

Soil Management Plan Addendum No. 6

Former Philadelphia Energy Solutions Refinery
3144 West Passyunk Avenue, Philadelphia, PA

Prepared for

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April 2024

Project Number P044.001.001



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Acronyms and Abbreviations

Act 2	Land Recycling and Environmental Remediation Standards Act
Act 32	Storage Tank and Spill Prevention Act
AST	aboveground storage tank
DC	Direct Contact
Evergreen	Evergreen Resources Group LLC
ft	feet or foot
MSC	Medium Specific Concentration(s)
Non-Res	non-residential
PADEP	Pennsylvania Department of Environmental Protection
PESRM	Philadelphia Energy Solutions Refining and Marketing LLC
<i>Plan</i>	<i>Soil Management Plan</i>
<i>Plan Addendum</i>	<i>Soil Management Plan Addendum No. 6</i>
RCRA	Resource Conservation and Recovery Act
Site	3144 West Passyunk Avenue, Philadelphia, PA
SGW	soil-to-groundwater
SHS	Statewide Health Standard(s)
SMP	Soil Management Plan
SSS	Site-Specific Standard(s)
SVOC	semivolatile organic compounds
VOC	volatile organic compound
yd ³	cubic yards



1 Introduction

This *Soil Management Plan Addendum No. 6 (Plan Addendum)* has been prepared on behalf of Philadelphia Energy Solutions Refining and Marketing LLC (PESRM) for the Pennsylvania Department of Environmental Protection (PADEP). This *Plan Addendum* presents the results of soil sampling performed as part of the planned redevelopment of the former Philadelphia Energy Solutions Refinery located at 3144 West Passyunk Avenue, Philadelphia, PA (Site; **Figures 1.1**). No additional sampling collected in accordance with the June 15, 2020 *Soil Management Plan (Plan)* prepared by Hilco Redevelopment Partners, Philadelphia Holdings, LLC and approved by PADEP has been performed since the submittal of the *Soil Management Plan Addendum No. 5*. However, data from additional soil sampling performed at the Site (1) in support of Evergreen Resources Group LLC's (Evergreen)¹ investigations, (2) in support of PESRM's efforts to close aboveground storage tanks (AST) under the Storage Tank and Spill Prevention Act (Act 32), (3) in support of PESRM's efforts to address release(s) at select areas of the Site under the Land Recycling and Environmental Remediation Standards Act (Act 2), and (4) in support of PESRM's efforts to demonstrate Clean Closure of former hazardous waste storage units at the Site under the Resource Conservation and Recovery Act (RCRA), have been reviewed with consideration for determining soil re-use categories under this *Plan Addendum*. This *Plan Addendum* focuses on two specific areas where the additional sampling impacts the soil re-use category. As shown on **Figure 1.2**, one area is located in the former Point Breeze South Yard and one area is in Girard Point.

This *Plan Addendum* presents the results of soil sampling conducted to establish where soil can be placed at the Site as part of the bulk movement of soil during redevelopment. It is being shared with Evergreen and PADEP. The soil sampling previously completed at the Site in support of the Soil Management Plan (SMP) is documented in a series of SMP Addenda:

- *Soil Management Plan Addendum No. 1* (Terraphase 2021b);
- *Soil Management Plan Addendum No. 2* (Terraphase 2022a);
- *Soil Management Plan Addendum No. 3* (Terraphase 2022b);
- *Soil Management Plan Addendum No. 4* (Terraphase 2023a); and
- *Soil Management Plan Addendum No. 5* (Terraphase 2023b).

The conclusions of the prior SMP Addenda are incorporated into this *Plan Addendum* to provide a comprehensive summary of soil management requirements in accordance with the *Plan* based upon sampling completed to date. Additional SMP Addenda will be prepared as soil sampling is completed in additional areas of the Site in anticipation of development. Each Addendum will provide a cumulative summary of soil management requirements in addition to providing details describing the results of

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



recent soil sampling not previously reported in the Addenda. Although no additional sampling in accordance with the 2020 *Plan* has been performed since the last Addendum, this *Plan Addendum* summarizes impacts on soil re-use categories based on additional sampling performed in support of other investigation efforts.

Additional phases of sampling will be conducted within other areas of the Site as redevelopment planning and preparations proceed. At least 30 days prior to the start of soil disturbance, excavation, or grading in a given area, PESRM will submit to Evergreen and PADEP a *Plan Addendum* that includes the results of pre-excitation characterization sampling and soil management requirements for that area consistent with the approach described in the 2020 *Plan*.

1.1 Purpose and Objective

A key element of the redevelopment plan involves raising the ground surface elevations on the portion of the Site east of the Schuylkill River above base flood elevations. Some of the ground surface elevations at the Site are currently below base flood elevations while other areas are above base flood elevations. As such, PESRM intends to move soil from locations with higher ground surface elevations to areas with lower ground surface elevations so that the final grades for areas of the Site east of the Schuylkill River achieve the design standard of being above the base flood elevation as established by the Federal Emergency Management Agency.

None of the soil that is moved as part of the regrading process will be placed in areas below the groundwater table. Key objectives of the SMP are:

1. To retain all soil that is excavated or disturbed by PESRM at the Site to balance grades and achieve elevations necessary for redevelopment.
2. To facilitate movement of soil during mass grading and construction.
3. To establish requirements for PESRM's sample collection and analysis for determining the way excavated soil will be placed and reused on-site while ensuring that sufficient data for future work under Act 2 is available to substantially limit the need for additional sampling by Evergreen (e.g., for site characterization, risk assessment(s), cleanup plan(s)).

Decommissioning, demolition, soil grading, and redevelopment will occur in phases across the Site. This *Plan Addendum* presents the results of soil sampling performed and the associated categorization of soil to be cut in the southern portion of the former refinery (**Figure 1.2**). Section 4 of this *Plan Addendum* includes soil categorizations and associated volumes for all areas of the Site sampled to date. The soil categorizations will be used to support decisions regarding how soil that will be cut during grading activities is managed and reused on-site. Samples were collected from soil that will be cut and relocated as part of grading activities during development. This *Plan Addendum* does not include an investigation of the underlying soil. PESRM intends to characterize the top 2 feet (ft) of underlying soil (as required by the SMP) after grading activities have commenced and the cut soil has been relocated.



1.2 Background

PESRM is performing pre-excavation characterization, soil grading, and soil reuse activities during redevelopment of the Site. The Site, which is shown on **Figure 1.1**, contains approximately 1,300 acres of land that is being redeveloped into a state-of-the-art, multimodal industrial park and innovation campus. The recategorized Area 1 and Area 2 described in this *Plan Addendum* include approximately 0.92 and 2.5 acres, respectively (**Figure 1.2**). As explained in the 2020 *Plan*, soil on-site is being sampled prior to grading, relocation, and disturbance. The 2020 *Plan* detailed how sampling would be performed and how decisions will be made as to where such soil can be placed at the Site as part of the bulk movement of soil during redevelopment activities. While more details are provided in the 2020 *Plan*, the following sections provide a summary of the approach and objectives of the SMP.

1.2.1 Coordination with Evergreen's Remedial Activities

The soil sampling and evaluation of the results obtained from the sampling being conducted under the SMP take into consideration Evergreen's site-wide remediation activities. PESRM understands that Evergreen intends to use a combination of the Statewide Health Standards (SHS) and the Site-Specific Standard (SSS) under Act 2 to demonstrate that chemical concentrations remaining at the Site do not pose an unacceptable risk to human health or the environment.

In developing the master plan for redevelopment, PESRM is aware of the known soil and groundwater impacts at the Site that are associated with the Site's historical use for petroleum refining. Many of the anticipated development components (e.g., building slabs, drive aisles, parking lots, new roadways, and other paved areas described in cleanup plans to be submitted to PADEP by Evergreen) will serve as barriers to exposure and infiltration, and use restrictions will be documented in one or more environmental covenants. These features can be used to attain the SHS or SSS under Act 2 for soil at the Site. **Table 1.1** lists examples of anticipated development components and the functions they will serve to attain the SHS or SSS under Act 2 for soil at the Site.

1.2.2 Redevelopment Elements and Soil Reuse Decisions

PESRM understands that Evergreen's anticipated cleanup approach may rely on the assumption that certain impacted soil would remain at depths where it would not be accessible to current or future receptors and/or would be subject to different cleanup standards under Act 2 (i.e., soil at depths of greater than 2-ft below ground surface). To ensure that the SMP aligns with Evergreen's anticipated cleanup approach, if such impacted soil is relocated to achieve necessary redevelopment elevations, the soil will be placed in accordance with the reuse options specified in **Table 1.2**.

Based on the planned redevelopment, most soil at the Site will ultimately be located beneath a development element that will serve as an exposure barrier (e.g., placed under building pads, drive aisles, parking lots, roadways or other features that will function as exposure barriers). Accessible surface soil will only be in limited areas of the Site (e.g., landscape areas). Surface soil in these accessible areas will consist of either (1) imported material or (2) soil from the Site that has been identified as appropriate for this use in accordance with the reuse options noted in **Table 1.2**. Imported soil used as surface soil will be either clean fill or regulated fill under PADEP's *Management of Fill Policy*



(PADEP 2021), as appropriate, and soil from the Site will only be considered appropriate for use as surface soil if it meets applicable SHS Medium Specific Concentrations (MSC) or a risk assessment demonstrates attainment of the SSS. To the extent that soil is transported off-site for disposal, such soil will be managed in accordance with applicable legal requirements. Finally, PESRM's anticipated cut and fill plan will be designed to leave a minimum 2-ft buffer between the bottom of cut areas and the top of known light-non-aqueous phase liquid plumes.

1.2.3 Site-Specific List of Substances and Applicable Screening Levels

As part of Evergreen's work under Act 2 and the One Cleanup Program, Evergreen, United States Environmental Protection Agency, and PADEP have developed a specific target list of regulated substances that is being used during characterization and will be considered during remedial decision-making. **Table 1.3** provides the list of these site-specific substances for which soil sampled under the SMP was characterized. This table also provides the applicable screening levels used to evaluate and categorize soil that will be managed under the SMP in accordance with the categories detailed in Section 1.2.4.

1.2.4 Soil Management Categories

The pre-excavation (i.e., before grading) characterization data generated via the SMP is used to divide soil into categories based on how the material can be reused during the cut and fill activities. The specific categories to which soil is designated depend upon a comparison of the measured chemical-specific soil concentrations to the applicable screening levels. These categories are presented on **Table 1.2**.

1.3 Plan Addendum Organization

Section 1 of this *Plan Addendum* provides a brief introduction and provides background on the SMP, its purpose, and objectives. Section 2 describes the samples that have been collected and analyzed up to this point in support of the SMP. Section 3 presents the results of the sampling performed, a comparison of the results to applicable screening levels, and the resulting categories assigned to different soil volumes based on the SMP. Section 4 summarizes the soil management categories assigned to the volumes of soil sampled to date. Section 5 describes how soil management will be observed and documented during earthwork. Finally, Section 6 provides the references considered in the development of this *Plan Addendum*.

2 Sample Collection and Analysis

As described in the 2020 *Plan*, a significant volume of soil will be moved from higher portions of the Site (cut areas) to raise elevations in lower portions of the Site (fill areas) above floodplain elevations. The objective of the sampling program is to characterize soil from cut areas to determine where and how the soil can be placed in planned fill areas such that it will not pose an unacceptable risk to human health or the environment. The current development plan includes multiple phases to be completed



over the next several years with each phase representing a different portion of the Site. Soil sampling is anticipated to be conducted for each phase as the development plans are finalized and as the areas become accessible after demolition of existing infrastructure.

Soil to be cut was divided into cells with one composite² sample to be collected from each cell layer. As described in the 2020 *Plan*, the intent of the program was to collect samples at a frequency of approximately one sample per 2,000 cubic yards (yd³) and have these samples analyzed for the site-specific list of substances. Using a direct push drill rig, four soil borings (designated -a, -b, -c, and -d)³ were advanced in each cell to a depth specific to the approximate depth of cut at each boring. To characterize the chemical concentrations in each 2,000 yd³ volume, a discrete, grab sample was collected for volatile organic compound (VOC) analysis from the soil boring (boring a, b, c, or d) where field observations (e.g., field screening) indicated the greatest evidence of potential VOC contamination. A four-point composite sample (composed of soil from all four borings) was collected for semivolatile organic compounds (SVOCs) and lead analyses. The two-dimensional cell boundaries for the cut soil samples are shown on **Figures 2.2a** through **2.2b**.

As no additional SMP samples have been collected and the methods of the collection and analysis of soil samples are documented in previous addenda, additional details are not repeated here. However, data from additional soil sampling performed at the Site (1) in support of Evergreen investigations, (2) in support of PESRM's effort to close AST under Act 32, (3) in support of PESRM's efforts to address release(s) at select areas of the Site under Act 2, and (4) in support of PESRM's efforts to demonstrate Clean Closure of former hazardous waste storage units at the Site under RCRA were reviewed with consideration for determining soil-reuse categories under this *Plan Addendum*. Additional details regarding the sampling methods for these areas are documented in their respective reports.

3 Sampling Results

This section presents and discusses the results of the soil sampling and how chemical concentrations in soil within the cut soil zones compare to the SHS MSC identified in the approved 2020 *Plan*.

3.1 Results and Soil Categorization

The analytical results for samples collected from the Site are presented in **Tables 3.1a, 3.1b, 3.1c, 3.1d, 3.2a, 3.2b, 3.2c, 3.2d, and 3.3**. The areas where the additional sampling impacted the soil re-use category are depicted on **Figure 1.2** are discussed in Section 3.1.1.

² Samples for analysis of metals and SVOCs were collected as composite samples. Samples for analysis of VOCs were collected as discrete samples.

³ To characterize the deeper cut based on the February 2023 revision to the grading plan for the Industrial Development Phase I area, either the original soil boring locations (designated -a, -b, -c, and -d) were advanced to the deeper depth where they overlapped with the deeper cut, or additional borings were advanced, designated as -e and -f.



3.1.1 Consideration for Sampling Results Collected Under Other Programs

In addition to considering the soil sampling results in accordance with the 2020 *Plan*, additional soil sampling results from the target analyte list (**Table 1.3**) collected by Evergreen, for the AST Site Assessment and Site Characterization⁴, under Act 2, and for assessing conditions as part of RCRA Clean Closure of former hazardous waste storage areas were also considered in determining soil re-use categories. Figures presenting the spatial distribution of chemicals identified in **Table 1.3** with concentrations greater than the Non-Residential (Non-Res) Used Aquifer Soil-to-Groundwater (SGW) or Non-Res Direct Contact (DC) MSC in soil samples collected by Evergreen, and in support of AST Closure Program, Act 2, and RCRA Clean Closure are included in **Appendix B**.

As shown in **Table 3.4**, the concentrations for each target analyte from Evergreen, the AST Closure Program, Act 2, and RCRA Clean Closure samples were summarized and averaged for each cell. These averages were compared against the Non-Res MSC used to support this program (Section 1.2.3). Accounting for additional soil samples collected within other programs collected at the Site since the submittal of the last Addendum, the soil re-use categories were impacted for two cells, 302-AD10 and 303-BH02.

As summarized in **Table 3.4**, within the development area that is planned for soil regrading in Area 1 (cut cell 302-AD10), the average concentration of benzene was greater than Non-Res MSC, driven by benzene concentrations in samples collected to support PESRM's efforts to address release(s) at select areas under Act 2.

Within the development area that is planned for soil regrading in Area 2 (cut cell 303-BH02), the average chemical concentrations from samples collected to support PESRM's efforts to close AST under Act 32 and Evergreen's investigations were below the Non-Res MSC. Previously in Area 2, the average concentration of benzene was greater than the Non-Res MSC, driven by concentrations in samples collected by PESRM under Act 32 in December 2022 and documented in *SMP Addendum No. 5*. The addition of the results from the more recent sampling completed under Act 32 in Area 2 resulted in averages below the Non-Res MSC.

These samples collected by Evergreen, AST, Act 2, and RCRA Clean Closure sampling results were considered in assigning soil categories to each cell. Two cells were recategorized based on these results. Cut cell 302-AD10, originally categorized as A, was recategorized as B. Cut cell 303-BH02, originally categorized as B, was recategorized as A.

⁴ AST Site Assessment and Site Characterization sampling is being conducted by PESRM in accordance with the requirements of the PADEP Storage Tank Cleanup Program and the Above Ground Storage Tank Closure Work Plan (Terraphase 2021a). The sampling results and conclusions related to closure of historical tank releases will be documented in separate submittals to PADEP as part of the Corrective Action Process. The results from the AST samples are being used in the context of this *SMP Addendum* as additional data that can be used to inform soil management decision-making. Unless specifically stated in a tank program report, soil management is not being used to address releases from the ASTs under the Corrective Action Process.



Cell	Original Category	Recategorization	Chemical Driver
302-AD10	A	B	Benzene
303-BH02	B	A	--

3.1.2 Categorization of Soil to be Relocated During Mass Grading

As discussed in Section 1.2.4, the pre-soil grading characterization data generated via the SMP is used to divide soil that will be relocated during mass grading into categories that determine how the material will be managed during the cut and fill activities. The specific categories to which soil is assigned depend upon a comparison of the measured chemical-specific soil concentrations to the applicable screening levels. These categories are presented in **Table 1.2**. Concentrations from samples outside of the SMP soil samples (discussed in Section 3.1.1) were also considered. The two-dimensional cell boundaries for the cut soil samples (**Figure 2.2a** and **2.2b**) were used to visualize the aerial extent of soil that will be managed in accordance with these categories.

Figure 3.1a and **3.1b** present the results of the soil categorization for the cut material. As illustrated in **Figure 3.1b**, one cell (i.e., 302-AD10) previously categorized as “A” was re-categorized as “B” (*Soil that can be reused (1) in areas beneath an impervious surface cap (e.g., building slabs, parking lots, or roadways) that will serve as an engineering control under Act 2 at elevations above the groundwater table, or (2) in areas not beneath a surface cap that are more than 500 ft. from a shoreline (i.e., the edge of the Schuylkill River) as long as a risk assessment demonstrates attainment of the Site-specific standard*). The chemicals identified in these areas exhibited concentrations that were greater than the Non-Res SGW MSC, but less than the Non-Res DC MSC. The re-categorization of the cell was driven by benzene collected in additional samples outside of the SMP samples.

As illustrated in **Figure 3.1b**, one cell (i.e., 303-BH02) that was previously categorized as “B” was re-categorized as “A” (*Soil can be reused in area not beneath a surface cap, e.g., as backfill in utility corridors or in landscaped areas, as long as a risk assessment demonstrates attainment of the site-specific standard*). The chemicals identified in this cell did not exhibit concentrations greater than the Non-Res DC or Non-Res SGW MSC⁵.

4 Soil Management

The soil sampling results described in Section 3.1, including the results from samples collected by Evergreen, or as part of the AST Site Assessment and Site Characterization under Act 32, investigation of

⁵ As discussed in Section 3.1.1., the concentrations for each target analyte from the samples not collected as part of the SMP (i.e., collected by Evergreen, or as part of the AST Closure Program, Act 2, and RCRA Clean Closure) are summarized and averaged for each cell. The additional non-SMP sampling completed within cell 303-BH02 in November 2023 contained lower concentrations than previous non-SMP sampling, lowering the average concentrations to below the applicable MSC.



additional release areas under Act 2, and RCRA Clean Closure, have been used to categorize and determine how soil, that will be relocated during mass grading activities, may be re-used on-site. The sections below describe the process that will be used to manage soil during construction in accordance with the requirements specified in **Table 1.2** and the 2020 *Plan*.

4.1 Identification of Waste Material during Soil Movement

During mass grading activities, there is the potential for previously unidentified waste materials, such as leaded tank bottoms or containerized wastes, to be encountered. An environmental professional will be on site during mass grading to observe soil movement, to document that soil is placed appropriately, and to observe suspect waste materials. Procedures for identifying waste materials and subsequent notifications are described in **Appendix B**.

4.2 Bulk Soil Movement and Placement

Figure 4.1 identifies how soil in the cut cells will be managed. The volume of soil associated with each category “A”, “B”, and “E” area is provided in **Table 4.1**. **Table 4.1** is cumulative and provides a volume summary for all soil sampled to date. The volumes in **Table 4.1** and the table below reflect the anticipated cut volumes based on the grading plans for the Innovation Campus and Industrial Development Phase 1 areas⁶.

Soil Management Category	Volume (yd ³)
Industrial Development Phase 1	
A	1,608,200
B	720,700
E	143,600
Not Yet Categorized	34,500
Total	2,507,000
Innovation Campus	
A	394,600
B	173,600
E	106,200
Not Yet Categorized	8,900
Total	683,300

The earthwork contractor will excavate and segregate the category “A”, “B”, and “E” soil identified on **Figure 4.1** and **Table 4.1** for reuse in accordance with the requirements specified in **Table 1.2**. An environmental professional will oversee the earthwork and will ensure that soil is managed consistent with this *Plan Addendum*.

⁶ Volumes are based on the March 2023 mass grading plan for the Innovation Campus and the February 2023 mass grading plan for the Industrial Phase 1 area.



5 Documentation

The earthwork contractor will provide survey documentation of the soil volume excavated from each category “B” and “E” area. The surveys will be reviewed by the environmental professional overseeing the earthwork. The environmental professional will also be responsible for documenting the movement and storage of this soil during construction, including documenting the location of each soil volume identified in the above table (more detail provided in **Table 4.1**), in the final developed condition. The documentation will include cubic yards of soil moved, coordinates or maps of the new soil locations, and as-built drawings demonstrating that the areas where this soil is placed are covered by development components that serve as adequate engineering controls. PESRM understands that plans and descriptions of surface caps will need to be included in the Cleanup Plan(s) and that the Cleanup Plan(s) will be subject to the Act 2 public involvement process and will be coordinated with Evergreen.

The results of field documentation performed by the environmental professional will be summarized in a Soil Management Report to be submitted to PADEP upon completion of each phase of construction.

6 References

Hilco Redevelopment Partners, Philadelphia Holdings, LLC (HRP). 2020. *Final Soil Management Plan*. June 15.

Pennsylvania Department of Environmental Protection (PADEP). 2021. *Management of Fill Policy*. January 16.

Terraphase Engineering Inc. 2021a. *Aboveground Storage Tank Closure Work Plan*. March.

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Tables

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Table 1.1

Development Component Functions

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Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Development Component	Exposure Barrier	Impervious Barrier
<i>Surface Soil Layer</i> Imported soil used in accessible areas at the ground surface will be subject to PADEP's Management of Fill Policy (PADEP 2020). Before using soil from the Site in accessible areas at the ground surface, a risk assessment will be conducted to demonstrate attainment of the Site-specific standard.	X	
<i>Building Slab</i> Minimum section will consist of 4 inches of concrete over 4 inches of aggregate subbase.	X	X
<i>Parking Lot</i> Minimum section will consist of 3.75 inches of concrete or asphalt over 4 inches of aggregate subbase.	X	X
<i>Roadway</i> Minimum section will consist of 5 inches of concrete and/or asphalt over 4 inches of aggregate subbase.	X	X
<i>Drive Aisle</i> Minimum section will consist of 5 inches of concrete or asphalt over 4 inches of aggregate subbase.	X	X

Table 1.2

Soil Reuse Categories

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Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Category	Description	Reuse Options ⁴
A	Concentrations of target analytes below nonresidential soil direct contact ^{1,3} and soil-to-groundwater ² MSCs.	(1) in areas beneath a surface cap that provides an exposure barrier (e.g., building slabs, parking lots, roadways, or imported soil) that will serve as an engineering control under Act 2, or (2) in areas not beneath a surface cap (e.g., as backfill in utility corridors or in landscaped areas) as long as a risk assessment demonstrates attainment of the Site-specific standard.
B	Concentrations of target analytes above nonresidential soil-to-groundwater numeric values ² but below the nonresidential direct contact numeric values ^{1,3} , where direct contact values are higher than the nonresidential soil-to-groundwater numeric values.	(1) in areas beneath an impervious surface cap (e.g., building slabs, parking lots, or roadways) that will serve as an engineering control under Act 2 at elevations above the groundwater table, or (2) in areas not beneath a surface cap that are more than 500 ft. from a shoreline (i.e., the edge of the Schuylkill River) as long as a risk assessment demonstrates attainment of the Site-specific standard.
C	Concentrations of target analytes above the nonresidential direct contact numeric values ^{1,3} but below the nonresidential soil-to-groundwater numeric values ² , where the soil-to-groundwater numeric values are higher than the nonresidential direct contact numeric values.	In areas beneath a surface cap that provides an exposure barrier (e.g., building slabs, parking lots, roadways, imported soil, or appropriate Site soil) that will serve as an engineering control under Act 2. ^{4,5}
D	Concentrations of target analytes above the nonresidential direct contact numeric values ^{1,3} but below site-specific leaching based soil standards (if derived by PESRM).	In areas beneath a surface cap that provides an exposure barrier (e.g., building slabs, parking lots, roadways, imported soil, or appropriate Site soil) that will serve as an engineering control under Act 2. ^{4,5}
E	Concentrations of target analytes above the nonresidential direct contact numeric values ^{1,3} and above both nonresidential soil-to-groundwater numeric values ² and site-specific leaching-based standards (if derived by PESRM).	Soil can be reused beneath an impervious surface cap (e.g., building slabs, parking lots, or roadways) that will serve as an engineering control under Act 2 at elevations above the groundwater table.

- 1 The non-residential soil direct contact numeric value (0-2 ft bgs) are the current PADEP values.
- 2 The non-residential soil to groundwater numeric value are the current PADEP values for non-residential use aquifer (TDS ≤ 2500) soil-to-groundwater numeric value.
- 3 The Site-specific standard developed by Langan (2015) for lead is greater than PADEP's current non-residential soil direct contact numeric value of 1,000 mg/kg. For the SMP, PADEP's current generic value was used.
- 4 Imported soil used as an exposure barrier will be subject to PADEP's (2020) Management of Fill Policy.
- 5 Soil from the Site will only be considered appropriate for use as an exposure barrier if a risk assessment demonstrates attainment of the Site-specific standard.
- 6 Relocated soil from the Site will likely all be placed at elevations above the groundwater table because existing grades are above the groundwater table and the objective of soil relocation is to raise grades in areas of current relative lower elevation.

Table 1.3

**Target Analyte List and Associated Soil Cleanup Standards
Soil Management Plan Addendum No. 6**

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Analyte	USEPA Analytical Method	CASRN	Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)
Volatile Organic Compounds				
Benzene	8260	71-43-2	280	0.5
1,2-Dibromoethane (EDB)	8260	106-93-4	3.7	0.005
1,2-Dichloroethane (EDC)	8260	107-06-2	85	0.5
Ethylbenzene	8260	100-41-4	880	70
Isopropylbenzene (Cumene)	8260	98-82-8	10,000	2,500
Methyl Tertiary Butyl Ether	8260	1634-04-4	8,500	2
Naphthalene	8270	91-20-3	66	25
Toluene	8260	108-88-3	10,000	100
1,2,4-Trimethylbenzene	8260	95-63-6	4,700	300
1,3,5-Trimethylbenzene	8260	108-67-8	4,700	93
Xylenes (Total)	8260	1330-20-7	7,900	1,000
Semi-Volatile Compounds				
Anthracene	8270	120-12-7	190,000	350
Benzo(a)anthracene	8270	56-55-3	130	340
Benzo(a)pyrene	8270	50-32-8	91	46
Benzo(b)fluoranthene	8270	205-99-2	76	170
Benzo(g,h,i)perylene	8270	191-24-2	190,000	180
Chrysene	8270	218-01-9	760	230
Fluorene	8270	86-73-7	130,000	3,800
Phenanthrene	8270	85-01-8	190,000	10,000
Pyrene	8270	129-00-0	96,000	2,200
Metals				
Lead	6010/6020	7439-92-1	1000	450

Notes:

- ¹ The Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) are the current PADEP values.
- ² The Non-Residential Soil to Groundwater Numeric Value are the current PADEP values for Non-Residential Use Aquifer (TDS ≤ 2500) Soil-to-Groundwater Numeric Value.
- ³ The Act 2 Standards are subject to change, and the Standards in effect at the time of an Act 2 report submittal will apply.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-A15-C-a 101-A15-C	101-D14-C-b 101-D14-C	101-D16-C-a 101-D16-C	101-D20-C-d 101-D20-C	101-E14-S-d 101-E14-S	101-F13-C-c 101-F13-C	101-G10-C-b 101-G10-C	101-G16-C-d 101-G16-C	101-G23-C-c 101-G23-C	101-G24-C-d 101-G24-C	101-G25-C-d 101-G25-C	101-G26-C-b 101-G26-C	101-H10-C-d 101-H10-C	101-H12-C-b 101-H12-C
Field Sample ID	Numeric Value	Numeric Value	101-A15-C-VOC	101-D14-C-VOC	101-D16-C-VOC	101-D20-C-VOC	101-E14-S-VOC	101-F13-C-VOC	101-G10-C-VOC	101-G16-C-VOC	101-G23-C-VOC	101-G24-C-VOC	101-G25-C-VOC	101-G26-C-VOC	101-H10-C-VOC	101-H12-C-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 1.05	0 - 1.99	0 - 0.99	0 - 3.64	0 - 6.14	0 - 1.14	0 - 6.26	0 - 4.91	0 - 5.08	0 - 4.25	0 - 7.87	0 - 5.01	0 - 6.26	0 - 0.55
Sample Date	(mg/kg)	(mg/kg)	1/4/2021	1/4/2021	1/4/2021	1/7/2021	1/6/2021	1/6/2021	1/5/2021	1/7/2021	1/15/2021	1/15/2021	1/15/2021	1/15/2021	1/5/2021	1/5/2021
VOC																
Benzene	280	0.5	U (0.00053)	0.2 (0.056)	0.00072 (0.00052)	U (0.00051)	0.0016 (0.00063)	U (0.00056)	U (0.00051)	0.00018 J (0.00039)	U (0.00055)	U (0.00051)	U (0.00056)	U (0.0011)	0.0021 (0.00061)	U (0.00071)
Cumene	10000	2500	U (0.0011)	0.38 (0.11)	0.0011 (0.001)	0.00029 J (0.001)	U (0.0013)	0.00024 J (0.0011)	0.0061 (0.001)	0.5 (0.075)	U (0.0011)	U (0.001)	U (0.0011)	U (0.0022)	0.001 J (0.0012)	U (0.0014)
1,2-Dibromoethane	3.7	0.005	U (0.00053)	U (0.056)	U (0.00052)	U (0.00051)	U (0.00063)	U (0.00056)	U (0.00051)	U (0.00039)	U (0.00055)	U (0.00051)	U (0.00056)	U (0.0011)	U (0.00061)	U (0.00071)
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.11)	U (0.001)	U (0.001)	U (0.0013)	U (0.0011)	0.00037 J (0.001)	U (0.00078)	U (0.0011)	U (0.001)	U (0.0011)	U (0.0022)	U (0.0012)	U (0.0014)
Ethyl Benzene	880	70	U (0.0011)	1.1 (0.11)	0.00084 J (0.001)	0.00016 J (0.001)	U (0.0013)	U (0.0011)	U (0.001)	0.001 (0.00078)	U (0.0011)	U (0.001)	U (0.0011)	U (0.0022)	0.00055 J (0.0012)	U (0.0014)
Methyl tert-butyl ether	8500	2	U (0.0021)	U (0.22)	U (0.0021)	U (0.002)	U (0.0025)	U (0.0022)	U (0.002)	U (0.0016)	U (0.0022)	U (0.002)	U (0.0022)	U (0.0044)	U (0.0024)	U (0.0028)
Toluene	10000	100	U (0.0011)	0.28 (0.11)	0.00064 J (0.001)	U (0.001)	0.00074 J (0.0013)	U (0.0011)	U (0.001)	0.0022 (0.00078)	U (0.0011)	U (0.001)	U (0.0011)	U (0.0022)	0.0016 (0.0012)	U (0.0014)
1,2,4-Trimethylbenzene	4700	300	U (0.0021)	2.4 (0.22)	0.0024 (0.0021)	U (0.002)	U (0.0025)	U (0.0022)	0.0014 J (0.002)	0.0089 (0.0016)	U (0.0022)	U (0.002)	U (0.0022)	U (0.0044)	0.00056 J (0.0024)	U (0.0028)
1,3,5-Trimethylbenzene	4700	93	U (0.0021)	1.3 (0.22)	0.00069 J (0.0021)	0.00041 J (0.002)	U (0.0025)	U (0.0022)	0.00078 J (0.002)	0.0016 (0.0016)	U (0.0022)	U (0.002)	U (0.0022)	U (0.0044)	0.00091 J (0.0024)	U (0.0028)
Xylenes (total)	7900	1000	U (0.0021)	1.17 J (0.22)	0.00168 J (0.0021)	U (0.002)	U (0.0025)	U (0.0022)	U (0.002)	0.0103 J (0.0016)	U (0.0022)	U (0.002)	U (0.0022)	U (0.0044)	0.003 J (0.0024)	U (0.0028)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-H17-C-b 101-H17-C	101-H20-C-d 101-H20-C	101-H21-C-c 101-H21-C	101-H22-C-c 101-H22-C	101-H23-C-c 101-H23-C	101-H24-C-d 101-H24-C	101-H27-C-d 101-H27-C	101-H28-C-c 101-H28-C	101-I13-C-d 101-I13-C	101-I13-S-d 101-I13-S	101-I15-C-b 101-I15-C	101-I18-C-a 101-I18-C	101-I20-C-a 101-I20-C	101-I21-C-c 101-I21-C
Field Sample ID	Numeric Value	Numeric Value	101-H17-C-VOC	101-H20-C-VOC	101-H21-C-VOC	101-H22-C-VOC	101-H23-C-VOC	101-H24-C-VOC	101-H27-C-VOC	101-H28-C-VOC	101-I13-C-VOC	101-I13-S-VOC	101-I15-C-VOC	101-I18-C-VOC	101-I20-C-VOC	101-I21-C-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 3.97	0 - 5.18	0 - 4.86	0 - 5.49	0 - 5.86	0 - 6.93	0 - 4.15	0 - 6.08	6.14 - 9.07	0 - 6.14	0 - 6.64	0 - 3.05	0 - 4.62	0 - 4.61
Sample Date	(mg/kg)	(mg/kg)	1/7/2021	1/8/2021	1/8/2021	1/11/2021	1/11/2021	1/12/2021	1/18/2021	1/13/2021	1/5/2021	1/6/2021	1/6/2021	1/7/2021	1/7/2021	1/8/2021
VOC																
Benzene	280	0.5	0.47 (0.043)	0.00089 J (0.00094)	0.0014 (0.00071)	0.0044 (0.00084)	0.00036 J (0.00053)	0.004 (0.00062)	U (0.00057)	U (0.00042)	U (0.00068)	U (0.001)	U (0.064)	U (0.00065)	0.096 (0.046)	U (0.00069)
Cumene	10000	2500	7.1 (0.086)	0.0019 (0.0019)	0.00046 J (0.0014)	0.0011 J (0.0017)	0.00057 J (0.0011)	0.0031 (0.0012)	0.00013 J (0.0011)	U (0.00085)	U (0.0014)	U (0.0021)	0.027 J (0.13)	U (0.0013)	0.075 J (0.093)	U (0.0014)
1,2-Dibromoethane	3.7	0.005	U (0.043)	U (0.00094)	U (0.00071)	U (0.00084)	U (0.00053)	U (0.00062)	U (0.00057)	U (0.00042)	U (0.00068)	U (0.001)	U (0.064)	U (0.00065)	U (0.046)	U (0.00069)
1,2-Dichloroethane	85	0.5	U (0.086)	U (0.0019)	U (0.0014)	U (0.0017)	U (0.0011)	U (0.0012)	U (0.0011)	U (0.00085)	U (0.0014)	U (0.0021)	U (0.13)	U (0.0013)	U (0.093)	U (0.0014)
Ethyl Benzene	880	70	0.27 (0.086)	0.00054 J (0.0019)	U (0.0014)	0.0012 J (0.0017)	U (0.0011)	0.0014 (0.0012)	U (0.0011)	U (0.00085)	U (0.0014)	U (0.0021)	0.027 J (0.13)	U (0.0013)	0.077 J (0.093)	U (0.0014)
Methyl tert-butyl ether	8500	2	U (0.17)	U (0.0038)	U (0.0028)	U (0.0034)	U (0.0021)	U (0.0025)	U (0.0023)	U (0.0017)	U (0.0027)	U (0.0042)	U (0.26)	U (0.0026)	U (0.19)	U (0.0028)
Toluene	10000	100	0.36 (0.086)	0.001 J (0.0019)	U (0.0014)	0.0019 (0.0017)	U (0.0011)	0.0018 (0.0012)	U (0.0011)	U (0.00085)	U (0.0014)	U (0.0021)	0.11 J (0.13)	U (0.0013)	0.12 (0.093)	U (0.0014)
1,2,4-Trimethylbenzene	4700	300	8.7 (0.17)	0.00085 J (0.0038)	U (0.0028)	0.0012 J (0.0034)	U (0.0021)	0.0047 (0.0025)	U (0.0023)	U (0.0017)	U (0.0027)	0.00088 J (0.0042)	0.14 J (0.26)	U (0.0026)	0.24 (0.19)	U (0.0028)
1,3,5-Trimethylbenzene	4700	93	3.6 (0.17)	0.00069 J (0.0038)	U (0.0028)	0.0012 J (0.0034)	U (0.0021)	0.0018 J (0.0025)	0.00036 J (0.0023)	U (0.0017)	U (0.0027)	0.00041 J (0.0042)	0.037 J (0.26)	U (0.0026)	0.23 (0.19)	U (0.0028)
Xylenes (total)	7900	1000	3.6 J (0.17)	0.00176 J (0.0038)	U (0.0028)	0.0038 J (0.0034)	U (0.0021)	0.0042 J (0.0025)	U (0.0023)	U (0.0017)	U (0.0027)	U (0.0042)	U (0.26)	U (0.0026)	0.39 J (0.19)	U (0.0028)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-I22-C-c 101-I22-C	101-I23-C-c 101-I23-C	101-I24-C-b 101-I24-C	101-I25-C-b 101-I25-C	101-I26-C-a 101-I26-C	101-I29-C-b 101-I29-C	101-I30-C1-a 101-I30-C1	101-I30-C2-b 101-I30-C2	101-J13-C-b 101-J13-C	101-J17-C-c 101-J17-C	101-J20-C-b 101-J20-C	101-J21-C-b 101-J21-C	101-J23-C-d 101-J23-C	101-J26-C-a 101-J26-C
Field Sample ID	Numeric Value	Numeric Value	0 - 3.73	0 - 2.54	0 - 2.56	0 - 11.3	0 - 7.66	0 - 8.09	0 - 5.79	5.79 - 11.6	0 - 5.63	0 - 3.78	0 - 3.97	0 - 1.09	0 - 1.16	0 - 0.2
Collection Depth (ft bgs)	(0-2 ft bgs)		1/11/2021	1/11/2021	1/12/2021	1/12/2021	1/13/2021	3/10/2021	1/14/2021	1/14/2021	1/5/2021	1/6/2021	1/12/2021	1/8/2021	1/12/2021	1/13/2021
Sample Date	(mg/kg)	(mg/kg)														
VOC																
Benzene	280	0.5	U (0.00053)	0.00036 J (0.00071)	U (0.00052)	0.49 (0.036)	3.8 (0.16)	U (0.00054)	U (0.00045)	U (0.00042)	0.0028 (0.00081)	0.17 (0.038)	U (0.00049)	U (0.00058)	U (0.00052)	0.00046 J (0.00077)
Cumene	10000	2500	U (0.0011)	U (0.0014)	U (0.001)	1.4 (0.073)	8.3 (0.33)	U (0.0011)	U (0.00091)	U (0.00083)	0.0011 J (0.0016)	0.79 (0.077)	U (0.00097)	U (0.0012)	U (0.001)	U (0.0015)
1,2-Dibromoethane	3.7	0.005	U (0.00053)	U (0.00071)	U (0.00052)	U (0.036)	U (0.16)	U (0.00054)	U (0.00045)	U (0.00042)	U (0.00081)	U (0.038)	U (0.00049)	U (0.00058)	U (0.00052)	U (0.00077)
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.0014)	U (0.001)	U (0.073)	U (0.33)	U (0.0011)	U (0.00091)	U (0.00083)	U (0.0016)	U (0.077)	U (0.00097)	U (0.0012)	U (0.001)	U (0.0015)
Ethyl Benzene	880	70	U (0.0011)	U (0.0014)	U (0.001)	0.5 (0.073)	20 (0.33)	U (0.0011)	U (0.00091)	U (0.00083)	0.00066 J (0.0016)	0.14 (0.077)	U (0.00097)	U (0.0012)	U (0.001)	U (0.0015)
Methyl tert-butyl ether	8500	2	U (0.0021)	U (0.0028)	U (0.0021)	U (0.14)	U (0.66)	U (0.0022)	U (0.0018)	U (0.0017)	U (0.0032)	U (0.15)	U (0.0019)	U (0.0023)	U (0.0021)	U (0.0031)
Toluene	10000	100	U (0.0011)	U (0.0014)	U (0.001)	0.29 (0.073)	2.6 (0.33)	U (0.0011)	U (0.00091)	U (0.00083)	0.003 (0.0016)	0.14 (0.077)	U (0.00097)	U (0.0012)	U (0.001)	U (0.0015)
1,2,4-Trimethylbenzene	4700	300	U (0.0021)	U (0.0028)	U (0.0021)	5.1 (0.14)	120 (6.6)	U (0.0022)	U (0.0018)	U (0.0017)	0.016 (0.0032)	0.06 J (0.15)	U (0.0019)	U (0.0023)	U (0.0021)	U (0.0031)
1,3,5-Trimethylbenzene	4700	93	U (0.0021)	U (0.0028)	U (0.0021)	1.2 (0.14)	35 (0.66)	U (0.0022)	U (0.0018)	U (0.0017)	0.0068 (0.0032)	0.024 J (0.15)	U (0.0019)	U (0.0023)	U (0.0021)	U (0.0031)
Xylenes (total)	7900	1000	U (0.0021)	U (0.0028)	U (0.0021)	1.34 J (0.14)	69 J (0.66)	U (0.0022)	U (0.0018)	U (0.0017)	0.0057 J (0.0032)	0.26 J (0.15)	U (0.0019)	U (0.0023)	U (0.0021)	U (0.0031)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-J27-C-b 101-J27-C	101-J28-C-a 101-J28-C	101-J29-C-a 101-J29-C	101-J31-C-c 101-J31-C	101-J32-C1-a 101-J32-C1	101-J32-C2-b 101-J32-C2	101-K20-C-c 101-K20-C	101-K21-C-c 101-K21-C	101-K23-C-a 101-K23-C	101-K26-C-b 101-K26-C	101-K29-C-d 101-K29-C	101-K30-C1-b 101-K30-C1	101-K30-C2-c 101-K30-C2	101-K31-C1-d 101-K31-C1
Field Sample ID	Numeric Value	Numeric Value	101-J27-C-VOC	101-J28-C-VOC	101-J29-C-VOC	101-J31-C-VOC	101-J32-C1-VOC	101-J32-C2-VOC	101-K20-C-VOC	101-K21-C-VOC	101-K23-C-VOC	101-K26-C-VOC	101-K29-C-VOC	101-K30-C1-VOC	101-K30-C2-VOC	101-K31-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 0.85	0 - 6.27	0 - 8.93	0 - 11.8	0 - 6.06	6.06 - 12.1	0 - 4.24	0 - 0.17	0 - 0.9	0 - 3.11	0 - 8.93	0 - 5.37	5.37 - 10.7	0 - 5.87
Sample Date	(mg/kg)	(mg/kg)	1/13/2021	1/13/2021	1/13/2021	1/14/2021	1/20/2021	1/20/2021	1/12/2021	1/12/2021	1/12/2021	1/13/2021	1/14/2021	1/14/2021	1/14/2021	1/14/2021
VOC																
Benzene	280	0.5	U (0.00054)	U (0.00055)	U (0.00048)	U (0.00049)	U (0.00054)	U (0.00066)	U (0.00046)	U (0.00081)	U (0.0005)	U (0.00041)	U (0.00068)	0.0076 J (0.019)	0.0032 (0.00048)	U (0.001)
Cumene	10000	2500	U (0.0011)	0.00016 J (0.0011)	U (0.00096)	U (0.00099)	U (0.0011)	U (0.0013)	U (0.00093)	U (0.0016)	U (0.001)	0.00013 J (0.00083)	U (0.0014)	0.011 J (0.039)	0.0074 (0.00095)	U (0.002)
1,2-Dibromoethane	3.7	0.005	U (0.00054)	U (0.00055)	U (0.00048)	U (0.00049)	U (0.00054)	U (0.00066)	U (0.00046)	U (0.00081)	U (0.0005)	U (0.00041)	U (0.00068)	U (0.019)	U (0.00048)	U (0.001)
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.0011)	U (0.00096)	U (0.00099)	U (0.0011)	U (0.0013)	U (0.00093)	U (0.0016)	U (0.001)	U (0.00083)	U (0.0014)	U (0.039)	U (0.00095)	U (0.002)
Ethyl Benzene	880	70	U (0.0011)	U (0.0011)	U (0.00096)	U (0.00099)	U (0.0011)	U (0.0013)	U (0.00093)	U (0.0016)	U (0.001)	U (0.00083)	U (0.0014)	0.013 J (0.039)	0.0023 (0.00095)	U (0.002)
Methyl tert-butyl ether	8500	2	U (0.0021)	U (0.0022)	U (0.0019)	U (0.002)	U (0.0022)	U (0.0026)	U (0.0018)	U (0.0032)	U (0.002)	U (0.0016)	U (0.0027)	U (0.077)	U (0.0019)	U (0.004)
Toluene	10000	100	U (0.0011)	U (0.0011)	U (0.00096)	U (0.00099)	U (0.0011)	U (0.0013)	U (0.00093)	U (0.0016)	U (0.001)	U (0.00083)	U (0.0014)	0.035 J (0.039)	0.00098 (0.00095)	U (0.002)
1,2,4-Trimethylbenzene	4700	300	U (0.0021)	U (0.0022)	U (0.0019)	U (0.002)	U (0.0022)	U (0.0026)	U (0.0018)	U (0.0032)	U (0.002)	0.0021 (0.0016)	U (0.0027)	0.12 (0.077)	0.00069 J (0.0019)	U (0.004)
1,3,5-Trimethylbenzene	4700	93	U (0.0021)	U (0.0022)	U (0.0019)	U (0.002)	U (0.0022)	U (0.0026)	U (0.0018)	U (0.0032)	U (0.002)	0.00092 J (0.0016)	U (0.0027)	0.12 (0.077)	0.00025 J (0.0019)	U (0.004)
Xylenes (total)	7900	1000	U (0.0021)	U (0.0022)	U (0.0019)	U (0.002)	U (0.0022)	U (0.0026)	U (0.0018)	U (0.0032)	U (0.002)	U (0.0016)	U (0.0027)	0.0625 J (0.077)	0.0032 J (0.0019)	U (0.004)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-K31-C2-b 101-K31-C2	101-K33-C-d 101-K33-C	101-K34-C1-b 101-K34-C1	101-K34-C2-b 101-K34-C2	101-L29-C-c 101-L29-C	101-L30-C1-a 101-L30-C1	101-L30-C2-a 101-L30-C2	101-L31-C1-c 101-L31-C1	101-L31-C2-b 101-L31-C2	101-L32-C1-a 101-L32-C1	101-L32-C2-a 101-L32-C2	101-L32-S-a 101-L32-S	101-L33-C1-d 101-L33-C1	101-L33-C2-d 101-L33-C2
Field Sample ID	Numeric Value	Numeric Value	101-K31-C2-VOC	101-K33-C-VOC	101-K34-C1-VOC	101-K34-C2-VOC	101-L29-C-VOC	101-L30-C1-VOC	101-L30-C2-VOC	101-L31-C1-VOC	101-L31-C2-VOC	101-L32-C1-VOC	101-L32-C2-VOC	101-L32-S-VOC	101-L33-C1-VOC	101-L33-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		5.87 - 11.7	0 - 12.4	0 - 5.8	5.8 - 11.6	0 - 7.55	0 - 4.43	4.43 - 8.86	0 - 5.19	5.19 - 10.4	3.14 - 8.61	8.61 - 14.1	0 - 3.14	0 - 5.75	5.75 - 11.5
Sample Date	(mg/kg)	(mg/kg)	1/14/2021	1/20/2021	1/20/2021	1/20/2021	1/14/2021	1/19/2021	1/19/2021	1/19/2021	1/19/2021	1/19/2021	1/19/2021	1/20/2021	1/20/2021	1/20/2021
VOC																
Benzene	280	0.5	U (0.0007)	0.21 (0.052)	0.00023 J (0.0007)	U (0.0011)	U (0.00053)	0.00019 J (0.00046)	0.12 (0.028)	U (0.00045)	U (0.00059)	U (0.00065)	U (0.00062)	U (0.00053)	0.015 J (0.038)	0.051 (0.046)
Cumene	10000	2500	U (0.0014)	3.8 (0.1)	0.0012 J (0.0014)	U (0.0022)	U (0.0011)	U (0.00092)	1 (0.057)	U (0.0009)	0.014 (0.0012)	0.00088 J (0.0013)	U (0.0012)	U (0.0011)	0.93 (0.077)	0.99 (0.092)
1,2-Dibromoethane	3.7	0.005	U (0.0007)	U (0.052)	U (0.0007)	U (0.0011)	U (0.00053)	U (0.00046)	U (0.028)	U (0.00045)	U (0.00059)	U (0.00065)	U (0.00062)	U (0.00053)	U (0.038)	U (0.046)
1,2-Dichloroethane	85	0.5	U (0.0014)	U (0.1)	U (0.0014)	U (0.0022)	U (0.0011)	U (0.00092)	U (0.057)	U (0.0009)	U (0.0012)	U (0.0013)	U (0.0012)	U (0.0011)	U (0.077)	U (0.092)
Ethyl Benzene	880	70	U (0.0014)	6.7 (0.1)	0.00061 J (0.0014)	U (0.0022)	U (0.0011)	U (0.00092)	1.9 (0.057)	U (0.0009)	U (0.0012)	U (0.0013)	U (0.0012)	U (0.0011)	0.05 J (0.077)	0.18 (0.092)
Methyl tert-butyl ether	8500	2	U (0.0028)	U (0.21)	U (0.0028)	U (0.0043)	U (0.0021)	U (0.0018)	U (0.11)	U (0.0018)	U (0.0024)	U (0.0026)	U (0.0025)	U (0.0021)	U (0.15)	U (0.18)
Toluene	10000	100	U (0.0014)	4.7 (0.1)	U (0.0014)	U (0.0022)	U (0.0011)	U (0.00092)	0.12 (0.057)	U (0.0009)	U (0.0012)	U (0.0013)	U (0.0012)	U (0.0011)	U (0.077)	0.19 (0.092)
1,2,4-Trimethylbenzene	4700	300	U (0.0028)	55 (0.82)	0.0029 (0.0028)	U (0.0043)	U (0.0021)	U (0.0018)	0.37 (0.11)	U (0.0018)	0.0024 (0.0024)	0.0024 J (0.0026)	U (0.0025)	U (0.0021)	0.05 J (0.15)	0.13 J (0.18)
1,3,5-Trimethylbenzene	4700	93	U (0.0028)	14 (0.21)	0.00075 J (0.0028)	U (0.0043)	U (0.0021)	U (0.0018)	0.14 (0.11)	U (0.0018)	0.00069 J (0.0024)	0.001 J (0.0026)	U (0.0025)	U (0.0021)	U (0.15)	0.034 J (0.18)
Xylenes (total)	7900	1000	U (0.0028)	35 J (0.21)	0.01 J (0.0028)	U (0.0043)	U (0.0021)	U (0.0018)	0.38 J (0.11)	U (0.0018)	0.0027 J (0.0024)	0.00188 J (0.0026)	U (0.0025)	U (0.0021)	0.338 J (0.15)	0.57 J (0.18)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-L34-S-b 101-L34-S	101-L35-C1-c 101-L35-C1	101-L35-C2-d 101-L35-C2	101-M26-C-a 101-M26-C	101-M28-C-d 101-M28-C	101-M29-C-d 101-M29-C	101-M30-C-a 101-M30-C	101-M31-C-d 101-M31-C	101-M32-C1-d 101-M32-C1	101-M32-C2-d 101-M32-C2	101-M33-C1-d 101-M33-C1	101-M33-C2-c 101-M33-C2	101-M34-C1-a 101-M34-C1	101-M34-C2-a 101-M34-C2
Field Sample ID	Numeric Value	Numeric Value	101-L34-S-VOC	101-L35-C1-VOC	101-L35-C2-VOC	101-M26-C-VOC	101-M28-C-VOC	101-M29-C-VOC	101-M30-C-VOC	101-M31-C-VOC	101-M32-C1-VOC	101-M32-C2-VOC	101-M33-C1-VOC	101-M33-C2-VOC	101-M34-C1-VOC	101-M34-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 3.11	0 - 3.55	3.55 - 7.09	0 - 2.18	0 - 3.58	0 - 3.83	0 - 4.42	0 - 4.82	0 - 4.37	4.37 - 8.73	0 - 4.63	4.63 - 9.25	0 - 4.63	4.63 - 9.26
Sample Date	(mg/kg)	(mg/kg)	1/21/2021	1/21/2021	1/21/2021	1/13/2021	1/15/2021	1/14/2021	1/18/2021	1/18/2021	1/19/2021	1/19/2021	1/21/2021	1/21/2021	1/21/2021	1/21/2021
VOC																
Benzene	280	0.5	U (0.00048)	U (0.0011)	U (0.26) 0.00042 J (0.00044)	0.00087 (0.00055)	U (0.00044)	0.0014 (0.00065)	U (0.00049)	0.016 (0.00058)	0.0005 J (0.00079)	0.24 (0.054)	U (0.028)	U (0.00067)	0.14 (0.074)	
Cumene	10000	2500	U (0.00097)	U (0.0022)	1.9 (0.53) 0.012 (0.00088)	U (0.0011)	0.026 (0.00088)	U (0.0013)	0.0013 (0.00098)	0.084 (0.0012)	U (0.0016)	6.6 (0.11)	3.5 (0.057)	0.0035 (0.0013)	2.4 (0.15)	
1,2-Dibromoethane	3.7	0.005	U (0.00048)	U (0.0011)	U (0.26) U (0.00044)	U (0.00055)	U (0.00044)	U (0.00065)	U (0.00049)	U (0.00058)	U (0.00079)	U (0.054)	U (0.028)	U (0.00067)	U (0.074)	
1,2-Dichloroethane	85	0.5	U (0.00097)	U (0.0022)	U (0.53) U (0.00088)	U (0.0011)	U (0.00088)	U (0.0013)	U (0.00098)	U (0.0012)	U (0.0016)	U (0.11)	U (0.057)	U (0.0013)	U (0.15)	
Ethyl Benzene	880	70	U (0.00097)	U (0.0022)	0.83 (0.53) 0.00023 J (0.00088)	U (0.0011)	0.00013 J (0.00088)	U (0.0013)	U (0.00098)	0.011 (0.0012)	U (0.0016)	0.11 (0.11)	0.02 J (0.057)	U (0.0013)	1.2 (0.15)	
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.0043)	U (1.1) U (0.0018)	U (0.0022)	U (0.0018)	U (0.0026)	U (0.002)	U (0.0023)	U (0.0032)	U (0.21)	U (0.11)	U (0.0027)	U (0.3)	
Toluene	10000	100	U (0.00097)	U (0.0022)	0.4 J (0.53) U (0.00088)	U (0.0011)	U (0.00088)	U (0.0013)	U (0.00098)	0.0078 (0.0012)	U (0.0016)	0.13 (0.11)	U (0.057)	U (0.0013)	0.43 (0.15)	
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	U (0.0043)	0.78 J (1.1) 0.00043 J (0.0018)	U (0.0022)	U (0.0018)	U (0.0026)	U (0.002)	0.027 (0.0023)	U (0.0032)	0.53 (0.21)	0.16 (0.11)	0.0014 J (0.0027)	22 (0.3)	
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	U (0.0043)	U (1.1) U (0.0018)	U (0.0022)	U (0.0018)	U (0.0026)	U (0.002)	0.016 (0.0023)	U (0.0032)	0.21 (0.21)	0.16 (0.11)	0.00074 J (0.0027)	6.8 (0.3)	
Xylenes (total)	7900	1000	U (0.0019)	U (0.0043)	1.35 J (1.1) 0.00328 J (0.0018)	U (0.0022)	0.002 J (0.0018)	U (0.0026)	0.0043 J (0.002)	0.0198 J (0.0023)	U (0.0032)	0.74 J (0.21)	0.255 J (0.11)	U (0.0027)	6 J (0.3)	

- Notes:**
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 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-M36-C-a 101-M36-C	101-N29-C-d 101-N29-C	101-N31-C-b 101-N31-C	101-N32-C-c 101-N32-C	101-N33-C-b 101-N33-C	101-N34-C-d 101-N34-C	101-N35-C-d 101-N35-C	101-O28-C-b 101-O28-C	101-O29-C-a 101-O29-C	101-O30-C-b 101-O30-C	101-O31-C-d 101-O31-C	101-O33-S-b 101-O33-S	101-O34-C-d 101-O34-C	101-O36-C-c 101-O36-C
Field Sample ID	Numeric Value	Numeric Value	0 - 4.03	0 - 3.94	0 - 1.95	0 - 1.94	0 - 5.06	0 - 5.07	0 - 3.94	0 - 2.5	0 - 2.71	0 - 2.8	0 - 1.47	0 - 2.8	0 - 1.91	0 - 4.43
Collection Depth (ft bgs)	(0-2 ft bgs)		1/21/2021	1/15/2021	1/18/2021	1/18/2021	1/18/2021	1/19/2021	1/21/2021	1/15/2021	1/15/2021	1/22/2021	1/18/2021	1/22/2021	1/22/2021	1/22/2021
Sample Date	(mg/kg)	(mg/kg)														
VOC																
Benzene	280	0.5	0.44 (0.049)	0.32 (0.09)	0.0011 (0.00053)	0.27 (0.12)	U (0.00068)	U (0.00047)	U (0.00051)	U (0.00058)	0.0068 (0.00079)	0.00027 J (0.00071)	U (0.00051)	U (0.00054)	U (0.00042)	U (0.03)
Cumene	10000	2500	8.7 (0.098)	3.2 (0.18)	0.014 (0.001)	0.92 (0.24)	0.05 (0.0014)	U (0.00094)	U (0.001)	U (0.0012)	U (0.0016)	U (0.0014)	U (0.001)	U (0.0011)	U (0.00084)	0.013 J (0.06)
1,2-Dibromoethane	3.7	0.005	U (0.049)	U (0.09)	U (0.00053)	U (0.12)	U (0.00068)	U (0.00047)	U (0.00051)	U (0.00058)	U (0.00079)	U (0.00071)	U (0.00051)	U (0.00054)	U (0.00042)	U (0.03)
1,2-Dichloroethane	85	0.5	U (0.098)	U (0.18)	U (0.001)	U (0.24)	U (0.0014)	U (0.00094)	U (0.001)	U (0.0012)	U (0.0016)	U (0.0014)	U (0.001)	U (0.0011)	U (0.00084)	U (0.06)
Ethyl Benzene	880	70	0.085 J (0.098)	0.15 J (0.18)	0.00035 J (0.001)	0.07 J (0.24)	0.00041 J (0.0014)	U (0.00094)	U (0.001)	U (0.0012)	U (0.0016)	U (0.0014)	U (0.001)	U (0.0011)	U (0.00084)	U (0.06)
Methyl tert-butyl ether	8500	2	U (0.2)	U (0.36)	U (0.0021)	U (0.49)	U (0.0027)	U (0.0019)	U (0.002)	U (0.0023)	U (0.0032)	U (0.0028)	U (0.002)	U (0.0022)	U (0.0017)	U (0.12)
Toluene	10000	100	0.42 (0.098)	0.29 (0.18)	0.001 (0.001)	0.17 J (0.24)	U (0.0014)	U (0.00094)	U (0.001)	U (0.0012)	U (0.0016)	U (0.0014)	U (0.001)	U (0.0011)	U (0.00084)	U (0.06)
1,2,4-Trimethylbenzene	4700	300	0.079 J (0.2)	35 (0.36)	0.0005 J (0.0021)	U (0.49)	0.018 (0.0027)	U (0.0019)	U (0.002)	U (0.0023)	U (0.0032)	U (0.0028)	U (0.002)	U (0.0022)	U (0.0017)	U (0.12)
1,3,5-Trimethylbenzene	4700	93	U (0.2)	8.9 (0.36)	U (0.0021)	U (0.49)	0.0099 (0.0027)	U (0.0019)	U (0.002)	U (0.0023)	U (0.0032)	U (0.0028)	U (0.002)	U (0.0022)	U (0.0017)	U (0.12)
Xylenes (total)	7900	1000	0.4 J (0.2)	1.96 J (0.36)	0.0022 J (0.0021)	U (0.49)	0.0101 J (0.0027)	U (0.0019)	U (0.002)	U (0.0023)	U (0.0032)	U (0.0028)	U (0.002)	U (0.0022)	U (0.0017)	U (0.12)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-O37-C-d 101-O37-C	101-P12-C1-a 101-P12-C1	101-P12-C2-a 101-P12-C2	101-P31-C1-a 101-P31-C1	101-P31-C2-d 101-P31-C2	101-P35-C-d 101-P35-C	101-P36-C-c 101-P36-C	101-P36-S-a 101-P36-S	101-P37-C-b 101-P37-C	101-P38-C-b 101-P38-C	101-Q37-C-c 101-Q37-C	101-Q38-C-c 101-Q38-C	101-Q39-C-a 101-Q39-C	101-R23-S-d 101-R23-S
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value	0 - 4.02	0 - 2.17	2.17 - 4.33	0 - 4.85	4.85 - 9.69	0 - 2.66	1.31 - 5.45	0 - 1.31	0 - 6.8	0 - 3.39	0 - 6.8	0 - 5.33	0 - 0.57	0 - 1.05
Collection Depth (ft bgs)	Sample Date	Sample Date	1/25/2021	2/10/2021	2/10/2021	1/25/2021	1/25/2021	1/22/2021	1/22/2021	1/22/2021	1/22/2021	1/25/2021	1/25/2021	1/25/2021	1/25/2021	2/8/2021
VOC																
Benzene	280	0.5	U (0.00084)	0.00023 J (0.00055)	0.0003 J (0.0005)	U (0.044)	U (0.032)	0.00033 J (0.00081)	U (0.0005)	U (0.00094)	0.0031 (0.00094)	U (0.00044)	0.11 (0.035)	U (0.00047)	U (0.00046)	0.00054 (0.00048)
Cumene	10000	2500	U (0.0017)	0.00096 J (0.0011)	U (0.001)	0.67 (0.089)	0.8 (0.064)	0.0014 J (0.0016)	0.0043 (0.001)	U (0.0019)	U (0.0019)	U (0.00089)	0.08 (0.07)	U (0.00094)	U (0.00093)	0.0019 (0.00097)
1,2-Dibromoethane	3.7	0.005	U (0.00084)	U (0.00055)	U (0.0005)	U (0.044)	U (0.032)	U (0.00081)	U (0.0005)	U (0.00094)	U (0.00094)	U (0.00044)	U (0.035)	U (0.00047)	U (0.00046)	U (0.00048)
1,2-Dichloroethane	85	0.5	U (0.0017)	U (0.0011)	U (0.001)	U (0.089)	U (0.064)	U (0.0016)	U (0.001)	U (0.0019)	U (0.0019)	U (0.00089)	U (0.07)	U (0.00094)	U (0.00093)	U (0.00097)
Ethyl Benzene	880	70	U (0.0017)	0.00081 J (0.0011)	U (0.001)	0.022 J (0.089)	U (0.064)	U (0.0016)	U (0.001)	U (0.0019)	0.00049 J (0.0019)	U (0.00089)	0.16 (0.07)	U (0.00094)	U (0.00093)	U (0.00097)
Methyl tert-butyl ether	8500	2	U (0.0033)	U (0.0022)	U (0.002)	U (0.18)	U (0.13)	U (0.0032)	U (0.002)	U (0.0038)	U (0.0038)	U (0.0018)	U (0.14)	U (0.0019)	U (0.0019)	U (0.0019)
Toluene	10000	100	U (0.0017)	U (0.0011)	U (0.001)	0.077 J (0.089)	U (0.064)	U (0.0016)	U (0.001)	U (0.0019)	0.0085 (0.0019)	U (0.00089)	U (0.07)	U (0.00094)	U (0.00093)	U (0.00097)
1,2,4-Trimethylbenzene	4700	300	U (0.0033)	0.00047 J (0.0022)	U (0.002)	0.11 J (0.18)	U (0.13)	0.00089 J (0.0032)	0.00082 J (0.002)	U (0.0038)	0.0059 (0.0038)	U (0.0018)	0.048 J (0.14)	0.00076 J (0.0019)	U (0.0019)	U (0.0019)
1,3,5-Trimethylbenzene	4700	93	0.00032 J (0.0033)	U (0.0022)	U (0.002)	0.024 J (0.18)	0.029 J (0.13)	0.00049 J (0.0032)	0.00058 J (0.002)	U (0.0038)	0.0075 (0.0038)	U (0.0018)	0.023 J (0.14)	U (0.0019)	U (0.0019)	U (0.0019)
Xylenes (total)	7900	1000	U (0.0033)	0.00248 J (0.0022)	U (0.002)	0.436 J (0.18)	0.142 J (0.13)	0.0023 J (0.0032)	0.0022 J (0.002)	U (0.0038)	0.00275 J (0.0038)	U (0.0018)	0.206 J (0.14)	0.00465 J (0.0019)	U (0.0019)	U (0.0019)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs

Innovation Campus

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-R38-C-a 101-R38-C	101-S22-S-c 101-S22-S	101-S23-C-d 101-S23-C	101-S23-S-d 101-S23-S	101-S24-C-c 101-S24-C	101-S24-S-b 101-S24-S	101-S25-C-d 101-S25-C	101-S25-S-d 101-S25-S	101-S26-C-c 101-S26-C	101-S26-S-b 101-S26-S	101-S27-S-d 101-S27-S	101-S28-C-b 101-S28-C	101-S29-S-c 101-S29-S	101-S30-C-b 101-S30-C
Field Sample ID	Numeric Value	Numeric Value	0 - 0.57	0 - 12.7	17.1 - 21	0 - 17.1	13.1 - 16.3	0 - 13.1	10.1 - 13.7	0 - 10.1	5.99 - 10	0 - 5.99	0 - 8.27	0 - 7.09	0 - 10.8	0 - 8.27
Collection Depth (ft bgs)	(0-2 ft bgs)	(mg/kg)	1/25/2021	2/10/2021	2/9/2021	2/9/2021	2/5/2021	2/5/2021	2/5/2021	2/5/2021	2/8/2021	2/8/2021	2/4/2021	2/4/2021	2/4/2021	1/27/2021
VOC																
Benzene	280	0.5	U (0.00049)	U (0.03)	0.051 (0.028)	0.045 (0.024)	0.032 (0.028)	U (0.036)	0.11 (0.036)	0.012 J (0.03)	U (0.026)	0.012 J (0.025)	U (0.00048)	0.02 J (0.028)	0.013 J (0.03)	0.00081 (0.00048)
Cumene	10000	2500	U (0.00098)	0.76 (0.059)	0.2 (0.056)	2.1 (0.048)	0.38 (0.055)	0.59 (0.072)	1.1 (0.072)	0.038 J (0.06)	0.75 (0.052)	0.76 (0.051)	0.026 (0.00096)	0.099 (0.056)	0.28 (0.059)	0.005 (0.00096)
1,2-Dibromoethane	3.7	0.005	U (0.00049)	U (0.03)	U (0.028)	U (0.024)	U (0.028)	U (0.036)	U (0.036)	U (0.03)	U (0.026)	U (0.025)	U (0.00048)	U (0.028)	U (0.03)	U (0.00048)
1,2-Dichloroethane	85	0.5	U (0.00098)	U (0.059)	U (0.056)	U (0.048)	U (0.055)	U (0.072)	U (0.072)	U (0.06)	U (0.052)	U (0.051)	U (0.00096)	U (0.056)	U (0.059)	U (0.00096)
Ethyl Benzene	880	70	U (0.00098)	U (0.059)	0.021 J (0.056)	0.035 J (0.048)	0.029 J (0.055)	U (0.072)	0.71 (0.072)	0.021 J (0.06)	0.011 J (0.052)	0.008 J (0.051)	U (0.00096)	0.02 J (0.056)	0.0097 J (0.059)	0.00079 J (0.00096)
Methyl tert-butyl ether	8500	2	U (0.002)	U (0.12)	U (0.11)	U (0.096)	U (0.11)	U (0.14)	U (0.14)	U (0.12)	U (0.1)	U (0.1)	U (0.0019)	U (0.11)	U (0.12)	U (0.0019)
Toluene	10000	100	U (0.00098)	U (0.059)	0.11 (0.056)	0.026 J (0.048)	0.032 J (0.055)	U (0.072)	0.087 (0.072)	U (0.06)	U (0.052)	U (0.051)	U (0.00096)	U (0.056)	U (0.059)	0.0013 (0.00096)
1,2,4-Trimethylbenzene	4700	300	U (0.002)	U (0.12)	0.028 J (0.11)	0.071 J (0.096)	0.037 J (0.11)	U (0.14)	8.3 (0.14)	U (0.12)	0.022 J (0.1)	0.027 J (0.1)	U (0.0019)	0.03 J (0.11)	0.069 J (0.12)	0.00036 J (0.0019)
1,3,5-Trimethylbenzene	4700	93	U (0.002)	U (0.12)	0.036 J (0.11)	0.098 (0.096)	0.026 J (0.11)	U (0.14)	8.9 (0.14)	U (0.12)	U (0.1)	U (0.1)	U (0.0019)	0.013 J (0.11)	0.021 J (0.12)	0.00024 J (0.0019)
Xylenes (total)	7900	1000	U (0.002)	0.073 J (0.12)	0.199 J (0.11)	0.2 J (0.096)	0.087 J (0.11)	U (0.14)	1.25 J (0.14)	U (0.12)	0.09 J (0.1)	0.058 J (0.1)	0.006 J (0.0019)	0.077 J (0.11)	0.1165 J (0.12)	0.00163 J (0.0019)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-T23-S-b 101-T23-S	101-T24-C-a 101-T24-C	101-T24-S-c 101-T24-S	101-T25-S-a 101-T25-S	101-T26-C-a 101-T26-C	101-T26-S-c 101-T26-S	101-T27-S-c 101-T27-S	101-T28-C-b 101-T28-C	101-T28-S-b 101-T28-S	101-T29-C-b 101-T29-C	101-T29-S-a 101-T29-S	101-T30-C-b 101-T30-C	101-T30-S-c 101-T30-S	101-T31-C-a 101-T31-C
Field Sample ID	Numeric Value	Numeric Value	101-T23-S-VOC	101-T24-C-VOC	101-T24-S-VOC	101-T25-S-VOC	101-T26-C-VOC	101-T26-S-VOC	101-T27-S-VOC	101-T28-C-VOC	101-T28-S-VOC	101-T29-C-VOC	101-T29-S-VOC	101-T30-C-VOC	101-T30-S-VOC	101-T31-C-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 17.1	5.95 - 8.05	0 - 5.95	0 - 13.5	15 - 16.3	0 - 15	0 - 12.6	4.18 - 7.77	0 - 4.18	7.98 - 13.4	0 - 7.98	4.51 - 8.18	0 - 4.51	4.25 - 7.92
Sample Date	(mg/kg)	(mg/kg)	2/9/2021	2/10/2021	2/9/2021	2/10/2021	2/4/2021	2/8/2021	2/4/2021	2/3/2021	2/3/2021	2/3/2021	2/3/2021	2/3/2021	2/3/2021	1/28/2021
VOC																
Benzene	280	0.5	0.04 (0.027)	0.015 J (0.026)	U (0.026)	U (0.026)	0.035 (0.029)	0.22 (0.033)	0.0082 J (0.025)	U (0.022)	U (0.023)	U (0.029)	U (0.024)	0.015 J (0.028)	U (0.03)	0.012 J (0.027)
Cumene	10000	2500	0.072 (0.054)	0.12 (0.051)	0.15 (0.052)	0.24 (0.053)	2.2 (0.058)	3.4 (0.067)	1.2 (0.049)	0.5 (0.044)	0.91 (0.045)	0.017 J (0.058)	0.083 (0.049)	0.38 (0.055)	0.41 (0.059)	0.98 (0.053)
1,2-Dibromoethane	3.7	0.005	0.024 J (0.027)	U (0.026)	U (0.026)	U (0.026)	U (0.029)	0.061 (0.033)	U (0.025)	U (0.022)	U (0.023)	U (0.029)	U (0.024)	U (0.028)	U (0.03)	U (0.027)
1,2-Dichloroethane	85	0.5	U (0.054)	U (0.051)	U (0.052)	U (0.053)	U (0.058)	U (0.067)	U (0.049)	U (0.044)	U (0.045)	U (0.058)	U (0.049)	U (0.055)	U (0.059)	U (0.053)
Ethyl Benzene	880	70	0.072 (0.054)	0.011 J (0.051)	U (0.052)	U (0.053)	0.044 J (0.058)	0.22 (0.067)	0.013 J (0.049)	0.0098 J (0.044)	0.0073 J (0.045)	U (0.058)	U (0.049)	0.014 J (0.055)	0.015 J (0.059)	0.037 J (0.053)
Methyl tert-butyl ether	8500	2	U (0.11)	U (0.1)	U (0.1)	U (0.1)	U (0.12)	U (0.13)	U (0.099)	U (0.088)	U (0.091)	U (0.12)	U (0.098)	U (0.11)	U (0.12)	U (0.11)
Toluene	10000	100	U (0.054)	U (0.051)	U (0.052)	U (0.053)	0.036 J (0.058)	0.18 (0.067)	U (0.049)	U (0.044)	U (0.045)	U (0.058)	U (0.049)	U (0.055)	U (0.059)	0.038 J (0.053)
1,2,4-Trimethylbenzene	4700	300	U (0.11)	U (0.1)	U (0.1)	U (0.1)	0.093 J (0.12)	0.15 (0.13)	U (0.099)	U (0.088)	0.023 J (0.091)	U (0.12)	U (0.098)	0.03 J (0.11)	0.3 (0.12)	0.05 J (0.11)
1,3,5-Trimethylbenzene	4700	93	U (0.11)	U (0.1)	U (0.1)	U (0.1)	0.087 J (0.12)	0.055 J (0.13)	0.011 J (0.099)	U (0.088)	U (0.091)	U (0.12)	U (0.098)	0.04 J (0.11)	0.06 J (0.12)	0.021 J (0.11)
Xylenes (total)	7900	1000	0.071 J (0.11)	0.051 J (0.1)	U (0.1)	U (0.1)	0.141 J (0.12)	0.65 J (0.13)	0.061 J (0.099)	U (0.088)	0.049 J (0.091)	U (0.12)	U (0.098)	0.0745 J (0.11)	0.186 J (0.12)	0.115 J (0.11)

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 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

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Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-T31-S-b 101-T31-S	101-T32-C-d 101-T32-C	101-T32-S-c 101-T32-S	101-T33-C-b 101-T33-C	101-T33-S-d 101-T33-S	101-T34-C-a 101-T34-C	101-T34-S-d 101-T34-S	101-T38-C-d 101-T38-C	101-U21-C-a 101-U21-C	101-U24-S-d 101-U24-S	101-U26-S-b 101-U26-S	101-U28-S-b 101-U28-S	101-U29-S-c 101-U29-S	101-U30-C-b 101-U30-C
Field Sample ID	Numeric Value	Numeric Value	101-T31-S-VOC	101-T32-C-VOC	101-T32-S-VOC	101-T33-C-VOC	101-T33-S-VOC	101-T34-C-VOC	101-T34-S-VOC	101-T38-C-VOC	101-U21-C-VOC	101-U24-S-VOC	101-U26-S-VOC	101-U28-S-VOC	101-U29-S-VOC	101-U30-C-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 4.25	12.1 - 16.9	0 - 12.1	6.48 - 10.4	0 - 6.48	6.61 - 10.5	0 - 6.61	0 - 0.63	0 - 5.38	0 - 13.5	0 - 15	0 - 4.18	0 - 7.98	4.51 - 6.68
Sample Date	(mg/kg)	(mg/kg)	1/28/2021	1/29/2021	1/29/2021	1/29/2021	1/29/2021	1/28/2021	1/28/2021	1/26/2021	2/8/2021	2/10/2021	2/5/2021	2/3/2021	1/29/2021	1/29/2021
VOC																
Benzene	280	0.5	0.14 (0.058)	0.0017 (0.00052)	0.0039 (0.00049)	0.0004 (0.0004)	U (0.00064)	0.056 (0.025)	U (0.14)	U (0.00051)	U (0.025)	U (0.024)	0.0099 J (0.025)	U (0.027)	0.0015 (0.00046)	0.024 (0.023)
Cumene	10000	2500	0.89 (0.12)	0.031 (0.001)	0.034 (0.00098)	0.0058 (0.0008)	0.0092 (0.0013)	1 (0.05)	5.7 (0.29)	U (0.001)	0.98 (0.05)	2.6 (0.048)	0.32 (0.049)	0.26 (0.054)	0.037 (0.00093)	0.87 (0.046)
1,2-Dibromoethane	3.7	0.005	U (0.058)	U (0.00052)	U (0.00049)	U (0.0004)	U (0.00064)	U (0.025)	U (0.14)	U (0.00051)	U (0.025)	U (0.024)	U (0.025)	U (0.027)	U (0.00046)	U (0.023)
1,2-Dichloroethane	85	0.5	U (0.12)	U (0.001)	U (0.00098)	U (0.0008)	U (0.0013)	U (0.05)	U (0.29)	U (0.001)	U (0.05)	U (0.048)	U (0.049)	U (0.054)	U (0.00093)	U (0.046)
Ethyl Benzene	880	70	0.061 J (0.12)	0.0022 (0.001)	0.002 (0.00098)	0.00024 J (0.0008)	0.0007 J (0.0013)	0.034 J (0.05)	U (0.29)	U (0.001)	U (0.05)	U (0.048)	0.0094 J (0.049)	0.012 J (0.054)	0.00026 J (0.00093)	0.015 J (0.046)
Methyl tert-butyl ether	8500	2	U (0.23)	U (0.0021)	U (0.002)	U (0.0016)	U (0.0026)	U (0.1)	U (0.58)	U (0.002)	U (0.1)	U (0.096)	U (0.099)	U (0.11)	U (0.0018)	U (0.091)
Toluene	10000	100	0.074 J (0.12)	0.0015 (0.001)	0.00061 J (0.00098)	U (0.0008)	U (0.0013)	0.039 J (0.05)	U (0.29)	U (0.001)	U (0.05)	U (0.048)	U (0.049)	U (0.054)	0.0011 (0.00093)	U (0.046)
1,2,4-Trimethylbenzene	4700	300	0.054 J (0.23)	0.0012 J (0.0021)	0.00055 J (0.002)	0.00037 J (0.0016)	0.00058 J (0.0026)	0.049 J (0.1)	U (0.58)	U (0.002)	0.024 J (0.1)	U (0.096)	0.025 J (0.099)	0.021 J (0.11)	0.0012 J (0.0018)	0.03 J (0.091)
1,3,5-Trimethylbenzene	4700	93	0.027 J (0.23)	0.0025 (0.0021)	0.00021 J (0.002)	0.00034 J (0.0016)	0.0018 J (0.0026)	0.027 J (0.1)	U (0.58)	U (0.002)	U (0.1)	U (0.096)	U (0.099)	0.046 J (0.11)	0.0017 J (0.0018)	0.026 J (0.091)
Xylenes (total)	7900	1000	0.205 J (0.23)	0.0017 J (0.0021)	0.00159 J (0.002)	0.00112 J (0.0016)	0.0021 J (0.0026)	0.1 J (0.1)	U (0.58)	U (0.002)	0.085 J (0.1)	0.065 J (0.096)	0.101 J (0.099)	0.077 J (0.11)	0.0089 J (0.0018)	0.056 J (0.091)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-U30-S-a 101-U30-S	101-U32-C-a 101-U32-C	101-U32-S-d 101-U32-S	101-U33-C-b 101-U33-C	101-U33-S-c 101-U33-S	101-U34-C-d 101-U34-C	101-U34-S-d 101-U34-S	101-U35-C-b 101-U35-C	101-U35-S-b 101-U35-S	101-U36-S-b 101-U36-S	101-U37-C1-a 101-U37-C1	101-U37-C2-a 101-U37-C2	101-V24-C-b 101-V24-C	101-V27-C-d 101-V27-C
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value	101-U30-S-VOC	101-U32-C-VOC	101-U32-S-VOC	101-U33-C-VOC	101-U33-S-VOC	101-U34-C-VOC	101-U34-S-VOC	101-U35-C-VOC	101-U35-S-VOC	101-U36-S-VOC	101-U37-C1-VOC	101-U37-C2-VOC	101-V24-C-VOC	101-V27-C-VOC
Collection Depth (ft bgs)	0 - 4.51	0 - 4.51	0 - 4.51	1.99 - 6.31	0 - 1.99	8.66 - 13	0 - 8.66	10.2 - 13	0 - 10.2	5.08 - 8.4	0 - 5.08	0 - 5.08	0 - 3.18	3.18 - 6.36	0 - 2.39	0 - 2.39
Sample Date	(mg/kg)	(mg/kg)	1/29/2021	1/28/2021	1/28/2021	1/28/2021	1/28/2021	1/27/2021	1/27/2021	1/28/2021	1/28/2021	1/26/2021	1/26/2021	1/26/2021	2/8/2021	1/27/2021
VOC																
Benzene	280	0.5	0.021 J (0.024)	0.00065 (0.00042)	0.00021 J (0.0005)	0.0017 (0.0005)	U (0.16)	0.038 (0.028)	0.076 (0.027)	0.051 (0.03)	0.014 J (0.026)	0.04 (0.03)	0.001 (0.00083)	0.00027 J (0.00062)	0.00025 J (0.00049)	0.91 (0.036)
Cumene	10000	2500	0.43 (0.048)	0.001 (0.00085)	0.00011 J (0.001)	0.011 (0.001)	0.26 J (0.31)	1.1 (0.057)	0.82 (0.054)	0.98 (0.06)	0.28 (0.052)	1.6 (0.059)	0.00021 J (0.0016)	0.00015 J (0.0012)	U (0.00099)	1.2 (0.072)
1,2-Dibromoethane	3.7	0.005	U (0.024)	U (0.00042)	U (0.0005)	U (0.0005)	U (0.16)	U (0.028)	U (0.027)	U (0.03)	U (0.026)	U (0.03)	U (0.00083)	U (0.00062)	U (0.00049)	U (0.036)
1,2-Dichloroethane	85	0.5	U (0.048)	U (0.00085)	U (0.001)	U (0.001)	U (0.31)	U (0.057)	U (0.054)	U (0.06)	U (0.052)	U (0.059)	U (0.0016)	U (0.0012)	U (0.00099)	U (0.072)
Ethyl Benzene	880	70	0.018 J (0.048)	0.00025 J (0.00085)	0.0002 J (0.001)	0.00079 J (0.001)	U (0.31)	0.035 J (0.057)	0.058 (0.054)	0.055 J (0.06)	0.025 J (0.052)	0.021 J (0.059)	0.00025 J (0.0016)	U (0.0012)	U (0.00099)	0.19 (0.072)
Methyl tert-butyl ether	8500	2	U (0.097)	U (0.0017)	U (0.002)	U (0.002)	U (0.62)	U (0.11)	U (0.11)	U (0.12)	U (0.1)	U (0.12)	U (0.0033)	U (0.0025)	U (0.002)	U (0.14)
Toluene	10000	100	U (0.048)	U (0.00085)	U (0.001)	0.00077 J (0.001)	U (0.31)	0.037 J (0.057)	0.06 (0.054)	0.039 J (0.06)	U (0.052)	0.034 J (0.059)	U (0.0016)	U (0.0012)	U (0.00099)	0.7 (0.072)
1,2,4-Trimethylbenzene	4700	300	0.024 J (0.097)	0.0012 J (0.0017)	0.00048 J (0.002)	0.0029 (0.002)	U (0.62)	0.04 J (0.11)	0.056 J (0.11)	0.05 J (0.12)	0.023 J (0.1)	0.048 J (0.12)	0.0009 J (0.0033)	0.00041 J (0.0025)	U (0.002)	11 (0.14)
1,3,5-Trimethylbenzene	4700	93	U (0.097)	0.001 J (0.0017)	0.00019 J (0.002)	0.0018 J (0.002)	U (0.62)	U (0.11)	0.011 J (0.11)	0.023 J (0.12)	U (0.1)	0.019 J (0.12)	0.0016 J (0.0033)	U (0.0025)	U (0.002)	1.7 (0.14)
Xylenes (total)	7900	1000	0.073 J (0.097)	0.00113 J (0.0017)	0.0013 J (0.002)	0.0036 J (0.002)	U (0.62)	0.085 J (0.11)	0.139 J (0.11)	0.143 J (0.12)	0.058 J (0.1)	0.101 J (0.12)	0.00154 J (0.0033)	0.00178 J (0.0025)	U (0.002)	3.1 J (0.14)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-V30-C-b 101-V30-C	101-V32-S-b 101-V32-S	101-V33-C-c 101-V33-C	101-V35-C-b 101-V35-C	101-V35-S-d 101-V35-S	101-X43-C-a 101-X43-C	102-D04-C-c 102-D04-C	102-E08-C1-c 102-E08-C1	102-E08-C2-a 102-E08-C2	102-E11-C-b 102-E11-C	102-E13-C-d 102-E13-C	102-F13-C-d 102-F13-C	102-F16-C-d 102-F16-C	102-F18-C-b 102-F18-C
Field Sample ID	Numeric Value	Numeric Value	101-V30-C-VOC	101-V32-S-VOC	101-V33-C-VOC	101-V35-C-VOC	101-V35-S-VOC	101-X43-C-VOC	102-D04-C-VOC	102-E08-C1-VOC	102-E08-C2-VOC	102-E11-C-VOC	102-E13-C-VOC	102-F13-C-VOC	102-F16-C-VOC	102-F18-C-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 2.09	0 - 10.2	0 - 0.82	5.08 - 6.56	0 - 5.08	0 - 5.33	0 - 1.33	0 - 1.54	1.54 - 3.08	0 - 3.01	0 - 3.07	0 - 3.07	0 - 1.06	0 - 2.73
Sample Date	(mg/kg)	(mg/kg)	1/27/2021	1/27/2021	1/27/2021	1/26/2021	1/26/2021	1/26/2021	2/12/2021	2/12/2021	2/12/2021	2/12/2021	2/12/2021	2/12/2021	2/11/2021	2/11/2021
VOC																
Benzene	280	0.5	0.49 (0.039)	U (0.034)	0.028 (0.00076)	U (0.12)	U (0.11)	U (0.00068)	0.00044 J (0.00087)	U (0.00083)	U (0.0006)	0.017 (0.00068)	0.9 (0.05)	1.2 (0.052)	0.28 (0.048)	0.42 (0.15)
Cumene	10000	2500	0.32 (0.078)	1 (0.067)	0.0012 J (0.0015)	4.3 (0.23)	5.2 (0.22)	U (0.0014)	U (0.0017)	U (0.0016)	0.00022 J (0.0012)	0.041 (0.0014)	2.2 (0.099)	4.1 (0.1)	0.99 (0.097)	1.6 (0.3)
1,2-Dibromoethane	3.7	0.005	U (0.039)	U (0.034)	U (0.00076)	U (0.12)	U (0.11)	U (0.00068)	U (0.00087)	U (0.00083)	U (0.0006)	U (0.00068)	U (0.05)	0.054 (0.052)	U (0.0008)	U (0.15)
1,2-Dichloroethane	85	0.5	U (0.078)	U (0.067)	U (0.0015)	U (0.23)	U (0.22)	U (0.0014)	U (0.0017)	U (0.0016)	U (0.0012)	U (0.0014)	U (0.099)	U (0.1)	U (0.0016)	U (0.3)
Ethyl Benzene	880	70	0.22 (0.078)	0.035 J (0.067)	0.0015 (0.0015)	U (0.23)	U (0.22)	U (0.0014)	U (0.0017)	U (0.0016)	U (0.0012)	0.001 J (0.0014)	0.56 (0.099)	1.6 (0.1)	0.12 (0.097)	0.44 (0.3)
Methyl tert-butyl ether	8500	2	U (0.16)	U (0.13)	U (0.003)	U (0.47)	U (0.44)	U (0.0027)	U (0.0035)	U (0.0033)	U (0.0024)	U (0.0027)	U (0.2)	U (0.21)	U (0.0032)	U (0.6)
Toluene	10000	100	0.25 (0.078)	U (0.067)	0.0069 (0.0015)	U (0.23)	U (0.22)	U (0.0014)	U (0.0017)	U (0.0016)	U (0.0012)	0.0013 J (0.0014)	1.3 (0.099)	1.3 (0.1)	0.24 (0.097)	0.26 J (0.3)
1,2,4-Trimethylbenzene	4700	300	4.6 (0.16)	0.2 (0.13)	0.0024 J (0.003)	U (0.47)	0.081 J (0.44)	U (0.0027)	U (0.0035)	U (0.0033)	U (0.0024)	0.0044 (0.0027)	3.7 (0.2)	0.76 (0.21)	0.22 (0.19)	0.32 J (0.6)
1,3,5-Trimethylbenzene	4700	93	1.3 (0.16)	0.1 J (0.13)	0.00052 J (0.003)	U (0.47)	0.06 J (0.44)	U (0.0027)	U (0.0035)	U (0.0033)	U (0.0024)	0.0023 J (0.0027)	3.4 (0.2)	0.2 J (0.21)	0.087 J (0.19)	0.085 J (0.6)
Xylenes (total)	7900	1000	1.31 J (0.16)	0.098 J (0.13)	0.0071 J (0.003)	U (0.47)	0.23 J (0.44)	U (0.0027)	U (0.0035)	U (0.0033)	U (0.0024)	0.0169 J (0.0027)	4 J (0.2)	2.82 J (0.21)	0.51 J (0.19)	0.63 J (0.6)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	102-F20-C-d 102-F20-C	102-G23-C-b 102-G23-C	102-G25-C-c 102-G25-C	102-G27-C-b 102-G27-C	102-G29-C-d 102-G29-C	103-A10-C-c 103-A10-C	103-A10-S-c 103-A10-S	103-A11-S1-b 103-A11-S1	103-A11-S2-c 103-A11-S2	103-A12-S-d 103-A12-S	103-A14-S-c 103-A14-S	103-A15-S-a 103-A15-S	103-A16-S-d 103-A16-S	103-A17-S-d 103-A17-S
Field Sample ID	Numeric Value	Numeric Value	102-F20-C-VOC	102-G23-C-VOC	102-G25-C-VOC	102-G27-C-VOC	102-G29-C-VOC	103-A10-C-VOC	103-A10-S-VOC	103-A11-S1-VOC	103-A11-S2-VOC	103-A12-S-VOC	103-A14-S-VOC	103-A15-S-VOC	103-A16-S-VOC	103-A17-S-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 3.22	0 - 3.79	0 - 2.39	0 - 2.84	0 - 1.34	16.6 - 17.6	0 - 16.6	0 - 8.28	8.28 - 16.6	0 - 7.87	0 - 6.63	0 - 10.9	0 - 9.3	0 - 9.3
Sample Date	(mg/kg)	(mg/kg)	2/11/2021	2/11/2021	2/11/2021	2/11/2021	2/11/2021	2/17/2021	2/17/2021	2/16/2021	2/16/2021	2/16/2021	2/17/2021	2/17/2021	2/17/2021	2/22/2021
VOC																
Benzene	280	0.5	U (0.00074)	0.0054 (0.0021)	0.00036 J (0.00051)	U (0.00047)	U (0.00054)	U (0.033)	0.00038 J (0.0006)	0.74 (0.038)	U (0.027)	0.0002 J (0.00046)	U (0.00052)	0.00017 J (0.00044)	U (0.029)	0.54 (0.032)
Cumene	10000	2500	U (0.0015)	0.01 (0.0042)	U (0.001)	0.00014 J (0.00094)	U (0.0011)	10 (0.065)	0.19 (0.0012)	1.5 (0.076)	3.3 (0.055)	0.017 (0.00092)	0.11 (0.001)	0.14 (0.00088)	0.7 (0.058)	4.2 (0.064)
1,2-Dibromoethane	3.7	0.005	U (0.00074)	U (0.0021)	U (0.00051)	U (0.00047)	U (0.00054)	U (0.033)	U (0.0006)	U (0.038)	U (0.027)	U (0.00046)	U (0.00052)	U (0.00044)	U (0.029)	0.076 (0.032)
1,2-Dichloroethane	85	0.5	U (0.0015)	U (0.0042)	U (0.001)	U (0.00094)	U (0.0011)	0.041 J (0.065)	U (0.0012)	U (0.076)	U (0.055)	U (0.00092)	U (0.001)	U (0.00088)	U (0.058)	0.037 J (0.064)
Ethyl Benzene	880	70	U (0.0015)	0.0011 J (0.0042)	U (0.001)	U (0.00094)	U (0.0011)	0.026 J (0.065)	U (0.0012)	0.2 (0.076)	U (0.055)	0.00023 J (0.00092)	0.00067 J (0.001)	U (0.00088)	U (0.058)	3.4 (0.064)
Methyl tert-butyl ether	8500	2	U (0.0029)	U (0.0084)	U (0.002)	U (0.0019)	U (0.0021)	U (0.13)	U (0.0024)	U (0.15)	U (0.11)	U (0.0018)	U (0.0021)	U (0.0018)	U (0.12)	U (0.13)
Toluene	10000	100	U (0.0015)	0.0042 (0.0042)	U (0.001)	U (0.00094)	U (0.0011)	U (0.065)	0.0033 (0.0012)	0.18 (0.076)	U (0.055)	U (0.00092)	U (0.001)	0.0013 (0.00088)	U (0.058)	2.6 (0.064)
1,2,4-Trimethylbenzene	4700	300	U (0.0029)	U (0.0084)	U (0.002)	U (0.0019)	U (0.0021)	0.23 (0.13)	U (0.0024)	0.18 (0.15)	0.068 J (0.11)	0.00061 J (0.0018)	0.0022 (0.0021)	U (0.0018)	0.028 J (0.12)	28 (0.24)
1,3,5-Trimethylbenzene	4700	93	U (0.0029)	U (0.0084)	U (0.002)	U (0.0019)	U (0.0021)	0.33 (0.13)	0.0004 J (0.0024)	0.051 J (0.15)	0.055 J (0.11)	0.00078 J (0.0018)	0.00031 J (0.0021)	0.00064 J (0.0018)	U (0.12)	12 (0.13)
Xylenes (total)	7900	1000	U (0.0029)	0.015 J (0.0084)	U (0.002)	U (0.0019)	U (0.0021)	0.273 J (0.13)	0.0025 J (0.0024)	0.441 J (0.15)	0.079 J (0.11)	0.0031 J (0.0018)	0.00235 J (0.0021)	0.0037 J (0.0018)	U (0.12)	16.3 J (0.13)

