naphthalene	ND	mg/kg	0.0093		1	0.0059	10/03/22	10/04/22 11:37	1070
2-Nitroaniline	ND	mg/kg	0.074		1	0.021	10/03/22	10/04/22 11:37	1070
3-Nitroaniline	ND	mg/kg	0.074		1	0.026	10/03/22	10/04/22 11:37	1070
4-Nitroaniline	ND	mg/kg	0.074		1	0.037	10/03/22	10/04/22 11:37	1070
Nitrobenzene	ND	mg/kg	0.037		1	0.028	10/03/22	10/04/22 11:37	1070
2-Nitrophenol	ND	mg/kg	0.037		1	0.03	10/03/22	10/04/22 11:37	1070
4-Nitrophenol	ND	mg/kg	0.19		1	0.057	10/03/22	10/04/22 11:37	1070
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.037		1	0.0033	10/03/22	10/04/22 11:37	1070
N-Nitrosodiphenylamine	ND	mg/kg	0.037		1	0.02	10/03/22	10/04/22 11:37	1070
Di-n-octyl phthalate	ND	mg/kg	0.074		1	0.038	10/03/22	10/04/22 11:37	1070
Pentachlorophenol	ND	mg/kg	0.074		1	0.045	10/03/22	10/04/22 11:37	1070
Phenanthrene	**0.011**	mg/kg	0.0093		1	0.0056	10/03/22	10/04/22 11:37	1070
Phenol	ND	mg/kg	0.037		1	0.028	10/03/22	10/04/22 11:37	1070
Pyrene	**0.025**	mg/kg	0.0093		1	0.0048	10/03/22	10/04/22 11:37	1070
Pyridine	ND	mg/kg	0.037		1	0.017	10/03/22	10/04/22 11:37	1070
2,4,5-Trichlorophenol	ND	mg/kg	0.037		1	0.0045	10/03/22	10/04/22 11:37	1070
2,4,6-Trichlorophenol	ND	mg/kg	0.037		1	0.029	10/03/22	10/04/22 11:37	1070

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB02_2.5-3.0 **Date/Time Sampled: 09/29/2022 13:04** **PSS Sample ID: 22093003-006**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 89.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197880 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*98*	*%*	*52-109*	*1*	*10/03/22*	*10/04/22 11:37*	*1070*
2-Fluorophenol	*84*	*%*	*30-102*	*1*	*10/03/22*	*10/04/22 11:37*	*1070*
Nitrobenzene-d5	*86*	*%*	*39-101*	*1*	*10/03/22*	*10/04/22 11:37*	*1070*
Phenol-d6	*91*	*%*	*36-109*	*1*	*10/03/22*	*10/04/22 11:37*	*1070*
Terphenyl-D14	*115*	*%*	*66-121*	*1*	*10/03/22*	*10/04/22 11:37*	*1070*
2,4,6-Tribromophenol	*107*	*%*	*39-118*	*1*	*10/03/22*	*10/04/22 11:37*	*1070*

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_1.0-1.5 **Date/Time Sampled: 09/29/2022 13:06** **PSS Sample ID: 22093003-007**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 76.9**

Total Metals — Analytical Method: SW-846 6020 B — Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Lead	**650**	mg/kg	4.9		10	3.7	10/03/22	10/04/22 13:25	1064

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 D — Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.030**	mg/kg	0.021		1	0.012	10/03/22	10/03/22 20:10	1045
Benzene	**0.0015**	mg/kg	0.0011		1	0.00045	10/03/22	10/03/22 20:10	1045
Bromochloromethane	ND	mg/kg	0.0011		1	0.0005	10/03/22	10/03/22 20:10	1045
Bromodichloromethane	ND	mg/kg	0.0011		1	0.00046	10/03/22	10/03/22 20:10	1045
Bromoform	ND	mg/kg	0.0011		1	0.00054	10/03/22	10/03/22 20:10	1045
Bromomethane	ND	mg/kg	0.0011		1	0.0011	10/03/22	10/03/22 20:10	1045
2-Butanone (MEK)	ND	mg/kg	0.0053		1	0.0024	10/03/22	10/03/22 20:10	1045
Carbon Disulfide	ND	mg/kg	0.0011		1	0.00044	10/03/22	10/03/22 20:10	1045
Carbon tetrachloride	ND	mg/kg	0.0011		1	0.00039	10/03/22	10/03/22 20:10	1045
Chlorobenzene	ND	mg/kg	0.0011		1	0.00057	10/03/22	10/03/22 20:10	1045
Chloroethane	ND	mg/kg	0.0011		1	0.0007	10/03/22	10/03/22 20:10	1045
Chloroform	ND	mg/kg	0.0053		1	0.00069	10/03/22	10/03/22 20:10	1045
Chloromethane	ND	mg/kg	0.0011		1	0.00053	10/03/22	10/03/22 20:10	1045
Cyclohexane	ND	mg/kg	0.0011		1	0.00042	10/03/22	10/03/22 20:10	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0011		1	0.00092	10/03/22	10/03/22 20:10	1045
Dibromochloromethane	ND	mg/kg	0.0011		1	0.00032	10/03/22	10/03/22 20:10	1045
1,2-Dibromoethane	ND	mg/kg	0.0011		1	0.00053	10/03/22	10/03/22 20:10	1045
1,2-Dichlorobenzene	ND	mg/kg	0.0011		1	0.00046	10/03/22	10/03/22 20:10	1045
1,3-Dichlorobenzene	ND	mg/kg	0.0011		1	0.00047	10/03/22	10/03/22 20:10	1045
1,4-Dichlorobenzene	ND	mg/kg	0.0011		1	0.00092	10/03/22	10/03/22 20:10	1045
Dichlorodifluoromethane	ND	mg/kg	0.0011		1	0.0005	10/03/22	10/03/22 20:10	1045
1,1-Dichloroethane	ND	mg/kg	0.0011		1	0.00045	10/03/22	10/03/22 20:10	1045
1,2-Dichloroethane	ND	mg/kg	0.0011		1	0.00038	10/03/22	10/03/22 20:10	1045
1,1-Dichloroethene	ND	mg/kg	0.0011		1	0.00042	10/03/22	10/03/22 20:10	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.0011		1	0.00045	10/03/22	10/03/22 20:10	1045
1,2-Dichloropropane	ND	mg/kg	0.0011		1	0.00051	10/03/22	10/03/22 20:10	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.0011		1	0.00045	10/03/22	10/03/22 20:10	1045

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_1.0-1.5 **Date/Time Sampled: 09/29/2022 13:06** **PSS Sample ID: 22093003-007**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 76.9**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.0011		1	0.00048	10/03/22	10/03/22 20:10	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0011		1	0.00043	10/03/22	10/03/22 20:10	1045
Ethylbenzene	ND	mg/kg	0.0011		1	0.00039	10/03/22	10/03/22 20:10	1045
2-Hexanone (MBK)	ND	mg/kg	0.0011		1	0.00069	10/03/22	10/03/22 20:10	1045
Isopropylbenzene	ND	mg/kg	0.0011		1	0.00041	10/03/22	10/03/22 20:10	1045
Methyl Acetate	ND	mg/kg	0.026		1	0.0012	10/03/22	10/03/22 20:10	1045
Methylcyclohexane	ND	mg/kg	0.0011		1	0.00046	10/03/22	10/03/22 20:10	1045
Methylene chloride	ND	mg/kg	0.0053		1	0.0038	10/03/22	10/03/22 20:10	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0011		1	0.00067	10/03/22	10/03/22 20:10	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.0011		1	0.0004	10/03/22	10/03/22 20:10	1045
Naphthalene	ND	mg/kg	0.0011		1	0.00061	10/03/22	10/03/22 20:10	1045
Styrene	ND	mg/kg	0.0011		1	0.00042	10/03/22	10/03/22 20:10	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0011		1	0.00064	10/03/22	10/03/22 20:10	1045
Tetrachloroethene	ND	mg/kg	0.0011		1	0.00046	10/03/22	10/03/22 20:10	1045
Toluene	**0.0014**	mg/kg	0.0011		1	0.00047	10/03/22	10/03/22 20:10	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0011		1	0.00055	10/03/22	10/03/22 20:10	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0011		1	0.00047	10/03/22	10/03/22 20:10	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0011		1	0.00038	10/03/22	10/03/22 20:10	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0011		1	0.00036	10/03/22	10/03/22 20:10	1045
Trichloroethene	ND	mg/kg	0.0011		1	0.00057	10/03/22	10/03/22 20:10	1045
Trichlorofluoromethane	ND	mg/kg	0.0011		1	0.0005	10/03/22	10/03/22 20:10	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0011		1	0.0004	10/03/22	10/03/22 20:10	1045
Vinyl chloride	ND	mg/kg	0.0053		1	0.00035	10/03/22	10/03/22 20:10	1045
m&p-Xylene	ND	mg/kg	0.0021		1	0.0012	10/03/22	10/03/22 20:10	1045
o-Xylene	ND	mg/kg	0.0011		1	0.00039	10/03/22	10/03/22 20:10	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*99*	*%*	*89-111*	*1*	*10/03/22*	*10/03/22 20:10*	*1045*
Dibromofluoromethane	*97*	*%*	*91-108*	*1*	*10/03/22*	*10/03/22 20:10*	*1045*
Toluene-D8	*102*	*%*	*93-104*	*1*	*10/03/22*	*10/03/22 20:10*	*1045*

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_1.0-1.5 **Date/Time Sampled: 09/29/2022 13:06** **PSS Sample ID: 22093003-007**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 76.9**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.011		1	0.0078	10/03/22	10/03/22 20:59	1070
Acenaphthylene	ND	mg/kg	0.011		1	0.0073	10/03/22	10/03/22 20:59	1070
Acetophenone	ND	mg/kg	0.043		1	0.028	10/03/22	10/03/22 20:59	1070
Anthracene	**0.020**	mg/kg	0.011		1	0.0056	10/03/22	10/03/22 20:59	1070
Atrazine	ND	mg/kg	0.086		1	0.022	10/03/22	10/03/22 20:59	1070
Benzo(a)anthracene	**0.12**	mg/kg	0.011		1	0.0043	10/03/22	10/03/22 20:59	1070
Benzo(a)pyrene	**0.14**	mg/kg	0.011		1	0.006	10/03/22	10/03/22 20:59	1070
Benzo(b)fluoranthene	**0.13**	mg/kg	0.011		1	0.0056	10/03/22	10/03/22 20:59	1070
Benzo(g,h,i)perylene	**0.096**	mg/kg	0.011		1	0.0078	10/03/22	10/03/22 20:59	1070
Benzo(k)fluoranthene	**0.12**	mg/kg	0.011		1	0.0095	10/03/22	10/03/22 20:59	1070
Biphenyl (Diphenyl)	ND	mg/kg	0.043		1	0.023	10/03/22	10/03/22 20:59	1070
Butyl benzyl phthalate	ND	mg/kg	0.043		1	0.028	10/03/22	10/03/22 20:59	1070
bis(2-chloroethoxy) methane	ND	mg/kg	0.043		1	0.028	10/03/22	10/03/22 20:59	1070
bis(2-chloroethyl) ether	ND	mg/kg	0.043		1	0.0056	10/03/22	10/03/22 20:59	1070
bis(2-chloroisopropyl) ether	ND	mg/kg	0.043		1	0.0065	10/03/22	10/03/22 20:59	1070
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.043		1	0.03	10/03/22	10/03/22 20:59	1070
4-Bromophenylphenyl ether	ND	mg/kg	0.043		1	0.022	10/03/22	10/03/22 20:59	1070
Di-n-butyl phthalate	**0.071**	mg/kg	0.043		1	0.022	10/03/22	10/03/22 20:59	1070
Carbazole	ND	mg/kg	0.043		1	0.034	10/03/22	10/03/22 20:59	1070
Caprolactam	ND	mg/kg	0.086		1	0.016	10/03/22	10/03/22 20:59	1070
4-Chloro-3-methyl phenol	ND	mg/kg	0.043		1	0.038	10/03/22	10/03/22 20:59	1070
4-Chloroaniline	ND	mg/kg	0.043		1	0.033	10/03/22	10/03/22 20:59	1070
2-Chloronaphthalene	ND	mg/kg	0.043		1	0.03	10/03/22	10/03/22 20:59	1070
2-Chlorophenol	ND	mg/kg	0.043		1	0.022	10/03/22	10/03/22 20:59	1070
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.043		1	0.024	10/03/22	10/03/22 20:59	1070
Chrysene	**0.13**	mg/kg	0.011		1	0.0052	10/03/22	10/03/22 20:59	1070
Dibenz(a,h)Anthracene	**0.034**	mg/kg	0.011		1	0.0073	10/03/22	10/03/22 20:59	1070
Dibenzofuran	ND	mg/kg	0.043		1	0.025	10/03/22	10/03/22 20:59	1070
3,3-Dichlorobenzidine	ND	mg/kg	0.043		1	0.024	10/03/22	10/03/22 20:59	1070
2,4-Dichlorophenol	ND	mg/kg	0.043		1	0.034	10/03/22	10/03/22 20:59	1070
Diethyl phthalate	ND	mg/kg	0.043		1	0.026	10/03/22	10/03/22 20:59	1070
Dimethyl phthalate	ND	mg/kg	0.043		1	0.025	10/03/22	10/03/22 20:59	1070
2,4-Dimethylphenol	ND	mg/kg	0.043		1	0.041	10/03/22	10/03/22 20:59	1070
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.22		1	0.051	10/03/22	10/03/22 20:59	1070
2,4-Dinitrophenol	ND	mg/kg	0.22		1	0.098	10/03/22	10/03/22 20:59	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_1.0-1.5 **Date/Time Sampled: 09/29/2022 13:06** **PSS Sample ID: 22093003-007**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 76.9**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/kg	0.086		1	0.03	10/03/22	10/03/22 20:59	1070
2,6-Dinitrotoluene	ND	mg/kg	0.086		1	0.025	10/03/22	10/03/22 20:59	1070
Fluoranthene	**0.21**	mg/kg	0.011		1	0.0047	10/03/22	10/03/22 20:59	1070
Fluorene	ND	mg/kg	0.011		1	0.0073	10/03/22	10/03/22 20:59	1070
Hexachlorobenzene	ND	mg/kg	0.043		1	0.0082	10/03/22	10/03/22 20:59	1070
Hexachlorobutadiene	ND	mg/kg	0.043		1	0.025	10/03/22	10/03/22 20:59	1070
Hexachlorocyclopentadiene	ND	mg/kg	0.086		1	0.048	10/03/22	10/03/22 20:59	1070
Hexachloroethane	ND	mg/kg	0.043		1	0.028	10/03/22	10/03/22 20:59	1070
Indeno(1,2,3-c,d)Pyrene	**0.093**	mg/kg	0.011		1	0.0099	10/03/22	10/03/22 20:59	1070
Isophorone	ND	mg/kg	0.043		1	0.029	10/03/22	10/03/22 20:59	1070
2-Methylnaphthalene	ND	mg/kg	0.011		1	0.01	10/03/22	10/03/22 20:59	1070
2-Methyl phenol	ND	mg/kg	0.043		1	0.024	10/03/22	10/03/22 20:59	1070
3&4-Methylphenol	ND	mg/kg	0.043		1	0.031	10/03/22	10/03/22 20:59	1070
Naphthalene	ND	mg/kg	0.011		1	0.0069	10/03/22	10/03/22 20:59	1070
2-Nitroaniline	ND	mg/kg	0.086		1	0.025	10/03/22	10/03/22 20:59	1070
3-Nitroaniline	ND	mg/kg	0.086		1	0.03	10/03/22	10/03/22 20:59	1070
4-Nitroaniline	ND	mg/kg	0.086		1	0.043	10/03/22	10/03/22 20:59	1070
Nitrobenzene	ND	mg/kg	0.043		1	0.032	10/03/22	10/03/22 20:59	1070
2-Nitrophenol	ND	mg/kg	0.043		1	0.034	10/03/22	10/03/22 20:59	1070
4-Nitrophenol	ND	mg/kg	0.22		1	0.066	10/03/22	10/03/22 20:59	1070
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.043		1	0.0039	10/03/22	10/03/22 20:59	1070
N-Nitrosodiphenylamine	ND	mg/kg	0.043		1	0.023	10/03/22	10/03/22 20:59	1070
Di-n-octyl phthalate	ND	mg/kg	0.086		1	0.044	10/03/22	10/03/22 20:59	1070
Pentachlorophenol	ND	mg/kg	0.086		1	0.052	10/03/22	10/03/22 20:59	1070
Phenanthrene	**0.086**	mg/kg	0.011		1	0.0065	10/03/22	10/03/22 20:59	1070
Phenol	ND	mg/kg	0.043		1	0.032	10/03/22	10/03/22 20:59	1070
Pyrene	**0.19**	mg/kg	0.011		1	0.0056	10/03/22	10/03/22 20:59	1070
Pyridine	ND	mg/kg	0.043		1	0.02	10/03/22	10/03/22 20:59	1070
2,4,5-Trichlorophenol	ND	mg/kg	0.043		1	0.0052	10/03/22	10/03/22 20:59	1070
2,4,6-Trichlorophenol	ND	mg/kg	0.043		1	0.034	10/03/22	10/03/22 20:59	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_1.0-1.5 **Date/Time Sampled: 09/29/2022 13:06** **PSS Sample ID: 22093003-007**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 76.9**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*80*	*%*	*52-109*	*1*	*10/03/22*	*10/03/22 20:59*	*1070*
2-Fluorophenol	*70*	*%*	*30-102*	*1*	*10/03/22*	*10/03/22 20:59*	*1070*
Nitrobenzene-d5	*69*	*%*	*39-101*	*1*	*10/03/22*	*10/03/22 20:59*	*1070*
Phenol-d6	*72*	*%*	*36-109*	*1*	*10/03/22*	*10/03/22 20:59*	*1070*
Terphenyl-D14	*92*	*%*	*66-121*	*1*	*10/03/22*	*10/03/22 20:59*	*1070*
2,4,6-Tribromophenol	*76*	*%*	*39-118*	*1*	*10/03/22*	*10/03/22 20:59*	*1070*