- Notes:**
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 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
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Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	103-AA10-S-a 103-AA10-S	103-AA11-S-c 103-AA11-S	103-AA12-S-a 103-AA12-S	103-B10-S-c 103-B10-S	103-B11-S-d 103-B11-S	103-B13-S-a 103-B13-S	103-B14-S-d 103-B14-S	103-B15-S-d 103-B15-S	103-B16-S-c 103-B16-S	103-B17-S-d 103-B17-S	103-B18-S-b 103-B18-S	103-C10-C-d 103-C10-C	103-C12-S-c 103-C12-S	103-C13-S-b 103-C13-S
Field Sample ID	Numeric Value	Numeric Value	103-AA10-S-VOC	103-AA11-S-VOC	103-AA12-S-VOC	103-B10-S-VOC	103-B11-S-VOC	103-B13-S-VOC	103-B14-S-VOC	103-B15-S-VOC	103-B16-S-VOC	103-B17-S-VOC	103-B18-S-VOC	103-C10-C-VOC	103-C12-S-VOC	103-C13-S-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 6.89	0 - 7.87	0 - 7.87	0 - 16.6	0 - 16.6	0 - 8.84	0 - 11.3	0 - 12.2	0 - 12.4	0 - 10.3	0 - 10.3	0 - 1.07	0 - 2.23	0 - 9.97
Sample Date	(mg/kg)	(mg/kg)	2/16/2021	2/16/2021	2/16/2021	2/16/2021	2/16/2021	2/22/2021	2/22/2021	2/19/2021	3/10/2021	2/19/2021	2/22/2021	2/17/2021	2/22/2021	2/22/2021
VOC																
Benzene	280	0.5	0.00037 J (0.00054)	0.094 (0.046)	0.1 (0.051)	U (0.044)	0.21 (0.032)	0.059 (0.026)	U (0.03)	U (0.069)	U (0.034)	U (0.029)	U (0.03)	U (0.00059)	U (0.04)	U (0.023)
Cumene	10000	2500	0.031 (0.0011)	0.37 (0.093)	1.8 (0.1)	150 (0.88)	1.2 (0.064)	0.18 (0.053)	0.4 (0.059)	2.9 (0.14)	5.8 (0.069)	1.6 (0.058)	8.6 (0.059)	U (0.0012)	0.031 J (0.079)	0.065 (0.047)
1,2-Dibromoethane	3.7	0.005	U (0.00054)	U (0.046)	U (0.051)	U (0.044)	U (0.032)	U (0.026)	U (0.03)	U (0.069)	U (0.034)	U (0.029)	U (0.03)	U (0.00059)	U (0.04)	U (0.023)
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.093)	U (0.1)	U (0.088)	U (0.064)	U (0.053)	U (0.059)	U (0.14)	U (0.069)	U (0.058)	U (0.059)	U (0.0012)	U (0.079)	U (0.047)
Ethyl Benzene	880	70	0.001 J (0.0011)	0.12 (0.093)	0.073 J (0.1)	0.021 J (0.088)	0.06 J (0.064)	0.1 (0.053)	U (0.059)	0.035 J (0.14)	0.038 J (0.069)	U (0.058)	0.02 J (0.059)	U (0.0012)	0.032 J (0.079)	0.042 J (0.047)
Methyl tert-butyl ether	8500	2	U (0.0022)	U (0.18)	U (0.2)	U (0.18)	U (0.13)	U (0.1)	U (0.12)	U (0.28)	U (0.14)	U (0.12)	U (0.12)	U (0.0024)	U (0.16)	U (0.094)
Toluene	10000	100	0.0024 (0.0011)	0.12 (0.093)	0.06 J (0.1)	U (0.088)	0.04 J (0.064)	0.052 J (0.053)	U (0.059)	0.099 J (0.14)	U (0.069)	U (0.058)	U (0.059)	U (0.0012)	U (0.079)	0.063 (0.047)
1,2,4-Trimethylbenzene	4700	300	0.012 (0.0022)	1.5 (0.18)	0.083 J (0.2)	U (0.18)	0.086 J (0.13)	0.14 (0.1)	U (0.12)	17 (0.28)	U (0.14)	0.75 (0.12)	2.3 (0.12)	U (0.0024)	0.32 (0.16)	0.094 (0.094)
1,3,5-Trimethylbenzene	4700	93	0.013 (0.0022)	0.11 J (0.18)	0.022 J (0.2)	U (0.18)	0.016 J (0.13)	0.048 J (0.1)	U (0.12)	4 (0.28)	U (0.14)	0.17 (0.12)	0.044 J (0.12)	U (0.0024)	0.11 J (0.16)	0.059 J (0.094)
Xylenes (total)	7900	1000	0.0118 J (0.0022)	0.9 J (0.18)	0.17 J (0.2)	U (0.18)	0.135 J (0.13)	0.118 J (0.1)	U (0.12)	2.35 J (0.28)	0.111 J (0.14)	0.253 J (0.12)	0.147 J (0.12)	U (0.0024)	0.242 J (0.16)	0.113 J (0.094)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	103-C14-S-c 103-C14-S	103-C15-S-c 103-C15-S	103-C16-S-a 103-C16-S	103-C17-S-d 103-C17-S	103-C18-S-a 103-C18-S	103-D12-S-a 103-D12-S	103-D13-S-b 103-D13-S	103-D14-S-c 103-D14-S	103-D15-S-a 103-D15-S	103-D16-S-d 103-D16-S	103-D17-S-d 103-D17-S	103-E08-C-d 103-E08-C	103-E12-S-a 103-E12-S	103-E13-S-d 103-E13-S
Field Sample ID	Numeric Value	Numeric Value	103-C14-S-VOC	103-C15-S-VOC	103-C16-S-VOC	103-C17-S-VOC	103-C18-S-VOC	103-D12-S-VOC	103-D13-S-VOC	103-D14-S-VOC	103-D15-S-VOC	103-D16-S-VOC	103-D17-S-VOC	103-E08-C-VOC	103-E12-S-VOC	103-E13-S-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 11.7	0 - 12.6	0 - 11.2	0 - 12.4	0 - 10.3	0 - 4.88	0 - 4.88	0 - 12.7	0 - 12.7	0 - 12.6	0 - 11.2	0 - 5.2	0 - 4.88	0 - 10.8
Sample Date	(mg/kg)	(mg/kg)	2/19/2021	2/19/2021	2/19/2021	2/23/2021	2/23/2021	2/22/2021	2/22/2021	2/23/2021	2/23/2021	2/24/2021	2/24/2021	2/12/2021	2/24/2021	2/24/2021
VOC																
Benzene	280	0.5	U (0.027)	U (0.00061)	U (0.029)	10 (0.62)	0.2 (0.031)	U (0.00072)	U (0.00058)	U (0.034)	U (0.025)	U (0.028)	U (0.078)	0.00033 J (0.0005)	U (0.00055)	U (0.0005)
Cumene	10000	2500	2.5 (0.054)	0.00085 J (0.0012)	3.1 (0.057)	90 (1.2)	2 (0.062)	U (0.0014)	U (0.0012)	0.22 (0.068)	1.6 (0.05)	2.8 (0.055)	18 (0.16)	0.00015 J (0.001)	U (0.0011)	0.00034 J (0.001)
1,2-Dibromoethane	3.7	0.005	U (0.027)	U (0.00061)	U (0.029)	U (0.62)	U (0.031)	U (0.00072)	U (0.00058)	U (0.034)	U (0.025)	U (0.028)	U (0.078)	U (0.0005)	U (0.00055)	U (0.0005)
1,2-Dichloroethane	85	0.5	U (0.054)	U (0.0012)	U (0.057)	U (1.2)	U (0.062)	U (0.0014)	U (0.0012)	U (0.068)	U (0.05)	U (0.055)	0.046 J (0.16)	U (0.001)	U (0.0011)	U (0.001)
Ethyl Benzene	880	70	U (0.054)	U (0.0012)	U (0.057)	310 (1.2)	5.3 (0.062)	U (0.0014)	U (0.0012)	U (0.068)	U (0.05)	U (0.055)	U (0.16)	0.00022 J (0.001)	U (0.0011)	U (0.001)
Methyl tert-butyl ether	8500	2	U (0.11)	U (0.0024)	U (0.11)	U (2.5)	U (0.12)	U (0.0029)	U (0.0023)	U (0.14)	U (0.1)	U (0.11)	U (0.31)	U (0.002)	U (0.0022)	U (0.002)
Toluene	10000	100	U (0.054)	U (0.0012)	U (0.057)	86 (1.2)	0.11 (0.062)	U (0.0014)	U (0.0012)	U (0.068)	U (0.05)	U (0.055)	U (0.16)	U (0.001)	U (0.0011)	U (0.001)
1,2,4-Trimethylbenzene	4700	300	0.14 (0.11)	U (0.0024)	0.025 J (0.11)	860 (10)	22 (0.25)	U (0.0029)	U (0.0023)	U (0.14)	0.094 J (0.1)	U (0.11)	6.4 (0.31)	0.00046 J (0.002)	U (0.0022)	U (0.002)
1,3,5-Trimethylbenzene	4700	93	0.34 (0.11)	U (0.0024)	0.011 J (0.11)	200 (2.5)	11 (0.12)	U (0.0029)	U (0.0023)	U (0.14)	0.16 (0.1)	U (0.11)	0.37 (0.31)	U (0.002)	U (0.0022)	U (0.002)
Xylenes (total)	7900	1000	0.097 J (0.11)	U (0.0024)	0.0725 J (0.11)	1290 J (10)	3.54 J (0.12)	U (0.0029)	U (0.0023)	0.092 J (0.14)	0.188 J (0.1)	U (0.11)	0.58 J (0.31)	0.0016 J (0.002)	U (0.0022)	U (0.002)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	103-E14-S-b 103-E14-S	103-E15-S-b 103-E15-S	103-F07-C-a 103-F07-C	103-F11-C-c 103-F11-C	103-F13-S-d 103-F13-S	103-G07-C-b 103-G07-C	103-G11-C-a 103-G11-C	103-H01-C-c 103-H01-C	103-H05-C-b 103-H05-C	103-I05-C1-c 103-I05-C1	103-I05-C2-b 103-I05-C2	104-A25-C-d 104-A25-C	104-A28-C-a 104-A28-C	104-A28-S-d 104-A28-S
Field Sample ID	Numeric Value	Numeric Value	0 - 12.7	0 - 12.7	0 - 4.58	0 - 3.93	0 - 2.55	0 - 3.58	0 - 3.93	0 - 2.78	0 - 2.61	0 - 1.51	1.51 - 3.01	0 - 2.88	2.61 - 5.71	0 - 2.61
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 12.7	0 - 12.7	0 - 4.58	0 - 3.93	0 - 2.55	0 - 3.58	0 - 3.93	0 - 2.78	0 - 2.61	0 - 1.51	1.51 - 3.01	0 - 2.88	2.61 - 5.71	0 - 2.61
Sample Date	(mg/kg)	(mg/kg)	2/24/2021	2/23/2021	2/15/2021	2/12/2021	2/15/2021	2/15/2021	2/15/2021	2/15/2021	2/15/2021	2/15/2021	2/15/2021	2/15/2021	2/25/2021	2/25/2021
VOC																
Benzene	280	0.5	U (0.00048)	0.00046 J (0.00054)	0.0022 (0.00049)	0.0019 (0.00047)	U (0.024)	0.0081 (0.00046)	0.00032 J (0.00041)	0.011 (0.00053)	0.00081 (0.00064)	0.00026 J (0.00056)	0.1 (0.041)	0.0011 (0.00062)	U (0.0008)	0.049 (0.034)
Cumene	10000	2500	0.00086 J (0.00095)	0.17 (0.0011)	0.00034 J (0.00099)	0.00012 J (0.00094)	0.13 (0.047)	U (0.00091)	0.0025 (0.00082)	0.005 (0.0011)	0.00058 J (0.0013)	0.00073 J (0.0011)	0.48 (0.082)	0.044 (0.0012)	0.04 (0.0016)	0.19 (0.067)
1,2-Dibromoethane	3.7	0.005	U (0.00048)	U (0.00054)	U (0.00049)	U (0.00047)	U (0.024)	U (0.00046)	U (0.00041)	U (0.00053)	U (0.00064)	U (0.00056)	U (0.041)	U (0.00062)	U (0.0008)	U (0.034)
1,2-Dichloroethane	85	0.5	U (0.00095)	0.0016 (0.0011)	U (0.00099)	U (0.00094)	U (0.047)	U (0.00091)	U (0.00082)	U (0.0011)	U (0.0013)	U (0.0011)	U (0.082)	U (0.0012)	U (0.0016)	U (0.067)
Ethyl Benzene	880	70	U (0.00095)	0.00056 J (0.0011)	0.0003 J (0.00099)	0.00021 J (0.00094)	U (0.047)	0.00014 J (0.00091)	0.00064 J (0.00082)	0.00073 J (0.0011)	0.00035 J (0.0013)	0.00016 J (0.0011)	0.035 J (0.082)	0.0012 (0.0012)	U (0.0016)	0.043 J (0.067)
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.0021)	U (0.002)	U (0.0019)	U (0.094)	U (0.0018)	U (0.0016)	U (0.0021)	U (0.0026)	U (0.0022)	U (0.16)	U (0.0025)	U (0.0032)	U (0.13)
Toluene	10000	100	0.0028 (0.0012)	0.0012 (0.0011)	0.00099 (0.00099)	0.00085 J (0.00094)	U (0.047)	0.0022 (0.00091)	0.00045 J (0.00082)	0.003 (0.0011)	0.0021 (0.0013)	U (0.0011)	U (0.082)	0.0023 (0.0012)	U (0.0016)	0.052 J (0.067)
1,2,4-Trimethylbenzene	4700	300	0.05 (0.0023)	0.0075 (0.0021)	U (0.002)	U (0.0019)	U (0.094)	U (0.0018)	0.00033 J (0.0016)	0.00061 J (0.0021)	0.001 J (0.0026)	U (0.0022)	0.03 J (0.16)	0.016 (0.0025)	0.026 (0.0032)	0.13 (0.13)
1,3,5-Trimethylbenzene	4700	93	0.027 (0.0023)	0.0026 (0.0021)	U (0.002)	U (0.0019)	U (0.094)	U (0.0018)	0.00049 J (0.0016)	0.00022 J (0.0021)	0.0006 J (0.0026)	U (0.0022)	U (0.16)	0.0031 (0.0025)	0.0031 J (0.0032)	0.039 J (0.13)
Xylenes (total)	7900	1000	0.02 J (0.0023)	0.0125 J (0.0021)	U (0.002)	U (0.0019)	U (0.094)	U (0.0018)	0.00153 J (0.0016)	0.00227 J (0.0021)	0.00445 J (0.0026)	U (0.0022)	0.161 J (0.16)	0.0086 J (0.0025)	0.0045 J (0.0032)	0.247 J (0.13)

- Notes:**
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 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	104-A30-S-c 104-A30-S	104-B25-S-d 104-B25-S	104-C23-S-b 104-C23-S	104-C24-C-b 104-C24-C	104-C25-S-b 104-C25-S	104-C26-C-a 104-C26-C	104-C28-C-b 104-C28-C	104-C28-S-b 104-C28-S	104-D21-S-c 104-D21-S	104-D22-C-b 104-D22-C	104-D24-C-a 104-D24-C	104-D25-S-b 104-D25-S	104-D26-C-c 104-D26-C	104-D27-S-d 104-D27-S
Field Sample ID	Numeric Value	Numeric Value	104-A30-S-VOC	104-B25-S-VOC	104-C23-S-VOC	104-C24-C-VOC	104-C25-S-VOC	104-C26-C-VOC	104-C28-C-VOC	104-C28-S-VOC	104-D21-S-VOC	104-D22-C-VOC	104-D24-C-VOC	104-D25-S-VOC	104-D26-C-VOC	104-D27-S-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 1.13	0 - 3.17	0 - 3.93	0 - 2.59	0 - 2.67	0 - 3.08	2.71 - 5.07	0 - 2.71	0 - 2.61	0 - 2.56	0 - 1.71	0 - 2.43	0 - 3.08	0 - 0.29
Sample Date	(mg/kg)	(mg/kg)	2/25/2021	2/25/2021	3/1/2021	2/25/2021	3/1/2021	2/25/2021	2/25/2021	2/25/2021	2/26/2021	3/2/2021	2/25/2021	2/25/2021	2/25/2021	2/25/2021
VOC																
Benzene	280	0.5	U (0.00066)	0.0014 (0.00055)	0.001 (0.00051)	0.0097 (0.0006)	0.03 J (0.06)	U (0.00081)	U (0.0014)	U (0.028)	0.0016 (0.00064)	U (0.00042)	7.8 (0.037)	0.0013 (0.00088)	0.05 (0.04)	U (0.001)
Cumene	10000	2500	U (0.0013)	0.00044 J (0.0011)	0.0013 (0.001)	0.0041 (0.0012)	0.019 J (0.12)	U (0.0016)	U (0.0029)	0.099 (0.056)	0.00017 J (0.0013)	U (0.00084)	0.028 J (0.074)	U (0.0018)	0.52 (0.079)	U (0.002)
1,2-Dibromoethane	3.7	0.005	U (0.00066)	U (0.00055)	U (0.00051)	U (0.0006)	U (0.06)	U (0.00081)	U (0.0014)	U (0.028)	U (0.00064)	U (0.00042)	U (0.00065)	U (0.00088)	U (0.04)	U (0.001)
1,2-Dichloroethane	85	0.5	U (0.0013)	U (0.0011)	U (0.001)	U (0.0012)	U (0.12)	U (0.0016)	U (0.0029)	U (0.056)	U (0.0013)	U (0.00084)	U (0.0013)	U (0.0018)	U (0.079)	U (0.002)
Ethyl Benzene	880	70	U (0.0013)	0.00034 J (0.0011)	U (0.001)	0.00097 J (0.0012)	U (0.12)	U (0.0016)	U (0.0029)	0.011 J (0.056)	0.00041 J (0.0013)	U (0.00084)	0.11 (0.074)	U (0.0018)	0.066 J (0.079)	U (0.002)
Methyl tert-butyl ether	8500	2	U (0.0026)	U (0.0022)	U (0.002)	U (0.0024)	U (0.24)	U (0.0032)	U (0.0058)	U (0.11)	U (0.0026)	U (0.0017)	U (0.0026)	U (0.0035)	U (0.16)	U (0.004)
Toluene	10000	100	U (0.0013)	0.00071 J (0.0011)	U (0.001)	0.0047 (0.0012)	U (0.12)	U (0.0016)	U (0.0029)	U (0.056)	U (0.0013)	U (0.00084)	26 (0.18)	U (0.0018)	0.05 J (0.079)	U (0.002)
1,2,4-Trimethylbenzene	4700	300	U (0.0026)	0.0013 J (0.0022)	U (0.002)	0.0025 (0.0024)	0.064 J (0.24)	U (0.0032)	U (0.0058)	0.34 (0.11)	U (0.0026)	U (0.0017)	0.17 (0.15)	U (0.0035)	0.13 J (0.16)	U (0.004)
1,3,5-Trimethylbenzene	4700	93	U (0.0026)	0.0014 J (0.0022)	0.00022 J (0.002)	0.0011 J (0.0024)	0.027 J (0.24)	U (0.0032)	U (0.0058)	0.033 J (0.11)	U (0.0026)	U (0.0017)	0.053 J (0.15)	U (0.0035)	0.035 J (0.16)	U (0.004)
Xylenes (total)	7900	1000	U (0.0026)	0.0021 J (0.0022)	U (0.002)	0.0123 J (0.0024)	0.171 J (0.24)	U (0.0032)	U (0.0058)	0.165 J (0.11)	U (0.0026)	U (0.0017)	0.72 J (0.15)	U (0.0035)	0.233 J (0.16)	U (0.004)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
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mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	104-E17-S-c 104-E17-S	104-E20-C-d 104-E20-C	104-E20-S-c 104-E20-S	104-E22-C-d 104-E22-C	104-E23-S-c 104-E23-S	104-E24-C-a 104-E24-C	104-E24-S-d 104-E24-S	104-F18-C-c 104-F18-C	104-F20-C-a 104-F20-C	104-F21-S-c 104-F21-S	104-F22-C-d 104-F22-C	104-G15-C-a 104-G15-C	104-G15-S-b 104-G15-S	104-G18-C-c 104-G18-C
Field Sample ID	Numeric Value	Numeric Value	104-E17-S-VOC	104-E20-C-VOC	104-E20-S-VOC	104-E22-C-VOC	104-E23-S-VOC	104-E24-C-VOC	104-E24-S-VOC	104-F18-C-VOC	104-F20-C-VOC	104-F21-S-VOC	104-F22-C-VOC	104-G15-C-VOC	104-G15-S-VOC	104-G18-C-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 4.02	2.67 - 5.46	0 - 2.67	0 - 2.13	0 - 1.5	1.08 - 1.47	0 - 1.08	0 - 2.86	0 - 2.46	0 - 2.09	0 - 1.01	6.05 - 12.9	0 - 6.05	3.52 - 5.41
Sample Date	(mg/kg)	(mg/kg)	3/1/2021	2/26/2021	2/26/2021	2/26/2021	2/26/2021	2/26/2021	2/26/2021	3/1/2021	2/26/2021	3/2/2021	2/26/2021	3/2/2021	3/2/2021	3/1/2021
VOC																
Benzene	280	0.5	0.18 (0.027)	0.019 J (0.036)	0.67 (0.043)	U (0.00043)	U (0.00061)	U (0.00046)	0.00017 J (0.00051)	0.001 (0.00038)	U (0.00077)	0.0014 (0.00049)	0.0016 (0.00066)	U (0.032)	U (0.059)	0.041 J (0.055)
Cumene	10000	2500	28 (0.22)	0.17 (0.072)	0.092 (0.087)	U (0.00086)	U (0.0012)	U (0.00093)	U (0.001)	0.096 (0.00076)	U (0.0015)	0.00019 J (0.00098)	0.00064 J (0.0013)	1.5 (0.064)	3.2 (0.12)	2 (0.11)
1,2-Dibromoethane	3.7	0.005	U (0.027)	U (0.036)	U (0.043)	U (0.00043)	U (0.00061)	U (0.00046)	U (0.00051)	0.0015 (0.00038)	U (0.00077)	U (0.00049)	U (0.00066)	U (0.032)	U (0.059)	U (0.055)
1,2-Dichloroethane	85	0.5	U (0.055)	U (0.072)	U (0.087)	U (0.00086)	U (0.0012)	U (0.00093)	U (0.001)	U (0.00076)	U (0.0015)	U (0.00098)	U (0.0013)	U (0.064)	U (0.12)	U (0.11)
Ethyl Benzene	880	70	0.34 (0.055)	0.02 J (0.072)	0.38 (0.087)	U (0.00086)	U (0.0012)	U (0.00093)	U (0.001)	0.00027 J (0.00076)	U (0.0015)	U (0.00098)	U (0.0013)	0.012 J (0.064)	U (0.12)	U (0.11)
Methyl tert-butyl ether	8500	2	U (0.11)	U (0.14)	U (0.17)	U (0.0017)	U (0.0024)	U (0.0018)	U (0.002)	U (0.0015)	U (0.0031)	U (0.002)	U (0.0026)	U (0.13)	U (0.24)	U (0.22)
Toluene	10000	100	0.18 (0.055)	U (0.072)	0.27 (0.087)	U (0.00086)	U (0.0012)	U (0.00093)	U (0.001)	0.0014 (0.00076)	U (0.0015)	U (0.00098)	U (0.0013)	U (0.064)	U (0.12)	0.17 (0.11)
1,2,4-Trimethylbenzene	4700	300	0.18 (0.11)	0.084 J (0.14)	0.21 (0.17)	U (0.0017)	U (0.0024)	U (0.0018)	U (0.002)	U (0.0015)	U (0.0031)	U (0.002)	U (0.0026)	0.078 J (0.13)	U (0.24)	0.06 J (0.22)
1,3,5-Trimethylbenzene	4700	93	0.041 J (0.11)	0.032 J (0.14)	0.11 J (0.17)	U (0.0017)	U (0.0024)	U (0.0018)	U (0.002)	0.00025 J (0.0015)	U (0.0031)	U (0.002)	U (0.0026)	0.014 J (0.13)	U (0.24)	0.022 J (0.22)
Xylenes (total)	7900	1000	0.588 J (0.11)	0.12 J (0.14)	0.672 J (0.17)	U (0.0017)	0.00164 J (0.0024)	U (0.0018)	U (0.002)	0.0058 J (0.0015)	U (0.0031)	U (0.002)	U (0.0026)	0.076 J (0.13)	0.174 J (0.24)	0.287 J (0.22)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	104-G18-S-c 104-G18-S	104-G19-S-b 104-G19-S	104-G20-C-c 104-G20-C	104-H15-C-d 104-H15-C	104-H15-S-d 104-H15-S	104-H16-C-c 104-H16-C	104-H17-C-b 104-H17-C	104-H17-S-c 104-H17-S	104-H18-S-c 104-H18-S	104-H19-C-b 104-H19-C	104-I12-C-a 104-I12-C	104-I14-C-a 104-I14-C	104-I17-C-b 104-I17-C	104-J10-C-a 104-J10-C
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value	104-G18-S-VOC	104-G19-S-VOC	104-G20-C-VOC	104-H15-C-VOC	104-H15-S-VOC	104-H16-C-VOC	104-H17-C-VOC	104-H17-S-VOC	104-H18-S-VOC	104-H19-C-VOC	104-I12-C-VOC	104-I14-C-VOC	104-I17-C-VOC	104-J10-C-VOC
Collection Depth (ft bgs)	0 - 3.52	0 - 1.34	0 - 3.52	0 - 1.34	0 - 1.56	2.3 - 6.26	0 - 2.3	0 - 3.9	2.41 - 5.6	0 - 2.41	0 - 0.98	0 - 1.18	0 - 7.58	0 - 10.7	0 - 3.94	0 - 7.56
Sample Date	(mg/kg)	(mg/kg)	3/1/2021	3/1/2021	2/26/2021	3/2/2021	3/2/2021	3/2/2021	3/2/2021	3/2/2021	3/1/2021	3/1/2021	3/4/2021	3/3/2021	3/1/2021	3/3/2021
VOC																
Benzene	280	0.5	1.8 (0.12)	0.00076 (0.0006)	U (0.0005)	U (0.00055)	U (0.00057)	U (0.00048)	U (0.0007)	0.00066 (0.00059)	U (0.00056)	U (0.00065)	0.00033 J (0.0005)	0.0015 (0.0013)	U (0.00046)	U (0.00048)
Cumene	10000	2500	2.2 (0.24)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.0014)	0.00088 J (0.0012)	U (0.0011)	0.004 (0.0013)	0.07 (0.00099)	0.06 (0.0026)	0.036 (0.00093)	0.0023 (0.00096)
1,2-Dibromoethane	3.7	0.005	U (0.12)	U (0.0006)	U (0.0005)	U (0.00055)	U (0.00057)	U (0.00048)	U (0.0007)	U (0.00059)	U (0.00056)	U (0.00065)	U (0.0005)	U (0.0013)	U (0.00046)	U (0.00048)
1,2-Dichloroethane	85	0.5	U (0.24)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.0014)	U (0.0012)	U (0.0011)	U (0.0013)	U (0.00099)	U (0.0026)	U (0.00093)	U (0.00096)
Ethyl Benzene	880	70	1.9 (0.24)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.0014)	U (0.0012)	U (0.0011)	0.00021 J (0.0013)	0.0011 (0.00099)	0.00071 J (0.0026)	U (0.00093)	U (0.00096)
Methyl tert-butyl ether	8500	2	U (0.49)	U (0.0024)	U (0.002)	U (0.0022)	U (0.0023)	U (0.0019)	U (0.0028)	U (0.0024)	U (0.0022)	U (0.0026)	U (0.002)	U (0.0051)	U (0.0018)	U (0.0019)
Toluene	10000	100	0.95 (0.24)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.0014)	U (0.0012)	U (0.0011)	U (0.0013)	0.00078 J (0.00099)	0.0026 (0.0026)	0.0009 J (0.00093)	U (0.00096)
1,2,4-Trimethylbenzene	4700	300	67 (0.49)	U (0.0024)	U (0.002)	U (0.0022)	U (0.0023)	U (0.0019)	U (0.0028)	U (0.0024)	U (0.0022)	0.00048 J (0.0026)	0.0036 (0.002)	0.0025 J (0.0051)	U (0.0018)	U (0.0019)
1,3,5-Trimethylbenzene	4700	93	37 (0.49)	U (0.0024)	U (0.002)	U (0.0022)	U (0.0023)	U (0.0019)	U (0.0028)	U (0.0024)	U (0.0022)	U (0.0026)	0.004 (0.002)	U (0.0051)	0.00057 J (0.0018)	U (0.0019)
Xylenes (total)	7900	1000	10.1 J (0.49)	U (0.0024)	U (0.002)	U (0.0022)	U (0.0023)	U (0.0019)	U (0.0028)	U (0.0024)	U (0.0022)	0.00192 J (0.0026)	0.0106 J (0.002)	0.0102 J (0.0051)	0.00231 J (0.0018)	U (0.0019)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	104-J11-C-c 104-J11-C	104-J12-C-b 104-J12-C	104-J13-C-c 104-J13-C	104-J18-C-d 104-J18-C	104-J19-C-b 104-J19-C	104-K07-C-a 104-K07-C	104-K09-C-b 104-K09-C	104-K10-C1-d 104-K10-C1	104-K10-C2-a 104-K10-C2	104-K11-C-b 104-K11-C	104-K12-C1-d 104-K12-C1	104-K12-C2-d 104-K12-C2	104-K13-C-b 104-K13-C	104-K14-C-c 104-K14-C
Field Sample ID	Numeric Value	Numeric Value	104-J11-C-VOC	104-J12-C-VOC	104-J13-C-VOC	104-J18-C-VOC	104-J19-C-VOC	104-K07-C-VOC	104-K09-C-VOC	104-K10-C1-VOC	104-K10-C2-VOC	104-K11-C-VOC	104-K12-C1-VOC	104-K12-C2-VOC	104-K13-C-VOC	104-K14-C-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 7.58	0 - 7.58	0 - 10.7	0 - 4.91	0 - 2.84	0 - 8.75	0 - 9.72	0 - 4.79	4.79 - 9.58	0 - 9.35	0 - 3.83	3.83 - 7.66	0 - 2.57	0 - 2.53
Sample Date	(mg/kg)	(mg/kg)	3/4/2021	3/4/2021	3/3/2021	3/8/2021	3/8/2021	3/9/2021	3/4/2021	3/4/2021	3/4/2021	3/3/2021	3/3/2021	3/3/2021	3/3/2021	3/3/2021
VOC																
Benzene	280	0.5	0.7 (0.059)	U (0.063)	0.065 (0.059)	U (0.00051)	0.00026 J (0.00052)	U (0.00054)	U (0.051)	0.00078 (0.00044)	0.00048 J (0.00066)	U (0.00082)	U (0.00088)	0.19 (0.039)	0.0002 J (0.00048)	0.00092 (0.00045)
Cumene	10000	2500	8.6 (0.12)	0.034 J (0.12)	4 (0.12)	U (0.001)	0.00011 J (0.001)	0.0002 J (0.0011)	0.034 J (0.1)	0.05 (0.00087)	0.0026 (0.0013)	0.1 (0.0016)	U (0.0018)	0.84 (0.078)	0.0012 (0.00095)	0.0004 J (0.00089)
1,2-Dibromoethane	3.7	0.005	U (0.059)	U (0.063)	U (0.059)	U (0.00051)	U (0.00052)	U (0.00054)	U (0.051)	U (0.00044)	U (0.00066)	U (0.00082)	U (0.00088)	U (0.039)	U (0.00048)	U (0.00045)
1,2-Dichloroethane	85	0.5	U (0.12)	U (0.12)	U (0.12)	U (0.001)	U (0.001)	U (0.0011)	U (0.1)	U (0.00087)	U (0.0013)	U (0.0016)	U (0.0018)	U (0.078)	U (0.00095)	U (0.00089)
Ethyl Benzene	880	70	4.7 (0.12)	U (0.12)	0.1 J (0.12)	U (0.001)	U (0.001)	U (0.0011)	0.018 J (0.1)	0.00023 J (0.00087)	0.00019 J (0.0013)	U (0.0016)	U (0.0018)	0.32 (0.078)	U (0.00095)	0.00043 J (0.00089)
Methyl tert-butyl ether	8500	2	U (0.24)	U (0.25)	U (0.24)	U (0.002)	U (0.0021)	U (0.0022)	U (0.2)	U (0.0017)	U (0.0026)	U (0.0033)	U (0.0035)	U (0.16)	U (0.0019)	U (0.0018)
Toluene	10000	100	0.34 (0.12)	U (0.12)	0.13 (0.12)	U (0.001)	U (0.001)	U (0.0011)	U (0.1)	U (0.00087)	U (0.0013)	0.0014 J (0.0016)	U (0.0018)	0.16 (0.078)	U (0.00095)	0.00075 J (0.00089)
1,2,4-Trimethylbenzene	4700	300	25 (0.24)	U (0.25)	14 (0.24)	U (0.002)	U (0.0021)	0.00056 J (0.0022)	0.11 J (0.2)	U (0.0017)	0.00059 J (0.0026)	0.0025 J (0.0033)	U (0.0035)	1.3 (0.16)	0.0021 (0.0019)	0.0011 J (0.0018)
1,3,5-Trimethylbenzene	4700	93	5.9 (0.24)	U (0.25)	5.6 (0.24)	U (0.002)	U (0.0021)	U (0.0022)	0.03 J (0.2)	0.00039 J (0.0017)	U (0.0026)	U (0.0033)	U (0.0035)	0.13 J (0.16)	0.00098 J (0.0019)	0.00048 J (0.0018)
Xylenes (total)	7900	1000	8.2 J (0.24)	U (0.25)	1.64 J (0.24)	U (0.002)	0.00135 J (0.0021)	0.003 J (0.0022)	0.116 J (0.2)	0.005 J (0.0017)	0.00171 J (0.0026)	0.0083 J (0.0033)	U (0.0035)	1.26 J (0.16)	U (0.0019)	0.00145 J (0.0018)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs

Innovation Campus
 Soil Management Plan Addendum No. 6
 Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	104-K15-C-c 104-K15-C	104-K18-C-c 104-K18-C	104-L05-C-a 104-L05-C	104-L07-C-d 104-L07-C	104-L08-C-b 104-L08-C	104-L09-C1-d 104-L09-C1	104-L09-C2-b 104-L09-C2	104-L10-C-c 104-L10-C	104-L11-C-b 104-L11-C	104-L12-C-a 104-L12-C	104-L16-C-d 104-L16-C	104-M05-C-b 104-M05-C	104-M06-C-c 104-M06-C	104-M07-C-a 104-M07-C
Field Sample ID	Numeric Value	Numeric Value	104-K15-C-VOC	104-K18-C-VOC	104-L05-C-VOC	104-L07-C-VOC	104-L08-C-VOC	104-L09-C1-VOC	104-L09-C2-VOC	104-L10-C-VOC	104-L11-C-VOC	104-L12-C-VOC	104-L16-C-VOC	104-M05-C-VOC	104-M06-C-VOC	104-M07-C-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 2.53	0 - 2.45	0 - 9.98	0 - 9.62	0 - 9.49	0 - 1.29	1.29 - 2.57	0 - 2.85	0 - 3.2	0 - 2.63	0 - 2.14	0 - 2.59	0 - 3.06	0 - 9.62
Sample Date	(mg/kg)	(mg/kg)	3/3/2021	3/8/2021	3/5/2021	3/5/2021	3/8/2021	3/4/2021	3/4/2021	3/3/2021	3/5/2021	3/3/2021	3/9/2021	3/5/2021	3/5/2021	3/5/2021
VOC																
Benzene	280	0.5	U (0.00066)	U (0.00069)	U (0.00053)	0.019 J (0.038)	0.018 J (0.034)	0.00069 (0.00052)	U (0.0005)	0.00056 J (0.00079)	0.00037 J (0.00059)	U (0.00054)	U (0.00052)	0.00013 J (0.0004)	U (0.00055)	U (0.00045)
Cumene	10000	2500	U (0.0013)	U (0.0014)	U (0.0011)	0.31 (0.075)	3.8 (0.068)	U (0.001)	U (0.00099)	0.00021 J (0.0016)	0.00051 J (0.0012)	U (0.0011)	U (0.001)	U (0.00079)	0.00054 J (0.0011)	0.0021 (0.0009)
1,2-Dibromoethane	3.7	0.005	U (0.00066)	U (0.00069)	U (0.00053)	U (0.038)	U (0.034)	U (0.00052)	U (0.0005)	U (0.00079)	U (0.00059)	U (0.00054)	U (0.00052)	U (0.0004)	U (0.00055)	U (0.00045)
1,2-Dichloroethane	85	0.5	U (0.0013)	U (0.0014)	U (0.0011)	U (0.075)	U (0.068)	U (0.001)	U (0.00099)	U (0.0016)	U (0.0012)	U (0.0011)	U (0.001)	U (0.00079)	U (0.0011)	U (0.0009)
Ethyl Benzene	880	70	U (0.0013)	U (0.0014)	U (0.0011)	0.067 J (0.075)	0.077 (0.068)	0.00021 J (0.001)	U (0.00099)	0.00023 J (0.0016)	U (0.0012)	U (0.0011)	U (0.001)	U (0.00079)	U (0.0011)	0.00056 J (0.0009)
Methyl tert-butyl ether	8500	2	U (0.0026)	U (0.0028)	U (0.0021)	U (0.15)	U (0.14)	U (0.0021)	U (0.002)	U (0.0032)	U (0.0024)	U (0.0022)	U (0.0021)	U (0.0016)	U (0.0022)	U (0.0018)
Toluene	10000	100	U (0.0013)	U (0.0014)	U (0.0011)	U (0.075)	0.046 J (0.068)	0.0014 (0.001)	U (0.00099)	U (0.0016)	U (0.0012)	U (0.0011)	U (0.001)	U (0.00079)	U (0.0011)	U (0.0009)
1,2,4-Trimethylbenzene	4700	300	U (0.0026)	U (0.0028)	0.0078 (0.0021)	0.055 J (0.15)	0.097 J (0.14)	U (0.0021)	U (0.002)	0.00069 J (0.0032)	U (0.0024)	U (0.0022)	U (0.0021)	U (0.0016)	U (0.0022)	U (0.0018)
1,3,5-Trimethylbenzene	4700	93	U (0.0026)	U (0.0028)	0.0041 (0.0021)	0.015 J (0.15)	0.03 J (0.14)	U (0.0021)	U (0.002)	0.00035 J (0.0032)	U (0.0024)	U (0.0022)	U (0.0021)	U (0.0016)	U (0.0022)	0.00021 J (0.0018)
Xylenes (total)	7900	1000	U (0.0026)	U (0.0028)	0.00193 J (0.0021)	0.082 J (0.15)	0.184 J (0.14)	0.00137 J (0.0021)	U (0.002)	U (0.0032)	U (0.0024)	U (0.0022)	U (0.0021)	U (0.0016)	U (0.0022)	U (0.0018)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
 VOC -- Volatile Organic Compounds.
 ft bgs -- Feet Below Ground Surface.
 mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	104-M09-C-d 104-M09-C	104-N21-C-a 104-N21-C	104-O22-C-b 104-O22-C	LS-A-A01-a LS-A-A01	LS-A-A01-b LS-A-A01	LS-A-A01-b LS-A-A01	LS-A-A02-b LS-A-A02	LS-A-A02-c LS-A-A02	LS-A-A03-b LS-A-A03	LS-A-A03-c LS-A-A03	LS-A-A04-b LS-A-A04	LS-A-A04-d LS-A-A04	LS-A-A05-a LS-A-A05	LS-A-A05-a LS-A-A05
Field Sample ID	Numeric Value	Numeric Value	104-M09-C-VOC	104-N21-C-VOC	104-O22-C-VOC	LS-A-A01-C1-VOC	LS-A-A01-C2-VOC	LS-A-A01-C3-VOC	LS-A-A02-C1-VOC	LS-A-A02-C2-VOC	LS-A-A03-C1-VOC	LS-A-A03-C2-VOC	LS-A-A04-C1-VOC	LS-A-A04-C2-VOC	LS-A-A05-C1-VOC	LS-A-A05-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		0 - 3.2	0 - 4.14	0 - 4.14	0.3 - 0.5	0.8 - 0.9	1.2 - 1.4	0.3 - 0.5	0.9 - 1.1	0.3 - 0.5	1.1 - 1.2	0.3 - 0.5	1.5 - 1.7	0.6 - 0.8	2.3 - 2.4
Sample Date	(mg/kg)	(mg/kg)	3/3/2021	3/9/2021	3/9/2021	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023
VOC																
Benzene	280	0.5	0.0007 (0.00063)	U (0.00049)	0.0016 (0.00051)	U (0.00049)	U (0.00053)	0.00028 J (0.00071)	0.00017 J (0.00049)	0.00032 J (0.00064)	U (0.00045)	U (0.00047)	0.0094 (0.00042)	U (0.00044)	U (0.00068)	0.0002 J (0.00061)
Cumene	10000	2500	0.0034 (0.0013)	0.0023 (0.00098)	0.00064 J (0.001)	U (0.00098)	U (0.0011)	U (0.0014)	U (0.00098)	U (0.0013)	U (0.0009)	U (0.00094)	U (0.00085)	0.0002 J (0.00088)	U (0.0014)	0.00025 J (0.0012)
1,2-Dibromoethane	3.7	0.005	U (0.00063)	U (0.00049)	0.00086 (0.00051)	U (0.00049)	U (0.00053)	U (0.00071)	U (0.00049)	U (0.00064)	U (0.00045)	U (0.00047)	U (0.00042)	U (0.00044)	U (0.00068)	U (0.00061)
1,2-Dichloroethane	85	0.5	U (0.0013)	U (0.00098)	0.00028 J (0.001)	U (0.00098)	U (0.0011)	U (0.0014)	U (0.00098)	U (0.0013)	U (0.0009)	U (0.00094)	U (0.00085)	U (0.00088)	U (0.0014)	U (0.0012)
Ethyl Benzene	880	70	0.0023 (0.0013)	U (0.00098)	0.0034 (0.001)	U (0.00098)	U (0.0011)	U (0.0014)	U (0.00098)	U (0.0013)	U (0.0009)	U (0.00094)	U (0.00085)	0.00012 J (0.00088)	U (0.0014)	0.0003 J (0.0012)
Methyl tert-butyl ether	8500	2	U (0.0025)	U (0.002)	U (0.002)	U (0.002)	U (0.0021)	U (0.0028)	U (0.002)	U (0.0026)	U (0.0018)	U (0.0019)	U (0.0017)	U (0.0018)	U (0.0027)	U (0.0024)
Toluene	10000	100	U (0.0013)	U (0.00098)	0.0017 (0.001)	U (0.00098)	U (0.0011)	U (0.0014)	U (0.00098)	0.00072 J (0.0013)	U (0.0009)	U (0.00094)	U (0.00085)	U (0.00088)	U (0.0014)	U (0.0012)
1,2,4-Trimethylbenzene	4700	300	0.00092 J (0.0025)	U (0.002)	0.0049 (0.002)	U (0.002)	U (0.0021)	U (0.0028)	U (0.002)	0.00052 J (0.0026)	U (0.0018)	U (0.0019)	U (0.0017)	U (0.0018)	U (0.0027)	U (0.0024)
1,3,5-Trimethylbenzene	4700	93	0.0005 J (0.0025)	U (0.002)	0.0024 (0.002)	U (0.002)	U (0.0021)	U (0.0028)	U (0.002)	0.0011 J (0.0026)	U (0.0018)	U (0.0019)	U (0.0017)	U (0.0018)	U (0.0027)	U (0.0024)
Xylenes (total)	7900	1000	0.00559 J (0.0025)	U (0.002)	0.00657 J (0.002)	U (0.002)	U (0.0021)	U (0.0028)	U (0.002)	0.00182 J (0.0026)	U (0.0018)	U (0.0019)	U (0.0017)	U (0.0018)	U (0.0027)	U (0.0024)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	LS-A-B01-b LS-A-B01	LS-A-B01-c LS-A-B01	LS-A-B02-c LS-A-B02	LS-A-B03-a LS-A-B03	LS-A-C01-a LS-A-C01	LS-A-C01-c LS-A-C01	LS-A-C02-a LS-A-C02	LS-A-C02-b LS-A-C02	LS-A-C03-c LS-A-C03	LS-A-C03-d LS-A-C03	LS-A-C04-c LS-A-C04	LS-A-C05-b LS-A-C05	LS-A-D01-b LS-A-D01	LS-A-D01-b LS-A-D01
Field Sample ID	Numeric Value	Numeric Value	LS-A-B01-C2-VOC	LS-A-B01-C1-VOC	LS-A-B02-C1-VOC	LS-A-B03-C1-VOC	LS-A-C01-C2-VOC	LS-A-C01-C1-VOC	LS-A-C02-C1-VOC	LS-A-C02-C2-VOC	LS-A-C03-C1-VOC	LS-A-C03-C2-VOC	LS-A-C04-C1-VOC	LS-A-C05-C1-VOC	LS-A-D01-C3-VOC	LS-A-D01-C4-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		2.1 - 2.3	0.6 - 0.8	0.9 - 1.1	1.8 - 2.0	1.4 - 1.5	0.5 - 0.6	0.8 - 0.9	1.4 - 1.5	1.1 - 1.2	2.9 - 3.0	1.4 - 1.5	0.9 - 1.1	2.7 - 2.9	3.5 - 3.7
Sample Date	(mg/kg)	(mg/kg)	5/1/2023	5/1/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/3/2023	5/23/2023	5/23/2023
VOC																
Benzene	280	0.5	0.12 (0.044)	0.00035 J (0.00069)	U (0.00044)	0.0079 (0.00044)	U (0.00044)	U (0.0007)	U (0.00057)	U (0.00059)	0.12 (0.026)	U (0.028)	U (0.00048)	0.34 (0.028)	U (0.00048)	1.4 (0.029)
Cumene	10000	2500	0.089 (0.088)	U (0.0014)	U (0.00088)	0.002 (0.00088)	0.00053 J (0.00088)	U (0.0014)	U (0.0011)	0.023 (0.0012)	3.6 (0.052)	3.4 (0.057)	U (0.00097)	1.6 (0.056)	U (0.00095)	1 (0.058)
1,2-Dibromoethane	3.7	0.005	U (0.044)	U (0.00069)	U (0.00044)	U (0.00044)	U (0.00044)	U (0.0007)	U (0.00057)	U (0.00059)	U (0.026)	U (0.028)	U (0.00048)	U (0.028)	U (0.00048)	U (0.029)
1,2-Dichloroethane	85	0.5	U (0.088)	U (0.0014)	U (0.00088)	U (0.00088)	U (0.00088)	U (0.0014)	U (0.0011)	U (0.0012)	U (0.052)	U (0.057)	U (0.00097)	U (0.056)	U (0.00095)	U (0.058)
Ethyl Benzene	880	70	0.11 (0.088)	0.00025 J (0.0014)	U (0.00088)	0.00082 J (0.00088)	U (0.00088)	U (0.0014)	U (0.0011)	U (0.0012)	0.14 (0.052)	0.015 J (0.057)	U (0.00097)	0.24 (0.056)	U (0.00095)	0.33 (0.058)
Methyl tert-butyl ether	8500	2	U (0.18)	U (0.0028)	U (0.0018)	U (0.0018)	U (0.0018)	U (0.0028)	U (0.0023)	U (0.0024)	U (0.1)	U (0.11)	U (0.0019)	U (0.11)	U (0.0019)	U (0.12)
Toluene	10000	100	0.12 (0.088)	0.0034 (0.0014)	U (0.00088)	0.0014 (0.00088)	U (0.00088)	U (0.0014)	U (0.0011)	U (0.0012)	0.073 (0.052)	0.034 J (0.057)	U (0.00097)	0.13 (0.056)	U (0.00095)	0.54 (0.058)
1,2,4-Trimethylbenzene	4700	300	0.92 (0.18)	U (0.0028)	U (0.0018)	0.00048 J (0.0018)	U (0.0018)	U (0.0028)	U (0.0023)	0.00071 J (0.0024)	1.5 (0.1)	U (0.11)	U (0.0019)	1.5 (0.11)	0.00036 J (0.0019)	10 (0.12)
1,3,5-Trimethylbenzene	4700	93	0.46 (0.18)	U (0.0028)	U (0.0018)	0.0005 J (0.0018)	U (0.0018)	U (0.0028)	U (0.0023)	U (0.0024)	0.12 (0.1)	0.015 J (0.11)	U (0.0019)	0.52 (0.11)	U (0.0019)	0.24 (0.12)
Xylenes (total)	7900	1000	0.3 J (0.18)	0.00128 J (0.0028)	U (0.0018)	0.00315 J (0.0018)	U (0.0018)	U (0.0028)	U (0.0023)	0.0051 J (0.0024)	0.29 J (0.1)	0.46 J (0.11)	U (0.0019)	1.55 J (0.11)	U (0.0019)	2.2 J (0.12)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs

Innovation Campus
 Soil Management Plan Addendum No. 6
 Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	LS-A-D01-c LS-A-D01	LS-A-D01-d LS-A-D01	LS-A-D02-c LS-A-D02	LS-A-D02-c LS-A-D02	LS-A-D02-c LS-A-D02	LS-A-D02-c LS-A-D02	LS-A-D02-c LS-A-D02	LS-A-D03-a LS-A-D03	LS-A-D03-b LS-A-D03	LS-A-D04-c LS-A-D04	LS-A-D04-c LS-A-D04	LS-A-D04-c LS-A-D04	LS-A-D04-d LS-A-D04	LS-A-D04-d LS-A-D04	LS-A-D05-c LS-A-D05
Field Sample ID	Numeric Value	Numeric Value	2.1 - 2.3	2.1 - 2.2	0.3 - 0.5	0.8 - 0.9	1.2 - 1.4	1.7 - 1.8	1.7 - 1.8	0.6 - 0.8	0.6 - 0.8	0.9 - 1.1	1.2 - 1.4	0.2 - 0.3	0.3 - 0.5	0.2 - 0.3	
Collection Depth (ft bgs)	(0-2 ft bgs)	(mg/kg)	5/23/2023	5/23/2023	5/23/2023	5/23/2023	5/23/2023	5/23/2023	5/23/2023	5/23/2023	5/23/2023	5/23/2023	5/23/2023	5/23/2023	5/23/2023	5/23/2023	5/4/2023
VOC																	
Benzene	280	0.5	0.89 (0.033)	0.032 (0.025)	0.00029 J (0.00048)	0.0026 (0.00061)	0.00038 J (0.00048)	0.0014 (0.00047)	0.00081 (0.00046)	0.00036 J (0.00045)	0.005 (0.0005)	0.0073 (0.00045)	0.00026 J (0.00046)	0.00028 J (0.00056)	0.00019 J (0.00057)	0.0032 (0.00048)	
Cumene	10000	2500	1.1 (0.065)	0.59 (0.05)	U (0.00096)	0.00049 J (0.0012)	0.00022 J (0.00096)	0.00051 J (0.00094)	0.0022 (0.00091)	0.025 (0.00089)	U (0.001)	0.026 (0.0009)	0.0056 (0.00092)	U (0.0011)	0.00018 J (0.0011)	0.00049 J (0.00096)	
1,2-Dibromoethane	3.7	0.005	U (0.033)	U (0.025)	U (0.00048)	U (0.00061)	U (0.00048)	U (0.00047)	U (0.00046)	U (0.00045)	U (0.0005)	U (0.00045)	U (0.00046)	U (0.00056)	U (0.00057)	U (0.00048)	
1,2-Dichloroethane	85	0.5	U (0.065)	U (0.05)	U (0.00096)	U (0.0012)	U (0.00096)	U (0.00094)	U (0.00091)	U (0.00089)	U (0.001)	U (0.0009)	U (0.00092)	U (0.0011)	U (0.0011)	U (0.00096)	
Ethyl Benzene	880	70	1.3 (0.065)	0.019 J (0.05)	U (0.00096)	U (0.0012)	U (0.00096)	0.0003 J (0.00094)	0.00016 J (0.00091)	0.00018 J (0.00089)	0.00019 J (0.001)	0.0013 (0.0009)	0.00034 J (0.00092)	U (0.0011)	U (0.0011)	0.01 (0.00096)	
Methyl tert-butyl ether	8500	2	U (0.13)	U (0.1)	U (0.0019)	U (0.0024)	U (0.0019)	U (0.0019)	U (0.0018)	U (0.0018)	U (0.002)	U (0.0018)	U (0.0018)	U (0.0022)	U (0.0023)	U (0.0019)	
Toluene	10000	100	0.35 (0.065)	0.033 J (0.05)	U (0.00096)	0.00086 J (0.0012)	U (0.00096)	U (0.00094)	0.00077 J (0.00091)	0.00093 (0.00089)	0.00064 J (0.001)	0.002 (0.0009)	U (0.00092)	U (0.0011)	U (0.0011)	0.0049 (0.00096)	
1,2,4-Trimethylbenzene	4700	300	2.9 (0.13)	0.034 J (0.1)	U (0.0019)	0.0006 J (0.0024)	U (0.0019)	0.00031 J (0.0019)	U (0.0018)	U (0.0018)	U (0.002)	U (0.0018)	0.00064 J (0.0018)	U (0.0022)	U (0.0023)	0.015 (0.0019)	
1,3,5-Trimethylbenzene	4700	93	0.051 J (0.13)	U (0.1)	U (0.0019)	0.00064 J (0.0024)	0.00024 J (0.0019)	0.00061 J (0.0019)	0.00018 J (0.0018)	U (0.0018)	U (0.002)	0.00039 J (0.0018)	0.00021 J (0.0018)	U (0.0022)	U (0.0023)	0.012 (0.0019)	
Xylenes (total)	7900	1000	1.08 J (0.13)	0.192 J (0.1)	U (0.0019)	0.00178 J (0.0024)	U (0.0019)	0.00137 J (0.0019)	0.00408 J (0.0018)	0.00128 J (0.0018)	U (0.002)	0.0078 J (0.0018)	0.00112 J (0.0018)	U (0.0022)	U (0.0023)	0.023 J (0.0019)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