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_2.0-2.5 **Date/Time Sampled: 09/29/2022 13:08** **PSS Sample ID: 22093003-008**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.5**

Total Metals — Analytical Method: SW-846 6020 B — Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Lead	**580**	mg/kg	0.66		1	0.5	10/03/22	10/04/22 01:44	1064

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 D — Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.056**	mg/kg	0.026		1	0.014	10/03/22	10/03/22 20:32	1045
Benzene	**0.0032**	mg/kg	0.0013		1	0.00055	10/03/22	10/03/22 20:32	1045
Bromochloromethane	ND	mg/kg	0.0013		1	0.0006	10/03/22	10/03/22 20:32	1045
Bromodichloromethane	ND	mg/kg	0.0013		1	0.00056	10/03/22	10/03/22 20:32	1045
Bromoform	ND	mg/kg	0.0013		1	0.00065	10/03/22	10/03/22 20:32	1045
Bromomethane	ND	mg/kg	0.0013		1	0.0013	10/03/22	10/03/22 20:32	1045
2-Butanone (MEK)	ND	mg/kg	0.0064		1	0.0029	10/03/22	10/03/22 20:32	1045
Carbon Disulfide	ND	mg/kg	0.0013		1	0.00054	10/03/22	10/03/22 20:32	1045
Carbon tetrachloride	ND	mg/kg	0.0013		1	0.00047	10/03/22	10/03/22 20:32	1045
Chlorobenzene	ND	mg/kg	0.0013		1	0.00069	10/03/22	10/03/22 20:32	1045
Chloroethane	ND	mg/kg	0.0013		1	0.00085	10/03/22	10/03/22 20:32	1045
Chloroform	ND	mg/kg	0.0064		1	0.00083	10/03/22	10/03/22 20:32	1045
Chloromethane	ND	mg/kg	0.0013		1	0.00064	10/03/22	10/03/22 20:32	1045
Cyclohexane	ND	mg/kg	0.0013		1	0.00051	10/03/22	10/03/22 20:32	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0013		1	0.0011	10/03/22	10/03/22 20:32	1045
Dibromochloromethane	ND	mg/kg	0.0013		1	0.00038	10/03/22	10/03/22 20:32	1045
1,2-Dibromoethane	ND	mg/kg	0.0013		1	0.00064	10/03/22	10/03/22 20:32	1045
1,2-Dichlorobenzene	ND	mg/kg	0.0013		1	0.00056	10/03/22	10/03/22 20:32	1045
1,3-Dichlorobenzene	ND	mg/kg	0.0013		1	0.00058	10/03/22	10/03/22 20:32	1045
1,4-Dichlorobenzene	ND	mg/kg	0.0013		1	0.0011	10/03/22	10/03/22 20:32	1045
Dichlorodifluoromethane	ND	mg/kg	0.0013		1	0.0006	10/03/22	10/03/22 20:32	1045
1,1-Dichloroethane	ND	mg/kg	0.0013		1	0.00055	10/03/22	10/03/22 20:32	1045
1,2-Dichloroethane	ND	mg/kg	0.0013		1	0.00046	10/03/22	10/03/22 20:32	1045
1,1-Dichloroethene	ND	mg/kg	0.0013		1	0.00051	10/03/22	10/03/22 20:32	1045
1,2-Dichloropropane	ND	mg/kg	0.0013		1	0.00062	10/03/22	10/03/22 20:32	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.0013		1	0.00055	10/03/22	10/03/22 20:32	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.0013		1	0.00055	10/03/22	10/03/22 20:32	1045

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_2.0-2.5 **Date/Time Sampled: 09/29/2022 13:08** **PSS Sample ID: 22093003-008**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.5**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.0013		1	0.00059	10/03/22	10/03/22 20:32	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0013		1	0.00053	10/03/22	10/03/22 20:32	1045
Ethylbenzene	ND	mg/kg	0.0013		1	0.00047	10/03/22	10/03/22 20:32	1045
2-Hexanone (MBK)	ND	mg/kg	0.0013		1	0.00083	10/03/22	10/03/22 20:32	1045
Isopropylbenzene	ND	mg/kg	0.0013		1	0.0005	10/03/22	10/03/22 20:32	1045
Methyl Acetate	ND	mg/kg	0.032		1	0.0014	10/03/22	10/03/22 20:32	1045
Methylcyclohexane	ND	mg/kg	0.0013		1	0.00056	10/03/22	10/03/22 20:32	1045
Methylene chloride	ND	mg/kg	0.0064		1	0.0046	10/03/22	10/03/22 20:32	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0013		1	0.00082	10/03/22	10/03/22 20:32	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.0013		1	0.00049	10/03/22	10/03/22 20:32	1045
Naphthalene	ND	mg/kg	0.0013		1	0.00074	10/03/22	10/03/22 20:32	1045
Styrene	ND	mg/kg	0.0013		1	0.00051	10/03/22	10/03/22 20:32	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0013		1	0.00078	10/03/22	10/03/22 20:32	1045
Tetrachloroethene	ND	mg/kg	0.0013		1	0.00056	10/03/22	10/03/22 20:32	1045
Toluene	**0.0016**	mg/kg	0.0013		1	0.00058	10/03/22	10/03/22 20:32	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0013		1	0.00067	10/03/22	10/03/22 20:32	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0013		1	0.00058	10/03/22	10/03/22 20:32	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0013		1	0.00046	10/03/22	10/03/22 20:32	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0013		1	0.00044	10/03/22	10/03/22 20:32	1045
Trichloroethene	ND	mg/kg	0.0013		1	0.00069	10/03/22	10/03/22 20:32	1045
Trichlorofluoromethane	ND	mg/kg	0.0013		1	0.0006	10/03/22	10/03/22 20:32	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0013		1	0.00049	10/03/22	10/03/22 20:32	1045
Vinyl chloride	ND	mg/kg	0.0064		1	0.00042	10/03/22	10/03/22 20:32	1045
m&p-Xylene	ND	mg/kg	0.0026		1	0.0014	10/03/22	10/03/22 20:32	1045
o-Xylene	ND	mg/kg	0.0013		1	0.00047	10/03/22	10/03/22 20:32	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*103*	*%*	*89-111*	*1*	*10/03/22*	*10/03/22 20:32*	*1045*
Dibromofluoromethane	*94*	*%*	*91-108*	*1*	*10/03/22*	*10/03/22 20:32*	*1045*
Toluene-D8	*98*	*%*	*93-104*	*1*	*10/03/22*	*10/03/22 20:32*	*1045*

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_2.0-2.5 **Date/Time Sampled: 09/29/2022 13:08** **PSS Sample ID: 22093003-008**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	**0.037**	mg/kg	0.011		1	0.0083	10/03/22	10/03/22 19:42	1070
Acenaphthylene	ND	mg/kg	0.011		1	0.0078	10/03/22	10/03/22 19:42	1070
Acetophenone	ND	mg/kg	0.046		1	0.029	10/03/22	10/03/22 19:42	1070
Anthracene	**0.15**	mg/kg	0.011		1	0.006	10/03/22	10/03/22 19:42	1070
Atrazine	ND	mg/kg	0.092		1	0.023	10/03/22	10/03/22 19:42	1070
Benzo(a)anthracene	**0.52**	mg/kg	0.011		1	0.0046	10/03/22	10/03/22 19:42	1070
Benzo(a)pyrene	**0.52**	mg/kg	0.011		1	0.0064	10/03/22	10/03/22 19:42	1070
Benzo(b)fluoranthene	**0.46**	mg/kg	0.011		1	0.006	10/03/22	10/03/22 19:42	1070
Benzo(g,h,i)perylene	**0.29**	mg/kg	0.011		1	0.0083	10/03/22	10/03/22 19:42	1070
Benzo(k)fluoranthene	**0.40**	mg/kg	0.011		1	0.01	10/03/22	10/03/22 19:42	1070
Biphenyl (Diphenyl)	ND	mg/kg	0.046		1	0.024	10/03/22	10/03/22 19:42	1070
Butyl benzyl phthalate	ND	mg/kg	0.046		1	0.03	10/03/22	10/03/22 19:42	1070
bis(2-chloroethoxy) methane	ND	mg/kg	0.046		1	0.03	10/03/22	10/03/22 19:42	1070
bis(2-chloroethyl) ether	ND	mg/kg	0.046		1	0.006	10/03/22	10/03/22 19:42	1070
bis(2-chloroisopropyl) ether	ND	mg/kg	0.046		1	0.0069	10/03/22	10/03/22 19:42	1070
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.046		1	0.032	10/03/22	10/03/22 19:42	1070
4-Bromophenylphenyl ether	ND	mg/kg	0.046		1	0.024	10/03/22	10/03/22 19:42	1070
Di-n-butyl phthalate	ND	mg/kg	0.046		1	0.024	10/03/22	10/03/22 19:42	1070
Carbazole	ND	mg/kg	0.046		1	0.036	10/03/22	10/03/22 19:42	1070
Caprolactam	ND	mg/kg	0.092		1	0.017	10/03/22	10/03/22 19:42	1070
4-Chloro-3-methyl phenol	ND	mg/kg	0.046		1	0.04	10/03/22	10/03/22 19:42	1070
4-Chloroaniline	ND	mg/kg	0.046		1	0.035	10/03/22	10/03/22 19:42	1070
2-Chloronaphthalene	ND	mg/kg	0.046		1	0.032	10/03/22	10/03/22 19:42	1070
2-Chlorophenol	ND	mg/kg	0.046		1	0.023	10/03/22	10/03/22 19:42	1070
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.046		1	0.026	10/03/22	10/03/22 19:42	1070
Chrysene	**0.50**	mg/kg	0.011		1	0.0055	10/03/22	10/03/22 19:42	1070
Dibenz(a,h)Anthracene	**0.098**	mg/kg	0.011		1	0.0078	10/03/22	10/03/22 19:42	1070
Dibenzofuran	ND	mg/kg	0.046		1	0.027	10/03/22	10/03/22 19:42	1070
3,3-Dichlorobenzidine	ND	mg/kg	0.046		1	0.025	10/03/22	10/03/22 19:42	1070
2,4-Dichlorophenol	ND	mg/kg	0.046		1	0.036	10/03/22	10/03/22 19:42	1070
Diethyl phthalate	ND	mg/kg	0.046		1	0.028	10/03/22	10/03/22 19:42	1070
Dimethyl phthalate	ND	mg/kg	0.046		1	0.027	10/03/22	10/03/22 19:42	1070
2,4-Dimethylphenol	ND	mg/kg	0.046		1	0.044	10/03/22	10/03/22 19:42	1070
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.23		1	0.055	10/03/22	10/03/22 19:42	1070
2,4-Dinitrophenol	ND	mg/kg	0.23		1	0.1	10/03/22	10/03/22 19:42	1070

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_2.0-2.5 **Date/Time Sampled: 09/29/2022 13:08** **PSS Sample ID: 22093003-008**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/kg	0.092		1	0.032	10/03/22	10/03/22 19:42	1070
2,6-Dinitrotoluene	ND	mg/kg	0.092		1	0.027	10/03/22	10/03/22 19:42	1070
Fluoranthene	**1.1**	mg/kg	0.011		1	0.0051	10/03/22	10/03/22 19:42	1070
Fluorene	**0.030**	mg/kg	0.011		1	0.0078	10/03/22	10/03/22 19:42	1070
Hexachlorobenzene	ND	mg/kg	0.046		1	0.0087	10/03/22	10/03/22 19:42	1070
Hexachlorobutadiene	ND	mg/kg	0.046		1	0.026	10/03/22	10/03/22 19:42	1070
Hexachlorocyclopentadiene	ND	mg/kg	0.092		1	0.051	10/03/22	10/03/22 19:42	1070
Hexachloroethane	ND	mg/kg	0.046		1	0.029	10/03/22	10/03/22 19:42	1070
Indeno(1,2,3-c,d)Pyrene	**0.30**	mg/kg	0.011		1	0.011	10/03/22	10/03/22 19:42	1070
Isophorone	ND	mg/kg	0.046		1	0.031	10/03/22	10/03/22 19:42	1070
2-Methylnaphthalene	ND	mg/kg	0.011		1	0.011	10/03/22	10/03/22 19:42	1070
2-Methyl phenol	ND	mg/kg	0.046		1	0.025	10/03/22	10/03/22 19:42	1070
3&4-Methylphenol	ND	mg/kg	0.046		1	0.034	10/03/22	10/03/22 19:42	1070
Naphthalene	ND	mg/kg	0.011		1	0.0074	10/03/22	10/03/22 19:42	1070
2-Nitroaniline	ND	mg/kg	0.092		1	0.026	10/03/22	10/03/22 19:42	1070
3-Nitroaniline	ND	mg/kg	0.092		1	0.032	10/03/22	10/03/22 19:42	1070
4-Nitroaniline	ND	mg/kg	0.092		1	0.046	10/03/22	10/03/22 19:42	1070
Nitrobenzene	ND	mg/kg	0.046		1	0.034	10/03/22	10/03/22 19:42	1070
2-Nitrophenol	ND	mg/kg	0.046		1	0.037	10/03/22	10/03/22 19:42	1070
4-Nitrophenol	ND	mg/kg	0.23		1	0.071	10/03/22	10/03/22 19:42	1070
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.046		1	0.0041	10/03/22	10/03/22 19:42	1070
N-Nitrosodiphenylamine	ND	mg/kg	0.046		1	0.024	10/03/22	10/03/22 19:42	1070
Di-n-octyl phthalate	ND	mg/kg	0.092		1	0.046	10/03/22	10/03/22 19:42	1070
Pentachlorophenol	ND	mg/kg	0.092		1	0.056	10/03/22	10/03/22 19:42	1070
Phenanthrene	**0.55**	mg/kg	0.011		1	0.0069	10/03/22	10/03/22 19:42	1070
Phenol	ND	mg/kg	0.046		1	0.034	10/03/22	10/03/22 19:42	1070
Pyrene	**0.91**	mg/kg	0.011		1	0.006	10/03/22	10/03/22 19:42	1070
Pyridine	ND	mg/kg	0.046		1	0.021	10/03/22	10/03/22 19:42	1070
2,4,5-Trichlorophenol	ND	mg/kg	0.046		1	0.0055	10/03/22	10/03/22 19:42	1070
2,4,6-Trichlorophenol	ND	mg/kg	0.046		1	0.036	10/03/22	10/03/22 19:42	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_2.0-2.5 **Date/Time Sampled: 09/29/2022 13:08** **PSS Sample ID: 22093003-008**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 72.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*87*	*%*	*52-109*	*1*	*10/03/22*	*10/03/22 19:42*	*1070*
2-Fluorophenol	*75*	*%*	*30-102*	*1*	*10/03/22*	*10/03/22 19:42*	*1070*
Nitrobenzene-d5	*78*	*%*	*39-101*	*1*	*10/03/22*	*10/03/22 19:42*	*1070*
Phenol-d6	*75*	*%*	*36-109*	*1*	*10/03/22*	*10/03/22 19:42*	*1070*
Terphenyl-D14	*99*	*%*	*66-121*	*1*	*10/03/22*	*10/03/22 19:42*	*1070*
2,4,6-Tribromophenol	*79*	*%*	*39-118*	*1*	*10/03/22*	*10/03/22 19:42*	*1070*