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Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	LS-A-D05-c LS-A-D05	LS-A-D05-c LS-A-D05	LS-A-D05-c LS-A-D05	LS-A-D06-a LS-A-D06	LS-A-D06-a LS-A-D06	LS-A-D06-b LS-A-D06	LS-A-D06-b LS-A-D06	LS-A-D06-b LS-A-D06	LS-A-D06-d LS-A-D06	LS-A-D07-a LS-A-D07	LS-A-D07-b LS-A-D07	LS-A-D07-c LS-A-D07	LS-A-D07-c LS-A-D07	LS-A-D07-c LS-A-D07	LS-A-E02-a LS-A-E02
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value	1.4 - 1.5	2.1 - 2.3	2.9 - 3.0	0.2 - 0.3	0.5 - 0.6	0.8 - 0.9	1.4 - 1.5	1.1 - 1.2	0.6 - 0.8	0.2 - 0.3	1.2 - 1.4	2.0 - 2.1	2.4 - 2.6	1.5 - 1.7	
Collection Depth (ft bgs)	Sample Date	Sample Date	5/4/2023	5/4/2023	5/4/2023	5/4/2023	5/4/2023	5/4/2023	5/4/2023	5/4/2023	5/4/2023	5/4/2023	5/4/2023	5/4/2023	5/4/2023	5/4/2023	5/5/2023
VOC																	
Benzene	280	0.5	0.00037 J (0.00046)	0.031 J (0.036)	U (0.031)	0.00017 J (0.00045)	U (0.00045)	0.21 J (0.3)	0.17 (0.034)	0.033 J (0.034)	0.47 (0.027)	0.00018 J (0.00052)	U (0.025)	0.017 J (0.025)	0.092 (0.024)	U (0.028)	
Cumene	10000	2500	0.00043 J (0.00091)	0.012 J (0.072)	4.9 (0.063)	U (0.0009)	U (0.0009)	20 (0.61)	4.3 (0.068)	1.2 (0.068)	2.2 (0.054)	U (0.001)	0.64 (0.05)	0.55 (0.05)	0.77 (0.048)	1.1 (0.056)	
1,2-Dibromoethane	3.7	0.005	U (0.00046)	U (0.036)	U (0.031)	U (0.00045)	U (0.00045)	U (0.3)	U (0.034)	U (0.034)	U (0.027)	U (0.00052)	U (0.025)	U (0.025)	U (0.024)	U (0.028)	
1,2-Dichloroethane	85	0.5	U (0.00091)	U (0.072)	U (0.063)	U (0.0009)	U (0.0009)	U (0.61)	U (0.068)	U (0.068)	U (0.054)	U (0.001)	U (0.05)	U (0.05)	U (0.048)	U (0.056)	
Ethyl Benzene	880	70	0.0004 J (0.00091)	U (0.072)	0.04 J (0.063)	U (0.0009)	U (0.0009)	0.95 (0.61)	0.31 (0.068)	0.17 (0.068)	0.22 (0.054)	U (0.001)	0.0088 J (0.05)	0.0089 J (0.05)	0.062 (0.048)	U (0.056)	
Methyl tert-butyl ether	8500	2	U (0.0018)	U (0.14)	U (0.12)	U (0.0018)	U (0.0018)	U (1.2)	U (0.14)	U (0.14)	U (0.11)	U (0.0021)	U (0.1)	U (0.1)	U (0.096)	U (0.11)	
Toluene	10000	100	0.00062 J (0.00091)	0.05 J (0.072)	U (0.063)	U (0.0009)	U (0.0009)	0.67 (0.61)	0.56 (0.068)	0.041 J (0.068)	0.14 (0.054)	U (0.001)	U (0.05)	U (0.05)	0.071 (0.048)	U (0.056)	
1,2,4-Trimethylbenzene	4700	300	0.0014 J (0.0018)	U (0.14)	0.27 (0.12)	U (0.0018)	U (0.0018)	2 (1.2)	0.37 (0.14)	0.16 (0.14)	0.1 J (0.11)	U (0.0021)	0.057 J (0.1)	0.062 J (0.1)	0.7 (0.096)	0.084 J (0.11)	
1,3,5-Trimethylbenzene	4700	93	0.00051 J (0.0018)	U (0.14)	0.45 (0.12)	U (0.0018)	U (0.0018)	0.55 J (1.2)	0.11 J (0.14)	0.02 J (0.14)	0.022 J (0.11)	U (0.0021)	0.028 J (0.1)	0.026 J (0.1)	0.2 (0.096)	0.046 J (0.11)	
Xylenes (total)	7900	1000	0.00249 J (0.0018)	0.188 J (0.14)	0.57 J (0.12)	U (0.0018)	U (0.0018)	3.78 J (1.2)	1.05 J (0.14)	0.215 J (0.14)	0.47 J (0.11)	U (0.0021)	0.15 J (0.1)	0.138 J (0.1)	0.18 J (0.096)	0.142 J (0.11)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	LS-A-E02-b LS-A-E02	LS-A-E02-b LS-A-E02	LS-A-E02-b LS-A-E02	LS-A-E02-b LS-A-E02	LS-A-E03-a LS-A-E03	LS-A-E03-a LS-A-E03	LS-A-E03-a LS-A-E03	LS-A-E03-a LS-A-E03	LS-A-E03-a LS-A-E03	LS-A-E04-b LS-A-E04	LS-A-E04-b LS-A-E04	LS-A-E05-a LS-A-E05	LS-A-E05-a LS-A-E05	LS-A-E05-d LS-A-E05
Field Sample ID	Numeric Value	Numeric Value	LS-A-E02-C1-VOC	LS-A-E02-C2-VOC	LS-A-E02-C3-VOC	LS-A-E02-C4-VOC	LS-A-E03-C1-VOC	LS-A-E03-C2-VOC	LS-A-E03-C3-VOC	LS-A-E03-C4-VOC	LS-A-E03-C5-VOC	LS-A-E04-C1-VOC	LS-A-E04-C2-VOC	LS-A-E05-C2-VOC	LS-A-E05-C3-VOC	LS-A-E05-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	(mg/kg)	0.2 - 0.3	0.5 - 0.6	0.9 - 1.1	1.2 - 1.4	0.2 - 0.3	0.6 - 0.8	1.2 - 1.4	1.4 - 1.5	1.7 - 1.8	0.8 - 0.9	1.7 - 1.8	1.4 - 1.5	2.0 - 2.1	0.2 - 0.3
Sample Date	(mg/kg)	(mg/kg)	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023
VOC																
Benzene	280	0.5	U (0.00045)	0.00032 J (0.00049)	U (0.00041)	0.0012 (0.00049)	0.00051 J (0.00059)	0.0021 (0.0006)	0.66 (0.034)	0.04 (0.028)	0.4 (0.044)	0.19 (0.00057)	2.3 (0.036)	0.00023 J (0.00046)	0.00069 (0.00058)	0.00035 J (0.00056)
Cumene	10000	2500	U (0.0009)	U (0.00098)	U (0.00082)	0.00099 (0.00097)	U (0.0012)	0.036 (0.0012)	2.6 (0.069)	1.8 (0.057)	3.1 (0.088)	0.033 (0.0011)	2.4 (0.073)	0.00023 J (0.00092)	0.0006 J (0.0012)	U (0.0011)
1,2-Dibromoethane	3.7	0.005	U (0.00045)	U (0.00049)	U (0.00041)	U (0.00049)	U (0.00059)	U (0.0006)	U (0.034)	U (0.028)	U (0.044)	U (0.00057)	U (0.036)	U (0.00046)	U (0.00058)	U (0.00056)
1,2-Dichloroethane	85	0.5	U (0.0009)	U (0.00098)	U (0.00082)	U (0.00097)	U (0.0012)	U (0.0012)	U (0.069)	U (0.057)	U (0.088)	U (0.0011)	U (0.073)	U (0.00092)	U (0.0012)	U (0.0011)
Ethyl Benzene	880	70	U (0.0009)	U (0.00098)	U (0.00082)	U (0.00097)	U (0.0012)	0.00099 J (0.0012)	0.33 (0.069)	0.016 J (0.057)	0.26 (0.088)	0.0023 (0.0011)	0.18 (0.073)	0.00023 J (0.00092)	0.00034 J (0.0012)	U (0.0011)
Methyl tert-butyl ether	8500	2	U (0.0018)	U (0.002)	U (0.0016)	U (0.0019)	U (0.0024)	U (0.0024)	U (0.14)	U (0.11)	U (0.18)	U (0.0023)	U (0.14)	U (0.0018)	U (0.0023)	U (0.0022)
Toluene	10000	100	U (0.0009)	U (0.00098)	U (0.00082)	0.00053 J (0.00097)	U (0.0012)	0.00082 J (0.0012)	0.28 (0.069)	U (0.057)	0.46 (0.088)	0.0029 (0.0011)	0.31 (0.073)	U (0.00092)	0.0014 (0.0012)	U (0.0011)
1,2,4-Trimethylbenzene	4700	300	U (0.0018)	U (0.002)	U (0.0016)	U (0.0019)	U (0.0024)	0.0007 J (0.0024)	0.64 (0.14)	0.077 J (0.11)	0.32 (0.18)	0.00068 J (0.0023)	3.5 (0.14)	0.003 (0.0018)	0.00093 J (0.0023)	U (0.0022)
1,3,5-Trimethylbenzene	4700	93	U (0.0018)	U (0.002)	U (0.0016)	U (0.0019)	U (0.0024)	U (0.0024)	0.18 (0.14)	0.027 J (0.11)	0.082 J (0.18)	U (0.0023)	2.2 (0.14)	0.0014 J (0.0018)	0.0004 J (0.0023)	U (0.0022)
Xylenes (total)	7900	1000	U (0.0018)	U (0.002)	U (0.0016)	0.00094 J (0.0019)	U (0.0024)	0.00182 J (0.0024)	0.72 J (0.14)	0.106 J (0.11)	0.73 J (0.18)	0.0042 J (0.0023)	1.75 J (0.14)	0.0018 J (0.0018)	0.0024 J (0.0023)	U (0.0022)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	LS-A-E06-c LS-A-E06	LS-A-E06-d LS-A-E06	LS-A-E07-c LS-A-E07	LS-A-E08-a LS-A-E08	LS-A-E08-a LS-A-E08	LS-A-E08-a LS-A-E08	LS-A-E08-a LS-A-E08	LS-A-F01-b LS-A-F01	LS-A-F03-d LS-A-F03	LS-A-F04-c LS-A-F04	LS-A-F05-b LS-A-F05	LS-A-G01-a LS-A-G01	LS-A-G01-b LS-A-G01	LS-A-G01-c LS-A-G01	LS-A-G02-a LS-A-G02
Field Sample ID	Numeric Value	Numeric Value	LS-A-E06-C2-VOC	LS-A-E06-C1-VOC	LS-A-E07-C1-VOC	LS-A-E08-C1-VOC	LS-A-E08-C2-VOC	LS-A-E08-C3-VOC	LS-A-E08-C3-VOC	LS-A-F01-C1-VOC	LS-A-F03-C1-VOC	LS-A-F04-C1-VOC	LS-A-F05-C1-VOC	LS-A-G01-C2-VOC	LS-A-G01-C1-VOC	LS-A-G01-C3-VOC	LS-A-G02-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		1.4 - 1.5	1.2 - 1.4	3.7 - 3.8	1.5 - 1.7	2.4 - 2.6	3.4 - 3.5	3.4 - 3.5	1.4 - 1.5	1.1 - 1.2	1.2 - 1.4	1.1 - 1.2	0.6 - 0.8	0.3 - 0.5	1.5 - 1.7	3.8 - 4.0
Sample Date	(mg/kg)	(mg/kg)	5/8/2023	5/8/2023	5/8/2023	5/8/2023	5/8/2023	5/8/2023	5/8/2023	5/9/2023	5/8/2023	5/25/2023	5/25/2023	5/22/2023	5/22/2023	5/22/2023	5/11/2023
VOC																	
Benzene	280	0.5	0.026 (0.026)	0.00033 J (0.00048)	U (0.03)	U (0.00064)	U (0.059)	U (0.026)	0.012 (0.00069)	3.1 (0.036)	0.015 J (0.027)	U (0.00072)	0.00043 (0.00043)	U (0.00044)	U (0.00064)	U (0.021)	
Cumene	10000	2500	0.26 (0.052)	0.045 (0.00096)	0.026 J (0.059)	U (0.0013)	1.5 (0.12)	0.67 (0.052)	U (0.0014)	1.6 (0.071)	0.72 (0.053)	U (0.0014)	U (0.00086)	U (0.00087)	U (0.0013)	6.2 (0.041)	
1,2-Dibromoethane	3.7	0.005	U (0.026)	U (0.00048)	U (0.03)	U (0.00064)	U (0.059)	U (0.026)	U (0.00069)	U (0.036)	U (0.027)	U (0.00072)	U (0.00043)	U (0.00044)	U (0.00064)	U (0.021)	
1,2-Dichloroethane	85	0.5	U (0.052)	U (0.00096)	U (0.059)	U (0.0013)	U (0.12)	U (0.052)	U (0.0014)	U (0.071)	U (0.053)	U (0.0014)	U (0.00086)	U (0.00087)	U (0.0013)	U (0.041)	
Ethyl Benzene	880	70	0.034 J (0.052)	0.00068 J (0.00096)	U (0.059)	U (0.0013)	U (0.12)	0.0094 J (0.052)	0.00025 J (0.0014)	0.84 (0.071)	0.031 J (0.053)	U (0.0014)	U (0.00086)	U (0.00087)	U (0.0013)	0.014 J (0.041)	
Methyl tert-butyl ether	8500	2	U (0.1)	0.0004 J (0.0019)	U (0.12)	U (0.0026)	U (0.24)	U (0.1)	U (0.0028)	U (0.14)	U (0.11)	U (0.0029)	U (0.0017)	U (0.0017)	U (0.0025)	U (0.082)	
Toluene	10000	100	0.038 J (0.052)	0.00063 J (0.00096)	U (0.059)	U (0.0013)	U (0.12)	U (0.052)	0.0011 J (0.0014)	0.69 (0.071)	U (0.053)	U (0.0014)	U (0.00086)	U (0.00087)	U (0.0013)	0.033 J (0.041)	
1,2,4-Trimethylbenzene	4700	300	0.051 J (0.1)	0.0011 J (0.0019)	U (0.12)	U (0.0026)	U (0.24)	0.021 J (0.1)	U (0.0028)	20 (0.14)	0.025 J (0.11)	U (0.0029)	U (0.0017)	U (0.0017)	U (0.0025)	0.33 (0.082)	
1,3,5-Trimethylbenzene	4700	93	0.016 J (0.1)	0.00042 J (0.0019)	U (0.12)	U (0.0026)	U (0.24)	U (0.1)	U (0.0028)	6.2 (0.14)	0.011 J (0.11)	U (0.0029)	U (0.0017)	U (0.0017)	U (0.0025)	0.089 (0.082)	
Xylenes (total)	7900	1000	0.097 J (0.1)	0.0074 J (0.0019)	U (0.12)	U (0.0026)	U (0.24)	0.066 J (0.1)	U (0.0028)	7.8 J (0.14)	0.075 J (0.11)	U (0.0029)	U (0.0017)	U (0.0017)	U (0.0025)	0.112 J (0.082)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	LS-A-G02-b LS-A-G02	LS-A-G02-b LS-A-G02	LS-A-G03-b LS-A-G03	LS-A-G03-b LS-A-G03	LS-A-G04-b LS-A-G04	LS-A-G04-c LS-A-G04	LS-A-G04-c LS-A-G04	LS-A-G05-b LS-A-G05	LS-A-G05-c LS-A-G05	LS-A-G05-c LS-A-G05	LS-A-G05-d LS-A-G05	LS-A-G05-d LS-A-G05	LS-A-G06-a LS-A-G06	LS-A-G06-a LS-A-G06
Field Sample ID	Numeric Value	Numeric Value	1.8 - 2.0	2.3 - 2.4	4.1 - 4.3	5.8 - 5.9	1.1 - 1.2	2.0 - 2.1	2.7 - 2.9	5.5 - 5.6	1.7 - 1.8	2.7 - 2.9	2.6 - 2.7	3.7 - 3.8	1.2 - 1.4	1.6 - 1.8
Collection Depth (ft bgs)	(0-2 ft bgs)	(mg/kg)	5/11/2023	5/11/2023	5/10/2023	5/10/2023	5/11/2023	5/11/2023	5/11/2023	5/10/2023	5/10/2023	5/10/2023	5/10/2023	5/10/2023	5/22/2023	5/22/2023
VOC																
Benzene	280	0.5	U (0.022)	U (0.24)	U (0.027)	U (0.25)	U (0.024)	U (0.024)	U (0.023)	U (0.023)	U (0.023)	U (0.023)	0.00033 J (0.00036)	0.00022 J (0.00053)	0.054 (0.035)	U (0.0005)
Cumene	10000	2500	0.37 (0.044)	22 (0.48)	3.2 (0.053)	14 (0.51)	1 (0.047)	0.46 (0.048)	1.2 (0.047)	9.6 (0.046)	1.3 (0.045)	1.1 (0.045)	0.00016 J (0.00073)	0.15 (0.0011)	0.056 J (0.07)	0.00066 J (0.001)
1,2-Dibromoethane	3.7	0.005	U (0.022)	U (0.24)	U (0.027)	U (0.25)	U (0.024)	U (0.024)	U (0.023)	U (0.023)	U (0.023)	U (0.023)	U (0.00036)	U (0.00053)	U (0.035)	U (0.0005)
1,2-Dichloroethane	85	0.5	U (0.044)	U (0.48)	U (0.053)	U (0.51)	U (0.047)	U (0.048)	U (0.047)	U (0.046)	U (0.045)	U (0.045)	U (0.00073)	U (0.0011)	U (0.07)	U (0.001)
Ethyl Benzene	880	70	U (0.044)	U (0.48)	U (0.053)	U (0.51)	U (0.047)	U (0.048)	U (0.047)	0.032 J (0.046)	U (0.045)	U (0.045)	0.00012 J (0.00073)	0.003 (0.0011)	0.011 J (0.07)	U (0.001)
Methyl tert-butyl ether	8500	2	U (0.087)	U (0.95)	U (0.11)	U (1)	U (0.095)	U (0.097)	U (0.093)	U (0.093)	U (0.091)	U (0.091)	U (0.0014)	U (0.0021)	U (0.14)	U (0.002)
Toluene	10000	100	U (0.044)	U (0.48)	U (0.053)	U (0.51)	U (0.047)	U (0.048)	0.034 J (0.047)	0.03 J (0.046)	U (0.045)	U (0.045)	U (0.00073)	0.0016 (0.0011)	0.038 J (0.07)	U (0.001)
1,2,4-Trimethylbenzene	4700	300	0.028 J (0.087)	U (0.95)	0.094 J (0.11)	U (1)	U (0.095)	0.039 J (0.097)	0.42 (0.093)	0.092 J (0.093)	U (0.091)	U (0.091)	0.00029 J (0.0014)	0.024 (0.0021)	U (0.14)	U (0.002)
1,3,5-Trimethylbenzene	4700	93	0.014 J (0.087)	U (0.95)	0.037 J (0.11)	U (1)	U (0.095)	0.013 J (0.097)	0.13 (0.093)	0.092 J (0.093)	U (0.091)	U (0.091)	U (0.0014)	0.0033 (0.0021)	U (0.14)	U (0.002)
Xylenes (total)	7900	1000	U (0.087)	U (0.95)	0.21 J (0.11)	U (1)	0.0715 J (0.095)	U (0.097)	0.261 J (0.093)	0.332 J (0.093)	0.0685 J (0.091)	0.091 J (0.091)	U (0.0014)	0.0242 J (0.0021)	U (0.14)	U (0.002)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
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ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	LS-A-G07-c LS-A-G07	LS-A-G08-d LS-A-G08	LS-A-H01-c LS-A-H01	LS-A-H01-d LS-A-H01	LS-A-H01-d LS-A-H01	LS-A-H01-d LS-A-H01	LS-A-H02-b LS-A-H02	LS-A-H02-b LS-A-H02	LS-A-H02-b LS-A-H02	LS-A-H02-b LS-A-H02	LS-A-H02-c LS-A-H02	LS-A-H03-d LS-A-H03	LS-A-H03-d LS-A-H03	LS-A-H03-d LS-A-H03	LS-A-H04-a LS-A-H04
Field Sample ID	Numeric Value	Numeric Value	0.9 - 1.1	0.9 - 1.1	3.4 - 3.5	2.3 - 2.4	3.0 - 3.2	1.7 - 1.8	2.1 - 2.3	2.3 - 2.4	2.6 - 2.7	1.2 - 1.4	2.3 - 2.4	2.7 - 2.9	3.8 - 4.0	1.7 - 1.8	
Collection Depth (ft bgs)	(0-2 ft bgs)	(mg/kg)	5/24/2023	5/24/2023	5/11/2023	5/11/2023	5/11/2023	5/18/2023	5/18/2023	5/18/2023	5/18/2023	5/18/2023	5/18/2023	5/12/2023	5/12/2023	5/12/2023	5/18/2023
Sample Date	(mg/kg)	(mg/kg)	5/24/2023	5/24/2023	5/11/2023	5/11/2023	5/11/2023	5/18/2023	5/18/2023	5/18/2023	5/18/2023	5/18/2023	5/18/2023	5/12/2023	5/12/2023	5/12/2023	5/18/2023
VOC																	
Benzene	280	0.5	U (0.00044)	0.00056 (0.00042)	U (0.00044)	0.012 J (0.022)	0.26 (0.021)	0.0096 (0.00061)	U (0.026)	U (0.026)	U (0.022)	0.032 J (0.036)	U (0.026)	0.012 J (0.027)	U (0.028)	0.00024 J (0.00053)	
Cumene	10000	2500	U (0.00089)	U (0.00083)	0.01 (0.00088)	2.2 (0.045)	4 (0.043)	0.017 (0.0012)	0.34 (0.052)	0.33 (0.051)	0.21 (0.045)	0.052 J (0.071)	5 (0.052)	0.48 (0.053)	2.4 (0.057)	0.048 (0.0011)	
1,2-Dibromoethane	3.7	0.005	U (0.00044)	U (0.00042)	U (0.00044)	U (0.022)	U (0.021)	U (0.00049)	U (0.026)	U (0.026)	U (0.022)	U (0.036)	U (0.026)	U (0.027)	U (0.028)	U (0.00053)	
1,2-Dichloroethane	85	0.5	U (0.00089)	U (0.00083)	U (0.00088)	U (0.045)	U (0.043)	U (0.00098)	U (0.052)	U (0.051)	U (0.045)	U (0.071)	U (0.052)	U (0.053)	U (0.057)	U (0.0011)	
Ethyl Benzene	880	70	U (0.00089)	U (0.00083)	U (0.00088)	0.15 (0.045)	0.21 (0.043)	0.005 (0.0012)	U (0.052)	U (0.051)	U (0.045)	0.046 J (0.071)	U (0.052)	U (0.053)	U (0.057)	0.00069 J (0.0011)	
Methyl tert-butyl ether	8500	2	U (0.0018)	U (0.0017)	U (0.0018)	U (0.09)	U (0.086)	U (0.002)	U (0.1)	U (0.1)	U (0.09)	U (0.14)	U (0.1)	U (0.11)	U (0.11)	U (0.0021)	
Toluene	10000	100	U (0.00089)	U (0.00083)	U (0.00088)	U (0.045)	0.069 (0.043)	0.0097 (0.0012)	U (0.052)	U (0.051)	U (0.045)	0.085 (0.071)	U (0.052)	0.052 J (0.053)	U (0.057)	0.00092 J (0.0011)	
1,2,4-Trimethylbenzene	4700	300	U (0.0018)	U (0.0017)	0.0015 J (0.0018)	0.1 (0.09)	0.1 (0.086)	0.082 (0.0024)	U (0.1)	0.023 J (0.1)	0.055 J (0.09)	0.078 J (0.14)	U (0.1)	U (0.11)	U (0.11)	0.0036 (0.0021)	
1,3,5-Trimethylbenzene	4700	93	U (0.0018)	U (0.0017)	0.00073 J (0.0018)	U (0.09)	0.012 J (0.086)	0.031 (0.0024)	0.021 J (0.1)	0.042 J (0.1)	0.037 J (0.09)	0.024 J (0.14)	U (0.1)	0.01 J (0.11)	U (0.11)	0.0057 (0.0021)	
Xylenes (total)	7900	1000	U (0.0018)	U (0.0017)	0.00182 J (0.0018)	U (0.09)	0.0935 J (0.086)	0.06 J (0.0024)	0.137 J (0.1)	0.138 J (0.1)	0.088 J (0.09)	0.193 J (0.14)	U (0.1)	0.085 J (0.11)	U (0.11)	0.0148 J (0.0021)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	LS-A-H04-a LS-A-H04	LS-A-H04-b LS-A-H04	LS-A-H05-a LS-A-H05	LS-A-H05-c LS-A-H05	LS-A-H06-c LS-A-H06	LS-A-H07-b LS-A-H07	LS-A-I01-d LS-A-I01	LS-A-I02-d LS-A-I02	LS-A-I03-c LS-A-I03	LS-A-I03-d LS-A-I03	LS-A-I03-d LS-A-I03	LS-A-I03-d LS-A-I03	LS-A-I04-c LS-A-I04	LS-A-I04-c LS-A-I04
Field Sample ID	Numeric Value	Numeric Value	2.1 - 2.3	2.6 - 2.7	2.7 - 2.9	4.4 - 4.6	2.3 - 2.4	1.8 - 2.0	1.1 - 1.2	0.3 - 0.5	3.2 - 3.4	1.8 - 2.0	2.3 - 2.4	2.9 - 3.0	1.8 - 2.0	2.3 - 2.4
Collection Depth (ft bgs)	(0-2 ft bgs)	(mg/kg)	5/18/2023	5/18/2023	5/12/2023	5/12/2023	5/12/2023	5/18/2023	5/23/2023	5/23/2023	5/17/2023	5/17/2023	5/17/2023	5/17/2023	5/17/2023	5/17/2023
Sample Date	(mg/kg)	(mg/kg)	5/18/2023	5/18/2023	5/12/2023	5/12/2023	5/12/2023	5/18/2023	5/23/2023	5/23/2023	5/17/2023	5/17/2023	5/17/2023	5/17/2023	5/17/2023	5/17/2023
VOC																
Benzene	280	0.5	U (0.00044)	U (0.024)	U (0.028)	U (0.022)	U (0.028)	U (0.024)	0.025 J (0.03)	U (0.00038)	0.015 (0.00044)	U (0.025)	0.011 J (0.027)	0.016 J (0.039)	U (0.025)	0.00017 J (0.00039)
Cumene	10000	2500	0.016 (0.00088)	0.13 (0.048)	0.062 (0.056)	1.6 (0.045)	0.54 (0.055)	2.5 (0.048)	0.53 (0.06)	U (0.00077)	0.007 (0.00089)	1 (0.05)	0.63 (0.054)	12 (0.078)	0.064 (0.05)	0.087 (0.00079)
1,2-Dibromoethane	3.7	0.005	U (0.00044)	U (0.024)	U (0.028)	U (0.022)	U (0.028)	U (0.024)	U (0.03)	U (0.00038)	U (0.00044)	U (0.025)	U (0.027)	U (0.039)	U (0.025)	U (0.00039)
1,2-Dichloroethane	85	0.5	U (0.00088)	U (0.048)	U (0.056)	U (0.045)	U (0.055)	U (0.048)	U (0.06)	U (0.00077)	U (0.00089)	U (0.05)	U (0.054)	U (0.078)	U (0.05)	U (0.00079)
Ethyl Benzene	880	70	0.00027 J (0.00088)	U (0.048)	U (0.056)	0.0071 J (0.045)	0.021 J (0.055)	U (0.048)	0.018 J (0.06)	U (0.00077)	0.0046 (0.00089)	U (0.05)	U (0.054)	0.025 J (0.078)	0.011 J (0.05)	0.00043 J (0.00079)
Methyl tert-butyl ether	8500	2	U (0.0018)	U (0.095)	U (0.11)	U (0.09)	U (0.11)	U (0.097)	U (0.12)	U (0.0015)	U (0.0018)	U (0.1)	U (0.11)	U (0.16)	U (0.1)	U (0.0016)
Toluene	10000	100	0.00056 J (0.00088)	U (0.048)	U (0.056)	0.024 J (0.045)	U (0.055)	U (0.048)	U (0.06)	U (0.00077)	0.0013 (0.00089)	U (0.05)	U (0.054)	U (0.078)	0.031 J (0.05)	0.0015 (0.00079)
1,2,4-Trimethylbenzene	4700	300	0.0076 (0.0018)	0.048 J (0.095)	0.049 J (0.11)	0.076 J (0.09)	0.063 J (0.11)	U (0.097)	1.8 (0.12)	U (0.0015)	0.00058 J (0.0018)	U (0.1)	U (0.11)	U (0.16)	0.034 J (0.1)	0.0045 (0.0016)
1,3,5-Trimethylbenzene	4700	93	0.0068 (0.0018)	0.013 J (0.095)	0.019 J (0.11)	0.12 (0.09)	0.039 J (0.11)	U (0.097)	1.4 (0.12)	U (0.0015)	0.00047 J (0.0018)	U (0.1)	U (0.11)	U (0.16)	0.017 J (0.1)	0.0013 J (0.0016)
Xylenes (total)	7900	1000	0.0114 J (0.0018)	0.118 J (0.095)	0.091 J (0.11)	0.077 J (0.09)	0.145 J (0.11)	U (0.097)	0.196 J (0.12)	U (0.0015)	0.00332 J (0.0018)	U (0.1)	U (0.11)	U (0.16)	0.078 J (0.1)	0.005 J (0.0016)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	LS-B-B01-d LS-B-B01	LS-B-B02-c LS-B-B02	LS-B-B03-d LS-B-B03	LS-B-C01-a LS-B-C01	LS-B-D01-a LS-B-D01	LS-B-D01-a LS-B-D01	LS-B-D01-a LS-B-D01	LS-B-E01-b LS-B-E01	LS-B-E01-c LS-B-E01	LS-B-E01-d LS-B-E01	LS-B-F01-d LS-B-F01	LS-B-G01-a LS-B-G01	LS-B-G01-b LS-B-G01	LS-B-G02-c LS-B-G02	LS-B-G02-d LS-B-G02
Field Sample ID	Numeric Value	Numeric Value	0.5 - 0.6	1.7 - 1.8	1.2 - 1.4	1.2 - 1.4	1.4 - 1.5	1.7 - 1.8	2.4 - 2.6	2.1 - 2.3	4.9 - 5.0	0.6 - 0.8	5.5 - 5.6	1.1 - 1.2	0.6 - 0.8	0.5 - 0.6	
Collection Depth (ft bgs)	(0-2 ft bgs)		5/9/2023	5/9/2023	5/9/2023	5/9/2023	5/9/2023	5/9/2023	5/5/2023	5/24/2023	5/5/2023	5/8/2023	5/10/2023	5/10/2023	5/22/2023	5/22/2023	
Sample Date	(mg/kg)	(mg/kg)															
VOC																	
Benzene	280	0.5	U (0.06)	1.3 (0.23)	U (0.00042)	1 (0.033)	0.41 (0.033)	1.8 (0.14)	U (0.00045)	0.017 J (0.024)	0.18 (0.027)	2.6 (0.049)	28 (0.3)	0.21 (0.039)	0.0025 (0.00052)	U (0.00093)	
Cumene	10000	2500	0.34 (0.12)	0.58 (0.47)	0.0002 J (0.00084)	0.86 (0.065)	0.29 (0.066)	0.78 (0.28)	0.0022 (0.0009)	0.014 J (0.048)	1.4 (0.054)	3 (0.097)	33 (0.59)	5 (0.078)	0.00037 J (0.001)	U (0.0019)	
1,2-Dibromoethane	3.7	0.005	U (0.06)	U (0.23)	U (0.00042)	U (0.033)	U (0.033)	U (0.14)	U (0.00045)	U (0.024)	U (0.027)	U (0.049)	U (0.3)	U (0.039)	U (0.00052)	U (0.00093)	
1,2-Dichloroethane	85	0.5	U (0.12)	U (0.47)	U (0.00084)	U (0.065)	U (0.066)	U (0.28)	U (0.0009)	U (0.048)	U (0.054)	U (0.097)	U (0.59)	U (0.078)	U (0.001)	U (0.0019)	
Ethyl Benzene	880	70	0.18 (0.12)	1.1 (0.47)	U (0.00084)	5.4 (0.065)	0.28 (0.066)	2.3 (0.28)	U (0.0009)	0.0084 J (0.048)	0.14 (0.054)	0.51 (0.097)	160 (0.59)	0.77 (0.078)	0.0013 (0.001)	U (0.0019)	
Methyl tert-butyl ether	8500	2	U (0.24)	U (0.93)	U (0.0017)	U (0.13)	U (0.13)	U (0.57)	U (0.0018)	U (0.095)	U (0.11)	U (0.19)	U (1.2)	U (0.16)	U (0.0021)	U (0.0037)	
Toluene	10000	100	0.17 (0.12)	2 (0.47)	U (0.00084)	0.67 (0.065)	0.17 (0.066)	1.3 (0.28)	U (0.0009)	U (0.048)	0.12 (0.054)	1.3 (0.097)	250 (1.2)	4.6 (0.078)	0.0097 (0.001)	U (0.0019)	
1,2,4-Trimethylbenzene	4700	300	11 (0.24)	14 (0.93)	0.0006 J (0.0017)	25 (1.3)	0.12 J (0.13)	1.3 (0.57)	U (0.0018)	U (0.095)	0.14 (0.11)	45 (0.39)	200 (2.4)	120 (1.6)	0.0011 J (0.0021)	U (0.0037)	
1,3,5-Trimethylbenzene	4700	93	7.1 (0.24)	6.2 (0.93)	0.00052 J (0.0017)	9.5 (0.13)	0.099 J (0.13)	0.9 (0.57)	U (0.0018)	U (0.095)	0.042 J (0.11)	14 (0.19)	79 (1.2)	48 (1.6)	0.00088 J (0.0021)	U (0.0037)	
Xylenes (total)	7900	1000	4.3 J (0.24)	9.6 J (0.93)	0.00089 J (0.0017)	17 J (0.13)	0.57 J (0.13)	4.2 J (0.57)	U (0.0018)	U (0.095)	0.359 J (0.11)	16.6 J (0.19)	570 J (2.4)	84 J (0.78)	0.014 J (0.0021)	U (0.0037)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1a
Stockpile or Cut Soil Discrete Analytical Results - VOCs
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	LS-B-G02-d LS-B-G02	LS-B-G02-d LS-B-G02	LS-B-H01-b LS-B-H01	LS-B-H02-b LS-B-H02	LS-B-H02-b LS-B-H02	LS-B-H02-b LS-B-H02	LS-B-H02-b LS-B-H02
Field Sample ID	Numeric Value	Numeric Value	LS-B-G02-C3-VOC	LS-B-G02-C4-VOC	LS-B-H01-C1-VOC	LS-B-H02-C1-VOC	LS-B-H02-C2-VOC	LS-B-H02-C2-VOC	LS-B-H02-C3-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		1.1 - 1.2	1.4 - 1.5	3.7 - 3.8	1.8 - 2.0	2.3 - 2.4	2.3 - 2.4	2.6 - 2.7
Sample Date	(mg/kg)	(mg/kg)	5/22/2023	5/22/2023	5/12/2023	5/17/2023	5/17/2023	5/17/2023	5/17/2023
VOC									
Benzene	280	0.5	U (0.001)	U (0.00042)	U (0.026)	U (0.036)	U (0.00044)	U (0.00044)	U (0.026)
Cumene	10000	2500	U (0.0021)	U (0.00083)	0.96 (0.051)	0.26 (0.071)	U (0.00088)	U (0.00088)	0.36 (0.053)
1,2-Dibromoethane	3.7	0.005	U (0.001)	U (0.00042)	U (0.026)	U (0.036)	U (0.00044)	U (0.00044)	U (0.026)
1,2-Dichloroethane	85	0.5	U (0.0021)	U (0.00083)	U (0.051)	U (0.071)	U (0.00088)	U (0.00088)	U (0.053)
Ethyl Benzene	880	70	U (0.0021)	U (0.00083)	U (0.051)	U (0.071)	U (0.00088)	U (0.00088)	U (0.053)
Methyl tert-butyl ether	8500	2	U (0.0042)	U (0.0017)	U (0.1)	U (0.14)	U (0.0018)	U (0.0018)	U (0.11)
Toluene	10000	100	U (0.0021)	U (0.00083)	U (0.051)	U (0.071)	U (0.00088)	U (0.00088)	U (0.053)
1,2,4-Trimethylbenzene	4700	300	U (0.0042)	U (0.0017)	U (0.1)	U (0.14)	U (0.0018)	U (0.0018)	U (0.11)
1,3,5-Trimethylbenzene	4700	93	U (0.0042)	U (0.0017)	U (0.1)	U (0.14)	U (0.0018)	U (0.0018)	U (0.11)
Xylenes (total)	7900	1000	U (0.0042)	U (0.0017)	U (0.1)	0.114 J (0.14)	U (0.0018)	U (0.0018)	0.076 J (0.11)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	201-A01-b	201-A01-c	201-A01-c	201-A01-c	201-A02-c	201-A02-c	201-A02-c	201-A03-a	201-A03-c	201-A03-d	201-A04-a	201-A04-a	201-A04-a	201-A04-b
Cell	Soil Direct Contact	Soil to	201-A01	201-A01	201-A01	201-A01	201-A02	201-A02	201-A02	201-A03	201-A03	201-A03	201-A04	201-A04	201-A04	201-A04
Field Sample ID	Numeric Value	Groundwater	201-A01-D1-VOC	201-A01-C1-VOC	201-A01-C2-VOC	201-A01-CX-VOC	201-A02-C1-VOC	201-A02-C2-VOC	201-A02-CX-VOC	201-A03-C1-VOC	201-A03-C2-VOC	201-A03-CX-VOC	201-A04-C2-VOC	201-A04-C3-VOC	201-A04-CX-VOC	201-A04-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.5 - 2.7	1.1 - 1.2	2.3 - 2.4	2.9 - 3.0	0.9 - 1.1	2.0 - 2.1	3.0 - 3.2	0.6 - 0.8	1.8 - 2.0	3.2 - 3.4	1.1 - 1.2	2.3 - 2.4	3.4 - 3.5	0.6 - 0.8
Sample Date	(mg/kg)	(mg/kg)	3/28/2023	1/17/2022	1/17/2022	1/17/2022	1/18/2022	1/18/2022	1/18/2022	1/18/2022	1/18/2022	1/18/2022	1/18/2022	1/19/2022	1/19/2022	1/19/2022
VOCs																
Benzene	280	0.5	0.0008 (0.00053)	0.066 (0.034)	U (0.031)	U (0.037)	23 (0.15)	5.5 (0.034)	11 (0.064)	61 (0.25)	10 (0.032)	38 (0.21)	60 (0.68)	63 (0.31)	5.5 (0.03)	1.1 (0.028)
Cumene	10000	2500	0.038 (0.0011)	0.54 (0.069)	1.9 (0.061)	U (0.073)	4.3 (0.3)	0.59 (0.067)	0.78 (0.13)	6 (0.5)	0.043 J (0.064)	5.3 (0.42)	7.2 (1.4)	5.7 (0.62)	0.027 J (0.061)	0.5 (0.056)
1,2-Dibromoethane	3.7	0.005	U (0.00053)	U (0.034)	U (0.031)	U (0.037)	U (0.15)	U (0.034)	U (0.064)	U (0.25)	U (0.032)	U (0.21)	U (0.68)	U (0.31)	U (0.03)	U (0.028)
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.069)	U (0.061)	U (0.073)	U (0.3)	U (0.067)	U (0.13)	U (0.5)	U (0.064)	U (0.42)	U (1.4)	U (0.62)	U (0.061)	U (0.056)
Ethyl Benzene	880	70	0.0018 (0.0011)	1.7 (0.069)	7.9 (0.061)	U (0.073)	50 (0.3)	7.5 (0.067)	8.9 (0.13)	58 (0.5)	1.7 (0.064)	76 (0.42)	110 (1.4)	95 (0.62)	0.43 (0.061)	7.6 (0.056)
Methyl tert-butyl ether	8500	2	U (0.0021)	U (0.14)	U (0.12)	U (0.15)	U (0.6)	U (0.13)	U (0.26)	1.1 (1)	12 (0.13)	0.98 (0.83)	U (2.7)	U (1.2)	0.17 (0.12)	0.1 J (0.11)
Toluene	10000	100	0.0016 (0.0011)	0.066 J (0.069)	7.6 (0.061)	U (0.073)	42 (0.3)	30 (0.27)	0.97 (0.13)	8.5 (0.5)	24 (0.32)	230 (1.7)	510 (3.4)	410 (3.1)	8.9 (0.061)	0.38 (0.056)
1,2,4-Trimethylbenzene	4700	300	0.023 (0.0021)	0.074 J (0.14)	18 (0.12)	U (0.15)	96 (1.2)	13 (0.13)	4.5 (0.26)	17 (1)	1.3 (0.13)	120 (3.3)	190 (2.7)	150 (1.2)	0.72 (0.12)	17 (0.22)
1,3,5-Trimethylbenzene	4700	93	0.0099 (0.0021)	0.089 J (0.14)	8.1 (0.12)	U (0.15)	30 (0.6)	4.3 (0.13)	1.6 (0.26)	10 (1)	0.39 (0.13)	44 (0.83)	59 (2.7)	44 (1.2)	0.23 (0.12)	4.8 (0.11)
Xylenes (total)	7900	1000	0.0094 J (0.0021)	1.76 J (0.14)	19.6 J (0.12)	U (0.15)	305 J (1.2)	46 J (0.13)	35.75 J (0.26)	62 J (1)	10.8 J (0.13)	420 J (3.3)	730 J (2.7)	560 J (6.2)	2.43 J (0.12)	33.7 J (0.11)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	201-A05-b 201-A05	201-A05-b 201-A05	201-A05-b 201-A05	201-A05-c 201-A05	201-A06-a 201-A06	201-A06-a 201-A06	201-A06-d 201-A06	201-A07-a 201-A07	201-A07-a 201-A07	201-A07-b 201-A07	201-A08-a 201-A08	201-A08-a 201-A08	201-A08-d 201-A08	201-A09-b 201-A09
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	201-A05-C1-VOC 0.6 - 0.8	201-A05-C2-VOC 0.9 - 1.1	201-A05-C3-VOC 2.3 - 2.4	201-A05-CX-VOC 2.5 - 2.7	201-A06-C2-VOC 0.8 - 0.9	201-A06-CX-VOC 1.5 - 1.7	201-A06-C1-VOC 0.9 - 1.1	201-A07-C1-VOC 0.5 - 0.6	201-A07-CX-VOC 2.9 - 3.0	201-A07-C2-VOC 1.5 - 1.7	201-A08-C2-VOC 2.9 - 3.0	201-A08-CX-VOC 4.0 - 4.1	201-A08-C1-VOC 0.5 - 0.6	201-A09-C1-VOC 0.6 - 0.8
Collection Depth (ft bgs)	Sample Date	(mg/kg)	1/19/2022	1/19/2022	1/19/2022	1/19/2022	1/21/2022	1/21/2022	1/21/2022	1/19/2022	1/19/2022	1/19/2022	1/20/2022	1/20/2022	1/20/2022	1/20/2022
VOCs																
Benzene	280	0.5	8.2 (0.42)	1.8 (0.12)	0.11 (0.03)	0.38 (0.037)	U (0.14)	0.17 (0.032)	1.7 (0.032)	1.9 (0.037)	3.2 (0.029)	1.7 (0.33)	1 (0.073)	1 (0.035)	2 (0.032)	13 (0.71)
Cumene	10000	2500	12 (0.85)	6.6 (0.25)	0.49 (0.061)	0.15 (0.074)	4.5 (0.28)	0.9 (0.064)	0.96 (0.064)	6.3 (0.074)	0.054 J (0.057)	8.5 (0.66)	2.4 (0.14)	3.3 (0.071)	5.5 (0.064)	17 (1.4)
1,2-Dibromoethane	3.7	0.005	U (0.42)	U (0.12)	U (0.03)	U (0.037)	U (0.14)	U (0.032)	U (0.032)	U (0.037)	U (0.029)	U (0.33)	U (0.073)	U (0.035)	U (0.032)	U (0.71)
1,2-Dichloroethane	85	0.5	U (0.85)	U (0.25)	U (0.061)	U (0.074)	U (0.28)	U (0.064)	U (0.064)	U (0.074)	U (0.057)	U (0.66)	U (0.14)	U (0.071)	U (0.064)	U (1.4)
Ethyl Benzene	880	70	55 (0.85)	43 (0.25)	0.076 (0.061)	0.043 J (0.074)	0.28 (0.28)	0.088 (0.064)	6.4 (0.064)	46 (0.74)	0.95 (0.057)	95 (0.66)	14 (0.14)	0.91 (0.071)	15 (0.064)	170 (1.4)
Methyl tert-butyl ether	8500	2	U (1.7)	U (0.49)	U (0.12)	0.018 J (0.15)	U (0.56)	U (0.13)	U (0.13)	U (0.15)	0.024 J (0.11)	U (1.3)	U (0.29)	0.023 J (0.14)	0.013 J (0.13)	U (2.8)
Toluene	10000	100	2.2 (0.85)	0.26 (0.25)	0.045 J (0.061)	0.058 J (0.074)	0.33 (0.28)	0.12 (0.064)	0.64 (0.064)	0.25 (0.074)	0.087 (0.057)	1.7 (0.66)	0.14 (0.14)	0.072 (0.071)	0.19 (0.064)	46 (1.4)
1,2,4-Trimethylbenzene	4700	300	310 (3.4)	100 (1.2)	0.71 (0.12)	0.44 (0.15)	0.6 (0.56)	0.079 J (0.13)	13 (0.13)	1.4 (0.15)	1 (0.11)	280 (2.7)	50 (1.4)	10 (0.14)	0.34 (0.13)	500 (7.1)
1,3,5-Trimethylbenzene	4700	93	78 (1.7)	30 (0.49)	0.42 (0.12)	0.2 (0.15)	0.2 J (0.56)	0.034 J (0.13)	3.7 (0.13)	0.33 (0.15)	0.32 (0.11)	76 (1.3)	13 (0.29)	17 (0.14)	0.29 (0.13)	160 (2.8)
Xylenes (total)	7900	1000	180 J (1.7)	14.73 J (0.49)	0.307 J (0.12)	0.174 J (0.15)	1.22 J (0.56)	0.135 J (0.13)	12.45 J (0.13)	3.47 J (0.15)	4.08 J (0.11)	282 J (1.3)	43.58 J (0.29)	3.251 J (0.14)	1.86 J (0.13)	830 J (2.8)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	201-A09-d	201-A09-d	201-A10-d	201-A10-d	201-A10-d	201-A10-d	201-A11-b	201-A11-c	201-A11-c	201-A12-a	201-A12-a	201-A12-d	201-A13-a	201-A13-b	201-A13-b
Cell	Soil Direct Contact	Soil to	201-A09	201-A09	201-A10	201-A10	201-A10	201-A10	201-A11	201-A11	201-A11	201-A12	201-A12	201-A12	201-A13	201-A13	201-A13
Field Sample ID	Numeric Value	Groundwater	201-A09-C2-VOC	201-A09-CX-VOC	201-A10-C1-VOC	201-A10-C2-VOC	201-A10-CX-VOC	201-A11-C1-VOC	201-A11-C2-VOC	201-A11-CX-VOC	201-A12-C2-VOC	201-A12-CX-VOC	201-A12-C1-VOC	201-A13-CX-VOC	201-A13-C1-VOC	201-A13-C2-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.4 - 1.5	2.0 - 2.1	0.5 - 0.6	1.4 - 1.5	1.8 - 2.0	0.8 - 0.9	1.4 - 1.5	1.7 - 1.8	2.1 - 2.3	4.3 - 4.4	0.3 - 0.5	4.4 - 4.6	0.8 - 0.9	1.5 - 1.7	
Sample Date	(mg/kg)	(mg/kg)	1/20/2022	1/20/2022	1/21/2022	1/21/2022	1/21/2022	1/21/2022	1/21/2022	1/21/2022	1/21/2022	1/24/2022	1/24/2022	1/24/2022	1/24/2022	1/24/2022	
VOCs																	
Benzene	280	0.5	340 (2.9)	340 (2)	3.1 (0.15)	4.6 (0.14)	2.6 (0.14)	U (0.14)	9.5 (0.22)	2.3 (0.18)	11 (0.61)	32 (0.64)	0.5 (0.036)	4.6 (0.061)	56 (0.44)	58 (0.34)	
Cumene	10000	2500	30 (5.8)	39 (4.1)	1.8 (0.3)	2.3 (0.29)	2.2 (0.28)	4.6 (0.27)	4.7 (0.43)	7.5 (0.35)	3.7 (1.2)	6.4 (1.3)	0.2 (0.072)	2.7 (0.12)	13 (0.89)	11 (0.69)	
1,2-Dibromoethane	3.7	0.005	U (2.9)	U (2)	U (0.15)	U (0.14)	U (0.14)	U (0.14)	U (0.22)	U (0.18)	U (0.61)	U (0.64)	U (0.036)	U (0.061)	U (0.44)	U (0.34)	
1,2-Dichloroethane	85	0.5	U (5.8)	U (4.1)	U (0.3)	U (0.29)	U (0.28)	U (0.27)	U (0.43)	U (0.35)	U (1.2)	U (1.3)	U (0.072)	U (0.12)	U (0.89)	U (0.69)	
Ethyl Benzene	880	70	420 (5.8)	470 (4.1)	0.89 (0.3)	0.85 (0.29)	0.77 (0.28)	17 (0.27)	5.4 (0.43)	11 (0.35)	55 (1.2)	98 (1.3)	0.54 (0.072)	36 (0.12)	150 (0.89)	140 (0.69)	
Methyl tert-butyl ether	8500	2	U (12)	U (8.2)	4.2 (0.6)	6.2 (0.57)	4.8 (0.56)	U (0.54)	0.37 J (0.86)	U (0.7)	U (2.4)	U (2.6)	0.016 J (0.14)	U (0.24)	0.29 J (1.8)	U (1.4)	
Toluene	10000	100	1400 (14)	2400 (8.2)	U (0.3)	0.17 J (0.29)	U (0.28)	U (0.27)	1.3 (0.43)	3.1 (0.35)	160 (1.2)	410 (3.2)	0.45 (0.072)	52 (0.3)	19 (0.89)	350 (1.4)	
1,2,4-Trimethylbenzene	4700	300	760 (12)	900 (8.2)	U (0.6)	0.16 J (0.57)	U (0.56)	96 (1.4)	8.3 (0.86)	320 (3.5)	88 (2.4)	170 (2.6)	4.2 (0.14)	66 (0.61)	270 (3.5)	260 (2.8)	
1,3,5-Trimethylbenzene	4700	93	240 (12)	310 (8.2)	U (0.6)	U (0.57)	U (0.56)	27 (0.54)	2.8 (0.86)	100 (0.7)	29 (2.4)	56 (2.6)	1.4 (0.14)	22 (0.24)	90 (1.8)	84 (1.4)	
Xylenes (total)	7900	1000	2430 J (12)	2460 J (8.2)	U (0.6)	U (0.57)	U (0.56)	52.14 J (0.54)	25.7 J (0.86)	125 J (0.7)	326 J (2.4)	610 J (2.6)	2.14 J (0.14)	185 J (0.61)	620 J (1.8)	740 J (2.8)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	201-A14-a	201-A14-a	201-A14-c	201-A15-b	201-A15-b	201-B01-a	201-B01-d	201-B02-c	201-B02-c	201-B02-c	201-B02-c	201-B03-b	201-B03-c	201-B03-c
Cell	Soil Direct Contact	Soil to	201-A14	201-A14	201-A14	201-A15	201-A15	201-B01	201-B01	201-B02	201-B02	201-B02	201-B02	201-B03	201-B03	201-B03
Field Sample ID	Numeric Value	Groundwater	201-A14-C1-VOC	201-A14-CX-VOC	201-A14-C2-VOC	201-A15-C1-VOC	201-A15-CX-VOC	201-B01-C1-VOC	201-B01-CX-VOC	201-B02-C1-VOC	201-B02-C2-VOC	201-B02-C3-VOC	201-B02-CX-VOC	201-B03-C1-VOC	201-B03-C2-VOC	201-B03-CX-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.2 - 0.3	2.0 - 2.1	1.7 - 1.8	0.2 - 0.3	0.6 - 0.8	1.7 - 1.8	3.7 - 3.8	0.6 - 0.8	1.5 - 1.7	2.3 - 2.4	2.9 - 3.0	1.4 - 1.5	3.0 - 3.2	3.8 - 4.0
Sample Date	(mg/kg)	(mg/kg)	1/24/2022	1/24/2022	1/24/2022	1/25/2022	1/25/2022	1/25/2022	1/25/2022	1/26/2022	1/26/2022	1/26/2022	1/26/2022	1/26/2022	1/26/2022	1/26/2022
VOCs																
Benzene	280	0.5	0.0016 (0.00064)	0.00042 J (0.00045)	0.0003 J (0.00054)	0.00018 J (0.00056)	U (0.00051)	0.025 (0.00069)	0.032 (0.031)	0.0026 (0.00054)	0.0033 (0.00054)	0.014 J (0.032)	0.00074 (0.00059)	0.0049 (0.00073)	6.4 (0.12)	9.1 (2.8)
Cumene	10000	2500	0.00064 J (0.0013)	0.0019 (0.0009)	0.0056 (0.0011)	0.074 (0.0011)	0.00088 J (0.001)	0.009 (0.0014)	0.063 (0.062)	0.0041 (0.0011)	0.001 J (0.0011)	0.088 (0.065)	U (0.0012)	0.0002 J (0.0014)	4.1 (0.24)	33 (5.7)
1,2-Dibromoethane	3.7	0.005	U (0.00064)	U (0.00045)	U (0.00054)	U (0.00056)	U (0.00051)	U (0.00069)	U (0.031)	U (0.00054)	U (0.00054)	U (0.032)	U (0.00059)	U (0.00073)	U (0.12)	U (2.8)
1,2-Dichloroethane	85	0.5	U (0.0013)	U (0.0009)	U (0.0011)	U (0.0011)	U (0.001)	U (0.0014)	U (0.062)	U (0.0011)	U (0.0011)	U (0.065)	U (0.0012)	U (0.0014)	U (0.24)	U (5.7)
Ethyl Benzene	880	70	0.00023 J (0.0013)	U (0.0009)	U (0.0011)	0.0017 (0.0011)	0.00031 J (0.001)	0.014 (0.0014)	0.12 (0.062)	0.0099 (0.0011)	0.00064 J (0.0011)	0.41 (0.065)	0.00053 J (0.0012)	0.00044 J (0.0014)	49 (0.24)	18 (5.7)
Methyl tert-butyl ether	8500	2	0.0015 J (0.0026)	0.0082 (0.0018)	0.0046 (0.0021)	0.0016 J (0.0022)	0.00092 J (0.002)	0.015 (0.0028)	U (0.12)	U (0.0022)	0.00052 J (0.0022)	U (0.13)	U (0.0023)	U (0.0029)	U (0.49)	U (11)
Toluene	10000	100	U (0.0013)	0.0026 (0.0009)	U (0.0011)	0.001 J (0.0011)	U (0.001)	U (0.0014)	0.037 J (0.062)	0.016 (0.0011)	0.0017 (0.0011)	0.14 (0.065)	0.00096 J (0.0012)	U (0.0014)	110 (0.49)	16 (5.7)
1,2,4-Trimethylbenzene	4700	300	U (0.0026)	U (0.0018)	0.00043 J (0.0021)	0.0062 (0.0022)	0.00038 J (0.002)	0.12 (0.0028)	0.88 (0.12)	0.02 (0.0022)	0.0011 J (0.0022)	4.2 (0.13)	0.0011 J (0.0023)	0.0024 J (0.0029)	73 (0.98)	550 (11)
1,3,5-Trimethylbenzene	4700	93	0.00031 J (0.0026)	0.0012 J (0.0018)	0.00026 J (0.0021)	0.0018 J (0.0022)	U (0.002)	0.014 (0.0028)	0.27 (0.12)	0.007 (0.0022)	0.00031 J (0.0022)	1.3 (0.13)	0.00034 J (0.0023)	0.00092 J (0.0029)	41 (0.49)	150 (11)
Xylenes (total)	7900	1000	U (0.0026)	0.0057 J (0.0018)	0.00138 J (0.0021)	0.0085 J (0.0022)	U (0.002)	0.026 J (0.0028)	0.39 J (0.12)	0.058 J (0.0022)	0.00246 J (0.0022)	4.5 J (0.13)	0.0033 J (0.0023)	0.0041 J (0.0029)	216 J (0.98)	117 J (11)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	201-B04-d 201-B04	201-B04-d 201-B04	201-B04-d 201-B04	201-B05-b 201-B05	201-B05-c 201-B05	201-B05-c 201-B05	201-B05-c 201-B05	201-B06-a 201-B06	201-B06-a 201-B06	201-B06-c 201-B06	201-B07-b 201-B07	201-B07-c 201-B07	201-B07-d 201-B07	201-B08-b 201-B08	201-B08-c 201-B08
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	201-B04-C1-VOC	201-B04-C2-VOC	201-B04-CX-VOC	201-B05-C1-VOC	201-B05-C2-VOC	201-B05-CX-VOC	201-B06-C2-VOC	201-B06-CX-VOC	201-B06-C1-VOC	201-B07-CX-VOC	201-B07-C2-VOC	201-B07-C1-VOC	201-B08-CX-VOC	201-B08-C1-VOC	
Collection Depth (ft bgs)			1.1 - 1.2	2.7 - 2.9	3.2 - 3.4	1.5 - 1.7	4.7 - 4.9	5.3 - 5.5	3.7 - 3.8	4.3 - 4.4	1.5 - 1.7	3.2 - 3.4	2.4 - 2.6	0.0 - 0.2	2.0 - 2.1	0.6 - 0.8	
Sample Date	(mg/kg)	(mg/kg)	1/26/2022	1/26/2022	1/26/2022	1/27/2022	1/27/2022	1/27/2022	1/27/2022	1/27/2022	1/27/2022	2/2/2022	2/2/2022	2/2/2022	1/28/2022	1/28/2022	
VOCs																	
Benzene	280	0.5	1.5 (0.16)	U (0.033)	U (0.14)	0.02 J (0.034)	U (0.067)	0.018 J (0.033)	0.085 (0.029)	0.11 (0.046)	0.94 (0.095)	U (0.00052)	U (0.00044)	U (0.072)	0.026 J (0.039)	U (0.00053)	
Cumene	10000	2500	5.8 (0.32)	0.71 (0.066)	8 (0.29)	0.83 (0.068)	1.5 (0.13)	0.065 J (0.066)	0.38 (0.057)	0.17 (0.092)	3.9 (0.19)	0.011 (0.001)	0.0035 (0.00088)	1.3 (0.14)	2.1 (0.079)	U (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.16)	U (0.033)	U (0.14)	U (0.034)	U (0.067)	U (0.00064)	U (0.029)	U (0.046)	U (0.095)	U (0.00052)	U (0.00044)	U (0.072)	U (0.039)	U (0.00053)	
1,2-Dichloroethane	85	0.5	U (0.32)	U (0.066)	U (0.29)	U (0.068)	U (0.13)	U (0.0013)	U (0.057)	U (0.092)	U (0.19)	U (0.001)	U (0.00088)	U (0.14)	U (0.079)	U (0.001)	
Ethyl Benzene	880	70	3.2 (0.32)	U (0.066)	4.9 (0.29)	0.11 (0.068)	0.019 J (0.13)	0.034 J (0.066)	0.3 (0.057)	0.077 J (0.092)	0.38 (0.19)	U (0.001)	U (0.00088)	U (0.14)	2.6 (0.079)	U (0.001)	
Methyl tert-butyl ether	8500	2	U (0.63)	U (0.13)	U (0.58)	U (0.14)	U (0.27)	0.00059 J (0.0026)	0.025 J (0.11)	U (0.18)	U (0.38)	U (0.0021)	U (0.0018)	U (0.29)	U (0.16)	U (0.0021)	
Toluene	10000	100	0.59 (0.32)	U (0.066)	U (0.29)	U (0.068)	U (0.13)	0.0042 (0.0013)	0.044 J (0.057)	U (0.092)	0.52 (0.19)	U (0.001)	U (0.00088)	U (0.14)	U (0.079)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	31 (0.63)	0.044 J (0.13)	120 (2.3)	5.5 (0.14)	0.074 J (0.27)	0.82 (0.13)	7.3 (0.11)	3.2 (0.18)	0.45 (0.38)	0.00058 J (0.0021)	U (0.0018)	U (0.29)	50 (1.6)	U (0.0021)	
1,3,5-Trimethylbenzene	4700	93	3.2 (0.63)	U (0.13)	14 (0.58)	2.4 (0.14)	0.028 J (0.27)	0.26 (0.13)	1.6 (0.11)	0.9 (0.18)	0.12 J (0.38)	U (0.0021)	U (0.0018)	U (0.29)	11 (0.16)	U (0.0021)	
Xylenes (total)	7900	1000	3.25 J (0.63)	0.1 J (0.13)	7.2 J (0.58)	0.194 J (0.14)	0.176 J (0.27)	0.265 J (0.13)	1.83 J (0.11)	0.6 J (0.18)	1.17 J (0.38)	U (0.0021)	U (0.0018)	U (0.29)	3.63 J (0.16)	U (0.0021)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	201-B08-c	201-B09-a	201-B09-c	201-B09-c	201-B10-b	201-B10-d	201-B10-d	201-B10-d	201-B11-d	201-B11-d	201-B11-d	201-B11-d	201-B12-a	201-B12-a	201-B12-b
Cell	Soil Direct Contact	Soil to	201-B08	201-B09	201-B09	201-B09	201-B10	201-B10	201-B10	201-B10	201-B11	201-B11	201-B11	201-B11	201-B12	201-B12	201-B12
Field Sample ID	Numeric Value	Groundwater	201-B08-C2-VOC	201-B09-C1-VOC	201-B09-C2-VOC	201-B09-CX-VOC	201-B10-C1-VOC	201-B10-C2-VOC	201-B10-CX-VOC	201-B11-C1-VOC	201-B11-C2-VOC	201-B11-C3-VOC	201-B11-CX-VOC	201-B12-C2-VOC	201-B12-CX-VOC	201-B12-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.4 - 1.5	0.8 - 0.9	0.9 - 1.1	1.8 - 2.0	1.1 - 1.2	2.6 - 2.7	3.2 - 3.4	0.8 - 0.9	2.0 - 2.1	2.6 - 2.7	3.5 - 3.7	1.4 - 1.5	2.0 - 2.1	0.5 - 0.6	
Sample Date	(mg/kg)	(mg/kg)	1/28/2022	1/28/2022	1/28/2022	1/28/2022	1/28/2022	1/28/2022	1/28/2022	2/2/2022	2/2/2022	2/2/2022	2/2/2022	2/2/2022	2/2/2022	2/2/2022	
VOCs																	
Benzene	280	0.5	U (0.00048)	0.021 (0.00072)	2.1 (0.033)	U (0.034)	U (0.00051)	0.19 (0.028)	1.5 (0.025)	U (0.00057)	0.052 (0.00048)	U (0.00043)	1.1 (0.072)	15 (0.3)	0.45 J (0.58)	0.19 (0.044)	
Cumene	10000	2500	U (0.00097)	0.00044 J (0.0014)	7 (0.067)	0.79 (0.069)	0.0085 (0.001)	0.48 (0.056)	3.9 (0.05)	0.0029 (0.0011)	0.19 (0.00097)	0.00025 J (0.00086)	1.2 (0.14)	14 (0.6)	3.6 (1.2)	1.2 (0.087)	
1,2-Dibromoethane	3.7	0.005	U (0.00048)	U (0.00072)	U (0.033)	U (0.034)	U (0.00051)	U (0.028)	U (0.025)	U (0.00057)	U (0.00048)	U (0.00043)	U (0.072)	U (0.3)	U (0.58)	U (0.044)	
1,2-Dichloroethane	85	0.5	U (0.00097)	U (0.0014)	U (0.067)	U (0.069)	U (0.001)	U (0.056)	U (0.05)	U (0.0011)	U (0.00097)	U (0.00086)	U (0.14)	U (0.6)	U (1.2)	U (0.087)	
Ethyl Benzene	880	70	U (0.00097)	0.0027 (0.0014)	16 (0.067)	U (0.069)	U (0.001)	0.44 (0.056)	0.4 (0.05)	U (0.0011)	0.02 (0.00097)	U (0.00086)	0.4 (0.14)	59 (0.6)	0.26 J (1.2)	0.26 (0.087)	
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.0029)	0.16 (0.13)	0.016 J (0.14)	U (0.002)	U (0.11)	U (0.1)	U (0.0023)	U (0.0019)	U (0.0017)	U (0.29)	U (1.2)	0.24 J (2.3)	0.024 J (0.17)	
Toluene	10000	100	U (0.00097)	0.026 (0.0014)	3.9 (0.067)	U (0.069)	U (0.001)	0.07 (0.056)	0.22 (0.05)	U (0.0011)	0.024 (0.00097)	U (0.00086)	0.32 (0.14)	4.6 (0.6)	U (1.2)	0.2 (0.087)	
1,2,4-Trimethylbenzene	4700	300	0.00074 J (0.0019)	0.0016 J (0.0029)	84 (1.3)	0.027 J (0.14)	0.00054 J (0.002)	0.86 (0.11)	2.6 (0.1)	U (0.0023)	0.0035 (0.0019)	U (0.0017)	0.13 J (0.29)	94 (1.2)	1 J (2.3)	0.16 J (0.17)	
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	0.00038 J (0.0029)	27 (1.3)	0.016 J (0.14)	0.00026 J (0.002)	0.21 (0.11)	0.33 (0.1)	U (0.0023)	0.0031 (0.0019)	U (0.0017)	0.042 J (0.29)	27 (1.2)	0.22 J (2.3)	0.048 J (0.17)	
Xylenes (total)	7900	1000	U (0.0019)	0.017 J (0.0029)	76.7 J (1.3)	U (0.14)	0.0012 J (0.002)	0.304 J (0.11)	0.698 J (0.1)	U (0.0023)	0.0717 J (0.0019)	U (0.0017)	0.84 J (0.29)	104.2 J (1.2)	1.46 J (2.3)	0.504 J (0.17)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	201-C01-b	201-C01-b	201-C01-d	201-C01-d	201-C02-a	201-C02-c	201-C02-c	201-C03-b	201-C03-b	201-C03-b	201-C04-c	201-C04-c	201-C04-c	201-C05-c
Cell	Soil Direct Contact	Soil to	201-C01	201-C01	201-C01	201-C01	201-C02	201-C02	201-C02	201-C03	201-C03	201-C03	201-C04	201-C04	201-C04	201-C05
Field Sample ID	Numeric Value	Groundwater	201-C01-C1-VOC	201-C01-C2-VOC	201-C01-C3-VOC	201-C01-CX-VOC	201-C02-CX-VOC	201-C02-C1-VOC	201-C02-C2-VOC	201-C03-C1-VOC	201-C03-C2-VOC	201-C03-CX-VOC	201-C04-C1-VOC	201-C04-C2-VOC	201-C04-CX-VOC	201-C05-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.1 - 1.2	2.4 - 2.6	4.1 - 4.3	4.6 - 4.7	3.8 - 4.0	1.5 - 1.7	2.7 - 2.9	2.1 - 2.3	2.7 - 2.9	4.9 - 5.0	1.8 - 2.0	3.7 - 3.8	4.4 - 4.6	0.3 - 0.5
Sample Date	(mg/kg)	(mg/kg)	2/3/2022	2/3/2022	2/3/2022	2/3/2022	2/3/2022	2/3/2022	2/3/2022	2/4/2022	2/4/2022	2/4/2022	2/4/2022	2/4/2022	2/4/2022	2/17/2022
VOCs																
Benzene	280	0.5	U (0.068)	U (0.44)	0.04 (0.00052)	1.1 (0.14)	0.62 (0.029)	0.00024 J (0.00059)	0.071 (0.03)	U (0.097)	1.8 (0.34)	0.024 J (0.041)	0.28 (0.07)	U (0.18)	0.12 (0.058)	0.65 (0.074)
Cumene	10000	2500	1.4 (0.14)	0.25 J (0.89)	0.006 (0.001)	1.8 (0.28)	3 (0.059)	0.0017 (0.0012)	0.71 (0.061)	0.55 (0.19)	3.5 (0.67)	0.28 (0.082)	1.6 (0.14)	3.6 (0.37)	1.1 (0.12)	1.1 (0.15)
1,2-Dibromoethane	3.7	0.005	U (0.068)	U (0.44)	U (0.00052)	U (0.14)	U (0.029)	U (0.00059)	U (0.03)	U (0.097)	U (0.34)	U (0.041)	U (0.07)	U (0.18)	U (0.058)	U (0.074)
1,2-Dichloroethane	85	0.5	U (0.14)	U (0.89)	U (0.001)	U (0.28)	U (0.059)	U (0.0012)	U (0.061)	U (0.19)	U (0.67)	U (0.082)	U (0.14)	U (0.37)	U (0.12)	U (0.15)
Ethyl Benzene	880	70	U (0.14)	U (0.89)	0.00032 J (0.001)	1.6 (0.28)	1.3 (0.059)	0.00052 J (0.0012)	0.18 (0.061)	U (0.19)	4.3 (0.67)	0.23 (0.082)	4.8 (0.14)	11 (0.37)	3.5 (0.12)	5.3 (0.15)
Methyl tert-butyl ether	8500	2	U (0.27)	U (1.8)	0.0018 J (0.0021)	U (0.56)	0.084 J (0.12)	U (0.0023)	U (0.12)	U (0.39)	U (1.3)	U (0.16)	U (0.28)	U (0.74)	U (0.23)	U (0.29)
Toluene	10000	100	U (0.14)	U (0.89)	0.0023 (0.001)	0.22 J (0.28)	0.26 (0.059)	U (0.0012)	0.078 (0.061)	U (0.19)	1.2 (0.67)	U (0.082)	0.12 J (0.14)	0.37 (0.37)	0.087 J (0.12)	2.1 (0.15)
1,2,4-Trimethylbenzene	4700	300	U (0.27)	U (1.8)	0.012 (0.0021)	28 (0.56)	17 (1.2)	0.0009 J (0.0023)	0.59 (0.12)	U (0.39)	51 (1.3)	4.7 (0.16)	25 (0.28)	63 (0.74)	16 (0.23)	46 (0.74)
1,3,5-Trimethylbenzene	4700	93	U (0.27)	U (1.8)	0.01 (0.0021)	8.4 (0.56)	6.6 (0.12)	0.00046 J (0.0023)	0.33 (0.12)	U (0.39)	14 (1.3)	1.5 (0.16)	0.27 J (0.28)	1.8 (0.74)	0.65 (0.23)	13 (0.29)
Xylenes (total)	7900	1000	U (0.27)	U (1.8)	0.0153 J (0.0021)	10.4 J (0.56)	6.5 J (0.12)	0.00176 J (0.0023)	0.7 J (0.12)	U (0.39)	17.9 J (1.3)	0.898 J (0.16)	1.06 J (0.28)	19.4 J (0.74)	0.74 J (0.23)	50.78 J (0.29)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	201-C05-c	201-C05-c	201-C06-a	201-C06-b	201-C06-b	201-C06-b	201-C07-b	201-C07-b	201-C07-b	201-C08-d	201-C08-d	201-C08-d	201-C09-a	201-C09-b	201-C09-b
Cell	Soil Direct Contact	Soil to	201-C05	201-C05	201-C06	201-C06	201-C06	201-C06	201-C07	201-C07	201-C07	201-C08	201-C08	201-C08	201-C09	201-C09	201-C09
Field Sample ID	Numeric Value	Groundwater	201-C05-C2-VOC	201-C05-CX-VOC	201-C06-C2-VOC	201-C06-C1-VOC	201-C06-CX-VOC	201-C07-C1-VOC	201-C07-C2-VOC	201-C07-CX-VOC	201-C08-C1-VOC	201-C08-C2-VOC	201-C08-CX-VOC	201-C09-CX-VOC	201-C09-C1-VOC	201-C09-C2-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.4 - 1.5	2.0 - 2.1	1.8 - 2.0	1.2 - 1.4	3.2 - 3.4	1.2 - 1.4	2.1 - 2.3	2.9 - 3.0	0.0 - 0.2	0.3 - 0.5	0.8 - 0.9	0.8 - 0.9	0.8 - 0.9	1.5 - 1.7	
Sample Date	(mg/kg)	(mg/kg)	2/17/2022	2/17/2022	2/22/2022	2/22/2022	2/22/2022	2/17/2022	2/17/2022	2/17/2022	2/17/2022	2/17/2022	2/17/2022	2/17/2022	2/22/2022	2/22/2022	2/22/2022
VOCs																	
Benzene	280	0.5	1.4 (0.1)	0.45 (0.042)	0.0016 (0.0014)	U (0.00051)	U (0.073)	0.28 (0.078)	0.48 (0.32)	U (0.00051)	0.091 J (0.15)	0.1 (0.066)	U (0.00067)	0.00048 J (0.00058)	0.00032 J (0.00084)	U (0.00052)	
Cumene	10000	2500	7.4 (0.21)	0.062 (0.0016)	0.0017 J (0.0027)	0.00028 J (0.001)	0.43 (0.14)	1.9 (0.16)	3.7 (0.64)	U (0.001)	2.8 (0.3)	0.57 (0.13)	U (0.0013)	0.043 (0.0012)	0.0036 (0.0017)	U (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.1)	U (0.00082)	U (0.0014)	U (0.00051)	U (0.073)	U (0.078)	U (0.32)	U (0.00051)	U (0.15)	U (0.066)	U (0.00067)	U (0.00058)	U (0.00084)	U (0.00052)	
1,2-Dichloroethane	85	0.5	U (0.21)	U (0.0016)	U (0.0027)	U (0.001)	U (0.14)	0.057 J (0.16)	U (0.64)	U (0.001)	U (0.3)	U (0.13)	U (0.0013)	U (0.0012)	U (0.0017)	U (0.001)	
Ethyl Benzene	880	70	20 (0.21)	0.22 (0.084)	U (0.0027)	0.00024 J (0.001)	0.028 J (0.14)	0.14 J (0.16)	0.31 J (0.64)	U (0.001)	0.16 J (0.3)	0.036 J (0.13)	U (0.0013)	0.0088 (0.0012)	0.0013 J (0.0017)	U (0.001)	
Methyl tert-butyl ether	8500	2	U (0.41)	U (0.0033)	0.00089 J (0.0054)	U (0.002)	U (0.29)	U (0.31)	U (1.3)	U (0.002)	U (0.6)	U (0.26)	U (0.0027)	U (0.0023)	U (0.0034)	U (0.0021)	
Toluene	10000	100	4.7 (0.21)	0.21 (0.084)	0.005 (0.0027)	U (0.001)	0.16 (0.14)	0.17 (0.16)	U (0.64)	U (0.001)	U (0.3)	U (0.13)	U (0.0013)	0.0021 (0.0012)	0.0022 (0.0017)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	130 (1)	0.66 (0.17)	0.024 (0.0054)	0.0013 J (0.002)	1.2 (0.29)	0.56 (0.31)	0.77 J (1.3)	U (0.002)	0.85 (0.6)	0.16 J (0.26)	0.0014 J (0.0027)	0.21 (0.0023)	0.029 (0.0034)	U (0.0021)	
1,3,5-Trimethylbenzene	4700	93	46 (0.41)	0.2 (0.17)	0.0038 J (0.0054)	0.00066 J (0.002)	0.5 (0.29)	0.16 J (0.31)	0.19 J (1.3)	U (0.002)	0.23 J (0.6)	0.034 J (0.26)	0.00065 J (0.0027)	0.19 (0.0023)	0.018 (0.0034)	U (0.0021)	
Xylenes (total)	7900	1000	299 J (1)	1.6 J (0.17)	0.032 J (0.0054)	0.00142 J (0.002)	0.223 J (0.29)	1.14 J (0.31)	1.03 J (1.3)	U (0.002)	1.13 J (0.6)	0.149 J (0.26)	U (0.0027)	0.0224 J (0.0023)	0.0188 J (0.0034)	U (0.0021)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	201-C10-a	201-C10-b	201-C10-b	201-C11-d	201-C11-d	201-C11-d	201-C11-d	201-C11-d	201-D01-c	201-D01-c	201-D01-c	201-D02-d	201-D02-d	201-D02-d	201-D03-a
Cell	Soil Direct Contact	Soil to	201-C10	201-C10	201-C10	201-C11	201-C11	201-C11	201-C11	201-C11	201-D01	201-D01	201-D01	201-D02	201-D02	201-D02	201-D03
Field Sample ID	Numeric Value	Groundwater	201-C10-C2-VOC	201-C10-C1-VOC	201-C10-CX-VOC	201-C11-C1-VOC	201-C11-C2-VOC	201-C11-C3-VOC	201-C11-CX-VOC	201-D01-C1-VOC	201-D01-C2-VOC	201-D01-CX-VOC	201-D02-C1-VOC	201-D02-C2-VOC	201-D02-CX-VOC	201-D03-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.4 - 2.6	1.1 - 1.2	3.2 - 3.4	0.9 - 1.1	2.0 - 2.1	3.2 - 3.4	3.7 - 3.8	0.5 - 0.6	1.5 - 1.7	2.1 - 2.3	0.3 - 0.5	0.6 - 0.8	1.2 - 1.4	1.5 - 1.7	
Sample Date	(mg/kg)	(mg/kg)	2/18/2022	2/18/2022	2/18/2022	3/28/2022	3/28/2022	3/28/2022	3/28/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	1/31/2022	
VOCs																	
Benzene	280	0.5	U (0.00046)	U (0.0011)	U (0.0011)	0.01 (0.00062)	2.1 (0.042)	28 (0.37)	34 (0.37)	U (0.0013)	U (0.00095)	U (0.00045)	U (0.00059)	U (0.00063)	U (0.00066)	1.5 (0.12)	
Cumene	10000	2500	U (0.00093)	0.00072 J (0.0022)	U (0.0022)	0.038 (0.0012)	0.64 (0.084)	35 (0.73)	34 (0.74)	U (0.0026)	U (0.0019)	U (0.0009)	U (0.0012)	U (0.0013)	U (0.0013)	4.4 (0.23)	
1,2-Dibromoethane	3.7	0.005	U (0.00046)	U (0.0011)	U (0.0011)	U (0.00062)	U (0.042)	U (0.37)	U (0.37)	U (0.0013)	U (0.00095)	U (0.00045)	U (0.00059)	U (0.00063)	U (0.00066)	U (0.12)	
1,2-Dichloroethane	85	0.5	U (0.00093)	U (0.0022)	U (0.0022)	U (0.0012)	U (0.084)	U (0.73)	U (0.74)	U (0.0026)	U (0.0019)	U (0.0009)	U (0.0012)	U (0.0013)	U (0.0013)	U (0.23)	
Ethyl Benzene	880	70	U (0.00093)	U (0.0022)	U (0.0022)	0.0024 (0.0012)	1.2 (0.084)	82 (0.73)	81 (0.74)	U (0.0026)	U (0.0019)	U (0.0009)	U (0.0012)	U (0.0013)	U (0.0013)	0.82 (0.23)	
Methyl tert-butyl ether	8500	2	U (0.0018)	U (0.0044)	U (0.0044)	U (0.0025)	U (0.17)	U (1.5)	U (1.5)	U (0.0053)	U (0.0038)	U (0.0018)	U (0.0023)	U (0.0025)	U (0.0026)	U (0.47)	
Toluene	10000	100	U (0.00093)	U (0.0022)	U (0.0022)	0.0029 (0.0012)	1.2 (0.084)	140 (0.73)	96 (0.74)	U (0.0026)	U (0.0019)	U (0.0009)	U (0.0012)	U (0.0013)	U (0.0013)	1.2 (0.23)	
1,2,4-Trimethylbenzene	4700	300	U (0.0018)	U (0.0044)	U (0.0044)	0.0064 (0.0025)	4.4 (0.17)	300 (2.9)	250 (2.9)	U (0.0053)	U (0.0038)	U (0.0018)	U (0.0023)	U (0.0025)	U (0.0026)	1 (0.47)	
1,3,5-Trimethylbenzene	4700	93	U (0.0018)	U (0.0044)	U (0.0044)	0.0022 J (0.0025)	1.5 (0.17)	84 (1.5)	82 (1.5)	U (0.0053)	U (0.0038)	U (0.0018)	U (0.0023)	U (0.0025)	U (0.0026)	2.9 (0.47)	
Xylenes (total)	7900	1000	U (0.0018)	U (0.0044)	U (0.0044)	0.0128 J (0.0025)	3.4 J (0.17)	430 J (1.5)	420 J (1.5)	U (0.0053)	U (0.0038)	U (0.0018)	U (0.0023)	U (0.0025)	U (0.0026)	3.41 J (0.47)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	201-D03-a	201-D04-a	201-D04-a	201-D04-b	201-D05-c	201-D05-c	201-D05-c	201-D06-a	201-D06-c	201-D06-c	201-D07-b	201-D07-c	201-D07-c	201-D07-c
Cell	Soil Direct Contact	Soil to	201-D03	201-D04	201-D04	201-D04	201-D05	201-D05	201-D05	201-D06	201-D06	201-D06	201-D07	201-D07	201-D07	201-D07
Field Sample ID	Numeric Value	Groundwater	201-D03-CX-VOC	201-D04-C1-VOC	201-D04-C2-VOC	201-D04-CX-VOC	201-D05-C1-VOC	201-D05-C2-VOC	201-D05-CX-VOC	201-D06-C1-VOC	201-D06-C2-VOC	201-D06-CX-VOC	201-D07-C2-VOC	201-D07-C1-VOC	201-D07-C3-VOC	201-D07-CX-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.1 - 2.3	0.9 - 1.1	2.0 - 2.1	2.6 - 2.7	1.4 - 1.5	2.9 - 3.0	3.5 - 3.7	1.2 - 1.4	2.1 - 2.3	3.4 - 3.5	1.4 - 1.5	1.2 - 1.4	3.8 - 4.0	4.3 - 4.4
Sample Date	(mg/kg)	(mg/kg)	1/31/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/22/2022	2/22/2022	2/22/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022
VOCs																
Benzene	280	0.5	U (0.28)	U (0.0011)	U (0.00052)	U (0.0006)	U (0.00089)	U (0.00091)	3.3 (0.5)	0.00034 J (0.00072)	0.00083 J (0.0012)	U (0.00055)	U (0.00068)	U (0.00049)	U (0.00048)	U (0.00058)
Cumene	10000	2500	1.8 (0.57)	U (0.0021)	U (0.001)	U (0.0012)	U (0.0018)	0.091 J (0.13)	42 (1)	0.00062 J (0.0014)	0.00052 J (0.0023)	U (0.0011)	U (0.0014)	U (0.00098)	U (0.00096)	U (0.0012)
1,2-Dibromoethane	3.7	0.005	U (0.28)	U (0.0011)	U (0.00052)	U (0.0006)	U (0.00089)	U (0.00091)	U (0.5)	U (0.00072)	U (0.0012)	U (0.00055)	U (0.00068)	U (0.00049)	U (0.00048)	U (0.00058)
1,2-Dichloroethane	85	0.5	U (0.57)	U (0.0021)	U (0.001)	U (0.0012)	U (0.0018)	U (0.0018)	U (1)	U (0.0014)	U (0.0023)	U (0.0011)	U (0.0014)	U (0.00098)	U (0.00096)	U (0.0012)
Ethyl Benzene	880	70	U (0.57)	U (0.0021)	U (0.001)	U (0.0012)	U (0.0018)	0.059 J (0.13)	34 (1)	U (0.0014)	0.00038 J (0.0023)	U (0.0011)	U (0.0014)	U (0.00098)	U (0.00096)	U (0.0012)
Methyl tert-butyl ether	8500	2	U (1.1)	U (0.0042)	U (0.0021)	U (0.0024)	0.0013 J (0.0036)	0.0018 J (0.0036)	0.53 J (2)	U (0.0029)	U (0.0047)	U (0.0022)	U (0.0027)	U (0.002)	U (0.0019)	U (0.0023)
Toluene	10000	100	U (0.57)	U (0.0021)	U (0.001)	U (0.0012)	U (0.0018)	0.072 J (0.13)	13 (1)	U (0.0014)	U (0.0023)	U (0.0011)	U (0.0014)	U (0.00098)	U (0.00096)	U (0.0012)
1,2,4-Trimethylbenzene	4700	300	U (1.1)	U (0.0042)	U (0.0021)	U (0.0024)	U (0.0036)	0.0085 (0.0036)	190 (2)	0.0012 J (0.0029)	0.001 J (0.0047)	U (0.0022)	U (0.0027)	U (0.002)	U (0.0019)	U (0.0023)
1,3,5-Trimethylbenzene	4700	93	U (1.1)	U (0.0042)	U (0.0021)	U (0.0024)	U (0.0036)	0.074 J (0.25)	65 (2)	0.00066 J (0.0029)	0.00071 J (0.0047)	U (0.0022)	U (0.0027)	U (0.002)	U (0.0019)	U (0.0023)
Xylenes (total)	7900	1000	U (1.1)	U (0.0042)	U (0.0021)	U (0.0024)	U (0.0036)	0.304 J (0.25)	130 J (2)	0.00219 J (0.0029)	0.00325 J (0.0047)	U (0.0022)	U (0.0027)	U (0.002)	U (0.0019)	U (0.0023)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	201-D08-c	201-D08-c	201-D08-c	201-D08-d	201-D09-d	201-D09-d	201-D09-d	201-D09-d	201-D09-d	201-D10-a	201-D10-a	201-D10-c	201-D11-a	201-D11-b	201-D11-b
Cell	Soil Direct Contact	Soil to	201-D08	201-D08	201-D08	201-D08	201-D09	201-D09	201-D09	201-D09	201-D09	201-D10	201-D10	201-D10	201-D11	201-D11	201-D11
Field Sample ID	Numeric Value	Groundwater	201-D08-C1-VOC	201-D08-C2-VOC	201-D08-C3-VOC	201-D08-CX-VOC	201-D09-C1-VOC	201-D09-C2-VOC	201-D09-C3-VOC	201-D09-CX-VOC	201-D10-C2-VOC	201-D10-CX-VOC	201-D10-C1-VOC	201-D11-C2-VOC	201-D11-C1-VOC	201-D11-CX-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.5 - 0.6	0.9 - 1.1	1.7 - 1.8	5.0 - 5.2	1.2 - 1.4	3.2 - 3.4	5.0 - 5.2	6.4 - 6.6	3.2 - 3.4	3.8 - 4.0	1.2 - 1.4	0.8 - 0.9	0.2 - 0.3	1.5 - 1.7	
Sample Date	(mg/kg)	(mg/kg)	2/18/2022	2/18/2022	2/18/2022	2/18/2022	2/21/2022	2/21/2022	2/21/2022	2/21/2022	2/21/2022	2/21/2022	2/21/2022	2/21/2022	2/21/2022	2/21/2022	
VOCs																	
Benzene	280	0.5	26 (1.2)	0.39 (0.037)	U (0.0006)	0.00063 J (0.00095)	U (0.00052)	U (0.00049)	U (0.00052)	U (0.00069)	U (0.00057)	U (0.00053)	U (0.00083)	0.018 J (0.035)	0.00031 J (0.00051)	0.00072 (0.00051)	
Cumene	10000	2500	50 (2.4)	2.3 (0.074)	U (0.0012)	0.00065 J (0.0019)	U (0.001)	U (0.00099)	U (0.001)	U (0.0014)	U (0.0011)	U (0.0011)	U (0.0017)	0.85 (0.07)	0.0016 (0.001)	0.00029 J (0.001)	
1,2-Dibromoethane	3.7	0.005	U (1.2)	U (0.037)	U (0.0006)	U (0.00095)	U (0.00052)	U (0.00049)	U (0.00052)	U (0.00069)	U (0.00057)	U (0.00053)	U (0.00083)	U (0.035)	U (0.00051)	U (0.00051)	
1,2-Dichloroethane	85	0.5	U (2.4)	U (0.074)	U (0.0012)	U (0.0019)	U (0.001)	U (0.00099)	U (0.001)	U (0.0014)	U (0.0011)	U (0.0011)	U (0.0017)	U (0.07)	U (0.001)	U (0.001)	
Ethyl Benzene	880	70	87 (2.4)	0.79 (0.074)	U (0.0012)	0.00079 J (0.0019)	U (0.001)	U (0.00099)	U (0.001)	U (0.0014)	U (0.0011)	U (0.0011)	U (0.0017)	1.6 (0.07)	0.00015 J (0.001)	0.00019 J (0.001)	
Methyl tert-butyl ether	8500	2	U (4.8)	U (0.15)	U (0.0024)	U (0.0038)	U (0.0021)	U (0.002)	U (0.0021)	U (0.0028)	U (0.0023)	U (0.0021)	U (0.0033)	U (0.14)	U (0.002)	U (0.002)	
Toluene	10000	100	2.9 (2.4)	0.23 (0.074)	U (0.0012)	U (0.0019)	U (0.001)	U (0.00099)	U (0.001)	U (0.0014)	U (0.0011)	U (0.0011)	U (0.0017)	U (0.07)	U (0.001)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	400 (4.8)	4.7 (0.15)	U (0.0024)	0.0027 J (0.0038)	U (0.0021)	U (0.002)	U (0.0021)	U (0.0028)	U (0.0023)	U (0.0021)	U (0.0033)	5.6 (0.14)	0.00075 J (0.002)	0.00077 J (0.002)	
1,3,5-Trimethylbenzene	4700	93	140 (4.8)	2.1 (0.15)	U (0.0024)	0.0009 J (0.0038)	U (0.0021)	U (0.002)	U (0.0021)	U (0.0028)	U (0.0023)	0.00074 J (0.0021)	U (0.0033)	2.9 (0.14)	0.00057 J (0.002)	0.0013 J (0.002)	
Xylenes (total)	7900	1000	208.2 J (4.8)	2.93 J (0.15)	U (0.0024)	0.00235 J (0.0038)	U (0.0021)	U (0.002)	U (0.0021)	U (0.0028)	U (0.0023)	U (0.0021)	U (0.0033)	0.543 J (0.14)	0.0015 J (0.002)	U (0.002)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential	Non-Residential	201-D12-c	201-D12-c	201-E01-c	201-E01-c	201-E02-a	201-E02-b	201-E03-c	201-E03-c	201-E04-b	201-E04-b	201-E04-b	201-E05-d	201-E05-d	201-F01-b
	Soil Direct Contact	Soil to	201-D12	201-D12	201-E01	201-E01	201-E02	201-E02	201-E03	201-E03	201-E04	201-E04	201-E04	201-E05	201-E05	201-F01
Field Sample ID	Numeric Value	Groundwater	201-D12-C1-VOC	201-D12-CX-VOC	201-E01-C1-VOC	201-E01-CX-VOC	201-E02-CX-VOC	201-E02-C1-VOC	201-E03-C1-VOC	201-E03-CX-VOC	201-E04-C1-VOC	201-E04-C2-VOC	201-E04-CX-VOC	201-E05-C1-VOC	201-E05-CX-VOC	201-F01-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.4 - 1.5	2.0 - 2.1	1.7 - 1.8	2.3 - 2.4	2.0 - 2.1	1.4 - 1.5	0.3 - 0.5	3.0 - 3.2	0.9 - 1.1	2.4 - 2.6	3.0 - 3.2	1.1 - 1.2	1.7 - 1.8	1.8 - 2.0
Sample Date	(mg/kg)	(mg/kg)	2/18/2022	2/18/2022	2/23/2022	2/23/2022	2/23/2022	2/23/2022	4/19/2022	4/19/2022	2/23/2022	2/23/2022	2/23/2022	2/23/2022	2/23/2022	4/19/2022
VOCs																
Benzene	280	0.5	0.0025 (0.00062)	0.00043 J (0.00059)	6.3 (0.032)	1.1 (0.032)	U (0.00051)	U (0.00058)	0.0002 J (0.00052)	0.001 (0.00057)	U (0.00063)	U (0.00056)	U (0.00045)	U (0.00053)	U (0.00052)	U (0.00058)
Cumene	10000	2500	0.11 (0.0012)	0.00034 J (0.0012)	2.2 (0.063)	0.023 J (0.064)	0.002 (0.001)	0.0022 (0.0012)	U (0.001)	0.038 (0.0011)	U (0.0012)	0.00048 J (0.0011)	0.00073 J (0.0009)	U (0.0011)	0.00018 J (0.001)	U (0.0012)
1,2-Dibromoethane	3.7	0.005	U (0.00062)	U (0.00059)	U (0.032)	U (0.032)	U (0.00051)	U (0.00058)	U (0.00052)	U (0.00057)	U (0.00063)	U (0.00056)	U (0.00045)	U (0.00053)	U (0.00052)	U (0.00058)
1,2-Dichloroethane	85	0.5	U (0.0012)	U (0.0012)	U (0.063)	U (0.064)	U (0.001)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0012)	U (0.0011)	U (0.0009)	U (0.0011)	U (0.001)	U (0.0012)
Ethyl Benzene	880	70	0.013 (0.0012)	0.0008 J (0.0012)	0.25 (0.063)	0.2 (0.064)	U (0.001)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0012)	U (0.0011)	U (0.0009)	U (0.0011)	U (0.001)	U (0.0012)
Methyl tert-butyl ether	8500	2	U (0.0025)	U (0.0024)	U (0.13)	U (0.13)	U (0.002)	U (0.0023)	U (0.0021)	U (0.0023)	U (0.0025)	U (0.0022)	U (0.0018)	U (0.0021)	U (0.0021)	U (0.0023)
Toluene	10000	100	0.0026 (0.0012)	U (0.0012)	0.54 (0.063)	3.4 (0.064)	U (0.001)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0012)	U (0.0011)	U (0.0009)	U (0.0011)	U (0.001)	U (0.0012)
1,2,4-Trimethylbenzene	4700	300	0.011 (0.0025)	0.002 J (0.0024)	0.25 (0.13)	0.084 J (0.13)	U (0.002)	U (0.0023)	U (0.0021)	0.00054 J (0.0023)	U (0.0025)	U (0.0022)	0.00041 J (0.0018)	0.00041 J (0.0021)	0.00091 J (0.0021)	U (0.0023)
1,3,5-Trimethylbenzene	4700	93	0.003 (0.0025)	0.00073 J (0.0024)	0.1 J (0.13)	0.027 J (0.13)	U (0.002)	U (0.0023)	U (0.0021)	U (0.0023)	U (0.0025)	U (0.0022)	0.00018 J (0.0018)	U (0.0021)	0.00032 J (0.0021)	U (0.0023)
Xylenes (total)	7900	1000	0.0047 J (0.0025)	0.0019 J (0.0024)	1.2 J (0.13)	1.18 J (0.13)	U (0.002)	U (0.0023)	U (0.0021)	0.00168 J (0.0023)	U (0.0025)	U (0.0022)	U (0.0018)	U (0.0021)	0.0029 J (0.0021)	U (0.0023)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	201-F01-b	201-F02-a	201-F02-a	201-F03-d	201-F03-d	201-F03-d	201-F04-c	201-F04-c	201-F05-d	201-F05-d	202-A01-a	202-A01-a	202-A01-a	202-A01-c
Cell	Soil Direct Contact	Soil to	201-F01	201-F02	201-F02	201-F03	201-F03	201-F03	201-F04	201-F04	201-F05	201-F05	202-A01	202-A01	202-A01	202-A01
Field Sample ID	Numeric Value	Groundwater	201-F01-CX-VOC	201-F02-C1-VOC	201-F02-CX-VOC	201-F03-C1-VOC	201-F03-C2-VOC	201-F03-CX-VOC	201-F04-C1-VOC	201-F04-CX-VOC	201-F05-C1-VOC	201-F05-CX-VOC	202-A01-C2-VOC	202-A01-C3-VOC	202-A01-CX-VOC	202-A01-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.4 - 2.6	1.1 - 1.2	1.5 - 1.7	0.5 - 0.6	1.2 - 1.4	2.1 - 2.3	1.4 - 1.5	2.4 - 2.6	0.0 - 0.2	0.6 - 0.8	2.3 - 2.4	2.7 - 2.9	4.0 - 4.1	1.4 - 1.5
Sample Date	(mg/kg)	(mg/kg)	4/19/2022	4/19/2022	4/19/2022	2/24/2022	2/24/2022	2/24/2022	4/19/2022	4/19/2022	3/29/2022	3/29/2022	3/30/2022	3/30/2022	3/30/2022	3/30/2022
VOCs																
Benzene	280	0.5	U (0.00084)	0.05 (0.016)	0.026 J (0.03)	U (0.00052)	U (0.00068)	0.13 J (0.22)	U (0.00068)	U (0.00057)	U (0.00064)	U (0.00065)	U (0.00053)	U (0.00072)	0.00026 J (0.00046)	U (0.00054)
Cumene	10000	2500	U (0.0017)	0.15 (0.032)	1.9 (0.061)	U (0.001)	U (0.0014)	0.24 J (0.43)	U (0.0014)	U (0.0011)	U (0.0013)	0.00024 J (0.0013)	0.00015 J (0.0011)	0.0024 (0.0014)	0.00015 J (0.00092)	U (0.0011)
1,2-Dibromoethane	3.7	0.005	U (0.00084)	U (0.016)	U (0.03)	U (0.00052)	U (0.00068)	U (0.22)	U (0.00068)	U (0.00057)	U (0.00064)	U (0.00065)	U (0.00053)	U (0.00072)	U (0.00046)	U (0.00054)
1,2-Dichloroethane	85	0.5	U (0.0017)	U (0.032)	U (0.061)	U (0.001)	U (0.0014)	U (0.43)	U (0.0014)	U (0.0011)	U (0.0013)	U (0.0013)	U (0.0011)	U (0.0014)	U (0.00092)	U (0.0011)
Ethyl Benzene	880	70	U (0.0017)	0.015 J (0.032)	0.014 J (0.061)	U (0.001)	U (0.0014)	U (0.43)	U (0.0014)	U (0.0011)	U (0.0013)	0.00028 J (0.0013)	U (0.0011)	U (0.0014)	U (0.00092)	U (0.0011)
Methyl tert-butyl ether	8500	2	U (0.0033)	U (0.064)	U (0.12)	U (0.0021)	U (0.0027)	U (0.87)	U (0.0027)	U (0.0023)	U (0.0026)	U (0.0026)	0.00081 J (0.0021)	0.00031 J (0.0029)	U (0.0018)	U (0.0022)
Toluene	10000	100	U (0.0017)	0.04 (0.032)	0.058 J (0.061)	U (0.001)	U (0.0014)	U (0.43)	U (0.0014)	U (0.0011)	U (0.0013)	U (0.0013)	U (0.0011)	U (0.0014)	U (0.00092)	U (0.0011)
1,2,4-Trimethylbenzene	4700	300	U (0.0033)	0.05 J (0.064)	0.081 J (0.12)	U (0.0021)	U (0.0027)	U (0.87)	U (0.0027)	U (0.0023)	U (0.0026)	0.00071 J (0.0026)	U (0.0021)	0.0005 J (0.0029)	U (0.0018)	U (0.0022)
1,3,5-Trimethylbenzene	4700	93	U (0.0033)	0.015 J (0.064)	0.03 J (0.12)	U (0.0021)	U (0.0027)	U (0.87)	U (0.0027)	U (0.0023)	U (0.0026)	0.00033 J (0.0026)	U (0.0021)	U (0.0029)	U (0.0018)	U (0.0022)
Xylenes (total)	7900	1000	U (0.0033)	0.105 J (0.064)	0.298 J (0.12)	U (0.0021)	U (0.0027)	U (0.87)	U (0.0027)	U (0.0023)	U (0.0026)	U (0.0026)	U (0.0021)	U (0.0029)	U (0.0018)	U (0.0022)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-A02-d	202-A02-d	202-A03-a	202-A03-a	202-A03-d	202-A03-d	202-A04-c	202-A04-c	202-A04-c	202-A04-c	202-A05-d	202-A05-d	202-A05-d	202-A06-b
Cell	Soil Direct Contact	Soil to	202-A02	202-A02	202-A03	202-A03	202-A03	202-A03	202-A04	202-A04	202-A04	202-A04	202-A05	202-A05	202-A05	202-A06
Field Sample ID	Numeric Value	Groundwater	202-A02-C1-VOC	202-A02-CX-VOC	202-A03-C1-VOC	202-A03-C2-VOC	202-A03-C3-VOC	202-A03-CX-VOC	202-A04-C1-VOC	202-A04-C2-VOC	202-A04-C3-VOC	202-A04-CX-VOC	202-A05-C1-VOC	202-A05-C2-VOC	202-A05-CX-VOC	202-A06-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.8 - 0.9	1.4 - 1.5	1.2 - 1.4	2.7 - 2.9	2.9 - 3.0	3.4 - 3.5	0.2 - 0.3	0.9 - 1.1	1.8 - 2.0	2.4 - 2.6	2.6 - 2.7	3.7 - 3.8	6.1 - 6.2	0.3 - 0.5
Sample Date	(mg/kg)	(mg/kg)	3/29/2022	3/29/2022	3/29/2022	3/29/2022	3/29/2022	3/29/2022	3/31/2022	3/31/2022	3/31/2022	3/31/2022	3/31/2022	3/31/2022	3/31/2022	4/28/2022
VOCs																
Benzene	280	0.5	0.00061 (0.00055)	0.012 J (0.033)	0.00021 J (0.00057)	0.00058 (0.00058)	0.00024 J (0.00048)	U (0.00063)	U (0.00061)	U (0.00054)	U (0.00049)	U (0.0005)	U (0.00051)	U (0.00065)	U (0.00064)	U (0.00062)
Cumene	10000	2500	0.021 (0.0011)	0.27 (0.066)	U (0.0011)	U (0.0012)	U (0.00096)	U (0.0013)	0.13 (0.0012)	U (0.0011)	0.00016 J (0.00099)	0.00022 J (0.001)	U (0.001)	U (0.0013)	U (0.0013)	U (0.0012)
1,2-Dibromoethane	3.7	0.005	U (0.00055)	U (0.033)	U (0.00057)	U (0.00058)	U (0.00048)	U (0.00063)	U (0.00061)	U (0.00054)	U (0.00049)	U (0.0005)	U (0.00051)	U (0.00065)	U (0.00064)	U (0.00062)
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.066)	U (0.0011)	U (0.0012)	U (0.00096)	U (0.0013)	U (0.0012)	U (0.0011)	U (0.00099)	U (0.001)	U (0.001)	U (0.0013)	U (0.0013)	U (0.0012)
Ethyl Benzene	880	70	0.012 (0.0011)	0.19 (0.066)	U (0.0011)	U (0.0012)	U (0.00096)	U (0.0013)	0.00052 J (0.0012)	U (0.0011)	U (0.00099)	U (0.001)	U (0.001)	U (0.0013)	U (0.0013)	U (0.0012)
Methyl tert-butyl ether	8500	2	U (0.0022)	U (0.13)	U (0.0023)	U (0.0023)	U (0.0019)	U (0.0025)	0.0016 J (0.0024)	U (0.0022)	U (0.002)	U (0.002)	U (0.002)	U (0.0026)	U (0.0026)	U (0.0025)
Toluene	10000	100	0.00062 J (0.0011)	U (0.066)	U (0.0011)	U (0.0012)	U (0.00096)	U (0.0013)	0.0021 (0.0012)	U (0.0011)	U (0.00099)	U (0.001)	U (0.001)	U (0.0013)	U (0.0013)	U (0.0012)
1,2,4-Trimethylbenzene	4700	300	0.042 (0.0022)	3.5 (0.13)	U (0.0023)	0.00052 J (0.0023)	U (0.0019)	U (0.0025)	0.0018 J (0.0024)	U (0.0022)	U (0.002)	U (0.002)	U (0.002)	U (0.0026)	U (0.0026)	U (0.0025)
1,3,5-Trimethylbenzene	4700	93	0.067 (0.0022)	1.4 (0.13)	U (0.0023)	0.00062 J (0.0023)	U (0.0019)	U (0.0025)	0.0004 J (0.0024)	U (0.0022)	U (0.002)	U (0.002)	U (0.002)	U (0.0026)	U (0.0026)	U (0.0025)
Xylenes (total)	7900	1000	0.00202 J (0.0022)	0.133 J (0.13)	U (0.0023)	U (0.0023)	U (0.0019)	U (0.0025)	0.0066 J (0.0024)	U (0.0022)	U (0.002)	U (0.002)	U (0.002)	U (0.0026)	U (0.0026)	U (0.0025)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-A06-b	202-A06-b	202-A06-b	202-A07-d	202-A07-d	202-A07-d	202-A07-d	202-A08-a	202-A08-a	202-A08-a	202-A09-a	202-A09-b	202-A09-b	202-A09-c
Cell	Soil Direct Contact	Soil to	202-A06	202-A06	202-A06	202-A07	202-A07	202-A07	202-A07	202-A08	202-A08	202-A08	202-A09	202-A09	202-A09	202-A09
Field Sample ID	Numeric Value	Groundwater	202-A06-C2-VOC	202-A06-C3-VOC	202-A06-CX-VOC	202-A07-C1-VOC	202-A07-C2-VOC	202-A07-C3-VOC	202-A07-CX-VOC	202-A08-C1-VOC	202-A08-C2-VOC	202-A08-CX-VOC	202-A09-C2-VOC	202-A09-C3-VOC	202-A09-CX-VOC	202-A09-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.6 - 0.8	1.2 - 1.4	1.8 - 2.0	0.6 - 0.8	2.1 - 2.3	4.3 - 4.4	6.4 - 6.6	2.6 - 2.7	4.7 - 4.9	6.7 - 6.9	1.4 - 1.5	2.9 - 3.0	3.4 - 3.5	0.2 - 0.3
Sample Date	(mg/kg)	(mg/kg)	4/28/2022	4/28/2022	4/28/2022	4/28/2022	4/28/2022	4/28/2022	4/28/2022	2/24/2022	2/24/2022	2/24/2022	2/24/2022	2/24/2022	2/24/2022	2/24/2022
VOCs																
Benzene	280	0.5	U (0.00046)	U (0.00046)	U (0.00054)	U (0.0006)	U (0.00067)	U (0.00048)	U (0.00053)	U (0.03)	0.00026 J (0.00042)	U (0.00067)	U (0.00081)	U (0.00056)	U (0.00068)	U (0.00062)