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_2.5-3.0 **Date/Time Sampled: 09/29/2022 13:10** **PSS Sample ID: 22093003-009**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 73.9**

Total Metals — Analytical Method: SW-846 6020 B — Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Lead	**240**	mg/kg	0.67		1	0.51	10/03/22	10/04/22 01:49	1064

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 D — Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.034**	mg/kg	0.024		1	0.013	10/03/22	10/03/22 20:55	1045
Benzene	ND	mg/kg	0.0012		1	0.00051	10/03/22	10/03/22 20:55	1045
Bromochloromethane	ND	mg/kg	0.0012		1	0.00056	10/03/22	10/03/22 20:55	1045
Bromodichloromethane	ND	mg/kg	0.0012		1	0.00052	10/03/22	10/03/22 20:55	1045
Bromoform	ND	mg/kg	0.0012		1	0.00061	10/03/22	10/03/22 20:55	1045
Bromomethane	ND	mg/kg	0.0012		1	0.0012	10/03/22	10/03/22 20:55	1045
2-Butanone (MEK)	**0.0064**	mg/kg	0.0059		1	0.0027	10/03/22	10/03/22 20:55	1045
Carbon Disulfide	ND	mg/kg	0.0012		1	0.0005	10/03/22	10/03/22 20:55	1045
Carbon tetrachloride	ND	mg/kg	0.0012		1	0.00044	10/03/22	10/03/22 20:55	1045
Chlorobenzene	ND	mg/kg	0.0012		1	0.00064	10/03/22	10/03/22 20:55	1045
Chloroethane	ND	mg/kg	0.0012		1	0.00078	10/03/22	10/03/22 20:55	1045
Chloroform	ND	mg/kg	0.0059		1	0.00077	10/03/22	10/03/22 20:55	1045
Chloromethane	ND	mg/kg	0.0012		1	0.00059	10/03/22	10/03/22 20:55	1045
Cyclohexane	ND	mg/kg	0.0012		1	0.00048	10/03/22	10/03/22 20:55	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0012		1	0.001	10/03/22	10/03/22 20:55	1045
Dibromochloromethane	ND	mg/kg	0.0012		1	0.00036	10/03/22	10/03/22 20:55	1045
1,2-Dibromoethane	ND	mg/kg	0.0012		1	0.00059	10/03/22	10/03/22 20:55	1045
1,2-Dichlorobenzene	ND	mg/kg	0.0012		1	0.00052	10/03/22	10/03/22 20:55	1045
1,3-Dichlorobenzene	ND	mg/kg	0.0012		1	0.00054	10/03/22	10/03/22 20:55	1045
1,4-Dichlorobenzene	ND	mg/kg	0.0012		1	0.001	10/03/22	10/03/22 20:55	1045
Dichlorodifluoromethane	ND	mg/kg	0.0012		1	0.00056	10/03/22	10/03/22 20:55	1045
1,1-Dichloroethane	ND	mg/kg	0.0012		1	0.00051	10/03/22	10/03/22 20:55	1045
1,2-Dichloroethane	ND	mg/kg	0.0012		1	0.00043	10/03/22	10/03/22 20:55	1045
1,1-Dichloroethene	ND	mg/kg	0.0012		1	0.00048	10/03/22	10/03/22 20:55	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.0012		1	0.00051	10/03/22	10/03/22 20:55	1045
1,2-Dichloropropane	ND	mg/kg	0.0012		1	0.00057	10/03/22	10/03/22 20:55	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.0012		1	0.00051	10/03/22	10/03/22 20:55	1045

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_2.5-3.0 **Date/Time Sampled: 09/29/2022 13:10** **PSS Sample ID: 22093003-009**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 73.9**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.0012		1	0.00055	10/03/22	10/03/22 20:55	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0012		1	0.00049	10/03/22	10/03/22 20:55	1045
Ethylbenzene	ND	mg/kg	0.0012		1	0.00044	10/03/22	10/03/22 20:55	1045
2-Hexanone (MBK)	ND	mg/kg	0.0012		1	0.00077	10/03/22	10/03/22 20:55	1045
Isopropylbenzene	ND	mg/kg	0.0012		1	0.00046	10/03/22	10/03/22 20:55	1045
Methyl Acetate	ND	mg/kg	0.030		1	0.0013	10/03/22	10/03/22 20:55	1045
Methylcyclohexane	**0.0017**	mg/kg	0.0012		1	0.00052	10/03/22	10/03/22 20:55	1045
Methylene chloride	ND	mg/kg	0.0059		1	0.0043	10/03/22	10/03/22 20:55	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0012		1	0.00076	10/03/22	10/03/22 20:55	1045
Methyl-t-Butyl Ether	**0.0016**	mg/kg	0.0012		1	0.00045	10/03/22	10/03/22 20:55	1045
Naphthalene	ND	mg/kg	0.0012		1	0.00069	10/03/22	10/03/22 20:55	1045
Styrene	ND	mg/kg	0.0012		1	0.00048	10/03/22	10/03/22 20:55	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0012		1	0.00073	10/03/22	10/03/22 20:55	1045
Tetrachloroethene	ND	mg/kg	0.0012		1	0.00052	10/03/22	10/03/22 20:55	1045
Toluene	ND	mg/kg	0.0012		1	0.00054	10/03/22	10/03/22 20:55	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0012		1	0.00062	10/03/22	10/03/22 20:55	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0012		1	0.00054	10/03/22	10/03/22 20:55	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0012		1	0.00043	10/03/22	10/03/22 20:55	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0012		1	0.0004	10/03/22	10/03/22 20:55	1045
Trichloroethene	ND	mg/kg	0.0012		1	0.00064	10/03/22	10/03/22 20:55	1045
Trichlorofluoromethane	ND	mg/kg	0.0012		1	0.00056	10/03/22	10/03/22 20:55	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0012		1	0.00045	10/03/22	10/03/22 20:55	1045
Vinyl chloride	ND	mg/kg	0.0059		1	0.00039	10/03/22	10/03/22 20:55	1045
m&p-Xylene	ND	mg/kg	0.0024		1	0.0013	10/03/22	10/03/22 20:55	1045
o-Xylene	ND	mg/kg	0.0012		1	0.00044	10/03/22	10/03/22 20:55	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*101*	*%*	*89-111*	*1*	*10/03/22*	*10/03/22 20:55*	*1045*
Dibromofluoromethane	*94*	*%*	*91-108*	*1*	*10/03/22*	*10/03/22 20:55*	*1045*
Toluene-D8	*98*	*%*	*93-104*	*1*	*10/03/22*	*10/03/22 20:55*	*1045*

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_2.5-3.0 **Date/Time Sampled: 09/29/2022 13:10** **PSS Sample ID: 22093003-009**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 73.9**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.011		1	0.0082	10/03/22	10/03/22 18:25	1070
Acenaphthylene	ND	mg/kg	0.011		1	0.0077	10/03/22	10/03/22 18:25	1070
Acetophenone	ND	mg/kg	0.046		1	0.029	10/03/22	10/03/22 18:25	1070
Anthracene	**0.010**	mg/kg	0.011	J	1	0.0059	10/03/22	10/03/22 18:25	1070
Atrazine	ND	mg/kg	0.091		1	0.023	10/03/22	10/03/22 18:25	1070
Benzo(a)anthracene	**0.058**	mg/kg	0.011		1	0.0046	10/03/22	10/03/22 18:25	1070
Benzo(a)pyrene	**0.069**	mg/kg	0.011		1	0.0064	10/03/22	10/03/22 18:25	1070
Benzo(b)fluoranthene	**0.066**	mg/kg	0.011		1	0.0059	10/03/22	10/03/22 18:25	1070
Benzo(g,h,i)perylene	**0.047**	mg/kg	0.011		1	0.0082	10/03/22	10/03/22 18:25	1070
Benzo(k)fluoranthene	**0.052**	mg/kg	0.011		1	0.01	10/03/22	10/03/22 18:25	1070
Biphenyl (Diphenyl)	ND	mg/kg	0.046		1	0.024	10/03/22	10/03/22 18:25	1070
Butyl benzyl phthalate	ND	mg/kg	0.046		1	0.03	10/03/22	10/03/22 18:25	1070
bis(2-chloroethoxy) methane	ND	mg/kg	0.046		1	0.03	10/03/22	10/03/22 18:25	1070
bis(2-chloroethyl) ether	ND	mg/kg	0.046		1	0.0059	10/03/22	10/03/22 18:25	1070
bis(2-chloroisopropyl) ether	ND	mg/kg	0.046		1	0.0068	10/03/22	10/03/22 18:25	1070
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.046		1	0.031	10/03/22	10/03/22 18:25	1070
4-Bromophenylphenyl ether	ND	mg/kg	0.046		1	0.024	10/03/22	10/03/22 18:25	1070
Di-n-butyl phthalate	ND	mg/kg	0.046		1	0.024	10/03/22	10/03/22 18:25	1070
Carbazole	ND	mg/kg	0.046		1	0.036	10/03/22	10/03/22 18:25	1070
Caprolactam	ND	mg/kg	0.091		1	0.016	10/03/22	10/03/22 18:25	1070
4-Chloro-3-methyl phenol	ND	mg/kg	0.046		1	0.04	10/03/22	10/03/22 18:25	1070
4-Chloroaniline	ND	mg/kg	0.046		1	0.035	10/03/22	10/03/22 18:25	1070
2-Chloronaphthalene	ND	mg/kg	0.046		1	0.031	10/03/22	10/03/22 18:25	1070
2-Chlorophenol	ND	mg/kg	0.046		1	0.023	10/03/22	10/03/22 18:25	1070
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.046		1	0.026	10/03/22	10/03/22 18:25	1070
Chrysene	**0.059**	mg/kg	0.011		1	0.0055	10/03/22	10/03/22 18:25	1070
Dibenz(a,h)Anthracene	**0.016**	mg/kg	0.011		1	0.0077	10/03/22	10/03/22 18:25	1070
Dibenzofuran	ND	mg/kg	0.046		1	0.026	10/03/22	10/03/22 18:25	1070
3,3-Dichlorobenzidine	ND	mg/kg	0.046		1	0.025	10/03/22	10/03/22 18:25	1070
2,4-Dichlorophenol	ND	mg/kg	0.046		1	0.036	10/03/22	10/03/22 18:25	1070
Diethyl phthalate	ND	mg/kg	0.046		1	0.027	10/03/22	10/03/22 18:25	1070
Dimethyl phthalate	ND	mg/kg	0.046		1	0.026	10/03/22	10/03/22 18:25	1070
2,4-Dimethylphenol	ND	mg/kg	0.046		1	0.043	10/03/22	10/03/22 18:25	1070
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.23		1	0.054	10/03/22	10/03/22 18:25	1070
2,4-Dinitrophenol	ND	mg/kg	0.23		1	0.1	10/03/22	10/03/22 18:25	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_2.5-3.0 **Date/Time Sampled: 09/29/2022 13:10** **PSS Sample ID: 22093003-009**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 73.9**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/kg	0.091		1	0.032	10/03/22	10/03/22 18:25	1070
2,6-Dinitrotoluene	ND	mg/kg	0.091		1	0.026	10/03/22	10/03/22 18:25	1070
Fluoranthene	**0.086**	mg/kg	0.011		1	0.005	10/03/22	10/03/22 18:25	1070
Fluorene	ND	mg/kg	0.011		1	0.0077	10/03/22	10/03/22 18:25	1070
Hexachlorobenzene	ND	mg/kg	0.046		1	0.0087	10/03/22	10/03/22 18:25	1070
Hexachlorobutadiene	ND	mg/kg	0.046		1	0.026	10/03/22	10/03/22 18:25	1070
Hexachlorocyclopentadiene	ND	mg/kg	0.091		1	0.051	10/03/22	10/03/22 18:25	1070
Hexachloroethane	ND	mg/kg	0.046		1	0.029	10/03/22	10/03/22 18:25	1070
Indeno(1,2,3-c,d)Pyrene	**0.045**	mg/kg	0.011		1	0.01	10/03/22	10/03/22 18:25	1070
Isophorone	ND	mg/kg	0.046		1	0.031	10/03/22	10/03/22 18:25	1070
2-Methylnaphthalene	ND	mg/kg	0.011		1	0.011	10/03/22	10/03/22 18:25	1070
2-Methyl phenol	ND	mg/kg	0.046		1	0.025	10/03/22	10/03/22 18:25	1070
3&4-Methylphenol	ND	mg/kg	0.046		1	0.033	10/03/22	10/03/22 18:25	1070
Naphthalene	**0.013**	mg/kg	0.011		1	0.0073	10/03/22	10/03/22 18:25	1070
2-Nitroaniline	ND	mg/kg	0.091		1	0.026	10/03/22	10/03/22 18:25	1070
3-Nitroaniline	ND	mg/kg	0.091		1	0.032	10/03/22	10/03/22 18:25	1070
4-Nitroaniline	ND	mg/kg	0.091		1	0.046	10/03/22	10/03/22 18:25	1070
Nitrobenzene	ND	mg/kg	0.046		1	0.034	10/03/22	10/03/22 18:25	1070
2-Nitrophenol	ND	mg/kg	0.046		1	0.036	10/03/22	10/03/22 18:25	1070
4-Nitrophenol	ND	mg/kg	0.23		1	0.07	10/03/22	10/03/22 18:25	1070
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.046		1	0.0041	10/03/22	10/03/22 18:25	1070
N-Nitrosodiphenylamine	ND	mg/kg	0.046		1	0.024	10/03/22	10/03/22 18:25	1070
Di-n-octyl phthalate	ND	mg/kg	0.091		1	0.046	10/03/22	10/03/22 18:25	1070
Pentachlorophenol	ND	mg/kg	0.091		1	0.055	10/03/22	10/03/22 18:25	1070
Phenanthrene	**0.037**	mg/kg	0.011		1	0.0068	10/03/22	10/03/22 18:25	1070
Phenol	ND	mg/kg	0.046		1	0.034	10/03/22	10/03/22 18:25	1070
Pyrene	**0.079**	mg/kg	0.011		1	0.0059	10/03/22	10/03/22 18:25	1070
Pyridine	ND	mg/kg	0.046		1	0.021	10/03/22	10/03/22 18:25	1070
2,4,5-Trichlorophenol	ND	mg/kg	0.046		1	0.0055	10/03/22	10/03/22 18:25	1070
2,4,6-Trichlorophenol	ND	mg/kg	0.046		1	0.036	10/03/22	10/03/22 18:25	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB03_2.5-3.0 **Date/Time Sampled: 09/29/2022 13:10** **PSS Sample ID: 22093003-009**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 73.9**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*82*	*%*	*52-109*	*1*	*10/03/22*	*10/03/22 18:25*	*1070*
2-Fluorophenol	*73*	*%*	*30-102*	*1*	*10/03/22*	*10/03/22 18:25*	*1070*
Nitrobenzene-d5	*74*	*%*	*39-101*	*1*	*10/03/22*	*10/03/22 18:25*	*1070*
Phenol-d6	*75*	*%*	*36-109*	*1*	*10/03/22*	*10/03/22 18:25*	*1070*
Terphenyl-D14	*94*	*%*	*66-121*	*1*	*10/03/22*	*10/03/22 18:25*	*1070*
2,4,6-Tribromophenol	*82*	*%*	*39-118*	*1*	*10/03/22*	*10/03/22 18:25*	*1070*

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB04_0.5-1.0 **Date/Time Sampled: 09/29/2022 14:40** **PSS Sample ID: 22093003-010**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 79.5**

Total Metals — Analytical Method: SW-846 6020 B — Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Lead	**14**	mg/kg	0.61		1	0.47	10/03/22	10/04/22 01:54	1064

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 D — Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	ND	mg/kg	0.019		1	0.011	10/03/22	10/03/22 21:17	1045
Benzene	ND	mg/kg	0.00097		1	0.00042	10/03/22	10/03/22 21:17	1045
Bromochloromethane	ND	mg/kg	0.00097		1	0.00046	10/03/22	10/03/22 21:17	1045
Bromodichloromethane	ND	mg/kg	0.00097		1	0.00043	10/03/22	10/03/22 21:17	1045
Bromoform	ND	mg/kg	0.00097		1	0.0005	10/03/22	10/03/22 21:17	1045
Bromomethane	ND	mg/kg	0.00097		1	0.00097	10/03/22	10/03/22 21:17	1045
2-Butanone (MEK)	ND	mg/kg	0.0049		1	0.0022	10/03/22	10/03/22 21:17	1045
Carbon Disulfide	ND	mg/kg	0.00097		1	0.00041	10/03/22	10/03/22 21:17	1045
Carbon tetrachloride	ND	mg/kg	0.00097		1	0.00036	10/03/22	10/03/22 21:17	1045
Chlorobenzene	ND	mg/kg	0.00097		1	0.00052	10/03/22	10/03/22 21:17	1045
Chloroethane	ND	mg/kg	0.00097		1	0.00064	10/03/22	10/03/22 21:17	1045
Chloroform	ND	mg/kg	0.0049		1	0.00063	10/03/22	10/03/22 21:17	1045
Chloromethane	ND	mg/kg	0.00097		1	0.00049	10/03/22	10/03/22 21:17	1045
Cyclohexane	ND	mg/kg	0.00097		1	0.00039	10/03/22	10/03/22 21:17	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.00097		1	0.00084	10/03/22	10/03/22 21:17	1045
Dibromochloromethane	ND	mg/kg	0.00097		1	0.00029	10/03/22	10/03/22 21:17	1045
1,2-Dibromoethane	ND	mg/kg	0.00097		1	0.00049	10/03/22	10/03/22 21:17	1045
1,2-Dichlorobenzene	ND	mg/kg	0.00097		1	0.00043	10/03/22	10/03/22 21:17	1045
1,3-Dichlorobenzene	ND	mg/kg	0.00097		1	0.00044	10/03/22	10/03/22 21:17	1045
1,4-Dichlorobenzene	ND	mg/kg	0.00097		1	0.00084	10/03/22	10/03/22 21:17	1045
Dichlorodifluoromethane	ND	mg/kg	0.00097		1	0.00046	10/03/22	10/03/22 21:17	1045
1,1-Dichloroethane	ND	mg/kg	0.00097		1	0.00042	10/03/22	10/03/22 21:17	1045
1,2-Dichloroethane	ND	mg/kg	0.00097		1	0.00035	10/03/22	10/03/22 21:17	1045
1,1-Dichloroethene	ND	mg/kg	0.00097		1	0.00039	10/03/22	10/03/22 21:17	1045
1,2-Dichloropropane	ND	mg/kg	0.00097		1	0.00047	10/03/22	10/03/22 21:17	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.00097		1	0.00042	10/03/22	10/03/22 21:17	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.00097		1	0.00042	10/03/22	10/03/22 21:17	1045

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB04_0.5-1.0 **Date/Time Sampled: 09/29/2022 14:40** **PSS Sample ID: 22093003-010**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 79.5**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.00097		1	0.00045	10/03/22	10/03/22 21:17	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.00097		1	0.0004	10/03/22	10/03/22 21:17	1045
Ethylbenzene	ND	mg/kg	0.00097		1	0.00036	10/03/22	10/03/22 21:17	1045
2-Hexanone (MBK)	ND	mg/kg	0.00097		1	0.00063	10/03/22	10/03/22 21:17	1045
Isopropylbenzene	ND	mg/kg	0.00097		1	0.00038	10/03/22	10/03/22 21:17	1045
Methyl Acetate	ND	mg/kg	0.024		1	0.0011	10/03/22	10/03/22 21:17	1045
Methylcyclohexane	ND	mg/kg	0.00097		1	0.00043	10/03/22	10/03/22 21:17	1045
Methylene chloride	ND	mg/kg	0.0049		1	0.0035	10/03/22	10/03/22 21:17	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.00097		1	0.00062	10/03/22	10/03/22 21:17	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.00097		1	0.00037	10/03/22	10/03/22 21:17	1045
Naphthalene	ND	mg/kg	0.00097		1	0.00056	10/03/22	10/03/22 21:17	1045
Styrene	ND	mg/kg	0.00097		1	0.00039	10/03/22	10/03/22 21:17	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.00097		1	0.00059	10/03/22	10/03/22 21:17	1045
Tetrachloroethene	ND	mg/kg	0.00097		1	0.00043	10/03/22	10/03/22 21:17	1045
Toluene	ND	mg/kg	0.00097		1	0.00044	10/03/22	10/03/22 21:17	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.00097		1	0.0005	10/03/22	10/03/22 21:17	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.00097		1	0.00044	10/03/22	10/03/22 21:17	1045
1,1,1-Trichloroethane	ND	mg/kg	0.00097		1	0.00035	10/03/22	10/03/22 21:17	1045
1,1,2-Trichloroethane	ND	mg/kg	0.00097		1	0.00033	10/03/22	10/03/22 21:17	1045
Trichloroethene	ND	mg/kg	0.00097		1	0.00052	10/03/22	10/03/22 21:17	1045
Trichlorofluoromethane	ND	mg/kg	0.00097		1	0.00046	10/03/22	10/03/22 21:17	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.00097		1	0.00037	10/03/22	10/03/22 21:17	1045
Vinyl chloride	ND	mg/kg	0.0049		1	0.00032	10/03/22	10/03/22 21:17	1045
m&p-Xylene	ND	mg/kg	0.0019		1	0.0011	10/03/22	10/03/22 21:17	1045
o-Xylene	ND	mg/kg	0.00097		1	0.00036	10/03/22	10/03/22 21:17	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*98*	*%*	*89-111*	*1*	*10/03/22*	*10/03/22 21:17*	*1045*
Dibromofluoromethane	*97*	*%*	*91-108*	*1*	*10/03/22*	*10/03/22 21:17*	*1045*
Toluene-D8	*102*	*%*	*93-104*	*1*	*10/03/22*	*10/03/22 21:17*	*1045*

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB04_0.5-1.0 **Date/Time Sampled: 09/29/2022 14:40** **PSS Sample ID: 22093003-010**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 79.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.010		1	0.0075	10/03/22	10/03/22 14:34	1070
Acenaphthylene	ND	mg/kg	0.010		1	0.0071	10/03/22	10/03/22 14:34	1070
Acetophenone	ND	mg/kg	0.042		1	0.027	10/03/22	10/03/22 14:34	1070
Anthracene	ND	mg/kg	0.010		1	0.0054	10/03/22	10/03/22 14:34	1070
Atrazine	ND	mg/kg	0.084		1	0.021	10/03/22	10/03/22 14:34	1070
Benzo(a)anthracene	ND	mg/kg	0.010		1	0.0042	10/03/22	10/03/22 14:34	1070
Benzo(a)pyrene	ND	mg/kg	0.010		1	0.0059	10/03/22	10/03/22 14:34	1070
Benzo(b)fluoranthene	ND	mg/kg	0.010		1	0.0054	10/03/22	10/03/22 14:34	1070
Benzo(g,h,i)perylene	ND	mg/kg	0.010		1	0.0075	10/03/22	10/03/22 14:34	1070
Benzo(k)fluoranthene	ND	mg/kg	0.010		1	0.0092	10/03/22	10/03/22 14:34	1070
Biphenyl (Diphenyl)	ND	mg/kg	0.042		1	0.022	10/03/22	10/03/22 14:34	1070
Butyl benzyl phthalate	ND	mg/kg	0.042		1	0.027	10/03/22	10/03/22 14:34	1070
bis(2-chloroethoxy) methane	ND	mg/kg	0.042		1	0.027	10/03/22	10/03/22 14:34	1070
bis(2-chloroethyl) ether	ND	mg/kg	0.042		1	0.0054	10/03/22	10/03/22 14:34	1070
bis(2-chloroisopropyl) ether	ND	mg/kg	0.042		1	0.0063	10/03/22	10/03/22 14:34	1070
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.042		1	0.029	10/03/22	10/03/22 14:34	1070
4-Bromophenylphenyl ether	ND	mg/kg	0.042		1	0.022	10/03/22	10/03/22 14:34	1070
Di-n-butyl phthalate	ND	mg/kg	0.042		1	0.022	10/03/22	10/03/22 14:34	1070
Carbazole	ND	mg/kg	0.042		1	0.033	10/03/22	10/03/22 14:34	1070
Caprolactam	ND	mg/kg	0.084		1	0.015	10/03/22	10/03/22 14:34	1070
4-Chloro-3-methyl phenol	ND	mg/kg	0.042		1	0.036	10/03/22	10/03/22 14:34	1070
4-Chloroaniline	ND	mg/kg	0.042		1	0.032	10/03/22	10/03/22 14:34	1070
2-Chloronaphthalene	ND	mg/kg	0.042		1	0.029	10/03/22	10/03/22 14:34	1070
2-Chlorophenol	ND	mg/kg	0.042		1	0.021	10/03/22	10/03/22 14:34	1070
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.042		1	0.023	10/03/22	10/03/22 14:34	1070
Chrysene	ND	mg/kg	0.010		1	0.005	10/03/22	10/03/22 14:34	1070
Dibenz(a,h)Anthracene	ND	mg/kg	0.010		1	0.0071	10/03/22	10/03/22 14:34	1070
Dibenzofuran	ND	mg/kg	0.042		1	0.024	10/03/22	10/03/22 14:34	1070
3,3-Dichlorobenzidine	ND	mg/kg	0.042		1	0.023	10/03/22	10/03/22 14:34	1070
2,4-Dichlorophenol	ND	mg/kg	0.042		1	0.033	10/03/22	10/03/22 14:34	1070
Diethyl phthalate	ND	mg/kg	0.042		1	0.025	10/03/22	10/03/22 14:34	1070
Dimethyl phthalate	ND	mg/kg	0.042		1	0.024	10/03/22	10/03/22 14:34	1070
2,4-Dimethylphenol	ND	mg/kg	0.042		1	0.04	10/03/22	10/03/22 14:34	1070
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.21		1	0.05	10/03/22	10/03/22 14:34	1070
2,4-Dinitrophenol	ND	mg/kg	0.21		1	0.095	10/03/22	10/03/22 14:34	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB04_0.5-1.0 **Date/Time Sampled: 09/29/2022 14:40** **PSS Sample ID: 22093003-010**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 79.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/kg	0.084		1	0.029	10/03/22	10/03/22 14:34	1070
2,6-Dinitrotoluene	ND	mg/kg	0.084		1	0.024	10/03/22	10/03/22 14:34	1070
Fluoranthene	ND	mg/kg	0.010		1	0.0046	10/03/22	10/03/22 14:34	1070
Fluorene	ND	mg/kg	0.010		1	0.0071	10/03/22	10/03/22 14:34	1070
Hexachlorobenzene	ND	mg/kg	0.042		1	0.0079	10/03/22	10/03/22 14:34	1070
Hexachlorobutadiene	ND	mg/kg	0.042		1	0.024	10/03/22	10/03/22 14:34	1070
Hexachlorocyclopentadiene	ND	mg/kg	0.084		1	0.046	10/03/22	10/03/22 14:34	1070
Hexachloroethane	ND	mg/kg	0.042		1	0.027	10/03/22	10/03/22 14:34	1070
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.010		1	0.0096	10/03/22	10/03/22 14:34	1070
Isophorone	ND	mg/kg	0.042		1	0.028	10/03/22	10/03/22 14:34	1070
2-Methylnaphthalene	ND	mg/kg	0.010		1	0.01	10/03/22	10/03/22 14:34	1070
2-Methyl phenol	ND	mg/kg	0.042		1	0.023	10/03/22	10/03/22 14:34	1070
3&4-Methylphenol	ND	mg/kg	0.042		1	0.031	10/03/22	10/03/22 14:34	1070
Naphthalene	ND	mg/kg	0.010		1	0.0067	10/03/22	10/03/22 14:34	1070
2-Nitroaniline	ND	mg/kg	0.084		1	0.024	10/03/22	10/03/22 14:34	1070
3-Nitroaniline	ND	mg/kg	0.084		1	0.029	10/03/22	10/03/22 14:34	1070
4-Nitroaniline	ND	mg/kg	0.084		1	0.042	10/03/22	10/03/22 14:34	1070
Nitrobenzene	ND	mg/kg	0.042		1	0.031	10/03/22	10/03/22 14:34	1070
2-Nitrophenol	ND	mg/kg	0.042		1	0.033	10/03/22	10/03/22 14:34	1070
4-Nitrophenol	ND	mg/kg	0.21		1	0.064	10/03/22	10/03/22 14:34	1070
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.042		1	0.0038	10/03/22	10/03/22 14:34	1070
N-Nitrosodiphenylamine	ND	mg/kg	0.042		1	0.022	10/03/22	10/03/22 14:34	1070
Di-n-octyl phthalate	ND	mg/kg	0.084		1	0.042	10/03/22	10/03/22 14:34	1070
Pentachlorophenol	ND	mg/kg	0.084		1	0.051	10/03/22	10/03/22 14:34	1070
Phenanthrene	ND	mg/kg	0.010		1	0.0063	10/03/22	10/03/22 14:34	1070
Phenol	ND	mg/kg	0.042		1	0.031	10/03/22	10/03/22 14:34	1070
Pyrene	ND	mg/kg	0.010		1	0.0054	10/03/22	10/03/22 14:34	1070
Pyridine	ND	mg/kg	0.042		1	0.019	10/03/22	10/03/22 14:34	1070
2,4,5-Trichlorophenol	ND	mg/kg	0.042		1	0.005	10/03/22	10/03/22 14:34	1070
2,4,6-Trichlorophenol	ND	mg/kg	0.042		1	0.033	10/03/22	10/03/22 14:34	1070

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: PESR_Tank056_SB04_0.5-1.0 **Date/Time Sampled: 09/29/2022 14:40** **PSS Sample ID: 22093003-010**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 79.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197855 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*80*	*%*	*52-109*	*1*	*10/03/22*	*10/03/22 14:34*	*1070*
2-Fluorophenol	*74*	*%*	*30-102*	*1*	*10/03/22*	*10/03/22 14:34*	*1070*
Nitrobenzene-d5	*74*	*%*	*39-101*	*1*	*10/03/22*	*10/03/22 14:34*	*1070*
Phenol-d6	*78*	*%*	*36-109*	*1*	*10/03/22*	*10/03/22 14:34*	*1070*
Terphenyl-D14	*93*	*%*	*66-121*	*1*	*10/03/22*	*10/03/22 14:34*	*1070*
2,4,6-Tribromophenol	*75*	*%*	*39-118*	*1*	*10/03/22*	*10/03/22 14:34*	*1070*

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Certificate of Analysis

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: DUP01-20220929 **Date/Time Sampled: 09/29/2022 00:00** **PSS Sample ID: 22093003-011**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 79.4**

Total Metals — Analytical Method: SW-846 6020 B — Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Lead	**15**	mg/kg	0.50		1	0.38	10/03/22	10/04/22 01:59	1064

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 D — Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	ND	mg/kg	0.019		1	0.011	10/03/22	10/03/22 21:39	1045
Benzene	ND	mg/kg	0.00096		1	0.00041	10/03/22	10/03/22 21:39	1045
Bromochloromethane	ND	mg/kg	0.00096		1	0.00045	10/03/22	10/03/22 21:39	1045
Bromodichloromethane	ND	mg/kg	0.00096		1	0.00042	10/03/22	10/03/22 21:39	1045
Bromoform	ND	mg/kg	0.00096		1	0.00049	10/03/22	10/03/22 21:39	1045
Bromomethane	ND	mg/kg	0.00096		1	0.00096	10/03/22	10/03/22 21:39	1045
2-Butanone (MEK)	ND	mg/kg	0.0048		1	0.0022	10/03/22	10/03/22 21:39	1045
Carbon Disulfide	ND	mg/kg	0.00096		1	0.0004	10/03/22	10/03/22 21:39	1045
Carbon tetrachloride	ND	mg/kg	0.00096		1	0.00036	10/03/22	10/03/22 21:39	1045
Chlorobenzene	ND	mg/kg	0.00096		1	0.00052	10/03/22	10/03/22 21:39	1045
Chloroethane	ND	mg/kg	0.00096		1	0.00063	10/03/22	10/03/22 21:39	1045
Chloroform	ND	mg/kg	0.0048		1	0.00062	10/03/22	10/03/22 21:39	1045
Chloromethane	ND	mg/kg	0.00096		1	0.00048	10/03/22	10/03/22 21:39	1045
Cyclohexane	ND	mg/kg	0.00096		1	0.00038	10/03/22	10/03/22 21:39	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.00096		1	0.00084	10/03/22	10/03/22 21:39	1045
Dibromochloromethane	ND	mg/kg	0.00096		1	0.00029	10/03/22	10/03/22 21:39	1045
1,2-Dibromoethane	ND	mg/kg	0.00096		1	0.00048	10/03/22	10/03/22 21:39	1045
1,2-Dichlorobenzene	ND	mg/kg	0.00096		1	0.00042	10/03/22	10/03/22 21:39	1045
1,3-Dichlorobenzene	ND	mg/kg	0.00096		1	0.00043	10/03/22	10/03/22 21:39	1045
1,4-Dichlorobenzene	ND	mg/kg	0.00096		1	0.00084	10/03/22	10/03/22 21:39	1045
Dichlorodifluoromethane	ND	mg/kg	0.00096		1	0.00045	10/03/22	10/03/22 21:39	1045
1,1-Dichloroethane	ND	mg/kg	0.00096		1	0.00041	10/03/22	10/03/22 21:39	1045
1,2-Dichloroethane	ND	mg/kg	0.00096		1	0.00035	10/03/22	10/03/22 21:39	1045
1,1-Dichloroethene	ND	mg/kg	0.00096		1	0.00038	10/03/22	10/03/22 21:39	1045
1,2-Dichloropropane	ND	mg/kg	0.00096		1	0.00046	10/03/22	10/03/22 21:39	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.00096		1	0.00041	10/03/22	10/03/22 21:39	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.00096		1	0.00041	10/03/22	10/03/22 21:39	1045