Cumene	10000	2500	U (0.00093)	U (0.00093)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.00096)	U (0.001)	0.066 (0.061)	0.00043 J (0.00084)	U (0.0013)	U (0.0016)	U (0.0011)	U (0.0014)	U (0.0012)
1,2-Dibromoethane	3.7	0.005	U (0.00046)	U (0.00046)	U (0.00054)	U (0.0006)	U (0.00067)	U (0.00048)	U (0.00053)	U (0.03)	U (0.00042)	U (0.00067)	U (0.00081)	U (0.00056)	U (0.00068)	U (0.00062)
1,2-Dichloroethane	85	0.5	U (0.00093)	U (0.00093)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.00096)	U (0.001)	U (0.061)	U (0.00084)	U (0.0013)	U (0.0016)	U (0.0011)	U (0.0014)	U (0.0012)
Ethyl Benzene	880	70	U (0.00093)	U (0.00093)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.00096)	U (0.001)	U (0.061)	U (0.00084)	U (0.0013)	U (0.0016)	U (0.0011)	U (0.0014)	U (0.0012)
Methyl tert-butyl ether	8500	2	U (0.0018)	U (0.0019)	U (0.0022)	U (0.0024)	U (0.0027)	U (0.0019)	U (0.0021)	U (0.12)	U (0.0017)	U (0.0027)	U (0.0032)	U (0.0023)	U (0.0027)	U (0.0025)
Toluene	10000	100	U (0.00093)	U (0.00093)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.00096)	U (0.001)	U (0.061)	U (0.00084)	U (0.0013)	U (0.0016)	U (0.0011)	U (0.0014)	U (0.0012)
1,2,4-Trimethylbenzene	4700	300	U (0.0018)	U (0.0019)	U (0.0022)	U (0.0024)	U (0.0027)	U (0.0019)	U (0.0021)	U (0.12)	U (0.0017)	U (0.0027)	U (0.0032)	U (0.0023)	U (0.0027)	0.00052 J (0.0025)
1,3,5-Trimethylbenzene	4700	93	U (0.0018)	U (0.0019)	U (0.0022)	U (0.0024)	U (0.0027)	U (0.0019)	U (0.0021)	U (0.12)	U (0.0017)	U (0.0027)	U (0.0032)	0.00022 J (0.0023)	U (0.0027)	0.0005 J (0.0025)
Xylenes (total)	7900	1000	U (0.0018)	U (0.0019)	U (0.0022)	U (0.0024)	U (0.0027)	U (0.0019)	U (0.0021)	U (0.12)	U (0.0017)	U (0.0027)	U (0.0032)	U (0.0023)	U (0.0027)	U (0.0025)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-B01-d	202-B01-d	202-B01-d	202-B01-d	202-B02-c	202-B02-d	202-B02-d	202-B02-d	202-B02-d	202-B03-b	202-B03-b	202-B03-b	202-B03-b	202-B04-c	202-B04-c
Cell	Soil Direct Contact	Soil to	202-B01	202-B01	202-B01	202-B01	202-B02	202-B02	202-B02	202-B02	202-B02	202-B03	202-B03	202-B03	202-B03	202-B04	202-B04
Field Sample ID	Numeric Value	Groundwater	202-B01-C1-VOC	202-B01-C2-VOC	202-B01-C3-VOC	202-B01-CX-VOC	202-B02-C1-VOC	202-B02-C2-VOC	202-B02-C3-VOC	202-B02-CX-VOC	202-B02-CX-VOC	202-B03-C1-VOC	202-B03-C2-VOC	202-B03-C3-VOC	202-B03-CX-VOC	202-B04-C1-VOC	202-B04-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.9 - 1.1	1.8 - 2.0	3.2 - 3.4	3.7 - 3.8	0.8 - 0.9	3.2 - 3.4	4.9 - 5.0	5.5 - 5.6	0.6 - 0.8	0.9 - 1.1	2.0 - 2.1	2.3 - 2.4	0.9 - 1.1	1.5 - 1.7	
Sample Date	(mg/kg)	(mg/kg)	3/30/2022	3/30/2022	3/30/2022	3/30/2022	3/30/2022	3/30/2022	3/30/2022	3/30/2022	3/2/2022	3/2/2022	3/2/2022	3/2/2022	3/2/2022	3/2/2022	
VOCs																	
Benzene	280	0.5	0.0025 (0.00066)	0.0014 (0.0011)	U (0.047)	U (0.0005)	U (0.00074)	U (0.00061)	U (0.00049)	U (0.00072)	U (0.00041)	U (0.0005)	U (0.00059)	U (0.00062)	U (0.00059)	U (0.00059)	
Cumene	10000	2500	0.0058 (0.0013)	0.019 (0.0022)	U (0.094)	U (0.001)	U (0.0015)	U (0.0012)	U (0.00097)	U (0.0014)	U (0.00081)	0.0032 (0.001)	U (0.0012)	U (0.0012)	0.0018 (0.0012)	U (0.0012)	
1,2-Dibromoethane	3.7	0.005	U (0.00066)	U (0.0011)	U (0.047)	U (0.0005)	U (0.00074)	U (0.00061)	U (0.00049)	U (0.00072)	U (0.00041)	U (0.0005)	U (0.00059)	U (0.00062)	U (0.00059)	U (0.00059)	
1,2-Dichloroethane	85	0.5	U (0.0013)	U (0.0022)	U (0.094)	U (0.001)	U (0.0015)	U (0.0012)	U (0.00097)	U (0.0014)	U (0.00081)	U (0.001)	U (0.0012)	U (0.0012)	U (0.0012)	U (0.0012)	
Ethyl Benzene	880	70	0.0061 (0.0013)	0.0016 J (0.0022)	U (0.094)	U (0.001)	U (0.0015)	U (0.0012)	U (0.00097)	U (0.0014)	U (0.00081)	U (0.001)	U (0.0012)	U (0.0012)	U (0.0012)	U (0.0012)	
Methyl tert-butyl ether	8500	2	U (0.0026)	U (0.0044)	U (0.19)	U (0.002)	U (0.003)	U (0.0024)	U (0.0019)	U (0.0029)	U (0.0016)	U (0.002)	U (0.0024)	U (0.0025)	U (0.0023)	U (0.0024)	
Toluene	10000	100	0.00079 J (0.0013)	0.0016 J (0.0022)	0.16 (0.094)	U (0.001)	U (0.0015)	U (0.0012)	U (0.00097)	U (0.0014)	U (0.00081)	U (0.001)	U (0.0012)	U (0.0012)	U (0.0012)	U (0.0012)	
1,2,4-Trimethylbenzene	4700	300	0.085 (0.0026)	0.0077 (0.0044)	U (0.19)	U (0.002)	U (0.003)	U (0.0024)	U (0.0019)	U (0.0029)	U (0.0016)	U (0.002)	U (0.0024)	U (0.0025)	U (0.0023)	U (0.0024)	
1,3,5-Trimethylbenzene	4700	93	0.052 (0.0026)	0.0031 J (0.0044)	U (0.19)	U (0.002)	U (0.003)	U (0.0024)	U (0.0019)	U (0.0029)	U (0.0016)	U (0.002)	U (0.0024)	U (0.0025)	U (0.0023)	U (0.0024)	
Xylenes (total)	7900	1000	0.0106 J (0.0026)	0.0145 J (0.0044)	U (0.19)	U (0.002)	U (0.003)	U (0.0024)	U (0.0019)	U (0.0029)	U (0.0016)	0.00158 J (0.002)	U (0.0024)	U (0.0025)	U (0.0023)	U (0.0024)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-B04-c	202-B04-c	202-B04-c	202-B05-b	202-B05-c	202-B05-d	202-B05-d	202-B06-a	202-B06-a	202-B06-a	202-B07-a	202-B07-a	202-B07-a	202-B07-a
Cell	Soil Direct Contact	Soil to	202-B04	202-B04	202-B04	202-B05	202-B05	202-B05	202-B05	202-B06	202-B06	202-B06	202-B07	202-B07	202-B07	202-B07
Field Sample ID	Numeric Value	Groundwater	202-B04-C3-VOC	202-B04-C4-VOC	202-B04-CX-VOC	202-B05-C1-VOC	202-B05-CX-VOC	202-B05-C2-VOC	202-B05-C3-VOC	202-B06-C1-VOC	202-B06-C2-VOC	202-B06-CX-VOC	202-B07-C1-VOC	202-B07-C2-VOC	202-B07-C3-VOC	202-B07-CX-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	3.7 - 3.8	5.2 - 5.3	6.1 - 6.2	0.3 - 0.5	1.8 - 2.0	1.8 - 2.0	3.0 - 3.2	2.6 - 2.7	5.2 - 5.3	6.2 - 6.4	0.9 - 1.1	2.6 - 2.7	4.6 - 4.7	5.2 - 5.3
Sample Date	(mg/kg)	(mg/kg)	3/2/2022	3/2/2022	3/2/2022	3/2/2022	3/2/2022	3/2/2022	3/2/2022	3/1/2022	3/1/2022	3/1/2022	3/1/2022	3/1/2022	3/1/2022	3/1/2022
VOCs																
Benzene	280	0.5	U (0.00048)	U (0.00063)	U (0.00043)	U (0.00058)	U (0.0005)	U (0.00049)	U (0.00054)	U (0.00063)	U (0.00046)	0.00079 (0.00048)	U (0.00045)	U (0.00065)	U (0.00055)	U (0.0006)
Cumene	10000	2500	U (0.00095)	U (0.0013)	U (0.00086)	U (0.0012)	U (0.001)	U (0.00098)	U (0.0011)	U (0.0012)	U (0.00093)	0.00015 J (0.00095)	U (0.0009)	U (0.0013)	U (0.0011)	U (0.0012)
1,2-Dibromoethane	3.7	0.005	U (0.00048)	U (0.00063)	U (0.00043)	U (0.00058)	U (0.0005)	U (0.00049)	U (0.00054)	U (0.00063)	U (0.00046)	U (0.00048)	U (0.00045)	U (0.00065)	U (0.00055)	U (0.0006)
1,2-Dichloroethane	85	0.5	U (0.00095)	U (0.0013)	U (0.00086)	U (0.0012)	U (0.001)	U (0.00098)	U (0.0011)	U (0.0012)	U (0.00093)	U (0.00095)	U (0.0009)	U (0.0013)	U (0.0011)	U (0.0012)
Ethyl Benzene	880	70	U (0.00095)	U (0.0013)	U (0.00086)	U (0.0012)	U (0.001)	U (0.00098)	U (0.0011)	U (0.0012)	U (0.00093)	U (0.00095)	U (0.0009)	U (0.0013)	U (0.0011)	U (0.0012)
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.0025)	U (0.0017)	U (0.0023)	U (0.002)	U (0.002)	U (0.0022)	U (0.0025)	U (0.0018)	U (0.0019)	U (0.0018)	U (0.0026)	U (0.0022)	U (0.0024)
Toluene	10000	100	U (0.00095)	U (0.0013)	U (0.00086)	U (0.0012)	U (0.001)	U (0.00098)	U (0.0011)	U (0.0012)	U (0.00093)	U (0.00095)	U (0.0009)	U (0.0013)	U (0.0011)	U (0.0012)
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	U (0.0025)	U (0.0017)	U (0.0023)	U (0.002)	U (0.002)	U (0.0022)	U (0.0025)	U (0.0018)	U (0.0019)	U (0.0018)	U (0.0026)	U (0.0022)	U (0.0024)
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	U (0.0025)	U (0.0017)	U (0.0023)	U (0.002)	U (0.002)	U (0.0022)	U (0.0025)	U (0.0018)	U (0.0019)	U (0.0018)	U (0.0026)	U (0.0022)	U (0.0024)
Xylenes (total)	7900	1000	U (0.0019)	U (0.0025)	U (0.0017)	U (0.0023)	U (0.002)	U (0.002)	U (0.0022)	U (0.0025)	U (0.0018)	U (0.0019)	U (0.0018)	U (0.0026)	U (0.0022)	U (0.0024)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-B08-a	202-B08-a	202-B08-b	202-B08-b	202-B09-c	202-B09-c	202-B09-c	202-B10-c	202-B10-c	202-B10-c	202-B10-c	202-C01-a	202-C01-a	202-C01-a
Cell	Soil Direct Contact	Soil to	202-B08	202-B08	202-B08	202-B08	202-B09	202-B09	202-B09	202-B10	202-B10	202-B10	202-B10	202-C01	202-C01	202-C01
Field Sample ID	Numeric Value	Groundwater	202-B08-C2-VOC	202-B08-C3-VOC	202-B08-C1-VOC	202-B08-CX-VOC	202-B09-C1-VOC	202-B09-C2-VOC	202-B09-CX-VOC	202-B10-C1-VOC	202-B10-C2-VOC	202-B10-C3-VOC	202-B10-CX-VOC	202-C01-C1-VOC	202-C01-C2-VOC	202-C01-C3-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.8 - 2.0	3.7 - 3.8	1.2 - 1.4	4.6 - 4.7	1.1 - 1.2	1.5 - 1.7	2.7 - 2.9	1.4 - 1.5	2.7 - 2.9	4.3 - 4.4	4.9 - 5.0	0.9 - 1.1	2.1 - 2.3	3.7 - 3.8
Sample Date	(mg/kg)	(mg/kg)	2/25/2022	2/25/2022	2/25/2022	2/25/2022	2/25/2022	2/25/2022	2/25/2022	2/25/2022	2/25/2022	2/25/2022	2/25/2022	4/5/2022	4/5/2022	4/5/2022
VOCs																
Benzene	280	0.5	U (0.00045)	U (0.00069)	U (0.00076)	U (0.00054)	U (0.00045)	U (0.00084)	U (0.00051)	U (0.00055)	U (0.00052)	U (0.00058)	U (0.0006)	0.23 (0.099)	U (0.00052)	U (0.058)
Cumene	10000	2500	U (0.00091)	U (0.0014)	U (0.0015)	U (0.0011)	U (0.0009)	U (0.0017)	U (0.001)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0012)	3.4 (0.2)	0.0016 (0.001)	U (0.12)
1,2-Dibromoethane	3.7	0.005	U (0.00045)	U (0.00069)	U (0.00076)	U (0.00054)	U (0.00045)	U (0.00084)	U (0.00051)	U (0.00055)	U (0.00052)	U (0.00058)	U (0.0006)	U (0.099)	U (0.00052)	U (0.058)
1,2-Dichloroethane	85	0.5	U (0.00091)	U (0.0014)	U (0.0015)	U (0.0011)	U (0.0009)	U (0.0017)	U (0.001)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0012)	U (0.2)	U (0.001)	U (0.12)
Ethyl Benzene	880	70	U (0.00091)	U (0.0014)	U (0.0015)	U (0.0011)	U (0.0009)	U (0.0017)	U (0.001)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0012)	0.56 (0.2)	0.00017 J (0.001)	U (0.12)
Methyl tert-butyl ether	8500	2	U (0.0018)	U (0.0028)	U (0.003)	U (0.0022)	U (0.0018)	U (0.0034)	U (0.002)	U (0.0022)	U (0.0021)	U (0.0023)	U (0.0024)	U (0.4)	U (0.0021)	U (0.23)
Toluene	10000	100	U (0.00091)	U (0.0014)	U (0.0015)	U (0.0011)	U (0.0009)	U (0.0017)	U (0.001)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0012)	U (0.2)	U (0.001)	U (0.12)
1,2,4-Trimethylbenzene	4700	300	U (0.0018)	U (0.0028)	U (0.003)	U (0.0022)	U (0.0018)	U (0.0034)	U (0.002)	U (0.0022)	U (0.0021)	U (0.0023)	U (0.0024)	0.36 J (0.4)	U (0.0021)	U (0.23)
1,3,5-Trimethylbenzene	4700	93	U (0.0018)	U (0.0028)	U (0.003)	U (0.0022)	U (0.0018)	U (0.0034)	U (0.002)	U (0.0022)	U (0.0021)	U (0.0023)	U (0.0024)	0.055 J (0.4)	0.00029 J (0.0021)	U (0.23)
Xylenes (total)	7900	1000	U (0.0018)	U (0.0028)	U (0.003)	U (0.0022)	U (0.0018)	U (0.0034)	U (0.002)	U (0.0022)	U (0.0021)	U (0.0023)	U (0.0024)	0.59 J (0.4)	U (0.0021)	U (0.23)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-C01-a	202-C02-b	202-C02-b	202-C02-d	202-C02-d	202-C02-d	202-C03-a	202-C03-a	202-C03-a	202-C03-b	202-C03-d	202-C04-a	202-C04-a	202-C04-a
Cell	Soil Direct Contact	Soil to	202-C01	202-C02	202-C02	202-C02	202-C02	202-C02	202-C03	202-C03	202-C03	202-C03	202-C03	202-C04	202-C04	202-C04
Field Sample ID	Numeric Value	Groundwater	202-C01-CX-VOC	202-C02-C4-VOC	202-C02-CX-VOC	202-C02-C1-VOC	202-C02-C2-VOC	202-C02-C3-VOC	202-C03-C1-VOC	202-C03-C2-VOC	202-C03-C3-VOC	202-C03-CX-VOC	202-C03-C4-VOC	202-C04-C1-VOC	202-C04-C2-VOC	202-C04-C3-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	5.2 - 5.3	2.7 - 2.9	3.7 - 3.8	0.0 - 0.2	1.5 - 1.7	1.8 - 2.0	0.8 - 0.9	1.2 - 1.4	2.4 - 2.6	2.4 - 2.6	0.8 - 0.9	0.6 - 0.8	1.2 - 1.4	2.4 - 2.6
Sample Date	(mg/kg)	(mg/kg)	4/5/2022	4/1/2022	4/1/2022	4/1/2022	4/1/2022	4/1/2022	4/1/2022	4/1/2022	4/1/2022	4/1/2022	4/1/2022	3/31/2022	3/31/2022	3/31/2022
VOCs																
Benzene	280	0.5	0.039 (0.033)	U (0.31)	U (0.03)	0.00022 J (0.00053)	U (0.03)	U (0.028)	U (0.043)	U (0.00045)	U (0.0007)	U (0.00058)	U (0.00052)	U (0.063)	U (0.00054)	U (0.0005)
Cumene	10000	2500	1.1 (0.066)	30 (0.61)	4.2 (0.06)	0.012 (0.001)	0.032 J (0.06)	5.4 (0.057)	2.6 (0.086)	0.0073 (0.0009)	0.017 (0.0014)	U (0.0012)	U (0.001)	1.6 (0.12)	U (0.0011)	0.00029 J (0.001)
1,2-Dibromoethane	3.7	0.005	U (0.033)	U (0.31)	U (0.03)	U (0.00053)	U (0.03)	U (0.028)	U (0.043)	U (0.00045)	U (0.0007)	U (0.00058)	U (0.00052)	U (0.063)	U (0.00054)	U (0.0005)
1,2-Dichloroethane	85	0.5	U (0.066)	U (0.61)	U (0.06)	U (0.001)	U (0.06)	U (0.057)	U (0.086)	U (0.0009)	U (0.0014)	U (0.0012)	U (0.001)	U (0.12)	U (0.0011)	U (0.001)
Ethyl Benzene	880	70	0.54 (0.066)	U (0.61)	U (0.06)	0.0003 J (0.001)	U (0.06)	0.022 J (0.057)	U (0.086)	U (0.0009)	0.00021 J (0.0014)	U (0.0012)	U (0.001)	0.059 J (0.12)	U (0.0011)	U (0.001)
Methyl tert-butyl ether	8500	2	U (0.13)	U (1.2)	U (0.12)	U (0.0021)	U (0.12)	U (0.11)	U (0.17)	U (0.0018)	U (0.0028)	U (0.0023)	U (0.0021)	U (0.25)	U (0.0022)	U (0.002)
Toluene	10000	100	U (0.066)	U (0.61)	U (0.06)	U (0.001)	U (0.06)	U (0.057)	U (0.086)	0.00075 J (0.0009)	U (0.0014)	U (0.0012)	U (0.001)	U (0.12)	U (0.0011)	U (0.001)
1,2,4-Trimethylbenzene	4700	300	6.3 (0.13)	U (1.2)	U (0.12)	0.0012 J (0.0021)	U (0.12)	U (0.11)	U (0.17)	U (0.0018)	0.00061 J (0.0028)	U (0.0023)	U (0.0021)	0.075 J (0.25)	U (0.0022)	U (0.002)
1,3,5-Trimethylbenzene	4700	93	0.33 (0.13)	U (1.2)	U (0.12)	0.00034 J (0.0021)	U (0.12)	U (0.11)	U (0.17)	U (0.0018)	0.001 J (0.0028)	U (0.0023)	U (0.0021)	U (0.25)	U (0.0022)	U (0.002)
Xylenes (total)	7900	1000	0.627 J (0.13)	U (1.2)	U (0.12)	0.0027 J (0.0021)	U (0.12)	0.084 J (0.11)	U (0.17)	0.0026 J (0.0018)	0.00214 J (0.0028)	U (0.0023)	U (0.0021)	U (0.25)	U (0.0022)	U (0.002)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-C04-a	202-C05-a	202-C05-a	202-C05-c	202-C05-c	202-C06-a	202-C06-a	202-C06-a	202-C06-a	202-C07-b	202-C07-b	202-C07-b	202-C07-b	202-C07-b
Cell	Soil Direct Contact	Soil to	202-C04	202-C05	202-C05	202-C05	202-C05	202-C06	202-C06	202-C06	202-C06	202-C07	202-C07	202-C07	202-C07	202-C07
Field Sample ID	Numeric Value	Groundwater	202-C04-CX-VOC	202-C05-C1-VOC	202-C05-C3-VOC	202-C05-C2-VOC	202-C05-CX-VOC	202-C06-C1-VOC	202-C06-C2-VOC	202-C06-C3-VOC	202-C06-CX-VOC	202-C07-C1-VOC	202-C07-C2-VOC	202-C07-C3-VOC	202-C07-C4-VOC	202-C07-CX-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	3.7 - 3.8	0.5 - 0.6	2.3 - 2.4	2.1 - 2.3	4.9 - 5.0	0.5 - 0.6	0.9 - 1.1	1.8 - 2.0	2.4 - 2.6	0.6 - 0.8	2.3 - 2.4	3.2 - 3.4	5.0 - 5.2	5.6 - 5.8
Sample Date	(mg/kg)	(mg/kg)	3/31/2022	4/1/2022	4/1/2022	4/1/2022	4/1/2022	3/4/2022	3/4/2022	3/4/2022	3/4/2022	3/4/2022	3/4/2022	3/4/2022	3/4/2022	3/4/2022
VOCs																
Benzene	280	0.5	U (0.00056)	U (0.00071)	U (0.00055)	U (0.0006)	U (0.00067)	U (0.00077)	U (0.00053)	U (0.00063)	U (0.00092)	U (0.00055)	U (0.00047)	U (0.00051)	U (0.00054)	U (0.00051)
Cumene	10000	2500	U (0.0011)	U (0.0014)	U (0.0011)	0.00097 J (0.0012)	U (0.0013)	U (0.0015)	U (0.001)	U (0.0012)	U (0.0018)	U (0.0011)	U (0.00094)	U (0.001)	U (0.0011)	U (0.001)
1,2-Dibromoethane	3.7	0.005	U (0.00056)	U (0.00071)	U (0.00055)	U (0.0006)	U (0.00067)	U (0.00077)	U (0.00053)	U (0.00063)	U (0.00092)	U (0.00055)	U (0.00047)	U (0.00051)	U (0.00054)	U (0.00051)
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.0014)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.0015)	U (0.001)	U (0.0012)	U (0.0018)	U (0.0011)	U (0.00094)	U (0.001)	U (0.0011)	U (0.001)
Ethyl Benzene	880	70	U (0.0011)	U (0.0014)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.0015)	U (0.001)	U (0.0012)	U (0.0018)	0.00018 J (0.0011)	U (0.00094)	U (0.001)	U (0.0011)	U (0.001)
Methyl tert-butyl ether	8500	2	U (0.0022)	U (0.0028)	U (0.0022)	U (0.0024)	U (0.0027)	U (0.0031)	U (0.0021)	U (0.0025)	U (0.0037)	U (0.0022)	U (0.0019)	U (0.002)	U (0.0022)	U (0.002)
Toluene	10000	100	U (0.0011)	U (0.0014)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.0015)	U (0.001)	U (0.0012)	0.0053 (0.0018)	U (0.0011)	U (0.00094)	U (0.001)	U (0.0011)	U (0.001)
1,2,4-Trimethylbenzene	4700	300	U (0.0022)	U (0.0028)	U (0.0022)	U (0.0024)	U (0.0027)	U (0.0031)	U (0.0021)	U (0.0025)	U (0.0037)	0.0023 (0.0022)	0.00049 J (0.0019)	U (0.002)	U (0.0022)	U (0.002)
1,3,5-Trimethylbenzene	4700	93	U (0.0022)	U (0.0028)	U (0.0022)	U (0.0024)	U (0.0027)	U (0.0031)	U (0.0021)	U (0.0025)	U (0.0037)	0.012 (0.0022)	0.00092 J (0.0019)	U (0.002)	0.00047 J (0.0022)	0.0026 (0.002)
Xylenes (total)	7900	1000	U (0.0022)	U (0.0028)	U (0.0022)	U (0.0024)	U (0.0027)	U (0.0031)	U (0.0021)	U (0.0025)	U (0.0037)	0.0023 J (0.0022)	U (0.0019)	U (0.002)	U (0.0022)	U (0.002)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-C08-b	202-C08-c	202-C08-c	202-C08-c	202-C08-c	202-C08-d	202-C09-c	202-C09-c	202-C09-c	202-C09-c	202-C10-b	202-C10-b	202-C10-b	202-C10-b	202-C11-a
Cell	Soil Direct Contact	Soil to	202-C08	202-C08	202-C08	202-C08	202-C08	202-C08	202-C09	202-C09	202-C09	202-C09	202-C10	202-C10	202-C10	202-C10	202-C11
Field Sample ID	Numeric Value	Groundwater	202-C08-CX-VOC	202-C08-C1-VOC	202-C08-C2-VOC	202-C08-C3-VOC	202-C08-C4-VOC	202-C09-C1-VOC	202-C09-C2-VOC	202-C09-C3-VOC	202-C09-CX-VOC	202-C10-C1-VOC	202-C10-C2-VOC	202-C10-C3-VOC	202-C10-CX-VOC	202-C11-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	5.6 - 5.8	1.2 - 1.4	1.5 - 1.7	3.0 - 3.2	3.8 - 4.0	1.2 - 1.4	2.7 - 2.9	3.8 - 4.0	4.7 - 4.9	0.2 - 0.3	2.1 - 2.3	3.4 - 3.5	4.7 - 4.9	1.2 - 1.4	
Sample Date	(mg/kg)	(mg/kg)	3/7/2022	3/7/2022	3/7/2022	3/7/2022	3/7/2022	3/1/2022	3/1/2022	3/1/2022	3/1/2022	2/28/2022	2/28/2022	2/28/2022	2/28/2022	2/28/2022	
VOCs																	
Benzene	280	0.5	U (0.029)	U (0.0005)	U (0.00074)	U (0.00065)	U (0.00053)	U (0.00065)	U (0.00053)	U (0.00047)	U (0.00068)	U (0.00061)	U (0.00064)	U (0.00052)	U (0.00047)	0.00039 J (0.00063)	
Cumene	10000	2500	1.8 (0.058)	U (0.001)	U (0.0015)	U (0.0013)	U (0.001)	U (0.0013)	U (0.0011)	U (0.00095)	U (0.0014)	U (0.0012)	U (0.0013)	U (0.001)	U (0.00094)	U (0.0012)	
1,2-Dibromoethane	3.7	0.005	U (0.029)	U (0.0005)	U (0.00074)	U (0.00065)	U (0.00053)	U (0.00065)	U (0.00053)	U (0.00047)	U (0.00068)	U (0.00061)	U (0.00064)	U (0.00052)	U (0.00047)	U (0.00063)	
1,2-Dichloroethane	85	0.5	U (0.058)	U (0.001)	U (0.0015)	U (0.0013)	U (0.001)	U (0.0013)	U (0.0011)	U (0.00095)	U (0.0014)	U (0.0012)	U (0.0013)	U (0.001)	U (0.00094)	U (0.0012)	
Ethyl Benzene	880	70	1.5 (0.058)	U (0.001)	U (0.0015)	U (0.0013)	U (0.001)	U (0.0013)	U (0.0011)	U (0.00095)	U (0.0014)	U (0.0012)	U (0.0013)	U (0.001)	U (0.00094)	U (0.0012)	
Methyl tert-butyl ether	8500	2	U (0.12)	U (0.002)	U (0.003)	U (0.0026)	U (0.0021)	U (0.0026)	U (0.0021)	U (0.0019)	U (0.0027)	U (0.0024)	U (0.0026)	U (0.0021)	U (0.0019)	U (0.0025)	
Toluene	10000	100	U (0.058)	U (0.001)	U (0.0015)	U (0.0013)	U (0.001)	U (0.0013)	U (0.0011)	U (0.00095)	U (0.0014)	U (0.0012)	U (0.0013)	U (0.001)	U (0.00094)	U (0.0012)	
1,2,4-Trimethylbenzene	4700	300	2.3 (0.12)	U (0.002)	U (0.003)	U (0.0026)	U (0.0021)	U (0.0026)	U (0.0021)	U (0.0019)	U (0.0027)	U (0.0024)	U (0.0026)	U (0.0021)	U (0.0019)	U (0.0025)	
1,3,5-Trimethylbenzene	4700	93	0.87 (0.12)	U (0.002)	U (0.003)	U (0.0026)	U (0.0021)	U (0.0026)	U (0.0021)	U (0.0019)	U (0.0027)	U (0.0024)	U (0.0026)	U (0.0021)	U (0.0019)	U (0.0025)	
Xylenes (total)	7900	1000	0.129 J (0.12)	U (0.002)	U (0.003)	U (0.0026)	U (0.0021)	U (0.0026)	U (0.0021)	U (0.0019)	U (0.0027)	U (0.0024)	U (0.0026)	U (0.0021)	U (0.0019)	U (0.0025)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-C11-d	202-C11-d	202-C12-a	202-C12-a	202-C12-a	202-C12-a	202-C12-a	202-C12-a	202-D01-c	202-D01-c	202-D01-c	202-D01-c	202-D01-c	202-D02-c	202-D02-c
Cell	Soil Direct Contact	Soil to	202-C11	202-C11	202-C12	202-C12	202-C12	202-C12	202-C12	202-C12	202-D01	202-D01	202-D01	202-D01	202-D01	202-D02	202-D02
Field Sample ID	Numeric Value	Groundwater	202-C11-C2-VOC	202-C11-CX-VOC	202-C12-C1-VOC	202-C12-C2-VOC	202-C12-C3-VOC	202-C12-C4-VOC	202-C12-CX-VOC	202-D01-C1-VOC	202-D01-C2-VOC	202-D01-C3-VOC	202-D01-C4-VOC	202-D01-CX-VOC	202-D02-C1-VOC	202-D02-C2-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.6 - 2.7	4.3 - 4.4	0.8 - 0.9	1.5 - 1.7	3.0 - 3.2	3.8 - 4.0	4.9 - 5.0	0.5 - 0.6	1.2 - 1.4	2.9 - 3.0	3.7 - 3.8	4.6 - 4.7	0.5 - 0.6	1.1 - 1.2	
Sample Date	(mg/kg)	(mg/kg)	2/28/2022	2/28/2022	3/9/2022	3/9/2022	3/9/2022	3/9/2022	3/9/2022	3/22/2022	3/22/2022	3/22/2022	3/22/2022	3/22/2022	4/4/2022	4/4/2022	
VOCs																	
Benzene	280	0.5	0.00016 J (0.00048)	U (0.00055)	U (0.00055)	U (0.00053)	U (0.00048)	U (0.00049)	U (0.00058)	U (0.00059)	0.00018 J (0.0005)	U (0.0006)	U (0.00059)	U (0.00055)	U (0.00058)	0.014 J (0.031)	
Cumene	10000	2500	U (0.00096)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.00097)	U (0.00098)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0012)	U (0.0011)	U (0.0012)	1.4 (0.063)	
1,2-Dibromoethane	3.7	0.005	U (0.00048)	U (0.00055)	U (0.00055)	U (0.00053)	U (0.00048)	U (0.00049)	U (0.00058)	U (0.00059)	U (0.0005)	U (0.0006)	U (0.00059)	U (0.00055)	U (0.00058)	U (0.031)	
1,2-Dichloroethane	85	0.5	U (0.00096)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.00097)	U (0.00098)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0012)	U (0.0011)	U (0.0012)	U (0.063)	
Ethyl Benzene	880	70	U (0.00096)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.00097)	U (0.00098)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0012)	U (0.0011)	U (0.0012)	0.033 J (0.063)	
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.0022)	U (0.0022)	U (0.0021)	U (0.0019)	U (0.002)	U (0.0023)	U (0.0024)	U (0.002)	U (0.0024)	U (0.0024)	U (0.0022)	U (0.0023)	U (0.12)	
Toluene	10000	100	U (0.00096)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.00097)	U (0.00098)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0012)	U (0.0011)	U (0.0012)	0.058 J (0.063)	
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	U (0.0022)	U (0.0022)	U (0.0021)	U (0.0019)	U (0.002)	U (0.0023)	U (0.0024)	U (0.002)	U (0.0024)	U (0.0024)	U (0.0022)	U (0.0023)	0.13 (0.12)	
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	U (0.0022)	U (0.0022)	U (0.0021)	U (0.0019)	U (0.002)	U (0.0023)	U (0.0024)	U (0.002)	U (0.0024)	U (0.0024)	U (0.0022)	U (0.0023)	0.044 J (0.12)	
Xylenes (total)	7900	1000	U (0.0019)	U (0.0022)	U (0.0022)	U (0.0021)	U (0.0019)	U (0.002)	U (0.0023)	U (0.0024)	U (0.002)	U (0.0024)	U (0.0024)	U (0.0022)	U (0.0023)	0.265 J (0.12)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-D02-c	202-D02-c	202-D03-d	202-D03-d	202-D03-d	202-D03-d	202-D03-d	202-D04-b	202-D04-d	202-D04-d	202-D04-d	202-D05-b	202-D05-b	202-D05-b	202-D05-b
Cell	Soil Direct Contact	Soil to	202-D02	202-D02	202-D03	202-D03	202-D03	202-D03	202-D03	202-D04	202-D04	202-D04	202-D04	202-D05	202-D05	202-D05	202-D05
Field Sample ID	Numeric Value	Groundwater	202-D02-C3-VOC	202-D02-CX-VOC	202-D03-C1-VOC	202-D03-C2-VOC	202-D03-C3-VOC	202-D03-CX-VOC	202-D04-C1-VOC	202-D04-C2-VOC	202-D04-C3-VOC	202-D04-CX-VOC	202-D05-C1-VOC	202-D05-C2-VOC	202-D05-C3-VOC	202-D05-C4-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.5 - 1.7	2.1 - 2.3	0.9 - 1.1	2.1 - 2.3	3.0 - 3.2	4.0 - 4.1	0.8 - 0.9	1.2 - 1.4	1.5 - 1.7	2.6 - 2.7	0.8 - 0.9	1.5 - 1.7	3.0 - 3.2	4.3 - 4.4	
Sample Date	(mg/kg)	(mg/kg)	4/4/2022	4/4/2022	4/4/2022	4/4/2022	4/4/2022	4/4/2022	3/4/2022	3/4/2022	3/4/2022	3/4/2022	3/7/2022	3/7/2022	3/7/2022	3/7/2022	
VOCs																	
Benzene	280	0.5	0.014 J (0.033)	0.00047 J (0.00053)	U (0.00053)	U (0.00048)	U (0.00061)	U (0.00052)	U (0.00058)	U (0.00059)	U (0.00052)	U (0.00051)	0.00038 J (0.00056)	U (0.00061)	U (0.00052)	U (0.00051)	
Cumene	10000	2500	3.1 (0.066)	0.03 (0.001)	U (0.0011)	U (0.00097)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0012)	U (0.001)	U (0.001)	0.0045 (0.0011)	0.00034 J (0.0012)	0.0083 (0.001)	U (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.033)	U (0.00053)	U (0.00053)	U (0.00048)	U (0.00061)	U (0.00052)	U (0.00058)	U (0.00059)	U (0.00052)	U (0.00051)	U (0.00056)	U (0.00061)	U (0.00052)	U (0.00051)	
1,2-Dichloroethane	85	0.5	U (0.066)	U (0.001)	U (0.0011)	U (0.00097)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0012)	U (0.001)	U (0.001)	U (0.0011)	U (0.0012)	U (0.001)	U (0.001)	
Ethyl Benzene	880	70	0.05 J (0.066)	0.0085 (0.001)	U (0.0011)	U (0.00097)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0012)	U (0.001)	U (0.001)	0.0014 (0.0011)	U (0.0012)	U (0.001)	U (0.001)	
Methyl tert-butyl ether	8500	2	U (0.13)	U (0.0021)	U (0.0021)	U (0.0019)	U (0.0024)	U (0.0021)	U (0.0023)	U (0.0024)	U (0.0021)	U (0.002)	U (0.0022)	U (0.0024)	U (0.0021)	U (0.002)	
Toluene	10000	100	0.057 J (0.066)	0.0037 (0.001)	U (0.0011)	U (0.00097)	U (0.0012)	U (0.001)	0.0033 (0.0012)	U (0.0012)	U (0.001)	U (0.001)	U (0.0011)	U (0.0012)	U (0.001)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	U (0.13)	0.0068 (0.0021)	U (0.0021)	U (0.0019)	U (0.0024)	U (0.0021)	U (0.0023)	U (0.0024)	U (0.0021)	U (0.002)	0.0033 (0.0022)	U (0.0024)	U (0.0021)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	U (0.13)	0.004 (0.0021)	U (0.0021)	U (0.0019)	U (0.0024)	U (0.0021)	U (0.0023)	U (0.0024)	U (0.0021)	U (0.002)	0.0014 J (0.0022)	U (0.0024)	U (0.0021)	U (0.002)	
Xylenes (total)	7900	1000	0.111 J (0.13)	0.0085 J (0.0021)	U (0.0021)	U (0.0019)	U (0.0024)	U (0.0021)	U (0.0023)	U (0.0024)	U (0.0021)	U (0.002)	0.0027 J (0.0022)	U (0.0024)	U (0.0021)	U (0.002)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-D05-b	202-D06-d	202-D06-d	202-D06-d	202-D06-d	202-D06-d	202-D07-b	202-D07-b	202-D07-b	202-D07-c	202-D07-c	202-D08-b	202-D08-b	202-D08-b	202-D08-c
Cell	Soil Direct Contact	Soil to	202-D05	202-D06	202-D06	202-D06	202-D06	202-D06	202-D07	202-D07	202-D07	202-D07	202-D07	202-D08	202-D08	202-D08	202-D08
Field Sample ID	Numeric Value	Groundwater	202-D05-CX-VOC	202-D06-C1-VOC	202-D06-C2-VOC	202-D06-C3-VOC	202-D06-CX-VOC	202-D07-C1-VOC	202-D07-C2-VOC	202-D07-C4-VOC	202-D07-C3-VOC	202-D07-CX-VOC	202-D08-C1-VOC	202-D08-C2-VOC	202-D08-C3-VOC	202-D08-CX-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	5.0 - 5.2	0.9 - 1.1	2.6 - 2.7	3.7 - 3.8	4.6 - 4.7	0.3 - 0.5	0.9 - 1.1	2.7 - 2.9	1.5 - 1.7	2.7 - 2.9	1.1 - 1.2	1.8 - 2.0	3.4 - 3.5	2.4 - 2.6	
Sample Date	(mg/kg)	(mg/kg)	3/7/2022	3/7/2022	3/7/2022	3/7/2022	3/7/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022	
VOCs																	
Benzene	280	0.5	U (0.0005)	U (0.00046)	U (0.00051)	U (0.00046)	U (0.00055)	U (0.0005)	U (0.0006)	U (0.00054)	U (0.0005)	U (0.00057)	U (0.0006)	U (0.00066)	U (0.00046)	U (0.00051)	
Cumene	10000	2500	U (0.001)	U (0.00092)	U (0.001)	U (0.00092)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0011)	U (0.001)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.00092)	U (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.0005)	U (0.00046)	U (0.00051)	U (0.00046)	U (0.00055)	U (0.0005)	U (0.0006)	U (0.00054)	U (0.0005)	U (0.00057)	U (0.0006)	U (0.00066)	U (0.00046)	U (0.00051)	
1,2-Dichloroethane	85	0.5	U (0.001)	U (0.00092)	U (0.001)	U (0.00092)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0011)	U (0.001)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.00092)	U (0.001)	
Ethyl Benzene	880	70	U (0.001)	U (0.00092)	U (0.001)	U (0.00092)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0011)	U (0.001)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.00092)	U (0.001)	
Methyl tert-butyl ether	8500	2	U (0.002)	U (0.0018)	U (0.002)	U (0.0018)	U (0.0022)	U (0.002)	U (0.0024)	U (0.0022)	U (0.002)	U (0.0023)	U (0.0024)	U (0.0026)	U (0.0018)	U (0.002)	
Toluene	10000	100	U (0.001)	U (0.00092)	U (0.001)	U (0.00092)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0011)	U (0.001)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.00092)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	U (0.002)	U (0.0018)	U (0.002)	U (0.0018)	U (0.0022)	U (0.002)	U (0.0024)	U (0.0022)	U (0.002)	U (0.0023)	U (0.0024)	U (0.0026)	U (0.0018)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	U (0.002)	U (0.0018)	U (0.002)	U (0.0018)	U (0.0022)	U (0.002)	U (0.0024)	U (0.0022)	U (0.002)	U (0.0023)	U (0.0024)	U (0.0026)	U (0.0018)	U (0.002)	
Xylenes (total)	7900	1000	U (0.002)	U (0.0018)	U (0.002)	U (0.0018)	U (0.0022)	U (0.002)	U (0.0024)	U (0.0022)	U (0.002)	U (0.0023)	U (0.0024)	U (0.0026)	U (0.0018)	U (0.002)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-D09-b	202-D09-b	202-D09-b	202-D09-c	202-D09-c	202-E01-d	202-E01-d	202-E01-d	202-E01-d	202-E01-d	202-E02-d	202-E02-d	202-E02-d	202-E02-d
Cell	Soil Direct Contact	Soil to	202-D09	202-D09	202-D09	202-D09	202-D09	202-E01	202-E01	202-E01	202-E01	202-E01	202-E02	202-E02	202-E02	202-E02
Field Sample ID	Numeric Value	Groundwater	202-D09-C3-VOC	202-D09-C4-VOC	202-D09-CX-VOC	202-D09-C1-VOC	202-D09-C2-VOC	202-E01-C1-VOC	202-E01-C2-VOC	202-E01-C3-VOC	202-E01-C4-VOC	202-E01-CX-VOC	202-E02-C1-VOC	202-E02-C2-VOC	202-E02-C3-VOC	202-E02-CX-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.4 - 1.5	2.4 - 2.6	2.7 - 2.9	0.6 - 0.8	1.5 - 1.7	0.6 - 0.8	1.8 - 2.0	3.7 - 3.8	5.5 - 5.6	7.5 - 7.6	1.1 - 1.2	2.3 - 2.4	4.6 - 4.7	6.7 - 6.9
Sample Date	(mg/kg)	(mg/kg)	3/8/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022	3/22/2022	3/22/2022	3/22/2022	3/22/2022	3/22/2022	3/24/2022	3/24/2022	3/24/2022	3/24/2022
VOCs																
Benzene	280	0.5	U (0.00051)	U (0.00055)	U (0.00051)	U (0.00053)	U (0.00048)	U (0.0006)	0.0011 (0.00087)	U (0.00053)	U (0.00049)	U (0.034)	U (0.059)	U (0.00058)	U (0.00056)	U (0.033)
Cumene	10000	2500	U (0.001)	U (0.0011)	U (0.001)	U (0.001)	U (0.00097)	U (0.0012)	U (0.0017)	U (0.001)	U (0.00098)	0.88 (0.067)	3 (0.12)	U (0.0012)	0.002 (0.0011)	0.29 (0.066)
1,2-Dibromoethane	3.7	0.005	U (0.00051)	U (0.00055)	U (0.00051)	U (0.00053)	U (0.00048)	U (0.0006)	U (0.00087)	U (0.00053)	U (0.00049)	U (0.034)	U (0.059)	U (0.00058)	U (0.00056)	U (0.033)
1,2-Dichloroethane	85	0.5	U (0.001)	U (0.0011)	U (0.001)	U (0.001)	U (0.00097)	U (0.0012)	U (0.0017)	U (0.001)	U (0.00098)	U (0.067)	U (0.12)	U (0.0012)	U (0.0011)	U (0.066)
Ethyl Benzene	880	70	U (0.001)	U (0.0011)	U (0.001)	U (0.001)	U (0.00097)	U (0.0012)	U (0.0017)	U (0.001)	U (0.00098)	0.21 (0.067)	0.069 J (0.12)	U (0.0012)	0.00037 J (0.0011)	U (0.066)
Methyl tert-butyl ether	8500	2	U (0.002)	U (0.0022)	U (0.002)	U (0.0021)	U (0.0019)	U (0.0024)	U (0.0035)	U (0.0021)	U (0.002)	U (0.13)	U (0.24)	U (0.0023)	U (0.0022)	U (0.13)
Toluene	10000	100	U (0.001)	U (0.0011)	U (0.001)	U (0.001)	U (0.00097)	U (0.0012)	U (0.0017)	U (0.001)	U (0.00098)	0.046 J (0.067)	U (0.12)	U (0.0012)	U (0.0011)	U (0.066)
1,2,4-Trimethylbenzene	4700	300	U (0.002)	U (0.0022)	U (0.002)	U (0.0021)	U (0.0019)	U (0.0024)	0.0008 J (0.0035)	U (0.0021)	U (0.002)	6.2 (0.13)	U (0.24)	U (0.0023)	U (0.0022)	U (0.13)
1,3,5-Trimethylbenzene	4700	93	U (0.002)	U (0.0022)	U (0.002)	U (0.0021)	U (0.0019)	U (0.0024)	0.00047 J (0.0035)	U (0.0021)	U (0.002)	1.5 (0.13)	U (0.24)	U (0.0023)	U (0.0022)	U (0.13)
Xylenes (total)	7900	1000	U (0.002)	U (0.0022)	U (0.002)	U (0.0021)	U (0.0019)	U (0.0024)	U (0.0035)	U (0.0021)	U (0.002)	0.487 J (0.13)	U (0.24)	U (0.0023)	U (0.0022)	U (0.13)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-E03-a	202-E03-a	202-E03-a	202-E03-a	202-E04-b	202-E04-b	202-E04-b	202-E04-c	202-E05-c	202-E05-c	202-E05-c	202-E05-c	202-E06-d	202-E06-d
Cell	Soil Direct Contact	Soil to	202-E03	202-E03	202-E03	202-E03	202-E04	202-E04	202-E04	202-E04	202-E05	202-E05	202-E05	202-E05	202-E06	202-E06
Field Sample ID	Numeric Value	Groundwater	202-E03-C1-VOC	202-E03-C2-VOC	202-E03-C3-VOC	202-E03-CX-VOC	202-E04-C1-VOC	202-E04-C3-VOC	202-E04-CX-VOC	202-E04-C2-VOC	202-E05-C1-VOC	202-E05-C2-VOC	202-E05-C3-VOC	202-E05-CX-VOC	202-E06-C1-VOC	202-E06-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.2 - 1.4	2.4 - 2.6	4.6 - 4.7	7.0 - 7.2	0.6 - 0.8	3.4 - 3.5	4.9 - 5.0	1.8 - 2.0	0.8 - 0.9	1.5 - 1.7	3.0 - 3.2	4.6 - 4.7	0.5 - 0.6	0.8 - 0.9
Sample Date	(mg/kg)	(mg/kg)	3/24/2022	3/24/2022	3/24/2022	3/24/2022	3/23/2022	3/23/2022	3/23/2022	3/23/2022	3/22/2022	3/22/2022	3/22/2022	3/22/2022	3/23/2022	3/23/2022
VOCs																
Benzene	280	0.5	U (0.0014)	U (0.00061)	U (0.035)	U (0.0006)	U (0.0005)	U (0.00054)	U (0.00054)	U (0.00071)	U (0.00061)	U (0.00062)	U (0.00052)	U (0.00054)	U (0.00053)	U (0.00046)
Cumene	10000	2500	U (0.0029)	U (0.0012)	1.1 (0.07)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0014)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0011)	U (0.001)	U (0.00092)
1,2-Dibromoethane	3.7	0.005	U (0.0014)	U (0.00061)	U (0.035)	U (0.0006)	U (0.0005)	U (0.00054)	U (0.00054)	U (0.00071)	U (0.00061)	U (0.00062)	U (0.00052)	U (0.00054)	U (0.00053)	U (0.00046)
1,2-Dichloroethane	85	0.5	U (0.0029)	U (0.0012)	U (0.07)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0014)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0011)	U (0.001)	U (0.00092)
Ethyl Benzene	880	70	U (0.0029)	0.00018 J (0.0012)	0.48 (0.07)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0014)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0011)	U (0.001)	U (0.00092)
Methyl tert-butyl ether	8500	2	U (0.0058)	U (0.0024)	U (0.14)	U (0.0024)	U (0.002)	U (0.0022)	U (0.0022)	U (0.0028)	U (0.0024)	U (0.0025)	U (0.0021)	U (0.0022)	U (0.0021)	U (0.0018)
Toluene	10000	100	U (0.0029)	U (0.0012)	U (0.07)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0014)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0011)	U (0.001)	U (0.00092)
1,2,4-Trimethylbenzene	4700	300	U (0.0058)	0.00099 J (0.0024)	27 (0.7)	U (0.0024)	U (0.002)	U (0.0022)	U (0.0022)	U (0.0028)	U (0.0024)	U (0.0025)	U (0.0021)	U (0.0022)	U (0.0021)	U (0.0018)
1,3,5-Trimethylbenzene	4700	93	U (0.0058)	0.00042 J (0.0024)	9.4 (0.14)	U (0.0024)	U (0.002)	U (0.0022)	U (0.0022)	U (0.0028)	U (0.0024)	U (0.0025)	U (0.0021)	U (0.0022)	U (0.0021)	U (0.0018)
Xylenes (total)	7900	1000	U (0.0058)	U (0.0024)	6.1 J (0.14)	U (0.0024)	U (0.002)	U (0.0022)	U (0.0022)	U (0.0028)	U (0.0024)	U (0.0025)	U (0.0021)	U (0.0022)	U (0.0021)	U (0.0018)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-E06-d	202-E06-d	202-E07-b	202-E07-b	202-E07-b	202-E07-b	202-E07-b	202-E08-a	202-E08-a	202-E08-b	202-E08-b	202-E08-b	202-E09-c	202-E09-c	202-E09-c
Cell	Soil Direct Contact	Soil to	202-E06	202-E06	202-E07	202-E07	202-E07	202-E07	202-E07	202-E08	202-E08	202-E08	202-E08	202-E08	202-E09	202-E09	202-E09
Field Sample ID	Numeric Value	Groundwater	202-E06-C3-VOC	202-E06-CX-VOC	202-E07-C1-VOC	202-E07-C2-VOC	202-E07-C3-VOC	202-E07-CX-VOC	202-E08-C1-VOC	202-E08-C3-VOC	202-E08-C2-VOC	202-E08-C4-VOC	202-E08-CX-VOC	202-E09-C1-VOC	202-E09-C2-VOC	202-E09-C3-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.4 - 1.5	2.0 - 2.1	0.2 - 0.3	0.8 - 0.9	1.4 - 1.5	2.0 - 2.1	0.2 - 0.3	0.9 - 1.1	0.6 - 0.8	1.5 - 1.7	2.1 - 2.3	0.2 - 0.3	0.6 - 0.8	0.9 - 1.1	
Sample Date	(mg/kg)	(mg/kg)	3/23/2022	3/23/2022	3/23/2022	3/23/2022	3/23/2022	3/23/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	
VOCs																	
Benzene	280	0.5	U (0.00058)	U (0.00071)	U (0.0005)	U (0.00049)	U (0.00063)	U (0.00058)	U (0.00067)	0.0013 (0.00049)	U (0.00055)	U (0.00082)	U (0.00049)	U (0.00062)	0.00047 (0.00046)	0.00021 J (0.00043)	
Cumene	10000	2500	U (0.0012)	U (0.0014)	U (0.001)	U (0.00098)	U (0.0013)	U (0.0012)	U (0.0013)	U (0.00097)	U (0.0011)	U (0.0016)	U (0.00098)	U (0.0012)	U (0.00092)	U (0.00087)	
1,2-Dibromoethane	3.7	0.005	U (0.00058)	U (0.00071)	U (0.0005)	U (0.00049)	U (0.00063)	U (0.00058)	U (0.00067)	U (0.00049)	U (0.00055)	U (0.00082)	U (0.00049)	U (0.00062)	U (0.00046)	U (0.00043)	
1,2-Dichloroethane	85	0.5	U (0.0012)	U (0.0014)	U (0.001)	U (0.00098)	U (0.0013)	U (0.0012)	U (0.0013)	U (0.00097)	U (0.0011)	U (0.0016)	U (0.00098)	U (0.0012)	U (0.00092)	U (0.00087)	
Ethyl Benzene	880	70	U (0.0012)	U (0.0014)	U (0.001)	U (0.00098)	U (0.0013)	U (0.0012)	U (0.0013)	U (0.00097)	U (0.0011)	U (0.0016)	U (0.00098)	U (0.0012)	U (0.00092)	0.00024 J (0.00087)	
Methyl tert-butyl ether	8500	2	U (0.0023)	U (0.0028)	U (0.002)	U (0.002)	U (0.0025)	U (0.0023)	U (0.0027)	U (0.0019)	U (0.0022)	U (0.0033)	U (0.002)	U (0.0025)	U (0.0018)	U (0.0017)	
Toluene	10000	100	U (0.0012)	U (0.0014)	U (0.001)	U (0.00098)	U (0.0013)	U (0.0012)	U (0.0013)	U (0.00097)	U (0.0011)	U (0.0016)	U (0.00098)	U (0.0012)	U (0.00092)	0.00063 J (0.00087)	
1,2,4-Trimethylbenzene	4700	300	U (0.0023)	U (0.0028)	U (0.002)	U (0.002)	U (0.0025)	U (0.0023)	U (0.0027)	U (0.0019)	U (0.0022)	U (0.0033)	U (0.002)	U (0.0025)	U (0.0018)	0.00042 J (0.0017)	
1,3,5-Trimethylbenzene	4700	93	U (0.0023)	U (0.0028)	U (0.002)	U (0.002)	U (0.0025)	U (0.0023)	U (0.0027)	U (0.0019)	U (0.0022)	U (0.0033)	U (0.002)	U (0.0025)	U (0.0018)	U (0.0017)	
Xylenes (total)	7900	1000	U (0.0023)	U (0.0028)	U (0.002)	U (0.002)	U (0.0025)	U (0.0023)	U (0.0027)	U (0.0019)	U (0.0022)	U (0.0033)	U (0.002)	U (0.0025)	U (0.0018)	0.00108 J (0.0017)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-E09-c	202-E09-c	202-E10-c	202-E10-c	202-E10-c	202-E10-c	202-E10-c	202-E10-c	202-E11-c	202-E11-c	202-E11-c	202-E11-c	202-E12-b	202-E12-b	202-E12-b
Cell	Soil Direct Contact	Soil to	202-E09	202-E09	202-E10	202-E10	202-E10	202-E10	202-E10	202-E10	202-E11	202-E11	202-E11	202-E11	202-E12	202-E12	202-E12
Field Sample ID	Numeric Value	Groundwater	202-E09-C4-VOC	202-E09-CX-VOC	202-E10-C1-VOC	202-E10-C2-VOC	202-E10-C3-VOC	202-E10-C4-VOC	202-E10-CX-VOC	202-E11-C1-VOC	202-E11-C2-VOC	202-E11-C3-VOC	202-E11-CX-VOC	202-E12-C1-VOC	202-E12-C2-VOC	202-E12-C3-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.4 - 1.5	1.8 - 2.0	0.2 - 0.3	0.5 - 0.6	0.9 - 1.1	1.4 - 1.5	1.8 - 2.0	0.3 - 0.5	0.9 - 1.1	1.4 - 1.5	2.0 - 2.1	0.6 - 0.8	1.1 - 1.2	2.1 - 2.3	
Sample Date	(mg/kg)	(mg/kg)	3/10/2022	3/10/2022	4/28/2022	4/28/2022	4/28/2022	4/28/2022	4/28/2022	3/11/2022	3/11/2022	3/11/2022	3/11/2022	3/10/2022	3/10/2022	3/10/2022	
VOCs																	
Benzene	280	0.5	U (0.00052)	0.0021 (0.00066)	U (0.0006)	U (0.00057)	U (0.00056)	U (0.00055)	U (0.00056)	U (0.00065)	U (0.00059)	U (0.00059)	U (0.00095)	U (0.00066)	U (0.00051)	U (0.00052)	
Cumene	10000	2500	U (0.001)	U (0.0013)	U (0.0012)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.0013)	U (0.0012)	U (0.0012)	U (0.0019)	U (0.0013)	U (0.001)	U (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.00052)	U (0.00066)	U (0.0006)	U (0.00057)	U (0.00056)	U (0.00055)	U (0.00056)	U (0.00065)	U (0.00059)	U (0.00059)	U (0.00095)	U (0.00066)	U (0.00051)	U (0.00052)	
1,2-Dichloroethane	85	0.5	U (0.001)	U (0.0013)	U (0.0012)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.0013)	U (0.0012)	U (0.0012)	U (0.0019)	U (0.0013)	U (0.001)	U (0.001)	
Ethyl Benzene	880	70	U (0.001)	U (0.0013)	U (0.0012)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.0013)	U (0.0012)	U (0.0012)	U (0.0019)	U (0.0013)	U (0.001)	U (0.001)	
Methyl tert-butyl ether	8500	2	U (0.0021)	U (0.0026)	U (0.0024)	U (0.0023)	U (0.0022)	U (0.0022)	U (0.0022)	U (0.0026)	U (0.0024)	U (0.0024)	U (0.0038)	U (0.0026)	U (0.002)	U (0.0021)	
Toluene	10000	100	U (0.001)	0.00094 J (0.0013)	U (0.0012)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.0013)	U (0.0012)	U (0.0012)	U (0.0019)	U (0.0013)	U (0.001)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	U (0.0021)	U (0.0026)	U (0.0024)	U (0.0023)	U (0.0022)	U (0.0022)	U (0.0022)	U (0.0026)	U (0.0024)	U (0.0024)	U (0.0038)	U (0.0026)	U (0.002)	U (0.0021)	
1,3,5-Trimethylbenzene	4700	93	U (0.0021)	U (0.0026)	U (0.0024)	U (0.0023)	U (0.0022)	U (0.0022)	U (0.0022)	U (0.0026)	U (0.0024)	U (0.0024)	U (0.0038)	U (0.0026)	U (0.002)	U (0.0021)	
Xylenes (total)	7900	1000	U (0.0021)	U (0.0026)	U (0.0024)	U (0.0023)	U (0.0022)	U (0.0022)	U (0.0022)	U (0.0026)	U (0.0024)	U (0.0024)	U (0.0038)	U (0.0026)	U (0.002)	U (0.0021)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-E12-b	202-E13-d	202-E13-d	202-E13-d	202-E13-d	202-E13-d	202-E13-d	202-E14-b	202-E14-c	202-E14-c	202-E14-c	202-E15-a	202-E15-a	202-E15-a	202-E15-d
Cell	Soil Direct Contact	Soil to	202-E12	202-E13	202-E13	202-E13	202-E13	202-E13	202-E13	202-E14	202-E14	202-E14	202-E14	202-E15	202-E15	202-E15	202-E15
Field Sample ID	Numeric Value	Groundwater	202-E12-CX-VOC	202-E13-C1-VOC	202-E13-C2-VOC	202-E13-C3-VOC	202-E13-C4-VOC	202-E13-CX-VOC	202-E14-C1-VOC	202-E14-C2-VOC	202-E14-C3-VOC	202-E14-CX-VOC	202-E15-C1-VOC	202-E15-C3-VOC	202-E15-CX-VOC	202-E15-C2-VOC	202-E15
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	3.0 - 3.2	0.6 - 0.8	1.4 - 1.5	2.1 - 2.3	2.4 - 2.6	3.5 - 3.7	0.6 - 0.8	2.1 - 2.3	3.4 - 3.5	3.8 - 4.0	0.8 - 0.9	2.9 - 3.0	4.0 - 4.1	1.7 - 1.8	202-E15
Sample Date	(mg/kg)	(mg/kg)	3/10/2022	3/9/2022	3/9/2022	3/9/2022	3/9/2022	3/9/2022	3/9/2022	3/9/2022	3/9/2022	3/9/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022
VOCs																	
Benzene	280	0.5	U (0.00049)	U (0.0005)	U (0.00055)	U (0.00047)	U (0.00052)	U (0.00065)	U (0.00067)	U (0.00053)	U (0.0008)	U (0.00065)	U (0.00054)	U (0.0006)	U (0.00045)	U (0.00074)	
Cumene	10000	2500	U (0.00098)	U (0.00099)	U (0.0011)	U (0.00095)	U (0.001)	U (0.0013)	U (0.0013)	U (0.0011)	U (0.0016)	U (0.0013)	U (0.0011)	U (0.0012)	U (0.00089)	U (0.0015)	
1,2-Dibromoethane	3.7	0.005	U (0.00049)	U (0.0005)	U (0.00055)	U (0.00047)	U (0.00052)	U (0.00065)	U (0.00067)	U (0.00053)	U (0.0008)	U (0.00065)	U (0.00054)	U (0.0006)	U (0.00045)	U (0.00074)	
1,2-Dichloroethane	85	0.5	U (0.00098)	U (0.00099)	U (0.0011)	U (0.00095)	U (0.001)	U (0.0013)	U (0.0013)	U (0.0011)	U (0.0016)	U (0.0013)	U (0.0011)	U (0.0012)	U (0.00089)	U (0.0015)	
Ethyl Benzene	880	70	U (0.00098)	U (0.00099)	U (0.0011)	U (0.00095)	U (0.001)	U (0.0013)	U (0.0013)	U (0.0011)	U (0.0016)	U (0.0013)	U (0.0011)	U (0.0012)	U (0.00089)	U (0.0015)	
Methyl tert-butyl ether	8500	2	U (0.002)	U (0.002)	U (0.0022)	U (0.0019)	U (0.0021)	U (0.0026)	U (0.0027)	U (0.0021)	U (0.0032)	U (0.0026)	U (0.0022)	U (0.0024)	U (0.0018)	U (0.003)	
Toluene	10000	100	U (0.00098)	U (0.00099)	U (0.0011)	U (0.00095)	U (0.001)	U (0.0013)	U (0.0013)	U (0.0011)	U (0.0016)	U (0.0013)	U (0.0011)	U (0.0012)	U (0.00089)	U (0.0015)	
1,2,4-Trimethylbenzene	4700	300	U (0.002)	U (0.002)	U (0.0022)	U (0.0019)	U (0.0021)	U (0.0026)	U (0.0027)	U (0.0021)	U (0.0032)	U (0.0026)	U (0.0022)	U (0.0024)	U (0.0018)	U (0.003)	
1,3,5-Trimethylbenzene	4700	93	U (0.002)	U (0.002)	U (0.0022)	U (0.0019)	U (0.0021)	U (0.0026)	U (0.0027)	U (0.0021)	U (0.0032)	U (0.0026)	U (0.0022)	U (0.0024)	U (0.0018)	U (0.003)	
Xylenes (total)	7900	1000	U (0.002)	U (0.002)	U (0.0022)	U (0.0019)	U (0.0021)	U (0.0026)	U (0.0027)	U (0.0021)	U (0.0032)	U (0.0026)	U (0.0022)	U (0.0024)	U (0.0018)	U (0.003)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-F01-a	202-F01-a	202-F02-b	202-F02-b	202-F02-b	202-F02-b	202-F02-b	202-F03-c	202-F03-c	202-F03-c	202-F03-c	202-F04-a	202-F04-a	202-F04-d	202-F04-d
Cell	Soil Direct Contact	Soil to	202-F01	202-F01	202-F02	202-F02	202-F02	202-F02	202-F02	202-F03	202-F03	202-F03	202-F03	202-F04	202-F04	202-F04	202-F04
Field Sample ID	Numeric Value	Groundwater	202-F01-C1-VOC	202-F01-CX-VOC	202-F02-C1-VOC	202-F02-C2-VOC	202-F02-C3-VOC	202-F02-CX-VOC	202-F02-CX-VOC	202-F03-C1-VOC	202-F03-C2-VOC	202-F03-C3-VOC	202-F03-CX-VOC	202-F04-C1-VOC	202-F04-C2-VOC	202-F04-C3-VOC	202-F04-CX-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.3 - 0.5	5.8 - 5.9	0.9 - 1.1	1.5 - 1.7	2.9 - 3.0	4.3 - 4.4	0.2 - 0.3	1.5 - 1.7	3.0 - 3.2	4.6 - 4.7	0.5 - 0.6	1.5 - 1.7	3.0 - 3.2	4.3 - 4.4	
Sample Date	(mg/kg)	(mg/kg)	4/12/2022	4/12/2022	3/25/2022	3/25/2022	3/25/2022	3/25/2022	3/25/2022	3/25/2022	3/25/2022	3/25/2022	3/25/2022	3/25/2022	3/25/2022	3/25/2022	
VOCs																	
Benzene	280	0.5	U (0.00055)	U (0.034)	U (0.00056)	U (0.00056)	U (0.00056)	U (0.78)	U (0.00061)	U (0.00064)	U (0.0006)	U (0.00066)	0.0006 (0.00059)	0.00035 J (0.00068)	U (0.00046)	U (0.00062)	
Cumene	10000	2500	U (0.0011)	U (0.067)	0.0038 (0.0011)	U (0.0011)	0.015 (0.0011)	14 (1.6)	U (0.0012)	U (0.0013)	U (0.0012)	U (0.0013)	0.0007 J (0.0012)	0.0011 J (0.0014)	U (0.00092)	0.00015 J (0.0012)	
1,2-Dibromoethane	3.7	0.005	U (0.00055)	U (0.034)	U (0.00056)	U (0.00056)	U (0.00056)	U (0.78)	U (0.00061)	U (0.00064)	U (0.0006)	U (0.00066)	U (0.00059)	U (0.00068)	U (0.00046)	U (0.00062)	
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.067)	U (0.0011)	U (0.0011)	U (0.0011)	U (1.6)	U (0.0012)	U (0.0013)	U (0.0012)	U (0.0013)	U (0.0012)	U (0.0014)	U (0.00092)	U (0.0012)	
Ethyl Benzene	880	70	U (0.0011)	U (0.067)	U (0.0011)	U (0.0011)	0.11 (0.0011)	94 (1.6)	U (0.0012)	U (0.0013)	U (0.0012)	U (0.0013)	U (0.0012)	U (0.0014)	U (0.00092)	U (0.0012)	
Methyl tert-butyl ether	8500	2	U (0.0022)	U (0.13)	U (0.0022)	U (0.0022)	U (0.0022)	U (3.1)	U (0.0024)	U (0.0026)	U (0.0024)	U (0.0026)	U (0.0024)	U (0.0027)	U (0.0018)	U (0.0025)	
Toluene	10000	100	U (0.0011)	U (0.067)	U (0.0011)	U (0.0011)	U (0.0011)	1 J (1.6)	U (0.0012)	U (0.0013)	U (0.0012)	U (0.0013)	U (0.0012)	U (0.0014)	U (0.00092)	U (0.0012)	
1,2,4-Trimethylbenzene	4700	300	U (0.0022)	U (0.13)	0.0025 (0.0022)	U (0.0022)	0.2 (0.0022)	870 (12)	U (0.0024)	U (0.0026)	U (0.0024)	U (0.0026)	0.00039 J (0.0024)	U (0.0027)	U (0.0018)	U (0.0025)	
1,3,5-Trimethylbenzene	4700	93	U (0.0022)	U (0.13)	0.00081 J (0.0022)	U (0.0022)	0.14 (0.0022)	210 (3.1)	U (0.0024)	U (0.0026)	U (0.0024)	U (0.0026)	U (0.0024)	U (0.0027)	U (0.0018)	U (0.0025)	
Xylenes (total)	7900	1000	U (0.0022)	U (0.13)	0.00185 J (0.0022)	U (0.0022)	0.2111 J (0.0022)	213.4 J (3.1)	U (0.0024)	U (0.0026)	U (0.0024)	U (0.0026)	U (0.0024)	U (0.0027)	U (0.0018)	U (0.0025)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-F05-d	202-F05-d	202-F05-d	202-F05-d	202-F06-a	202-F06-a	202-F06-a	202-F06-a	202-F06-a	202-F06-a	202-F07-c	202-F07-c	202-F07-c	202-F07-c	202-F07-c
Cell	Soil Direct Contact	Soil to	202-F05	202-F05	202-F05	202-F05	202-F06	202-F06	202-F06	202-F06	202-F06	202-F06	202-F07	202-F07	202-F07	202-F07	202-F07
Field Sample ID	Numeric Value	Groundwater	202-F05-C1-VOC	202-F05-C2-VOC	202-F05-C3-VOC	202-F05-CX-VOC	202-F06-C1-VOC	202-F06-C2-VOC	202-F06-C3-VOC	202-F06-C4-VOC	202-F06-CX-VOC	202-F06-CX-VOC	202-F07-C1-VOC	202-F07-C2-VOC	202-F07-C3-VOC	202-F07-C4-VOC	202-F07-CX-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.5 - 0.6	2.1 - 2.3	3.7 - 3.8	4.3 - 4.4	0.2 - 0.3	1.2 - 1.4	2.4 - 2.6	3.4 - 3.5	4.6 - 4.7	0.8 - 0.9	1.4 - 1.5	2.1 - 2.3	3.0 - 3.2	4.0 - 4.1	
Sample Date	(mg/kg)	(mg/kg)	4/5/2022	4/5/2022	4/5/2022	4/5/2022	3/14/2022	3/14/2022	3/14/2022	3/14/2022	3/14/2022	3/14/2022	4/27/2022	4/27/2022	4/27/2022	4/27/2022	4/27/2022
VOCs																	
Benzene	280	0.5	U (0.00054)	U (0.00072)	U (0.00054)	U (0.0005)	U (0.00061)	U (0.0007)	U (0.00063)	U (0.00053)	U (0.00058)	0.032 (0.00052)	0.66 (0.16)	0.17 (0.029)	0.11 (0.038)	0.065 (0.032)	
Cumene	10000	2500	U (0.0011)	U (0.0014)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0014)	U (0.0013)	U (0.001)	U (0.0012)	0.052 (0.001)	14 (0.32)	1.5 (0.058)	2.4 (0.076)	1.1 (0.065)	
1,2-Dibromoethane	3.7	0.005	U (0.00054)	U (0.00072)	U (0.00054)	U (0.0005)	U (0.00061)	U (0.0007)	U (0.00063)	U (0.00053)	U (0.00058)	U (0.00052)	U (0.16)	U (0.029)	U (0.038)	U (0.032)	
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.0014)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0014)	U (0.0013)	U (0.001)	U (0.0012)	U (0.001)	U (0.32)	U (0.058)	U (0.076)	U (0.065)	
Ethyl Benzene	880	70	U (0.0011)	U (0.0014)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0014)	U (0.0013)	U (0.001)	U (0.0012)	0.29 (0.001)	51 (0.32)	6.5 (0.058)	8.3 (0.076)	4.9 (0.065)	
Methyl tert-butyl ether	8500	2	U (0.0021)	U (0.0029)	U (0.0022)	U (0.002)	U (0.0024)	U (0.0028)	U (0.0025)	U (0.0021)	U (0.0023)	U (0.0021)	U (0.65)	U (0.12)	U (0.15)	U (0.13)	
Toluene	10000	100	U (0.0011)	U (0.0014)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0014)	U (0.0013)	U (0.001)	U (0.0012)	U (0.001)	U (0.32)	U (0.058)	0.055 J (0.076)	U (0.065)	
1,2,4-Trimethylbenzene	4700	300	U (0.0021)	U (0.0029)	U (0.0022)	U (0.002)	U (0.0024)	U (0.0028)	U (0.0025)	U (0.0021)	U (0.0023)	0.14 (0.0021)	38 (0.65)	4.4 (0.12)	1.7 (0.15)	5.8 (0.13)	
1,3,5-Trimethylbenzene	4700	93	U (0.0021)	U (0.0029)	U (0.0022)	U (0.002)	U (0.0024)	U (0.0028)	U (0.0025)	U (0.0021)	U (0.0023)	0.076 (0.0021)	21 (0.65)	2.1 (0.12)	3 (0.15)	0.32 (0.13)	
Xylenes (total)	7900	1000	U (0.0021)	U (0.0029)	U (0.0022)	U (0.002)	U (0.0024)	U (0.0028)	U (0.0025)	U (0.0021)	U (0.0023)	0.6134 J (0.0021)	120.46 J (0.65)	21.088 J (0.12)	3.433 J (0.15)	0.0885 J (0.13)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-F08-d	202-F08-d	202-F08-d	202-F08-d	202-F09-d	202-F09-d	202-F09-d	202-F09-d	202-F10-a	202-F10-c	202-F10-c	202-F10-c	202-F10-c	202-F11-c	202-F11-d
Cell	Soil Direct Contact	Soil to	202-F08	202-F08	202-F08	202-F08	202-F09	202-F09	202-F09	202-F09	202-F10	202-F10	202-F10	202-F10	202-F10	202-F11	202-F11
Field Sample ID	Numeric Value	Groundwater	202-F08-C1-VOC	202-F08-C2-VOC	202-F08-C3-VOC	202-F08-CX-VOC	202-F09-C1-VOC	202-F09-C2-VOC	202-F09-CX-VOC	202-F10-C2-VOC	202-F10-C1-VOC	202-F10-C3-VOC	202-F10-C4-VOC	202-F10-CX-VOC	202-F11-C1-VOC	202-F11-C2-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.8 - 0.9	1.1 - 1.2	2.4 - 2.6	3.0 - 3.2	0.6 - 0.8	2.1 - 2.3	4.3 - 4.4	2.1 - 2.3	0.9 - 1.1	3.7 - 3.8	5.2 - 5.3	5.8 - 5.9	0.9 - 1.1	3.0 - 3.2	
Sample Date	(mg/kg)	(mg/kg)	4/27/2022	4/27/2022	4/27/2022	4/27/2022	4/28/2022	4/28/2022	4/28/2022	4/6/2022	4/6/2022	4/6/2022	4/6/2022	4/6/2022	4/8/2022	4/8/2022	
VOCs																	
Benzene	280	0.5	U (0.00056)	U (0.00059)	U (0.00079)	U (0.00063)	U (0.0005)	U (0.0005)	U (0.00051)	U (0.00051)	0.00087 (0.00055)	0.0022 (0.00057)	0.0013 (0.00058)	U (0.00054)	U (0.0012)	U (0.0006)	
Cumene	10000	2500	U (0.0011)	U (0.0012)	U (0.0016)	U (0.0013)	U (0.001)	U (0.00099)	U (0.001)	U (0.001)	0.00034 J (0.0011)	0.00057 J (0.0011)	0.00047 J (0.0012)	U (0.0011)	U (0.0024)	U (0.0012)	
1,2-Dibromoethane	3.7	0.005	U (0.00056)	U (0.00059)	U (0.00079)	U (0.00063)	U (0.0005)	U (0.0005)	U (0.00051)	U (0.00051)	U (0.00055)	U (0.00057)	U (0.00058)	U (0.00054)	U (0.0012)	U (0.0006)	
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.0012)	U (0.0016)	U (0.0013)	U (0.001)	U (0.00099)	U (0.001)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.0011)	U (0.0024)	U (0.0012)	
Ethyl Benzene	880	70	U (0.0011)	U (0.0012)	U (0.0016)	U (0.0013)	U (0.001)	U (0.00099)	U (0.001)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.0011)	U (0.0024)	U (0.0012)	
Methyl tert-butyl ether	8500	2	U (0.0022)	U (0.0023)	U (0.0031)	U (0.0025)	U (0.002)	U (0.002)	U (0.002)	U (0.002)	0.0003 J (0.0022)	0.00028 J (0.0023)	0.0005 J (0.0023)	U (0.0021)	U (0.0048)	U (0.0024)	
Toluene	10000	100	U (0.0011)	U (0.0012)	U (0.0016)	U (0.0013)	U (0.001)	U (0.00099)	U (0.001)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.0011)	U (0.0024)	U (0.0012)	
1,2,4-Trimethylbenzene	4700	300	U (0.0022)	U (0.0023)	0.0006 J (0.0031)	U (0.0025)	U (0.002)	U (0.002)	U (0.002)	0.00036 J (0.002)	0.00069 J (0.0022)	0.00067 J (0.0023)	0.00097 J (0.0023)	U (0.0021)	U (0.0048)	U (0.0024)	
1,3,5-Trimethylbenzene	4700	93	U (0.0022)	U (0.0023)	U (0.0031)	U (0.0025)	U (0.002)	U (0.002)	U (0.002)	0.00028 J (0.002)	0.00068 J (0.0022)	0.00052 J (0.0023)	0.00079 J (0.0023)	U (0.0021)	0.0005 J (0.0048)	U (0.0024)	
Xylenes (total)	7900	1000	U (0.0022)	U (0.0023)	U (0.0031)	U (0.0025)	U (0.002)	U (0.002)	U (0.002)	U (0.002)	U (0.0022)	U (0.0023)	U (0.0023)	U (0.0021)	U (0.0048)	U (0.0024)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-F11-d	202-F11-d	202-F12-d	202-F12-d	202-F12-d	202-F12-d	202-F12-d	202-F13-a	202-F13-a	202-F13-a	202-F13-a	202-F13-a	202-F14-b	202-F14-b	202-F14-b
Cell	Soil Direct Contact	Soil to	202-F11	202-F11	202-F12	202-F12	202-F12	202-F12	202-F12	202-F13	202-F13	202-F13	202-F13	202-F13	202-F14	202-F14	202-F14
Field Sample ID	Numeric Value	Groundwater	202-F11-C3-VOC	202-F11-CX-VOC	202-F12-C1-VOC	202-F12-C2-VOC	202-F12-C3-VOC	202-F12-CX-VOC	202-F12-CX-VOC	202-F13-C1-VOC	202-F13-C2-VOC	202-F13-C3-VOC	202-F13-C4-VOC	202-F13-CX-VOC	202-F14-C1-VOC	202-F14-C2-VOC	202-F14-C3-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	5.5 - 5.6	6.1 - 6.2	0.6 - 0.8	2.1 - 2.3	3.7 - 3.8	4.3 - 4.4	0.8 - 0.9	1.5 - 1.7	2.7 - 2.9	4.0 - 4.1	5.2 - 5.3	0.6 - 0.8	1.5 - 1.7	2.6 - 2.7	
Sample Date	(mg/kg)	(mg/kg)	4/8/2022	4/8/2022	4/12/2022	4/12/2022	4/12/2022	4/12/2022	4/8/2022	4/8/2022	4/8/2022	4/8/2022	4/8/2022	4/8/2022	4/6/2022	4/6/2022	4/6/2022
VOCs																	
Benzene	280	0.5	U (0.035)	U (0.00057)	U (0.00056)	U (0.00058)	U (0.00063)	U (0.00053)	U (0.04)	U (0.027)	0.00031 J (0.00061)	0.062 (0.04)	0.0011 (0.00088)	U (0.00078)	U (0.076)	U (0.00079)	
Cumene	10000	2500	U (0.071)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.0011)	0.16 (0.08)	0.031 J (0.054)	0.019 (0.0012)	0.069 J (0.079)	0.073 (0.0018)	0.00025 J (0.0016)	U (0.15)	U (0.0016)	
1,2-Dibromoethane	3.7	0.005	U (0.035)	U (0.00057)	U (0.00056)	U (0.00058)	U (0.00063)	U (0.00053)	U (0.04)	U (0.027)	U (0.00061)	U (0.04)	U (0.00088)	U (0.00078)	U (0.076)	U (0.00079)	
1,2-Dichloroethane	85	0.5	U (0.071)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.0011)	U (0.08)	U (0.054)	U (0.0012)	U (0.079)	U (0.0018)	U (0.0016)	U (0.15)	U (0.0016)	
Ethyl Benzene	880	70	U (0.071)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.0011)	0.042 J (0.08)	0.021 J (0.054)	0.0098 (0.0012)	0.079 (0.079)	0.00053 J (0.0018)	U (0.0016)	U (0.15)	U (0.0016)	
Methyl tert-butyl ether	8500	2	U (0.14)	U (0.0023)	U (0.0022)	U (0.0023)	U (0.0025)	U (0.0021)	U (0.16)	U (0.11)	U (0.0024)	U (0.16)	U (0.0035)	U (0.0031)	U (0.3)	U (0.0032)	
Toluene	10000	100	U (0.071)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.0013)	U (0.0011)	0.044 J (0.08)	0.043 J (0.054)	U (0.0012)	0.17 (0.079)	U (0.0018)	U (0.0016)	0.35 (0.15)	U (0.0016)	
1,2,4-Trimethylbenzene	4700	300	U (0.14)	U (0.0023)	U (0.0022)	U (0.0023)	U (0.0025)	U (0.0021)	0.22 (0.16)	0.082 J (0.11)	0.072 (0.0024)	0.43 (0.16)	0.0022 J (0.0035)	0.03 (0.0031)	0.47 (0.3)	U (0.0032)	
1,3,5-Trimethylbenzene	4700	93	U (0.14)	U (0.0023)	U (0.0022)	U (0.0023)	U (0.0025)	U (0.0021)	0.086 J (0.16)	0.024 J (0.11)	0.069 (0.0024)	0.27 (0.16)	0.0022 J (0.0035)	0.024 (0.0031)	0.38 (0.3)	U (0.0032)	
Xylenes (total)	7900	1000	U (0.14)	U (0.0023)	U (0.0022)	U (0.0023)	U (0.0025)	U (0.0021)	0.106 J (0.16)	0.082 J (0.11)	0.0136 J (0.0024)	0.35 J (0.16)	U (0.0035)	U (0.0031)	U (0.3)	U (0.0032)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-F14-b	202-F15-c	202-F15-c	202-F15-c	202-F15-c	202-F15-c	202-F15-c	202-F16-a	202-F16-a	202-F16-b	202-F16-b	202-F16-b	202-F17-a	202-F17-a	202-F17-a
Cell	Soil Direct Contact	Soil to	202-F14	202-F15	202-F15	202-F15	202-F15	202-F15	202-F15	202-F16	202-F16	202-F16	202-F16	202-F16	202-F17	202-F17	202-F17
Field Sample ID	Numeric Value	Groundwater	202-F14-CX-VOC	202-F15-C1-VOC	202-F15-C2-VOC	202-F15-C3-VOC	202-F15-C4-VOC	202-F15-CX-VOC	202-F15-C4-VOC	202-F16-C1-VOC	202-F16-C2-VOC	202-F16-C3-VOC	202-F16-C4-VOC	202-F16-CX-VOC	202-F17-C1-VOC	202-F17-C2-VOC	202-F17-C3-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	3.0 - 3.2	0.3 - 0.5	0.6 - 0.8	1.2 - 1.4	1.7 - 1.8	2.1 - 2.3	0.2 - 0.3	0.5 - 0.6	0.8 - 0.9	1.2 - 1.4	1.8 - 2.0	0.2 - 0.3	0.8 - 0.9	1.4 - 1.5	
Sample Date	(mg/kg)	(mg/kg)	4/6/2022	3/18/2022	3/18/2022	3/18/2022	3/18/2022	3/18/2022	3/16/2022	3/16/2022	3/16/2022	3/16/2022	3/16/2022	3/16/2022	3/16/2022	3/16/2022	
VOCs																	
Benzene	280	0.5	U (0.00048)	U (0.00052)	U (0.0006)	U (0.0008)	U (0.00054)	U (0.00057)	U (0.0006)	U (0.00063)	U (0.00061)	U (0.00049)	U (0.00058)	U (0.00052)	U (0.00062)	U (0.00056)	
Cumene	10000	2500	0.00013 J (0.00096)	U (0.001)	0.00037 J (0.0012)	U (0.0016)	U (0.0011)	U (0.0012)	U (0.0012)	U (0.0012)	U (0.0012)	U (0.00097)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0011)	
1,2-Dibromoethane	3.7	0.005	U (0.00048)	U (0.00052)	U (0.0006)	U (0.0008)	U (0.00054)	U (0.00057)	U (0.0006)	U (0.00063)	U (0.00061)	U (0.00049)	U (0.00058)	U (0.00052)	U (0.00062)	U (0.00056)	
1,2-Dichloroethane	85	0.5	U (0.00096)	U (0.001)	U (0.0012)	U (0.0016)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.0012)	U (0.0012)	U (0.00097)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0011)	
Ethyl Benzene	880	70	U (0.00096)	U (0.001)	0.00019 J (0.0012)	U (0.0016)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.0012)	U (0.0012)	U (0.00097)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0011)	
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.0021)	U (0.0024)	U (0.0032)	U (0.0021)	U (0.0023)	U (0.0024)	U (0.0025)	U (0.0024)	U (0.0019)	U (0.0023)	U (0.0021)	U (0.0025)	U (0.0022)	
Toluene	10000	100	U (0.00096)	U (0.001)	U (0.0012)	U (0.0016)	0.00073 J (0.0011)	U (0.0011)	U (0.0012)	U (0.0012)	U (0.0012)	U (0.00097)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0011)	
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	U (0.0021)	0.0086 (0.0024)	U (0.0032)	U (0.0021)	U (0.0023)	U (0.0024)	U (0.0025)	U (0.0024)	U (0.0019)	U (0.0023)	U (0.0021)	U (0.0025)	U (0.0022)	
1,3,5-Trimethylbenzene	4700	93	0.00019 J (0.0019)	U (0.0021)	0.0045 (0.0024)	U (0.0032)	U (0.0021)	U (0.0023)	U (0.0024)	U (0.0025)	U (0.0024)	U (0.0019)	U (0.0023)	U (0.0021)	U (0.0025)	U (0.0022)	
Xylenes (total)	7900	1000	U (0.0019)	U (0.0021)	0.0019 J (0.0024)	U (0.0032)	U (0.0021)	U (0.0023)	U (0.0024)	U (0.0025)	U (0.0024)	U (0.0019)	U (0.0023)	U (0.0021)	U (0.0025)	U (0.0022)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-F17-a	202-G01-d	202-G01-d	202-G01-d	202-G01-d	202-G01-d	202-G02-b	202-G02-c	202-G02-c	202-G02-c	202-G02-c	202-G03-a	202-G03-c	202-G03-c	202-G03-c
Cell	Soil Direct Contact	Soil to	202-F17	202-G01	202-G01	202-G01	202-G01	202-G01	202-G02	202-G02	202-G02	202-G02	202-G02	202-G03	202-G03	202-G03	202-G03
Field Sample ID	Numeric Value	Groundwater	202-F17-CX-VOC	202-G01-C1-VOC	202-G01-C2-VOC	202-G01-C3-VOC	202-G01-CX-VOC	202-G02-C1-VOC	202-G02-C2-VOC	202-G02-C3-VOC	202-G02-C4-VOC	202-G02-CX-VOC	202-G03-C1-VOC	202-G03-C2-VOC	202-G03-C3-VOC	202-G03-CX-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.1 - 2.3	0.5 - 0.6	1.1 - 1.2	1.5 - 1.7	2.1 - 2.3	0.2 - 0.3	0.6 - 0.8	1.1 - 1.2	1.5 - 1.7	2.0 - 2.1	0.2 - 0.3	1.8 - 2.0	2.4 - 2.6	3.2 - 3.4	
Sample Date	(mg/kg)	(mg/kg)	3/16/2022	3/14/2022	3/14/2022	3/14/2022	3/14/2022	3/14/2022	3/14/2022	3/14/2022	3/14/2022	3/14/2022	3/11/2022	3/11/2022	3/11/2022	3/11/2022	
VOCs																	
Benzene	280	0.5	U (0.00056)	U (0.00053)	U (0.00074)	U (0.00048)	U (0.00064)	U (0.00049)	U (0.00057)	U (0.00053)	U (0.00072)	U (0.00064)	U (0.00083)	U (0.00066)	U (0.00065)	U (0.00064)	
Cumene	10000	2500	U (0.0011)	U (0.001)	U (0.0015)	U (0.00097)	U (0.0013)	U (0.00098)	U (0.0011)	U (0.001)	U (0.0014)	U (0.0013)	U (0.0016)	U (0.0013)	U (0.0013)	U (0.0013)	
1,2-Dibromoethane	3.7	0.005	U (0.00056)	U (0.00053)	U (0.00074)	U (0.00048)	U (0.00064)	U (0.00049)	U (0.00057)	U (0.00053)	U (0.00072)	U (0.00064)	U (0.00083)	U (0.00066)	U (0.00065)	U (0.00064)	
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.001)	U (0.0015)	U (0.00097)	U (0.0013)	U (0.00098)	U (0.0011)	U (0.001)	U (0.0014)	U (0.0013)	U (0.0016)	U (0.0013)	U (0.0013)	U (0.0013)	
Ethyl Benzene	880	70	U (0.0011)	U (0.001)	U (0.0015)	U (0.00097)	U (0.0013)	U (0.00098)	U (0.0011)	U (0.001)	U (0.0014)	U (0.0013)	U (0.0016)	U (0.0013)	U (0.0013)	U (0.0013)	
Methyl tert-butyl ether	8500	2	U (0.0022)	U (0.0021)	U (0.003)	U (0.0019)	U (0.0026)	U (0.002)	U (0.0023)	U (0.0021)	U (0.0029)	U (0.0025)	U (0.0033)	U (0.0026)	U (0.0026)	U (0.0026)	
Toluene	10000	100	U (0.0011)	U (0.001)	U (0.0015)	U (0.00097)	U (0.0013)	U (0.00098)	U (0.0011)	U (0.001)	U (0.0014)	U (0.0013)	U (0.0016)	U (0.0013)	U (0.0013)	U (0.0013)	
1,2,4-Trimethylbenzene	4700	300	U (0.0022)	U (0.0021)	U (0.003)	U (0.0019)	U (0.0026)	U (0.002)	U (0.0023)	U (0.0021)	U (0.0029)	U (0.0025)	U (0.0033)	U (0.0026)	U (0.0026)	U (0.0026)	
1,3,5-Trimethylbenzene	4700	93	U (0.0022)	U (0.0021)	U (0.003)	U (0.0019)	U (0.0026)	U (0.002)	U (0.0023)	U (0.0021)	U (0.0029)	U (0.0025)	U (0.0033)	U (0.0026)	U (0.0026)	U (0.0026)	
Xylenes (total)	7900	1000	U (0.0022)	U (0.0021)	U (0.003)	U (0.0019)	U (0.0026)	U (0.002)	U (0.0023)	U (0.0021)	U (0.0029)	U (0.0025)	U (0.0033)	U (0.0026)	U (0.0026)	U (0.0026)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-G04-d	202-G04-d	202-G04-d	202-G04-d	202-G04-d	202-G04-d	202-G05-a	202-G05-a	202-G05-a	202-G05-a	202-G05-a	202-G06-a	202-G06-a	202-G06-a	202-G06-a
Cell	Soil Direct Contact	Soil to	202-G04	202-G04	202-G04	202-G04	202-G04	202-G04	202-G05	202-G05	202-G05	202-G05	202-G05	202-G06	202-G06	202-G06	202-G06
Field Sample ID	Numeric Value	Groundwater	202-G04-C1-VOC	202-G04-C2-VOC	202-G04-C3-VOC	202-G04-C4-VOC	202-G04-CX-VOC	202-G05-C1-VOC	202-G05-C2-VOC	202-G05-C3-VOC	202-G05-C4-VOC	202-G05-CX-VOC	202-G06-C1-VOC	202-G06-C2-VOC	202-G06-C3-VOC	202-G06-CX-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.5 - 0.6	1.2 - 1.4	1.5 - 1.7	2.4 - 2.6	3.0 - 3.2	0.3 - 0.5	0.8 - 0.9	1.8 - 2.0	2.4 - 2.6	3.0 - 3.2	0.2 - 0.3	0.6 - 0.8	1.2 - 1.4	1.7 - 1.8	
Sample Date	(mg/kg)	(mg/kg)	3/11/2022	3/11/2022	3/11/2022	3/11/2022	3/11/2022	3/15/2022	3/15/2022	3/15/2022	3/15/2022	3/15/2022	3/15/2022	3/21/2022	3/21/2022	3/21/2022	
VOCs																	
Benzene	280	0.5	U (0.00066)	U (0.00046)	U (0.00066)	U (0.001)	U (0.0008)	U (0.00061)	U (0.00056)	U (0.00057)	U (0.00058)	U (0.00037)	U (0.00055)	U (0.00055)	U (0.00058)	U (0.00058)	
Cumene	10000	2500	U (0.0013)	U (0.00092)	U (0.0013)	U (0.002)	U (0.0016)	U (0.0012)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.00074)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.0012)	
1,2-Dibromoethane	3.7	0.005	U (0.00066)	U (0.00046)	U (0.00066)	U (0.001)	U (0.0008)	U (0.00061)	U (0.00056)	U (0.00057)	U (0.00058)	U (0.00037)	U (0.00055)	U (0.00055)	U (0.00058)	U (0.00058)	
1,2-Dichloroethane	85	0.5	U (0.0013)	U (0.00092)	U (0.0013)	U (0.002)	U (0.0016)	U (0.0012)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.00074)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.0012)	
Ethyl Benzene	880	70	U (0.0013)	U (0.00092)	U (0.0013)	U (0.002)	U (0.0016)	U (0.0012)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.00074)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.0012)	
Methyl tert-butyl ether	8500	2	U (0.0027)	U (0.0018)	U (0.0026)	U (0.0041)	U (0.0032)	U (0.0024)	U (0.0023)	U (0.0023)	U (0.0023)	U (0.0023)	U (0.0015)	U (0.0022)	U (0.0023)	U (0.0023)	
Toluene	10000	100	U (0.0013)	U (0.00092)	U (0.0013)	U (0.002)	U (0.0016)	U (0.0012)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.00074)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.0012)	
1,2,4-Trimethylbenzene	4700	300	U (0.0027)	U (0.0018)	U (0.0026)	U (0.0041)	U (0.0032)	U (0.0024)	U (0.0023)	U (0.0023)	U (0.0023)	U (0.0023)	U (0.0015)	U (0.0022)	0.00066 J (0.0023)	U (0.0023)	
1,3,5-Trimethylbenzene	4700	93	U (0.0027)	U (0.0018)	U (0.0026)	U (0.0041)	U (0.0032)	U (0.0024)	U (0.0023)	U (0.0023)	U (0.0023)	U (0.0023)	U (0.0015)	U (0.0022)	U (0.0022)	U (0.0023)	
Xylenes (total)	7900	1000	U (0.0027)	U (0.0018)	U (0.0026)	U (0.0041)	U (0.0032)	U (0.0024)	U (0.0023)	U (0.0023)	U (0.0023)	U (0.0023)	U (0.0015)	U (0.0022)	U (0.0022)	U (0.0023)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-G07-c	202-G07-c	202-G07-c	202-G07-c	202-G08-c	202-G08-c	202-G08-c	202-G08-c	202-G08-c	202-G09-a	202-G09-a	202-G09-a	202-G09-a	202-G10-b	202-G10-d
Cell	Soil Direct Contact	Soil to	202-G07	202-G07	202-G07	202-G07	202-G08	202-G08	202-G08	202-G08	202-G08	202-G09	202-G09	202-G09	202-G09	202-G10	202-G10
Field Sample ID	Numeric Value	Groundwater	202-G07-C1-VOC	202-G07-C2-VOC	202-G07-C3-VOC	202-G07-CX-VOC	202-G08-C1-VOC	202-G08-C2-VOC	202-G08-C3-VOC	202-G08-CX-VOC	202-G09-C1-VOC	202-G09-C2-VOC	202-G09-C3-VOC	202-G09-CX-VOC	202-G10-C1-VOC	202-G10-C2-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.2 - 0.3	0.9 - 1.1	1.5 - 1.7	1.8 - 2.0	0.8 - 0.9	1.8 - 2.0	2.7 - 2.9	3.4 - 3.5	0.2 - 0.3	0.8 - 0.9	1.4 - 1.5	2.1 - 2.3	0.8 - 0.9	4.6 - 4.7	