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: DUP01-20220929 **Date/Time Sampled: 09/29/2022 00:00** **PSS Sample ID: 22093003-011**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 79.4**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5035A

Qualifier(s): See Batch 197874 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.00096		1	0.00044	10/03/22	10/03/22 21:39	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.00096		1	0.00039	10/03/22	10/03/22 21:39	1045
Ethylbenzene	ND	mg/kg	0.00096		1	0.00036	10/03/22	10/03/22 21:39	1045
2-Hexanone (MBK)	ND	mg/kg	0.00096		1	0.00062	10/03/22	10/03/22 21:39	1045
Isopropylbenzene	ND	mg/kg	0.00096		1	0.00037	10/03/22	10/03/22 21:39	1045
Methyl Acetate	ND	mg/kg	0.024		1	0.0011	10/03/22	10/03/22 21:39	1045
Methylcyclohexane	ND	mg/kg	0.00096		1	0.00042	10/03/22	10/03/22 21:39	1045
Methylene chloride	ND	mg/kg	0.0048		1	0.0035	10/03/22	10/03/22 21:39	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.00096		1	0.00061	10/03/22	10/03/22 21:39	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.00096		1	0.00036	10/03/22	10/03/22 21:39	1045
Naphthalene	ND	mg/kg	0.00096		1	0.00056	10/03/22	10/03/22 21:39	1045
Styrene	ND	mg/kg	0.00096		1	0.00038	10/03/22	10/03/22 21:39	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.00096		1	0.00059	10/03/22	10/03/22 21:39	1045
Tetrachloroethene	ND	mg/kg	0.00096		1	0.00042	10/03/22	10/03/22 21:39	1045
Toluene	ND	mg/kg	0.00096		1	0.00043	10/03/22	10/03/22 21:39	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.00096		1	0.0005	10/03/22	10/03/22 21:39	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.00096		1	0.00043	10/03/22	10/03/22 21:39	1045
1,1,1-Trichloroethane	ND	mg/kg	0.00096		1	0.00035	10/03/22	10/03/22 21:39	1045
1,1,2-Trichloroethane	ND	mg/kg	0.00096		1	0.00033	10/03/22	10/03/22 21:39	1045
Trichloroethene	ND	mg/kg	0.00096		1	0.00052	10/03/22	10/03/22 21:39	1045
Trichlorofluoromethane	ND	mg/kg	0.00096		1	0.00045	10/03/22	10/03/22 21:39	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.00096		1	0.00036	10/03/22	10/03/22 21:39	1045
Vinyl chloride	ND	mg/kg	0.0048		1	0.00032	10/03/22	10/03/22 21:39	1045
m&p-Xylene	ND	mg/kg	0.0019		1	0.0011	10/03/22	10/03/22 21:39	1045
o-Xylene	ND	mg/kg	0.00096		1	0.00036	10/03/22	10/03/22 21:39	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*96*	*%*	*89-111*	*1*	*10/03/22*	*10/03/22 21:39*	*1045*
Dibromofluoromethane	*95*	*%*	*91-108*	*1*	*10/03/22*	*10/03/22 21:39*	*1045*
Toluene-D8	*102*	*%*	*93-104*	*1*	*10/03/22*	*10/03/22 21:39*	*1045*

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: DUP01-20220929 **Date/Time Sampled: 09/29/2022 00:00** **PSS Sample ID: 22093003-011**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 79.4**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197880 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.011		1	0.0076	10/03/22	10/04/22 11:11	1070
Acenaphthylene	ND	mg/kg	0.011		1	0.0072	10/03/22	10/04/22 11:11	1070
Acetophenone	ND	mg/kg	0.042		1	0.027	10/03/22	10/04/22 11:11	1070
Anthracene	ND	mg/kg	0.011		1	0.0055	10/03/22	10/04/22 11:11	1070
Atrazine	ND	mg/kg	0.084		1	0.021	10/03/22	10/04/22 11:11	1070
Benzo(a)anthracene	ND	mg/kg	0.011		1	0.0042	10/03/22	10/04/22 11:11	1070
Benzo(a)pyrene	ND	mg/kg	0.011		1	0.0059	10/03/22	10/04/22 11:11	1070
Benzo(b)fluoranthene	ND	mg/kg	0.011		1	0.0055	10/03/22	10/04/22 11:11	1070
Benzo(g,h,i)perylene	ND	mg/kg	0.011		1	0.0076	10/03/22	10/04/22 11:11	1070
Benzo(k)fluoranthene	ND	mg/kg	0.011		1	0.0093	10/03/22	10/04/22 11:11	1070
Biphenyl (Diphenyl)	ND	mg/kg	0.042		1	0.022	10/03/22	10/04/22 11:11	1070
Butyl benzyl phthalate	ND	mg/kg	0.042		1	0.027	10/03/22	10/04/22 11:11	1070
bis(2-chloroethoxy) methane	ND	mg/kg	0.042		1	0.027	10/03/22	10/04/22 11:11	1070
bis(2-chloroethyl) ether	ND	mg/kg	0.042		1	0.0055	10/03/22	10/04/22 11:11	1070
bis(2-chloroisopropyl) ether	ND	mg/kg	0.042		1	0.0063	10/03/22	10/04/22 11:11	1070
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.042		1	0.029	10/03/22	10/04/22 11:11	1070
4-Bromophenylphenyl ether	ND	mg/kg	0.042		1	0.022	10/03/22	10/04/22 11:11	1070
Di-n-butyl phthalate	ND	mg/kg	0.042		1	0.022	10/03/22	10/04/22 11:11	1070
Carbazole	ND	mg/kg	0.042		1	0.033	10/03/22	10/04/22 11:11	1070
Caprolactam	ND	mg/kg	0.084		1	0.015	10/03/22	10/04/22 11:11	1070
4-Chloro-3-methyl phenol	ND	mg/kg	0.042		1	0.037	10/03/22	10/04/22 11:11	1070
4-Chloroaniline	ND	mg/kg	0.042		1	0.032	10/03/22	10/04/22 11:11	1070
2-Chloronaphthalene	ND	mg/kg	0.042		1	0.029	10/03/22	10/04/22 11:11	1070
2-Chlorophenol	ND	mg/kg	0.042		1	0.021	10/03/22	10/04/22 11:11	1070
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.042		1	0.024	10/03/22	10/04/22 11:11	1070
Chrysene	ND	mg/kg	0.011		1	0.0051	10/03/22	10/04/22 11:11	1070
Dibenz(a,h)Anthracene	ND	mg/kg	0.011		1	0.0072	10/03/22	10/04/22 11:11	1070
Dibenzofuran	ND	mg/kg	0.042		1	0.024	10/03/22	10/04/22 11:11	1070
3,3-Dichlorobenzidine	ND	mg/kg	0.042		1	0.023	10/03/22	10/04/22 11:11	1070
2,4-Dichlorophenol	ND	mg/kg	0.042		1	0.033	10/03/22	10/04/22 11:11	1070
Diethyl phthalate	ND	mg/kg	0.042		1	0.025	10/03/22	10/04/22 11:11	1070
Dimethyl phthalate	ND	mg/kg	0.042		1	0.024	10/03/22	10/04/22 11:11	1070
2,4-Dimethylphenol	ND	mg/kg	0.042		1	0.04	10/03/22	10/04/22 11:11	1070
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.21		1	0.05	10/03/22	10/04/22 11:11	1070
2,4-Dinitrophenol	ND	mg/kg	0.21		1	0.096	10/03/22	10/04/22 11:11	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: DUP01-20220929 **Date/Time Sampled: 09/29/2022 00:00** **PSS Sample ID: 22093003-011**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 79.4**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 E Preparation Method: SW3550C

Qualifier(s): See Batch 197880 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
2,4-Dinitrotoluene	ND	mg/kg	0.084		1	0.03	10/03/22	10/04/22 11:11	1070
2,6-Dinitrotoluene	ND	mg/kg	0.084		1	0.024	10/03/22	10/04/22 11:11	1070
Fluoranthene	ND	mg/kg	0.011		1	0.0046	10/03/22	10/04/22 11:11	1070
Fluorene	ND	mg/kg	0.011		1	0.0072	10/03/22	10/04/22 11:11	1070
Hexachlorobenzene	ND	mg/kg	0.042		1	0.008	10/03/22	10/04/22 11:11	1070
Hexachlorobutadiene	ND	mg/kg	0.042		1	0.024	10/03/22	10/04/22 11:11	1070
Hexachlorocyclopentadiene	ND	mg/kg	0.084		1	0.047	10/03/22	10/04/22 11:11	1070
Hexachloroethane	ND	mg/kg	0.042		1	0.027	10/03/22	10/04/22 11:11	1070
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.011		1	0.0097	10/03/22	10/04/22 11:11	1070
Isophorone	ND	mg/kg	0.042		1	0.029	10/03/22	10/04/22 11:11	1070
2-Methylnaphthalene	ND	mg/kg	0.011		1	0.01	10/03/22	10/04/22 11:11	1070
2-Methyl phenol	ND	mg/kg	0.042		1	0.023	10/03/22	10/04/22 11:11	1070
3&4-Methylphenol	ND	mg/kg	0.042		1	0.031	10/03/22	10/04/22 11:11	1070
Naphthalene	ND	mg/kg	0.011		1	0.0067	10/03/22	10/04/22 11:11	1070
2-Nitroaniline	ND	mg/kg	0.084		1	0.024	10/03/22	10/04/22 11:11	1070
3-Nitroaniline	ND	mg/kg	0.084		1	0.03	10/03/22	10/04/22 11:11	1070
4-Nitroaniline	ND	mg/kg	0.084		1	0.042	10/03/22	10/04/22 11:11	1070
Nitrobenzene	ND	mg/kg	0.042		1	0.032	10/03/22	10/04/22 11:11	1070
2-Nitrophenol	ND	mg/kg	0.042		1	0.034	10/03/22	10/04/22 11:11	1070
4-Nitrophenol	ND	mg/kg	0.21		1	0.065	10/03/22	10/04/22 11:11	1070
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.042		1	0.0038	10/03/22	10/04/22 11:11	1070
N-Nitrosodiphenylamine	ND	mg/kg	0.042		1	0.022	10/03/22	10/04/22 11:11	1070
Di-n-octyl phthalate	ND	mg/kg	0.084		1	0.043	10/03/22	10/04/22 11:11	1070
Pentachlorophenol	ND	mg/kg	0.084		1	0.051	10/03/22	10/04/22 11:11	1070
Phenanthrene	ND	mg/kg	0.011		1	0.0063	10/03/22	10/04/22 11:11	1070
Phenol	ND	mg/kg	0.042		1	0.031	10/03/22	10/04/22 11:11	1070
Pyrene	ND	mg/kg	0.011		1	0.0055	10/03/22	10/04/22 11:11	1070
Pyridine	ND	mg/kg	0.042		1	0.019	10/03/22	10/04/22 11:11	1070
2,4,5-Trichlorophenol	ND	mg/kg	0.042		1	0.0051	10/03/22	10/04/22 11:11	1070
2,4,6-Trichlorophenol	ND	mg/kg	0.042		1	0.033	10/03/22	10/04/22 11:11	1070

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: DUP01-20220929 **Date/Time Sampled: 09/29/2022 00:00** **PSS Sample ID: 22093003-011**
Matrix: SOIL **Date/Time Received: 09/30/2022 10:25** **% Solids SM2540G-11: 79.4**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 E — Preparation Method: SW3550C

Qualifier(s): See Batch 197880 on Case Narrative.

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*84*	*%*	*52-109*	*1*	*10/03/22*	*10/04/22 11:11*	*1070*
2-Fluorophenol	*76*	*%*	*30-102*	*1*	*10/03/22*	*10/04/22 11:11*	*1070*
Nitrobenzene-d5	*76*	*%*	*39-101*	*1*	*10/03/22*	*10/04/22 11:11*	*1070*
Phenol-d6	*78*	*%*	*36-109*	*1*	*10/03/22*	*10/04/22 11:11*	*1070*
Terphenyl-D14	*96*	*%*	*66-121*	*1*	*10/03/22*	*10/04/22 11:11*	*1070*
2,4,6-Tribromophenol	*84*	*%*	*39-118*	*1*	*10/03/22*	*10/04/22 11:11*	*1070*

Sample ID: EB01-20220929 **Date/Time Sampled: 09/29/2022 15:50** **PSS Sample ID: 22093003-012**
Matrix: WATER **Date/Time Received: 09/30/2022 10:25**

Total Metals — Analytical Method: SW-846 6020 B — Preparation Method: SW3010A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Lead	ND	ug/L	1.0		1	0.39	10/03/22	10/03/22 19:14	1064

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: TB01-2022092 **Date/Time Sampled: 09/29/2022 00:00** **PSS Sample ID: 22093003-013**
Matrix: WATER **Date/Time Received: 09/30/2022 10:25**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 197857 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	5.0		1	1.5	10/03/22	10/03/22 13:56	1011
Benzene	ND	ug/L	1.0		1	0.19	10/03/22	10/03/22 13:56	1011
Bromochloromethane	ND	ug/L	1.0		1	0.28	10/03/22	10/03/22 13:56	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	10/03/22	10/03/22 13:56	1011
Bromoform	ND	ug/L	1.0		1	0.17	10/03/22	10/03/22 13:56	1011
Bromomethane	ND	ug/L	1.0		1	0.21	10/03/22	10/03/22 13:56	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	10/03/22	10/03/22 13:56	1011
Carbon Disulfide	ND	ug/L	1.0		1	0.35	10/03/22	10/03/22 13:56	1011
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	10/03/22	10/03/22 13:56	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	10/03/22	10/03/22 13:56	1011
Chloroethane	ND	ug/L	1.0		1	0.23	10/03/22	10/03/22 13:56	1011
Chloroform	ND	ug/L	1.0		1	0.21	10/03/22	10/03/22 13:56	1011
Chloromethane	ND	ug/L	1.0		1	0.33	10/03/22	10/03/22 13:56	1011
Cyclohexane	ND	ug/L	1.0		1	0.32	10/03/22	10/03/22 13:56	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		1	0.19	10/03/22	10/03/22 13:56	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	10/03/22	10/03/22 13:56	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	0.22	10/03/22	10/03/22 13:56	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	10/03/22	10/03/22 13:56	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	10/03/22	10/03/22 13:56	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	10/03/22	10/03/22 13:56	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	10/03/22	10/03/22 13:56	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	10/03/22	10/03/22 13:56	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	10/03/22	10/03/22 13:56	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	0.19	10/03/22	10/03/22 13:56	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	10/03/22	10/03/22 13:56	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	10/03/22	10/03/22 13:56	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	10/03/22	10/03/22 13:56	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	10/03/22	10/03/22 13:56	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	10/03/22	10/03/22 13:56	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	10/03/22	10/03/22 13:56	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	10/03/22	10/03/22 13:56	1011
Isopropylbenzene	ND	ug/L	1.0		1	0.13	10/03/22	10/03/22 13:56	1011
Methyl Acetate	ND	ug/L	1.0		1	0.24	10/03/22	10/03/22 13:56	1011
Methylcyclohexane	ND	ug/L	1.0		1	0.14	10/03/22	10/03/22 13:56	1011
Methylene chloride	ND	ug/L	1.0		1	0.71	10/03/22	10/03/22 13:56	1011

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Project Name: Philly Tank Farm
PSS Project No.: 22093003

Sample ID: TB01-2022092 **Date/Time Sampled: 09/29/2022 00:00** **PSS Sample ID: 22093003-013**
Matrix: WATER **Date/Time Received: 09/30/2022 10:25**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 197857 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	10/03/22	10/03/22 13:56	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	10/03/22	10/03/22 13:56	1011
Naphthalene	ND	ug/L	1.0		1	0.2	10/03/22	10/03/22 13:56	1011
Styrene	ND	ug/L	1.0		1	0.17	10/03/22	10/03/22 13:56	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	10/03/22	10/03/22 13:56	1011
Tetrachloroethene	ND	ug/L	1.0		1	0.23	10/03/22	10/03/22 13:56	1011
Toluene	ND	ug/L	1.0		1	0.52	10/03/22	10/03/22 13:56	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	0.3	10/03/22	10/03/22 13:56	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	0.26	10/03/22	10/03/22 13:56	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	10/03/22	10/03/22 13:56	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	10/03/22	10/03/22 13:56	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	10/03/22	10/03/22 13:56	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	10/03/22	10/03/22 13:56	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	0.17	10/03/22	10/03/22 13:56	1011
Vinyl chloride	ND	ug/L	1.0		1	0.34	10/03/22	10/03/22 13:56	1011
m&p-Xylene	ND	ug/L	2.0		1	0.4	10/03/22	10/03/22 13:56	1011
o-Xylene	ND	ug/L	1.0		1	0.18	10/03/22	10/03/22 13:56	1011

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*90*	*%*	*88-120*	*1*	*10/03/22*	*10/03/22 13:56*	*1011*
Dibromofluoromethane	*101*	*%*	*92-107*	*1*	*10/03/22*	*10/03/22 13:56*	*1011*
Toluene-D8	*100*	*%*	*95-106*	*1*	*10/03/22*	*10/03/22 13:56*	*1011*

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Project Name: Philly Tank Farm

PSS Project No.: 22093003

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

Received 2-250mL plastic containers preserved with HNO3 for lead and SVOC for sample 012. Logged in for lead only.