Sample Date	(mg/kg)	(mg/kg)	3/16/2022	3/16/2022	3/16/2022	3/16/2022	3/15/2022	3/15/2022	3/15/2022	3/15/2022	3/17/2022	3/17/2022	3/17/2022	3/17/2022	3/15/2022	3/15/2022	
VOCs																	
Benzene	280	0.5	U (0.0006)	0.00021 J (0.00047)	U (0.00052)	U (0.00055)	U (0.00057)	U (0.00067)	U (0.00052)	U (0.00059)	U (0.0005)	U (0.00062)	U (0.00079)	U (0.00056)	U (0.00053)	U (0.00057)	
Cumene	10000	2500	0.00017 J (0.0012)	U (0.00095)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0013)	U (0.001)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0016)	U (0.0011)	U (0.0011)	U (0.0011)	
1,2-Dibromoethane	3.7	0.005	U (0.0006)	U (0.00047)	U (0.00052)	U (0.00055)	U (0.00067)	U (0.00052)	U (0.00059)	U (0.0005)	U (0.00062)	U (0.00079)	U (0.00056)	U (0.00053)	U (0.00057)		
1,2-Dichloroethane	85	0.5	U (0.0012)	U (0.00095)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0013)	U (0.001)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0016)	U (0.0011)	U (0.0011)	U (0.0011)	
Ethyl Benzene	880	70	0.00026 J (0.0012)	U (0.00095)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0013)	U (0.001)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0016)	U (0.0011)	U (0.0011)	U (0.0011)	
Methyl tert-butyl ether	8500	2	U (0.0024)	U (0.0019)	U (0.0021)	U (0.0022)	U (0.0023)	U (0.0027)	U (0.0021)	U (0.0024)	U (0.002)	U (0.0025)	U (0.0032)	U (0.0022)	U (0.0021)	U (0.0023)	
Toluene	10000	100	U (0.0012)	U (0.00095)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0013)	U (0.001)	U (0.0012)	U (0.001)	U (0.0012)	U (0.0016)	U (0.0011)	U (0.0011)	U (0.0011)	
1,2,4-Trimethylbenzene	4700	300	0.0057 (0.0024)	U (0.0019)	U (0.0021)	U (0.0022)	U (0.0023)	U (0.0027)	U (0.0021)	U (0.0024)	U (0.002)	U (0.0025)	U (0.0032)	U (0.0022)	U (0.0021)	U (0.0023)	
1,3,5-Trimethylbenzene	4700	93	0.0017 J (0.0024)	U (0.0019)	U (0.0021)	U (0.0022)	U (0.0023)	U (0.0027)	U (0.0021)	U (0.0024)	U (0.002)	U (0.0025)	U (0.0032)	U (0.0022)	U (0.0021)	U (0.0023)	
Xylenes (total)	7900	1000	0.0019 J (0.0024)	U (0.0019)	U (0.0021)	U (0.0022)	U (0.0023)	U (0.0027)	U (0.0021)	U (0.0024)	U (0.002)	U (0.0025)	U (0.0032)	U (0.0022)	U (0.0021)	U (0.0023)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-G10-d	202-H01-b	202-H01-c	202-H01-c	202-H01-c	202-H01-c	202-H01-c	202-H02-c	202-H02-c	202-H02-c	202-H02-c	202-H02-c	202-H03-a	202-H03-a	202-H03-a
Cell	Soil Direct Contact	Soil to	202-G10	202-H01	202-H01	202-H01	202-H01	202-H01	202-H01	202-H02	202-H02	202-H02	202-H02	202-H02	202-H03	202-H03	202-H03
Field Sample ID	Numeric Value	Groundwater	202-G10-CX-VOC	202-H01-C4-VOC	202-H01-C1-VOC	202-H01-C2-VOC	202-H01-C3-VOC	202-H01-CX-VOC	202-H02-C1-VOC	202-H02-C2-VOC	202-H02-C3-VOC	202-H02-C4-VOC	202-H02-CX-VOC	202-H03-C1-VOC	202-H03-C2-VOC	202-H03-C3-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	5.5 - 5.6	4.9 - 5.0	0.8 - 0.9	1.8 - 2.0	2.1 - 2.3	4.3 - 4.4	0.2 - 0.3	1.2 - 1.4	3.0 - 3.2	3.7 - 3.8	4.6 - 4.7	0.5 - 0.6	2.4 - 2.6	4.7 - 4.9	
Sample Date	(mg/kg)	(mg/kg)	3/15/2022	4/11/2022	4/11/2022	4/11/2022	4/11/2022	4/11/2022	4/14/2022	4/14/2022	4/14/2022	4/14/2022	4/14/2022	4/13/2022	4/13/2022	4/13/2022	
VOCs																	
Benzene	280	0.5	U (0.00062)	U (0.034)	0.001 (0.00087)	U (0.077)	U (0.03)	0.0046 (0.00055)	0.12 (0.043)	U (0.033)	0.17 (0.08)	0.27 (0.035)	U (0.056)	0.0015 (0.00065)	0.0022 (0.0005)	0.02 (0.00056)	
Cumene	10000	2500	U (0.0012)	0.32 (0.069)	0.019 (0.0017)	0.8 (0.15)	2.9 (0.06)	0.012 (0.0011)	3.6 (0.087)	4.1 (0.066)	5.5 (0.16)	0.18 (0.07)	1.2 (0.11)	0.00064 J (0.0013)	0.00016 J (0.001)	0.0019 (0.0011)	
1,2-Dibromoethane	3.7	0.005	U (0.00062)	U (0.034)	U (0.00087)	U (0.077)	U (0.03)	U (0.00055)	U (0.043)	U (0.033)	U (0.08)	U (0.035)	U (0.056)	U (0.00065)	U (0.0005)	U (0.00056)	
1,2-Dichloroethane	85	0.5	U (0.0012)	U (0.069)	U (0.0017)	U (0.15)	U (0.06)	U (0.0011)	U (0.087)	U (0.066)	U (0.16)	U (0.07)	U (0.11)	U (0.0013)	U (0.001)	U (0.0011)	
Ethyl Benzene	880	70	U (0.0012)	0.047 J (0.069)	0.019 (0.0017)	0.33 (0.15)	0.48 (0.06)	0.00023 J (0.0011)	0.15 (0.087)	0.022 J (0.066)	0.75 (0.16)	1.9 (0.07)	3.3 (0.11)	U (0.0013)	U (0.001)	0.0026 (0.0011)	
Methyl tert-butyl ether	8500	2	U (0.0025)	U (0.14)	U (0.0035)	U (0.31)	U (0.12)	U (0.0022)	U (0.17)	U (0.13)	U (0.32)	U (0.14)	U (0.22)	U (0.0026)	U (0.002)	U (0.0022)	
Toluene	10000	100	U (0.0012)	0.06 J (0.069)	0.0035 (0.0017)	0.24 (0.15)	0.064 (0.06)	U (0.0011)	0.89 (0.087)	0.1 (0.066)	0.15 J (0.16)	0.43 (0.07)	0.18 (0.11)	U (0.0013)	U (0.001)	U (0.0011)	
1,2,4-Trimethylbenzene	4700	300	U (0.0025)	3.3 (0.14)	0.19 (0.0035)	8.2 (0.31)	38 (2.4)	0.0081 (0.0022)	0.26 (0.17)	0.36 (0.13)	67 (1.3)	5.9 (0.14)	38 (1.1)	0.014 (0.0026)	0.0053 (0.002)	0.015 (0.0022)	
1,3,5-Trimethylbenzene	4700	93	U (0.0025)	1.5 (0.14)	0.05 (0.0035)	2.6 (0.31)	13 (0.12)	0.0028 (0.0022)	0.093 J (0.17)	U (0.13)	0.15 J (0.32)	1.8 (0.14)	13 (0.22)	0.006 (0.0026)	0.0014 J (0.002)	0.0066 (0.0022)	
Xylenes (total)	7900	1000	U (0.0025)	0.1645 J (0.14)	0.055 J (0.0035)	1.96 J (0.31)	1.71 J (0.12)	0.00165 J (0.0022)	1.11 J (0.17)	0.096 J (0.13)	0.2 J (0.32)	9.2 J (0.14)	10.38 J (0.22)	0.013 J (0.0026)	0.0026 J (0.002)	0.0082 J (0.0022)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-H03-a 202-H03	202-H04-a 202-H04	202-H04-a 202-H04	202-H04-a 202-H04	202-H04-a 202-H04	202-H04-a 202-H04	202-H05-b 202-H05	202-H05-b 202-H05	202-H05-b 202-H05	202-H05-b 202-H05	202-H05-b 202-H05	202-H06-a 202-H06	202-H06-a 202-H06	202-H06-a 202-H06	202-H06-a 202-H06
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	202-H03-CX-VOC 5.2 - 5.3	202-H04-C1-VOC 0.0 - 0.2	202-H04-C2-VOC 1.7 - 1.8	202-H04-C3-VOC 3.4 - 3.5	202-H04-CX-VOC 5.0 - 5.2	202-H05-C1-VOC 0.3 - 0.5	202-H05-C2-VOC 0.9 - 1.1	202-H05-C3-VOC 1.8 - 2.0	202-H05-C4-VOC 2.4 - 2.6	202-H05-CX-VOC 3.0 - 3.2	202-H06-C1-VOC 0.5 - 0.6	202-H06-C2-VOC 1.4 - 1.5	202-H06-C3-VOC 3.2 - 3.4	202-H06-CX-VOC 4.0 - 4.1	
Collection Depth (ft bgs)	Sample Date	(mg/kg)	4/13/2022	4/13/2022	4/13/2022	4/13/2022	4/13/2022	4/11/2022	4/11/2022	4/11/2022	4/11/2022	4/11/2022	4/11/2022	4/27/2022	4/27/2022	4/27/2022	
VOCs																	
Benzene	280	0.5	0.011 (0.00064)	0.0015 (0.00086)	0.00041 J (0.00052)	0.0034 (0.0011)	0.0027 (0.00051)	U (0.00058)	U (0.0006)	U (0.00053)	U (0.00064)	U (0.00057)	U (0.00046)	U (0.00052)	U (0.00054)	U (0.0005)	
Cumene	10000	2500	0.0002 J (0.0013)	0.0043 (0.0017)	0.0062 (0.001)	0.53 (0.0022)	0.024 (0.001)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0013)	U (0.0011)	0.00072 J (0.00093)	0.00012 J (0.001)	U (0.0011)	0.00092 J (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.00064)	U (0.00086)	U (0.00052)	U (0.0011)	U (0.00051)	U (0.00058)	U (0.0006)	U (0.00053)	U (0.00064)	U (0.00057)	U (0.00046)	U (0.00052)	U (0.00054)	U (0.0005)	
1,2-Dichloroethane	85	0.5	U (0.0013)	U (0.0017)	U (0.001)	U (0.0022)	U (0.001)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0013)	U (0.0011)	U (0.00093)	U (0.001)	U (0.0011)	U (0.001)	
Ethyl Benzene	880	70	U (0.0013)	0.0011 J (0.0017)	0.00022 J (0.001)	0.15 (0.0022)	0.0058 (0.001)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0013)	U (0.0011)	0.0024 (0.00093)	0.00051 J (0.001)	0.00066 J (0.0011)	0.0042 (0.001)	
Methyl tert-butyl ether	8500	2	U (0.0026)	U (0.0035)	U (0.0021)	U (0.0043)	U (0.002)	U (0.0023)	U (0.0024)	U (0.0021)	U (0.0026)	U (0.0023)	U (0.0019)	U (0.0021)	U (0.0021)	U (0.002)	
Toluene	10000	100	U (0.0013)	0.0025 (0.0017)	U (0.001)	0.013 (0.0022)	U (0.001)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0013)	U (0.0011)	U (0.00093)	U (0.001)	U (0.0011)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	U (0.0026)	0.0034 J (0.0035)	0.0022 (0.0021)	0.24 (0.0043)	0.0038 (0.002)	U (0.0023)	0.00059 J (0.0024)	0.0004 J (0.0021)	U (0.0026)	U (0.0023)	0.0014 J (0.0019)	0.00036 J (0.0021)	U (0.0021)	0.0034 (0.002)	
1,3,5-Trimethylbenzene	4700	93	U (0.0026)	0.0018 J (0.0035)	0.00094 J (0.0021)	0.11 (0.0043)	0.0046 (0.002)	U (0.0023)	0.0013 J (0.0024)	0.0012 J (0.0021)	0.0012 J (0.0026)	U (0.0023)	0.00051 J (0.0019)	U (0.0021)	U (0.0021)	0.0015 J (0.002)	
Xylenes (total)	7900	1000	U (0.0026)	0.0071 J (0.0035)	0.00258 J (0.0021)	0.174 J (0.0043)	0.0026 J (0.002)	U (0.0023)	U (0.0024)	U (0.0021)	U (0.0026)	U (0.0023)	0.00543 J (0.0019)	0.0016 J (0.0021)	0.00195 J (0.0021)	0.00963 J (0.002)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-H07-d	202-H07-d	202-H07-d	202-H07-d	202-H08-b	202-H08-b	202-H08-b	202-H08-b	202-H08-b	202-H09-a	202-H09-a	202-H09-a	202-H09-a	202-H09-a
Cell	Soil Direct Contact	Soil to	202-H07	202-H07	202-H07	202-H07	202-H08	202-H08	202-H08	202-H08	202-H08	202-H09	202-H09	202-H09	202-H09	202-H09
Field Sample ID	Numeric Value	Groundwater	202-H07-C1-VOC	202-H07-C2-VOC	202-H07-C3-VOC	202-H07-CX-VOC	202-H08-C1-VOC	202-H08-C2-VOC	202-H08-C3-VOC	202-H08-C4-VOC	202-H08-CX-VOC	202-H09-C1-VOC	202-H09-C2-VOC	202-H09-C3-VOC	202-H09-C4-VOC	202-H09-CX-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.5 - 0.6	1.2 - 1.4	2.4 - 2.6	3.0 - 3.2	0.3 - 0.5	0.9 - 1.1	1.5 - 1.7	2.1 - 2.3	2.7 - 2.9	0.5 - 0.6	0.8 - 0.9	1.5 - 1.7	2.3 - 2.4	3.0 - 3.2
Sample Date	(mg/kg)	(mg/kg)	4/22/2022	4/22/2022	4/22/2022	4/22/2022	4/22/2022	4/22/2022	4/22/2022	4/22/2022	4/22/2022	4/27/2022	4/27/2022	4/27/2022	4/27/2022	4/27/2022
VOCs																
Benzene	280	0.5	U (0.00058)	0.00031 J (0.00058)	0.00083 (0.00053)	0.002 (0.00064)	U (0.00028)	U (0.00048)	0.023 (0.00041)	0.035 (0.00053)	0.02 (0.00051)	U (0.032)	U (0.076)	U (0.089)	U (0.039)	U (0.083)
Cumene	10000	2500	0.00035 J (0.0012)	U (0.0012)	U (0.0011)	0.00016 J (0.0013)	U (0.00057)	U (0.00095)	0.00044 J (0.00083)	0.00086 J (0.0011)	0.00045 J (0.001)	0.44 (0.064)	1.5 (0.15)	2.1 (0.18)	0.14 (0.077)	2.4 (0.16)
1,2-Dibromoethane	3.7	0.005	U (0.00058)	U (0.00058)	U (0.00053)	U (0.00064)	U (0.00028)	U (0.00048)	U (0.00041)	U (0.00053)	U (0.00051)	U (0.032)	U (0.076)	U (0.089)	U (0.039)	U (0.083)
1,2-Dichloroethane	85	0.5	U (0.0012)	U (0.0012)	U (0.0011)	U (0.0013)	U (0.00057)	U (0.00095)	U (0.00083)	U (0.0011)	U (0.001)	U (0.064)	U (0.15)	U (0.18)	U (0.077)	U (0.16)
Ethyl Benzene	880	70	0.0002 J (0.0012)	U (0.0012)	U (0.0011)	U (0.0013)	U (0.00057)	U (0.00095)	0.00013 J (0.00083)	0.00019 J (0.0011)	U (0.001)	2 (0.064)	5.7 (0.15)	41 (0.18)	1.5 (0.077)	6.8 (0.16)
Methyl tert-butyl ether	8500	2	U (0.0023)	U (0.0023)	U (0.0021)	U (0.0026)	U (0.0011)	U (0.0019)	0.0026 (0.0016)	0.0058 (0.0021)	0.0054 (0.002)	U (0.13)	U (0.3)	U (0.36)	U (0.15)	U (0.33)
Toluene	10000	100	U (0.0012)	U (0.0012)	U (0.0011)	U (0.0013)	U (0.00057)	U (0.00095)	0.00058 J (0.00083)	U (0.0011)	U (0.001)	0.071 (0.064)	0.12 J (0.15)	2.4 (0.18)	0.053 J (0.077)	U (0.16)
1,2,4-Trimethylbenzene	4700	300	0.0015 J (0.0023)	U (0.0023)	U (0.0021)	U (0.0026)	U (0.0011)	U (0.0019)	U (0.0016)	0.00036 J (0.0021)	U (0.002)	22 (0.26)	81 (0.61)	84 (0.71)	5.4 (0.15)	63 (0.66)
1,3,5-Trimethylbenzene	4700	93	0.00051 J (0.0023)	U (0.0023)	U (0.0021)	U (0.0026)	U (0.0011)	U (0.0019)	U (0.0016)	0.00032 J (0.0021)	U (0.002)	7 (0.13)	24 (0.3)	24 (0.36)	1.5 (0.15)	20 (0.33)
Xylenes (total)	7900	1000	0.00127 J (0.0023)	U (0.0023)	U (0.0021)	U (0.0026)	U (0.0011)	U (0.0019)	0.00164 J (0.0016)	0.00318 J (0.0021)	0.0018 J (0.002)	6.73 J (0.13)	27.3 J (0.3)	253 J (0.71)	8.2 J (0.15)	27.8 J (0.33)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-H10-d	202-H10-d	202-H10-d	202-H10-d	202-H11-b	202-H11-b	202-H11-b	202-H11-b	202-H11-b	202-H11-b	202-I01-b	202-I01-b	202-I01-b	202-I01-b	202-I02-b
Cell	Soil Direct Contact	Soil to	202-H10	202-H10	202-H10	202-H10	202-H11	202-H11	202-H11	202-H11	202-H11	202-H11	202-I01	202-I01	202-I01	202-I01	202-I02
Field Sample ID	Numeric Value	Groundwater	202-H10-C1-VOC	202-H10-C2-VOC	202-H10-C3-VOC	202-H10-CX-VOC	202-H11-C1-VOC	202-H11-C2-VOC	202-H11-C3-VOC	202-H11-C4-VOC	202-H11-CX-VOC	202-I01-C1-VOC	202-I01-C2-VOC	202-I01-C3-VOC	202-I01-CX-VOC	202-I02-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.6 - 0.8	1.8 - 2.0	3.0 - 3.2	4.0 - 4.1	1.1 - 1.2	1.8 - 2.0	3.0 - 3.2	4.6 - 4.7	6.1 - 6.2	0.3 - 0.5	1.8 - 2.0	2.7 - 2.9	3.4 - 3.5	0.8 - 0.9	
Sample Date	(mg/kg)	(mg/kg)	4/14/2022	4/14/2022	4/14/2022	4/14/2022	4/26/2022	4/26/2022	4/26/2022	4/26/2022	4/26/2022	3/18/2022	3/18/2022	3/18/2022	3/18/2022	4/25/2022	
VOCs																	
Benzene	280	0.5	0.25 (0.031)	0.067 (0.031)	0.57 (0.055)	0.031 (0.00067)	U (0.0006)	0.00016 J (0.00046)	U (0.00048)	U (0.15)	U (0.034)	U (0.00057)	U (0.00049)	U (0.00053)	U (0.00048)	U (0.00049)	
Cumene	10000	2500	2.2 (0.062)	0.41 (0.063)	4.2 (0.11)	0.072 (0.044)	U (0.0012)	0.00011 J (0.00092)	0.00049 J (0.00095)	0.16 J (0.3)	0.027 J (0.068)	U (0.0011)	U (0.00098)	U (0.0011)	U (0.00097)	U (0.00098)	
1,2-Dibromoethane	3.7	0.005	U (0.031)	U (0.031)	U (0.055)	U (0.00067)	U (0.0006)	U (0.00046)	U (0.00048)	U (0.15)	U (0.034)	U (0.00057)	U (0.00049)	U (0.00053)	U (0.00048)	U (0.00049)	
1,2-Dichloroethane	85	0.5	U (0.062)	U (0.063)	U (0.11)	U (0.0013)	U (0.0012)	U (0.00092)	U (0.00095)	U (0.3)	U (0.068)	U (0.0011)	U (0.00098)	U (0.0011)	U (0.00097)	U (0.00098)	
Ethyl Benzene	880	70	5.1 (0.062)	0.87 (0.063)	5.4 (0.11)	0.1 (0.044)	0.00034 J (0.0012)	U (0.00092)	U (0.00095)	U (0.3)	U (0.068)	U (0.0011)	U (0.00098)	U (0.0011)	U (0.00097)	U (0.00098)	
Methyl tert-butyl ether	8500	2	U (0.12)	U (0.12)	U (0.22)	0.00045 J (0.0027)	U (0.0024)	0.0004 J (0.0018)	U (0.0019)	U (0.59)	U (0.14)	U (0.0023)	U (0.002)	U (0.0021)	U (0.0019)	U (0.002)	
Toluene	10000	100	0.21 (0.062)	0.045 J (0.063)	0.18 (0.11)	U (0.0013)	U (0.0012)	U (0.00092)	U (0.00095)	U (0.3)	U (0.068)	U (0.0011)	U (0.00098)	U (0.0011)	U (0.00097)	U (0.00098)	
1,2,4-Trimethylbenzene	4700	300	23 (1.2)	4.5 (0.12)	57 (1.8)	0.98 (0.088)	0.00084 J (0.0024)	U (0.0018)	U (0.0019)	0.19 J (0.59)	U (0.14)	U (0.0023)	U (0.002)	U (0.0021)	U (0.0019)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	8.8 (0.12)	1.6 (0.12)	16 (0.22)	0.29 (0.088)	0.00033 J (0.0024)	U (0.0018)	0.00036 J (0.0019)	0.33 J (0.59)	0.031 J (0.14)	U (0.0023)	U (0.002)	U (0.0021)	U (0.0019)	U (0.002)	
Xylenes (total)	7900	1000	8.1 J (0.12)	2.629 J (0.12)	36.5 J (0.22)	0.552 J (0.088)	0.00138 J (0.0024)	U (0.0018)	U (0.0019)	U (0.59)	U (0.14)	U (0.0023)	U (0.002)	U (0.0021)	U (0.0019)	U (0.002)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-I02-b	202-I02-b	202-I02-c	202-I02-c	202-I03-c	202-I03-c	202-I03-c	202-I03-c	202-I04-a	202-I04-c	202-I04-c	202-I04-c	202-I05-d	202-I05-d	202-I05-d
Cell	Soil Direct Contact	Soil to	202-I02	202-I02	202-I02	202-I02	202-I03	202-I03	202-I03	202-I03	202-I04	202-I04	202-I04	202-I04	202-I05	202-I05	202-I05
Field Sample ID	Numeric Value	Groundwater	202-I02-C2-VOC	202-I02-C4-VOC	202-I02-C3-VOC	202-I02-CX-VOC	202-I03-C1-VOC	202-I03-C2-VOC	202-I03-CX-VOC	202-I04-C1-VOC	202-I04-C2-VOC	202-I04-C3-VOC	202-I04-CX-VOC	202-I05-C1-VOC	202-I05-C2-VOC	202-I05-C3-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.0 - 2.1	3.4 - 3.5	2.0 - 2.1	4.0 - 4.1	0.6 - 0.8	0.9 - 1.1	2.0 - 2.1	0.3 - 0.5	0.9 - 1.1	2.4 - 2.6	3.0 - 3.2	0.3 - 0.5	0.8 - 0.9	1.2 - 1.4	
Sample Date	(mg/kg)	(mg/kg)	4/25/2022	4/25/2022	4/25/2022	4/25/2022	3/17/2022	3/17/2022	3/17/2022	4/22/2022	4/22/2022	4/22/2022	4/22/2022	3/21/2022	3/21/2022	3/21/2022	
VOCs																	
Benzene	280	0.5	U (0.00041)	U (0.00053)	U (0.00056)	0.0012 (0.0006)	U (0.00058)	U (0.0005)	U (0.00049)	U (0.00069)	0.00035 J (0.00064)	U (0.00046)	0.0072 (0.00052)	U (0.00056)	U (0.00057)	U (0.00074)	
Cumene	10000	2500	U (0.00082)	U (0.001)	U (0.0011)	U (0.0012)	U (0.0012)	U (0.001)	U (0.00099)	U (0.0014)	U (0.0013)	U (0.00093)	0.00026 J (0.001)	U (0.0011)	U (0.0011)	U (0.0015)	
1,2-Dibromoethane	3.7	0.005	U (0.00041)	U (0.00053)	U (0.00056)	U (0.0006)	U (0.00058)	U (0.0005)	U (0.00049)	U (0.00069)	U (0.00064)	U (0.00046)	U (0.00052)	U (0.00056)	U (0.00057)	U (0.00074)	
1,2-Dichloroethane	85	0.5	U (0.00082)	U (0.001)	U (0.0011)	U (0.0012)	U (0.0012)	U (0.001)	U (0.00099)	U (0.0014)	U (0.0013)	U (0.00093)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0015)	
Ethyl Benzene	880	70	0.00012 J (0.00082)	U (0.001)	U (0.0011)	U (0.0012)	U (0.0012)	U (0.001)	U (0.00099)	U (0.0014)	U (0.0013)	U (0.00093)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0015)	
Methyl tert-butyl ether	8500	2	U (0.0016)	U (0.0021)	0.01 (0.0022)	0.01 (0.0024)	U (0.0023)	U (0.002)	U (0.002)	U (0.0028)	0.0017 J (0.0026)	0.00019 J (0.0018)	0.001 J (0.0021)	U (0.0022)	U (0.0023)	U (0.003)	
Toluene	10000	100	U (0.00082)	U (0.001)	U (0.0011)	U (0.0012)	U (0.0012)	U (0.001)	U (0.00099)	U (0.0014)	U (0.0013)	U (0.00093)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0015)	
1,2,4-Trimethylbenzene	4700	300	U (0.0016)	U (0.0021)	U (0.0022)	U (0.0024)	U (0.0023)	U (0.002)	U (0.002)	U (0.0028)	U (0.0026)	U (0.0018)	U (0.0021)	U (0.0022)	U (0.0023)	U (0.003)	
1,3,5-Trimethylbenzene	4700	93	U (0.0016)	U (0.0021)	U (0.0022)	U (0.0024)	U (0.0023)	U (0.002)	U (0.002)	U (0.0028)	U (0.0026)	U (0.0018)	U (0.0021)	U (0.0022)	U (0.0023)	U (0.003)	
Xylenes (total)	7900	1000	U (0.0016)	U (0.0021)	U (0.0022)	U (0.0024)	U (0.0023)	U (0.002)	U (0.002)	U (0.0028)	U (0.0026)	U (0.0018)	U (0.0021)	U (0.0022)	U (0.0023)	U (0.003)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-105-d	202-106-b	202-106-b	202-106-b	202-106-b	202-106-b	202-106-c	202-107-b	202-107-b	202-107-b	202-107-b	202-108-b	202-108-b	202-108-b	202-101-c
Cell	Soil Direct Contact	Soil to	202-105	202-106	202-106	202-106	202-106	202-106	202-106	202-107	202-107	202-107	202-107	202-108	202-108	202-108	202-101
Field Sample ID	Numeric Value	Groundwater	202-105-CX-VOC	202-106-C2-VOC	202-106-C3-VOC	202-106-C4-VOC	202-106-CX-VOC	202-106-C1-VOC	202-107-C1-VOC	202-107-C2-VOC	202-107-C3-VOC	202-107-CX-VOC	202-108-C1-VOC	202-108-C2-VOC	202-108-CX-VOC	202-101-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.8 - 2.0	2.3 - 2.4	3.4 - 3.5	4.6 - 4.7	5.2 - 5.3	1.1 - 1.2	0.3 - 0.5	1.1 - 1.2	2.4 - 2.6	3.2 - 3.4	1.2 - 1.4	2.1 - 2.3	4.3 - 4.4	0.6 - 0.8	
Sample Date	(mg/kg)	(mg/kg)	3/21/2022	3/17/2022	3/17/2022	3/17/2022	3/17/2022	3/17/2022	4/25/2022	4/25/2022	4/25/2022	4/25/2022	3/21/2022	3/21/2022	3/21/2022	4/26/2022	
VOCs																	
Benzene	280	0.5	U (0.0006)	U (0.0006)	U (0.00059)	U (0.00055)	U (0.00055)	U (0.0006)	U (0.0005)	0.00032 J (0.00053)	U (0.00057)	U (0.00051)	U (0.00059)	U (0.00058)	U (0.00049)	0.12 (0.026)	
Cumene	10000	2500	U (0.0012)	U (0.0012)	U (0.0012)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0012)	U (0.00098)	6 (0.053)	
1,2-Dibromoethane	3.7	0.005	U (0.0006)	U (0.0006)	U (0.00059)	U (0.00055)	U (0.00055)	U (0.0006)	U (0.0005)	U (0.00053)	U (0.00057)	U (0.00051)	U (0.00059)	U (0.00058)	U (0.00049)	U (0.026)	
1,2-Dichloroethane	85	0.5	U (0.0012)	U (0.0012)	U (0.0012)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0012)	U (0.00098)	U (0.053)	
Ethyl Benzene	880	70	U (0.0012)	U (0.0012)	U (0.0012)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.001)	U (0.0011)	0.0014 (0.0011)	0.0016 (0.001)	U (0.0012)	U (0.0012)	U (0.00098)	21 (5.3)	
Methyl tert-butyl ether	8500	2	U (0.0024)	U (0.0024)	U (0.0024)	U (0.0022)	U (0.0022)	U (0.0024)	U (0.002)	0.012 (0.0021)	U (0.0023)	U (0.002)	U (0.0024)	U (0.0023)	U (0.002)	U (0.11)	
Toluene	10000	100	U (0.0012)	U (0.0012)	U (0.0012)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.001)	U (0.0011)	0.00069 J (0.0011)	0.00082 J (0.001)	U (0.0012)	U (0.0012)	U (0.00098)	2.6 (0.053)	
1,2,4-Trimethylbenzene	4700	300	U (0.0024)	U (0.0024)	U (0.0024)	U (0.0022)	U (0.0022)	U (0.0024)	U (0.002)	U (0.0021)	U (0.0023)	U (0.002)	U (0.0024)	U (0.0023)	U (0.002)	38 (11)	
1,3,5-Trimethylbenzene	4700	93	U (0.0024)	U (0.0024)	U (0.0024)	U (0.0022)	U (0.0022)	U (0.0024)	U (0.002)	U (0.0021)	U (0.0023)	U (0.002)	U (0.0024)	U (0.0023)	U (0.002)	12 (0.11)	
Xylenes (total)	7900	1000	U (0.0024)	U (0.0024)	U (0.0024)	U (0.0022)	U (0.0022)	U (0.0024)	U (0.002)	U (0.0021)	0.0067 J (0.0023)	0.0087 J (0.002)	U (0.0024)	U (0.0023)	U (0.002)	67 J (11)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-J01-c 202-J01	202-J01-c 202-J01	202-J01-c 202-J01	202-J01-c 202-J01	202-J02-c 202-J02	202-J02-d 202-J02	202-J02-d 202-J02	202-J02-d 202-J02	202-J02-d 202-J02	202-J03-c 202-J03	202-J03-c 202-J03	202-J03-c 202-J03	202-J04-a 202-J04	202-J04-a 202-J04
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	202-J01-C2-VOC 1.4 - 1.5	202-J01-C3-VOC 2.9 - 3.0	202-J01-C4-VOC 4.3 - 4.4	202-J01-CX-VOC 4.9 - 5.0	202-J02-C1-VOC 0.2 - 0.3	202-J02-C2-VOC 2.1 - 2.3	202-J02-C3-VOC 3.0 - 3.2	202-J02-C4-VOC 4.9 - 5.0	202-J02-CX-VOC 5.5 - 5.6	202-J03-C1-VOC 1.4 - 1.5	202-J03-C2-VOC 2.7 - 2.9	202-J03-CX-VOC 3.4 - 3.5	202-J04-C1-VOC 0.5 - 0.6	202-J04-C2-VOC 0.9 - 1.1
Collection Depth (ft bgs)	Sample Date	(mg/kg)	4/26/2022	4/26/2022	4/26/2022	4/26/2022	4/21/2022	4/21/2022	4/21/2022	4/21/2022	4/21/2022	4/21/2022	4/21/2022	4/21/2022	4/26/2022	4/26/2022
VOCs																
Benzene	280	0.5	0.023 J (0.033)	U (0.00054)	0.096 (0.074)	0.12 J (0.13)	U (0.00048)	U (0.00058)	0.00058 (0.00052)	2.8 (0.029)	11 (0.059)	1.2 (0.039)	36 (0.65)	17 (0.17)	U (0.03)	0.085 J (0.16)
Cumene	10000	2500	4.4 (0.067)	0.00022 J (0.0011)	2.1 (0.15)	3.8 (0.27)	0.00036 J (0.00096)	U (0.0012)	U (0.001)	0.051 J (0.059)	1.4 (0.12)	0.28 (0.079)	32 (1.3)	8.8 (0.33)	0.3 (0.06)	8 (0.31)
1,2-Dibromoethane	3.7	0.005	U (0.033)	U (0.00054)	U (0.074)	U (0.13)	U (0.00048)	U (0.00058)	U (0.00052)	U (0.029)	U (0.059)	U (0.039)	U (0.65)	U (0.17)	U (0.03)	U (0.16)
1,2-Dichloroethane	85	0.5	U (0.067)	U (0.0011)	U (0.15)	U (0.27)	U (0.00096)	U (0.0012)	U (0.001)	U (0.059)	U (0.12)	U (0.079)	U (1.3)	U (0.33)	U (0.06)	U (0.31)
Ethyl Benzene	880	70	8.5 (0.067)	U (0.0011)	4.6 (0.15)	7 (0.27)	U (0.00096)	U (0.0012)	U (0.001)	1.6 (0.059)	27 (0.12)	2.2 (0.079)	180 (1.3)	80 (0.33)	0.38 (0.06)	5.1 (0.31)
Methyl tert-butyl ether	8500	2	U (0.13)	U (0.0022)	U (0.3)	U (0.53)	U (0.0019)	U (0.0023)	U (0.0021)	U (0.12)	U (0.24)	U (0.16)	U (2.6)	U (0.66)	U (0.12)	U (0.63)
Toluene	10000	100	0.48 (0.067)	U (0.0011)	1.1 (0.15)	0.64 (0.27)	U (0.00096)	U (0.0012)	U (0.001)	2.5 (0.059)	44 (0.59)	0.18 (0.079)	80 (1.3)	92 (0.33)	U (0.06)	0.36 (0.31)
1,2,4-Trimethylbenzene	4700	300	20 (0.13)	0.0012 J (0.0022)	36 (0.3)	53 (0.53)	0.0069 (0.0019)	U (0.0023)	0.00038 J (0.0021)	3 (0.12)	51 (1.2)	1.5 (0.16)	270 (2.6)	190 (1.3)	0.72 (0.12)	2.9 (0.63)
1,3,5-Trimethylbenzene	4700	93	8.6 (0.13)	0.00064 J (0.0022)	13 (0.3)	23 (0.53)	0.009 (0.0019)	0.00024 J (0.0023)	0.0003 J (0.0021)	1 (0.12)	20 (0.24)	0.74 (0.16)	100 (2.6)	61 (0.66)	0.38 (0.12)	2.2 (0.63)
Xylenes (total)	7900	1000	23.7 J (0.13)	U (0.0022)	30.3 J (0.3)	37.6 J (0.53)	U (0.0019)	U (0.0023)	U (0.0021)	8.7 J (0.12)	130 J (1.2)	7.8 J (0.16)	1060 J (130)	470 J (1.3)	0.84 J (0.12)	4.26 J (0.63)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-J04-a 202-J04	202-J04-a 202-J04	202-J04-a 202-J04	202-J05-d 202-J05	202-J05-d 202-J05	202-J05-d 202-J05	202-J06-b 202-J06	202-J06-c 202-J06	202-J06-c 202-J06	202-J06-d 202-J06	202-J07-c 202-J07	202-J07-c 202-J07	202-J07-c 202-J07	202-J07-c 202-J07
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	202-J04-C3-VOC 2.1 - 2.3	202-J04-C4-VOC 2.7 - 2.9	202-J04-CX-VOC 3.4 - 3.5	202-J05-C1-VOC 0.6 - 0.8	202-J05-C2-VOC 1.4 - 1.5	202-J05-CX-VOC 2.0 - 2.1	202-J06-C1-VOC 1.1 - 1.2	202-J06-C3-VOC 3.4 - 3.5	202-J06-CX-VOC 4.9 - 5.0	202-J06-C2-VOC 1.2 - 1.4	202-J07-C1-VOC 0.2 - 0.3	202-J07-C2-VOC 0.8 - 0.9	202-J07-C3-VOC 1.5 - 1.7	202-J07-CX-VOC 2.1 - 2.3
Collection Depth (ft bgs)	Sample Date	(mg/kg)	4/26/2022	4/26/2022	4/26/2022	4/25/2022	4/25/2022	4/25/2022	4/20/2022	4/20/2022	4/20/2022	4/20/2022	4/26/2022	4/26/2022	4/26/2022	4/26/2022
VOCs																
Benzene	280	0.5	0.0039 (0.00054)	0.042 (0.032)	U (0.00061)	U (0.00056)	U (0.0006)	U (0.0005)	U (0.00051)	U (0.00059)	U (0.00052)	U (0.00054)	0.0089 (0.00046)	0.39 (0.027)	0.0042 (0.00056)	1.6 (0.03)
Cumene	10000	2500	0.16 (0.0011)	3.4 (0.064)	U (0.0012)	U (0.0011)	U (0.0012)	U (0.00099)	U (0.001)	U (0.0012)	U (0.001)	U (0.0011)	0.00011 J (0.00092)	0.062 (0.055)	0.00049 J (0.0011)	1.3 (0.061)
1,2-Dibromoethane	3.7	0.005	U (0.00054)	U (0.032)	U (0.00061)	U (0.00056)	U (0.0006)	U (0.0005)	U (0.00051)	U (0.00059)	U (0.00052)	U (0.00054)	U (0.00046)	U (0.027)	U (0.00056)	U (0.03)
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.064)	U (0.0012)	U (0.0011)	U (0.0012)	U (0.00099)	U (0.001)	U (0.0012)	U (0.001)	U (0.0011)	U (0.00092)	U (0.055)	U (0.0011)	U (0.061)
Ethyl Benzene	880	70	0.11 (0.0011)	1.8 (0.064)	U (0.0012)	U (0.0011)	U (0.0012)	U (0.00099)	U (0.001)	U (0.0012)	U (0.001)	U (0.0011)	0.0015 (0.00092)	0.49 (0.055)	0.0042 (0.0011)	6 (0.061)
Methyl tert-butyl ether	8500	2	U (0.0022)	U (0.13)	U (0.0024)	U (0.0022)	U (0.0024)	U (0.002)	U (0.002)	U (0.0024)	U (0.0021)	U (0.0022)	U (0.0018)	U (0.11)	U (0.0022)	U (0.12)
Toluene	10000	100	0.011 (0.0011)	0.18 (0.064)	U (0.0012)	U (0.0011)	U (0.0012)	U (0.00099)	U (0.001)	U (0.0012)	U (0.001)	U (0.0011)	U (0.00092)	0.06 (0.055)	U (0.0011)	0.18 (0.061)
1,2,4-Trimethylbenzene	4700	300	0.012 (0.0022)	0.49 (0.13)	U (0.0024)	U (0.0022)	U (0.0024)	U (0.002)	U (0.002)	U (0.0024)	U (0.0021)	U (0.0022)	U (0.0018)	0.034 J (0.11)	0.0063 (0.0022)	2.5 (0.12)
1,3,5-Trimethylbenzene	4700	93	0.017 (0.0022)	0.57 (0.13)	U (0.0024)	U (0.0022)	U (0.0024)	U (0.002)	U (0.002)	U (0.0024)	U (0.0021)	U (0.0022)	U (0.0018)	0.043 J (0.11)	0.0026 (0.0022)	2.2 (0.12)
Xylenes (total)	7900	1000	0.0953 J (0.0022)	1.35 J (0.13)	U (0.0024)	U (0.0022)	U (0.0024)	U (0.002)	U (0.002)	U (0.0024)	U (0.0021)	U (0.0022)	0.00278 J (0.0018)	1.03 J (0.11)	0.0145 J (0.0022)	10.3 J (0.12)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	202-J08-a	202-J08-a	202-J08-a	202-J08-a	202-J09-c	202-J09-c	202-J09-c	202-J09-c	202-J09-c	202-J09-c	301-A01-d	301-AA01-c	301-AA01-c	301-AA01-c	301-AA01-c
Cell	Soil Direct Contact	Soil to	202-J08	202-J08	202-J08	202-J08	202-J09	202-J09	202-J09	202-J09	202-J09	202-J09	301-A01	301-AA01	301-AA01	301-AA01	301-AA01
Field Sample ID	Numeric Value	Groundwater	202-J08-C1-VOC	202-J08-C2-VOC	202-J08-C3-VOC	202-J08-CX-VOC	202-J09-C1-VOC	202-J09-C2-VOC	202-J09-C3-VOC	202-J09-C4-VOC	202-J09-CX-VOC	202-J09-CX-VOC	301-A01-C1-VOC	301-AA01-C1-VOC	301-AA01-C2-VOC	301-AA01-C3-VOC	301-AA01-C4-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.8 - 0.9	2.4 - 2.6	4.0 - 4.1	5.8 - 5.9	0.5 - 0.6	0.9 - 1.1	1.5 - 1.7	2.1 - 2.3	2.7 - 2.9	2.7 - 2.9	1.5 - 1.7	0.3 - 0.5	0.9 - 1.1	1.5 - 1.7	2.0 - 2.1
Sample Date	(mg/kg)	(mg/kg)	4/25/2022	4/25/2022	4/25/2022	4/25/2022	4/20/2022	4/20/2022	4/20/2022	4/20/2022	4/20/2022	4/20/2022	5/17/2022	6/10/2022	6/10/2022	6/10/2022	6/10/2022
VOCs																	
Benzene	280	0.5	U (0.001)	0.0024 (0.00054)	0.00068 (0.0005)	0.0064 (0.00047)	U (0.00067)	0.0091 (0.00092)	0.0004 J (0.0005)	U (0.00055)	U (0.00065)	0.0068 (0.00053)	U (0.00073)	U (0.00053)	U (0.023)	U (0.00046)	
Cumene	10000	2500	0.027 (0.002)	0.0071 (0.0011)	0.00058 J (0.00099)	0.00023 J (0.00093)	U (0.0013)	0.014 (0.0018)	U (0.001)	U (0.0011)	U (0.0013)	0.0025 (0.0011)	U (0.0015)	U (0.001)	0.037 J (0.046)	0.028 (0.00093)	
1,2-Dibromoethane	3.7	0.005	U (0.001)	U (0.00054)	U (0.0005)	U (0.00047)	U (0.00067)	U (0.00092)	U (0.0005)	U (0.00055)	U (0.00065)	U (0.00053)	U (0.00073)	U (0.00053)	U (0.023)	U (0.00046)	
1,2-Dichloroethane	85	0.5	U (0.002)	U (0.0011)	U (0.00099)	U (0.00093)	U (0.0013)	U (0.0018)	U (0.001)	U (0.0011)	U (0.0013)	U (0.0011)	U (0.0015)	U (0.001)	U (0.046)	U (0.00093)	
Ethyl Benzene	880	70	U (0.002)	U (0.0011)	U (0.00099)	0.00087 J (0.00093)	U (0.0013)	0.0042 (0.0018)	U (0.001)	U (0.0011)	U (0.0013)	0.003 (0.0011)	U (0.0015)	U (0.001)	0.028 J (0.046)	0.018 (0.00093)	
Methyl tert-butyl ether	8500	2	U (0.004)	U (0.0022)	U (0.002)	U (0.0019)	U (0.0027)	U (0.0037)	U (0.002)	U (0.0022)	U (0.0026)	U (0.0021)	U (0.0029)	U (0.0021)	U (0.093)	U (0.0019)	
Toluene	10000	100	U (0.002)	U (0.0011)	U (0.00099)	U (0.00093)	U (0.0013)	0.0034 (0.0018)	U (0.001)	U (0.0011)	U (0.0013)	0.0046 (0.0011)	U (0.0015)	U (0.001)	U (0.046)	U (0.00093)	
1,2,4-Trimethylbenzene	4700	300	0.0031 J (0.004)	U (0.0022)	U (0.002)	0.00057 J (0.0019)	0.0007 J (0.0027)	0.0074 (0.0037)	U (0.002)	U (0.0022)	U (0.0026)	0.028 (0.0021)	U (0.0029)	U (0.0021)	0.8 (0.093)	0.18 (0.0019)	
1,3,5-Trimethylbenzene	4700	93	U (0.004)	U (0.0022)	U (0.002)	U (0.0019)	0.00031 J (0.0027)	0.0028 J (0.0037)	U (0.002)	U (0.0022)	U (0.0026)	0.01 (0.0021)	U (0.0029)	U (0.0021)	0.12 (0.093)	0.038 (0.0019)	
Xylenes (total)	7900	1000	U (0.004)	U (0.0022)	U (0.002)	0.00127 J (0.0019)	U (0.0027)	0.0093 J (0.0037)	U (0.002)	U (0.0022)	U (0.0026)	0.024 J (0.0021)	U (0.0029)	U (0.0021)	0.07 J (0.093)	0.0195 J (0.0019)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-AA06-b	301-AA06-b	301-AA06-b	301-AA07-b	301-AA07-c	301-AA07-c	301-AA08-c	301-AA08-c	301-AA08-d	301-AA09-a	301-AA09-a	301-AA09-a	301-AA09-b	301-AA09-c
Cell	Soil Direct Contact	Soil to	301-AA06	301-AA06	301-AA06	301-AA07	301-AA07	301-AA07	301-AA08	301-AA08	301-AA08	301-AA09	301-AA09	301-AA09	301-AA09	301-AA09
Field Sample ID	Numeric Value	Groundwater	301-AA06-C1-VOC	301-AA06-C2-VOC	301-AA06-C3-VOC	301-AA07-C1-VOC	301-AA07-C2-VOC	301-AA07-C3-VOC	301-AA08-C2-VOC	301-AA08-C3-VOC	301-AA08-C1-VOC	301-AA09-C3-VOC	301-AA09-C4-VOC	301-AA09-C5-VOC	301-AA09-C2-VOC	301-AA09-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.3 - 0.5	0.9 - 1.1	1.5 - 1.7	0.3 - 0.5	2.0 - 2.1	2.4 - 2.6	2.7 - 2.9	4.0 - 4.1	1.2 - 1.4	1.4 - 1.5	2.1 - 2.3	2.7 - 2.9	0.6 - 0.8	0.2 - 0.3
Sample Date	(mg/kg)	(mg/kg)	5/31/2022	5/31/2022	5/31/2022	5/31/2022	5/31/2022	5/31/2022	5/25/2022	5/25/2022	5/25/2022	6/24/2022	6/24/2022	6/24/2022	6/24/2022	6/24/2022
VOCs																
Benzene	280	0.5	U (0.00049)	U (0.00054)	U (0.028)	U (0.062)	U (0.058)	U (0.031)	0.073 (0.034)	U (0.00062)	0.00018 J (0.00044)	0.00054 J (0.0011)	U (0.00091)	U (0.00084)	U (0.00076)	U (0.0011)
Cumene	10000	2500	U (0.00097)	U (0.0011)	0.19 (0.057)	0.83 (0.12)	0.24 (0.12)	U (0.062)	4.2 (0.068)	U (0.0012)	U (0.00087)	U (0.0022)	0.0014 J (0.0018)	0.00047 J (0.0017)	0.0092 (0.0015)	0.00029 J (0.0022)
1,2-Dibromoethane	3.7	0.005	U (0.00049)	U (0.00054)	U (0.028)	U (0.062)	U (0.058)	U (0.031)	U (0.034)	U (0.00062)	U (0.00044)	U (0.0011)	U (0.00091)	U (0.00084)	U (0.00076)	U (0.0011)
1,2-Dichloroethane	85	0.5	U (0.00097)	U (0.0011)	U (0.057)	U (0.12)	U (0.12)	U (0.062)	U (0.068)	U (0.0012)	U (0.00087)	U (0.0022)	U (0.0018)	U (0.0017)	U (0.0015)	U (0.0022)
Ethyl Benzene	880	70	U (0.00097)	U (0.0011)	0.019 J (0.057)	U (0.12)	U (0.12)	U (0.062)	1.4 (0.068)	U (0.0012)	U (0.00087)	U (0.0022)	0.0015 J (0.0018)	U (0.0017)	U (0.0015)	U (0.0022)
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.0022)	U (0.11)	U (0.25)	U (0.23)	U (0.12)	0.032 J (0.14)	U (0.0025)	U (0.0017)	U (0.0044)	U (0.0036)	U (0.0034)	U (0.003)	U (0.0044)
Toluene	10000	100	U (0.00097)	U (0.0011)	U (0.057)	U (0.12)	U (0.12)	U (0.062)	U (0.068)	U (0.0012)	U (0.00087)	U (0.0022)	U (0.0018)	U (0.0017)	U (0.0015)	U (0.0022)
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	U (0.0022)	0.05 J (0.11)	U (0.25)	U (0.23)	U (0.12)	26 (1.4)	U (0.0025)	U (0.0017)	U (0.0044)	0.011 (0.0036)	U (0.0034)	U (0.003)	U (0.0044)
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	U (0.0022)	0.016 J (0.11)	U (0.25)	U (0.23)	U (0.12)	9 (0.14)	U (0.0025)	U (0.0017)	U (0.0044)	0.0039 (0.0036)	U (0.0034)	U (0.003)	U (0.0044)
Xylenes (total)	7900	1000	U (0.0019)	U (0.0022)	0.076 J (0.11)	U (0.25)	U (0.23)	U (0.12)	3.77 J (0.14)	U (0.0025)	U (0.0017)	0.00287 J (0.0044)	0.0197 J (0.0036)	U (0.0034)	U (0.003)	U (0.0044)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-AB02-b	301-AB02-b	301-AB02-b	301-AB02-b	301-AB03-c	301-AB03-c	301-AB03-c	301-AB03-c	301-AB03-c	301-AB03-c	301-AB04-a	301-AB04-a	301-AB04-d	301-AB04-d	301-AB06-d
Cell	Soil Direct Contact	Soil to	301-AB02	301-AB02	301-AB02	301-AB02	301-AB03	301-AB03	301-AB03	301-AB03	301-AB03	301-AB03	301-AB04	301-AB04	301-AB04	301-AB04	301-AB06
Field Sample ID	Numeric Value	Groundwater	301-AB02-C1-VOC	301-AB02-C2-VOC	301-AB02-C3-VOC	301-AB02-C4-VOC	301-AB03-C1-VOC	301-AB03-C2-VOC	301-AB03-C3-VOC	301-AB03-C4-VOC	301-AB03-C5-VOC	301-AB04-C3-VOC	301-AB04-C4-VOC	301-AB04-C1-VOC	301-AB04-C2-VOC	301-AB06-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.2 - 0.3	0.8 - 0.9	1.4 - 1.5	2.1 - 2.3	0.2 - 0.3	0.5 - 0.6	0.8 - 0.9	1.4 - 1.5	1.7 - 1.8	2.9 - 3.0	4.6 - 4.7	0.6 - 0.8	0.9 - 1.1	0.8 - 0.9	
Sample Date	(mg/kg)	(mg/kg)	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/14/2022	6/14/2022	6/14/2022	6/2/2022	
VOCs																	
Benzene	280	0.5	U (0.00055)	U (0.00046)	0.00028 J (0.00055)	U (0.00055)	0.00036 J (0.00065)	0.0011 (0.00061)	0.00068 (0.0006)	0.01 (0.00066)	0.0018 (0.00066)	0.0028 (0.0006)	U (0.00053)	U (0.00073)	U (0.00059)	U (0.00085)	
Cumene	10000	2500	0.00018 J (0.0011)	0.032 (0.00093)	0.088 (0.0011)	0.015 (0.0011)	U (0.0013)	0.00022 J (0.0012)	0.00022 J (0.0012)	0.0027 (0.0013)	0.027 (0.0013)	U (0.0012)	U (0.0011)	U (0.0014)	U (0.0012)	U (0.0017)	
1,2-Dibromoethane	3.7	0.005	U (0.00055)	U (0.00046)	U (0.00055)	U (0.00055)	U (0.00065)	U (0.00061)	U (0.0006)	U (0.00066)	U (0.00066)	U (0.0006)	U (0.00053)	U (0.00073)	U (0.00059)	U (0.00085)	
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.00093)	U (0.0011)	U (0.0011)	U (0.0013)	U (0.0012)	U (0.0012)	U (0.0013)	U (0.0013)	U (0.0012)	U (0.0011)	U (0.0014)	U (0.0012)	U (0.0017)	
Ethyl Benzene	880	70	U (0.0011)	0.00046 J (0.00093)	0.00099 J (0.0011)	U (0.0011)	U (0.0013)	0.00028 J (0.0012)	U (0.0012)	0.0057 (0.0013)	0.00029 J (0.0013)	U (0.0012)	U (0.0011)	U (0.0014)	U (0.0012)	U (0.0017)	
Methyl tert-butyl ether	8500	2	U (0.0022)	U (0.0018)	U (0.0022)	U (0.0022)	U (0.0026)	U (0.0024)	U (0.0024)	U (0.0026)	U (0.0026)	U (0.0024)	U (0.0021)	U (0.0029)	U (0.0024)	U (0.0034)	
Toluene	10000	100	U (0.0011)	U (0.00093)	U (0.0011)	U (0.0011)	U (0.0013)	0.00066 J (0.0012)	U (0.0012)	0.002 (0.0013)	U (0.0013)	U (0.0012)	U (0.0011)	U (0.0014)	U (0.0012)	U (0.0017)	
1,2,4-Trimethylbenzene	4700	300	U (0.0022)	0.0023 (0.0018)	0.0037 (0.0022)	0.0006 J (0.0022)	U (0.0026)	0.0008 J (0.0024)	U (0.0024)	0.003 (0.0026)	0.0026 (0.0026)	U (0.0024)	U (0.0021)	U (0.0029)	U (0.0024)	U (0.0034)	
1,3,5-Trimethylbenzene	4700	93	U (0.0022)	0.0004 J (0.0018)	0.00052 J (0.0022)	U (0.0022)	U (0.0026)	0.00042 J (0.0024)	U (0.0024)	0.0016 J (0.0026)	0.00051 J (0.0026)	U (0.0024)	U (0.0021)	U (0.0029)	U (0.0024)	U (0.0034)	
Xylenes (total)	7900	1000	U (0.0022)	0.00137 J (0.0018)	0.00244 J (0.0022)	U (0.0022)	U (0.0026)	0.0013 J (0.0024)	U (0.0024)	0.0076 J (0.0026)	0.0036 J (0.0026)	U (0.0024)	U (0.0021)	U (0.0029)	U (0.0024)	U (0.0034)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-AB06-d	301-AB06-d	301-AB06-d	301-AB06-d	301-AB07-b	301-AB07-c	301-AB07-d	301-AB08-a	301-AB08-b	301-AB08-b	301-AB08-b	301-AB09-b	301-AC04-a	301-AC04-a
Cell	Soil Direct Contact	Soil to	301-AB06	301-AB06	301-AB06	301-AB06	301-AB07	301-AB07	301-AB07	301-AB08	301-AB08	301-AB08	301-AB08	301-AB09	301-AC04	301-AC04
Field Sample ID	Numeric Value	Groundwater	301-AB06-C2-VOC	301-AB06-C3-VOC	301-AB06-C4-VOC	301-AB06-C5-VOC	301-AB07-C1-VOC	301-AB07-C3-VOC	301-AB07-C2-VOC	301-AB08-C3-VOC	301-AB08-C1-VOC	301-AB08-C2-VOC	301-AB08-C4-VOC	301-AB09-C1-VOC	301-AC04-C1-VOC	301-AC04-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.9 - 1.1	1.8 - 2.0	2.7 - 2.9	3.7 - 3.8	1.4 - 1.5	4.1 - 4.3	2.3 - 2.4	3.0 - 3.2	0.2 - 0.3	0.6 - 0.8	1.4 - 1.5	1.4 - 1.5	0.2 - 0.3	0.4 - 0.5
Sample Date	(mg/kg)	(mg/kg)	6/2/2022	6/2/2022	6/2/2022	6/2/2022	5/26/2022	5/26/2022	5/26/2022	5/27/2022	5/27/2022	5/27/2022	5/27/2022	6/1/2022	6/13/2022	6/13/2022
VOCs																
Benzene	280	0.5	U (0.00058)	U (0.0005)	U (0.00054)	U (0.00061)	U (0.00055)	U (0.00047)	U (0.024)	U (0.00044)	U (0.00041)	0.0011 (0.00049)	0.00019 J (0.00049)	U (0.00053)	U (0.00094)	U (0.00062)
Cumene	10000	2500	0.00036 J (0.0012)	0.00022 J (0.00099)	U (0.0011)	U (0.0012)	U (0.0011)	U (0.00094)	0.058 (0.048)	U (0.00087)	U (0.00083)	0.0012 (0.00098)	0.002 (0.00097)	U (0.001)	U (0.0019)	0.00013 J (0.0012)
1,2-Dibromoethane	3.7	0.005	U (0.00058)	U (0.0005)	U (0.00054)	U (0.00061)	U (0.00055)	U (0.00047)	U (0.024)	U (0.00044)	U (0.00041)	U (0.00049)	U (0.00049)	U (0.00053)	U (0.00094)	U (0.00062)
1,2-Dichloroethane	85	0.5	U (0.0012)	U (0.00099)	U (0.0011)	U (0.0012)	U (0.0011)	U (0.00094)	U (0.048)	U (0.00087)	U (0.00083)	U (0.00098)	U (0.00097)	U (0.001)	U (0.0019)	U (0.0012)
Ethyl Benzene	880	70	U (0.0012)	U (0.00099)	U (0.0011)	U (0.0012)	U (0.0011)	U (0.00094)	U (0.048)	U (0.00087)	U (0.00083)	0.00061 J (0.00098)	0.00045 J (0.00097)	U (0.001)	U (0.0019)	U (0.0012)
Methyl tert-butyl ether	8500	2	U (0.0023)	U (0.002)	U (0.0022)	U (0.0024)	U (0.0022)	U (0.0019)	U (0.096)	U (0.0017)	U (0.0016)	U (0.002)	U (0.0019)	U (0.0021)	U (0.0038)	U (0.0025)
Toluene	10000	100	U (0.0012)	U (0.00099)	U (0.0011)	U (0.0012)	U (0.0011)	U (0.00094)	U (0.048)	U (0.00087)	U (0.00083)	U (0.00098)	U (0.00097)	U (0.001)	U (0.0019)	U (0.0012)
1,2,4-Trimethylbenzene	4700	300	U (0.0023)	U (0.002)	U (0.0022)	U (0.0024)	U (0.0022)	U (0.0019)	U (0.096)	U (0.0017)	U (0.0016)	0.0018 J (0.002)	0.005 (0.0019)	U (0.0021)	U (0.0038)	U (0.0025)
1,3,5-Trimethylbenzene	4700	93	U (0.0023)	U (0.002)	U (0.0022)	U (0.0024)	U (0.0022)	U (0.0019)	U (0.096)	U (0.0017)	U (0.0016)	0.00053 J (0.002)	0.0012 J (0.0019)	U (0.0021)	U (0.0038)	U (0.0025)
Xylenes (total)	7900	1000	U (0.0023)	U (0.002)	U (0.0022)	U (0.0024)	U (0.0022)	U (0.0019)	U (0.096)	U (0.0017)	U (0.0016)	0.00261 J (0.002)	0.0047 J (0.0019)	U (0.0021)	U (0.0038)	U (0.0025)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-AC04-a	301-AC04-a	301-AC04-a	301-AC05-c	301-AC05-c	301-AC05-c	301-AC05-c	301-AC05-c	301-AC05-c	301-AC06-b	301-AC06-b	301-AC06-c	301-AC06-d	301-AC06-d	301-AC07-d
Cell	Soil Direct Contact	Soil to	301-AC04	301-AC04	301-AC04	301-AC05	301-AC05	301-AC05	301-AC05	301-AC05	301-AC05	301-AC06	301-AC06	301-AC06	301-AC06	301-AC06	301-AC07
Field Sample ID	Numeric Value	Groundwater	301-AC04-C3-VOC	301-AC04-C4-VOC	301-AC04-C5-VOC	301-AC05-C1-VOC	301-AC05-C2-VOC	301-AC05-C3-VOC	301-AC05-C4-VOC	301-AC05-C5-VOC	301-AC06-C1-VOC	301-AC06-C5-VOC	301-AC06-C2-VOC	301-AC06-C3-VOC	301-AC06-C4-VOC	301-AC07-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.8 - 0.9	1.2 - 1.4	1.7 - 1.8	0.3 - 0.5	0.8 - 0.9	1.1 - 1.2	1.7 - 1.8	2.1 - 2.3	0.5 - 0.6	3.2 - 3.4	0.9 - 1.1	1.7 - 1.8	2.7 - 2.9	0.0 - 0.2	
Sample Date	(mg/kg)	(mg/kg)	6/13/2022	6/13/2022	6/13/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	5/27/2022	5/27/2022	5/27/2022	5/27/2022	5/27/2022	6/1/2022	
VOCs																	
Benzene	280	0.5	U (0.0005)	0.062 J (0.13)	U (0.052)	U (0.00084)	U (0.00059)	U (0.00041)	U (0.00061)	U (0.00041)	U (0.00049)	0.00018 J (0.0005)	U (0.00044)	U (0.00048)	U (0.00046)	0.0019 (0.00056)	
Cumene	10000	2500	0.00016 J (0.001)	4.5 (0.25)	2.8 (0.1)	U (0.0017)	0.00024 J (0.0012)	U (0.00082)	U (0.0012)	U (0.00083)	U (0.00098)	U (0.00099)	U (0.00089)	U (0.00097)	U (0.00092)	U (0.0011)	
1,2-Dibromoethane	3.7	0.005	U (0.0005)	U (0.13)	U (0.052)	U (0.00084)	U (0.00059)	U (0.00041)	U (0.00061)	U (0.00041)	U (0.00049)	U (0.0005)	U (0.00044)	U (0.00048)	U (0.00046)	U (0.00056)	
1,2-Dichloroethane	85	0.5	U (0.001)	U (0.25)	U (0.1)	U (0.0017)	U (0.0012)	U (0.00082)	U (0.0012)	U (0.00083)	U (0.00098)	U (0.00099)	U (0.00089)	U (0.00097)	U (0.00092)	U (0.0011)	
Ethyl Benzene	880	70	U (0.001)	0.059 J (0.25)	U (0.1)	0.00035 J (0.0017)	0.00061 J (0.0012)	U (0.00082)	U (0.0012)	U (0.00083)	U (0.00098)	U (0.00099)	U (0.00089)	U (0.00097)	U (0.00092)	U (0.0011)	
Methyl tert-butyl ether	8500	2	U (0.002)	U (0.51)	U (0.21)	U (0.0033)	U (0.0024)	U (0.0016)	U (0.0024)	U (0.0016)	U (0.002)	U (0.002)	U (0.0018)	U (0.0019)	U (0.0018)	U (0.0022)	
Toluene	10000	100	U (0.001)	U (0.25)	U (0.1)	U (0.0017)	U (0.0012)	U (0.00082)	U (0.0012)	U (0.00083)	U (0.00098)	U (0.00099)	U (0.00089)	U (0.00097)	U (0.00092)	U (0.0011)	
1,2,4-Trimethylbenzene	4700	300	U (0.002)	U (0.51)	U (0.21)	0.0007 J (0.0033)	0.0012 J (0.0024)	U (0.0016)	U (0.0024)	U (0.0016)	U (0.002)	U (0.002)	U (0.0018)	U (0.0019)	U (0.0018)	U (0.0022)	
1,3,5-Trimethylbenzene	4700	93	U (0.002)	U (0.51)	U (0.21)	0.00038 J (0.0033)	0.00057 J (0.0024)	U (0.0016)	U (0.0024)	U (0.0016)	U (0.002)	U (0.002)	U (0.0018)	U (0.0019)	U (0.0018)	U (0.0022)	
Xylenes (total)	7900	1000	U (0.002)	0.265 J (0.51)	U (0.21)	0.00258 J (0.0033)	0.0027 J (0.0024)	U (0.0016)	U (0.0024)	U (0.0016)	U (0.002)	U (0.002)	U (0.0018)	U (0.0019)	U (0.0018)	U (0.0022)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-AC07-d 301-AC07	301-AC07-d 301-AC07	301-AC07-d 301-AC07	301-AC07-d 301-AC07	301-AC08-b 301-AC08	301-AC08-b 301-AC08	301-AC08-d 301-AC08	301-AC08-d 301-AC08	301-AC08-d 301-AC08	301-AC09-a 301-AC09	301-AC09-a 301-AC09	301-AC09-a 301-AC09	301-B01-c 301-B01	301-C01-b 301-C01
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	301-AC07-C2-VOC 0.3 - 0.4	301-AC07-C3-VOC 0.5 - 0.6	301-AC07-C4-VOC 0.6 - 0.8	301-AC07-C5-VOC 0.9 - 1.0	301-AC08-C1-VOC 0.0 - 0.2	301-AC08-C2-VOC 0.2 - 0.3	301-AC08-C3-VOC 0.3 - 0.5	301-AC08-C4-VOC 0.9 - 1.1	301-AC08-C5-VOC 1.2 - 1.4	301-AC09-C1-VOC 0.2 - 0.3	301-AC09-C2-VOC 0.6 - 0.8	301-AC09-C3-VOC 1.1 - 1.2	301-B01-C1-VOC 1.2 - 1.4	301-C01-C1-VOC 0.3 - 0.5
Collection Depth (ft bgs)	Sample Date	Sample Date	6/1/2022	6/1/2022	6/1/2022	6/1/2022	6/3/2022	6/3/2022	6/3/2022	6/3/2022	6/3/2022	6/9/2022	6/9/2022	6/9/2022	5/17/2022	5/17/2022
VOCs																
Benzene	280	0.5	0.0035 (0.00056)	0.0013 J (0.0015)	0.0058 (0.00063)	0.0092 (0.0005)	U (0.00063)	U (0.00056)	U (0.00064)	U (0.00058)	U (0.00084)	U (0.00052)	U (0.00049)	U (0.00052)	0.028 (0.025)	8.1 (0.089)
Cumene	10000	2500	0.00029 J (0.0011)	U (0.003)	0.00022 J (0.0013)	0.00041 J (0.001)	U (0.0012)	U (0.0011)	U (0.0013)	U (0.0012)	U (0.0017)	U (0.001)	U (0.00099)	U (0.001)	0.48 (0.051)	79 (4.5)
1,2-Dibromoethane	3.7	0.005	U (0.00056)	U (0.0015)	U (0.00063)	U (0.0005)	U (0.00063)	U (0.00056)	U (0.00064)	U (0.00058)	U (0.00084)	U (0.00052)	U (0.00049)	U (0.00052)	U (0.025)	U (0.089)
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.003)	U (0.0013)	U (0.001)	U (0.0012)	U (0.0011)	U (0.0013)	U (0.0012)	U (0.0017)	U (0.001)	U (0.00099)	U (0.001)	U (0.051)	U (0.18)
Ethyl Benzene	880	70	0.00021 J (0.0011)	U (0.003)	U (0.0013)	0.00017 J (0.001)	U (0.0012)	U (0.0011)	U (0.0013)	U (0.0012)	U (0.0017)	U (0.001)	U (0.00099)	U (0.001)	0.027 J (0.051)	3.9 (0.18)
Methyl tert-butyl ether	8500	2	U (0.0022)	U (0.0059)	U (0.0025)	U (0.002)	U (0.0025)	U (0.0022)	U (0.0025)	U (0.0023)	U (0.0034)	U (0.0021)	U (0.002)	U (0.0021)	U (0.1)	U (0.36)
Toluene	10000	100	U (0.0011)	U (0.003)	U (0.0013)	0.00075 J (0.001)	U (0.0012)	U (0.0011)	U (0.0013)	U (0.0012)	U (0.0017)	U (0.001)	U (0.00099)	U (0.001)	U (0.051)	1.4 (0.18)
1,2,4-Trimethylbenzene	4700	300	U (0.0022)	U (0.0059)	U (0.0025)	0.00036 J (0.002)	U (0.0025)	U (0.0022)	U (0.0025)	U (0.0023)	U (0.0034)	U (0.0021)	U (0.002)	U (0.0021)	0.086 J (0.1)	0.98 (0.36)
1,3,5-Trimethylbenzene	4700	93	0.00027 J (0.0022)	U (0.0059)	0.0003 J (0.0025)	0.00066 J (0.002)	U (0.0025)	U (0.0022)	U (0.0025)	U (0.0023)	U (0.0034)	U (0.0021)	U (0.002)	U (0.0021)	0.018 J (0.1)	0.15 J (0.36)
Xylenes (total)	7900	1000	0.00135 J (0.0022)	U (0.0059)	0.00153 J (0.0025)	0.00185 J (0.002)	U (0.0025)	U (0.0022)	U (0.0025)	U (0.0023)	U (0.0034)	U (0.0021)	U (0.002)	U (0.0021)	0.109 J (0.1)	6.27 J (0.36)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-C02-a	301-C02-d	301-D01-c	301-D01-c	301-D01-c	301-D01-c	301-D01-c	301-D01-f	301-E01-a	301-E02-a	301-E02-a	301-E02-a	301-E02-d	301-E02-d	301-E02-e
Cell	Soil Direct Contact	Soil to	301-C02	301-C02	301-D01	301-D01	301-D01	301-D01	301-D01	301-D01	301-E01	301-E02	301-E02	301-E02	301-E02	301-E02	301-E02
Field Sample ID	Numeric Value	Groundwater	301-C02-C1-VOC	301-C02-C2-VOC	301-D01-C1-VOC	301-D01-C2-VOC	301-D01-C3-VOC	301-D01-C4-VOC	301-D01-D1-VOC	301-E01-C1-VOC	301-E02-C2-VOC	301-E02-C3-VOC	301-E02-C4-VOC	301-E02-C1-VOC	301-E02-C5-VOC	301-E02-D1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.2 - 0.3	2.3 - 2.4	0.0 - 0.2	0.5 - 0.6	0.8 - 0.9	1.1 - 1.2	0.5 - 0.6	1.7 - 1.8	0.3 - 0.5	0.5 - 0.6	0.8 - 0.9	0.3 - 0.5	2.9 - 3.0	0.3 - 0.5	
Sample Date	(mg/kg)	(mg/kg)	6/3/2022	6/3/2022	6/6/2022	6/6/2022	6/6/2022	6/6/2022	3/28/2023	5/17/2022	6/7/2022	6/7/2022	6/7/2022	6/7/2022	6/7/2022	3/28/2023	
VOCs																	
Benzene	280	0.5	0.011 J (0.028)	0.39 J (0.55)	0.023 J (0.028)	0.00053 J (0.00057)	6.9 (0.046)	0.0099 J (0.029)	1.2 (0.029)	U (0.00046)	0.027 J (0.031)	0.086 (0.08)	0.021 J (0.031)	1.2 (0.095)	0.011 (0.00055)	200 (0.65)	
Cumene	10000	2500	0.14 (0.056)	56 (1.1)	0.21 (0.057)	0.00042 J (0.0011)	7.3 (0.093)	5.1 (0.058)	31 (0.29)	U (0.00093)	0.44 (0.062)	20 (0.16)	8.4 (0.062)	7.8 (0.19)	0.02 (0.0011)	24 (1.3)	
1,2-Dibromoethane	3.7	0.005	U (0.028)	U (0.55)	U (0.028)	U (0.00057)	U (0.046)	U (0.029)	U (0.029)	U (0.00046)	U (0.031)	U (0.08)	U (0.031)	U (0.095)	U (0.00055)	U (0.65)	
1,2-Dichloroethane	85	0.5	U (0.056)	U (1.1)	U (0.057)	U (0.0011)	U (0.093)	U (0.058)	U (0.059)	U (0.00093)	U (0.062)	U (0.16)	U (0.062)	U (0.19)	0.00037 J (0.0011)	6 (1.3)	
Ethyl Benzene	880	70	0.012 J (0.056)	4.2 (1.1)	0.16 (0.057)	0.0003 J (0.0011)	2.2 (0.093)	0.014 J (0.058)	7.7 (0.059)	U (0.00093)	0.04 J (0.062)	0.1 J (0.16)	0.32 (0.062)	0.43 (0.19)	0.002 (0.0011)	420 (13)	
Methyl tert-butyl ether	8500	2	U (0.11)	U (2.2)	U (0.11)	0.0034 (0.0023)	0.31 (0.19)	U (0.12)	U (0.12)	U (0.0019)	0.019 J (0.12)	U (0.32)	0.016 J (0.12)	U (0.38)	U (0.0022)	U (2.6)	
Toluene	10000	100	U (0.056)	U (1.1)	0.097 (0.057)	U (0.0011)	7.6 (0.093)	0.031 J (0.058)	0.41 (0.059)	U (0.00093)	U (0.062)	U (0.16)	0.043 J (0.062)	0.79 (0.19)	0.00088 J (0.0011)	2000 (13)	
1,2,4-Trimethylbenzene	4700	300	0.047 J (0.11)	2 J (2.2)	9.2 (0.11)	0.00084 J (0.0023)	1.7 (0.19)	21 (0.46)	4.8 (0.12)	U (0.0019)	U (0.12)	0.23 J (0.32)	0.17 (0.12)	0.41 (0.38)	0.008 (0.0022)	610 (26)	
1,3,5-Trimethylbenzene	4700	93	U (0.11)	0.72 J (2.2)	8 (0.11)	0.00036 J (0.0023)	0.48 (0.19)	6.4 (0.12)	0.76 (0.12)	U (0.0019)	U (0.12)	0.053 J (0.32)	0.098 J (0.12)	0.066 J (0.38)	0.0027 (0.0022)	210 (2.6)	
Xylenes (total)	7900	1000	0.069 J (0.11)	U (2.2)	2.17 J (0.11)	0.00122 J (0.0023)	9.3 J (0.19)	0.37 J (0.12)	2.67 J (0.12)	U (0.0019)	U (0.12)	0.46 J (0.32)	0.161 J (0.12)	1.1 J (0.38)	0.0076 J (0.0022)	2520 J (26)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-E03-b 301-E03	301-F01-c 301-F01	301-F01-c 301-F01	301-F01-d 301-F01	301-F01-d 301-F01	301-F01-d 301-F01	301-F01-d 301-F01	301-F02-a 301-F02	301-F02-b 301-F02	301-G01-a 301-G01	301-G01-b 301-G01	301-G01-c 301-G01	301-G02-a 301-G02	301-G02-b 301-G02
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	301-E03-C1-VOC 1.1 - 1.2	301-F01-C2-VOC 0.8 - 0.9	301-F01-C3-VOC 1.7 - 1.8	301-F01-C1-VOC 0.5 - 0.6	301-F01-C4-VOC 2.3 - 2.4	301-F01-C5-VOC 2.9 - 3.0	301-F01-D1-VOC 3.4 - 3.5	301-F02-C2-VOC 1.1 - 1.2	301-F02-C1-VOC 0.9 - 1.1	301-G01-C1-VOC 1.4 - 1.5	301-G01-C2-VOC 2.4 - 2.6	301-G01-D1-VOC 5.2 - 5.3	301-G02-C4-VOC 3.4 - 3.5	301-G02-C1-VOC 0.9 - 1.1
Collection Depth (ft bgs)	Sample Date	(mg/kg)	6/6/2022	5/18/2022	5/18/2022	5/18/2022	5/18/2022	5/18/2022	3/29/2023	6/6/2022	6/6/2022	5/18/2022	5/18/2022	3/30/2023	5/19/2022	5/19/2022
VOCs																
Benzene	280	0.5	0.012 J (0.03)	0.037 (0.033)	U (0.029)	2.2 (0.041)	0.034 (0.03)	0.002 (0.00066)	1.7 (0.032)	0.61 (0.031)	0.057 (0.00051)	76 (0.3)	0.45 (0.03)	16 (0.072)	2.4 (0.031)	10 (0.08)
Cumene	10000	2500	2.4 (0.06)	0.22 (0.067)	U (0.059)	30 (0.83)	3.5 (0.059)	0.23 (0.0013)	4.7 (0.065)	4.6 (0.062)	0.017 (0.001)	38 (0.6)	2.2 (0.061)	3 (0.14)	0.066 (0.062)	4 (0.16)
1,2-Dibromoethane	3.7	0.005	U (0.03)	U (0.033)	U (0.029)	U (0.041)	U (0.03)	U (0.00066)	U (0.032)	U (0.031)	U (0.00051)	U (0.3)	U (0.03)	U (0.072)	U (0.031)	U (0.08)
1,2-Dichloroethane	85	0.5	U (0.06)	U (0.067)	U (0.059)	U (0.083)	U (0.059)	U (0.0013)	U (0.065)	U (0.062)	U (0.001)	U (0.6)	U (0.061)	U (0.14)	U (0.062)	U (0.16)
Ethyl Benzene	880	70	U (0.06)	0.27 (0.067)	U (0.059)	6.5 (0.083)	0.16 (0.059)	0.0068 (0.0013)	7.3 (0.065)	9 (0.062)	0.0077 (0.001)	260 (6)	0.036 J (0.061)	27 (0.14)	0.28 (0.062)	36 (0.16)
Methyl tert-butyl ether	8500	2	U (0.12)	U (0.13)	U (0.12)	U (0.16)	0.023 J (0.12)	0.0056 (0.0026)	U (0.13)	U (0.12)	U (0.002)	U (1.2)	U (0.12)	0.51 (0.29)	0.013 J (0.12)	0.25 J (0.32)
Toluene	10000	100	U (0.06)	0.1 (0.067)	U (0.059)	2.7 (0.083)	U (0.059)	0.001 J (0.0013)	0.11 (0.065)	U (0.062)	0.0044 (0.001)	130 (0.6)	U (0.061)	34 (0.14)	0.64 (0.062)	35 (0.16)
1,2,4-Trimethylbenzene	4700	300	0.023 J (0.12)	0.91 (0.13)	U (0.12)	17 (0.16)	0.18 (0.12)	0.0064 (0.0026)	13 (0.13)	22 (0.49)	0.0044 (0.002)	420 (12)	0.1 J (0.12)	57 (1.1)	0.59 (0.12)	98 (1.4)
1,3,5-Trimethylbenzene	4700	93	U (0.12)	0.19 (0.13)	U (0.12)	4.4 (0.16)	0.054 J (0.12)	0.002 J (0.0026)	3.9 (0.13)	12 (0.12)	0.0013 J (0.002)	100 (1.2)	0.04 J (0.12)	17 (0.29)	0.23 (0.12)	28 (0.32)
Xylenes (total)	7900	1000	0.067 J (0.12)	1.39 J (0.13)	U (0.12)	28 J (0.16)	0.479 J (0.12)	0.0222 J (0.0026)	28.3 J (0.13)	9.331 J (0.12)	0.0147 J (0.002)	1020 J (12)	0.3005 J (0.12)	158 J (1.1)	1.58 J (0.12)	209 J (1.4)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-G02-b 301-G02	301-G02-c 301-G02	301-G03-b 301-G03	301-G03-d 301-G03	301-G03-d 301-G03	301-G04-c 301-G04	301-H01-a 301-H01	301-H01-b 301-H01	301-H01-c 301-H01	301-H02-a 301-H02	301-H02-b 301-H02	301-H02-b 301-H02	301-H02-c 301-H02	301-H03-c 301-H03
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	301-G02-C2-VOC	301-G02-C3-VOC	301-G03-C3-VOC	301-G03-C1-VOC	301-G03-C2-VOC	301-G04-C1-VOC	301-H01-C1-VOC	301-H01-D1-VOC	301-H01-C2-VOC	301-H02-C1-VOC	301-H02-C2-VOC	301-H02-C4-VOC	301-H02-C3-VOC	301-H03-C1-VOC
Collection Depth (ft bgs)			2.0 - 2.1	4.6 - 4.7	3.8 - 4.0	0.8 - 0.9	2.9 - 3.0	0.6 - 0.8	0.6 - 0.8	4.1 - 4.3	2.7 - 2.9	0.6 - 0.8	1.5 - 1.7	4.4 - 4.6	4.3 - 4.4	0.8 - 0.9
Sample Date	(mg/kg)	(mg/kg)	5/19/2022	5/19/2022	5/20/2022	5/20/2022	5/20/2022	6/2/2022	5/19/2022	3/30/2023	5/19/2022	5/23/2022	5/23/2022	5/23/2022	5/23/2022	5/23/2022
VOCs																
Benzene	280	0.5	5.6 (0.14)	5.1 (0.029)	8.4 (0.028)	5.2 (0.31)	11 (0.56)	0.028 J (0.041)	72 (0.75)	2.3 (0.034)	0.015 J (0.031)	0.00033 J (0.00048)	0.31 (0.03)	160 (1.4)	1.7 (0.029)	25 (1.4)
Cumene	10000	2500	5.4 (0.28)	1.2 (0.058)	0.81 (0.057)	9.7 (0.62)	14 (1.1)	0.42 (0.082)	38 (1.5)	0.42 (0.069)	2.6 (0.062)	0.00011 J (0.00095)	1.2 (0.06)	28 (2.8)	2.7 (0.058)	39 (2.8)
1,2-Dibromoethane	3.7	0.005	U (0.14)	U (0.029)	U (0.028)	U (0.31)	U (0.56)	U (0.041)	U (0.75)	U (0.034)	U (0.031)	U (0.00048)	U (0.03)	U (1.4)	U (0.029)	U (1.4)
1,2-Dichloroethane	85	0.5	U (0.28)	U (0.058)	U (0.057)	U (0.62)	U (1.1)	U (0.082)	U (1.5)	U (0.069)	U (0.062)	U (0.00095)	U (0.06)	U (2.8)	U (0.058)	U (2.8)
Ethyl Benzene	880	70	51 (0.28)	0.88 (0.058)	9.9 (0.057)	110 (0.62)	110 (1.1)	0.091 (0.082)	160 (1.5)	2.7 (0.069)	0.34 (0.062)	0.00084 J (0.00095)	3.6 (0.06)	290 (2.8)	11 (0.058)	520 (2.8)
Methyl tert-butyl ether	8500	2	U (0.56)	0.89 (0.12)	0.41 (0.11)	0.18 J (1.2)	0.28 J (2.2)	U (0.16)	1.8 J (3)	U (0.14)	U (0.12)	U (0.0019)	U (0.12)	U (5.6)	U (0.12)	U (5.6)
Toluene	10000	100	1.5 (0.28)	0.37 (0.058)	35 (0.28)	84 (0.62)	490 (5.6)	U (0.082)	U (1.5)	3.1 (0.069)	U (0.062)	U (0.00095)	0.48 (0.06)	1500 (5.4)	0.67 (0.058)	52 (2.8)
1,2,4-Trimethylbenzene	4700	300	120 (1.2)	5.2 (0.12)	23 (0.57)	240 (2.5)	620 (11)	0.13 J (0.16)	630 (12)	8.5 (0.14)	25 (12)	0.00094 J (0.0019)	9.4 (0.12)	500 (5.6)	28 (2.8)	1100 (11)
1,3,5-Trimethylbenzene	4700	93	36 (0.56)	0.64 (0.12)	7 (0.11)	73 (1.2)	130 (2.2)	0.028 J (0.16)	140 (3)	2.7 (0.14)	9 (0.12)	0.00041 J (0.0019)	3.7 (0.12)	160 (5.6)	9.4 (0.12)	400 (5.6)
Xylenes (total)	7900	1000	251 J (1.2)	1.56 J (0.12)	58 J (0.57)	590 J (2.5)	720 J (2.2)	0.224 J (0.16)	506 J (3)	13.4 J (0.14)	6.58 J (0.12)	0.003 J (0.0019)	13.8 J (0.12)	1380 J (5.6)	68 J (2.8)	3440 J (11)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-H03-c 301-H03	301-H03-c 301-H03	301-I01-b 301-I01	301-I01-c 301-I01	301-I01-d 301-I01	301-I02-a 301-I02	301-I02-d 301-I02	301-I02-d 301-I02	301-I02-d 301-I02	301-I02-d 301-I02	301-I03-a 301-I03	301-J01-b 301-J01	301-J01-c 301-J01	301-J01-c 301-J01
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	301-H03-C2-VOC 1.7 - 1.8	301-H03-C3-VOC 3.2 - 3.4	301-I01-C3-VOC 4.1 - 4.3	301-I01-C1-VOC 0.6 - 0.8	301-I01-C2-VOC 1.8 - 2.0	301-I02-C3-VOC 3.2 - 3.4	301-I02-C1-VOC 0.8 - 0.9	301-I02-C2-VOC 1.8 - 2.0	301-I02-C4-VOC 4.4 - 4.6	301-I02-C5-VOC 5.3 - 5.5	301-I03-C1-VOC 1.5 - 1.7	301-J01-C1-VOC 0.5 - 0.6	301-J01-C2-VOC 0.9 - 1.1	301-J01-C3-VOC 2.0 - 2.1
Collection Depth (ft bgs)	Sample Date	(mg/kg)	5/23/2022	5/23/2022	5/20/2022	5/20/2022	5/20/2022	5/24/2022	5/24/2022	5/24/2022	5/24/2022	5/24/2022	6/2/2022	6/3/2022	6/3/2022	6/3/2022
VOCs																
Benzene	280	0.5	21 (0.17)	0.91 (0.3)	0.018 J (0.035)	0.26 (0.025)	12 (0.16)	31 (0.13)	0.43 (0.022)	5 (0.068)	0.056 (0.00048)	4.6 (0.31)	U (0.034)	0.027 J (0.029)	0.006 (0.00046)	0.0096 J (0.026)
Cumene	10000	2500	5.5 (0.35)	6.1 (0.59)	0.022 J (0.071)	0.49 (0.05)	6.8 (0.33)	4.3 (0.26)	0.35 (0.045)	7.7 (0.14)	0.038 (0.00095)	15 (0.62)	0.12 (0.068)	0.33 (0.058)	0.032 (0.00092)	1.3 (0.052)
1,2-Dibromoethane	3.7	0.005	U (0.17)	U (0.3)	U (0.035)	U (0.025)	U (0.16)	U (0.13)	U (0.022)	U (0.068)	U (0.00048)	U (0.31)	U (0.034)	U (0.029)	U (0.00046)	U (0.026)
1,2-Dichloroethane	85	0.5	U (0.35)	U (0.59)	U (0.071)	U (0.05)	U (0.33)	U (0.26)	U (0.045)	U (0.14)	U (0.00095)	U (0.62)	U (0.068)	U (0.058)	U (0.00092)	U (0.052)
Ethyl Benzene	880	70	99 (0.35)	48 (0.59)	0.038 J (0.071)	0.051 (0.05)	63 (0.33)	59 (0.26)	0.085 (0.045)	4.2 (0.14)	0.05 (0.00095)	5.3 (0.62)	0.07 (0.068)	0.061 (0.058)	0.0017 (0.00092)	0.057 (0.052)
Methyl tert-butyl ether	8500	2	U (0.7)	U (1.2)	U (0.14)	U (0.1)	U (0.66)	0.29 J (0.52)	U (0.09)	U (0.27)	0.006 (0.0019)	U (1.2)	U (0.14)	U (0.12)	U (0.0018)	U (0.1)
Toluene	10000	100	340 (3.5)	8.4 (0.59)	0.12 (0.071)	0.13 (0.05)	170 (0.66)	1.2 (0.26)	0.16 (0.045)	1.1 (0.14)	0.0012 (0.00095)	0.96 (0.62)	0.058 J (0.068)	U (0.058)	0.0014 (0.00092)	U (0.052)
1,2,4-Trimethylbenzene	4700	300	180 (7)	310 (12)	0.11 J (0.14)	0.057 J (0.1)	140 (1.3)	120 (1)	0.056 J (0.09)	26 (0.27)	0.27 (0.0019)	18 (1.2)	0.17 (0.14)	0.23 (0.12)	0.0016 J (0.0018)	0.023 J (0.1)
1,3,5-Trimethylbenzene	4700	93	62 (0.7)	60 (1.2)	0.031 J (0.14)	0.016 J (0.1)	36 (0.66)	36 (0.52)	0.021 J (0.09)	18 (0.27)	0.098 (0.0019)	9.4 (1.2)	0.054 J (0.14)	0.15 (0.12)	0.0021 (0.0018)	0.18 (0.1)
Xylenes (total)	7900	1000	570 J (7)	269 J (1.2)	0.18 J (0.14)	0.17 J (0.1)	375 J (1.3)	173.4 J (1)	0.19 J (0.09)	68.5 J (0.27)	0.0924 J (0.0019)	5.92 J (1.2)	0.265 J (0.14)	0.158 J (0.12)	0.0093 J (0.0018)	0.576 J (0.1)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-J01-c	301-J02-c	301-J02-c	301-J02-d	301-J02-d	301-K01-a	301-K01-a	301-K01-c	301-K01-d	301-K02-a	301-K02-d	301-K02-d	301-L02-a	301-L02-c
Cell	Soil Direct Contact	Soil to	301-J01	301-J02	301-J02	301-J02	301-J02	301-K01	301-K01	301-K01	301-K01	301-K02	301-K02	301-K02	301-L02	301-L02
Field Sample ID	Numeric Value	Groundwater	301-J01-C4-VOC	301-J02-C3-VOC	301-J02-C4-VOC	301-J02-C1-VOC	301-J02-C2-VOC	301-K01-C1-VOC	301-K01-C3-VOC	301-K01-C2-VOC	301-K01-C4-VOC	301-K02-C1-VOC	301-K02-C2-VOC	301-K02-C3-VOC	301-L02-C3-VOC	301-L02-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.9 - 3.0	4.3 - 4.4	5.6 - 5.8	0.5 - 0.6	1.4 - 1.5	0.5 - 0.6	1.8 - 2.0	1.2 - 1.4	4.7 - 4.9	0.9 - 1.1	1.8 - 2.0	3.0 - 3.2	2.0 - 2.1	0.3 - 0.5
Sample Date	(mg/kg)	(mg/kg)	6/3/2022	5/25/2022	5/25/2022	5/25/2022	5/25/2022	5/25/2022	5/25/2022	5/25/2022	5/25/2022	5/26/2022	5/26/2022	5/26/2022	5/27/2022	5/27/2022
VOCs																
Benzene	280	0.5	6.4 (0.28)	0.54 (0.029)	0.78 (0.05)	0.046 J (0.057)	0.011 J (0.026)	0.0022 (0.00046)	U (0.062)	0.17 (0.026)	23 (0.66)	0.86 (0.027)	4.3 (0.025)	15 (0.39)	0.023 (0.00048)	0.041 J (0.054)
Cumene	10000	2500	8.1 (0.56)	0.022 J (0.058)	1 (0.1)	0.31 (0.11)	1.9 (0.052)	0.0074 (0.00092)	0.56 (0.12)	0.25 (0.051)	3.8 (0.053)	3.7 (0.054)	1.8 (0.05)	26 (0.77)	0.0026 (0.00095)	4.3 (0.11)
1,2-Dibromoethane	3.7	0.005	U (0.28)	U (0.029)	U (0.05)	U (0.057)	U (0.026)	U (0.00046)	U (0.062)	U (0.026)	U (0.026)	U (0.027)	U (0.025)	U (0.39)	U (0.00048)	U (0.054)
1,2-Dichloroethane	85	0.5	U (0.56)	U (0.058)	U (0.1)	U (0.11)	U (0.052)	U (0.00092)	U (0.12)	U (0.051)	U (0.053)	U (0.054)	U (0.05)	U (0.77)	U (0.00095)	U (0.11)
Ethyl Benzene	880	70	15 (0.56)	0.24 (0.058)	0.61 (0.1)	0.39 (0.11)	1.5 (0.052)	0.0029 (0.00092)	U (0.12)	0.019 J (0.051)	9.5 (0.053)	10 (0.054)	6.3 (0.05)	40 (0.77)	0.00018 J (0.00095)	0.12 (0.11)
Methyl tert-butyl ether	8500	2	U (1.1)	0.022 J (0.12)	U (0.2)	U (0.23)	U (0.1)	0.0009 J (0.0018)	U (0.25)	U (0.1)	U (0.11)	U (0.11)	U (0.1)	U (1.5)	0.006 (0.0019)	U (0.22)
Toluene	10000	100	U (0.56)	0.083 (0.058)	0.11 (0.1)	0.1 J (0.11)	U (0.052)	U (0.00092)	0.12 (0.12)	0.051 (0.051)	0.59 (0.053)	0.062 (0.054)	0.38 (0.05)	1.4 (0.77)	U (0.00095)	0.093 J (0.11)
1,2,4-Trimethylbenzene	4700	300	120 (1.1)	0.59 (0.12)	5 (0.2)	U (0.23)	9 (0.1)	0.0072 (0.0018)	U (0.25)	U (0.1)	53 (2.6)	0.055 J (0.11)	30 (1)	540 (7.7)	0.00048 J (0.0019)	0.24 (0.22)
1,3,5-Trimethylbenzene	4700	93	19 (1.1)	5.4 (0.12)	0.86 (0.2)	U (0.23)	2 (0.1)	0.0018 (0.0018)	U (0.25)	U (0.1)	13 (0.11)	0.018 J (0.11)	7.8 (0.1)	100 (1.5)	0.0016 J (0.0019)	0.043 J (0.22)
Xylenes (total)	7900	1000	41.1 J (1.1)	0.271 J (0.12)	0.55 J (0.2)	U (0.23)	0.306 J (0.1)	0.0125 J (0.0018)	U (0.25)	0.1855 J (0.1)	32.9 J (0.11)	0.46 J (0.11)	24.6 J (0.1)	112 J (1.5)	U (0.0019)	0.43 J (0.22)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-L02-c 301-L02	301-L02-c 301-L02	301-L03-b 301-L03	301-L03-c 301-L03	301-L03-d 301-L03	301-M02-b 301-M02	301-M02-d 301-M02	301-M02-d 301-M02	301-M02-d 301-M02	301-M03-d 301-M03	301-M03-d 301-M03	301-M04-a 301-M04	301-N02-a 301-N02	301-N02-b 301-N02
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	301-L02-C2-VOC	301-L02-C4-VOC	301-L03-C2-VOC	301-L03-C3-VOC	301-L03-C1-VOC	301-M02-C3-VOC	301-M02-C1-VOC	301-M02-C2-VOC	301-M02-C4-VOC	301-M03-C1-VOC	301-M03-C2-VOC	301-M04-C1-VOC	301-N02-C1-VOC	301-N02-C2-VOC
Collection Depth (ft bgs)			0.9 - 1.1	2.4 - 2.6	2.4 - 2.6	4.4 - 4.6	0.8 - 0.9	2.0 - 2.1	0.6 - 0.8	1.8 - 2.0	3.8 - 4.0	0.6 - 0.8	2.6 - 2.7	0.5 - 0.6	0.3 - 0.5	1.8 - 2.0
Sample Date	(mg/kg)	(mg/kg)	5/27/2022	5/27/2022	5/27/2022	5/27/2022	5/27/2022	5/31/2022	5/31/2022	5/31/2022	5/31/2022	5/31/2022	5/31/2022	6/2/2022	6/1/2022	6/1/2022
VOCs																
Benzene	280	0.5	U (0.028)	U (0.00051)	U (0.00038)	0.6 (0.098)	0.027 (0.026)	0.58 (0.15)	0.034 J (0.036)	0.2 (0.026)	0.01 (0.00041)	0.00024 J (0.00044)	0.00053 (0.00049)	1.6 (0.073)	0.065 (0.029)	0.12 (0.027)
Cumene	10000	2500	1.5 (0.055)	0.0049 (0.001)	0.004 (0.00077)	4.4 (0.2)	1.5 (0.052)	5.8 (0.3)	0.22 (0.073)	0.77 (0.053)	0.014 (0.00081)	0.0078 (0.00088)	0.037 (0.00098)	12 (0.15)	2.3 (0.059)	0.87 (0.054)
1,2-Dibromoethane	3.7	0.005	U (0.028)	U (0.00051)	U (0.00038)	U (0.098)	U (0.026)	U (0.15)	U (0.036)	U (0.026)	U (0.00041)	U (0.00044)	U (0.00049)	U (0.073)	U (0.029)	U (0.027)
1,2-Dichloroethane	85	0.5	U (0.055)	U (0.001)	U (0.00077)	U (0.2)	U (0.052)	U (0.3)	U (0.073)	U (0.053)	U (0.00081)	U (0.00088)	U (0.00098)	U (0.15)	U (0.059)	U (0.054)
Ethyl Benzene	880	70	U (0.055)	U (0.001)	0.00053 J (0.00077)	0.36 (0.2)	0.034 J (0.052)	2.1 (0.3)	0.087 (0.073)	0.48 (0.053)	0.001 (0.00081)	0.00045 J (0.00088)	0.00072 J (0.00098)	3.3 (0.15)	0.047 J (0.059)	0.043 J (0.054)
Methyl tert-butyl ether	8500	2	U (0.11)	U (0.002)	0.00036 J (0.0015)	U (0.39)	U (0.1)	U (0.61)	U (0.14)	U (0.11)	U (0.0016)	U (0.0018)	U (0.002)	U (0.29)	U (0.12)	U (0.11)
Toluene	10000	100	U (0.055)	U (0.001)	U (0.00077)	U (0.2)	0.036 J (0.052)	U (0.3)	0.22 (0.073)	0.24 (0.053)	0.0066 (0.00081)	U (0.00088)	0.0011 (0.00098)	1.9 (0.15)	0.083 (0.059)	U (0.054)
1,2,4-Trimethylbenzene	4700	300	U (0.11)	U (0.002)	U (0.0015)	28 (0.39)	0.058 J (0.1)	0.22 J (0.61)	0.26 (0.14)	1.5 (0.11)	0.0058 (0.0016)	0.0056 (0.0018)	0.037 (0.002)	82 (1.2)	0.1 J (0.12)	0.24 (0.11)
1,3,5-Trimethylbenzene	4700	93	U (0.11)	U (0.002)	U (0.0015)	0.66 (0.39)	0.012 J (0.1)	U (0.61)	0.076 J (0.14)	0.54 (0.11)	0.0053 (0.0016)	0.00043 J (0.0018)	0.0086 (0.002)	19 (0.29)	0.13 (0.12)	0.12 (0.11)
Xylenes (total)	7900	1000	0.071 J (0.11)	U (0.002)	0.0012 J (0.0015)	0.73 J (0.39)	0.097 J (0.1)	0.625 J (0.61)	0.62 J (0.14)	0.97 J (0.11)	0.0185 J (0.0016)	0.00184 J (0.0018)	0.0069 J (0.002)	31.4 J (0.29)	0.6 J (0.12)	0.49 J (0.11)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-N02-c 301-N02	301-N02-d 301-N02	301-N02-e 301-N02	301-N03-b 301-N03	301-O02-b 301-O02	301-O02-b 301-O02	301-O02-b 301-O02	301-O02-b 301-O02	301-O02-c 301-O02	301-P02-a 301-P02	301-P02-b 301-P02	301-P02-b 301-P02	301-P02-c 301-P02	301-P02-d 301-P02	301-Q02-a 301-Q02
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	301-N02-C4-VOC	301-N02-C3-VOC	301-N02-D1-VOC	301-N03-C1-VOC	301-O02-C1-VOC	301-O02-C2-VOC	301-O02-C3-VOC	301-O02-D1-VOC	301-P02-C1-VOC	301-P02-C4-VOC	301-P02-C5-VOC	301-P02-C3-VOC	301-P02-C2-VOC	301-Q02-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	(mg/kg)	4.3 - 4.4	2.0 - 2.1	4.4 - 4.6	1.5 - 1.7	0.3 - 0.5	0.9 - 1.1	1.5 - 1.7	2.9 - 3.0	0.2 - 0.3	1.1 - 1.2	1.4 - 1.5	1.2 - 1.4	1.1 - 1.2	0.5 - 0.6	
Sample Date	(mg/kg)	(mg/kg)	6/1/2022	6/1/2022	3/31/2023	6/1/2022	6/1/2022	6/1/2022	6/1/2022	3/30/2023	6/2/2022	6/2/2022	6/2/2022	6/2/2022	6/2/2022	5/19/2022	
VOCs																	
Benzene	280	0.5	U (0.00051)	0.009 (0.00048)	4.2 (0.027)	0.0043 (0.00024)	0.00033 J (0.00058)	0.018 J (0.028)	0.52 (0.059)	0.89 (0.03)	0.065 (0.057)	U (0.028)	4.4 (0.033)	U (0.027)	1.5 (0.024)	0.038 (0.0005)	
Cumene	10000	2500	0.002 (0.001)	0.00052 J (0.00095)	0.57 (0.055)	0.00062 (0.00047)	0.00037 J (0.0012)	0.2 (0.055)	10 (0.12)	0.85 (0.061)	0.27 (0.11)	0.44 (0.057)	1.6 (0.066)	0.39 (0.054)	5.4 (0.048)	0.042 (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.00051)	U (0.00048)	U (0.027)	U (0.00024)	U (0.00058)	U (0.028)	U (0.059)	U (0.03)	U (0.057)	U (0.028)	U (0.033)	U (0.027)	U (0.024)	U (0.0005)	
1,2-Dichloroethane	85	0.5	U (0.001)	U (0.00095)	U (0.055)	U (0.00047)	U (0.0012)	U (0.055)	U (0.12)	U (0.061)	U (0.11)	U (0.057)	U (0.066)	U (0.054)	U (0.048)	U (0.001)	
Ethyl Benzene	880	70	U (0.001)	0.0015 (0.00095)	1.2 (0.055)	0.00075 (0.00047)	U (0.0012)	0.23 (0.055)	0.51 (0.12)	0.49 (0.061)	0.2 (0.11)	U (0.057)	3.3 (0.066)	0.02 J (0.054)	0.57 (0.048)	0.022 (0.001)	
Methyl tert-butyl ether	8500	2	U (0.002)	U (0.0019)	U (0.11)	U (0.00095)	U (0.0023)	U (0.11)	U (0.24)	U (0.12)	U (0.23)	U (0.11)	U (0.13)	U (0.11)	U (0.096)	0.0011 J (0.002)	
Toluene	10000	100	U (0.001)	0.0044 (0.00095)	0.065 (0.055)	0.001 (0.00047)	U (0.0012)	U (0.055)	0.52 (0.12)	0.057 J (0.061)	0.18 (0.11)	U (0.057)	0.61 (0.066)	U (0.054)	0.11 (0.048)	0.012 (0.001)	
1,2,4-Trimethylbenzene	4700	300	U (0.002)	0.0043 (0.0019)	2.6 (0.11)	0.0018 (0.00095)	U (0.0023)	0.45 (0.11)	0.32 (0.24)	1.5 (0.12)	2.1 (0.23)	U (0.11)	0.8 (0.13)	0.03 J (0.11)	0.25 (0.096)	0.0084 (0.002)	
1,3,5-Trimethylbenzene	4700	93	U (0.002)	0.0013 J (0.0019)	0.81 (0.11)	0.00056 J (0.00095)	U (0.0023)	0.085 J (0.11)	0.099 J (0.24)	0.92 (0.12)	0.1 J (0.23)	0.058 J (0.11)	0.2 (0.13)	0.18 (0.11)	0.071 J (0.096)	0.0028 (0.002)	
Xylenes (total)	7900	1000	0.00186 J (0.002)	0.0087 J (0.0019)	2.539 J (0.11)	0.00268 J (0.00095)	U (0.0023)	0.518 J (0.11)	1.34 J (0.24)	1.546 J (0.12)	0.76 J (0.23)	0.0665 J (0.11)	2.55 J (0.13)	0.089 J (0.11)	0.858 J (0.096)	0.0162 J (0.002)	