Analytical:

TCL Volatile Organic Compounds

Batch: 197857

Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

Batch: 197874

Method exceedance: Laboratory control sample (LCS) exceedance identified; see QC summary.

Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

Analytical:

TCL Semivolatile Organic Compounds

Batch: 197855

Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

Matrix spike/matrix spike duplicate (MS/MSD)exceedances identified; see QC summary.

Method exceedances:
-Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) exceedances identified; see QC summary.
-Benzo-b-fluoranthene and benzo-k-fluoranthene do not meet resolution criteria.

Batch: 197880

Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

Method exceedance: Benzo-b-fluoranthene and benzo-k-fluoranthene do not meet resolution criteria.

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Project Name: Philly Tank Farm

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NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

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Lab Chronology

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SM2540G	PESR_Tank056_SB01_1.0-1.5	Initial	22093003-001	S	197816	197816	09/30/2022 14:30	09/30/2022 14:30
	PESR_Tank056_SB01_2.0-2.5	Initial	22093003-002	S	197816	197816	09/30/2022 14:30	09/30/2022 14:30
	PESR_Tank056_SB01_2.5-3.0	Initial	22093003-003	S	197816	197816	09/30/2022 14:30	09/30/2022 14:30
	PESR_Tank056_SB02_1.0-1.5	Initial	22093003-004	S	197816	197816	09/30/2022 14:30	09/30/2022 14:30
	PESR_Tank056_SB02_2.0-2.5	Initial	22093003-005	S	197816	197816	09/30/2022 14:30	09/30/2022 14:30
	PESR_Tank056_SB02_2.5-3.0	Initial	22093003-006	S	197816	197816	09/30/2022 14:30	09/30/2022 14:30
	PESR_Tank056_SB03_1.0-1.5	Initial	22093003-007	S	197816	197816	09/30/2022 14:30	09/30/2022 14:30
	PESR_Tank056_SB03_2.0-2.5	Initial	22093003-008	S	197816	197816	09/30/2022 14:30	09/30/2022 14:30
	PESR_Tank056_SB03_2.5-3.0	Initial	22093003-009	S	197816	197816	09/30/2022 14:30	09/30/2022 14:30
	PESR_Tank056_SB04_0.5-1.0	Initial	22093003-010	S	197816	197816	09/30/2022 14:30	09/30/2022 14:30
	DUP01-20220929	Initial	22093003-011	S	197816	197816	09/30/2022 14:30	09/30/2022 14:30
	197816-1-BLK	BLK	197816-1-BLK	S	197816	197816	09/30/2022 14:30	09/30/2022 14:30
	C060-092922-002 D	MD	22092916-002 D	S	197816	197816	09/30/2022 14:30	09/30/2022 14:30
	PESR_Tank056_SB03_2.5-3.0 D	MD	22093003-009 D	S	197816	197816	09/30/2022 14:30	09/30/2022 14:30
SW-846 6020 B	EB01-20220929	Initial	22093003-012	W	92578	197877	10/03/2022 10:00	10/03/2022 19:14
	92578-1-BKS	BKS	92578-1-BKS	W	92578	197877	10/03/2022 10:00	10/03/2022 19:09
	92578-1-BLK	BLK	92578-1-BLK	W	92578	197877	10/03/2022 10:00	10/03/2022 19:04
	EB01-20220929 S	MS	22093003-012 S	W	92578	197877	10/03/2022 10:00	10/03/2022 19:19
	EB01-20220929 SD	MSD	22093003-012 S	W	92578	197877	10/03/2022 10:00	10/03/2022 19:24
	PESR_Tank056_SB01_1.0-1.5	Initial	22093003-001	S	92580	197881	10/03/2022 10:55	10/04/2022 00:54
	PESR_Tank056_SB01_2.0-2.5	Initial	22093003-002	S	92580	197881	10/03/2022 10:55	10/04/2022 01:14
	PESR_Tank056_SB01_2.5-3.0	Initial	22093003-003	S	92580	197881	10/03/2022 10:55	10/04/2022 01:19
	PESR_Tank056_SB02_1.0-1.5	Initial	22093003-004	S	92580	197881	10/03/2022 10:55	10/04/2022 01:24
	PESR_Tank056_SB02_2.0-2.5	Initial	22093003-005	S	92580	197881	10/03/2022 10:55	10/04/2022 01:29
	PESR_Tank056_SB02_2.5-3.0	Initial	22093003-006	S	92580	197881	10/03/2022 10:55	10/04/2022 01:34
	PESR_Tank056_SB03_2.0-2.5	Initial	22093003-008	S	92580	197881	10/03/2022 10:55	10/04/2022 01:44
	PESR_Tank056_SB03_2.5-3.0	Initial	22093003-009	S	92580	197881	10/03/2022 10:55	10/04/2022 01:49
	PESR_Tank056_SB04_0.5-1.0	Initial	22093003-010	S	92580	197881	10/03/2022 10:55	10/04/2022 01:54
	DUP01-20220929	Initial	22093003-011	S	92580	197881	10/03/2022 10:55	10/04/2022 01:59
	92580-1-BKS	BKS	92580-1-BKS	S	92580	197881	10/03/2022 10:55	10/03/2022 23:28
	92580-1-BLK	BLK	92580-1-BLK	S	92580	197881	10/03/2022 10:55	10/03/2022 23:22
	GTA-NW-0-2' S	MS	22093005-001 S	S	92580	197881	10/03/2022 10:55	10/03/2022 23:38
	GTA-NW-0-2' SD	MSD	22093005-001 S	S	92580	197881	10/03/2022 10:55	10/03/2022 23:43
	PESR_Tank056_SB03	Reanalysis	22093003-007	S	92580	197881	10/03/2022 10:55	10/04/2022 13:25

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Lab Chronology

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SW-846 6020 B	_1.0-1.5							
SW-846 8260 D	TB01-2022092	Initial	22093003-013	W	92604	197857	10/03/2022 08:48	10/03/2022 13:56
	92604-1-BKS	BKS	92604-1-BKS	W	92604	197857	10/03/2022 08:48	10/03/2022 08:48
	92604-1-BLK	BLK	92604-1-BLK	W	92604	197857	10/03/2022 08:48	10/03/2022 10:28
	14784-SB307-GW S	MS	22092818-016 S	W	92604	197857	10/03/2022 08:48	10/03/2022 15:04
	14784-SB307-GW SD	MSD	22092818-016 S	W	92604	197857	10/03/2022 08:48	10/03/2022 15:27
	PESR_Tank056_SB01_1.0-1.5	Initial	22093003-001	S	92612	197874	10/03/2022 14:04	10/03/2022 17:56
	PESR_Tank056_SB01_2.0-2.5	Initial	22093003-002	S	92612	197874	10/03/2022 14:04	10/03/2022 18:18
	PESR_Tank056_SB01_2.5-3.0	Initial	22093003-003	S	92612	197874	10/03/2022 14:04	10/03/2022 18:41
	PESR_Tank056_SB02_1.0-1.5	Initial	22093003-004	S	92612	197874	10/03/2022 14:04	10/03/2022 19:03
	PESR_Tank056_SB02_2.0-2.5	Initial	22093003-005	S	92612	197874	10/03/2022 14:04	10/03/2022 19:25
	PESR_Tank056_SB02_2.5-3.0	Initial	22093003-006	S	92612	197874	10/03/2022 14:04	10/03/2022 19:48
	PESR_Tank056_SB03_1.0-1.5	Initial	22093003-007	S	92612	197874	10/03/2022 14:04	10/03/2022 20:10
	PESR_Tank056_SB03_2.0-2.5	Initial	22093003-008	S	92612	197874	10/03/2022 14:04	10/03/2022 20:32
	PESR_Tank056_SB03_2.5-3.0	Initial	22093003-009	S	92612	197874	10/03/2022 14:04	10/03/2022 20:55
	PESR_Tank056_SB04_0.5-1.0	Initial	22093003-010	S	92612	197874	10/03/2022 14:04	10/03/2022 21:17
	DUP01-20220929	Initial	22093003-011	S	92612	197874	10/03/2022 14:04	10/03/2022 21:39
	92612-1-BKS	BKS	92612-1-BKS	S	92612	197874	10/03/2022 14:04	10/03/2022 14:35
	92612-1-BLK	BLK	92612-1-BLK	S	92612	197874	10/03/2022 14:04	10/03/2022 17:11
	92612-1-BSD	BSD	92612-1-BSD	S	92612	197874	10/03/2022 14:04	10/03/2022 14:57
	GTA-NW8-2-5' S	MS	22093005-009 S	S	92612	197874	10/03/2022 14:04	10/03/2022 15:19
	GTA-NW8-2-5' SD	MSD	22093005-009 S	S	92612	197874	10/03/2022 14:04	10/03/2022 15:42
SW-846 8270 E	PESR_Tank056_SB01_1.0-1.5	Initial	22093003-001	S	92574	197855	10/03/2022 09:08	10/03/2022 20:08
	PESR_Tank056_SB01_2.0-2.5	Initial	22093003-002	S	92574	197855	10/03/2022 09:08	10/03/2022 19:16
	PESR_Tank056_SB01_2.5-3.0	Initial	22093003-003	S	92574	197855	10/03/2022 09:08	10/03/2022 15:51
	PESR_Tank056_SB02_1.0-1.5	Initial	22093003-004	S	92574	197855	10/03/2022 09:08	10/03/2022 21:50
	PESR_Tank056_SB02_2.0-2.5	Initial	22093003-005	S	92574	197855	10/03/2022 09:08	10/03/2022 21:24
	PESR_Tank056_SB03_1.0-1.5	Initial	22093003-007	S	92574	197855	10/03/2022 09:08	10/03/2022 20:59
	PESR_Tank056_SB03_2.0-2.5	Initial	22093003-008	S	92574	197855	10/03/2022 09:08	10/03/2022 19:42
	PESR_Tank056_SB03_2.5-3.0	Initial	22093003-009	S	92574	197855	10/03/2022 09:08	10/03/2022 18:25
	PESR_Tank056_SB04_0.5-1.0	Initial	22093003-010	S	92574	197855	10/03/2022 09:08	10/03/2022 14:34
	92574-1-BKS	BKS	92574-1-BKS	S	92574	197855	10/03/2022 09:08	10/03/2022 12:51
	92574-1-BLK	BLK	92574-1-BLK	S	92574	197855	10/03/2022 09:08	10/03/2022 12:25
	92574-1-BSD	BSD	92574-1-BSD	S	92574	197855	10/03/2022 09:08	10/03/2022 13:17

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Lab Chronology

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SW-846 8270 E	PESR_Tank056_SB04_0.5-1.0 S	MS	22093003-010 S	S	92574	197855	10/03/2022 09:08	10/03/2022 13:42
	PESR_Tank056_SB04_0.5-1.0 SD	MSD	22093003-010 S	S	92574	197855	10/03/2022 09:08	10/03/2022 14:08
	PESR_Tank056_SB02_2.5-3.0	Initial	22093003-006	S	92574	197880	10/03/2022 09:08	10/04/2022 11:37
	DUP01-20220929	Initial	22093003-011	S	92574	197880	10/03/2022 09:08	10/04/2022 11:11

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22093003

Analytical Method: SW-846 6020 B Prep Method: SW3010A
Seq Number: 197877 Matrix: Water Date Prep: 10/03/22
MB Sample Id: 92578-1-BLK LCS Sample Id: 92578-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Lead	<0.3900	50.00	44.24	88	80-120	ug/L	

Analytical Method: SW-846 6020 B Prep Method: SW3050B
Seq Number: 197881 Matrix: Solid Date Prep: 10/03/22
MB Sample Id: 92580-1-BLK LCS Sample Id: 92580-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Lead	<0.3247	19.56	17.23	88	80-120	mg/kg	

Analytical Method: SW-846 6020 B Prep Method: SW3010A
Seq Number: 197877 Matrix: Water Date Prep: 10/03/22
Parent Sample Id: 22093003-012 MS Sample Id: 22093003-012 S MSD Sample Id: 22093003-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Lead	<0.3900	50.00	44.94	90	44.66	89	75-125	1	25	ug/L	

Analytical Method: SM2540G
Seq Number: 197816 Matrix: Soil
Parent Sample Id: 22093003-009 MD Sample Id: 22093003-009 D

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
Solids, percent	73.9	74.1	0	10	%	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22093003

Analytical Method: SW-846 8270 E Prep Method: SW3550C
Seq Number: 197855 Matrix: Solid Date Prep: 10/03/22
MB Sample Id: 92574-1-BLK LCS Sample Id: 92574-1-BKS LCSD Sample Id: 92574-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acenaphthene	<0.005988	1.333	1.126	84	1.194	90	67-111	6	25	mg/kg	
Acenaphthylene	<0.005655	1.333	1.165	87	1.225	92	65-118	5	25	mg/kg	
Acetophenone	<0.02129	1.333	1.135	85	1.222	92	68-111	7	25	mg/kg	
Anthracene	<0.004325	1.333	1.221	92	1.304	98	77-116	7	25	mg/kg	
Atrazine	<0.01663	1.333	0.8037	60	0.8341	63	33-76	4	25	mg/kg	
Benzo(a)anthracene	<0.003327	1.333	1.133	85	1.185	89	77-124	4	25	mg/kg	
Benzo(a)pyrene	<0.004657	1.333	1.397	105	1.463	110	91-141	5	25	mg/kg	
Benzo(b)fluoranthene	<0.004325	1.333	1.153	86	1.175	88	80-142	2	25	mg/kg	
Benzo(g,h,i)perylene	<0.005988	1.333	1.450	109	1.520	114	83-134	5	25	mg/kg	
Benzo(k)fluoranthene	<0.007319	1.333	1.338	100	1.439	108	80-126	7	25	mg/kg	
Biphenyl (Diphenyl)	<0.01763	1.333	1.592	119	1.832	138	75-111	14	25	mg/kg	H
Butyl benzyl phthalate	<0.02162	1.333	1.372	103	1.454	109	83-125	6	25	mg/kg	
bis(2-chloroethoxy) methane	<0.02162	1.333	1.130	85	1.182	89	68-110	4	25	mg/kg	
bis(2-chloroethyl) ether	<0.004325	1.333	1.072	80	1.130	85	66-114	5	25	mg/kg	
bis(2-chloroisopropyl) ether	<0.004990	1.333	1.008	76	1.107	83	52-125	9	25	mg/kg	
bis(2-ethylhexyl) phthalate	<0.02295	1.333	1.445	108	1.542	116	86-128	6	25	mg/kg	
4-Bromophenylphenyl ether	<0.01730	1.333	1.180	89	1.224	92	78-128	4	25	mg/kg	
Di-n-butyl phthalate	<0.01730	1.333	1.338	100	1.426	107	83-116	6	25	mg/kg	
Carbazole	<0.02595	1.333	1.207	91	1.274	96	81-109	5	25	mg/kg	
Caprolactam	<0.01198	1.333	1.241	93	1.298	97	64-123	4	25	mg/kg	
4-Chloro-3-methyl phenol	<0.02894	1.333	1.227	92	1.273	96	76-112	4	25	mg/kg	
4-Chloroaniline	<0.02562	1.333	1.045	78	1.117	84	64-107	7	25	mg/kg	
2-Chloronaphthalene	<0.02295	1.333	1.193	89	1.268	95	79-117	6	25	mg/kg	
2-Chlorophenol	<0.01663	1.333	1.144	86	1.204	90	66-107	5	25	mg/kg	
4-Chlorophenyl Phenyl ether	<0.01863	1.333	1.316	99	1.368	103	73-127	4	25	mg/kg	
Chrysene	<0.003992	1.333	1.217	91	1.277	96	77-122	5	25	mg/kg	
Dibenz(a,h)Anthracene	<0.005655	1.333	1.265	95	1.323	99	85-136	4	25	mg/kg	
Dibenzofuran	<0.01929	1.333	1.159	87	1.229	92	73-117	6	25	mg/kg	
3,3-Dichlorobenzidine	<0.01830	1.333	1.284	96	1.368	103	84-132	6	25	mg/kg	
2,4-Dichlorophenol	<0.02628	1.333	1.204	90	1.248	94	66-119	4	25	mg/kg	
Diethyl phthalate	<0.01996	1.333	1.206	90	1.290	97	77-124	7	25	mg/kg	
Dimethyl phthalate	<0.01929	1.333	1.183	89	1.245	93	69-120	5	25	mg/kg	
2,4-Dimethylphenol	<0.03160	1.333	1.198	90	1.269	95	71-119	6	25	mg/kg	
4,6-Dinitro-2-methyl phenol	<0.03959	1.333	1.253	94	1.275	96	62-146	2	25	mg/kg	
2,4-Dinitrophenol	<0.07552	1.333	1.305	98	1.326	100	49-139	2	25	mg/kg	
2,4-Dinitrotoluene	<0.02329	1.333	1.252	94	1.304	98	76-131	4	25	mg/kg	
2,6-Dinitrotoluene	<0.01929	1.333	1.240	93	1.290	97	72-131	4	25	mg/kg	
Fluoranthene	<0.003659	1.333	1.211	91	1.273	96	77-118	5	25	mg/kg	
Fluorene	<0.005655	1.333	1.219	91	1.304	98	74-120	7	25	mg/kg	
Hexachlorobenzene	<0.006321	1.333	1.295	97	1.364	102	82-119	5	25	mg/kg	
Hexachlorobutadiene	<0.01896	1.333	1.187	89	1.244	93	70-125	5	25	mg/kg	
Hexachlorocyclopentadiene	<0.03693	1.333	1.327	100	1.361	102	55-152	3	25	mg/kg	
Hexachloroethane	<0.02129	1.333	1.217	91	1.303	98	70-118	7	25	mg/kg	
Indeno(1,2,3-c,d)Pyrene	<0.007651	1.333	1.199	90	1.245	93	80-144	4	25	mg/kg	
Isophorone	<0.02262	1.333	1.374	103	1.445	108	66-138	5	25	mg/kg	
2-Methylnaphthalene	<0.007984	1.333	1.178	88	1.231	92	69-108	4	25	mg/kg	
2-Methyl phenol	<0.01830	1.333	1.158	87	1.229	92	67-111	6	25	mg/kg	
3&4-Methylphenol	<0.02428	1.333	1.126	84	1.204	90	68-112	7	25	mg/kg	
Naphthalene	<0.005323	1.333	1.127	85	1.196	90	66-104	6	25	mg/kg	
2-Nitroaniline	<0.01896	1.333	1.340	101	1.390	104	72-124	4	25	mg/kg	
3-Nitroaniline	<0.02329	1.333	1.246	93	1.337	100	78-119	7	25	mg/kg	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22093003

Analytical Method: SW-846 8270 E
Prep Method: SW3550C
Seq Number: 197855
Matrix: Solid
Date Prep: 10/03/22
MB Sample Id: 92574-1-BLK
LCS Sample Id: 92574-1-BKS
LCSD Sample Id: 92574-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
4-Nitroaniline	<0.03327	1.333	1.323	99	1.394	105	75-128	5	25	mg/kg	
Nitrobenzene	<0.02495	1.333	1.098	82	1.148	86	63-106	4	25	mg/kg	
2-Nitrophenol	<0.02661	1.333	1.214	91	1.264	95	68-118	4	25	mg/kg	
4-Nitrophenol	<0.05123	1.333	1.206	90	1.242	93	70-137	3	25	mg/kg	
N-Nitrosodi-n-propyl amine	<0.002994	1.333	1.066	80	1.138	85	59-120	7	25	mg/kg	
N-Nitrosodiphenylamine	<0.01763	1.333	1.228	92	1.285	96	77-113	5	25	mg/kg	
Di-n-octyl phthalate	<0.03360	1.333	1.449	109	1.546	116	87-128	6	25	mg/kg	
Pentachlorophenol	<0.04025	1.333	1.036	78	1.045	78	49-136	1	25	mg/kg	
Phenanthrene	<0.004990	1.333	1.170	88	1.221	92	75-109	4	25	mg/kg	
Phenol	<0.02462	1.333	0.9680	73	1.016	76	59-111	5	25	mg/kg	
Pyrene	<0.004325	1.333	1.178	88	1.233	93	76-120	5	25	mg/kg	
Pyridine	<0.01530	1.333	1.042	78	1.108	83	53-100	6	25	mg/kg	
2,4,5-Trichlorophenol	<0.003992	1.333	1.241	93	1.276	96	66-125	3	25	mg/kg	
2,4,6-Trichlorophenol	<0.02628	1.333	1.089	82	1.119	84	64-121	3	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
2-Fluorobiphenyl	87		82		86		52-109	%
2-Fluorophenol	90		80		85		30-102	%
Nitrobenzene-d5	84		77		82		39-101	%
Phenol-d6	86		81		86		36-109	%
Terphenyl-D14	91		83		86		66-121	%
2,4,6-Tribromophenol	80		86		89		39-118	%

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22093003

Analytical Method: SW-846 8270 E Prep Method: SW3550C
Seq Number: 197855 Matrix: Soil Date Prep: 10/03/22
Parent Sample Id: 22093003-010 MS Sample Id: 22093003-010 S MSD Sample Id: 22093003-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acenaphthene	<0.007522	1.674	1.397	83	1.374	82	63-105	2	30	mg/kg	
Acenaphthylene	<0.007104	1.674	1.423	85	1.404	84	64-110	1	30	mg/kg	
Acetophenone	<0.02675	1.674	1.402	84	1.370	82	60-103	2	30	mg/kg	
Anthracene	<0.005433	1.674	1.555	93	1.564	93	77-114	1	30	mg/kg	
Atrazine	<0.02089	1.674	0.9707	58	0.9668	58	34-73	0	30	mg/kg	
Benzo(a)anthracene	<0.004179	1.674	1.439	86	1.450	87	77-120	1	30	mg/kg	
Benzo(a)pyrene	<0.005851	1.674	1.755	105	1.763	105	93-136	0	30	mg/kg	
Benzo(b)fluoranthene	<0.005433	1.674	1.401	84	1.404	84	78-141	0	30	mg/kg	
Benzo(g,h,i)perylene	<0.007522	1.674	1.830	109	1.823	109	84-130	0	30	mg/kg	
Benzo(k)fluoranthene	<0.009194	1.674	1.710	102	1.739	104	78-122	2	30	mg/kg	
Biphenyl (Diphenyl)	<0.02215	1.674	1.993	119	1.944	116	69-109	2	30	mg/kg	X
Butyl benzyl phthalate	<0.02716	1.674	1.766	105	1.804	108	83-123	2	30	mg/kg	
bis(2-chloroethoxy) methane	<0.02716	1.674	1.378	82	1.353	81	59-103	2	30	mg/kg	
bis(2-chloroethyl) ether	<0.005433	1.674	1.316	79	1.293	77	56-107	2	30	mg/kg	
bis(2-chloroisopropyl) ether	<0.006268	1.674	1.372	82	1.379	82	47-116	1	30	mg/kg	
bis(2-ethylhexyl) phthalate	<0.02883	1.674	1.861	111	1.906	114	86-127	2	30	mg/kg	
4-Bromophenylphenyl ether	<0.02173	1.674	1.435	86	1.436	86	74-125	0	30	mg/kg	
Di-n-butyl phthalate	<0.02173	1.674	1.740	104	1.778	106	81-115	2	30	mg/kg	
Carbazole	<0.03260	1.674	1.527	91	1.508	90	80-108	1	30	mg/kg	
Caprolactam	<0.01504	1.674	1.498	89	1.490	89	61-118	1	30	mg/kg	
4-Chloro-3-methyl phenol	<0.03636	1.674	1.462	87	1.440	86	66-112	2	30	mg/kg	
4-Chloroaniline	<0.03218	1.674	1.256	75	1.257	75	58-98	0	30	mg/kg	
2-Chloronaphthalene	<0.02883	1.674	1.493	89	1.487	89	69-117	0	30	mg/kg	
2-Chlorophenol	<0.02089	1.674	1.375	82	1.342	80	56-100	2	30	mg/kg	
4-Chlorophenyl Phenyl ether	<0.02340	1.674	1.562	93	1.555	93	71-120	0	30	mg/kg	
Chrysene	<0.005015	1.674	1.541	92	1.557	93	79-117	1	30	mg/kg	
Dibenz(a,h)Anthracene	<0.007104	1.674	1.566	94	1.570	94	85-132	0	30	mg/kg	
Dibenzofuran	<0.02424	1.674	1.427	85	1.417	85	68-113	1	30	mg/kg	
3,3-Dichlorobenzidine	<0.02298	1.674	1.645	98	1.680	100	86-128	2	30	mg/kg	
2,4-Dichlorophenol	<0.03301	1.674	1.416	85	1.398	83	61-108	1	30	mg/kg	
Diethyl phthalate	<0.02507	1.674	1.550	93	1.572	94	76-119	1	30	mg/kg	
Dimethyl phthalate	<0.02424	1.674	1.446	86	1.437	86	69-115	1	30	mg/kg	
2,4-Dimethylphenol	<0.03970	1.674	1.441	86	1.356	81	62-108	6	30	mg/kg	
4,6-Dinitro-2-methyl phenol	<0.04973	1.674	1.495	89	1.497	89	37-159	0	30	mg/kg	
2,4-Dinitrophenol	<0.09486	1.674	1.506	90	1.499	89	32-145	0	30	mg/kg	
2,4-Dinitrotoluene	<0.02925	1.674	1.522	91	1.521	91	74-127	0	30	mg/kg	
2,6-Dinitrotoluene	<0.02424	1.674	1.486	89	1.493	89	68-126	0	30	mg/kg	
Fluoranthene	<0.004597	1.674	1.542	92	1.557	93	77-114	1	30	mg/kg	
Fluorene	<0.007104	1.674	1.567	94	1.561	93	71-115	0	30	mg/kg	
Hexachlorobenzene	<0.007940	1.674	1.642	98	1.645	98	76-122	0	30	mg/kg	
Hexachlorobutadiene	<0.02382	1.674	1.403	84	1.380	82	60-116	2	30	mg/kg	
Hexachlorocyclopentadiene	<0.04639	1.674	1.482	89	1.433	86	37-143	3	30	mg/kg	
Hexachloroethane	<0.02675	1.674	1.516	91	1.488	89	60-109	2	30	mg/kg	
Indeno(1,2,3-c,d)Pyrene	<0.009612	1.674	1.471	88	1.465	87	80-140	0	30	mg/kg	
Isophorone	<0.02842	1.674	1.678	100	1.653	99	61-129	2	30	mg/kg	
2-Methylnaphthalene	<0.01003	1.674	1.432	86	1.422	85	61-103	1	30	mg/kg	
2-Methyl phenol	<0.02298	1.674	1.390	83	1.371	82	60-103	1	30	mg/kg	
3&4-Methylphenol	<0.03051	1.674	1.404	84	1.373	82	62-104	2	30	mg/kg	
Naphthalene	<0.006686	1.674	1.391	83	1.372	82	57-99	1	30	mg/kg	
2-Nitroaniline	<0.02382	1.674	1.657	99	1.645	98	66-121	1	30	mg/kg	
3-Nitroaniline	<0.02925	1.674	1.606	96	1.602	96	72-118	0	30	mg/kg	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22093003

Analytical Method: SW-846 8270 E Prep Method: SW3550C
Seq Number: 197855 Matrix: Soil Date Prep: 10/03/22
Parent Sample Id: 22093003-010 MS Sample Id: 22093003-010 S MSD Sample Id: 22093003-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
4-Nitroaniline	<0.04179	1.674	1.610	96	1.599	95	71-124	1	30	mg/kg	
Nitrobenzene	<0.03134	1.674	1.344	80	1.310	78	54-101	3	30	mg/kg	
2-Nitrophenol	<0.03343	1.674	1.454	87	1.432	85	59-110	2	30	mg/kg	
4-Nitrophenol	<0.06436	1.674	1.411	84	1.397	83	67-132	1	30	mg/kg	
N-Nitrosodi-n-propyl amine	<0.003761	1.674	1.290	77	1.215	73	55-108	6	30	mg/kg	
N-Nitrosodiphenylamine	<0.02215	1.674	1.548	92	1.537	92	75-111	1	30	mg/kg	
Di-n-octyl phthalate	<0.04221	1.674	1.840	110	1.881	112	87-126	2	30	mg/kg	
Pentachlorophenol	<0.05057	1.674	1.224	73	1.236	74	42-136	1	30	mg/kg	
Phenanthrene	<0.006268	1.674	1.492	89	1.482	88	72-110	1	30	mg/kg	
Phenol	<0.03092	1.674	1.312	78	1.311	78	53-101	0	30	mg/kg	
Pyrene	<0.005433	1.674	1.535	92	1.565	93	79-117	2	30	mg/kg	
Pyridine	<0.01922	1.674	1.243	74	1.245	74	37-96	0	30	mg/kg	
2,4,5-Trichlorophenol	<0.005015	1.674	1.478	88	1.466	88	63-117	1	30	mg/kg	
2,4,6-Trichlorophenol	<0.03301	1.674	1.274	76	1.267	76	61-112	1	30	mg/kg	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
2-Fluorobiphenyl	80		81		52-109	%
2-Fluorophenol	76		76		30-102	%
Nitrobenzene-d5	77		76		39-101	%
Phenol-d6	79		79		36-109	%
Terphenyl-D14	86		88		66-121	%
2,4,6-Tribromophenol	81		81		39-118	%