Notes:

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- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

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Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-Q02-a	301-Q02-a	301-Q03-a	301-Q03-d	301-Q04-a	301-Q04-e	301-R02-d	301-R02-d	301-R02-d	301-R02-d	301-R03-c	301-R03-d	301-S02-d	301-S02-d
Cell	Soil Direct Contact	Soil to	301-Q02	301-Q02	301-Q03	301-Q03	301-Q04	301-Q04	301-R02	301-R02	301-R02	301-R02	301-R03	301-R03	301-S02	301-S02
Field Sample ID	Numeric Value	Groundwater	301-Q02-C2-VOC	301-Q02-C3-VOC	301-Q03-C1-VOC	301-Q03-C2-VOC	301-Q04-C1-VOC	301-Q04-D1-VOC	301-R02-C1-VOC	301-R02-C2-VOC	301-R02-C3-VOC	301-R02-C4-VOC	301-R03-C2-VOC	301-R03-C1-VOC	301-S02-C1-VOC	301-S02-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.1 - 1.2	1.5 - 1.7	1.7 - 1.8	0.9 - 1.1	2.3 - 2.4	5.2 - 5.3	0.3 - 0.5	0.6 - 0.8	1.1 - 1.2	1.5 - 1.7	2.1 - 2.3	2.0 - 2.1	0.2 - 0.3	0.5 - 0.6
Sample Date	(mg/kg)	(mg/kg)	5/19/2022	5/19/2022	5/18/2022	5/18/2022	6/10/2022	3/31/2023	5/19/2022	5/19/2022	5/19/2022	5/19/2022	5/18/2022	5/18/2022	5/19/2022	5/19/2022
VOCs																
Benzene	280	0.5	0.81 (0.035)	0.19 (0.0004)	1.3 (0.041)	2.7 (0.22)	U (0.039)	U (0.00043)	U (0.00054)	U (0.06)	U (0.071)	U (0.11)	87 (0.16)	0.011 (0.00068)	0.0016 (0.00055)	U (0.0012)
Cumene	10000	2500	0.4 (0.07)	0.00086 (0.00081)	4.4 (0.082)	1.2 (0.44)	0.018 J (0.078)	U (0.00086)	0.00049 J (0.0011)	1.6 (0.12)	1.8 (0.14)	2.1 (0.23)	4.7 (0.31)	0.0012 J (0.0014)	0.00028 J (0.0011)	U (0.0025)
1,2-Dibromoethane	3.7	0.005	U (0.035)	U (0.0004)	U (0.041)	U (0.22)	U (0.039)	U (0.00043)	U (0.00054)	U (0.06)	U (0.071)	U (0.11)	U (0.16)	U (0.00068)	U (0.00055)	U (0.0012)
1,2-Dichloroethane	85	0.5	U (0.07)	U (0.00081)	U (0.082)	U (0.44)	U (0.078)	U (0.00086)	U (0.0011)	U (0.12)	U (0.14)	U (0.23)	U (0.31)	U (0.0014)	U (0.0011)	U (0.0025)
Ethyl Benzene	880	70	1.1 (0.07)	0.018 (0.00081)	11 (0.082)	0.59 (0.44)	U (0.078)	U (0.00086)	U (0.0011)	0.037 J (0.12)	U (0.14)	U (0.23)	62 (0.31)	0.00051 J (0.0014)	0.0003 J (0.0011)	0.00075 J (0.0025)
Methyl tert-butyl ether	8500	2	0.14 (0.14)	0.026 (0.0016)	0.14 J (0.16)	U (0.87)	U (0.16)	U (0.0017)	U (0.0022)	U (0.24)	U (0.28)	U (0.45)	0.33 J (0.62)	U (0.0027)	U (0.0022)	U (0.005)
Toluene	10000	100	0.54 (0.07)	0.23 (0.00081)	0.3 (0.082)	0.24 J (0.44)	U (0.078)	U (0.00086)	U (0.0011)	U (0.12)	U (0.14)	U (0.23)	200 (6.1)	0.0015 (0.0014)	0.00061 J (0.0011)	U (0.0025)
1,2,4-Trimethylbenzene	4700	300	0.23 (0.14)	0.0022 (0.0016)	0.41 (0.16)	3.9 (0.87)	U (0.16)	U (0.0017)	U (0.0022)	0.11 J (0.24)	U (0.28)	U (0.45)	100 (12)	U (0.0027)	U (0.0022)	0.0018 J (0.005)
1,3,5-Trimethylbenzene	4700	93	0.12 J (0.14)	0.00078 J (0.0016)	0.29 (0.16)	3 (0.87)	U (0.16)	U (0.0017)	U (0.0022)	U (0.24)	U (0.28)	U (0.45)	34 (0.62)	U (0.0027)	U (0.0022)	0.00076 J (0.005)
Xylenes (total)	7900	1000	1.89 J (0.14)	0.079 J (0.0016)	0.94 J (0.16)	1.82 J (0.87)	U (0.16)	U (0.0017)	U (0.0022)	0.115 J (0.24)	U (0.28)	U (0.45)	287 J (12)	0.00146 J (0.0027)	0.00123 J (0.0022)	0.0038 J (0.005)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-S02-d	301-S02-d	301-S02-d	301-S03-c	301-T04-a	301-T04-d	301-T04-d	301-T04-d	301-U04-c	301-U04-d	301-U04-d	301-U04-d	301-U04-d	301-U04-d	301-U04-d
Cell	Soil Direct Contact	Soil to	301-S02	301-S02	301-S02	301-S03	301-T04	301-T04	301-T04	301-T04	301-U04	301-U04	301-U04	301-U04	301-U04	301-U04	301-U04
Field Sample ID	Numeric Value	Groundwater	301-S02-C3-VOC	301-S02-C4-VOC	301-S02-C5-VOC	301-S03-C1-VOC	301-T04-C3-VOC	301-T04-C1-VOC	301-T04-C2-VOC	301-U04-C2-VOC	301-U04-C1-VOC	301-U04-C3-VOC	301-U04-C4-VOC	301-V04-C1-VOC	301-V04-C2-VOC	301-V04-C3-VOC	301-V04-C4-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.9 - 1.1	1.4 - 1.5	1.8 - 2.0	2.3 - 2.4	1.5 - 1.7	0.9 - 1.1	1.2 - 1.4	0.2 - 0.4	0.2 - 0.3	0.9 - 1.1	1.4 - 1.5	0.2 - 0.3	0.5 - 0.6	0.5 - 0.6	0.9 - 1.1
Sample Date	(mg/kg)	(mg/kg)	5/19/2022	5/19/2022	5/19/2022	5/17/2022	5/17/2022	5/17/2022	5/17/2022	5/20/2022	5/20/2022	5/20/2022	5/20/2022	5/20/2022	5/20/2022	5/20/2022	5/20/2022
VOCs																	
Benzene	280	0.5	U (0.001)	U (0.00057)	U (0.00062)	1 (0.03)	0.0017 (0.00054)	U (0.0005)	U (0.03)	0.0013 (0.00057)	0.0016 (0.00084)	0.11 (0.00042)	1.6 (0.029)	U (0.00085)	U (0.039)	U (0.035)	
Cumene	10000	2500	0.00024 J (0.0021)	0.00045 J (0.0011)	0.00053 J (0.0012)	1.1 (0.059)	0.0043 (0.0011)	0.00099 (0.00099)	1.6 (0.061)	0.00045 J (0.0011)	U (0.0017)	0.012 (0.00084)	5 (0.058)	U (0.0017)	0.65 (0.079)	1.8 (0.071)	
1,2-Dibromoethane	3.7	0.005	U (0.001)	U (0.00057)	U (0.00062)	U (0.03)	U (0.00054)	U (0.0005)	U (0.03)	U (0.00057)	U (0.00084)	U (0.00042)	U (0.029)	U (0.00085)	U (0.039)	U (0.035)	
1,2-Dichloroethane	85	0.5	U (0.0021)	U (0.0011)	U (0.0012)	U (0.059)	U (0.0011)	U (0.00099)	U (0.061)	U (0.0011)	U (0.0017)	U (0.00084)	U (0.058)	U (0.0017)	U (0.079)	U (0.071)	
Ethyl Benzene	880	70	0.00084 J (0.0021)	U (0.0011)	U (0.0012)	1.5 (0.059)	U (0.0011)	U (0.00099)	U (0.061)	U (0.0011)	U (0.0017)	0.00061 J (0.00084)	0.14 (0.058)	U (0.0017)	0.013 J (0.079)	U (0.071)	
Methyl tert-butyl ether	8500	2	U (0.0041)	U (0.0023)	U (0.0025)	U (0.12)	0.00084 J (0.0022)	U (0.002)	U (0.12)	U (0.0023)	U (0.0034)	0.00034 J (0.0017)	U (0.12)	U (0.0034)	U (0.16)	U (0.14)	
Toluene	10000	100	U (0.0021)	U (0.0011)	U (0.0012)	0.37 (0.059)	U (0.0011)	U (0.00099)	U (0.061)	U (0.0011)	U (0.0017)	0.0005 J (0.00084)	0.046 J (0.058)	U (0.0017)	0.08 (0.079)	U (0.071)	
1,2,4-Trimethylbenzene	4700	300	0.009 (0.0041)	U (0.0023)	U (0.0025)	1.7 (0.12)	U (0.0022)	0.00048 J (0.002)	U (0.12)	U (0.0023)	U (0.0034)	U (0.0017)	U (0.12)	U (0.0034)	0.035 J (0.16)	U (0.14)	
1,3,5-Trimethylbenzene	4700	93	0.0049 (0.0041)	U (0.0023)	U (0.0025)	3.5 (0.12)	U (0.0022)	U (0.002)	U (0.12)	0.00026 J (0.0023)	U (0.0034)	0.00025 J (0.0017)	0.12 (0.12)	U (0.0034)	U (0.16)	U (0.14)	
Xylenes (total)	7900	1000	0.00422 J (0.0041)	U (0.0023)	U (0.0025)	2.26 J (0.12)	0.00188 J (0.0022)	U (0.002)	U (0.12)	U (0.0023)	U (0.0034)	0.00154 J (0.0017)	0.307 J (0.12)	U (0.0034)	0.0885 J (0.16)	U (0.14)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-V04-d	301-W03-d	301-W03-d	301-W03-d	301-W03-d	301-W04-c	301-X03-c	301-X03-c	301-X03-c	301-X03-c	301-Y03-a	301-Y03-a	301-Y03-a	301-Y04-b	301-Y04-b
Cell	Soil Direct Contact	Soil to	301-V04	301-W03	301-W03	301-W03	301-W03	301-W04	301-X03	301-X03	301-X03	301-X03	301-Y03	301-Y03	301-Y03	301-Y04	301-Y04
Field Sample ID	Numeric Value	Groundwater	301-V04-C4-VOC	301-W03-C1-VOC	301-W03-C2-VOC	301-W03-C3-VOC	301-W04-C1-VOC	301-X03-C1-VOC	301-X03-C2-VOC	301-X03-C3-VOC	301-X03-C4-VOC	301-Y03-C1-VOC	301-Y03-C2-VOC	301-Y03-C3-VOC	301-Y04-C2-VOC	301-Y04-C3-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.4 - 1.5	0.3 - 0.5	0.6 - 0.8	1.1 - 1.2	0.9 - 1.1	0.2 - 0.3	0.5 - 0.6	0.8 - 0.9	1.1 - 1.2	1.2 - 1.4	2.4 - 2.6	4.0 - 4.1	0.8 - 0.9	2.0 - 2.1	
Sample Date	(mg/kg)	(mg/kg)	5/20/2022	5/23/2022	5/23/2022	5/23/2022	6/10/2022	5/23/2022	5/23/2022	5/23/2022	5/23/2022	5/23/2022	5/23/2022	5/23/2022	5/25/2022	5/25/2022	
VOCs																	
Benzene	280	0.5	U (0.028)	0.021 (0.00063)	0.0084 (0.00054)	0.18 (0.032)	0.00052 J (0.00063)	U (0.00068)	U (0.00049)	U (0.00055)	U (0.00056)	0.00032 J (0.00043)	U (0.056)	U (0.033)	U (0.0006)	U (0.00043)	
Cumene	10000	2500	3 (0.055)	0.055 (0.0013)	0.026 (0.0011)	1.7 (0.065)	U (0.0013)	0.024 J (0.054)	U (0.00098)	U (0.0011)	U (0.0011)	0.0068 (0.00086)	1.2 (0.11)	1.7 (0.066)	0.00026 J (0.0012)	0.0016 (0.00086)	
1,2-Dibromoethane	3.7	0.005	U (0.028)	U (0.00063)	U (0.00054)	U (0.032)	U (0.00063)	U (0.00068)	U (0.00049)	U (0.00055)	U (0.00056)	U (0.00043)	U (0.056)	U (0.033)	U (0.0006)	U (0.00043)	
1,2-Dichloroethane	85	0.5	U (0.055)	U (0.0013)	U (0.0011)	U (0.065)	U (0.0013)	U (0.0014)	U (0.00098)	U (0.0011)	U (0.0011)	U (0.00086)	U (0.11)	U (0.066)	U (0.0012)	U (0.00086)	
Ethyl Benzene	880	70	0.0085 J (0.055)	0.1 (0.0013)	0.002 (0.0011)	0.066 (0.065)	U (0.0013)	0.61 (0.054)	U (0.00098)	U (0.0011)	U (0.0011)	U (0.00086)	U (0.11)	0.35 (0.066)	U (0.0012)	0.022 (0.00086)	
Methyl tert-butyl ether	8500	2	U (0.11)	U (0.0025)	U (0.0022)	U (0.13)	U (0.0025)	U (0.0027)	U (0.002)	U (0.0022)	U (0.0023)	0.00033 J (0.0017)	U (0.22)	U (0.13)	U (0.0024)	U (0.0017)	
Toluene	10000	100	0.035 J (0.055)	0.015 (0.0013)	0.0028 (0.0011)	0.099 (0.065)	U (0.0013)	0.039 J (0.054)	U (0.00098)	U (0.0011)	U (0.0011)	U (0.00086)	0.085 J (0.11)	0.068 (0.066)	U (0.0012)	U (0.00086)	
1,2,4-Trimethylbenzene	4700	300	U (0.11)	0.014 (0.0025)	0.0019 J (0.0022)	U (0.13)	U (0.0025)	U (0.0027)	U (0.002)	U (0.0022)	U (0.0023)	U (0.0017)	U (0.22)	12 (0.13)	U (0.0024)	0.072 (0.0017)	
1,3,5-Trimethylbenzene	4700	93	U (0.11)	0.0062 (0.0025)	0.00076 J (0.0022)	U (0.13)	U (0.0025)	U (0.0027)	U (0.002)	U (0.0022)	U (0.0023)	0.00024 J (0.0017)	U (0.22)	3.1 (0.13)	U (0.0024)	0.0043 (0.0017)	
Xylenes (total)	7900	1000	U (0.11)	0.054 J (0.0025)	0.017 J (0.0022)	0.168 J (0.13)	U (0.0025)	3.7 J (0.11)	U (0.002)	U (0.0022)	U (0.0023)	0.00115 J (0.0017)	U (0.22)	0.625 J (0.13)	U (0.0024)	0.061 J (0.0017)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-Y04-b	301-Y04-c	301-Y05-b	301-Y05-c	301-Z04-b	301-Z04-b	301-Z04-d	301-Z04-d	301-Z04-d	301-Z05-d	301-Z05-d	301-Z05-d	301-Z06-c	301-Z06-c
Cell	Soil Direct Contact	Soil to	301-Y04	301-Y04	301-Y05	301-Y05	301-Z04	301-Z04	301-Z04	301-Z04	301-Z04	301-Z05	301-Z05	301-Z05	301-Z06	301-Z06
Field Sample ID	Numeric Value	Groundwater	301-Y04-C4-VOC	301-Y04-C1-VOC	301-Y05-C1-VOC	301-Y05-C2-VOC	301-Z04-C4-VOC	301-Z04-C5-VOC	301-Z04-C1-VOC	301-Z04-C2-VOC	301-Z04-C3-VOC	301-Z05-C1-VOC	301-Z05-C2-VOC	301-Z05-C3-VOC	301-Z06-C1-VOC	301-Z06-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.7 - 2.9	0.2 - 0.3	0.5 - 0.6	0.6 - 0.8	1.7 - 1.8	2.1 - 2.3	0.8 - 0.9	0.9 - 1.1	2.0 - 2.1	1.1 - 1.2	2.7 - 2.9	4.0 - 4.1	0.6 - 0.8	1.2 - 1.4
Sample Date	(mg/kg)	(mg/kg)	5/25/2022	5/25/2022	6/9/2022	6/9/2022	5/26/2022	5/26/2022	5/26/2022	5/26/2022	5/26/2022	5/24/2022	5/24/2022	5/24/2022	5/24/2022	5/24/2022
VOCs																
Benzene	280	0.5	0.00024 J (0.00058)	U (0.00054)	U (0.00058)	U (0.00059)	U (0.03)	U (0.028)	U (0.059)	U (0.029)	U (0.029)	U (0.028)	U (0.041)	U (0.033)	U (0.029)	U (0.12)
Cumene	10000	2500	0.00036 J (0.0012)	U (0.0011)	U (0.0012)	U (0.0012)	2.6 (0.059)	8.1 (0.057)	1.4 (0.12)	1 (0.058)	0.57 (0.058)	2.8 (0.056)	4.1 (0.082)	0.34 (0.066)	1.7 (0.059)	14 (0.23)
1,2-Dibromoethane	3.7	0.005	U (0.00058)	U (0.00054)	U (0.00058)	U (0.00059)	U (0.03)	U (0.028)	U (0.059)	U (0.029)	U (0.029)	U (0.028)	U (0.041)	U (0.033)	U (0.029)	U (0.12)
1,2-Dichloroethane	85	0.5	U (0.0012)	U (0.0011)	U (0.0012)	U (0.0012)	U (0.059)	U (0.057)	U (0.12)	U (0.058)	U (0.058)	U (0.056)	U (0.082)	U (0.066)	U (0.059)	U (0.23)
Ethyl Benzene	880	70	0.0014 (0.0012)	U (0.0011)	U (0.0012)	U (0.0012)	U (0.059)	U (0.057)	U (0.12)	U (0.058)	U (0.058)	0.012 J (0.056)	U (0.082)	U (0.066)	0.43 (0.059)	0.088 J (0.23)
Methyl tert-butyl ether	8500	2	U (0.0023)	U (0.0022)	U (0.0023)	U (0.0024)	U (0.12)	U (0.11)	U (0.24)	U (0.12)	U (0.12)	U (0.11)	U (0.16)	U (0.13)	U (0.12)	U (0.46)
Toluene	10000	100	U (0.0012)	U (0.0011)	U (0.0012)	U (0.0012)	U (0.059)	U (0.057)	U (0.12)	U (0.058)	U (0.058)	0.048 J (0.056)	0.072 J (0.082)	0.058 J (0.066)	0.15 (0.059)	0.21 J (0.23)
1,2,4-Trimethylbenzene	4700	300	0.0016 J (0.0023)	U (0.0022)	U (0.0023)	0.00053 J (0.0024)	U (0.12)	0.021 J (0.11)	0.13 J (0.24)	U (0.12)	U (0.12)	U (0.11)	U (0.16)	U (0.13)	0.077 J (0.12)	U (0.46)
1,3,5-Trimethylbenzene	4700	93	0.0004 J (0.0023)	U (0.0022)	U (0.0023)	U (0.0024)	U (0.12)	U (0.11)	U (0.24)	U (0.12)	U (0.12)	U (0.11)	U (0.16)	U (0.13)	0.028 J (0.12)	U (0.46)
Xylenes (total)	7900	1000	0.0038 J (0.0023)	U (0.0022)	U (0.0023)	U (0.0024)	0.091 J (0.12)	0.165 J (0.11)	U (0.24)	0.063 J (0.12)	0.084 J (0.12)	U (0.11)	0.137 J (0.16)	U (0.13)	0.46 J (0.12)	U (0.46)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-Z06-c	301-Z06-c	301-Z06-c	302-AD08-a	302-AD08-a	302-AD08-a	302-AD08-a	302-AD09-d	302-AD09-d	302-AD09-d	302-AD09-d	302-AD09-d	302-AD10-a	302-AD10-a
Cell	Soil Direct Contact	Soil to	301-Z06	301-Z06	301-Z06	302-AD08	302-AD08	302-AD08	302-AD08	302-AD09	302-AD09	302-AD09	302-AD09	302-AD09	302-AD10	302-AD10
Field Sample ID	Numeric Value	Groundwater	301-Z06-C3-VOC	301-Z06-C4-VOC	301-Z06-C5-VOC	302-AD08-C1-VOC	302-AD08-C2-VOC	302-AD08-C3-VOC	302-AD08-C4-VOC	302-AD09-C1-VOC	302-AD09-C2-VOC	302-AD09-C3-VOC	302-AD09-C4-VOC	302-AD09-C5-VOC	302-AD10-C1-VOC	302-AD10-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.8 - 2.0	3.0 - 3.2	3.4 - 3.5	0.0 - 0.2	1.4 - 1.5	2.4 - 2.6	3.7 - 3.8	1.1 - 1.2	2.3 - 2.4	3.7 - 3.8	4.6 - 4.7	5.8 - 5.9	0.2 - 0.3	0.3 - 0.5
Sample Date	(mg/kg)	(mg/kg)	5/24/2022	5/24/2022	5/24/2022	6/2/2022	6/2/2022	6/2/2022	6/2/2022	6/1/2022	6/1/2022	6/1/2022	6/1/2022	6/1/2022	6/3/2022	6/3/2022
VOCs																
Benzene	280	0.5	U (0.15)	U (0.053)	U (0.033)	U (0.00056)	U (0.00054)	U (0.00048)	U (0.00061)	0.0038 (0.00051)	U (0.00052)	0.00036 J (0.00074)	0.00081 (0.00059)	U (0.00052)	0.077 (0.034)	0.13 (0.039)
Cumene	10000	2500	16 (0.29)	5.6 (0.11)	5.7 (0.065)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.0012)	U (0.001)	U (0.001)	U (0.0015)	U (0.0012)	U (0.001)	0.029 J (0.069)	0.22 (0.078)
1,2-Dibromoethane	3.7	0.005	U (0.15)	U (0.053)	U (0.033)	U (0.00056)	U (0.00054)	U (0.00048)	U (0.00061)	U (0.00051)	U (0.00052)	U (0.00074)	U (0.00059)	U (0.00052)	U (0.034)	U (0.039)
1,2-Dichloroethane	85	0.5	U (0.29)	U (0.11)	U (0.065)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.0012)	U (0.001)	U (0.001)	U (0.0015)	U (0.0012)	U (0.001)	U (0.069)	U (0.078)
Ethyl Benzene	880	70	U (0.29)	0.022 J (0.11)	0.051 J (0.065)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.0012)	0.00051 J (0.001)	U (0.001)	U (0.0015)	U (0.0012)	U (0.001)	0.088 (0.069)	0.24 (0.078)
Methyl tert-butyl ether	8500	2	U (0.59)	U (0.21)	U (0.13)	U (0.0022)	U (0.0022)	U (0.0019)	U (0.0024)	U (0.002)	U (0.0021)	U (0.0029)	U (0.0023)	U (0.0021)	U (0.14)	U (0.16)
Toluene	10000	100	0.22 J (0.29)	0.13 (0.11)	0.1 (0.065)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.0012)	U (0.001)	U (0.001)	U (0.0015)	U (0.0012)	U (0.001)	0.064 J (0.069)	0.13 (0.078)
1,2,4-Trimethylbenzene	4700	300	U (0.59)	U (0.21)	U (0.13)	U (0.0022)	U (0.0022)	U (0.0019)	U (0.0024)	0.00068 J (0.002)	U (0.0021)	U (0.0029)	U (0.0023)	U (0.0021)	0.084 J (0.14)	0.11 J (0.16)
1,3,5-Trimethylbenzene	4700	93	U (0.59)	U (0.21)	U (0.13)	U (0.0022)	U (0.0022)	U (0.0019)	U (0.0024)	0.00033 J (0.002)	U (0.0021)	U (0.0029)	U (0.0023)	U (0.0021)	0.023 J (0.14)	0.03 J (0.16)
Xylenes (total)	7900	1000	U (0.59)	U (0.21)	0.102 J (0.13)	U (0.0022)	U (0.0022)	U (0.0019)	U (0.0024)	0.00199 J (0.002)	U (0.0021)	U (0.0029)	U (0.0023)	U (0.0021)	0.199 J (0.14)	0.316 J (0.16)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AD10-a	302-AD10-a	302-AD11-c	302-AD11-c	302-AD11-c	302-AD11-c	302-AD11-c	302-AD12-d	302-AD12-d	302-AD12-d	302-AD12-d	302-AD12-d	302-AD13-b	302-AD13-b	302-AD13-b
Cell	Soil Direct Contact	Soil to	302-AD10	302-AD10	302-AD11	302-AD11	302-AD11	302-AD11	302-AD11	302-AD12	302-AD12	302-AD12	302-AD12	302-AD12	302-AD13	302-AD13	302-AD13
Field Sample ID	Numeric Value	Groundwater	302-AD10-C3-VOC	302-AD10-C4-VOC	302-AD11-C1-VOC	302-AD11-C2-VOC	302-AD11-C3-VOC	302-AD11-C4-VOC	302-AD11-C4-VOC	302-AD12-C1-VOC	302-AD12-C2-VOC	302-AD12-C3-VOC	302-AD12-C4-VOC	302-AD12-C5-VOC	302-AD13-C1-VOC	302-AD13-C2-VOC	302-AD13-C3-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.6 - 0.8	0.9 - 1.1	0.6 - 0.8	1.4 - 1.5	2.6 - 2.7	3.7 - 3.8	3.7 - 3.8	0.3 - 0.5	0.6 - 0.8	1.1 - 1.2	1.5 - 1.7	2.1 - 2.3	0.3 - 0.5	0.6 - 0.8	1.2 - 1.4
Sample Date	(mg/kg)	(mg/kg)	6/3/2022	6/3/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/9/2022	6/9/2022	6/9/2022
VOCs																	
Benzene	280	0.5	0.049 (0.037)	0.00081 (0.0005)	U (0.00044)	U (0.00048)	U (0.00048)	U (0.0005)	U (0.00053)	U (0.00058)	U (0.0005)	U (0.0006)	U (0.00046)	U (0.00053)	U (0.00046)	U (0.00049)	
Cumene	10000	2500	0.65 (0.074)	0.0013 (0.001)	U (0.00087)	U (0.00095)	U (0.00096)	U (0.001)	U (0.001)	U (0.0012)	U (0.001)	U (0.0012)	U (0.00092)	U (0.0011)	U (0.00092)	U (0.00098)	
1,2-Dibromoethane	3.7	0.005	U (0.037)	U (0.0005)	U (0.00044)	U (0.00048)	U (0.00048)	U (0.0005)	U (0.00053)	U (0.00058)	U (0.0005)	U (0.0006)	U (0.00046)	U (0.00053)	U (0.00046)	U (0.00049)	
1,2-Dichloroethane	85	0.5	U (0.074)	U (0.001)	U (0.00087)	U (0.00095)	U (0.00096)	U (0.001)	U (0.001)	U (0.0012)	U (0.001)	U (0.0012)	U (0.00092)	U (0.0011)	U (0.00092)	U (0.00098)	
Ethyl Benzene	880	70	0.11 (0.074)	0.00067 J (0.001)	U (0.00087)	U (0.00095)	U (0.00096)	U (0.001)	U (0.001)	U (0.0012)	U (0.001)	U (0.0012)	U (0.00092)	U (0.0011)	U (0.00092)	U (0.00098)	
Methyl tert-butyl ether	8500	2	U (0.15)	U (0.002)	U (0.0019)	U (0.0019)	U (0.0019)	U (0.002)	U (0.0021)	U (0.0023)	U (0.002)	U (0.0024)	U (0.0018)	U (0.0021)	U (0.0018)	U (0.002)	
Toluene	10000	100	0.12 (0.074)	U (0.001)	U (0.00087)	U (0.00095)	U (0.00096)	U (0.001)	U (0.001)	U (0.0012)	U (0.001)	U (0.0012)	U (0.00092)	U (0.0011)	U (0.00092)	U (0.00098)	
1,2,4-Trimethylbenzene	4700	300	0.34 (0.15)	0.01 (0.002)	U (0.0017)	U (0.0019)	U (0.0019)	U (0.002)	U (0.0021)	U (0.0023)	U (0.002)	U (0.0024)	U (0.0018)	U (0.0021)	U (0.0018)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	0.097 J (0.15)	0.011 (0.002)	U (0.0017)	U (0.0019)	U (0.0019)	U (0.002)	U (0.0021)	U (0.0023)	U (0.002)	U (0.0024)	U (0.0018)	U (0.0021)	U (0.0018)	U (0.002)	
Xylenes (total)	7900	1000	0.54 J (0.15)	0.0042 J (0.002)	U (0.0017)	U (0.0019)	U (0.0019)	U (0.002)	U (0.0021)	U (0.0023)	U (0.002)	U (0.0024)	U (0.0018)	U (0.0021)	U (0.0018)	U (0.002)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AE09-d	302-AE09-d	302-AE09-d	302-AE09-d	302-AE10-b	302-AE10-b	302-AE10-b	302-AE10-b	302-AF06-a	302-AF06-a	302-AF06-a	302-AF06-a	302-AF06-a	302-AG07-d
Cell	Soil Direct Contact	Soil to	302-AE09	302-AE09	302-AE09	302-AE09	302-AE10	302-AE10	302-AE10	302-AE10	302-AF06	302-AF06	302-AF06	302-AF06	302-AF06	302-AG07
Field Sample ID	Numeric Value	Groundwater	302-AE09-C1-VOC	302-AE09-C2-VOC	302-AE09-C3-VOC	302-AE09-C4-VOC	302-AE10-C1-VOC	302-AE10-C2-VOC	302-AE10-C3-VOC	302-AE10-C4-VOC	302-AF06-C1-VOC	302-AF06-C2-VOC	302-AF06-C3-VOC	302-AF06-C4-VOC	302-AF06-C5-VOC	302-AG07-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.0 - 0.2	0.3 - 0.5	0.6 - 0.8	0.9 - 1.1	0.3 - 0.5	0.9 - 1.1	1.7 - 1.8	2.4 - 2.6	0.3 - 0.5	0.9 - 1.1	2.0 - 2.1	2.7 - 2.9	3.7 - 3.8	0.0 - 0.2
Sample Date	(mg/kg)	(mg/kg)	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/9/2022	6/9/2022	6/9/2022	6/9/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022
VOCs																
Benzene	280	0.5	U (0.00051)	U (0.00047)	U (0.00043)	U (0.00052)	U (0.00071)	U (0.00054)	U (0.00062)	0.00021 J (0.00057)	0.00029 J (0.00063)	U (0.00052)	0.2 (0.027)	U (0.12)	U (0.14)	0.0016 (0.00061)
Cumene	10000	2500	U (0.001)	U (0.00094)	U (0.00086)	U (0.001)	U (0.0014)	U (0.0011)	U (0.0012)	U (0.0011)	0.00029 J (0.0012)	0.00013 J (0.001)	0.044 J (0.054)	2.6 (0.25)	2.6 (0.27)	U (0.0012)
1,2-Dibromoethane	3.7	0.005	U (0.00051)	U (0.00047)	U (0.00043)	U (0.00052)	U (0.00071)	U (0.00054)	U (0.00062)	U (0.00057)	U (0.00063)	U (0.00052)	U (0.027)	U (0.12)	U (0.14)	U (0.00061)
1,2-Dichloroethane	85	0.5	U (0.001)	U (0.00094)	U (0.00086)	U (0.001)	U (0.0014)	U (0.0011)	U (0.0012)	U (0.0011)	U (0.0012)	U (0.001)	U (0.054)	U (0.25)	U (0.27)	U (0.0012)
Ethyl Benzene	880	70	U (0.001)	U (0.00094)	U (0.00086)	U (0.001)	U (0.0014)	U (0.0011)	U (0.0012)	U (0.0011)	U (0.0012)	U (0.001)	0.066 (0.054)	U (0.25)	U (0.27)	U (0.0012)
Methyl tert-butyl ether	8500	2	U (0.002)	U (0.0019)	U (0.0017)	U (0.0021)	U (0.0028)	U (0.0022)	U (0.0025)	U (0.0023)	U (0.0025)	U (0.0021)	U (0.11)	U (0.5)	U (0.55)	U (0.0024)
Toluene	10000	100	U (0.001)	U (0.00094)	U (0.00086)	U (0.001)	U (0.0014)	U (0.0011)	U (0.0012)	U (0.0011)	U (0.0012)	U (0.001)	0.057 (0.054)	U (0.25)	U (0.27)	U (0.0012)
1,2,4-Trimethylbenzene	4700	300	U (0.002)	U (0.0019)	U (0.0017)	U (0.0021)	U (0.0028)	U (0.0022)	U (0.0025)	U (0.0023)	U (0.0025)	U (0.0021)	0.063 J (0.11)	U (0.5)	U (0.55)	U (0.0024)
1,3,5-Trimethylbenzene	4700	93	U (0.002)	U (0.0019)	U (0.0017)	U (0.0021)	U (0.0028)	U (0.0022)	U (0.0025)	U (0.0023)	U (0.0025)	U (0.0021)	0.016 J (0.11)	U (0.5)	U (0.55)	U (0.0024)
Xylenes (total)	7900	1000	U (0.002)	U (0.0019)	U (0.0017)	U (0.0021)	U (0.0028)	U (0.0022)	U (0.0025)	U (0.0023)	U (0.0025)	U (0.0021)	0.288 J (0.11)	U (0.5)	U (0.55)	U (0.0024)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AG07-d	302-AG07-d	302-AJ09-c	302-AJ09-d	302-AJ09-d	302-AJ09-d	302-AJ09-d	302-AJ09-d	302-AK06-c	302-AK06-c	302-AK06-c	302-AK06-d	302-AL06-b	302-AL06-b	302-AL06-b
Cell	Soil Direct Contact	Soil to	302-AG07	302-AG07	302-AJ09	302-AJ09	302-AJ09	302-AJ09	302-AJ09	302-AJ09	302-AK06	302-AK06	302-AK06	302-AK06	302-AL06	302-AL06	302-AL06
Field Sample ID	Numeric Value	Groundwater	302-AG07-C2-VOC	302-AG07-C3-VOC	302-AJ09-C5-VOC	302-AJ09-C1-VOC	302-AJ09-C2-VOC	302-AJ09-C3-VOC	302-AJ09-C4-VOC	302-AK06-C1-VOC	302-AK06-C3-VOC	302-AK06-C4-VOC	302-AK06-C2-VOC	302-AL06-C1-VOC	302-AL06-C3-VOC	302-AL06-C4-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.3 - 0.5	0.5 - 0.6	3.4 - 3.5	0.2 - 0.3	0.6 - 0.8	0.9 - 1.1	1.5 - 1.7	0.9 - 1.1	3.5 - 3.7	4.9 - 5.0	2.1 - 2.3	0.3 - 0.5	1.2 - 1.4	1.8 - 2.0	
Sample Date	(mg/kg)	(mg/kg)	6/14/2022	6/14/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/7/2022	6/7/2022	6/7/2022	6/7/2022	6/7/2022	6/7/2022	6/7/2022	
VOCs																	
Benzene	280	0.5	0.0037 (0.00064)	0.00026 J (0.00055)	0.014 J (0.028)	U (0.00054)	U (0.056)	U (0.028)	U (0.029)	0.00024 J (0.00046)	0.00034 J (0.00042)	0.0011 (0.00047)	0.00026 J (0.00041)	0.00032 J (0.00054)	0.0013 (0.00058)	0.001 (0.00045)	
Cumene	10000	2500	U (0.0013)	U (0.0011)	0.29 (0.055)	U (0.0011)	0.54 (0.11)	0.25 (0.057)	0.11 (0.058)	U (0.00093)	0.0068 (0.00084)	0.00025 J (0.00094)	0.00077 J (0.00082)	0.00022 J (0.0011)	0.00013 J (0.0012)	0.00014 J (0.0009)	
1,2-Dibromoethane	3.7	0.005	U (0.00064)	U (0.00055)	U (0.028)	U (0.00054)	U (0.056)	U (0.028)	U (0.029)	U (0.00046)	U (0.00042)	U (0.00047)	U (0.00041)	U (0.00054)	U (0.00058)	U (0.00045)	
1,2-Dichloroethane	85	0.5	U (0.0013)	U (0.0011)	U (0.055)	U (0.0011)	U (0.11)	U (0.057)	U (0.058)	U (0.00093)	U (0.00084)	U (0.00094)	U (0.00082)	U (0.0011)	U (0.0012)	U (0.0009)	
Ethyl Benzene	880	70	U (0.0013)	U (0.0011)	U (0.055)	U (0.0011)	0.043 J (0.11)	0.016 J (0.057)	U (0.058)	U (0.00093)	0.0065 (0.00084)	0.0003 J (0.00094)	0.0012 (0.00082)	0.00015 J (0.0011)	0.00016 J (0.0012)	U (0.0009)	
Methyl tert-butyl ether	8500	2	U (0.0025)	U (0.0022)	U (0.11)	U (0.0022)	U (0.22)	U (0.11)	U (0.12)	U (0.0018)	U (0.0017)	U (0.0019)	U (0.0016)	U (0.0021)	U (0.0023)	U (0.0018)	
Toluene	10000	100	U (0.0013)	U (0.0011)	U (0.055)	U (0.0011)	U (0.11)	U (0.057)	U (0.058)	U (0.00093)	0.00074 J (0.00084)	0.00086 J (0.00094)	0.00068 J (0.00082)	U (0.0011)	U (0.0012)	U (0.0009)	
1,2,4-Trimethylbenzene	4700	300	U (0.0025)	U (0.0022)	1.3 (0.11)	U (0.0022)	0.96 (0.22)	0.17 (0.11)	0.068 J (0.12)	U (0.0018)	0.0073 (0.0017)	0.0019 (0.0019)	0.004 (0.0016)	U (0.0021)	0.00049 J (0.0023)	U (0.0018)	
1,3,5-Trimethylbenzene	4700	93	U (0.0025)	U (0.0022)	U (0.11)	U (0.0022)	0.12 J (0.22)	0.026 J (0.11)	U (0.12)	U (0.0018)	0.0011 J (0.0017)	0.00096 J (0.0019)	0.0059 (0.0016)	U (0.0021)	0.00024 J (0.0023)	U (0.0018)	
Xylenes (total)	7900	1000	U (0.0025)	U (0.0022)	U (0.11)	U (0.0022)	0.165 J (0.22)	0.075 J (0.11)	U (0.12)	U (0.0018)	0.014 J (0.0017)	0.00268 J (0.0019)	0.0043 J (0.0016)	U (0.0021)	U (0.0023)	U (0.0018)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AL06-c	302-AL06-d	302-AN02-c	302-AN02-c	302-AN02-c	302-AN02-d	302-AN02-d	302-AN02-d	302-AO03-a	302-AO03-c	302-AO03-c	302-AO03-d	302-AQ02-b	302-AQ02-b	302-AQ02-c
Cell	Soil Direct Contact	Soil to	302-AL06	302-AL06	302-AN02	302-AN02	302-AN02	302-AN02	302-AN02	302-AN02	302-AO03	302-AO03	302-AO03	302-AO03	302-AQ02	302-AQ02	302-AQ02
Field Sample ID	Numeric Value	Groundwater	302-AL06-C2-VOC	302-AL06-C5-VOC	302-AN02-C1-VOC	302-AN02-C2-VOC	302-AN02-C3-VOC	302-AN02-C4-VOC	302-AN02-C5-VOC	302-AO03-C1-VOC	302-AO03-C2-VOC	302-AO03-C3-VOC	302-AO03-C4-VOC	302-AQ02-C1-VOC	302-AQ02-C5-VOC	302-AQ02-C2-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.9 - 1.1	2.0 - 2.1	0.2 - 0.3	0.6 - 0.8	1.2 - 1.4	2.0 - 2.1	2.3 - 2.4	0.0 - 0.2	1.5 - 1.7	2.9 - 3.0	4.4 - 4.6	0.2 - 0.3	1.7 - 1.8	1.2 - 1.4	
Sample Date	(mg/kg)	(mg/kg)	6/7/2022	6/7/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/15/2022	6/15/2022	6/15/2022	
VOCs																	
Benzene	280	0.5	0.0011 (0.0005)	U (0.00054)	0.00021 J (0.00049)	U (0.29)	0.00024 J (0.00042)	U (0.029)	U (0.0005)	U (0.00048)	0.0029 (0.00046)	0.06 (0.028)	U (0.00046)	U (0.00059)	U (0.034)	U (0.00054)	
Cumene	10000	2500	0.00045 J (0.001)	0.0005 J (0.0011)	0.00069 J (0.00099)	1.3 (0.58)	0.0021 (0.00085)	0.014 J (0.057)	0.00011 J (0.00099)	0.0003 J (0.00096)	0.00016 J (0.00091)	1.9 (0.057)	U (0.00092)	U (0.0012)	0.33 (0.068)	0.00019 J (0.0011)	
1,2-Dibromoethane	3.7	0.005	U (0.0005)	U (0.00054)	U (0.00049)	U (0.29)	U (0.00042)	U (0.029)	U (0.0005)	U (0.00048)	U (0.00046)	U (0.028)	U (0.00046)	U (0.00059)	U (0.034)	U (0.00054)	
1,2-Dichloroethane	85	0.5	U (0.001)	U (0.0011)	U (0.00099)	U (0.58)	U (0.00085)	U (0.057)	U (0.00099)	U (0.00096)	U (0.00091)	U (0.057)	U (0.00092)	U (0.0012)	U (0.068)	U (0.0011)	
Ethyl Benzene	880	70	0.00036 J (0.001)	U (0.0011)	U (0.00099)	0.62 (0.58)	0.002 (0.00085)	U (0.057)	U (0.00099)	0.00023 J (0.00096)	U (0.00091)	3.2 (0.057)	U (0.00092)	U (0.0012)	0.14 (0.068)	U (0.0011)	
Methyl tert-butyl ether	8500	2	U (0.002)	U (0.0022)	U (0.002)	U (1.2)	0.00017 J (0.0017)	U (0.11)	U (0.002)	U (0.0019)	U (0.0018)	U (0.11)	U (0.0018)	0.00029 J (0.0024)	U (0.14)	0.00048 J (0.0022)	
Toluene	10000	100	0.00092 J (0.001)	U (0.0011)	U (0.00099)	U (0.58)	U (0.00085)	U (0.057)	U (0.00099)	U (0.00096)	U (0.00091)	0.068 (0.057)	U (0.00092)	U (0.0012)	U (0.068)	U (0.0011)	
1,2,4-Trimethylbenzene	4700	300	0.00037 J (0.002)	U (0.0022)	U (0.002)	28 (1.2)	0.0069 (0.0017)	U (0.11)	U (0.002)	0.0019 (0.0019)	U (0.0018)	17 (0.11)	U (0.0018)	U (0.0024)	4.8 (0.14)	U (0.0022)	
1,3,5-Trimethylbenzene	4700	93	U (0.002)	U (0.0022)	U (0.002)	14 (1.2)	0.0054 (0.0017)	U (0.11)	U (0.002)	0.0021 (0.0019)	0.00026 J (0.0018)	6.7 (0.11)	U (0.0018)	U (0.0024)	2.4 (0.14)	U (0.0022)	
Xylenes (total)	7900	1000	0.00128 J (0.002)	U (0.0022)	U (0.002)	1.49 J (1.2)	0.001415 J (0.0017)	U (0.11)	U (0.002)	0.00106 J (0.0019)	U (0.0018)	7.3 J (0.11)	U (0.0018)	U (0.0024)	0.133 J (0.14)	U (0.0022)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AQ02-c	302-AQ02-c	302-AR02-b	302-AR02-b	302-AR02-b	302-AR02-b	302-AR02-b	302-AS03-d	302-AS03-d	302-AS03-d	302-AV01-a	302-AV01-a	302-AV01-a	302-AV03-d	302-AV03-d
Cell	Soil Direct Contact	Soil to	302-AQ02	302-AQ02	302-AR02	302-AR02	302-AR02	302-AR02	302-AR02	302-AS03	302-AS03	302-AS03	302-AV01	302-AV01	302-AV01	302-AV03	302-AV03
Field Sample ID	Numeric Value	Groundwater	302-AQ02-C3-VOC	302-AQ02-C4-VOC	302-AR02-C1-VOC	302-AR02-C2-VOC	302-AR02-C3-VOC	302-AR02-C4-VOC	302-AR02-C4-VOC	302-AS03-C1-VOC	302-AS03-C2-VOC	302-AS03-C3-VOC	302-AV01-C1-VOC	302-AV01-C2-VOC	302-AV01-C3-VOC	302-AV03-C1-VOC	302-AV03-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.4 - 2.6	3.7 - 3.8	0.5 - 0.6	0.8 - 0.9	1.4 - 1.5	2.1 - 2.3	0.6 - 0.8	0.9 - 1.1	1.8 - 2.0	0.0 - 0.2	0.6 - 0.8	1.2 - 1.4	0.3 - 0.5	0.8 - 0.9	
Sample Date	(mg/kg)	(mg/kg)	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/14/2022	6/14/2022
VOCs																	
Benzene	280	0.5	0.013 J (0.03)	0.00099 (0.00048)	U (0.00071)	0.085 (0.033)	0.12 (0.077)	0.095 (0.064)	U (0.00096)	U (0.00055)	U (0.03)	U (0.0007)	U (0.0008)	U (0.0011)	U (0.00066)	0.00021 J (0.00046)	
Cumene	10000	2500	0.14 (0.06)	0.066 (0.00096)	0.0017 (0.0014)	1.4 (0.067)	8.3 (0.15)	6.6 (0.13)	U (0.0019)	0.00016 J (0.0011)	0.095 (0.06)	0.00046 J (0.0014)	0.00068 J (0.0016)	0.0043 (0.0021)	0.00042 J (0.0013)	0.001 (0.00092)	
1,2-Dibromoethane	3.7	0.005	U (0.03)	U (0.00048)	U (0.00071)	U (0.033)	U (0.077)	U (0.064)	U (0.00096)	U (0.00055)	U (0.03)	U (0.0007)	U (0.0008)	U (0.0011)	U (0.00066)	U (0.00046)	
1,2-Dichloroethane	85	0.5	U (0.06)	U (0.00096)	U (0.0014)	U (0.067)	U (0.15)	U (0.13)	U (0.0019)	U (0.0011)	U (0.06)	U (0.0014)	U (0.0016)	U (0.0021)	U (0.0013)	U (0.00092)	
Ethyl Benzene	880	70	0.086 (0.06)	0.002 (0.00096)	0.00032 J (0.0014)	0.14 (0.067)	0.16 (0.15)	0.93 (0.13)	U (0.0019)	U (0.0011)	0.012 J (0.06)	U (0.0014)	U (0.0016)	U (0.0021)	0.00041 J (0.0013)	0.0017 (0.00092)	
Methyl tert-butyl ether	8500	2	U (0.12)	0.00025 J (0.0019)	U (0.0028)	0.013 J (0.13)	U (0.31)	0.031 J (0.25)	U (0.0038)	U (0.0022)	U (0.12)	U (0.0028)	U (0.0032)	U (0.0043)	U (0.0026)	U (0.0018)	
Toluene	10000	100	U (0.06)	0.0018 (0.00096)	U (0.0014)	0.041 J (0.067)	0.15 (0.15)	0.1 J (0.13)	U (0.0019)	U (0.0011)	U (0.06)	U (0.0014)	U (0.0016)	U (0.0021)	U (0.0013)	U (0.00092)	
1,2,4-Trimethylbenzene	4700	300	0.62 (0.12)	0.0078 (0.0019)	0.002 J (0.0028)	4.5 (0.13)	0.27 J (0.31)	9.9 (0.25)	U (0.0038)	U (0.0022)	0.48 (0.12)	0.00088 J (0.0028)	0.0012 J (0.0032)	0.012 (0.0043)	0.00093 J (0.0026)	0.027 (0.0018)	
1,3,5-Trimethylbenzene	4700	93	0.68 (0.12)	0.00033 J (0.0019)	0.00058 J (0.0028)	0.35 (0.13)	0.042 J (0.31)	2.8 (0.25)	U (0.0038)	U (0.0022)	0.34 (0.12)	0.0007 J (0.0028)	U (0.0032)	0.002 J (0.0043)	0.0013 J (0.0026)	0.0082 (0.0018)	
Xylenes (total)	7900	1000	0.215 J (0.12)	0.0047 J (0.0019)	U (0.0028)	0.199 J (0.13)	0.46 J (0.31)	3.12 J (0.25)	U (0.0038)	U (0.0022)	U (0.12)	U (0.0028)	U (0.0032)	0.0076 J (0.0043)	U (0.0026)	0.0039 J (0.0018)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AV03-d	302-AV03-d	302-AW01-a	302-AW01-b	302-AW01-b	302-AW01-b	302-AW03-a	302-AW03-b	302-AW03-b	302-AW03-c	302-AW03-d	302-AX01-a	302-AX01-a	302-AX01-b	302-AX01-c
Cell	Soil Direct Contact	Soil to	302-AV03	302-AV03	302-AW01	302-AW01	302-AW01	302-AW01	302-AW03	302-AW03	302-AW03	302-AW03	302-AW03	302-AX01	302-AX01	302-AX01	302-AX01
Field Sample ID	Numeric Value	Groundwater	302-AV03-C3-VOC	302-AV03-C4-VOC	302-AW01-C1-VOC	302-AW01-C2-VOC	302-AW01-C3-VOC	302-AW03-C3-VOC	302-AW03-C4-VOC	302-AW03-C5-VOC	302-AW03-C2-VOC	302-AW03-C1-VOC	302-AX01-C2-VOC	302-AX01-C3-VOC	302-AX01-C4-VOC	302-AX01-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.4 - 1.5	2.0 - 2.1	0.6 - 0.8	1.5 - 1.7	2.3 - 2.4	1.4 - 1.5	0.8 - 0.9	0.9 - 1.1	0.6 - 0.8	0.3 - 0.5	1.4 - 1.5	2.1 - 2.3	2.3 - 2.4	0.3 - 0.5	
Sample Date	(mg/kg)	(mg/kg)	6/14/2022	6/14/2022	6/15/2022	6/15/2022	6/15/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	
VOCs																	
Benzene	280	0.5	0.002 (0.00048)	0.00068 (0.00048)	U (0.0007)	U (0.00079)	U (0.00071)	U (0.00045)	U (0.00041)	U (0.0004)	U (0.053)	0.0031 (0.00048)	U (0.0012)	U (0.0012)	U (0.0013)	0.023 J (0.048)	
Cumene	10000	2500	0.016 (0.00095)	0.0035 (0.00097)	0.00088 J (0.0014)	0.0037 (0.0016)	0.0043 (0.0014)	U (0.00089)	0.00011 J (0.00082)	0.00019 J (0.0008)	0.06 J (0.1)	0.0011 (0.00095)	U (0.0024)	0.00038 J (0.0023)	0.00057 J (0.0025)	U (0.096)	
1,2-Dibromoethane	3.7	0.005	U (0.00048)	U (0.00048)	U (0.0007)	U (0.00079)	U (0.00071)	U (0.00045)	U (0.00041)	U (0.0004)	U (0.053)	U (0.00048)	U (0.0012)	U (0.0012)	U (0.0013)	U (0.048)	
1,2-Dichloroethane	85	0.5	U (0.00095)	U (0.00097)	U (0.0014)	U (0.0016)	U (0.0014)	U (0.00089)	U (0.00082)	U (0.0008)	U (0.1)	U (0.00095)	U (0.0024)	U (0.0023)	U (0.0025)	U (0.096)	
Ethyl Benzene	880	70	0.026 (0.00095)	0.0054 (0.00097)	0.00026 J (0.0014)	0.00025 J (0.0016)	0.00038 J (0.0014)	0.00025 J (0.00089)	U (0.00082)	0.00011 J (0.0008)	U (0.1)	0.015 (0.00095)	U (0.0024)	U (0.0023)	U (0.0025)	0.037 J (0.096)	
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.0019)	U (0.0028)	U (0.0032)	U (0.0028)	U (0.0018)	U (0.0016)	U (0.0016)	U (0.21)	U (0.0019)	U (0.0048)	U (0.0047)	U (0.0051)	U (0.19)	
Toluene	10000	100	0.01 (0.00095)	0.0016 (0.00097)	U (0.0014)	0.00087 J (0.0016)	0.0014 (0.0014)	U (0.00089)	U (0.00082)	U (0.0008)	U (0.1)	U (0.00095)	U (0.0024)	U (0.0023)	U (0.0025)	0.39 (0.096)	
1,2,4-Trimethylbenzene	4700	300	0.26 (0.0019)	0.054 (0.0019)	0.0036 (0.0028)	0.0027 J (0.0032)	0.0047 (0.0028)	U (0.0018)	U (0.0016)	U (0.0016)	1.2 (0.21)	0.12 (0.0019)	U (0.0048)	0.0011 J (0.0047)	0.0012 J (0.0051)	0.049 J (0.19)	
1,3,5-Trimethylbenzene	4700	93	0.075 (0.0019)	0.016 (0.0019)	0.0036 (0.0028)	0.0013 J (0.0032)	0.0041 (0.0028)	U (0.0018)	U (0.0016)	U (0.0016)	0.98 (0.21)	0.043 (0.0019)	U (0.0048)	0.00074 J (0.0047)	0.0007 J (0.0051)	U (0.19)	
Xylenes (total)	7900	1000	0.127 J (0.0019)	0.024 J (0.0019)	0.00178 J (0.0028)	0.00212 J (0.0032)	0.0043 J (0.0028)	U (0.0018)	U (0.0016)	U (0.0016)	U (0.21)	0.08 J (0.0019)	U (0.0048)	0.00309 J (0.0047)	0.00385 J (0.0051)	0.126 J (0.19)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AX04-a 302-AX04	302-AX04-a 302-AX04	302-AX04-a 302-AX04	302-AX04-a 302-AX04	302-AX04-a 302-AX04	302-AX04-a 302-AX04	302-AX05-d 302-AX05	302-AX05-d 302-AX05	302-AX05-d 302-AX05	302-AX05-d 302-AX05	302-AY06-b 302-AY06	302-AY06-b 302-AY06	302-AY06-b 302-AY06	302-AY06-d 302-AY06	302-AZ05-a 302-AZ05
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	302-AX04-C1-VOC	302-AX04-C2-VOC	302-AX04-C3-VOC	302-AX04-C4-VOC	302-AX04-C5-VOC	302-AX05-C1-VOC	302-AX05-C2-VOC	302-AX05-C3-VOC	302-AX05-C4-VOC	302-AY06-C2-VOC	302-AY06-C3-VOC	302-AY06-C4-VOC	302-AY06-C1-VOC	302-AZ05-C3-VOC	
Collection Depth (ft bgs)	0-2		0.6 - 0.8	1.4 - 1.5	2.3 - 2.4	4.0 - 4.1	4.9 - 5.0	0.3 - 0.5	0.8 - 0.9	1.2 - 1.4	1.7 - 1.8	0.8 - 0.9	1.2 - 1.4	1.8 - 2.0	0.3 - 0.5	2.6 - 2.7	
Sample Date	(mg/kg)	(mg/kg)	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/10/2022	6/10/2022	6/10/2022	6/10/2022	6/10/2022	
VOCs																	
Benzene	280	0.5	0.00059 (0.00059)	U (0.00056)	U (0.00047)	U (0.00054)	U (0.00052)	3.5 (0.28)	0.82 (0.031)	0.65 (0.082)	0.03 (0.0005)	U (0.0005)	0.00018 J (0.00054)	0.00016 J (0.00049)	U (0.00045)	U (0.029)	
Cumene	10000	2500	0.0023 (0.0012)	U (0.0011)	U (0.00095)	0.00026 J (0.0011)	U (0.001)	15 (0.56)	0.99 (0.061)	0.11 J (0.16)	0.0036 (0.001)	0.056 (0.00099)	0.32 (0.0011)	0.012 (0.00097)	0.0048 (0.0009)	0.027 J (0.058)	
1,2-Dibromoethane	3.7	0.005	U (0.00059)	U (0.00056)	U (0.00047)	U (0.00054)	U (0.00052)	U (0.28)	U (0.031)	U (0.00055)	U (0.0005)	U (0.0005)	U (0.00054)	U (0.00049)	U (0.00045)	U (0.029)	
1,2-Dichloroethane	85	0.5	U (0.0012)	U (0.0011)	U (0.00095)	U (0.0011)	U (0.001)	U (0.56)	U (0.061)	U (0.0011)	U (0.001)	U (0.00099)	U (0.0011)	U (0.00097)	U (0.0009)	U (0.058)	
Ethyl Benzene	880	70	0.0024 (0.0012)	U (0.0011)	U (0.00095)	U (0.0011)	U (0.001)	110 (0.56)	12 (0.061)	5.2 (0.16)	0.21 (0.001)	0.0011 (0.00099)	0.0054 (0.0011)	U (0.00097)	0.0026 (0.0009)	0.0095 J (0.058)	
Methyl tert-butyl ether	8500	2	U (0.0024)	U (0.0022)	U (0.0019)	U (0.0022)	U (0.0021)	U (1.1)	U (0.12)	U (0.0022)	U (0.002)	U (0.002)	U (0.0022)	U (0.0019)	U (0.0018)	U (0.12)	
Toluene	10000	100	0.00086 J (0.0012)	U (0.0011)	U (0.00095)	U (0.0011)	U (0.001)	11 (0.56)	0.17 (0.061)	0.0062 (0.0011)	0.0019 (0.001)	U (0.00099)	0.0009 J (0.0011)	U (0.00097)	U (0.0009)	U (0.058)	
1,2,4-Trimethylbenzene	4700	300	0.02 (0.0024)	U (0.0022)	U (0.0019)	U (0.0022)	U (0.0021)	260 (11)	19 (1.2)	6.6 (0.33)	0.029 (0.002)	0.0032 (0.002)	U (0.0022)	U (0.0019)	0.0013 J (0.0018)	0.023 J (0.12)	
1,3,5-Trimethylbenzene	4700	93	0.0009 J (0.0024)	U (0.0022)	U (0.0019)	U (0.0022)	U (0.0021)	92 (1.1)	8 (0.12)	0.096 J (0.33)	0.0033 (0.002)	U (0.002)	U (0.0022)	U (0.0019)	0.00022 J (0.0018)	U (0.12)	
Xylenes (total)	7900	1000	0.0044 J (0.0024)	U (0.0022)	U (0.0019)	U (0.0022)	U (0.0021)	590 J (11)	47.2 J (1.2)	0.675 J (0.33)	0.0152 J (0.002)	0.0023 J (0.002)	0.00355 J (0.0022)	0.00174 J (0.0019)	0.00128 J (0.0018)	U (0.12)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AZ05-b	302-AZ05-c	302-AZ05-d	302-BA05-a	302-BA05-b	302-BA05-c	302-BA05-c	302-BA05-c	302-BB06-b	302-BB06-b	302-BB06-b	302-BB06-b	302-BC05-a	302-BC05-b	302-BC05-c
Cell	Soil Direct Contact	Soil to	302-AZ05	302-AZ05	302-AZ05	302-BA05	302-BA05	302-BA05	302-BA05	302-BA05	302-BB06	302-BB06	302-BB06	302-BB06	302-BC05	302-BC05	302-BC05
Field Sample ID	Numeric Value	Groundwater	302-AZ05-C2-VOC	302-AZ05-C4-VOC	302-AZ05-C1-VOC	302-BA05-C3-VOC	302-BA05-C2-VOC	302-BA05-C1-VOC	302-BA05-C4-VOC	302-BB06-C1-VOC	302-BB06-C2-VOC	302-BB06-C3-VOC	302-BB06-C4-VOC	302-BC05-C3-VOC	302-BC05-C1-VOC	302-BC05-C2-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.7 - 1.8	1.7 - 1.8	0.3 - 0.5	2.1 - 2.3	1.1 - 1.2	0.6 - 0.8	4.4 - 4.6	0.9 - 1.1	1.4 - 1.5	2.7 - 2.9	4.1 - 4.3	2.3 - 2.4	0.2 - 0.3	0.5 - 0.6	
Sample Date	(mg/kg)	(mg/kg)	6/10/2022	6/10/2022	6/10/2022	6/10/2022	6/10/2022	6/10/2022	6/10/2022	6/9/2022	6/9/2022	6/9/2022	6/9/2022	6/9/2022	6/9/2022	6/9/2022	
VOCs																	
Benzene	280	0.5	U (0.00052)	U (0.031)	U (0.00055)	U (0.00056)	U (0.00048)	U (0.00054)	U (0.00053)	U (0.00056)	U (0.00049)	U (0.00049)	U (0.00055)	U (0.00054)	U (0.00048)	U (0.00044)	
Cumene	10000	2500	U (0.001)	0.1 (0.062)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.0011)	U (0.001)	U (0.0011)	U (0.00097)	U (0.00097)	U (0.0011)	U (0.0011)	0.0002 J (0.00097)	U (0.00088)	
1,2-Dibromoethane	3.7	0.005	U (0.00052)	U (0.031)	U (0.00055)	U (0.00056)	U (0.00048)	U (0.00054)	U (0.00053)	U (0.00056)	U (0.00049)	U (0.00049)	U (0.00055)	U (0.00054)	U (0.00048)	U (0.00044)	
1,2-Dichloroethane	85	0.5	U (0.001)	U (0.062)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.0011)	U (0.001)	U (0.0011)	U (0.00097)	U (0.00097)	U (0.0011)	U (0.0011)	U (0.00097)	U (0.00088)	
Ethyl Benzene	880	70	U (0.001)	0.038 J (0.062)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.0011)	U (0.001)	U (0.0011)	U (0.00097)	U (0.00097)	U (0.0011)	U (0.0011)	U (0.00097)	U (0.00088)	
Methyl tert-butyl ether	8500	2	U (0.0021)	U (0.12)	U (0.0022)	U (0.0023)	U (0.0019)	U (0.0022)	U (0.0021)	U (0.0022)	U (0.0019)	U (0.0019)	U (0.0022)	U (0.0022)	U (0.0019)	U (0.0018)	
Toluene	10000	100	U (0.001)	U (0.062)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.0011)	U (0.001)	U (0.0011)	U (0.00097)	U (0.00097)	U (0.0011)	U (0.0011)	U (0.00097)	U (0.00088)	
1,2,4-Trimethylbenzene	4700	300	U (0.0021)	6.2 (0.12)	U (0.0022)	U (0.0023)	U (0.0019)	U (0.0022)	U (0.0021)	U (0.0022)	U (0.0019)	0.0005 J (0.0019)	U (0.0022)	U (0.0022)	U (0.0019)	U (0.0018)	
1,3,5-Trimethylbenzene	4700	93	U (0.0021)	1.5 (0.12)	U (0.0022)	U (0.0023)	U (0.0019)	U (0.0022)	U (0.0021)	U (0.0022)	U (0.0019)	U (0.0019)	U (0.0022)	U (0.0022)	U (0.0019)	U (0.0018)	
Xylenes (total)	7900	1000	U (0.0021)	0.113 J (0.12)	U (0.0022)	U (0.0023)	U (0.0019)	U (0.0022)	U (0.0021)	U (0.0022)	U (0.0019)	U (0.0019)	U (0.0022)	U (0.0022)	U (0.0019)	U (0.0018)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-BC05-d	302-BC05-d	302-BD05-b	302-BD05-c	302-BD05-c	302-BD05-c	302-BD05-c	302-BE04-d	303-AY01-c	303-AY01-c	303-AY01-c	303-AZ01-a	303-AZ01-a	303-AZ01-a	303-BA01-a
Cell	Soil Direct Contact	Soil to	302-BC05	302-BC05	302-BD05	302-BD05	302-BD05	302-BD05	302-BD05	302-BE04	303-AY01	303-AY01	303-AY01	303-AZ01	303-AZ01	303-AZ01	303-BA01
Field Sample ID	Numeric Value	Groundwater	302-BC05-C4-VOC	302-BC05-C5-VOC	302-BD05-C1-VOC	302-BD05-C2-VOC	302-BD05-C3-VOC	302-BD05-C4-VOC	302-BE04-C1-VOC	303-AY01-C1-VOC	303-AY01-C2-VOC	303-AY01-C3-VOC	303-AY01-C3-VOC	303-AZ01-C1-VOC	303-AZ01-C2-VOC	303-AZ01-C3-VOC	303-BA01-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.1 - 1.2	1.4 - 1.5	0.5 - 0.6	0.5 - 0.6	0.8 - 0.9	1.1 - 1.2	0.3 - 0.5	0.3 - 0.5	1.1 - 1.2	2.0 - 2.1	0.9 - 1.1	2.3 - 2.4	3.7 - 3.8	0.3 - 0.5	
Sample Date	(mg/kg)	(mg/kg)	6/9/2022	6/9/2022	6/9/2022	6/9/2022	6/9/2022	6/9/2022	6/9/2022	6/22/2022	6/22/2022	6/22/2022	6/22/2022	6/21/2022	6/21/2022	6/21/2022	6/22/2022
VOCs																	
Benzene	280	0.5	0.00033 J (0.00053)	0.00025 J (0.00058)	U (0.00049)	0.049 (0.04)	0.24 (0.029)	1.1 (0.031)	U (0.00048)	U (0.00062)	0.00031 J (0.00074)	U (0.0012)	U (0.00084)	U (0.00088)	U (0.00073)	0.47 J (0.63)	
Cumene	10000	2500	0.00024 J (0.001)	U (0.0012)	0.00024 J (0.00098)	3.1 (0.079)	1.1 (0.058)	1.6 (0.062)	U (0.00097)	0.00048 J (0.0012)	0.00055 J (0.0015)	0.00031 J (0.0025)	0.00026 J (0.0017)	U (0.0018)	U (0.0015)	420 (2.5)	
1,2-Dibromoethane	3.7	0.005	U (0.00053)	U (0.00058)	U (0.00049)	U (0.04)	U (0.029)	U (0.031)	U (0.00048)	U (0.00062)	U (0.00074)	U (0.0012)	U (0.00084)	U (0.00088)	U (0.00073)	U (0.63)	
1,2-Dichloroethane	85	0.5	U (0.001)	U (0.0012)	U (0.00098)	U (0.079)	U (0.058)	U (0.062)	U (0.00097)	U (0.0012)	U (0.0015)	U (0.0025)	U (0.0017)	U (0.0018)	U (0.0015)	U (1.3)	
Ethyl Benzene	880	70	U (0.001)	U (0.0012)	U (0.00098)	1.1 (0.079)	0.4 (0.058)	3.6 (0.062)	U (0.00097)	0.00028 J (0.0012)	0.00051 J (0.0015)	U (0.0025)	U (0.0017)	U (0.0018)	U (0.0015)	U (1.3)	
Methyl tert-butyl ether	8500	2	U (0.0021)	U (0.0023)	U (0.002)	U (0.16)	U (0.12)	U (0.12)	U (0.0019)	U (0.0025)	U (0.0029)	U (0.005)	U (0.0033)	U (0.0035)	U (0.0029)	U (2.5)	
Toluene	10000	100	U (0.001)	U (0.0012)	U (0.00098)	0.098 (0.079)	0.099 (0.058)	0.54 (0.062)	U (0.00097)	U (0.0012)	0.0013 J (0.0015)	U (0.0025)	U (0.0017)	U (0.0018)	U (0.0015)	U (1.3)	
1,2,4-Trimethylbenzene	4700	300	0.00065 J (0.0021)	0.0012 J (0.0023)	U (0.002)	49 (1.6)	4.4 (0.12)	11 (0.12)	U (0.0019)	0.0051 (0.0025)	0.0025 J (0.0029)	0.001 J (0.005)	0.0029 J (0.0033)	0.00065 J (0.0035)	U (0.0029)	U (2.5)	
1,3,5-Trimethylbenzene	4700	93	0.00032 J (0.0021)	0.00059 J (0.0023)	U (0.002)	15 (0.16)	1.3 (0.12)	4 (0.12)	U (0.0019)	0.00072 J (0.0025)	0.0012 J (0.0029)	0.00058 J (0.005)	0.00089 J (0.0033)	0.00043 J (0.0035)	U (0.0029)	U (2.5)	
Xylenes (total)	7900	1000	U (0.0021)	U (0.0023)	U (0.002)	1.46 J (0.16)	0.57 J (0.12)	6.78 J (0.12)	U (0.0019)	0.00217 J (0.0025)	0.0025 J (0.0029)	0.0037 J (0.005)	0.003 J (0.0033)	0.00238 J (0.0035)	U (0.0029)	U (2.5)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	303-BA01-a	303-BA02-b	303-BB01-c	303-BB02-a	303-BB02-a	303-BB02-a	303-BB02-a	303-BC01-a	303-BC01-a	303-BD01-b	303-BD01-b	303-BD04-d	303-BD04-d	303-BE01-d	303-BE01-d
Cell	Soil Direct Contact	Soil to	303-BA01	303-BA02	303-BB01	303-BB02	303-BB02	303-BB02	303-BB02	303-BC01	303-BC01	303-BD01	303-BD01	303-BD04	303-BD04	303-BE01	303-BE01
Field Sample ID	Numeric Value	Groundwater	303-BA01-C2-VOC	303-BA02-C1-VOC	303-BB01-C1-VOC	303-BB02-C1-VOC	303-BB02-C2-VOC	303-BB02-C3-VOC	303-BB02-C3-VOC	303-BC01-C1-VOC	303-BC01-C2-VOC	303-BD01-C1-VOC	303-BD01-C2-VOC	303-BD04-C1-VOC	303-BD04-C2-VOC	303-BE01-C1-VOC	303-BE01-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.8 - 2.0	0.3 - 0.5	0.0 - 0.2	0.3 - 0.5	0.6 - 0.8	1.2 - 1.4	0.6 - 0.8	1.1 - 1.2	1.1 - 1.2	0.6 - 0.8	1.8 - 2.0	0.2 - 0.3	0.5 - 0.6	0.6 - 0.8	1.5 - 1.7
Sample Date	(mg/kg)	(mg/kg)	6/22/2022	6/21/2022	6/23/2022	6/22/2022	6/22/2022	6/22/2022	6/22/2022	6/22/2022	6/22/2022	6/17/2022	6/17/2022	6/20/2022	6/20/2022	6/24/2022	6/24/2022
VOCs																	
Benzene	280	0.5	U (0.0007)	U (0.00077)	U (0.00057)	0.0056 (0.0007)	0.2 (0.078)	0.5 (0.03)	U (0.00075)	0.0028 (0.00082)	0.0013 (0.00062)	0.0017 (0.00077)	U (0.0006)	0.00032 J (0.00079)	U (0.00056)	0.00021 J (0.0006)	
Cumene	10000	2500	0.0011 J (0.0014)	0.0025 (0.0015)	U (0.0011)	0.0041 (0.0014)	7.2 (0.078)	2 (0.06)	0.0021 (0.0015)	0.0063 (0.0016)	0.013 (0.0012)	0.0046 (0.0015)	U (0.0012)	U (0.0014)	U (0.0011)	U (0.0012)	
1,2-Dibromoethane	3.7	0.005	U (0.0007)	U (0.00077)	U (0.00057)	U (0.0007)	U (0.039)	U (0.03)	U (0.00075)	U (0.00082)	U (0.00062)	U (0.00077)	U (0.0006)	U (0.00072)	U (0.00056)	U (0.0006)	
1,2-Dichloroethane	85	0.5	U (0.0014)	U (0.0015)	U (0.0011)	U (0.0014)	U (0.078)	U (0.06)	U (0.0015)	U (0.0016)	U (0.0012)	U (0.0015)	U (0.0012)	U (0.0014)	U (0.0011)	U (0.0012)	
Ethyl Benzene	880	70	U (0.0014)	0.00042 J (0.0015)	U (0.0011)	0.013 (0.0014)	0.96 (0.16)	0.46 (0.06)	U (0.0015)	0.013 (0.0016)	0.0011 J (0.0012)	0.00052 J (0.0015)	U (0.0012)	0.0003 J (0.0016)	U (0.0011)	U (0.0012)	
Methyl tert-butyl ether	8500	2	U (0.0028)	U (0.0031)	U (0.0023)	U (0.0028)	U (0.16)	U (0.12)	U (0.003)	U (0.0033)	U (0.0025)	U (0.0031)	U (0.0024)	U (0.0029)	U (0.0022)	U (0.0024)	
Toluene	10000	100	U (0.0014)	U (0.0015)	U (0.0011)	0.012 (0.0014)	0.84 (0.16)	0.86 (0.06)	U (0.0015)	0.0095 (0.0016)	0.0023 (0.0012)	0.0017 (0.0015)	U (0.0012)	0.0015 J (0.0016)	U (0.0011)	U (0.0012)	
1,2,4-Trimethylbenzene	4700	300	U (0.0028)	0.0016 J (0.0031)	U (0.0023)	0.015 (0.0028)	0.7 (0.31)	0.38 (0.12)	0.00054 J (0.003)	0.039 (0.0033)	0.027 (0.0025)	0.0054 (0.0031)	U (0.0024)	0.00058 J (0.0032)	U (0.0022)	0.0012 J (0.0024)	
1,3,5-Trimethylbenzene	4700	93	U (0.0028)	0.0031 (0.0031)	U (0.0023)	0.005 (0.0028)	0.15 J (0.31)	0.11 J (0.12)	U (0.003)	0.02 (0.0033)	0.014 (0.0025)	0.003 J (0.0031)	U (0.0024)	0.00038 J (0.0032)	U (0.0022)	U (0.0024)	
Xylenes (total)	7900	1000	U (0.0028)	0.00225 J (0.0031)	U (0.0023)	0.0201 J (0.0028)	4.14 J (0.31)	2.26 J (0.12)	0.00202 J (0.003)	0.0422 J (0.0033)	0.0165 J (0.0025)	0.0059 J (0.0031)	U (0.0024)	0.00229 J (0.0032)	U (0.0022)	U (0.0024)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	303-BE03-b	303-BE03-b	303-BF01-a	303-BF01-a	303-BF05-d	303-BF05-d	303-BF05-d	303-BF05-d	303-BF05-d	303-BG01-b	303-BG04-d	303-BG04-d	303-BG04-d	303-BG04-d	303-BH01-d
Cell	Soil Direct Contact	Soil to	303-BE03	303-BE03	303-BF01	303-BF01	303-BF05	303-BF05	303-BF05	303-BF05	303-BF05	303-BG01	303-BG04	303-BG04	303-BG04	303-BG04	303-BH01
Field Sample ID	Numeric Value	Groundwater	303-BE03-C1-VOC	303-BE03-C2-VOC	303-BF01-C1-VOC	303-BF01-C2-VOC	303-BF05-C1-VOC	303-BF05-C2-VOC	303-BF05-C3-VOC	303-BF05-C4-VOC	303-BF05-C4-VOC	303-BG01-C1-VOC	303-BG04-C1-VOC	303-BG04-C2-VOC	303-BG04-C3-VOC	303-BG04-C4-VOC	303-BH01-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.2 - 0.3	0.5 - 0.6	0.3 - 0.5	0.8 - 0.9	0.5 - 0.6	0.9 - 1.1	1.8 - 2.0	2.1 - 2.3	0.6 - 0.8	0.6 - 0.8	0.9 - 1.1	1.8 - 2.0	2.7 - 2.9	1.2 - 1.4	
Sample Date	(mg/kg)	(mg/kg)	6/20/2022	6/20/2022	6/24/2022	6/24/2022	6/20/2022	6/20/2022	6/20/2022	6/20/2022	6/24/2022	6/21/2022	6/21/2022	6/21/2022	6/21/2022	6/23/2022	
VOCs																	
Benzene	280	0.5	0.00031 J (0.00044)	U (0.00089)	U (0.032)	0.14 (0.027)	0.00026 J (0.00076)	U (0.00089)	U (0.0009)	U (0.00087)	U (0.00063)	U (0.00055)	0.00025 J (0.0005)	U (0.00074)	U (0.00085)	U (0.0005)	
Cumene	10000	2500	U (0.00089)	0.0011 J (0.002)	3.2 (0.063)	3.6 (0.054)	0.00029 J (0.0017)	0.00035 J (0.0018)	0.0028 (0.0018)	0.0011 J (0.002)	U (0.0013)	U (0.0011)	U (0.001)	U (0.0015)	U (0.0017)	U (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.00044)	U (0.00089)	U (0.032)	U (0.027)	U (0.00076)	U (0.00089)	U (0.0009)	U (0.00087)	U (0.00063)	U (0.00055)	U (0.0005)	U (0.00074)	U (0.00085)	U (0.0005)	
1,2-Dichloroethane	85	0.5	U (0.00089)	U (0.0018)	U (0.063)	U (0.054)	U (0.0015)	U (0.0018)	U (0.0018)	U (0.0017)	U (0.0013)	U (0.0011)	U (0.001)	U (0.0015)	U (0.0017)	U (0.001)	
Ethyl Benzene	880	70	U (0.00089)	0.00031 J (0.002)	0.012 J (0.063)	0.019 J (0.054)	0.00034 J (0.0015)	U (0.0018)	U (0.0018)	0.00041 J (0.0017)	0.00023 J (0.0013)	U (0.0011)	U (0.001)	U (0.0015)	U (0.0017)	U (0.001)	
Methyl tert-butyl ether	8500	2	U (0.0018)	U (0.0036)	U (0.13)	U (0.11)	U (0.003)	U (0.0036)	U (0.0036)	U (0.0035)	0.00029 J (0.0025)	U (0.0022)	U (0.002)	U (0.003)	U (0.0034)	U (0.002)	
Toluene	10000	100	0.00068 J (0.00089)	U (0.0018)	U (0.063)	0.041 J (0.054)	0.0016 J (0.0017)	U (0.0018)	0.001 J (0.0018)	U (0.0017)	0.00075 J (0.0013)	U (0.0011)	U (0.001)	U (0.0015)	U (0.0017)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	U (0.0018)	0.0057 (0.004)	U (0.13)	U (0.11)	0.0012 J (0.003)	0.0015 J (0.0036)	0.0064 (0.0036)	0.0074 (0.0035)	0.0014 J (0.0025)	U (0.0022)	U (0.002)	U (0.003)	U (0.0034)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	U (0.0018)	0.0044 (0.004)	U (0.13)	U (0.11)	0.00094 J (0.003)	0.0015 J (0.0036)	0.0038 (0.0036)	0.0038 J (0.004)	0.00028 J (0.0025)	U (0.0022)	U (0.002)	U (0.003)	U (0.0034)	U (0.002)	
Xylenes (total)	7900	1000	0.00104 J (0.0018)	0.0046 J (0.004)	0.083 J (0.13)	0.075 J (0.11)	0.0023 J (0.003)	0.0028 J (0.0036)	0.005 J (0.0036)	0.0055 J (0.0035)	U (0.0025)	U (0.0022)	U (0.002)	U (0.003)	U (0.0034)	U (0.002)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	303-BH02-c	303-BH02-c	303-BH02-c	303-BH02-c	303-BH02-c	303-BH02-c	303-BI01-b	303-BI01-b	303-BI03-a	303-BI03-a	303-BI03-a	303-BI03-a	303-BJ01-a	303-BJ01-a	303-BJ02-b
Cell	Soil Direct Contact	Soil to	303-BH02	303-BH02	303-BH02	303-BH02	303-BH02	303-BH02	303-BI01	303-BI01	303-BI03	303-BI03	303-BI03	303-BI03	303-BJ01	303-BJ01	303-BJ02
Field Sample ID	Numeric Value	Groundwater	303-BH02-C1-VOC	303-BH02-C2-VOC	303-BH02-C3-VOC	303-BH02-C4-VOC	303-BH02-C5-VOC	303-BI01-C1-VOC	303-BI01-C2-VOC	303-BI03-C1-VOC	303-BI03-C2-VOC	303-BI03-C3-VOC	303-BI03-C4-VOC	303-BJ01-C1-VOC	303-BJ01-C2-VOC	303-BJ02-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.9 - 1.1	1.2 - 1.4	2.3 - 2.4	3.4 - 3.5	5.0 - 5.2	0.5 - 0.6	1.4 - 1.5	0.3 - 0.5	0.8 - 0.9	1.5 - 1.7	2.1 - 2.3	0.5 - 0.6	2.0 - 2.1	1.1 - 1.2	
Sample Date	(mg/kg)	(mg/kg)	6/17/2022	6/17/2022	6/17/2022	6/17/2022	6/17/2022	6/23/2022	6/23/2022	6/17/2022	6/17/2022	6/17/2022	6/17/2022	6/23/2022	6/23/2022	6/17/2022	
VOCs																	
Benzene	280	0.5	0.00047 J (0.00086)	U (0.00071)	U (0.00082)	U (0.00088)	U (0.001)	U (0.00053)	U (0.00054)	U (0.00089)	0.00058 J (0.00076)	0.077 (0.072)	0.0021 (0.00061)	0.00023 J (0.00061)	0.00031 J (0.00062)	U (0.0005)	
Cumene	10000	2500	0.00048 J (0.0017)	0.0023 (0.0014)	0.00052 J (0.0019)	0.00033 J (0.0018)	U (0.0021)	0.00021 J (0.0015)	U (0.0011)	0.0028 (0.0018)	0.0081 (0.0015)	0.12 J (0.14)	0.0013 (0.0012)	U (0.0012)	U (0.0011)	U (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.00086)	U (0.00071)	U (0.00082)	U (0.00088)	U (0.001)	U (0.00053)	U (0.00054)	U (0.00089)	U (0.00076)	U (0.072)	U (0.00061)	U (0.00061)	U (0.00055)	U (0.0005)	
1,2-Dichloroethane	85	0.5	U (0.0017)	U (0.0014)	U (0.0016)	U (0.0018)	U (0.0021)	U (0.001)	U (0.0011)	U (0.0018)	U (0.0015)	U (0.14)	U (0.0012)	U (0.0012)	U (0.0011)	U (0.001)	
Ethyl Benzene	880	70	0.00056 J (0.0017)	0.00028 J (0.0015)	0.00023 J (0.0016)	U (0.0018)	U (0.0021)	U (0.001)	U (0.0011)	0.0003 J (0.0018)	0.0082 (0.0015)	0.082 J (0.14)	0.00098 J (0.0012)	U (0.0012)	U (0.0011)	U (0.001)	
Methyl tert-butyl ether	8500	2	U (0.0034)	U (0.0028)	U (0.0033)	U (0.0035)	U (0.0042)	U (0.0021)	U (0.0022)	U (0.0036)	U (0.003)	U (0.29)	0.00066 J (0.0024)	U (0.0024)	U (0.0022)	U (0.002)	
Toluene	10000	100	0.0016 J (0.003)	0.0012 J (0.0015)	0.0011 J (0.0019)	U (0.0018)	U (0.0021)	0.00092 J (0.0015)	U (0.0011)	U (0.0018)	0.0058 (0.0015)	1.5 (0.14)	0.0015 (0.0012)	U (0.0012)	U (0.0011)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	0.0065 (0.0034)	0.0087 (0.0031)	0.0031 J (0.0038)	0.0028 J (0.0039)	0.00083 J (0.0042)	0.00071 J (0.0029)	0.0011 J (0.0022)	0.0049 (0.0036)	0.3 (0.003)	0.28 J (0.29)	0.0077 (0.0024)	U (0.0024)	U (0.0022)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	0.0018 J (0.0034)	0.0053 (0.0031)	0.003 J (0.0038)	0.0026 J (0.0039)	0.00052 J (0.0042)	0.00035 J (0.0029)	0.00026 J (0.0022)	0.0036 (0.0036)	0.12 (0.003)	0.086 J (0.29)	0.003 (0.0024)	U (0.0024)	U (0.0022)	U (0.002)	
Xylenes (total)	7900	1000	0.0058 J (0.0034)	0.0062 J (0.0031)	0.0028 J (0.0038)	0.003 J (0.0039)	0.0026 J (0.0042)	U (0.0021)	0.00115 J (0.0022)	0.005 J (0.0036)	0.221 J (0.003)	0.53 J (0.29)	0.0078 J (0.0024)	U (0.0024)	U (0.0022)	U (0.002)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	303-BJ02-b	303-BJ02-b	303-BK01-c	303-BK03-d	303-BK03-d	303-BK03-d	303-BK03-d	303-BL02-b	303-BL02-c	303-BL02-d	303-BM02-d	303-BM02-d	303-BM02-d	303-BN02-b	303-BN02-b
Cell	Soil Direct Contact	Soil to	303-BJ02	303-BJ02	303-BK01	303-BK03	303-BK03	303-BK03	303-BK03	303-BL02	303-BL02	303-BL02	303-BM02	303-BM02	303-BM02	303-BN02	303-BN02
Field Sample ID	Numeric Value	Groundwater	303-BJ02-C2-VOC	303-BJ02-C3-VOC	303-BK01-C1-VOC	303-BK03-C1-VOC	303-BK03-C2-VOC	303-BK03-C3-VOC	303-BK03-C3-VOC	303-BL02-C1-VOC	303-BL02-C3-VOC	303-BL02-C2-VOC	303-BM02-C1-VOC	303-BM02-C2-VOC	303-BM02-C3-VOC	303-BN02-C1-VOC	303-BN02-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.4 - 1.5	2.6 - 2.7	1.4 - 1.5	0.2 - 0.3	0.5 - 0.6	0.8 - 0.9	0.3 - 0.5	2.1 - 2.3	0.9 - 1.1	1.1 - 1.2	2.1 - 2.3	3.0 - 3.2	0.8 - 0.9	1.2 - 1.4	
Sample Date	(mg/kg)	(mg/kg)	6/17/2022	6/17/2022	6/23/2022	6/17/2022	6/17/2022	6/17/2022	6/17/2022	6/16/2022	6/16/2022	6/16/2022	6/16/2022	6/16/2022	6/16/2022	6/16/2022	
VOCs																	
Benzene	280	0.5	U (0.00043)	0.00046 J (0.0011)	1.7 (0.024)	0.066 (0.024)	U (0.4)	U (0.053)	U (0.00059)	0.00032 J (0.00081)	U (0.00057)	0.0003 J (0.00083)	U (0.00062)	U (0.00069)	0.00063 J (0.001)	0.27 (0.031)	
Cumene	10000	2500	U (0.00086)	0.017 (0.0022)	1.2 (0.049)	0.45 (0.047)	40 (0.79)	5.6 (0.1)	0.0004 J (0.0012)	0.11 (0.0016)	0.001 J (0.0011)	0.083 (0.0017)	0.16 (0.0012)	U (0.0014)	0.007 (0.002)	0.1 (0.00098)	
1,2-Dibromoethane	3.7	0.005	U (0.00043)	U (0.0011)	U (0.024)	U (0.024)	U (0.4)	U (0.053)	U (0.00059)	U (0.00081)	U (0.00057)	U (0.00083)	U (0.00062)	U (0.00069)	U (0.001)	U (0.00049)	
1,2-Dichloroethane	85	0.5	U (0.00086)	U (0.0022)	U (0.049)	U (0.047)	U (0.79)	U (0.1)	U (0.0012)	U (0.0016)	U (0.0011)	U (0.0017)	U (0.0012)	U (0.0014)	U (0.002)	U (0.00098)	
Ethyl Benzene	880	70	U (0.00086)	0.00038 J (0.0022)	0.081 (0.049)	0.05 (0.047)	0.27 J (0.79)	0.064 J (0.1)	U (0.0012)	0.00085 J (0.0016)	U (0.0011)	0.00055 J (0.0017)	0.00055 J (0.0012)	U (0.0014)	0.00069 J (0.002)	0.62 (0.062)	
Methyl tert-butyl ether	8500	2	U (0.0017)	U (0.0044)	U (0.098)	U (0.094)	U (1.6)	U (0.21)	U (0.0024)	U (0.0032)	U (0.0023)	U (0.0033)	0.00042 J (0.0025)	U (0.0028)	U (0.004)	U (0.002)	
Toluene	10000	100	U (0.00086)	0.0013 J (0.0022)	0.17 (0.049)	0.14 (0.047)	U (0.79)	U (0.1)	U (0.0012)	U (0.0016)	U (0.0011)	0.0012 J (0.0017)	0.00087 J (0.0012)	U (0.0014)	U (0.002)	1.4 (0.062)	
1,2,4-Trimethylbenzene	4700	300	U (0.0017)	0.0053 (0.0044)	0.064 J (0.098)	0.08 J (0.094)	1.1 J (1.6)	0.29 (0.21)	U (0.0024)	0.026 (0.0032)	0.0012 J (0.0023)	0.0084 (0.0033)	0.026 (0.0025)	U (0.0028)	U (0.004)	0.33 (0.12)	
1,3,5-Trimethylbenzene	4700	93	U (0.0017)	0.0043 J (0.0044)	0.057 J (0.098)	0.021 J (0.094)	0.2 J (1.6)	0.057 J (0.21)	U (0.0024)	0.025 (0.0032)	0.00031 J (0.0023)	0.0085 (0.0033)	0.014 (0.0025)	U (0.0028)	U (0.004)	0.22 (0.002)	
Xylenes (total)	7900	1000	U (0.0017)	0.006 J (0.0044)	0.387 J (0.098)	0.213 J (0.094)	1.66 J (1.6)	0.41 J (0.21)	U (0.0024)	0.0142 J (0.0032)	0.00137 J (0.0023)	0.0131 J (0.0033)	0.0152 J (0.0025)	U (0.0028)	0.003 J (0.004)	1.84 J (0.12)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	303-BN02-b 303-BN02	303-BN03-b 303-BN03	303-BO02-d 303-BO02	303-BO02-d 303-BO02	303-BO02-d 303-BO02	303-BO02-d 303-BO02	303-BP02-a 303-BP02	303-BP02-c 303-BP02	303-BP02-c 303-BP02	303-BQ01-b 303-BQ01	303-BQ02-b 303-BQ02	303-BQ02-b 303-BQ02	303-BQ02-c 303-BQ02	303-BR02-c 303-BR02	303-BR02-c 303-BR02
Field Sample ID	Numeric Value	Numeric Value	303-BN02-C3-VOC	303-BN03-C1-VOC	303-BO02-C1-VOC	303-BO02-C2-VOC	303-BO02-C3-VOC	303-BO02-C3-VOC	303-BP02-C3-VOC	303-BP02-C1-VOC	303-BP02-C2-VOC	303-BQ01-C1-VOC	303-BQ02-C1-VOC	303-BQ02-C2-VOC	303-BQ02-C3-VOC	303-BR02-C1-VOC	303-BR02-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)		2.1 - 2.3	0.5 - 0.6	0.3 - 0.5	1.4 - 1.5	1.8 - 2.0	0.8 - 0.9	0.5 - 0.6	1.1 - 1.2	0.3 - 0.5	0.3 - 0.5	0.3 - 0.5	0.8 - 0.9	2.0 - 2.1	0.8 - 0.9	1.8 - 2.0
Sample Date	(mg/kg)	(mg/kg)	6/16/2022	6/20/2022	6/16/2022	6/16/2022	6/16/2022	6/17/2022	6/17/2022	6/17/2022	6/23/2022	6/17/2022	6/17/2022	6/17/2022	6/17/2022	6/16/2022	6/16/2022
VOCs																	
Benzene	280	0.5	0.67 (0.05)	0.00073 (0.00063)	1.3 J (1.4)	10 (0.036)	4.7 (0.073)	2 (1.1)	11000 (60)	1300 (27)	0.016 J (0.036)	1700 (6)	660 (3)	7.8 (0.18)	0.045 (0.029)	0.36 (0.35)	
Cumene	10000	2500	1.9 (0.1)	0.024 (0.0012)	1100 (5.8)	5.4 (0.072)	2.4 (0.15)	870 (4.6)	16000 (120)	4800 (54)	0.87 (0.072)	37 (0.24)	160 (6)	430 (3.6)	6.4 (0.058)	32 (0.7)	
1,2-Dibromoethane	3.7	0.005	U (0.00071)	U (0.00063)	U (1.4)	U (0.036)	U (0.073)	U (1.1)	U (3)	U (2.7)	U (0.036)	U (0.12)	U (3)	U (0.18)	U (0.029)	U (0.35)	
1,2-Dichloroethane	85	0.5	U (0.0014)	U (0.0012)	U (2.9)	U (0.072)	U (0.15)	U (2.3)	U (6)	U (5.4)	U (0.072)	U (0.24)	U (6)	U (0.36)	U (0.058)	U (0.7)	
Ethyl Benzene	880	70	0.079 (0.0014)	0.0011 J (0.0012)	0.51 J (2.9)	0.029 J (0.072)	0.072 J (0.15)	U (2.3)	160 (6)	35 (5.4)	0.019 J (0.072)	12 (0.24)	42 (6)	0.67 (0.36)	0.03 J (0.058)	0.27 J (0.7)	
Methyl tert-butyl ether	8500	2	U (0.0028)	U (0.0025)	U (5.8)	U (0.14)	U (0.29)	U (4.6)	U (12)	U (11)	U (0.14)	U (0.48)	U (12)	U (0.73)	U (0.12)	U (1.4)	
Toluene	10000	100	0.2 (0.1)	0.0012 (0.0012)	U (2.9)	U (0.072)	0.28 (0.15)	U (2.3)	3400 (120)	1300 (5.4)	0.094 (0.072)	500 (12)	1300 (15)	9.5 (0.36)	0.17 (0.058)	0.61 J (0.7)	
1,2,4-Trimethylbenzene	4700	300	0.27 (0.0028)	0.0021 J (0.0025)	3.2 J (5.8)	U (0.14)	0.061 J (0.29)	U (4.6)	130 (12)	38 (11)	0.081 J (0.14)	28 (0.48)	43 (12)	2.8 (0.73)	0.19 (0.12)	0.43 J (1.4)	
1,3,5-Trimethylbenzene	4700	93	0.11 (0.0028)	0.0011 J (0.0025)	3.1 J (5.8)	U (0.14)	U (0.29)	U (4.6)	45 (12)	15 (11)	0.031 J (0.14)	11 (0.48)	15 (12)	1 (0.73)	0.096 J (0.12)	0.59 J (1.4)	
Xylenes (total)	7900	1000	0.263 J (0.0028)	0.0057 J (0.0025)	U (5.8)	U (0.14)	0.185 J (0.29)	U (4.6)	710 J (12)	159 J (11)	0.175 J (0.14)	38.4 J (0.48)	169 J (12)	2.48 J (0.73)	0.46 J (0.12)	1.55 J (1.4)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1b
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	303-BS02-c	303-BS02-c	303-BS03-b	303-BT01-d	303-BT01-d	303-BT01-d	303-BU01-d	303-BU01-d	303-BV01-d	303-BW01-c
Cell	Soil Direct Contact	Soil to	303-BS02	303-BS02	303-BS03	303-BT01	303-BT01	303-BT01	303-BU01	303-BU01	303-BV01	303-BW01
Field Sample ID	Numeric Value	Groundwater	303-BS02-C1-VOC	303-BS02-C2-VOC	303-BS03-C1-VOC	303-BT01-C1-VOC	303-BT01-C2-VOC	303-BT01-C3-VOC	303-BU01-C1-VOC	303-BU01-C2-VOC	303-BV01-C1-VOC	303-BW01-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.6 - 0.8	1.8 - 2.0	0.6 - 0.8	0.3 - 0.5	1.1 - 1.2	1.7 - 1.8	0.6 - 0.8	1.7 - 1.8	1.1 - 1.2	0.5 - 0.6
Sample Date	(mg/kg)	(mg/kg)	6/16/2022	6/16/2022	6/14/2022	6/16/2022	6/16/2022	6/16/2022	6/16/2022	6/16/2022	6/15/2022	6/14/2022
VOCs												
Benzene	280	0.5	0.039 (0.038)	0.28 (0.037)	U (0.00055)	0.083 (0.026)	0.0025 (0.00065)	0.0035 (0.00052)	0.092 J (0.23)	0.42 (0.034)	0.3 (0.061)	0.059 (0.03)
Cumene	10000	2500	1.7 (0.076)	2.1 (0.074)	U (0.0011)	2.2 (0.052)	0.24 (0.0013)	0.042 (0.001)	2.3 (0.46)	0.61 (0.068)	2.2 (0.12)	0.32 (0.06)
1,2-Dibromoethane	3.7	0.005	U (0.038)	U (0.037)	U (0.00055)	U (0.026)	U (0.00065)	U (0.00052)	U (0.23)	U (0.034)	U (0.061)	U (0.03)
1,2-Dichloroethane	85	0.5	U (0.076)	U (0.074)	U (0.0011)	U (0.052)	U (0.0013)	U (0.001)	U (0.46)	U (0.068)	U (0.12)	U (0.06)
Ethyl Benzene	880	70	0.08 (0.076)	0.1 (0.074)	U (0.0011)	0.011 J (0.052)	0.0012 J (0.0013)	0.00029 J (0.001)	U (0.46)	0.11 (0.068)	0.071 J (0.12)	0.057 J (0.06)
Methyl tert-butyl ether	8500	2	U (0.15)	U (0.15)	U (0.0022)	U (0.1)	0.00047 J (0.0026)	U (0.0021)	U (0.93)	U (0.14)	U (0.24)	U (0.12)
Toluene	10000	100	0.043 J (0.076)	0.14 (0.074)	U (0.0011)	0.062 (0.052)	0.0043 (0.0013)	0.00096 J (0.001)	U (0.46)	0.21 (0.068)	0.31 (0.12)	0.11 (0.06)
1,2,4-Trimethylbenzene	4700	300	0.14 J (0.15)	0.12 J (0.15)	U (0.0022)	0.02 J (0.1)	0.0016 J (0.0026)	0.0013 J (0.0021)	U (0.93)	0.07 J (0.14)	0.13 J (0.24)	0.095 J (0.12)
1,3,5-Trimethylbenzene	4700	93	0.024 J (0.15)	0.024 J (0.15)	U (0.0022)	U (0.1)	0.00058 J (0.0026)	0.001 J (0.0021)	U (0.93)	0.5 (0.14)	0.45 (0.24)	0.034 J (0.12)
Xylenes (total)	7900	1000	0.314 J (0.15)	0.459 J (0.15)	U (0.0022)	0.108 J (0.1)	0.0174 J (0.0026)	0.00393 J (0.0021)	0.52 J (0.93)	0.23 J (0.14)	0.98 J (0.24)	0.25 J (0.12)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Collection depth is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-AA02-b	301-AA02-d	301-AA02-d	301-AA02-d	301-AA02-d	301-AA03-a	301-AA03-a	301-AA03-a	301-AA03-a	301-AA04-c	301-AA04-c	301-AA04-c	301-AA04-c	301-AA04-c
Cell	Soil Direct Contact	Soil to	301-AA02	301-AA02	301-AA02	301-AA02	301-AA02	301-AA03	301-AA03	301-AA03	301-AA03	301-AA04	301-AA04	301-AA04	301-AA04	301-AA04
Field Sample ID	Numeric Value	Groundwater	301-AA02-C1-VOC	301-AA02-C2-VOC	301-AA02-C3-VOC	301-AA02-C4-VOC	301-AA03-C1-VOC	301-AA03-C2-VOC	301-AA03-C3-VOC	301-AA03-C4-VOC	301-AA04-C1-VOC	301-AA04-C2-VOC	301-AA04-C3-VOC	301-AA04-C4-VOC	301-AA04-C5-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.3 - 0.5	1.1 - 1.2	2.1 - 2.3	2.7 - 2.9	0.3 - 0.5	0.6 - 0.8	1.2 - 1.4	1.7 - 1.8	0.2 - 0.3	1.1 - 1.2	1.4 - 1.5	2.0 - 2.1	2.6 - 2.7	
Sample Date	(mg/kg)	(mg/kg)	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/8/2022	8/8/2022	8/8/2022	8/8/2022	8/8/2022	8/8/2022	8/8/2022	8/8/2022	8/8/2022	
VOCs																
Benzene	280	0.5	U (0.00048)	U (0.00048)	U (0.00093)	U (0.0005)	U (0.00047)	U (0.0006)	U (0.00062)	U (0.001)	U (0.00064)	0.00041 J (0.00064)	U (0.0005)	0.00016 J (0.00049)	U (0.00049)	
Cumene	10000	2500	U (0.00096)	U (0.00095)	U (0.0019)	0.00044 J (0.001)	U (0.00094)	0.00032 J (0.0012)	U (0.0012)	U (0.002)	U (0.0013)	U (0.0013)	U (0.001)	0.00014 J (0.00098)	0.001 (0.00098)	
1,2-Dibromoethane	3.7	0.005	U (0.00048)	U (0.00048)	U (0.00093)	U (0.0005)	U (0.00047)	U (0.0006)	U (0.00062)	U (0.001)	U (0.00064)	U (0.00064)	U (0.0005)	U (0.00049)	U (0.00049)	
1,2-Dichloroethane	85	0.5	U (0.00096)	U (0.00095)	U (0.0019)	U (0.001)	U (0.00094)	U (0.0012)	U (0.0012)	U (0.002)	U (0.0013)	U (0.0013)	U (0.001)	U (0.00098)	U (0.00098)	
Ethyl Benzene	880	70	U (0.00096)	U (0.00095)	U (0.0019)	U (0.001)	U (0.00094)	U (0.0012)	U (0.0012)	U (0.002)	U (0.0013)	U (0.0013)	U (0.001)	U (0.00098)	U (0.00098)	
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.0019)	U (0.0037)	U (0.002)	U (0.0019)	U (0.0024)	U (0.0025)	U (0.0041)	U (0.0026)	U (0.0026)	U (0.002)	U (0.002)	U (0.002)	
Toluene	10000	100	U (0.00096)	U (0.00095)	U (0.0019)	U (0.001)	U (0.00094)	U (0.0012)	U (0.0012)	U (0.002)	U (0.0013)	U (0.0013)	U (0.001)	U (0.00098)	U (0.00098)	
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	U (0.0019)	U (0.0037)	U (0.002)	U (0.0019)	U (0.0024)	U (0.0025)	U (0.0041)	U (0.0026)	U (0.0026)	U (0.002)	0.0005 J (0.002)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	U (0.0019)	U (0.0037)	U (0.002)	U (0.0019)	U (0.0024)	U (0.0025)	U (0.0041)	U (0.0026)	U (0.0026)	U (0.002)	U (0.002)	U (0.002)	
Xylenes (total)	7900	1000	U (0.0019)	U (0.0019)	U (0.0037)	U (0.002)	U (0.0019)	U (0.0024)	U (0.0025)	U (0.0041)	U (0.0026)	U (0.0026)	U (0.002)	U (0.002)	0.00289 J (0.002)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-AA05-a	301-AA05-a	301-AA05-a	301-AA05-a	301-AA05-a	301-AA05-a	301-AB01-a	301-AB01-b	301-AB01-b	301-AB01-b	301-AB05-a	301-AB05-a	301-AB05-a	301-AB05-a
Cell	Soil Direct Contact	Soil to	301-AA05	301-AA05	301-AA05	301-AA05	301-AA05	301-AA05	301-AB01	301-AB01	301-AB01	301-AB01	301-AB05	301-AB05	301-AB05	301-AB05
Field Sample ID	Numeric Value	Groundwater	301-AA05-C1-VOC	301-AA05-C2-VOC	301-AA05-C3-VOC	301-AA05-C4-VOC	301-AA05-C5-VOC	301-AB01-C2-VOC	301-AB01-C1-VOC	301-AB01-C3-VOC	301-AB01-C4-VOC	301-AB05-C1-VOC	301-AB05-C2-VOC	301-AB05-C3-VOC	301-AB05-C4-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.5 - 0.6	1.2 - 1.4	2.4 - 2.6	3.7 - 3.8	5.5 - 5.6	0.6 - 0.8	0.6 - 0.8	2.0 - 2.1	3.0 - 3.2	0.6 - 0.8	1.2 - 1.4	2.4 - 2.6	4.0 - 4.1	
Sample Date	(mg/kg)	(mg/kg)	8/10/2022	8/11/2022	8/10/2022	8/10/2022	8/10/2022	8/15/2022	8/15/2022	8/15/2022	8/15/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022	
VOCs																
Benzene	280	0.5	U (0.00067)	0.00051 J (0.0006)	U (0.00053)	0.00054 J (0.00066)	U (0.00088)	U (0.00043)	U (0.00039)	U (0.00038)	U (0.00046)	U (0.00066)	0.012 J (0.03)	U (0.00072)	U (0.028)	
Cumene	10000	2500	U (0.0013)	0.00021 J (0.0012)	U (0.001)	U (0.0013)	U (0.0018)	U (0.00085)	U (0.00079)	U (0.00076)	U (0.00091)	U (0.0013)	0.01 J (0.06)	U (0.0014)	U (0.056)	
1,2-Dibromoethane	3.7	0.005	U (0.00067)	U (0.0006)	U (0.00053)	U (0.00066)	U (0.00088)	U (0.00043)	U (0.00039)	U (0.00038)	U (0.00046)	U (0.00066)	U (0.03)	U (0.00072)	U (0.028)	
1,2-Dichloroethane	85	0.5	U (0.0013)	U (0.0012)	U (0.001)	U (0.0013)	U (0.0018)	U (0.00085)	U (0.00079)	U (0.00076)	U (0.00091)	U (0.0013)	U (0.06)	U (0.0014)	U (0.056)	
Ethyl Benzene	880	70	U (0.0013)	0.00046 J (0.0012)	U (0.001)	U (0.0013)	U (0.0018)	U (0.00085)	U (0.00079)	U (0.00076)	U (0.00091)	U (0.0013)	U (0.06)	U (0.0014)	U (0.056)	
Methyl tert-butyl ether	8500	2	U (0.0027)	U (0.0024)	U (0.0021)	U (0.0026)	U (0.0035)	U (0.0017)	U (0.0016)	U (0.0015)	U (0.0018)	U (0.0026)	U (0.12)	U (0.0029)	U (0.11)	
Toluene	10000	100	U (0.0013)	0.00085 J (0.0012)	U (0.001)	U (0.0013)	U (0.0018)	U (0.00085)	U (0.00079)	U (0.00076)	U (0.00091)	U (0.0013)	U (0.06)	U (0.0014)	0.037 J (0.056)	
1,2,4-Trimethylbenzene	4700	300	U (0.0027)	0.00043 J (0.0024)	U (0.0021)	U (0.0026)	U (0.0035)	U (0.0017)	U (0.0016)	U (0.0015)	U (0.0018)	U (0.0026)	U (0.12)	U (0.0029)	U (0.11)	
1,3,5-Trimethylbenzene	4700	93	U (0.0027)	0.00034 J (0.0024)	U (0.0021)	U (0.0026)	U (0.0035)	U (0.0017)	U (0.0016)	U (0.0015)	U (0.0018)	U (0.0026)	U (0.12)	U (0.0029)	U (0.11)	
Xylenes (total)	7900	1000	U (0.0027)	0.00127 J (0.0024)	U (0.0021)	U (0.0026)	U (0.0035)	U (0.0017)	U (0.0016)	U (0.0015)	U (0.0018)	U (0.0026)	U (0.12)	U (0.0029)	U (0.11)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-AB05-a	301-AC02-a	301-AC02-a	301-AC02-a	301-AC02-a	301-AC02-a	301-AC02-a	301-AC03-b	301-AC03-b	301-AC03-b	301-AC03-b	301-T01-a	301-T01-b	301-T01-b
Cell	Soil Direct Contact	Soil to	301-AB05	301-AC02	301-AC02	301-AC02	301-AC02	301-AC02	301-AC02	301-AC03	301-AC03	301-AC03	301-AC03	301-T01	301-T01	301-T01
Field Sample ID	Numeric Value	Groundwater	301-AB05-C5-VOC	301-AC02-C1-VOC	301-AC02-C2-VOC	301-AC02-C3-VOC	301-AC02-C4-VOC	301-AC02-C5-VOC	301-AC03-C1-VOC	301-AC03-C2-VOC	301-AC03-C3-VOC	301-AC03-C4-VOC	301-AC03-C4-VOC	301-T01-C4-VOC	301-T01-C1-VOC	301-T01-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	5.8 - 5.9	0.8 - 0.9	1.4 - 1.5	2.7 - 2.9	4.0 - 4.1	5.5 - 5.6	0.3 - 0.5	0.8 - 0.9	1.4 - 1.5	1.8 - 2.0	1.8 - 2.0	1.8 - 2.0	0.3 - 0.5	0.9 - 1.1
Sample Date	(mg/kg)	(mg/kg)	8/10/2022	8/16/2022	8/16/2022	8/16/2022	8/16/2022	8/16/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/4/2022	8/4/2022	8/4/2022
VOCs																
Benzene	280	0.5	U (0.029)	U (0.00048)	U (0.00049)	U (0.0005)	U (0.00054)	U (0.00036)	U (0.00043)	U (0.00051)	U (0.00053)	U (0.00056)	0.00036 J (0.00058)	0.023 J (0.036)	0.0039 (0.00052)	
Cumene	10000	2500	U (0.058)	U (0.00096)	U (0.00097)	U (0.001)	U (0.0011)	U (0.00073)	U (0.00085)	U (0.001)	U (0.0011)	U (0.0011)	0.00023 J (0.0012)	1.5 (0.072)	0.013 (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.029)	U (0.00048)	U (0.00049)	U (0.0005)	U (0.00054)	U (0.00036)	U (0.00043)	U (0.00051)	U (0.00053)	U (0.00056)	U (0.00058)	0.0012 (0.00052)	U (0.00052)	
1,2-Dichloroethane	85	0.5	U (0.058)	U (0.00096)	U (0.00097)	U (0.001)	U (0.0011)	U (0.00073)	U (0.00085)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.001)	U (0.001)	
Ethyl Benzene	880	70	U (0.058)	U (0.00096)	U (0.00097)	U (0.001)	U (0.0011)	U (0.00073)	U (0.00085)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0012)	0.08 (0.072)	0.0016 (0.001)	
Methyl tert-butyl ether	8500	2	U (0.12)	U (0.0019)	U (0.0019)	U (0.002)	U (0.0022)	U (0.0015)	U (0.0017)	U (0.002)	U (0.0021)	U (0.0022)	U (0.0023)	U (0.0021)	U (0.0021)	
Toluene	10000	100	U (0.058)	U (0.00096)	U (0.00097)	U (0.001)	U (0.0011)	U (0.00073)	U (0.00085)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0012)	0.0065 (0.001)	0.001 (0.001)	
1,2,4-Trimethylbenzene	4700	300	U (0.12)	U (0.0019)	U (0.0019)	U (0.002)	U (0.0022)	U (0.0015)	U (0.0017)	U (0.002)	U (0.0021)	U (0.0022)	U (0.0023)	0.07 J (0.14)	0.0059 (0.0021)	
1,3,5-Trimethylbenzene	4700	93	U (0.12)	U (0.0019)	U (0.0019)	U (0.002)	U (0.0022)	U (0.0015)	U (0.0017)	U (0.002)	U (0.0021)	U (0.0022)	U (0.0023)	0.052 J (0.14)	0.00086 J (0.0021)	
Xylenes (total)	7900	1000	U (0.12)	U (0.0019)	U (0.0019)	U (0.002)	U (0.0022)	U (0.0015)	U (0.0017)	U (0.002)	U (0.0021)	U (0.0022)	U (0.0023)	0.0708 J (0.14)	0.00337 J (0.0021)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-T01-b	301-T01-b	301-T02-a	301-U01-b	301-U01-b	301-U01-d	301-U01-d	301-U01-d	301-U02-c	301-U02-c	301-U02-c	301-U02-c	301-U02-c	
Cell	Soil Direct Contact	Soil to	301-T01	301-T01	301-T02	301-U01	301-U01	301-U01	301-U01	301-U01	301-U02	301-U02	301-U02	301-U02	301-U02	
Field Sample ID	Numeric Value	Groundwater	301-T01-C3-VOC	301-T01-C5-VOC	301-T02-C1-VOC	301-U01-C4-VOC	301-U01-C5-VOC	301-U01-C1-VOC	301-U01-C2-VOC	301-U01-C3-VOC	301-U02-C1-VOC	301-U02-C2-VOC	301-U02-C3-VOC	301-U02-C4-VOC	301-U02-C5-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.2 - 1.4	2.3 - 2.4	0.9 - 1.1	1.2 - 1.4	1.5 - 1.7	0.2 - 0.3	0.3 - 0.5	0.6 - 0.8	0.2 - 0.3	0.5 - 0.6	0.9 - 1.1	1.2 - 1.4	1.7 - 1.8	
Sample Date	(mg/kg)	(mg/kg)	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	
VOCs																
Benzene	280	0.5	0.0031 (0.00044)	0.00092 (0.00056)	0.5 (0.026)	0.39 (0.028)	0.43 (0.03)	0.0017 (0.0005)	1.5 (0.064)	5.4 (0.056)	U (0.00062)	0.00032 J (0.0005)	0.013 J (0.031)	0.027 (0.026)	0.00051 J (0.00058)	
Cumene	10000	2500	0.0054 (0.00088)	0.00073 J (0.0011)	0.049 J (0.053)	3 (0.055)	3.3 (0.06)	0.00098 J (0.001)	2.5 (0.13)	5 (0.11)	U (0.0012)	0.00026 J (0.001)	0.088 (0.063)	3.8 (0.053)	0.059 (0.012)	
1,2-Dibromoethane	3.7	0.005	U (0.00044)	U (0.00056)	U (0.026)	U (0.028)	U (0.03)	U (0.0005)	U (0.064)	U (0.056)	U (0.00062)	U (0.0005)	U (0.031)	U (0.026)	U (0.00058)	
1,2-Dichloroethane	85	0.5	U (0.00088)	U (0.0011)	U (0.053)	U (0.055)	U (0.06)	U (0.001)	U (0.13)	U (0.11)	U (0.0012)	U (0.001)	U (0.063)	U (0.053)	U (0.0012)	
Ethyl Benzene	880	70	0.00052 J (0.00088)	U (0.0011)	0.1 (0.053)	1.5 (0.055)	2.1 (0.06)	0.00029 J (0.001)	1 (0.13)	3.7 (0.11)	U (0.0012)	0.00016 J (0.001)	0.013 J (0.063)	0.037 J (0.053)	0.00024 J (0.0012)	
Methyl tert-butyl ether	8500	2	U (0.0018)	U (0.0023)	U (0.1)	U (0.11)	U (0.12)	U (0.002)	U (0.26)	U (0.22)	U (0.0025)	U (0.002)	U (0.12)	U (0.1)	U (0.0023)	
Toluene	10000	100	0.00056 J (0.00088)	U (0.0011)	0.11 (0.053)	0.072 (0.055)	0.066 (0.06)	0.00065 JB (0.001)	1.3 (0.13)	3.4 (0.11)	U (0.0012)	U (0.001)	U (0.063)	0.032 J (0.053)	U (0.0012)	
1,2,4-Trimethylbenzene	4700	300	0.0011 J (0.0018)	U (0.0023)	0.057 J (0.1)	1.3 (0.11)	1.8 (0.12)	U (0.002)	0.67 (0.26)	1.6 (0.22)	U (0.0025)	U (0.002)	0.022 J (0.12)	0.78 (0.1)	0.0049 (0.0023)	
1,3,5-Trimethylbenzene	4700	93	0.00029 J (0.0018)	U (0.0023)	0.031 J (0.1)	0.24 (0.11)	0.26 (0.12)	U (0.002)	0.14 J (0.26)	0.31 (0.22)	U (0.0025)	U (0.002)	U (0.12)	0.26 (0.1)	0.0024 (0.0023)	
Xylenes (total)	7900	1000	0.00094 J (0.0018)	U (0.0023)	0.303 J (0.1)	0.088 J (0.11)	0.093 J (0.12)	0.00109 J (0.002)	2.65 J (0.26)	8.27 J (0.22)	U (0.0025)	U (0.002)	0.0755 J (0.12)	0.109 J (0.1)	0.00195 J (0.0023)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-U03-b	301-U03-c	301-U03-c	301-U03-c	301-U03-c	301-U03-c	301-V01-b	301-V01-b	301-V01-c	301-V01-c	301-V02-b	301-V02-b	301-V02-b	301-V02-c
Cell	Soil Direct Contact	Soil to	301-U03	301-U03	301-U03	301-U03	301-U03	301-U03	301-V01	301-V01	301-V01	301-V01	301-V02	301-V02	301-V02	301-V02
Field Sample ID	Numeric Value	Groundwater	301-U03-C1-VOC	301-U03-C2-VOC	301-U03-C3-VOC	301-U03-C4-VOC	301-U03-C5-VOC	301-V01-C1-VOC	301-V01-C2-VOC	301-V01-C3-VOC	301-V01-C4-VOC	301-V02-C3-VOC	301-V02-C4-VOC	301-V02-C5-VOC	301-V02-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.0 - 0.2	0.8 - 0.9	1.1 - 1.2	1.7 - 1.8	2.3 - 2.4	0.2 - 0.3	0.5 - 0.6	0.9 - 1.1	1.2 - 1.4	2.0 - 2.1	2.9 - 3.0	4.0 - 4.1	0.5 - 0.6	
Sample Date	(mg/kg)	(mg/kg)	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	
VOCs																
Benzene	280	0.5	0.24 (0.039)	0.0077 (0.00099)	22 (0.063)	7.8 (0.029)	1.3 (0.064)	0.00046 (0.00032)	U (0.00078)	0.00045 J (0.00057)	U (0.031)	U (0.029)	U (0.032)	U (0.031)	0.047 (0.032)	
Cumene	10000	2500	2.5 (0.078)	0.0023 (0.002)	6.7 (0.12)	1.5 (0.057)	2.9 (0.13)	0.00008 J (0.00063)	U (0.0016)	0.00076 J (0.0011)	0.016 J (0.062)	U (0.057)	U (0.064)	U (0.062)	0.18 (0.063)	
1,2-Dibromoethane	3.7	0.005	U (0.039)	U (0.00099)	U (0.063)	U (0.029)	U (0.064)	U (0.00032)	U (0.00078)	U (0.00057)	U (0.031)	U (0.029)	U (0.032)	U (0.031)	U (0.032)	
1,2-Dichloroethane	85	0.5	U (0.078)	U (0.002)	U (0.12)	U (0.057)	U (0.13)	U (0.00063)	U (0.0016)	U (0.0011)	U (0.062)	U (0.057)	U (0.064)	U (0.062)	U (0.063)	
Ethyl Benzene	880	70	0.12 (0.078)	0.00068 J (0.002)	35 (0.12)	8 (0.057)	0.88 (0.13)	U (0.00063)	U (0.0016)	0.00036 J (0.0011)	U (0.062)	U (0.057)	U (0.064)	0.0093 J (0.062)	0.056 J (0.063)	
Methyl tert-butyl ether	8500	2	U (0.16)	0.00041 J (0.004)	3.2 (0.25)	1.8 (0.11)	0.11 J (0.26)	U (0.0013)	U (0.0031)	U (0.0023)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.13)	
Toluene	10000	100	0.13 (0.078)	0.0018 J (0.002)	U (0.12)	U (0.057)	U (0.13)	U (0.00063)	U (0.0016)	0.00066 J (0.0011)	U (0.062)	U (0.057)	U (0.064)	U (0.062)	0.046 J (0.063)	
1,2,4-Trimethylbenzene	4700	300	0.16 (0.16)	0.002 J (0.004)	66 (12)	9.7 (0.11)	1.6 (0.26)	U (0.0013)	U (0.0031)	0.0021 J (0.0023)	U (0.12)	U (0.11)	0.024 J (0.13)	U (0.12)	0.05 J (0.13)	
1,3,5-Trimethylbenzene	4700	93	0.028 J (0.16)	0.00063 J (0.004)	14 (0.25)	3 (0.11)	0.48 (0.26)	U (0.0013)	U (0.0031)	U (0.0023)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	0.014 J (0.13)	
Xylenes (total)	7900	1000	0.339 J (0.16)	0.00288 J (0.004)	43.087 J (0.25)	9.522 J (0.11)	1.025 J (0.26)	U (0.0013)	U (0.0031)	0.0026 J (0.0023)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	0.1615 J (0.13)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-V02-c 301-V02	301-V03-c 301-V03	301-V03-c 301-V03	301-V03-c 301-V03	301-V03-c 301-V03	301-V03-c 301-V03	301-V03-c 301-V03	301-W01-d 301-W01	301-W01-d 301-W01	301-W01-d 301-W01	301-W01-d 301-W01	301-W02-a 301-W02	301-W02-a 301-W02	301-W02-a 301-W02
Field Sample ID	Numeric Value	Numeric Value	301-V02-C2-VOC	301-V03-C1-VOC	301-V03-C2-VOC	301-V03-C3-VOC	301-V03-C4-VOC	301-V03-C5-VOC	301-W01-C1-VOC	301-W01-C2-VOC	301-W01-C3-VOC	301-W01-C4-VOC	301-W02-C1-VOC	301-W02-C2-VOC	301-W02-C3-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)		1.2 - 1.4	0.3 - 0.5	0.8 - 0.9	1.1 - 1.2	1.5 - 1.7	2.0 - 2.1	0.6 - 0.8	1.1 - 1.2	2.1 - 2.3	3.0 - 3.2	0.2 - 0.3	0.6 - 0.8	1.1 - 1.2	
Sample Date	(mg/kg)	(mg/kg)	8/5/2022	10/20/2022	10/20/2022	10/20/2022	10/20/2022	10/20/2022	8/11/2022	8/11/2022	8/11/2022	8/11/2022	8/12/2022	8/12/2022	8/12/2022	
VOCs																
Benzene	280	0.5	U (0.16)	U (0.00068)	0.00024 J (0.00035)	U (0.032)	U (0.029)	U (0.045)	0.04 J (0.046)	U (0.00051)	U (0.00048)	U (0.00054)	U (0.00056)	U (0.00072)	U (0.00052)	
Cumene	10000	2500	0.31 J (0.32)	U (0.0014)	0.00017 J (0.00069)	1.2 (0.065)	1.2 (0.057)	0.042 J (0.09)	0.36 (0.092)	0.01 (0.001)	0.0006 J (0.00097)	U (0.0011)	U (0.0011)	U (0.0014)	U (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.16)	U (0.00068)	U (0.00035)	U (0.032)	U (0.029)	U (0.045)	U (0.046)	U (0.00051)	U (0.00048)	U (0.00054)	U (0.00056)	U (0.00072)	U (0.00052)	
1,2-Dichloroethane	85	0.5	U (0.32)	U (0.0014)	U (0.00069)	U (0.065)	U (0.057)	U (0.09)	U (0.092)	U (0.001)	U (0.00097)	U (0.0011)	U (0.0011)	U (0.0014)	U (0.001)	
Ethyl Benzene	880	70	0.073 J (0.32)	U (0.0014)	0.00018 J (0.00069)	0.15 (0.065)	0.14 (0.057)	0.027 J (0.09)	0.14 (0.092)	U (0.001)	U (0.00097)	U (0.0011)	U (0.0011)	U (0.0014)	U (0.001)	
Methyl tert-butyl ether	8500	2	U (0.65)	U (0.0027)	U (0.0014)	U (0.13)	U (0.11)	U (0.18)	U (0.18)	U (0.002)	U (0.0019)	U (0.0022)	U (0.0022)	U (0.0029)	U (0.0021)	
Toluene	10000	100	U (0.32)	U (0.0014)	0.00054 J (0.00069)	U (0.065)	U (0.057)	U (0.09)	0.18 (0.092)	U (0.001)	U (0.00097)	U (0.0011)	U (0.0011)	U (0.0014)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	U (0.65)	U (0.0027)	U (0.0014)	U (0.13)	U (0.11)	0.097 J (0.18)	0.7 (0.18)	0.00042 J (0.002)	U (0.0019)	U (0.0022)	U (0.0022)	U (0.0029)	U (0.0021)	
1,3,5-Trimethylbenzene	4700	93	U (0.65)	U (0.0027)	U (0.0014)	U (0.13)	U (0.11)	U (0.18)	0.12 J (0.18)	U (0.002)	U (0.0019)	U (0.0022)	U (0.0022)	U (0.0029)	U (0.0021)	
Xylenes (total)	7900	1000	U (0.65)	U (0.0027)	U (0.0014)	U (0.13)	U (0.11)	0.134 J (0.18)	1.42 J (0.18)	0.00335 J (0.002)	U (0.0019)	U (0.0022)	U (0.0022)	U (0.0029)	U (0.0021)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-W02-a	301-W02-a	301-X01-b	301-X01-b	301-X01-b	301-X01-b	301-X01-b	301-X02-c	301-X02-c	301-X02-c	301-X02-c	301-X02-d	301-Y01-c	301-Y01-c
Cell	Soil Direct Contact	Soil to	301-W02	301-W02	301-X01	301-X01	301-X01	301-X01	301-X01	301-X02	301-X02	301-X02	301-X02	301-X02	301-Y01	301-Y01
Field Sample ID	Numeric Value	Groundwater	301-W02-C4-VOC	301-W02-C5-VOC	301-X01-C1-VOC	301-X01-C2-VOC	301-X01-C3-VOC	301-X01-C4-VOC	301-X01-C4-VOC	301-X02-C2-VOC	301-X02-C3-VOC	301-X02-C4-VOC	301-X02-C5-VOC	301-X02-C1-VOC	301-Y01-C1-VOC	301-Y01-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.7 - 1.8	2.1 - 2.3	0.8 - 0.9	1.1 - 1.2	2.1 - 2.3	3.0 - 3.2	3.0 - 3.2	1.1 - 1.2	2.1 - 2.3	3.0 - 3.2	4.0 - 4.1	0.6 - 0.8	0.2 - 0.3	0.3 - 0.5
Sample Date	(mg/kg)	(mg/kg)	8/12/2022	8/12/2022	8/11/2022	8/11/2022	8/11/2022	8/11/2022	8/11/2022	8/12/2022	8/12/2022	8/12/2022	8/12/2022	8/12/2022	8/11/2022	8/11/2022
VOCs																
Benzene	280	0.5	U (0.00047)	U (0.00054)	U (0.00082)	U (0.00048)	U (0.00045)	U (0.00064)	U (0.00053)	U (0.0005)	U (0.00052)	U (0.029)	0.00053 J (0.00097)	U (0.00053)	U (0.00064)	
Cumene	10000	2500	U (0.00094)	U (0.0011)	0.0023 (0.0016)	0.0034 (0.00096)	0.00041 J (0.0009)	U (0.0013)	U (0.001)	U (0.001)	U (0.001)	0.12 (0.058)	U (0.0019)	0.00017 J (0.001)	U (0.0013)	
1,2-Dibromoethane	3.7	0.005	U (0.00047)	U (0.00054)	U (0.00082)	U (0.00048)	U (0.00045)	U (0.00064)	U (0.00053)	U (0.0005)	U (0.00052)	U (0.029)	U (0.00097)	U (0.00053)	U (0.00064)	
1,2-Dichloroethane	85	0.5	U (0.00094)	U (0.0011)	U (0.0016)	U (0.00096)	U (0.0009)	U (0.0013)	U (0.001)	U (0.001)	U (0.001)	U (0.058)	U (0.0019)	U (0.001)	U (0.0013)	
Ethyl Benzene	880	70	U (0.00094)	U (0.0011)	U (0.0016)	U (0.00096)	U (0.0009)	U (0.0013)	U (0.001)	U (0.001)	U (0.001)	U (0.058)	U (0.0019)	U (0.001)	U (0.0013)	
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.0022)	U (0.0033)	U (0.0019)	U (0.0018)	U (0.0026)	U (0.0021)	U (0.002)	U (0.0021)	U (0.12)	U (0.0039)	U (0.0021)	U (0.0025)	
Toluene	10000	100	U (0.00094)	U (0.0011)	U (0.0016)	U (0.00096)	U (0.0009)	U (0.0013)	U (0.001)	U (0.001)	U (0.001)	U (0.058)	U (0.0019)	U (0.001)	U (0.0013)	
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	U (0.0022)	0.0054 (0.0033)	0.0068 (0.0019)	U (0.0018)	U (0.0026)	U (0.0021)	U (0.002)	U (0.0021)	U (0.12)	U (0.0039)	0.00044 J (0.0021)	0.00044 J (0.0025)	
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	U (0.0022)	0.0024 J (0.0033)	0.0049 (0.0019)	U (0.0018)	U (0.0026)	U (0.0021)	U (0.002)	U (0.0021)	U (0.12)	U (0.0039)	U (0.0021)	U (0.0025)	
Xylenes (total)	7900	1000	U (0.0019)	U (0.0022)	U (0.0033)	0.00124 J (0.0019)	U (0.0018)	U (0.0026)	U (0.0021)	U (0.002)	U (0.0021)	U (0.12)	U (0.0039)	U (0.0021)	U (0.0025)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-Y01-c	301-Y01-c	301-Y02-b	301-Y02-b	301-Y02-b	301-Y02-b	301-Y02-b	301-Z01-c	301-Z01-c	301-Z01-c	301-Z01-d	301-Z02-a	301-Z02-b	301-Z02-c
Cell	Soil Direct Contact	Soil to	301-Y01	301-Y01	301-Y02	301-Y02	301-Y02	301-Y02	301-Y02	301-Z01	301-Z01	301-Z01	301-Z01	301-Z02	301-Z02	301-Z02
Field Sample ID	Numeric Value	Groundwater	301-Y01-C3-VOC	301-Y01-C4-VOC	301-Y02-C1-VOC	301-Y02-C2-VOC	301-Y02-C3-VOC	301-Y02-C4-VOC	301-Y02-C4-VOC	301-Z01-C1-VOC	301-Z01-C2-VOC	301-Z01-C3-VOC	301-Z01-C4-VOC	301-Z02-C1-VOC	301-Z02-C2-VOC	301-Z02-C3-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.7 - 0.9	1.1 - 1.2	0.5 - 0.6	1.2 - 1.4	2.1 - 2.3	3.0 - 3.2	3.0 - 3.2	0.2 - 0.3	0.5 - 0.6	0.8 - 0.9	1.2 - 1.4	0.2 - 0.3	0.3 - 0.5	0.6 - 0.8
Sample Date	(mg/kg)	(mg/kg)	8/11/2022	8/11/2022	8/12/2022	8/12/2022	8/12/2022	8/12/2022	8/12/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/9/2022	8/9/2022	8/9/2022
VOCs																
Benzene	280	0.5	U (0.0005)	U (0.00043)	0.001 (0.00052)	U (0.029)	U (0.029)	U (0.34)	U (0.00049)	U (0.00046)	U (0.00048)	U (0.00062)	U (0.00049)	U (0.00056)	U (0.0005)	
Cumene	10000	2500	0.00017 J (0.00099)	U (0.00086)	0.058 (0.001)	4.6 (0.057)	12 (0.058)	54 (0.67)	U (0.00099)	U (0.00093)	U (0.00097)	U (0.0012)	U (0.00098)	U (0.0011)	U (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.0005)	U (0.00043)	U (0.00052)	U (0.029)	U (0.029)	U (0.34)	U (0.00049)	U (0.00046)	U (0.00048)	U (0.00062)	U (0.00049)	U (0.00056)	U (0.0005)	
1,2-Dichloroethane	85	0.5	U (0.00099)	U (0.00086)	U (0.001)	U (0.057)	U (0.058)	U (0.67)	U (0.00099)	U (0.00093)	U (0.00097)	U (0.0012)	U (0.00098)	U (0.0011)	U (0.001)	
Ethyl Benzene	880	70	U (0.00099)	U (0.00086)	0.00052 J (0.001)	0.014 J (0.057)	0.032 J (0.058)	0.1 J (0.67)	U (0.00099)	U (0.00093)	U (0.00097)	U (0.0012)	U (0.00098)	U (0.0011)	U (0.001)	
Methyl tert-butyl ether	8500	2	U (0.002)	U (0.0017)	U (0.0021)	U (0.11)	U (0.12)	U (1.3)	U (0.002)	U (0.0018)	U (0.0019)	U (0.0025)	U (0.002)	U (0.0022)	U (0.002)	
Toluene	10000	100	U (0.00099)	U (0.00086)	0.001 (0.001)	0.054 J (0.057)	0.094 (0.058)	U (0.67)	U (0.00099)	U (0.00093)	U (0.00097)	U (0.0012)	U (0.00098)	U (0.0011)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	U (0.002)	U (0.0017)	0.0014 J (0.0021)	U (0.11)	U (0.12)	U (1.3)	U (0.002)	U (0.0018)	U (0.0019)	U (0.0025)	U (0.002)	U (0.0022)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	U (0.002)	U (0.0017)	U (0.0021)	U (0.11)	U (0.12)	U (1.3)	U (0.002)	U (0.0018)	U (0.0019)	U (0.0025)	U (0.002)	U (0.0022)	U (0.002)	
Xylenes (total)	7900	1000	U (0.002)	U (0.0017)	0.00188 J (0.0021)	U (0.11)	0.087 J (0.12)	U (1.3)	U (0.002)	U (0.0018)	U (0.0019)	U (0.0025)	U (0.002)	U (0.0022)	U (0.002)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	301-Z02-c	301-Z02-c	301-Z03-d	301-Z03-d	301-Z03-d	301-Z03-d	301-Z03-d	302-AD03-a	302-AD03-a	302-AD03-b	302-AD03-b	302-AD04-b	302-AD04-b	302-AD04-b
Cell	Soil Direct Contact	Soil to	301-Z02	301-Z02	301-Z03	301-Z03	301-Z03	301-Z03	301-Z03	302-AD03	302-AD03	302-AD03	302-AD03	302-AD04	302-AD04	302-AD04
Field Sample ID	Numeric Value	Groundwater	301-Z02-C4-VOC	301-Z02-C5-VOC	301-Z03-C1-VOC	301-Z03-C2-VOC	301-Z03-C3-VOC	301-Z03-C4-VOC	301-Z03-C4-VOC	302-AD03-C3-VOC	302-AD03-C4-VOC	302-AD03-C1-VOC	302-AD03-C2-VOC	302-AD04-C1-VOC	302-AD04-C3-VOC	302-AD04-C4-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.9 - 1.1	1.2 - 1.4	0.5 - 0.6	1.1 - 1.2	2.4 - 2.6	3.0 - 3.2	3.0 - 3.2	3.4 - 3.5	5.5 - 5.6	1.2 - 1.4	2.4 - 2.6	0.5 - 0.6	2.0 - 2.1	3.0 - 3.2
Sample Date	(mg/kg)	(mg/kg)	8/9/2022	8/9/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022	8/16/2022	8/16/2022	8/16/2022	8/16/2022	8/17/2022	8/17/2022	8/17/2022
VOCs																
Benzene	280	0.5	U (0.00049)	U (0.029)	U (0.0011)	U (0.0017)	U (0.00072)	U (0.035)	U (0.00068)	U (0.0005)	U (0.00056)	U (0.00051)	U (0.00086)	U (0.0007)	U (0.00048)	
Cumene	10000	2500	U (0.00098)	0.12 (0.059)	U (0.0022)	U (0.0035)	U (0.0014)	U (0.07)	U (0.0014)	U (0.001)	U (0.0011)	U (0.001)	U (0.0017)	U (0.0014)	U (0.00096)	
1,2-Dibromoethane	3.7	0.005	U (0.00049)	U (0.029)	U (0.0011)	U (0.0017)	U (0.00072)	U (0.035)	U (0.00068)	U (0.0005)	U (0.00056)	U (0.00051)	U (0.00086)	U (0.0007)	U (0.00048)	
1,2-Dichloroethane	85	0.5	U (0.00098)	U (0.059)	U (0.0022)	U (0.0035)	U (0.0014)	U (0.07)	U (0.0014)	U (0.001)	U (0.0011)	U (0.001)	U (0.0017)	U (0.0014)	U (0.00096)	
Ethyl Benzene	880	70	U (0.00098)	0.0083 J (0.059)	U (0.0022)	U (0.0035)	U (0.0014)	U (0.07)	U (0.0014)	U (0.001)	U (0.0011)	U (0.001)	U (0.0017)	U (0.0014)	U (0.00096)	
Methyl tert-butyl ether	8500	2	U (0.002)	U (0.12)	U (0.0045)	U (0.007)	U (0.0029)	U (0.14)	U (0.0027)	U (0.002)	U (0.0022)	U (0.002)	U (0.0034)	U (0.0028)	U (0.0019)	
Toluene	10000	100	U (0.00098)	U (0.059)	U (0.0022)	U (0.0035)	U (0.0014)	U (0.07)	U (0.0014)	U (0.001)	U (0.0011)	U (0.001)	U (0.0017)	U (0.0014)	U (0.00096)	
1,2,4-Trimethylbenzene	4700	300	U (0.002)	0.35 (0.12)	U (0.0045)	U (0.007)	U (0.0029)	U (0.14)	U (0.0027)	0.0007 J (0.002)	U (0.0022)	U (0.002)	U (0.0034)	U (0.0028)	U (0.0019)	
1,3,5-Trimethylbenzene	4700	93	U (0.002)	0.26 (0.12)	U (0.0045)	U (0.007)	U (0.0029)	U (0.14)	U (0.0027)	0.00025 J (0.002)	U (0.0022)	U (0.002)	U (0.0034)	U (0.0028)	U (0.0019)	
Xylenes (total)	7900	1000	U (0.002)	U (0.12)	U (0.0045)	U (0.007)	U (0.0029)	U (0.14)	U (0.0027)	0.0013 J (0.002)	U (0.0022)	U (0.002)	U (0.0034)	U (0.0028)	U (0.0019)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AD04-b	302-AD04-c	302-AD05-c	302-AD05-c	302-AD05-c	302-AD05-c	302-AD05-c	302-AD06-d	302-AD06-d	302-AD06-d	302-AD06-d	302-AD07-a	302-AD07-a	302-AD07-a
Cell	Soil Direct Contact	Soil to	302-AD04	302-AD04	302-AD05	302-AD05	302-AD05	302-AD05	302-AD05	302-AD06	302-AD06	302-AD06	302-AD06	302-AD07	302-AD07	302-AD07
Field Sample ID	Numeric Value	Groundwater	302-AD04-C5-VOC	302-AD04-C2-VOC	302-AD05-C1-VOC	302-AD05-C2-VOC	302-AD05-C3-VOC	302-AD05-C4-VOC	302-AD06-C1-VOC	302-AD06-C2-VOC	302-AD06-C3-VOC	302-AD06-C4-VOC	302-AD07-C1-VOC	302-AD07-C2-VOC	302-AD07-C3-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	4.0 - 4.1	1.4 - 1.5	0.5 - 0.6	0.8 - 0.9	1.5 - 1.7	2.1 - 2.3	0.2 - 0.3	0.5 - 0.6	0.9 - 1.1	1.4 - 1.5	0.5 - 0.6	0.9 - 1.1	1.7 - 1.8	
Sample Date	(mg/kg)	(mg/kg)	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/18/2022	8/18/2022	8/18/2022	8/18/2022	8/18/2022	8/18/2022	8/18/2022	
VOCs																
Benzene	280	0.5	U (0.00055)	U (0.0006)	U (0.00051)	U (0.00054)	U (0.0005)	0.00042 J (0.00046)	0.00088 (0.00052)	0.0012 (0.0005)	U (0.034)	U (0.038)	U (0.00057)	U (0.00052)	U (0.00069)	
Cumene	10000	2500	U (0.0011)	U (0.0012)	0.047 (0.001)	0.0017 (0.0011)	0.0014 (0.00099)	0.0013 (0.00091)	0.00023 J (0.001)	0.0015 (0.001)	4.4 (0.068)	0.018 J (0.075)	U (0.0011)	0.00015 J (0.001)	U (0.0014)	
1,2-Dibromoethane	3.7	0.005	U (0.00055)	U (0.0006)	U (0.00051)	U (0.00054)	U (0.0005)	U (0.00046)	U (0.00052)	U (0.0005)	U (0.034)	U (0.038)	U (0.00057)	U (0.00052)	U (0.00069)	
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.0012)	U (0.001)	U (0.0011)	U (0.00099)	U (0.00091)	U (0.001)	U (0.001)	U (0.068)	U (0.075)	U (0.0011)	U (0.001)	U (0.0014)	
Ethyl Benzene	880	70	U (0.0011)	U (0.0012)	0.00054 J (0.001)	U (0.0011)	U (0.00099)	U (0.00091)	0.00049 J (0.001)	0.00016 J (0.001)	U (0.068)	U (0.075)	U (0.0011)	U (0.001)	U (0.0014)	
Methyl tert-butyl ether	8500	2	U (0.0022)	U (0.0024)	U (0.002)	U (0.0022)	U (0.002)	U (0.0018)	U (0.0021)	U (0.002)	U (0.14)	U (0.15)	U (0.0023)	U (0.0021)	U (0.0028)	
Toluene	10000	100	U (0.0011)	U (0.0012)	U (0.001)	U (0.0011)	U (0.00099)	U (0.00091)	0.00072 J (0.001)	U (0.001)	0.037 J (0.068)	U (0.075)	U (0.0011)	U (0.001)	U (0.0014)	
1,2,4-Trimethylbenzene	4700	300	U (0.0022)	U (0.0024)	0.0011 J (0.002)	U (0.0022)	U (0.002)	U (0.0018)	0.00085 J (0.0021)	0.0014 J (0.002)	U (0.14)	U (0.15)	U (0.0023)	U (0.0021)	U (0.0028)	
1,3,5-Trimethylbenzene	4700	93	U (0.0022)	U (0.0024)	U (0.002)	U (0.0022)	U (0.002)	U (0.0018)	0.00039 J (0.0021)	0.00064 J (0.002)	U (0.14)	U (0.15)	U (0.0023)	U (0.0021)	U (0.0028)	
Xylenes (total)	7900	1000	U (0.0022)	U (0.0024)	0.00141 J (0.002)	U (0.0022)	U (0.002)	0.00143 J (0.0018)	0.0041 J (0.0021)	0.00153 J (0.002)	U (0.14)	U (0.15)	U (0.0023)	U (0.0021)	U (0.0028)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AD07-a	302-AD07-a	302-AE03-a	302-AE03-b	302-AE03-c	302-AE03-d	302-AE03-d	302-AE03-d	302-AE04-a	302-AE04-a	302-AE04-a	302-AE04-a	302-AE04-a	302-AE05-a
Cell	Soil Direct Contact	Soil to	302-AD07	302-AD07	302-AE03	302-AE03	302-AE03	302-AE03	302-AE03	302-AE03	302-AE04	302-AE04	302-AE04	302-AE04	302-AE04	302-AE05
Field Sample ID	Numeric Value	Groundwater	302-AD07-C4-VOC	302-AD07-C5-VOC	302-AE03-C1-VOC	302-AE03-C5-VOC	302-AE03-C3-VOC	302-AE03-C2-VOC	302-AE03-C4-VOC	302-AE04-C1-VOC	302-AE04-C2-VOC	302-AE04-C3-VOC	302-AE04-C4-VOC	302-AE04-C5-VOC	302-AE05-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.4 - 2.6	3.4 - 3.5	0.5 - 0.6	1.4 - 1.5	0.8 - 0.9	1.7 - 1.8	3.0 - 3.2	0.2 - 0.3	0.5 - 0.6	0.8 - 0.9	1.1 - 1.2	1.4 - 1.5	0.2 - 0.3	
Sample Date	(mg/kg)	(mg/kg)	8/18/2022	8/18/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	8/18/2022	8/18/2022	8/18/2022	8/18/2022	8/18/2022	8/19/2022	
VOCs																
Benzene	280	0.5	U (0.00044)	U (0.00048)	U (0.036)	U (0.00046)	U (0.028)	U (0.00052)	U (0.0005)	U (0.0004)	U (0.029)	U (0.028)	U (0.00046)	U (0.00057)	U (0.00049)	
Cumene	10000	2500	U (0.00088)	U (0.00096)	0.24 (0.073)	0.082 (0.052)	0.23 (0.055)	0.15 (0.012)	U (0.001)	U (0.0008)	1 (0.058)	0.28 (0.056)	U (0.00093)	U (0.0011)	U (0.00098)	
1,2-Dibromoethane	3.7	0.005	U (0.00044)	U (0.00048)	U (0.036)	U (0.00046)	U (0.028)	U (0.00052)	U (0.0005)	U (0.0004)	U (0.029)	U (0.028)	U (0.00046)	U (0.00057)	U (0.00049)	
1,2-Dichloroethane	85	0.5	U (0.00088)	U (0.00096)	U (0.073)	U (0.00092)	U (0.055)	U (0.001)	U (0.001)	U (0.0008)	U (0.058)	U (0.056)	U (0.00093)	U (0.0011)	U (0.00098)	
Ethyl Benzene	880	70	U (0.00088)	U (0.00096)	0.012 J (0.073)	0.014 J (0.052)	0.034 J (0.055)	0.0032 (0.001)	U (0.001)	U (0.0008)	0.14 (0.058)	0.038 J (0.056)	U (0.00093)	U (0.0011)	U (0.00098)	
Methyl tert-butyl ether	8500	2	U (0.0018)	U (0.0019)	U (0.14)	U (0.0018)	U (0.11)	U (0.0021)	U (0.002)	U (0.0016)	U (0.12)	U (0.11)	U (0.0018)	U (0.0023)	U (0.002)	
Toluene	10000	100	U (0.00088)	U (0.00096)	U (0.073)	U (0.00092)	U (0.055)	U (0.001)	U (0.001)	U (0.0008)	0.037 J (0.058)	0.032 J (0.056)	U (0.00093)	U (0.0011)	U (0.00098)	
1,2,4-Trimethylbenzene	4700	300	U (0.0018)	U (0.0019)	0.042 J (0.14)	0.76 (0.1)	1.7 (0.11)	0.0014 J (0.0021)	U (0.002)	U (0.0016)	0.063 J (0.12)	4.1 (0.11)	U (0.0018)	U (0.0023)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	U (0.0018)	U (0.0019)	U (0.14)	0.15 (0.1)	0.42 (0.11)	U (0.0021)	U (0.002)	U (0.0016)	0.026 J (0.12)	2 (0.11)	U (0.0018)	U (0.0023)	U (0.002)	
Xylenes (total)	7900	1000	U (0.0018)	U (0.0019)	0.089 J (0.14)	0.03246 J (0.1)	0.0975 J (0.11)	0.00205 J (0.0021)	U (0.002)	U (0.0016)	0.16 J (0.12)	0.079 J (0.11)	U (0.0018)	U (0.0023)	U (0.002)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AE05-a 302-AE05	302-AE05-b 302-AE05	302-AE05-b 302-AE05	302-AE05-c 302-AE05	302-AE06-c 302-AE06	302-AE06-c 302-AE06	302-AE06-c 302-AE06	302-AE06-c 302-AE06	302-AE06-c 302-AE06	302-AE07-b 302-AE07	302-AE07-b 302-AE07	302-AE07-b 302-AE07	302-AE07-b 302-AE07	302-AE07-b 302-AE07
Field Sample ID	Numeric Value	Numeric Value	302-AE05-C2-VOC	302-AE05-C3-VOC	302-AE05-C5-VOC	302-AE05-C4-VOC	302-AE06-C1-VOC	302-AE06-C2-VOC	302-AE06-C3-VOC	302-AE06-C4-VOC	302-AE07-C1-VOC	302-AE07-C2-VOC	302-AE07-C3-VOC	302-AE07-C4-VOC	302-AE07-C5-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)		0.5 - 0.6	0.5 - 0.6	1.1 - 1.2	2.9 - 3.0	0.6 - 0.8	1.2 - 1.4	2.4 - 2.6	2.7 - 2.9	0.6 - 0.8	1.2 - 1.4	2.3 - 2.4	3.4 - 3.5	4.6 - 4.7	
Sample Date	(mg/kg)	(mg/kg)	8/19/2022	8/19/2022	8/19/2022	8/19/2022	8/26/2022	8/26/2022	8/26/2022	8/26/2022	8/26/2022	8/26/2022	8/26/2022	8/26/2022	8/26/2022	
VOCs																
Benzene	280	0.5	U (0.00046)	U (0.00067)	0.0027 (0.00047)	U (0.0004)	0.0011 (0.0008)	0.058 J (0.069)	21 (0.3)	0.0016 (0.00067)	17 (0.035)	0.00073 (0.00049)	5 (0.028)	0.039 (0.036)	7.4 (0.036)	
Cumene	10000	2500	U (0.00092)	U (0.0013)	0.00051 J (0.00095)	0.00017 J (0.0008)	0.00018 J (0.0016)	U (0.14)	3 (0.061)	0.00099 J (0.0013)	2.8 (0.07)	U (0.00098)	0.58 (0.057)	0.17 (0.072)	0.81 (0.071)	
1,2-Dibromoethane	3.7	0.005	U (0.00046)	U (0.00067)	U (0.00047)	U (0.0004)	U (0.0008)	U (0.069)	U (0.03)	U (0.00067)	U (0.035)	U (0.00049)	U (0.028)	U (0.036)	U (0.036)	
1,2-Dichloroethane	85	0.5	U (0.00092)	U (0.0013)	U (0.00095)	U (0.0008)	U (0.0016)	U (0.14)	U (0.061)	U (0.0013)	U (0.07)	U (0.00098)	U (0.057)	U (0.072)	U (0.071)	
Ethyl Benzene	880	70	U (0.00092)	U (0.0013)	0.00044 J (0.00095)	U (0.0008)	0.00026 J (0.0016)	0.041 J (0.14)	15 (0.061)	0.00098 J (0.0013)	13 (0.07)	U (0.00098)	2.1 (0.057)	0.033 J (0.072)	3 (0.071)	
Methyl tert-butyl ether	8500	2	U (0.0018)	U (0.0027)	U (0.0019)	U (0.0016)	U (0.0032)	U (0.28)	U (0.12)	U (0.0027)	U (0.14)	U (0.002)	U (0.11)	U (0.14)	U (0.14)	
Toluene	10000	100	U (0.00092)	U (0.0013)	U (0.00095)	U (0.0008)	U (0.0016)	U (0.14)	2.1 (0.061)	U (0.0013)	0.46 (0.07)	U (0.00098)	0.042 J (0.057)	U (0.072)	0.042 J (0.071)	
1,2,4-Trimethylbenzene	4700	300	U (0.0018)	U (0.0027)	0.00052 J (0.0019)	U (0.0016)	U (0.0032)	0.062 J (0.28)	30 (1.2)	0.0025 J (0.0027)	35 (7)	U (0.002)	6.4 (0.11)	0.32 (0.14)	8.6 (0.14)	
1,3,5-Trimethylbenzene	4700	93	U (0.0018)	U (0.0027)	0.00037 J (0.0019)	U (0.0016)	U (0.0032)	U (0.28)	10 (0.12)	0.00087 J (0.0027)	10 (0.14)	U (0.002)	2.2 (0.11)	0.13 J (0.14)	3.1 (0.14)	
Xylenes (total)	7900	1000	U (0.0018)	U (0.0027)	0.001875 J (0.0019)	U (0.0016)	U (0.0032)	0.25 J (0.28)	89 J (1.2)	0.0067 J (0.0027)	92 J (7)	U (0.002)	13.8 J (0.11)	0.223 J (0.14)	20.5 J (0.14)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AE08-a	302-AE08-a	302-AE08-a	302-AE08-a	302-AF03-c	302-AF03-c	302-AF03-c	302-AF03-c	302-AF03-c	302-AF03-c	302-AF04-c	302-AF04-c	302-AF04-c	302-AF04-c
Cell	Soil Direct Contact	Soil to	302-AE08	302-AE08	302-AE08	302-AE08	302-AF03	302-AF03	302-AF03	302-AF03	302-AF03	302-AF03	302-AF04	302-AF04	302-AF04	302-AF04
Field Sample ID	Numeric Value	Groundwater	302-AE08-C1-VOC	302-AE08-C2-VOC	302-AE08-C3-VOC	302-AE08-C4-VOC	302-AF03-C1-VOC	302-AF03-C2-VOC	302-AF03-C3-VOC	302-AF03-C4-VOC	302-AF03-C5-VOC	302-AF04-C1-VOC	302-AF04-C2-VOC	302-AF04-C3-VOC	302-AF04-C4-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.2 - 0.3	0.6 - 0.8	1.2 - 1.4	1.8 - 2.0	0.2 - 0.3	0.5 - 0.6	0.8 - 0.9	1.1 - 1.2	1.4 - 1.5	0.5 - 0.6	1.1 - 1.2	2.3 - 2.4	3.0 - 3.2	
Sample Date	(mg/kg)	(mg/kg)	8/30/2022	8/30/2022	8/30/2022	8/30/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	
VOCs																
Benzene	280	0.5	U (0.0006)	U (0.00048)	0.0028 (0.00057)	U (0.00058)	U (0.00053)	0.00068 (0.00043)	U (0.00066)	U (0.00052)	U (0.00066)	U (0.00048)	U (0.00049)	U (0.028)	U (0.00047)	
Cumene	10000	2500	U (0.0012)	U (0.00096)	U (0.0011)	U (0.0012)	U (0.001)	0.0015 (0.00086)	U (0.0013)	U (0.001)	U (0.0013)	U (0.00097)	U (0.00098)	0.8 (0.056)	0.0045 (0.00095)	
1,2-Dibromoethane	3.7	0.005	U (0.0006)	U (0.00048)	U (0.00057)	U (0.00058)	U (0.00053)	U (0.00043)	U (0.00066)	U (0.00052)	U (0.00066)	U (0.00048)	U (0.00049)	U (0.028)	U (0.00047)	
1,2-Dichloroethane	85	0.5	U (0.0012)	U (0.00096)	U (0.0011)	U (0.0012)	U (0.001)	U (0.00086)	U (0.0013)	U (0.001)	U (0.0013)	U (0.00097)	U (0.00098)	U (0.056)	U (0.00095)	
Ethyl Benzene	880	70	U (0.0012)	U (0.00096)	U (0.0011)	U (0.0012)	U (0.001)	0.00019 J (0.00086)	U (0.0013)	U (0.001)	U (0.0013)	U (0.00097)	U (0.00098)	U (0.056)	U (0.00095)	
Methyl tert-butyl ether	8500	2	U (0.0024)	U (0.0019)	U (0.0023)	U (0.0023)	U (0.0021)	U (0.0017)	U (0.0026)	U (0.0021)	U (0.0026)	U (0.0019)	U (0.002)	U (0.11)	U (0.0019)	
Toluene	10000	100	U (0.0012)	U (0.00096)	U (0.0011)	U (0.0012)	U (0.001)	U (0.00086)	U (0.0013)	U (0.001)	U (0.0013)	U (0.00097)	U (0.00098)	U (0.056)	U (0.00095)	
1,2,4-Trimethylbenzene	4700	300	U (0.0024)	U (0.0019)	0.0014 J (0.0023)	U (0.0023)	U (0.0021)	0.0065 (0.0017)	U (0.0026)	U (0.0021)	U (0.0026)	U (0.0019)	U (0.002)	U (0.11)	U (0.0019)	
1,3,5-Trimethylbenzene	4700	93	U (0.0024)	U (0.0019)	0.0011 J (0.0023)	U (0.0023)	U (0.0021)	0.00078 J (0.0017)	U (0.0026)	U (0.0021)	U (0.0026)	U (0.0019)	U (0.002)	U (0.11)	U (0.0019)	
Xylenes (total)	7900	1000	U (0.0024)	U (0.0019)	0.00175 J (0.0023)	U (0.0023)	U (0.0021)	0.00092 J (0.0017)	U (0.0026)	U (0.0021)	U (0.0026)	U (0.0019)	U (0.002)	U (0.11)	0.00126 J (0.0019)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AF04-c	302-AF05-a	302-AF05-b	302-AF05-b	302-AF05-b	302-AF05-b	302-AF05-b	302-AF07-b	302-AF07-b	302-AF07-b	302-AF07-b	302-AF07-b	302-AF08-c	302-AF08-c
Cell	Soil Direct Contact	Soil to	302-AF04	302-AF05	302-AF05	302-AF05	302-AF05	302-AF05	302-AF05	302-AF07	302-AF07	302-AF07	302-AF07	302-AF07	302-AF08	302-AF08
Field Sample ID	Numeric Value	Groundwater	302-AF04-C5-VOC	302-AF05-C1-VOC	302-AF05-C2-VOC	302-AF05-C3-VOC	302-AF05-C4-VOC	302-AF05-C5-VOC	302-AF07-C1-VOC	302-AF07-C2-VOC	302-AF07-C3-VOC	302-AF07-C4-VOC	302-AF07-C5-VOC	302-AF08-C1-VOC	302-AF08-C2-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	3.7 - 3.8	0.6 - 0.8	0.6 - 0.8	0.9 - 1.1	1.4 - 1.5	1.8 - 2.0	0.3 - 0.5	0.6 - 0.8	1.1 - 1.2	1.5 - 1.7	2.0 - 2.1	0.0 - 0.1	0.1 - 0.2	
Sample Date	(mg/kg)	(mg/kg)	10/19/2022	8/19/2022	8/19/2022	8/19/2022	8/19/2022	8/19/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	
VOCs																
Benzene	280	0.5	U (0.00063)	0.00027 J (0.00057)	0.019 (0.00093)	U (0.00051)	0.00034 J (0.00047)	U (0.00044)	U (0.063)	U (0.052)	U (0.00054)	U (0.00053)	U (0.00048)	U (0.00052)	U (0.00048)	
Cumene	10000	2500	0.00099 J (0.0013)	U (0.0011)	0.017 (0.0019)	U (0.001)	0.00019 J (0.00095)	U (0.00089)	3 (0.12)	6.4 (0.1)	U (0.0011)	0.01 (0.0011)	0.00014 J (0.00096)	0.00015 J (0.001)	0.015 (0.00097)	
1,2-Dibromoethane	3.7	0.005	U (0.00063)	U (0.00057)	U (0.00093)	U (0.00051)	U (0.00047)	U (0.00044)	U (0.063)	U (0.052)	U (0.00054)	U (0.00053)	U (0.00048)	U (0.00052)	U (0.00048)	
1,2-Dichloroethane	85	0.5	U (0.0013)	U (0.0011)	U (0.0019)	U (0.001)	U (0.00095)	U (0.00089)	U (0.12)	U (0.1)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.001)	U (0.00097)	
Ethyl Benzene	880	70	U (0.0013)	U (0.0011)	0.0011 J (0.0019)	U (0.001)	U (0.00095)	U (0.00089)	U (0.12)	U (0.1)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.001)	U (0.00097)	
Methyl tert-butyl ether	8500	2	U (0.0025)	U (0.0023)	U (0.0037)	U (0.002)	U (0.0019)	U (0.0018)	U (0.25)	U (0.21)	U (0.0022)	U (0.0021)	U (0.0019)	U (0.0021)	U (0.0019)	
Toluene	10000	100	U (0.0013)	U (0.0011)	0.002 (0.0019)	U (0.001)	U (0.00095)	U (0.00089)	U (0.12)	U (0.1)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.001)	U (0.00097)	
1,2,4-Trimethylbenzene	4700	300	U (0.0025)	U (0.0023)	0.0018 J (0.0037)	U (0.002)	U (0.0019)	U (0.0018)	U (0.25)	U (0.21)	U (0.0022)	U (0.0021)	U (0.0019)	U (0.0021)	U (0.0019)	
1,3,5-Trimethylbenzene	4700	93	U (0.0025)	U (0.0023)	0.00056 J (0.0037)	U (0.002)	U (0.0019)	U (0.0018)	U (0.25)	0.34 (0.21)	U (0.0022)	0.00033 J (0.0021)	U (0.0019)	U (0.0021)	0.0016 J (0.0019)	
Xylenes (total)	7900	1000	U (0.0025)	U (0.0023)	0.0074 J (0.0037)	U (0.002)	U (0.0019)	U (0.0018)	U (0.25)	0.122 J (0.21)	U (0.0022)	U (0.0021)	U (0.0019)	U (0.0021)	U (0.0019)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AF08-c	302-AF08-c	302-AF09-b	302-AF09-b	302-AF09-b	302-AF09-b	302-AG03-a	302-AG03-a	302-AG03-a	302-AG03-a	302-AG03-a	302-AG04-a	302-AG04-a	302-AG04-a