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22093003

Analytical Method: SW-846 8260 D Prep Method: SW5030
Seq Number: 197874 Matrix: Solid Date Prep: 10/03/22
MB Sample Id: 92612-1-BLK LCS Sample Id: 92612-1-BKS LCSD Sample Id: 92612-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acetone	<0.01100	0.06000	0.04564	76	0.04583	76	40-147	0	25	mg/kg	
Benzene	<0.00043	0.06000	0.06051	101	0.06018	100	85-118	1	25	mg/kg	
Bromochloromethane	<0.00047	0.06000	0.05854	98	0.05999	100	84-121	2	25	mg/kg	
Bromodichloromethane	<0.00044	0.06000	0.06371	106	0.06307	105	88-121	1	25	mg/kg	
Bromoform	<0.00051	0.06000	0.05562	93	0.05605	93	78-129	1	25	mg/kg	
Bromomethane	<0.001000	0.06000	0.06572	110	0.06644	111	66-117	1	25	mg/kg	
2-Butanone (MEK)	<0.002300	0.06000	0.05222	87	0.04932	82	62-115	6	25	mg/kg	
Carbon Disulfide	<0.00042	0.06000	0.06414	107	0.06105	102	79-128	5	25	mg/kg	
Carbon tetrachloride	<0.00037	0.06000	0.06277	105	0.06319	105	87-121	1	25	mg/kg	
Chlorobenzene	<0.00054	0.06000	0.05842	97	0.06033	101	85-119	3	25	mg/kg	
Chloroethane	<0.00066	0.06000	0.05350	89	0.05534	92	75-115	3	25	mg/kg	
Chloroform	<0.00065	0.06000	0.05914	99	0.06046	101	82-116	2	25	mg/kg	
Chloromethane	<0.0005	0.06000	0.05571	93	0.05657	94	69-124	2	25	mg/kg	
Cyclohexane	<0.0004	0.06000	0.05520	92	0.05862	98	72-132	6	25	mg/kg	
1,2-Dibromo-3-chloropropane	<0.00087	0.06000	0.05538	92	0.05434	91	64-141	2	25	mg/kg	
Dibromochloromethane	<0.0003	0.06000	0.05531	92	0.05551	93	87-122	0	25	mg/kg	
1,2-Dibromoethane	<0.0005	0.06000	0.05954	99	0.06037	101	87-117	1	25	mg/kg	
1,2-Dichlorobenzene	<0.00044	0.06000	0.05911	99	0.05722	95	83-121	3	25	mg/kg	
1,3-Dichlorobenzene	<0.00045	0.06000	0.06046	101	0.05985	100	84-121	1	25	mg/kg	
1,4-Dichlorobenzene	<0.00087	0.06000	0.05920	99	0.05850	98	84-121	1	25	mg/kg	
Dichlorodifluoromethane	<0.00047	0.06000	0.05628	94	0.05688	95	56-134	1	25	mg/kg	
1,1-Dichloroethane	<0.00043	0.06000	0.06399	107	0.06026	100	83-120	6	25	mg/kg	
1,2-Dichloroethane	<0.00036	0.06000	0.06508	108	0.06122	102	85-118	6	25	mg/kg	
1,1-Dichloroethene	<0.0004	0.06000	0.05835	97	0.05875	98	83-122	1	25	mg/kg	
1,2-Dichloropropane	<0.00048	0.06000	0.06152	103	0.06061	101	84-120	1	25	mg/kg	
cis-1,2-Dichloroethene	<0.00043	0.06000	0.06089	101	0.05909	98	84-120	3	25	mg/kg	
cis-1,3-Dichloropropene	<0.00043	0.06000	0.05814	97	0.05862	98	84-120	1	25	mg/kg	
trans-1,2-Dichloroethene	<0.00046	0.06000	0.06032	101	0.05986	100	84-121	1	25	mg/kg	
trans-1,3-Dichloropropene	<0.00041	0.06000	0.05873	98	0.05790	97	80-123	1	25	mg/kg	
Ethylbenzene	<0.00037	0.06000	0.05980	100	0.06077	101	87-121	2	25	mg/kg	
2-Hexanone (MBK)	<0.00065	0.06000	0.05331	89	0.05264	88	72-119	1	25	mg/kg	
Isopropylbenzene	<0.00039	0.06000	0.05916	99	0.05879	98	85-121	1	25	mg/kg	
Methyl Acetate	<0.001100	0.06000	0.05853	98	0.05251	88	75-123	11	25	mg/kg	
Methylcyclohexane	<0.00044	0.06000	0.06110	102	0.06111	102	84-123	0	25	mg/kg	
Methylene chloride	<0.003600	0.06000	0.06038	101	0.05604	93	81-117	7	25	mg/kg	
4-Methyl-2-Pentanone (MIBK)	<0.00064	0.06000	0.05339	89	0.05117	85	75-118	4	25	mg/kg	
Methyl-t-Butyl Ether	<0.00038	0.06000	0.07384	123	0.06897	115	74-122	7	25	mg/kg	H
Naphthalene	<0.00058	0.06000	0.06076	101	0.06139	102	77-120	1	25	mg/kg	
Styrene	<0.0004	0.06000	0.06197	103	0.06304	105	83-124	2	25	mg/kg	
1,1,2,2-Tetrachloroethane	<0.00061	0.06000	0.05763	96	0.05715	95	75-123	1	25	mg/kg	
Tetrachloroethene	<0.00044	0.06000	0.06304	105	0.06107	102	82-119	3	25	mg/kg	
Toluene	<0.00045	0.06000	0.05840	97	0.05903	98	84-118	1	25	mg/kg	
1,2,3-Trichlorobenzene	<0.00052	0.06000	0.06157	103	0.06061	101	76-127	2	25	mg/kg	
1,2,4-Trichlorobenzene	<0.00045	0.06000	0.06082	101	0.06065	101	82-131	0	25	mg/kg	
1,1,1-Trichloroethane	<0.00036	0.06000	0.06604	110	0.06509	108	84-121	1	25	mg/kg	
1,1,2-Trichloroethane	<0.00034	0.06000	0.06181	103	0.06038	101	83-118	2	25	mg/kg	
Trichloroethene	<0.00054	0.06000	0.06149	102	0.06109	102	85-118	1	25	mg/kg	
Trichlorofluoromethane	<0.00047	0.06000	0.06153	103	0.06141	102	81-121	0	25	mg/kg	
1,1,2-Trichlorotrifluoroethane	<0.00038	0.06000	0.06073	101	0.06079	101	83-122	0	25	mg/kg	
Vinyl chloride	<0.00033	0.06000	0.05874	98	0.06017	100	69-129	2	25	mg/kg	
m&p-Xylene	<0.001100	0.1200	0.1191	99	0.1189	99	86-123	0	25	mg/kg	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22093003

Analytical Method: SW-846 8260 D
Prep Method: SW5030
Seq Number: 197874
Matrix: Solid
Date Prep: 10/03/22
MB Sample Id: 92612-1-BLK
LCS Sample Id: 92612-1-BKS
LCSD Sample Id: 92612-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
o-Xylene	<0.00037	0.06000	0.06024	100	0.06245	104	84-121	4	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
4-Bromofluorobenzene	96		96		97		89-111	%
Dibromofluoromethane	94		101		103		91-108	%
Toluene-D8	98		102		101		93-104	%

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22093003

Analytical Method: SW-846 8260 D
Seq Number: 197857
MB Sample Id: 92604-1-BLK

Matrix: Water
LCS Sample Id: 92604-1-BKS

Prep Method: SW5030B
Date Prep: 10/03/22

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acetone	<1.500	50.00	41.16	82	49-154	ug/L	
Benzene	<0.1900	50.00	47.85	96	76-112	ug/L	
Bromochloromethane	<0.2800	50.00	57.34	115	74-119	ug/L	
Bromodichloromethane	<0.1800	50.00	48.66	97	78-117	ug/L	
Bromoform	<0.1700	50.00	56.50	113	69-123	ug/L	
Bromomethane	<0.2100	50.00	48.79	98	42-118	ug/L	
2-Butanone (MEK)	<1.300	50.00	48.94	98	55-136	ug/L	
Carbon Disulfide	<0.3500	50.00	46.80	94	80-124	ug/L	
Carbon tetrachloride	<0.2200	50.00	50.15	100	77-119	ug/L	
Chlorobenzene	<0.2300	50.00	52.03	104	76-114	ug/L	
Chloroethane	<0.2300	50.00	35.81	72	61-113	ug/L	
Chloroform	0.2100	50.00	46.09	92	75-113	ug/L	
Chloromethane	<0.3300	50.00	34.30	69	41-148	ug/L	
Cyclohexane	<0.3200	50.00	41.59	83	76-135	ug/L	
1,2-Dibromo-3-chloropropane	<0.1900	50.00	44.71	89	52-131	ug/L	
Dibromochloromethane	<0.1800	50.00	51.86	104	79-121	ug/L	
1,2-Dibromoethane	<0.2200	50.00	52.42	105	77-119	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	55.81	112	75-121	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	55.40	111	77-120	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	39.16	78	49-122	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	54.74	109	76-118	ug/L	
1,1-Dichloroethane	<0.1900	50.00	42.84	86	75-118	ug/L	
1,2-Dichloroethane	<0.1800	50.00	41.98	84	72-115	ug/L	
cis-1,2-Dichloroethene	<0.1900	50.00	52.60	105	75-119	ug/L	
1,1-Dichloroethene	<0.1800	50.00	47.62	95	74-119	ug/L	
1,2-Dichloropropane	<0.1700	50.00	43.52	87	76-115	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	46.69	93	83-122	ug/L	
trans-1,3-Dichloropropene	<0.1500	50.00	46.21	92	76-118	ug/L	
trans-1,2-Dichloroethene	<0.2900	50.00	52.00	104	73-121	ug/L	
Ethylbenzene	<0.1500	50.00	48.78	98	78-118	ug/L	
2-Hexanone (MBK)	<0.8300	50.00	37.48	75	55-136	ug/L	
Isopropylbenzene	<0.1300	50.00	51.23	102	76-126	ug/L	
Methyl Acetate	<0.2400	50.00	50.83	102	61-117	ug/L	
Methylcyclohexane	<0.1400	50.00	49.96	100	82-126	ug/L	
Methylene chloride	<0.7100	50.00	48.73	97	75-113	ug/L	
4-Methyl-2-Pentanone (MIBK)	<0.6000	50.00	41.59	83	57-127	ug/L	
Methyl-t-Butyl Ether	<0.1700	50.00	48.21	96	71-114	ug/L	
Naphthalene	<0.2000	50.00	53.35	107	60-122	ug/L	
Styrene	<0.1700	50.00	53.03	106	81-124	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	48.84	98	66-123	ug/L	
Tetrachloroethene	<0.2300	50.00	58.81	118	76-123	ug/L	
Toluene	<0.5200	50.00	50.39	101	77-112	ug/L	
1,2,3-Trichlorobenzene	<0.3000	50.00	54.24	108	73-129	ug/L	
1,2,4-Trichlorobenzene	<0.2600	50.00	54.59	109	73-130	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	47.87	96	79-118	ug/L	
Trichloroethene	<0.1900	50.00	50.18	100	77-112	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	49.44	99	75-115	ug/L	
Trichlorofluoromethane	<0.1700	50.00	44.32	89	74-125	ug/L	
1,1,2-Trichlorotrifluoroethane	<0.1700	50.00	48.10	96	77-123	ug/L	
Vinyl chloride	<0.3400	50.00	37.24	74	53-151	ug/L	
m&p-Xylene	<0.4000	100	102.7	103	79-121	ug/L	

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QC Summary

Project Name Philly Tank Farm
PSS Project No.: 22093003

Analytical Method: SW-846 8260 D
Prep Method: SW5030B
Seq Number: 197857
Matrix: Water
Date Prep: 10/03/22
MB Sample Id: 92604-1-BLK
LCS Sample Id: 92604-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
o-Xylene	<0.1800	50.00	51.57	103	78-122	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
4-Bromofluorobenzene	90		88		88-120	%
Dibromofluoromethane	101		102		92-107	%
Toluene-D8	100		99		95-106	%

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

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① PSS CLIENT: Ramboll | OFFICE LOCATION: Princeton, NJ 101 Carnegie Ctr. #200

BILL TO (if different): | PHONE #: (814)758-7321

CONTACT: Sam Weaver | EMAIL: sweaver@ramboll.com

PROJECT NAME: Philly Tank Farm | PROJECT #: 1690005561

SITE LOCATION: Philadelphia, PA | P.O. #:

SAMPLER(S): Bart Bancewicz, Ed Ruger | DW CERT #:

PSS Work Order #: 22093003 | PAGE 1 OF 2

Matrix Codes: SW=Surface Water | DW=Drinking Water | GW=Ground Water | WW=Waste Water | O=Oil | S=Soil | SOL=Solid | A=Air | WI=Wipe

Preservative Codes: 1 - HCL; 2 - H_2SO_4; 3 - HNO_3; 4 - NaOH; 5 - E624KIT; 6 - ICE; 7 - Sodium Thiosulfate; 8 - Ascorbic Acid; 9 - TerraCore Kit

② ④

PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes / Analysis/ Method Required ③ VOCs	SVOCs	Lead
1	PESR_Tank056_SB01_1.0-1.5	9/29/22	1130	S	5		X	X	X
2	PESR_Tank056_SB01_2.0-2.5		1135				X	X	X
3	PESR_Tank056_SB01_2.5-3.0		1140				X	X	X
4	PESR_Tank056_SB02_1.0-1.5		1300				X	X	X
5	PESR_Tank056_SB02_2.0-2.5	9/29/22	1302				X	X	X
6	PESR_Tank056_SB02_2.5-3.0	9/29/22	1304				X	X	X
7	PESR_Tank056_SB03_1.0-1.5		1306				X	X	X
8	PESR_Tank056_SB03_2.0-2.5		1308				X	X	X
9	PESR_Tank056_SB03_2.5-3.0		1310				X	X	X
10	PESR_Tank056_SB04_0.5-1.0		1440				X	X	X

3 9/29/22

⑤

Relinquished By:	Date	Time	Received By:
(1) B.B	9/29/22	1705	JC 9/30 FEDEX
(2) 2785 7404 5254	9/30/22	1025	
(3)			
(4)			

Requested TAT (One TAT per COC): ☐ 5-Day ☐ 3-Day ☑ 2-Day ☐ Next Day ☐ Emergency ☐ Other

STATE RESULTS REPORTED TO: ☐ MD ☐ DE ☐ PA ☐ VA ☐ WV ☐ OTHER

COMPLIANCE? ☐ DW ☐ WW

EDD FORMAT TYPE: EDD

Ice Present: PRES

Custody Seal: ABS

Coolers: 3 Temp: 5.4-6.8 °C 0 AM 9/30/22

Shipping Carrier: FEDEX

Special Instructions: email results to fcarroll@ramboll.com

FEDEX 2785 7404 5232
2785 7404 5243

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① PSS CLIENT: Ramboll | OFFICE LOCATION: Princeton, NJ 101 Carnegie Ctr. #200

BILL TO (if different): | PHONE #: (814) 758-7321

CONTACT: Sam Weaver | EMAIL: sweaver@ramboll.com

PROJECT NAME: Philly Tank Farm | PROJECT #: 1690005561

SITE LOCATION: Philadelphia, PA | P.O. #:

SAMPLER(S): Bart Bancewicz, Ed Ruger | DW CERT #:

PSS Work Order #: 22093003 | PAGE 2 OF 2

Matrix Codes: SW=Surface Water | DW=Drinking Water | GW=Ground Water | WW=Waste Water | O=Oil | S=Soil | SOL=Solid | A=Air | WI=Wipe

Preservative Codes: 1 - HCL; 2 - H_2SO_4; 3 - HNO_3; 4 - NaOH; 5 - E624KIT; 6 - ICE; 7 - Sodium Thiosulfate; 8 - Ascorbic Acid; 9 - TerraCore Kit

② ③

PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes	Analysis/ Method Required: VOCs	SVOCs	Lead
11	DUP01-20220929	9/29	—	S	5			X	X	X
12	EB01-20220929	9/29	1550	WQ	2				X	X
13	TB01-20220929	9/29	—	WQ	2			X		

9/29/22

⑤

Relinquished By: (1)	Date	Time	Received By:
B.B	9/29/22	1705	FedEx
Relinquished By: (2) 2785 7404 5254	9/30/22	1025	
Relinquished By: (3)			
Relinquished By: (4)			

④

Requested TAT (One TAT per COC): ☐ 5-Day ☐ 3-Day ☑ 2-Day ☐ Next Day ☐ Emergency ☐ Other

STATE RESULTS REPORTED TO: ☐ MD ☐ DE ☑ PA ☐ VA ☐ WV ☐ OTHER

COMPLIANCE? ☐ DW ☐ WW

EDD FORMAT TYPE: EDD

Ice Present: Pres

Custody Seal: ABS 0

Coolers: 3 Temp: 5.4-6.8 °C

Shipping Carrier: FedEx on 9/30/22

FedEx 2785 7404 5232

2785 7404 5243

Special Instructions: email results to Ecarroll@ramboll.com

This chain of custody is a legal document. The client (PSS Client), by signing, or having client's agent sign, this "Chain of Custody Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

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Sample Receipt Checklist

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Client Name Ramboll US Corp. - Princeton
Disposal Date 11/04/2022

Received By Jillian Chapman
Date Received 09/30/2022 10:25:00 AM
Delivered By Federal Express
Tracking No 278574045232, 278574045254, 278574045243
Logged In By Jillian Chapman

Shipping Container(s)
No. of Coolers 3

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	6.0
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

		Sampler Name	Bart Bancewicz, Ed Ruger
COC agrees with sample labels?	Yes	MD DW Cert. No.	N/A
Chain of Custody	Yes		

Sample Container

		Custody Seal(s) Intact?	Not Applicable
Appropriate for Specified Analysis?	No	Seal(s) Signed / Dated	Not Applicable
Intact?	Yes		
Labeled and Labels Legible?	Yes		

Holding Time

		Total No. of Samples Received	13
All Samples Received Within Holding Time(s)?	Yes	Total No. of Containers Received	59

Preservation

Total Metals	(pH<2)	Yes
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

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Sample Receipt Checklist

Project Name: Philly Tank Farm
PSS Project No.: 22093003

Client Name	Ramboll US Corp. - Princeton	**Received By**	Jillian Chapman
Disposal Date	11/04/2022	**Date Received**	09/30/2022 10:25:00 AM
		Delivered By	Federal Express
		Tracking No	278574045232, 278574045254, 278574045243
		Logged In By	Jillian Chapman

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Received 2-250mL plastic containers preserved with HNO3 for lead and SVOC for sample 012. Logged in for lead only.

Samples Inspected/Checklist Completed By: Jillian Chapman Date: 09/30/2022

PM Review and Approval: Amber Confer Date: 09/30/2022