Cell	Soil Direct Contact	Soil to	302-AF08	302-AF08	302-AF09	302-AF09	302-AF09	302-AF09	302-AG03	302-AG03	302-AG03	302-AG03	302-AG03	302-AG04	302-AG04	302-AG04
Field Sample ID	Numeric Value	Groundwater	302-AF08-C3-VOC	302-AF08-C4-VOC	302-AF09-C1-VOC	302-AF09-C2-VOC	302-AF09-C3-VOC	302-AG03-C1-VOC	302-AG03-C2-VOC	302-AG03-C3-VOC	302-AG03-C4-VOC	302-AG03-C5-VOC	302-AG04-C1-VOC	302-AG04-C2-VOC	302-AG04-C4-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.2 - 0.3	0.3 - 0.4	0.0 - 0.2	0.2 - 0.4	0.5 - 0.6	0.6 - 0.8	2.3 - 2.4	3.7 - 3.8	4.9 - 5.0	5.5 - 5.6	0.6 - 0.8	1.5 - 1.7	3.7 - 3.8	
Sample Date	(mg/kg)	(mg/kg)	8/29/2022	8/29/2022	8/31/2022	8/31/2022	8/31/2022	10/18/2022	10/18/2022	10/18/2022	10/18/2022	10/18/2022	8/22/2022	8/22/2022	8/22/2022	
VOCs																
Benzene	280	0.5	U (0.071)	U (0.063)	U (0.00048)	U (0.0005)	U (0.00054)	U (0.03)	0.021 J (0.024)	U (0.032)	0.024 J (0.03)	U (0.033)	U (0.00064)	0.00075 J (0.00076)	U (0.03)	
Cumene	10000	2500	8 (0.14)	2.9 (0.13)	U (0.00095)	U (0.001)	U (0.0011)	0.82 (0.06)	0.6 (0.049)	1 (0.063)	0.66 (0.06)	0.54 (0.066)	U (0.0013)	0.0086 (0.0015)	2.7 (0.06)	
1,2-Dibromoethane	3.7	0.005	U (0.071)	U (0.063)	U (0.00048)	U (0.0005)	U (0.00054)	U (0.03)	U (0.024)	U (0.032)	U (0.03)	U (0.033)	U (0.00064)	U (0.00076)	U (0.03)	
1,2-Dichloroethane	85	0.5	U (0.14)	U (0.13)	U (0.00095)	U (0.001)	U (0.0011)	U (0.06)	U (0.049)	U (0.063)	U (0.06)	U (0.066)	U (0.0013)	U (0.0015)	U (0.06)	
Ethyl Benzene	880	70	U (0.14)	U (0.13)	U (0.00095)	U (0.001)	U (0.0011)	U (0.06)	1.8 (0.049)	U (0.063)	0.05 J (0.06)	U (0.066)	U (0.0013)	0.00032 J (0.0015)	0.12 (0.06)	
Methyl tert-butyl ether	8500	2	U (0.28)	U (0.25)	U (0.0019)	U (0.002)	U (0.0022)	U (0.12)	U (0.097)	U (0.13)	U (0.12)	U (0.13)	U (0.0026)	U (0.003)	U (0.12)	
Toluene	10000	100	U (0.14)	U (0.13)	U (0.00095)	U (0.001)	U (0.0011)	U (0.06)	U (0.049)	U (0.063)	0.042 J (0.06)	U (0.066)	U (0.0013)	U (0.0015)	0.054 J (0.06)	
1,2,4-Trimethylbenzene	4700	300	U (0.28)	U (0.25)	U (0.0019)	U (0.002)	U (0.0022)	U (0.12)	5.2 (0.097)	U (0.13)	0.039 J (0.12)	0.026 J (0.13)	U (0.0026)	0.00095 J (0.003)	1.6 (0.12)	
1,3,5-Trimethylbenzene	4700	93	U (0.28)	U (0.25)	U (0.0019)	U (0.002)	U (0.0022)	U (0.12)	1.5 (0.097)	U (0.13)	U (0.12)	U (0.13)	U (0.0026)	0.00052 J (0.003)	0.18 (0.12)	
Xylenes (total)	7900	1000	U (0.28)	U (0.25)	U (0.0019)	U (0.002)	U (0.0022)	U (0.12)	3.92 J (0.097)	0.088 J (0.13)	0.127 J (0.12)	U (0.13)	U (0.0026)	0.00202 J (0.003)	U (0.12)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AG04-b	302-AG05-b	302-AG05-b	302-AG05-c	302-AG05-d	302-AG06-a	302-AG06-a	302-AG06-a	302-AG06-a	302-AG08-b	302-AG08-b	302-AG08-b	302-AG08-b
Cell	Soil Direct Contact	Soil to	302-AG04	302-AG05	302-AG05	302-AG05	302-AG05	302-AG06	302-AG06	302-AG06	302-AG06	302-AG08	302-AG08	302-AG08	302-AG08
Field Sample ID	Numeric Value	Groundwater	302-AG04-C3-VOC	302-AG05-C1-VOC	302-AG05-C4-VOC	302-AG05-C3-VOC	302-AG05-C2-VOC	302-AG06-C1-VOC	302-AG06-C2-VOC	302-AG06-C3-VOC	302-AG06-C4-VOC	302-AG08-C1-VOC	302-AG08-C2-VOC	302-AG08-C3-VOC	302-AG08-C4-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.8 - 0.9	0.3 - 0.5	1.8 - 2.0	1.2 - 1.4	1.4 - 1.5	0.9 - 1.1	1.4 - 1.5	2.7 - 2.9	4.0 - 4.1	0.3 - 0.5	1.5 - 1.7	2.6 - 2.7	3.8 - 4.0
Sample Date	(mg/kg)	(mg/kg)	8/22/2022	8/22/2022	8/22/2022	8/22/2022	8/22/2022	8/22/2022	8/22/2022	8/22/2022	8/22/2022	8/30/2022	8/30/2022	8/30/2022	8/30/2022
VOCs															
Benzene	280	0.5	0.013 J (0.03)	0.052 (0.032)	0.00072 (0.00046)	U (0.031)	U (0.033)	0.00025 J (0.00061)	0.00068 (0.00058)	0.00021 J (0.00048)	0.00025 J (0.00048)	U (0.00051)	0.74 (0.059)	0.45 (0.029)	0.38 (0.027)
Cumene	10000	2500	4 (0.059)	0.44 (0.064)	0.032 (0.00093)	0.67 (0.062)	1.7 (0.065)	0.00015 J (0.0012)	0.00038 J (0.0012)	0.0003 J (0.00096)	0.00011 J (0.00096)	U (0.001)	9.2 (0.12)	4.7 (0.059)	4.8 (0.054)
1,2-Dibromoethane	3.7	0.005	U (0.03)	U (0.032)	U (0.00046)	U (0.031)	U (0.033)	U (0.00061)	U (0.00058)	U (0.00048)	U (0.00048)	U (0.00051)	U (0.059)	U (0.029)	U (0.027)
1,2-Dichloroethane	85	0.5	U (0.059)	U (0.064)	U (0.00093)	U (0.062)	U (0.065)	U (0.0012)	U (0.0012)	U (0.00096)	U (0.00096)	U (0.001)	U (0.12)	U (0.059)	U (0.054)
Ethyl Benzene	880	70	0.46 (0.059)	0.033 J (0.064)	0.00022 J (0.00093)	U (0.062)	U (0.065)	U (0.0012)	U (0.0012)	U (0.00096)	U (0.00096)	U (0.001)	4.8 (0.12)	2.7 (0.059)	3.5 (0.054)
Methyl tert-butyl ether	8500	2	U (0.12)	U (0.13)	U (0.0019)	U (0.12)	U (0.13)	U (0.0024)	U (0.0023)	U (0.0019)	U (0.0019)	U (0.002)	U (0.24)	U (0.12)	U (0.11)
Toluene	10000	100	0.087 (0.059)	U (0.064)	0.00052 J (0.00093)	U (0.062)	U (0.065)	U (0.0012)	U (0.0012)	U (0.00096)	U (0.00096)	U (0.001)	0.85 (0.12)	0.32 (0.059)	0.1 (0.054)
1,2,4-Trimethylbenzene	4700	300	11 (0.12)	0.039 J (0.13)	0.0031 (0.0019)	U (0.12)	U (0.13)	U (0.0024)	U (0.0023)	U (0.0019)	U (0.0019)	U (0.002)	49 (2.4)	18 (2.4)	11 (0.11)
1,3,5-Trimethylbenzene	4700	93	1.7 (0.12)	0.014 J (0.13)	0.0013 J (0.0019)	U (0.12)	U (0.13)	U (0.0024)	0.00058 J (0.0023)	0.00023 J (0.0019)	U (0.0019)	U (0.002)	22 (0.24)	9.5 (0.12)	4.2 (0.11)
Xylenes (total)	7900	1000	0.081 J (0.12)	0.091 J (0.13)	0.00123 J (0.0019)	U (0.12)	U (0.13)	U (0.0024)	U (0.0023)	U (0.0019)	U (0.0019)	U (0.002)	8.4 J (0.24)	2.56 J (0.12)	0.598 J (0.11)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AG08-b	302-AG09-a	302-AG10-d	302-AH04-c	302-AH04-c	302-AH04-c	302-AH04-c	302-AH04-c	302-AH04-c	302-AH05-d	302-AH05-d	302-AH05-d	302-AH05-d	302-AH06-d
Cell	Soil Direct Contact	Soil to	302-AG08	302-AG09	302-AG10	302-AH04	302-AH04	302-AH04	302-AH04	302-AH04	302-AH04	302-AH05	302-AH05	302-AH05	302-AH05	302-AH06
Field Sample ID	Numeric Value	Groundwater	302-AG08-C5-VOC	302-AG09-C1-VOC	302-AG10-C1-VOC	302-AH04-C1-VOC	302-AH04-C2-VOC	302-AH04-C3-VOC	302-AH04-C4-VOC	302-AH04-C5-VOC	302-AH05-C1-VOC	302-AH05-C2-VOC	302-AH05-C3-VOC	302-AH05-C4-VOC	302-AH06-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	5.5 - 5.6	2.1 - 2.3	0.9 - 1.1	0.3 - 0.5	0.8 - 0.9	1.2 - 1.4	2.0 - 2.1	2.6 - 2.7	0.5 - 0.6	0.9 - 1.1	2.1 - 2.3	2.7 - 2.9	0.6 - 0.8	
Sample Date	(mg/kg)	(mg/kg)	8/30/2022	8/30/2022	8/31/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/20/2022	10/20/2022	10/20/2022	10/20/2022	
VOCs																
Benzene	280	0.5	2 (0.054)	0.00054 J (0.00067)	U (0.00064)	U (0.00048)	U (0.034)	U (0.03)	U (0.00046)	U (0.00051)	U (0.00053)	U (0.00054)	U (0.00049)	U (0.0005)	U (0.1)	
Cumene	10000	2500	17 (0.11)	0.0015 (0.0013)	U (0.0013)	U (0.00097)	0.61 (0.067)	0.44 (0.059)	0.017 (0.00091)	0.015 (0.001)	U (0.001)	U (0.0011)	U (0.00099)	U (0.001)	0.27 (0.2)	
1,2-Dibromoethane	3.7	0.005	U (0.054)	U (0.00067)	U (0.00064)	U (0.00048)	U (0.034)	U (0.03)	U (0.00046)	U (0.00051)	U (0.00053)	U (0.00054)	U (0.00049)	U (0.0005)	U (0.1)	
1,2-Dichloroethane	85	0.5	U (0.11)	U (0.0013)	U (0.0013)	U (0.00097)	U (0.067)	U (0.059)	U (0.00091)	U (0.001)	U (0.001)	U (0.0011)	U (0.00099)	U (0.001)	U (0.2)	
Ethyl Benzene	880	70	0.7 (0.11)	0.00023 J (0.0013)	U (0.0013)	0.00028 J (0.00097)	U (0.067)	0.072 (0.059)	0.00035 J (0.00091)	U (0.001)	U (0.001)	U (0.0011)	U (0.00099)	U (0.001)	U (0.2)	
Methyl tert-butyl ether	8500	2	U (0.22)	U (0.0027)	U (0.0026)	U (0.0019)	U (0.13)	U (0.12)	U (0.0018)	U (0.002)	U (0.0021)	U (0.0022)	U (0.002)	U (0.002)	U (0.41)	
Toluene	10000	100	1.2 (0.11)	U (0.0013)	U (0.0013)	U (0.00097)	U (0.067)	U (0.059)	U (0.00091)	U (0.001)	U (0.001)	U (0.0011)	U (0.00099)	U (0.001)	U (0.2)	
1,2,4-Trimethylbenzene	4700	300	12 (0.22)	0.0023 J (0.0027)	U (0.0026)	U (0.0019)	U (0.13)	0.16 (0.12)	0.0068 (0.0018)	0.0082 (0.002)	U (0.0021)	U (0.0022)	U (0.002)	U (0.002)	U (0.41)	
1,3,5-Trimethylbenzene	4700	93	0.95 (0.22)	0.001 J (0.0027)	U (0.0026)	U (0.0019)	U (0.13)	0.27 (0.12)	0.006 (0.0018)	0.005 (0.002)	U (0.0021)	U (0.0022)	U (0.002)	U (0.002)	U (0.41)	
Xylenes (total)	7900	1000	3.23 J (0.22)	0.00176 J (0.0027)	U (0.0026)	0.001385 J (0.0019)	U (0.13)	U (0.12)	U (0.0018)	0.0014 J (0.002)	U (0.0021)	U (0.0022)	U (0.002)	U (0.002)	U (0.41)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AH06-d	302-AH06-d	302-AH06-d	302-AH06-d	302-AH07-b	302-AH07-b	302-AH07-b	302-AH07-b	302-AH08-b	302-AH08-b	302-AH08-b	302-AH08-b	302-AH09-a	302-AI05-a
Cell	Soil Direct Contact	Soil to	302-AH06	302-AH06	302-AH06	302-AH06	302-AH07	302-AH07	302-AH07	302-AH07	302-AH08	302-AH08	302-AH08	302-AH08	302-AH09	302-AI05
Field Sample ID	Numeric Value	Groundwater	302-AH06-C2-VOC	302-AH06-C3-VOC	302-AH06-C4-VOC	302-AH06-C5-VOC	302-AH07-C1-VOC	302-AH07-C2-VOC	302-AH07-C3-VOC	302-AH07-C4-VOC	302-AH08-C1-VOC	302-AH08-C2-VOC	302-AH08-C3-VOC	302-AH09-C1-VOC	302-AI05-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.1 - 1.2	2.1 - 2.3	2.7 - 2.9	3.7 - 3.8	0.6 - 0.8	1.4 - 1.5	2.6 - 2.7	3.7 - 3.8	0.2 - 0.3	0.5 - 0.6	0.8 - 0.9	3.0 - 3.2	0.2 - 0.3	
Sample Date	(mg/kg)	(mg/kg)	8/23/2022	8/23/2022	8/23/2022	8/23/2022	8/23/2022	8/23/2022	8/23/2022	8/23/2022	10/20/2022	10/20/2022	10/20/2022	8/31/2022	10/5/2022	
VOCs																
Benzene	280	0.5	0.014 J (0.031)	U (0.0004)	U (0.00093)	U (0.00064)	U (0.00075)	0.0002 J (0.00039)	U (0.00065)	U (0.00052)	U (0.00053)	U (0.00051)	U (0.00049)	0.00063 (0.00047)	U (0.00059)	
Cumene	10000	2500	6.4 (0.061)	0.027 (0.00081)	0.0068 (0.0018)	0.076 (0.0013)	U (0.0015)	U (0.00079)	U (0.0013)	0.00012 J (0.001)	U (0.001)	U (0.001)	U (0.00097)	U (0.00094)	U (0.0012)	
1,2-Dibromoethane	3.7	0.005	U (0.031)	U (0.0004)	U (0.00093)	U (0.00064)	U (0.00075)	U (0.00039)	U (0.00065)	U (0.00052)	U (0.00053)	U (0.00051)	U (0.00049)	U (0.00047)	U (0.00059)	
1,2-Dichloroethane	85	0.5	U (0.061)	U (0.00081)	U (0.0018)	U (0.0013)	U (0.0015)	U (0.00079)	U (0.0013)	U (0.001)	U (0.001)	U (0.001)	U (0.00097)	U (0.00094)	U (0.0012)	
Ethyl Benzene	880	70	0.021 J (0.061)	U (0.00081)	U (0.0018)	U (0.0013)	U (0.0015)	0.00017 J (0.00079)	U (0.0013)	U (0.001)	U (0.001)	U (0.001)	U (0.00097)	U (0.00094)	U (0.0012)	
Methyl tert-butyl ether	8500	2	U (0.12)	0.00033 J (0.0016)	U (0.0037)	0.00056 J (0.0026)	U (0.003)	U (0.0016)	U (0.0026)	U (0.0021)	U (0.0021)	U (0.002)	U (0.0019)	U (0.0019)	U (0.0024)	
Toluene	10000	100	0.16 (0.061)	U (0.00081)	U (0.0018)	U (0.0013)	U (0.0015)	U (0.00079)	U (0.0013)	U (0.001)	U (0.001)	U (0.001)	U (0.00097)	0.00051 J (0.00094)	U (0.0012)	
1,2,4-Trimethylbenzene	4700	300	0.28 (0.12)	0.00035 J (0.0016)	U (0.0037)	0.00047 J (0.0026)	U (0.003)	0.00032 J (0.0016)	U (0.0026)	U (0.0021)	U (0.0021)	U (0.002)	U (0.0019)	U (0.0019)	U (0.0024)	
1,3,5-Trimethylbenzene	4700	93	0.12 (0.12)	U (0.0016)	U (0.0037)	U (0.0026)	U (0.003)	U (0.0016)	U (0.0026)	U (0.0021)	U (0.0021)	U (0.002)	U (0.0019)	U (0.0019)	U (0.0024)	
Xylenes (total)	7900	1000	0.44 J (0.12)	0.00196 J (0.0016)	U (0.0037)	0.00275 J (0.0026)	U (0.003)	U (0.0016)	U (0.0026)	U (0.0021)	U (0.0021)	U (0.002)	U (0.0019)	U (0.0019)	U (0.0024)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AI05-b	302-AI05-c	302-AI05-c	302-AI05-c	302-AI06-c	302-AI06-c	302-AI06-d	302-AI06-d	302-AI07-b	302-AI07-b	302-AI07-b	302-AI07-b	302-AI07-b
Cell	Soil Direct Contact	Soil to	302-AI05	302-AI05	302-AI05	302-AI05	302-AI06	302-AI06	302-AI06	302-AI06	302-AI07	302-AI07	302-AI07	302-AI07	302-AI07
Field Sample ID	Numeric Value	Groundwater	302-AI05-C2-VOC	302-AI05-C3-VOC	302-AI05-C4-VOC	302-AI05-C5-VOC	302-AI06-C1-VOC	302-AI06-C4-VOC	302-AI06-C2-VOC	302-AI06-C3-VOC	302-AI07-C1-VOC	302-AI07-C2-VOC	302-AI07-C3-VOC	302-AI07-C4-VOC	302-AI07-C5-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.6 - 0.8	1.1 - 1.2	1.8 - 2.0	2.1 - 2.3	0.6 - 0.8	3.7 - 3.8	0.6 - 0.8	1.1 - 1.2	0.6 - 0.8	1.1 - 1.2	2.1 - 2.3	3.7 - 3.8	4.3 - 4.4
Sample Date	(mg/kg)	(mg/kg)	10/5/2022	10/5/2022	10/5/2022	10/5/2022	8/24/2022	8/24/2022	8/24/2022	8/24/2022	8/23/2022	8/23/2022	8/23/2022	8/23/2022	8/23/2022
VOCs															
Benzene	280	0.5	U (0.00052)	U (0.00054)	U (0.00096)	U (0.00071)	U (0.00046)	0.00057 (0.00051)	0.00075 (0.00045)	0.0003 J (0.00045)	0.00032 J (0.00048)	U (0.00054)	U (0.00051)	U (0.00051)	U (0.00043)
Cumene	10000	2500	U (0.001)	0.0072 (0.0011)	0.0045 (0.0019)	0.00048 J (0.0014)	0.24 (0.00092)	0.017 (0.001)	0.003 (0.0009)	0.0028 (0.0009)	U (0.00097)	U (0.0011)	U (0.001)	U (0.001)	U (0.00087)
1,2-Dibromoethane	3.7	0.005	U (0.00052)	U (0.00054)	U (0.00096)	U (0.00071)	U (0.00046)	U (0.00051)	U (0.00045)	U (0.00045)	U (0.00048)	U (0.00054)	U (0.00051)	U (0.00051)	U (0.00043)
1,2-Dichloroethane	85	0.5	U (0.001)	U (0.0011)	U (0.0019)	U (0.0014)	U (0.00092)	U (0.001)	U (0.0009)	U (0.0009)	U (0.00097)	U (0.0011)	U (0.001)	U (0.001)	U (0.00087)
Ethyl Benzene	880	70	U (0.001)	0.0017 (0.0011)	0.00058 J (0.0019)	U (0.0014)	0.0063 (0.00092)	U (0.001)	U (0.0009)	U (0.0009)	U (0.00097)	U (0.0011)	U (0.001)	U (0.001)	U (0.00087)
Methyl tert-butyl ether	8500	2	U (0.0021)	U (0.0022)	U (0.0038)	U (0.0028)	0.0005 J (0.0018)	0.00027 J (0.002)	U (0.0018)	0.00022 J (0.0018)	0.00082 J (0.0019)	U (0.0022)	U (0.002)	U (0.002)	U (0.0017)
Toluene	10000	100	U (0.001)	U (0.0011)	U (0.0019)	U (0.0014)	0.00066 J (0.00092)	U (0.001)	U (0.0009)	U (0.0009)	U (0.00097)	U (0.0011)	U (0.001)	U (0.001)	U (0.00087)
1,2,4-Trimethylbenzene	4700	300	U (0.0021)	U (0.0022)	U (0.0038)	U (0.0028)	U (0.0018)	U (0.002)	U (0.0018)	U (0.0018)	U (0.0019)	U (0.0022)	U (0.002)	U (0.002)	U (0.0017)
1,3,5-Trimethylbenzene	4700	93	U (0.0021)	U (0.0022)	U (0.0038)	U (0.0028)	U (0.0018)	0.00031 J (0.002)	U (0.0018)	U (0.0018)	U (0.0019)	U (0.0022)	U (0.002)	U (0.002)	U (0.0017)
Xylenes (total)	7900	1000	U (0.0021)	0.00148 J (0.0022)	U (0.0038)	U (0.0028)	0.002 J (0.0018)	U (0.002)	0.00115 J (0.0018)	U (0.0018)	U (0.0019)	U (0.0022)	U (0.002)	U (0.002)	U (0.0017)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AI08-c	302-AI09-c	302-AJ05-a	302-AJ05-c	302-AJ05-c	302-AJ05-c	302-AJ05-c	302-AJ05-d	302-AJ06-d	302-AJ06-d	302-AJ06-d	302-AJ07-b	302-AJ07-b	302-AJ07-b
Cell	Soil Direct Contact	Soil to	302-AI08	302-AI09	302-AJ05	302-AJ05	302-AJ05	302-AJ05	302-AJ05	302-AJ05	302-AJ06	302-AJ06	302-AJ06	302-AJ07	302-AJ07	302-AJ07
Field Sample ID	Numeric Value	Groundwater	302-AI08-C1-VOC	302-AI09-C1-VOC	302-AJ05-C3-VOC	302-AJ05-C2-VOC	302-AJ05-C4-VOC	302-AJ05-C5-VOC	302-AJ05-C1-VOC	302-AJ06-C1-VOC	302-AJ06-C2-VOC	302-AJ06-C3-VOC	302-AJ07-C1-VOC	302-AJ07-C2-VOC	302-AJ07-C3-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.1 - 2.3	0.5 - 0.6	2.4 - 2.6	0.6 - 0.8	1.7 - 1.8	2.1 - 2.3	0.3 - 0.5	0.8 - 0.9	2.4 - 2.6	4.0 - 4.1	0.9 - 1.1	1.5 - 1.7	3.0 - 3.2	
Sample Date	(mg/kg)	(mg/kg)	9/26/2022	9/1/2022	10/5/2022	10/5/2022	10/5/2022	10/5/2022	10/5/2022	10/5/2022	10/5/2022	10/5/2022	8/24/2022	8/24/2022	8/24/2022	
VOCs																
Benzene	280	0.5	U (0.00066)	U (0.00052)	U (0.00079)	U (0.00058)	U (0.0006)	U (0.00043)	U (0.00057)	U (0.00061)	U (0.00052)	U (0.0005)	U (0.00056)	U (0.0006)	U (0.00062)	
Cumene	10000	2500	U (0.0013)	U (0.001)	0.0056 (0.0016)	0.0077 (0.0012)	0.0071 (0.0012)	0.0028 (0.00085)	U (0.0011)	0.00054 J (0.0012)	0.00055 J (0.001)	0.0002 J (0.001)	U (0.0011)	U (0.0012)	U (0.0012)	
1,2-Dibromoethane	3.7	0.005	U (0.00066)	U (0.00052)	U (0.00079)	U (0.00058)	U (0.0006)	U (0.00043)	U (0.00057)	U (0.00061)	U (0.00052)	U (0.0005)	U (0.00056)	U (0.0006)	U (0.00062)	
1,2-Dichloroethane	85	0.5	U (0.0013)	U (0.001)	U (0.0016)	U (0.0012)	U (0.0012)	U (0.00085)	U (0.0011)	U (0.0012)	U (0.001)	U (0.001)	U (0.0011)	U (0.0012)	U (0.0012)	
Ethyl Benzene	880	70	U (0.0013)	U (0.001)	U (0.0016)	U (0.0012)	0.00049 J (0.0012)	0.00012 J (0.00085)	U (0.0011)	U (0.0012)	U (0.001)	U (0.001)	U (0.0011)	U (0.0012)	U (0.0012)	
Methyl tert-butyl ether	8500	2	U (0.0026)	U (0.0021)	U (0.0032)	U (0.0023)	U (0.0024)	U (0.0017)	U (0.0023)	U (0.0024)	U (0.0021)	U (0.002)	U (0.0022)	U (0.0024)	U (0.0025)	
Toluene	10000	100	U (0.0013)	U (0.001)	U (0.0016)	U (0.0012)	U (0.0012)	U (0.00085)	U (0.0011)	U (0.0012)	U (0.001)	U (0.001)	U (0.0011)	U (0.0012)	U (0.0012)	
1,2,4-Trimethylbenzene	4700	300	0.00056 J (0.0026)	U (0.0021)	0.001 J (0.0032)	U (0.0023)	0.0022 J (0.0024)	0.00065 J (0.0017)	U (0.0023)	0.0005 J (0.0024)	0.00065 J (0.0021)	U (0.002)	U (0.0022)	U (0.0024)	U (0.0025)	
1,3,5-Trimethylbenzene	4700	93	U (0.0026)	U (0.0021)	U (0.0032)	U (0.0023)	0.00031 J (0.0024)	U (0.0017)	U (0.0023)	U (0.0024)	U (0.0021)	U (0.002)	U (0.0022)	U (0.0024)	U (0.0025)	
Xylenes (total)	7900	1000	U (0.0026)	U (0.0021)	U (0.0032)	0.00178 J (0.0023)	0.00161 J (0.0024)	U (0.0017)	U (0.0023)	U (0.0024)	U (0.0021)	U (0.002)	U (0.0022)	U (0.0024)	U (0.0025)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AJ07-b	302-AJ08-a	302-AJ08-a	302-AJ08-a	302-AJ08-a	302-AK03-c	302-AK03-c	302-AK03-c	302-AK03-c	302-AK03-c	302-AK04-c	302-AK04-c	302-AK04-c	302-AK05-a
Cell	Soil Direct Contact	Soil to	302-AJ07	302-AJ08	302-AJ08	302-AJ08	302-AJ08	302-AK03	302-AK03	302-AK03	302-AK03	302-AK03	302-AK04	302-AK04	302-AK04	302-AK05
Field Sample ID	Numeric Value	Groundwater	302-AJ07-C4-VOC	302-AJ08-C1-VOC	302-AJ08-C2-VOC	302-AJ08-C3-VOC	302-AJ08-C3-VOC	302-AK03-C1-VOC	302-AK03-C2-VOC	302-AK03-C3-VOC	302-AK03-C4-VOC	302-AK03-C5-VOC	302-AK04-C1-VOC	302-AK04-C2-VOC	302-AK04-C3-VOC	302-AK05-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	4.3 - 4.4	0.3 - 0.5	1.2 - 1.4	1.7 - 1.8	1.7 - 1.8	0.5 - 0.6	1.2 - 1.4	2.0 - 2.1	2.4 - 2.6	3.2 - 3.4	0.0 - 0.2	0.3 - 0.5	0.5 - 0.6	0.2 - 0.3
Sample Date	(mg/kg)	(mg/kg)	8/24/2022	8/24/2022	8/24/2022	8/24/2022	8/24/2022	10/4/2022	10/4/2022	10/4/2022	10/4/2022	10/4/2022	10/4/2022	10/4/2022	10/4/2022	8/25/2022
VOCs																
Benzene	280	0.5	U (0.00053)	0.00018 J (0.00049)	U (0.00051)	0.00059 (0.00052)	U (0.00045)	U (0.0004)	0.00019 J (0.00051)	U (0.00054)	0.00035 J (0.00042)	U (0.00061)	0.00017 J (0.00051)	U (0.00052)	U (0.00087)	
Cumene	10000	2500	U (0.0011)	U (0.00097)	U (0.001)	U (0.001)	U (0.0009)	U (0.0008)	U (0.001)	U (0.0011)	U (0.00085)	U (0.0012)	U (0.001)	U (0.001)	U (0.0017)	
1,2-Dibromoethane	3.7	0.005	U (0.00053)	U (0.00049)	U (0.00051)	U (0.00052)	U (0.00045)	U (0.0004)	U (0.00051)	U (0.00054)	U (0.00042)	U (0.00061)	U (0.00051)	U (0.00052)	U (0.00087)	
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.00097)	U (0.001)	U (0.001)	U (0.0009)	U (0.0008)	U (0.001)	U (0.0011)	U (0.00085)	U (0.0012)	U (0.001)	U (0.001)	U (0.0017)	
Ethyl Benzene	880	70	U (0.0011)	U (0.00097)	U (0.001)	U (0.001)	U (0.0009)	U (0.0008)	U (0.001)	U (0.0011)	U (0.00085)	U (0.0012)	U (0.001)	U (0.001)	U (0.0017)	
Methyl tert-butyl ether	8500	2	U (0.0021)	U (0.0019)	U (0.002)	U (0.0021)	U (0.0018)	U (0.0016)	U (0.002)	U (0.0022)	U (0.0017)	U (0.0024)	U (0.002)	U (0.0021)	U (0.0035)	
Toluene	10000	100	U (0.0011)	U (0.00097)	U (0.001)	U (0.001)	U (0.0009)	U (0.0008)	U (0.001)	U (0.0011)	U (0.00085)	U (0.0012)	U (0.001)	0.00076 J (0.001)	U (0.0017)	
1,2,4-Trimethylbenzene	4700	300	U (0.0021)	U (0.0019)	U (0.002)	U (0.0021)	U (0.0018)	U (0.0016)	U (0.002)	U (0.0022)	U (0.0017)	U (0.0024)	U (0.002)	U (0.0021)	U (0.0035)	
1,3,5-Trimethylbenzene	4700	93	U (0.0021)	U (0.0019)	U (0.002)	U (0.0021)	U (0.0018)	U (0.0016)	U (0.002)	U (0.0022)	U (0.0017)	U (0.0024)	U (0.002)	U (0.0021)	U (0.0035)	
Xylenes (total)	7900	1000	U (0.0021)	U (0.0019)	U (0.002)	U (0.0021)	U (0.0018)	U (0.0016)	U (0.002)	U (0.0022)	U (0.0017)	U (0.0024)	U (0.002)	U (0.0021)	U (0.0035)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AK05-a	302-AK05-a	302-AK05-a	302-AK05-a	302-AK07-a	302-AK07-a	302-AK07-a	302-AK08-d	302-AL03-d	302-AL03-d	302-AL03-d	302-AL05-b	302-AL05-b	
Cell	Soil Direct Contact	Soil to	302-AK05	302-AK05	302-AK05	302-AK05	302-AK07	302-AK07	302-AK07	302-AK08	302-AL03	302-AL03	302-AL03	302-AL05	302-AL05	
Field Sample ID	Numeric Value	Groundwater	302-AK05-C2-VOC	302-AK05-C3-VOC	302-AK05-C4-VOC	302-AK05-C5-VOC	302-AK07-C1-VOC	302-AK07-C2-VOC	302-AK07-C3-VOC	302-AK08-C1-VOC	302-AL03-C1-VOC	302-AL03-C2-VOC	302-AL03-C3-VOC	302-AL05-C2-VOC	302-AL05-C3-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.6 - 0.8	1.4 - 1.5	2.1 - 2.3	2.6 - 2.7	0.6 - 0.8	2.9 - 3.0	4.6 - 4.7	0.5 - 0.6	0.3 - 0.5	0.6 - 0.8	1.1 - 1.2	0.8 - 0.9	1.5 - 1.7	
Sample Date	(mg/kg)	(mg/kg)	8/25/2022	8/25/2022	8/25/2022	8/25/2022	10/14/2022	10/14/2022	10/14/2022	9/1/2022	10/4/2022	10/4/2022	10/4/2022	8/25/2022	8/25/2022	
VOCs																
Benzene	280	0.5	U (0.0015)	U (0.00072)	U (0.03)	0.00019 J (0.00045)	U (0.00056)	0.0011 (0.00053)	0.00038 J (0.00053)	U (0.00051)	U (0.00043)	0.0019 (0.00068)	U (0.00053)	U (0.0006)	U (0.00062)	
Cumene	10000	2500	U (0.0031)	U (0.0014)	1.1 (0.06)	0.016 (0.00089)	U (0.0011)	0.002 (0.0011)	0.00016 J (0.0011)	U (0.001)	U (0.00087)	0.00027 J (0.0014)	U (0.0011)	U (0.0012)	U (0.0012)	
1,2-Dibromoethane	3.7	0.005	U (0.0015)	U (0.00072)	U (0.03)	U (0.00045)	U (0.00056)	U (0.00053)	U (0.00053)	U (0.00051)	U (0.00043)	U (0.00068)	U (0.00053)	U (0.0006)	U (0.00062)	
1,2-Dichloroethane	85	0.5	U (0.0031)	U (0.0014)	U (0.06)	U (0.00089)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.001)	U (0.00087)	U (0.0014)	U (0.0011)	U (0.0012)	U (0.0012)	
Ethyl Benzene	880	70	U (0.0031)	U (0.0014)	0.23 (0.06)	0.0032 (0.00089)	U (0.0011)	0.00033 J (0.0011)	U (0.0011)	U (0.001)	U (0.00087)	U (0.0014)	U (0.0011)	U (0.0012)	U (0.0012)	
Methyl tert-butyl ether	8500	2	U (0.0062)	U (0.0029)	U (0.12)	U (0.0018)	U (0.0022)	U (0.0021)	U (0.0021)	U (0.002)	U (0.0017)	U (0.0027)	U (0.0021)	U (0.0024)	U (0.0025)	
Toluene	10000	100	U (0.0031)	U (0.0014)	0.052 J (0.06)	U (0.00089)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.001)	U (0.00087)	U (0.0014)	U (0.0011)	U (0.0012)	U (0.0012)	
1,2,4-Trimethylbenzene	4700	300	U (0.0062)	U (0.0029)	U (0.12)	0.00039 J (0.0018)	U (0.0022)	U (0.0021)	U (0.0021)	U (0.002)	U (0.0017)	U (0.0027)	U (0.0021)	U (0.0024)	U (0.0025)	
1,3,5-Trimethylbenzene	4700	93	U (0.0062)	U (0.0029)	U (0.12)	U (0.0018)	U (0.0022)	U (0.0021)	U (0.0021)	U (0.002)	U (0.0017)	U (0.0027)	U (0.0021)	U (0.0024)	U (0.0025)	
Xylenes (total)	7900	1000	U (0.0062)	U (0.0029)	U (0.12)	0.00121 J (0.0018)	U (0.0022)	U (0.0021)	U (0.0021)	U (0.002)	U (0.0017)	U (0.0027)	U (0.0021)	U (0.0024)	U (0.0025)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AL05-b	302-AL05-d	302-AL07-c	302-AL07-c	302-AL07-c	302-AL07-c	302-AL08-a	302-AM02-b	302-AM02-b	302-AM02-b	302-AM02-b	302-AM02-b	302-AM03-a	302-AM03-a
Cell	Soil Direct Contact	Soil to	302-AL05	302-AL05	302-AL07	302-AL07	302-AL07	302-AL07	302-AL08	302-AM02	302-AM02	302-AM02	302-AM02	302-AM02	302-AM03	302-AM03
Field Sample ID	Numeric Value	Groundwater	302-AL05-C4-VOC	302-AL05-C1-VOC	302-AL07-C1-VOC	302-AL07-C2-VOC	302-AL07-C3-VOC	302-AL07-C3-VOC	302-AL08-C1-VOC	302-AM02-C1-VOC	302-AM02-C2-VOC	302-AM02-C3-VOC	302-AM02-C4-VOC	302-AM02-C5-VOC	302-AM03-C3-VOC	302-AM03-C4-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.1 - 2.3	0.6 - 0.8	0.6 - 0.8	1.7 - 1.8	2.7 - 2.9	2.4 - 2.6	0.3 - 0.5	0.6 - 0.8	1.5 - 1.7	2.0 - 2.1	2.3 - 2.4	2.4 - 2.6	3.4 - 3.5	
Sample Date	(mg/kg)	(mg/kg)	8/25/2022	8/25/2022	10/14/2022	10/14/2022	10/14/2022	9/1/2022	10/6/2022	10/6/2022	10/6/2022	10/6/2022	10/6/2022	10/6/2022	8/25/2022	8/25/2022
VOCs																
Benzene	280	0.5	U (0.00056)	U (0.00046)	0.019 J (0.03)	0.019 J (0.032)	0.013 J (0.032)	U (0.00049)	U (0.0004)	0.00031 J (0.00049)	0.00046 J (0.00057)	0.00069 (0.00056)	0.0004 J (0.00059)	U (0.024)	U (0.48)	
Cumene	10000	2500	U (0.0011)	U (0.00092)	0.87 (0.06)	2.1 (0.065)	0.94 (0.064)	U (0.00099)	U (0.00081)	U (0.00098)	U (0.0011)	U (0.0011)	U (0.0012)	1 (0.049)	13 (0.97)	
1,2-Dibromoethane	3.7	0.005	U (0.00056)	U (0.00046)	U (0.03)	U (0.032)	U (0.032)	U (0.00049)	U (0.0004)	U (0.00049)	U (0.00057)	U (0.00056)	U (0.00059)	U (0.024)	U (0.48)	
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.00092)	U (0.06)	U (0.065)	U (0.064)	U (0.00099)	U (0.00081)	U (0.00098)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.049)	U (0.97)	
Ethyl Benzene	880	70	U (0.0011)	U (0.00092)	0.056 J (0.06)	0.054 J (0.065)	0.036 J (0.064)	U (0.00099)	U (0.00081)	U (0.00098)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.049)	U (0.97)	
Methyl tert-butyl ether	8500	2	U (0.0023)	0.00049 J (0.0018)	U (0.12)	U (0.13)	U (0.13)	U (0.002)	U (0.0016)	U (0.002)	U (0.0023)	U (0.0022)	U (0.0024)	U (0.098)	U (1.9)	
Toluene	10000	100	U (0.0011)	U (0.00092)	0.089 (0.06)	0.04 J (0.065)	0.056 J (0.064)	U (0.00099)	U (0.00081)	U (0.00098)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.049)	U (0.97)	
1,2,4-Trimethylbenzene	4700	300	U (0.0023)	U (0.0018)	0.44 (0.12)	0.13 (0.13)	0.13 (0.13)	U (0.002)	U (0.0016)	0.00035 J (0.002)	U (0.0023)	U (0.0022)	U (0.0024)	U (0.098)	U (1.9)	
1,3,5-Trimethylbenzene	4700	93	U (0.0023)	U (0.0018)	0.16 (0.12)	0.13 (0.13)	0.1 J (0.13)	U (0.002)	U (0.0016)	0.00027 J (0.002)	U (0.0023)	U (0.0022)	U (0.0024)	U (0.098)	U (1.9)	
Xylenes (total)	7900	1000	U (0.0023)	U (0.0018)	0.53 J (0.12)	0.216 J (0.13)	0.229 J (0.13)	U (0.002)	U (0.0016)	U (0.002)	U (0.0023)	U (0.0022)	U (0.0024)	U (0.098)	U (1.9)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AM03-c	302-AM03-d	302-AM04-b	302-AM04-b	302-AM04-b	302-AM04-b	302-AM04-b	302-AM04-b	302-AM05-c	302-AM05-c	302-AM05-c	302-AM06-c	302-AN01-c	302-AN01-c
Cell	Soil Direct Contact	Soil to	302-AM03	302-AM03	302-AM04	302-AM04	302-AM04	302-AM04	302-AM04	302-AM04	302-AM05	302-AM05	302-AM05	302-AM06	302-AN01	302-AN01
Field Sample ID	Numeric Value	Groundwater	302-AM03-C2-VOC	302-AM03-C1-VOC	302-AM04-C1-VOC	302-AM04-C2-VOC	302-AM04-C3-VOC	302-AM04-C4-VOC	302-AM04-C5-VOC	302-AM05-C1-VOC	302-AM05-C2-VOC	302-AM05-C3-VOC	302-AM06-C1-VOC	302-AN01-C1-VOC	302-AN01-C2-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.2 - 1.4	0.2 - 0.3	0.3 - 0.5	0.6 - 0.8	1.1 - 1.2	1.5 - 1.7	2.0 - 2.1	0.3 - 0.5	1.1 - 1.2	2.1 - 2.3	1.5 - 1.7	0.0 - 0.2	0.2 - 0.3	
Sample Date	(mg/kg)	(mg/kg)	8/25/2022	8/25/2022	10/13/2022	10/13/2022	10/13/2022	10/13/2022	10/13/2022	10/13/2022	10/13/2022	10/13/2022	9/2/2022	10/6/2022	10/6/2022	
VOCs																
Benzene	280	0.5	U (0.00045)	U (0.00048)	0.00084 (0.00058)	U (0.05)	U (0.031)	0.041 (0.032)	0.24 (0.032)	0.00038 J (0.00062)	0.00047 J (0.00057)	3.5 (0.034)	U (0.00044)	0.0012 (0.00075)	0.037 (0.00051)	
Cumene	10000	2500	U (0.0009)	U (0.00096)	0.02 (0.0012)	1.1 (0.1)	2.2 (0.062)	8.9 (0.065)	6.2 (0.064)	0.0034 (0.0012)	0.04 (0.0011)	4.6 (0.068)	U (0.00088)	U (0.0015)	U (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.00045)	U (0.00048)	U (0.00058)	U (0.05)	U (0.031)	U (0.032)	U (0.032)	U (0.00062)	U (0.00057)	U (0.034)	U (0.00044)	U (0.00075)	U (0.00051)	
1,2-Dichloroethane	85	0.5	U (0.0009)	U (0.00096)	U (0.0012)	U (0.1)	U (0.062)	U (0.065)	U (0.064)	U (0.0012)	U (0.0011)	U (0.068)	U (0.00088)	U (0.0015)	U (0.001)	
Ethyl Benzene	880	70	U (0.0009)	U (0.00096)	0.0011 J (0.0012)	0.024 J (0.1)	0.025 J (0.062)	0.078 (0.065)	0.11 (0.064)	0.00038 J (0.0012)	0.011 (0.0011)	18 (0.068)	U (0.00088)	U (0.0015)	U (0.001)	
Methyl tert-butyl ether	8500	2	U (0.0018)	U (0.0019)	0.0012 J (0.0023)	U (0.2)	U (0.12)	U (0.13)	U (0.13)	U (0.0025)	U (0.0023)	U (0.14)	U (0.0018)	U (0.003)	U (0.002)	
Toluene	10000	100	U (0.0009)	U (0.00096)	0.00073 J (0.0012)	U (0.1)	U (0.062)	0.12 (0.065)	0.11 (0.064)	U (0.0012)	0.00084 J (0.0011)	0.23 (0.068)	U (0.00088)	U (0.0015)	0.00056 J (0.001)	
1,2,4-Trimethylbenzene	4700	300	U (0.0018)	U (0.0019)	0.00063 J (0.0023)	U (0.2)	U (0.12)	U (0.13)	U (0.13)	0.00094 J (0.0025)	U (0.0023)	23 (0.27)	U (0.0018)	U (0.003)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	U (0.0018)	U (0.0019)	U (0.0023)	U (0.2)	U (0.12)	U (0.13)	U (0.13)	0.00033 J (0.0025)	0.00026 J (0.0023)	15 (0.14)	U (0.0018)	U (0.003)	U (0.002)	
Xylenes (total)	7900	1000	U (0.0018)	U (0.0019)	0.0028 J (0.0023)	0.094 J (0.2)	0.154 J (0.12)	0.545 J (0.13)	0.485 J (0.13)	0.00123 J (0.0025)	0.00189 J (0.0023)	18.65 J (0.14)	U (0.0018)	U (0.003)	U (0.002)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AN01-c	302-AN01-c	302-AN01-c	302-AN03-a	302-AN03-a	302-AN03-b	302-AN03-b	302-AN04-c	302-AO02-b	302-AO02-b	302-AO04-c	302-AO04-c	302-AO04-c
Cell	Soil Direct Contact	Soil to	302-AN01	302-AN01	302-AN01	302-AN03	302-AN03	302-AN03	302-AN03	302-AN04	302-AO02	302-AO02	302-AO04	302-AO04	302-AO04
Field Sample ID	Numeric Value	Groundwater	302-AN01-C3-VOC	302-AN01-C4-VOC	302-AN01-C5-VOC	302-AN03-C1-VOC	302-AN03-C4-VOC	302-AN03-C2-VOC	302-AN03-C3-VOC	302-AN04-C1-VOC	302-AO02-C1-VOC	302-AO02-C2-VOC	302-AO04-C1-VOC	302-AO04-C2-VOC	302-AO04-C3-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.3 - 0.5	0.5 - 0.7	0.7 - 0.8	0.5 - 0.6	2.4 - 2.6	0.8 - 0.9	1.4 - 1.5	2.1 - 2.3	0.3 - 0.5	0.6 - 0.8	0.5 - 0.6	0.9 - 1.1	1.8 - 2.0
Sample Date	(mg/kg)	(mg/kg)	10/6/2022	10/6/2022	10/6/2022	10/13/2022	10/13/2022	10/13/2022	10/13/2022	9/2/2022	10/6/2022	10/6/2022	10/12/2022	10/12/2022	10/12/2022
VOCs															
Benzene	280	0.5	1 (0.022)	3 (0.026)	7.8 (0.028)	U (0.00058)	U (0.00058)	U (0.0005)	U (0.00055)	U (0.00057)	0.0025 (0.00059)	0.05 (0.00046)	0.00099 (0.00042)	0.076 (0.035)	U (0.00053)
Cumene	10000	2500	0.00029 J (0.00093)	U (0.052)	0.034 J (0.055)	U (0.0012)	0.00043 J (0.0012)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0012)	0.0001 J (0.00092)	0.0014 (0.00085)	0.2 (0.07)	U (0.0011)
1,2-Dibromoethane	3.7	0.005	U (0.00047)	U (0.026)	U (0.028)	U (0.00058)	U (0.00058)	U (0.0005)	U (0.00055)	U (0.00057)	U (0.00059)	U (0.00046)	U (0.00042)	U (0.035)	U (0.00053)
1,2-Dichloroethane	85	0.5	U (0.00093)	U (0.052)	U (0.055)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.00092)	U (0.00085)	U (0.07)	U (0.0011)
Ethyl Benzene	880	70	0.00026 J (0.00093)	U (0.052)	0.036 J (0.055)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0012)	U (0.00092)	0.0014 (0.00085)	1.6 (0.07)	U (0.0011)
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.1)	U (0.11)	U (0.0023)	U (0.0023)	U (0.002)	U (0.0022)	U (0.0023)	U (0.0024)	U (0.0018)	U (0.0017)	U (0.14)	U (0.0021)
Toluene	10000	100	0.0012 (0.00093)	U (0.052)	0.61 (0.055)	U (0.0012)	U (0.0012)	U (0.001)	U (0.0011)	U (0.0011)	U (0.0012)	0.00062 J (0.00092)	0.00062 J (0.00085)	0.062 J (0.07)	U (0.0011)
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	U (0.1)	U (0.11)	U (0.0023)	U (0.0023)	U (0.002)	U (0.0022)	U (0.0023)	U (0.0024)	U (0.0018)	0.0059 (0.0017)	2.8 (0.14)	U (0.0021)
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	U (0.1)	U (0.11)	U (0.0023)	0.00025 J (0.0023)	U (0.002)	U (0.0022)	U (0.0023)	U (0.0024)	U (0.0018)	0.0021 (0.0017)	0.31 (0.14)	U (0.0021)
Xylenes (total)	7900	1000	U (0.0019)	U (0.1)	0.0585 J (0.11)	U (0.0023)	U (0.0023)	U (0.002)	U (0.0022)	U (0.0023)	U (0.0024)	U (0.0018)	0.00356 J (0.0017)	1.046 J (0.14)	U (0.0021)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AO04-c	302-AO05-c	302-AO05-c	302-AO05-c	302-AO05-c	302-AO06-d	302-AP02-d	302-AP02-d	302-AP02-d	302-AP03-b	302-AP03-b	302-AP03-c	302-AP03-c	302-AP03-c
Cell	Soil Direct Contact	Soil to	302-AO04	302-AO05	302-AO05	302-AO05	302-AO05	302-AO06	302-AP02	302-AP02	302-AP02	302-AP03	302-AP03	302-AP03	302-AP03	302-AP03
Field Sample ID	Numeric Value	Groundwater	302-AO04-C4-VOC	302-AO05-C1-VOC	302-AO05-C2-VOC	302-AO05-C3-VOC	302-AO06-C1-VOC	302-AP02-C1-VOC	302-AP02-C2-VOC	302-AP02-C3-VOC	302-AP03-C1-VOC	302-AP03-C3-VOC	302-AP03-C2-VOC	302-AP03-C4-VOC	302-AP03-C5-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.4 - 2.6	0.9 - 1.1	1.8 - 2.0	2.7 - 2.9	3.0 - 3.2	0.2 - 0.3	0.5 - 0.6	0.8 - 0.9	0.6 - 0.8	2.4 - 2.6	0.2 - 0.3	0.6 - 0.7	0.8 - 0.9	
Sample Date	(mg/kg)	(mg/kg)	10/12/2022	10/12/2022	10/12/2022	10/12/2022	9/2/2022	10/11/2022	10/11/2022	10/11/2022	10/11/2022	10/14/2022	10/14/2022	10/14/2022	10/14/2022	
VOCs																
Benzene	280	0.5	U (0.00048)	0.00086 (0.0005)	0.00048 (0.00046)	U (0.032)	U (0.00049)	U (0.00053)	U (0.00051)	U (0.00053)	U (0.00049)	U (0.00057)	U (0.00053)	U (0.00055)	U (0.00061)	
Cumene	10000	2500	U (0.00096)	0.098 (0.001)	0.16 (0.00092)	1.5 (0.063)	U (0.00099)	U (0.0011)	U (0.001)	U (0.001)	U (0.00099)	U (0.0011)	0.0002 J (0.0011)	U (0.0011)	U (0.0012)	
1,2-Dibromoethane	3.7	0.005	U (0.00048)	U (0.0005)	U (0.00046)	U (0.032)	U (0.00049)	U (0.00053)	U (0.00051)	U (0.00053)	U (0.00049)	U (0.00057)	U (0.00053)	U (0.00055)	U (0.00061)	
1,2-Dichloroethane	85	0.5	U (0.00096)	U (0.001)	U (0.00092)	U (0.063)	U (0.00099)	U (0.0011)	U (0.001)	U (0.001)	U (0.00099)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.0012)	
Ethyl Benzene	880	70	U (0.00096)	0.023 (0.001)	0.042 (0.00092)	0.26 (0.063)	U (0.00099)	U (0.0011)	U (0.001)	U (0.001)	U (0.00099)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.0012)	
Methyl tert-butyl ether	8500	2	U (0.0019)	0.00021 J (0.002)	U (0.0018)	U (0.13)	U (0.002)	U (0.0021)	U (0.002)	U (0.0021)	U (0.002)	U (0.0023)	U (0.0021)	U (0.0022)	U (0.0024)	
Toluene	10000	100	U (0.00096)	0.00059 J (0.001)	U (0.00092)	U (0.063)	U (0.00099)	U (0.0011)	U (0.001)	U (0.001)	U (0.00099)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.0012)	
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	U (0.002)	U (0.0018)	U (0.13)	U (0.002)	U (0.0021)	U (0.002)	U (0.0021)	U (0.002)	U (0.0023)	U (0.0021)	U (0.0022)	U (0.0024)	
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	U (0.002)	U (0.0018)	U (0.13)	U (0.002)	U (0.0021)	U (0.002)	U (0.0021)	U (0.002)	U (0.0023)	U (0.0021)	U (0.0022)	U (0.0024)	
Xylenes (total)	7900	1000	U (0.0019)	U (0.002)	0.00163 J (0.0018)	U (0.13)	U (0.002)	U (0.0021)	U (0.002)	U (0.0021)	U (0.002)	U (0.0023)	U (0.0021)	U (0.0022)	U (0.0024)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AP04-a	302-AP04-a	302-AP05-d	302-AQ01-c	302-AQ01-c	302-AQ01-c	302-AQ03-b	302-AQ03-d	302-AQ04-c	302-AQ04-c	302-AR01-b	302-AR01-b	302-AR01-b	
Cell	Soil Direct Contact	Soil to	302-AP04	302-AP04	302-AP05	302-AQ01	302-AQ01	302-AQ01	302-AQ03	302-AQ03	302-AQ04	302-AQ04	302-AR01	302-AR01	302-AR01	
Field Sample ID	Numeric Value	Groundwater	302-AP04-C1-VOC	302-AP04-C2-VOC	302-AP05-C1-VOC	302-AQ01-C1-VOC	302-AQ01-C2-VOC	302-AQ01-C3-VOC	302-AQ03-C1-VOC	302-AQ03-C2-VOC	302-AQ04-C1-VOC	302-AQ04-C2-VOC	302-AR01-C1-VOC	302-AR01-C2-VOC	302-AR01-C3-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	1.2 - 1.4	2.6 - 2.7	0.5 - 0.6	0.2 - 0.3	0.5 - 0.6	0.8 - 0.9	0.8 - 0.9	2.7 - 2.9	1.7 - 1.8	3.8 - 4.0	0.3 - 0.5	0.6 - 0.8	1.1 - 1.2	
Sample Date	(mg/kg)	(mg/kg)	10/12/2022	10/12/2022	9/12/2022	10/7/2022	10/7/2022	10/7/2022	9/19/2022	9/19/2022	9/12/2022	9/12/2022	10/7/2022	10/7/2022	10/7/2022	
VOCs																
Benzene	280	0.5	10 (4.3)	0.3 (0.033)	0.00028 J (0.00043)	U (0.00046)	U (0.00075)	U (0.00056)	U (0.034)	U (0.03)	U (0.00054)	U (0.00044)	U (0.00047)	U (0.00064)	0.0018 (0.001)	
Cumene	10000	2500	18 (8.7)	7 (0.066)	U (0.00087)	U (0.00091)	U (0.0015)	0.00025 J (0.0011)	0.011 J (0.067)	0.51 (0.061)	U (0.0011)	U (0.00089)	U (0.00094)	U (0.0013)	U (0.0021)	
1,2-Dibromoethane	3.7	0.005	U (4.3)	U (0.033)	U (0.00043)	U (0.00046)	U (0.00075)	U (0.00056)	U (0.034)	U (0.03)	U (0.00054)	U (0.00044)	U (0.00047)	U (0.00064)	U (0.001)	
1,2-Dichloroethane	85	0.5	U (8.7)	U (0.066)	U (0.00087)	U (0.00091)	U (0.0015)	U (0.0011)	U (0.067)	U (0.061)	U (0.0011)	U (0.00089)	U (0.00094)	U (0.0013)	U (0.0021)	
Ethyl Benzene	880	70	4.6 J (8.7)	1.4 (0.066)	U (0.00087)	U (0.00091)	U (0.0015)	U (0.0011)	U (0.067)	U (0.061)	U (0.0011)	U (0.00089)	U (0.00094)	U (0.0013)	U (0.0021)	
Methyl tert-butyl ether	8500	2	U (17)	U (0.13)	U (0.0017)	U (0.0018)	0.00037 J (0.003)	U (0.0022)	U (0.13)	U (0.12)	U (0.0022)	U (0.0018)	U (0.0019)	U (0.0025)	U (0.0042)	
Toluene	10000	100	U (8.7)	0.34 (0.066)	U (0.00087)	U (0.00091)	U (0.0015)	0.0011 (0.0011)	U (0.067)	U (0.061)	U (0.0011)	U (0.00089)	U (0.00094)	U (0.0013)	U (0.0021)	
1,2,4-Trimethylbenzene	4700	300	3.6 J (17)	0.12 J (0.13)	U (0.0017)	U (0.0018)	U (0.003)	0.00053 J (0.0022)	U (0.13)	U (0.12)	U (0.0022)	U (0.0018)	U (0.0019)	U (0.0025)	U (0.0042)	
1,3,5-Trimethylbenzene	4700	93	1.7 J (17)	6.4 (0.13)	U (0.0017)	U (0.0018)	U (0.003)	0.00045 J (0.0022)	U (0.13)	U (0.12)	U (0.0022)	U (0.0018)	U (0.0019)	U (0.0025)	U (0.0042)	
Xylenes (total)	7900	1000	14.35 J (17)	1.31 J (0.13)	U (0.0017)	U (0.0018)	U (0.003)	U (0.0022)	U (0.13)	U (0.12)	U (0.0022)	U (0.0018)	U (0.0019)	U (0.0025)	U (0.0042)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AR03-a	302-AR03-d	302-AR03-d	302-AR03-d	302-AR03-d	302-AR03-d	302-AR04-c	302-AR04-c	302-AS01-a	302-AS01-a	302-AS01-a	302-AS01-a	302-AS04-c	302-AS04-d
Cell	Soil Direct Contact	Soil to	302-AR03	302-AR03	302-AR03	302-AR03	302-AR03	302-AR03	302-AR04	302-AR04	302-AS01	302-AS01	302-AS01	302-AS01	302-AS04	302-AS04
Field Sample ID	Numeric Value	Groundwater	302-AR03-C5-VOC	302-AR03-C1-VOC	302-AR03-C2-VOC	302-AR03-C3-VOC	302-AR03-C4-VOC	302-AR04-C1-VOC	302-AR04-C2-VOC	302-AS01-C1-VOC	302-AS01-C2-VOC	302-AS01-C3-VOC	302-AS01-C4-VOC	302-AS04-C3-VOC	302-AS04-C1-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	3.8 - 4.0	0.2 - 0.3	0.8 - 0.9	1.4 - 1.5	1.7 - 1.8	1.5 - 1.7	3.4 - 3.5	0.2 - 0.3	0.5 - 0.6	0.8 - 0.9	1.1 - 1.2	1.8 - 2.0	0.5 - 0.6	
Sample Date	(mg/kg)	(mg/kg)	9/19/2022	9/19/2022	9/19/2022	9/19/2022	9/19/2022	9/13/2022	9/13/2022	10/7/2022	10/7/2022	10/7/2022	10/7/2022	9/21/2022	9/21/2022	
VOCs																
Benzene	280	0.5	0.018 J (0.031)	0.11 (0.029)	U (0.16)	U (0.3)	0.013 J (0.033)	U (0.00044)	U (0.00051)	U (0.00059)	U (0.00049)	U (0.00045)	U (0.00086)	0.00041 J (0.00042)	U (0.00052)	
Cumene	10000	2500	0.65 (0.063)	1.4 (0.059)	1.7 (0.33)	2.8 (0.6)	6.2 (0.067)	U (0.00089)	U (0.001)	U (0.0012)	U (0.00097)	U (0.00091)	U (0.0017)	U (0.00083)	U (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.031)	U (0.029)	U (0.16)	U (0.3)	U (0.033)	U (0.00044)	U (0.00051)	U (0.00059)	U (0.00049)	U (0.00045)	U (0.00086)	U (0.00042)	U (0.00052)	
1,2-Dichloroethane	85	0.5	U (0.063)	U (0.059)	U (0.33)	U (0.6)	U (0.067)	U (0.00089)	U (0.001)	U (0.0012)	U (0.00097)	U (0.00091)	U (0.0017)	U (0.00083)	U (0.001)	
Ethyl Benzene	880	70	0.038 J (0.063)	0.037 J (0.059)	U (0.33)	U (0.6)	0.03 J (0.067)	U (0.00089)	U (0.001)	U (0.0012)	U (0.00097)	U (0.00091)	U (0.0017)	0.00014 J (0.00083)	U (0.001)	
Methyl tert-butyl ether	8500	2	U (0.12)	U (0.12)	U (0.65)	U (1.2)	U (0.13)	U (0.0018)	U (0.002)	U (0.0024)	U (0.0019)	U (0.0018)	U (0.0035)	U (0.0017)	U (0.0021)	
Toluene	10000	100	0.048 J (0.063)	0.034 J (0.059)	U (0.33)	U (0.6)	0.088 (0.067)	U (0.00089)	U (0.001)	U (0.0012)	U (0.00097)	U (0.00091)	U (0.0017)	U (0.00083)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	0.041 J (0.12)	0.082 J (0.12)	U (0.65)	U (1.2)	U (0.13)	U (0.0018)	U (0.002)	U (0.0024)	U (0.0019)	U (0.0018)	U (0.0035)	U (0.0017)	U (0.0021)	
1,3,5-Trimethylbenzene	4700	93	U (0.12)	0.024 J (0.12)	U (0.65)	U (1.2)	0.014 J (0.13)	U (0.0018)	U (0.002)	U (0.0024)	U (0.0019)	U (0.0018)	U (0.0035)	U (0.0017)	U (0.0021)	
Xylenes (total)	7900	1000	0.056 J (0.12)	0.2095 J (0.12)	U (0.65)	U (1.2)	0.57 J (0.13)	U (0.0018)	U (0.002)	U (0.0024)	U (0.0019)	U (0.0018)	U (0.0035)	U (0.0017)	U (0.0021)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AS04-d	302-AS04-d	302-AS04-d	302-AS05-c	302-AS05-c	302-AS05-d	302-AS05-d	302-AS06-d	302-AT01-b	302-AT01-b	302-AT01-b	302-AT02-d	302-AT02-d
Cell	Soil Direct Contact	Soil to	302-AS04	302-AS04	302-AS04	302-AS05	302-AS05	302-AS05	302-AS05	302-AS06	302-AT01	302-AT01	302-AT01	302-AT02	302-AT02
Field Sample ID	Numeric Value	Groundwater	302-AS04-C2-VOC	302-AS04-C4-VOC	302-AS04-C5-VOC	302-AS05-C2-VOC	302-AS05-C4-VOC	302-AS05-C1-VOC	302-AS05-C3-VOC	302-AS06-C1-VOC	302-AT01-C1-VOC	302-AT01-C2-VOC	302-AT01-C3-VOC	302-AT02-C1-VOC	302-AT02-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.9 - 1.1	2.3 - 2.4	3.2 - 3.4	0.8 - 0.9	2.0 - 2.1	0.3 - 0.5	1.5 - 1.7	0.5 - 0.6	0.2 - 0.3	0.6 - 0.8	0.9 - 1.1	0.6 - 0.8	1.4 - 1.5
Sample Date	(mg/kg)	(mg/kg)	9/21/2022	9/21/2022	9/21/2022	9/21/2022	9/21/2022	9/21/2022	9/21/2022	9/13/2022	10/11/2022	10/11/2022	10/11/2022	10/20/2022	10/20/2022
VOCs															
Benzene	280	0.5	U (0.00048)	0.12 (0.026)	0.17 (0.029)	0.075 (0.033)	0.26 J (0.33)	0.23 (0.055)	U (0.034)	U (0.0004)	U (0.00053)	U (0.00055)	U (0.00046)	U (0.00056)	U (0.00073)
Cumene	10000	2500	U (0.00096)	0.078 (0.052)	0.13 (0.058)	0.55 (0.066)	7.2 (0.66)	0.56 (0.11)	1.3 (0.068)	U (0.00081)	U (0.001)	U (0.0011)	U (0.00092)	U (0.0011)	U (0.0014)
1,2-Dibromoethane	3.7	0.005	U (0.00048)	U (0.026)	U (0.029)	U (0.033)	U (0.33)	U (0.055)	U (0.034)	U (0.0004)	U (0.00053)	U (0.00055)	U (0.00046)	U (0.00056)	U (0.00073)
1,2-Dichloroethane	85	0.5	U (0.00096)	U (0.052)	U (0.058)	U (0.066)	U (0.66)	U (0.11)	U (0.068)	U (0.00081)	U (0.001)	U (0.0011)	U (0.00092)	U (0.0011)	U (0.0014)
Ethyl Benzene	880	70	U (0.00096)	0.16 (0.052)	0.26 (0.058)	U (0.066)	0.38 J (0.66)	0.044 J (0.11)	U (0.068)	U (0.00081)	U (0.001)	U (0.0011)	U (0.00092)	U (0.0011)	U (0.0014)
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.1)	U (0.12)	U (0.13)	U (1.3)	U (0.22)	U (0.14)	U (0.0016)	U (0.0021)	U (0.0022)	U (0.0018)	U (0.0022)	U (0.0029)
Toluene	10000	100	U (0.00096)	0.08 (0.052)	0.13 (0.058)	U (0.066)	U (0.66)	0.13 (0.11)	U (0.068)	U (0.00081)	U (0.001)	U (0.0011)	U (0.00092)	U (0.0011)	U (0.0014)
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	0.2 (0.1)	0.39 (0.12)	U (0.13)	U (1.3)	0.058 J (0.22)	U (0.14)	U (0.0016)	U (0.0021)	U (0.0022)	U (0.0018)	U (0.0022)	U (0.0029)
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	0.084 J (0.1)	0.15 (0.12)	U (0.13)	U (1.3)	U (0.22)	U (0.14)	U (0.0016)	U (0.0021)	U (0.0022)	U (0.0018)	U (0.0022)	U (0.0029)
Xylenes (total)	7900	1000	U (0.0019)	0.228 J (0.1)	0.386 J (0.12)	U (0.13)	U (1.3)	0.212 J (0.22)	U (0.14)	U (0.0016)	U (0.0021)	U (0.0022)	U (0.0018)	U (0.0022)	U (0.0029)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AT02-d	302-AT02-d	302-AT02-d	302-AT03-d	302-AT03-d	302-AT03-d	302-AT03-d	302-AT03-d	302-AT03-d	302-AT04-b	302-AT04-b	302-AT05-a	302-AU01-c	302-AU01-c
Cell	Soil Direct Contact	Soil to	302-AT02	302-AT02	302-AT02	302-AT03	302-AT03	302-AT03	302-AT03	302-AT03	302-AT03	302-AT04	302-AT04	302-AT05	302-AU01	302-AU01
Field Sample ID	Numeric Value	Groundwater	302-AT02-C3-VOC	302-AT02-C4-VOC	302-AT02-C5-VOC	302-AT03-C1-VOC	302-AT03-C2-VOC	302-AT03-C3-VOC	302-AT03-C4-VOC	302-AT03-C5-VOC	302-AT04-C1-VOC	302-AT04-C2-VOC	302-AT05-C1-VOC	302-AU01-C1-VOC	302-AU01-C2-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	2.1 - 2.3	2.9 - 3.0	3.7 - 3.8	0.0 - 0.2	0.6 - 0.8	1.1 - 1.2	1.7 - 1.8	2.1 - 2.3	0.9 - 1.1	2.4 - 2.6	2.0 - 2.1	0.2 - 0.3	0.5 - 0.6	
Sample Date	(mg/kg)	(mg/kg)	10/20/2022	10/20/2022	10/20/2022	9/22/2022	9/22/2022	9/22/2022	9/22/2022	9/22/2022	9/22/2022	9/22/2022	9/14/2022	10/11/2022	10/11/2022	
VOCs																
Benzene	280	0.5	U (0.044)	U (0.00046)	U (0.032)	0.00033 J (0.00082)	U (0.00051)	0.015 (0.00047)	U (0.032)	U (0.031)	0.06 (0.034)	U (0.03)	U (0.0005)	U (0.00044)	0.00081 (0.00064)	
Cumene	10000	2500	2.4 (0.089)	0.014 (0.00092)	4.5 (0.064)	0.0053 (0.0016)	0.0011 (0.001)	U (0.00095)	3.1 (0.064)	1 (0.063)	5.2 (0.069)	0.8 (0.061)	U (0.00099)	U (0.00088)	0.0022 (0.0013)	
1,2-Dibromoethane	3.7	0.005	U (0.044)	U (0.00046)	U (0.032)	U (0.00082)	U (0.00051)	U (0.00047)	U (0.032)	U (0.031)	U (0.034)	U (0.03)	U (0.0005)	U (0.00044)	U (0.00064)	
1,2-Dichloroethane	85	0.5	U (0.089)	U (0.00092)	U (0.064)	U (0.0016)	U (0.001)	U (0.00095)	U (0.064)	U (0.063)	U (0.069)	U (0.061)	U (0.00099)	U (0.00088)	U (0.0013)	
Ethyl Benzene	880	70	U (0.089)	U (0.00092)	U (0.064)	0.00094 J (0.0016)	U (0.001)	0.00028 J (0.00095)	0.014 J (0.064)	U (0.063)	0.059 J (0.069)	U (0.061)	U (0.00099)	U (0.00088)	0.00059 J (0.0013)	
Methyl tert-butyl ether	8500	2	U (0.18)	U (0.0018)	U (0.13)	U (0.0033)	U (0.002)	U (0.0019)	U (0.13)	U (0.12)	U (0.14)	U (0.12)	U (0.002)	U (0.0018)	U (0.0025)	
Toluene	10000	100	U (0.089)	U (0.00092)	0.035 J (0.064)	0.0009 J (0.0016)	U (0.001)	U (0.00095)	0.034 J (0.064)	U (0.063)	0.051 J (0.069)	U (0.061)	U (0.00099)	U (0.00088)	0.0017 (0.0013)	
1,2,4-Trimethylbenzene	4700	300	U (0.18)	U (0.0018)	U (0.13)	0.31 (0.0033)	0.0059 (0.002)	0.00058 J (0.0019)	0.072 J (0.13)	U (0.12)	0.081 J (0.14)	U (0.12)	U (0.002)	U (0.0018)	0.0084 (0.0025)	
1,3,5-Trimethylbenzene	4700	93	0.052 J (0.18)	0.00092 J (0.0018)	U (0.13)	0.085 (0.0033)	0.0014 J (0.002)	0.0002 J (0.0019)	U (0.13)	U (0.12)	0.016 J (0.14)	U (0.12)	U (0.002)	U (0.0018)	0.011 (0.0025)	
Xylenes (total)	7900	1000	0.13 J (0.18)	U (0.0018)	0.15 J (0.13)	0.0089 J (0.0033)	0.0013 J (0.002)	U (0.0019)	U (0.13)	U (0.12)	0.312 J (0.14)	U (0.12)	U (0.002)	U (0.0018)	0.0376 J (0.0025)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AU01-c	302-AU02-b	302-AU02-b	302-AU02-b	302-AU02-b	302-AU02-b	302-AU02-b	302-AU03-c	302-AU03-c	302-AU03-c	302-AU03-c	302-AU04-b	302-AU05-d	302-AV02-a
Cell	Soil Direct Contact	Soil to	302-AU01	302-AU02	302-AU02	302-AU02	302-AU02	302-AU02	302-AU02	302-AU03	302-AU03	302-AU03	302-AU03	302-AU04	302-AU05	302-AV02
Field Sample ID	Numeric Value	Groundwater	302-AU01-C3-VOC	302-AU02-C1-VOC	302-AU02-C2-VOC	302-AU02-C3-VOC	302-AU02-C4-VOC	302-AU02-C5-VOC	302-AU03-C1-VOC	302-AU03-C2-VOC	302-AU03-C3-VOC	302-AU03-C4-VOC	302-AU03-C5-VOC	302-AU04-C1-VOC	302-AU05-C1-VOC	302-AV02-C1-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.5 - 0.6	0.0 - 0.2	0.3 - 0.5	0.6 - 0.8	0.8 - 0.9	1.1 - 1.2	0.3 - 0.5	0.6 - 0.8	1.1 - 1.2	1.7 - 1.8	2.3 - 2.4	1.1 - 1.2	0.2 - 0.3	
Sample Date	(mg/kg)	(mg/kg)	10/11/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/14/2022	9/28/2022
VOCs																
Benzene	280	0.5	0.0023 (0.00076)	U (0.00053)	U (0.00071)	0.0011 (0.00044)	U (0.00062)	U (0.031)	0.00022 J (0.00059)	0.029 (0.024)	0.052 (0.025)	U (0.03)	U (0.028)	U (0.00049)	U (0.0005)	
Cumene	10000	2500	0.013 (0.0015)	U (0.001)	U (0.0014)	0.027 (0.00088)	U (0.0012)	0.22 (0.061)	0.0016 (0.0012)	0.18 (0.047)	0.51 (0.051)	0.074 (0.06)	0.063 (0.056)	U (0.00097)	U (0.00099)	
1,2-Dibromoethane	3.7	0.005	U (0.00076)	U (0.00053)	U (0.00071)	U (0.00044)	U (0.00062)	U (0.031)	U (0.00059)	U (0.024)	U (0.025)	U (0.03)	U (0.028)	U (0.00049)	U (0.0005)	
1,2-Dichloroethane	85	0.5	U (0.0015)	U (0.001)	U (0.0014)	U (0.00088)	U (0.0012)	U (0.061)	U (0.0012)	U (0.047)	U (0.051)	U (0.06)	U (0.056)	U (0.00097)	U (0.00099)	
Ethyl Benzene	880	70	0.0012 J (0.0015)	U (0.001)	U (0.0014)	0.0006 J (0.00088)	U (0.0012)	U (0.061)	0.0004 J (0.0012)	0.28 (0.047)	0.71 (0.051)	0.099 (0.06)	0.12 (0.056)	U (0.00097)	U (0.00099)	
Methyl tert-butyl ether	8500	2	U (0.003)	U (0.0021)	U (0.0028)	U (0.0018)	U (0.0025)	U (0.12)	U (0.0024)	U (0.095)	U (0.1)	U (0.12)	U (0.11)	U (0.0019)	U (0.002)	
Toluene	10000	100	0.0028 (0.0015)	U (0.001)	U (0.0014)	0.0017 (0.00088)	U (0.0012)	U (0.061)	U (0.0012)	0.14 (0.047)	0.31 (0.051)	U (0.06)	U (0.056)	U (0.00097)	U (0.00099)	
1,2,4-Trimethylbenzene	4700	300	0.0028 J (0.003)	U (0.0021)	U (0.0028)	0.0074 (0.0018)	U (0.0025)	U (0.12)	0.0014 J (0.0024)	3.5 (0.095)	9.8 (0.1)	0.11 J (0.12)	0.25 (0.11)	U (0.0019)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	0.0035 (0.003)	U (0.0021)	U (0.0028)	0.00078 J (0.0018)	U (0.0025)	U (0.12)	0.00045 J (0.0024)	1.2 (0.095)	3.4 (0.1)	0.04 J (0.12)	0.066 J (0.11)	U (0.0019)	U (0.002)	
Xylenes (total)	7900	1000	0.0184 J (0.003)	U (0.0021)	U (0.0028)	0.0077 J (0.0018)	U (0.0025)	U (0.12)	0.00155 J (0.0024)	1.77 J (0.095)	4.8 J (0.1)	U (0.12)	0.06 J (0.11)	U (0.0019)	U (0.002)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AV02-a	302-AV02-a	302-AV02-a	302-AV04-b	302-AV04-b	302-AV04-b	302-AV04-b	302-AV04-b	302-AV05-c	302-AV05-d	302-AW02-a	302-AW02-a	302-AW02-a	302-AW02-a
Cell	Soil Direct Contact	Soil to	302-AV02	302-AV02	302-AV02	302-AV04	302-AV04	302-AV04	302-AV04	302-AV04	302-AV05	302-AV05	302-AW02	302-AW02	302-AW02	302-AW02
Field Sample ID	Numeric Value	Groundwater	302-AV02-C2-VOC	302-AV02-C3-VOC	302-AV02-C4-VOC	302-AV04-C1-VOC	302-AV04-C2-VOC	302-AV04-C3-VOC	302-AV04-C4-VOC	302-AV04-C4-VOC	302-AV05-C1-VOC	302-AV05-C2-VOC	302-AW02-C1-VOC	302-AW02-C2-VOC	302-AW02-C3-VOC	302-AW02-C4-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.3 - 0.5	0.5 - 0.6	0.9 - 1.1	0.5 - 0.6	1.2 - 1.4	2.1 - 2.3	2.4 - 2.6	2.4 - 2.6	0.6 - 0.8	1.4 - 1.5	0.0 - 0.2	0.3 - 0.5	0.5 - 0.6	0.7 - 0.8
Sample Date	(mg/kg)	(mg/kg)	9/28/2022	9/28/2022	9/28/2022	9/27/2022	9/27/2022	9/27/2022	9/27/2022	9/27/2022	9/14/2022	9/14/2022	9/28/2022	9/28/2022	9/28/2022	9/28/2022
VOCs																
Benzene	280	0.5	0.0002 J (0.00053)	0.0044 (0.00055)	0.00059 J (0.0008)	0.00074 (0.00051)	0.0035 (0.00049)	0.0055 (0.00047)	0.0051 (0.00049)	U (0.00042)	U (0.00049)	U (0.0006)	U (0.00066)	0.0022 (0.00077)	0.35 (0.17)	
Cumene	10000	2500	0.0011 (0.0011)	0.0011 (0.0011)	0.013 (0.0016)	0.00016 J (0.001)	0.00043 J (0.00099)	0.00034 J (0.00094)	0.00033 J (0.00098)	U (0.00084)	U (0.00097)	U (0.0012)	U (0.0013)	0.0023 (0.0015)	2.8 (0.35)	
1,2-Dibromoethane	3.7	0.005	U (0.00053)	U (0.00055)	U (0.0008)	U (0.00051)	U (0.00049)	U (0.00047)	U (0.00049)	U (0.00042)	U (0.00049)	U (0.0006)	U (0.00066)	U (0.00077)	U (0.17)	
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.0011)	U (0.0016)	U (0.001)	U (0.00099)	U (0.00094)	U (0.00098)	U (0.00084)	U (0.00097)	U (0.0012)	U (0.0013)	U (0.0015)	U (0.35)	
Ethyl Benzene	880	70	U (0.0011)	0.0013 (0.0011)	0.00059 J (0.0016)	0.00044 J (0.001)	0.00082 J (0.00099)	0.00016 J (0.00094)	0.00015 J (0.00098)	U (0.00084)	U (0.00097)	U (0.0012)	U (0.0013)	0.0011 J (0.0015)	0.58 (0.35)	
Methyl tert-butyl ether	8500	2	U (0.0021)	U (0.0022)	U (0.0032)	U (0.002)	U (0.002)	U (0.0019)	U (0.002)	U (0.0017)	U (0.0019)	U (0.0024)	U (0.0026)	U (0.0031)	U (0.7)	
Toluene	10000	100	U (0.0011)	0.0038 (0.0011)	0.0011 J (0.0016)	U (0.001)	U (0.00099)	U (0.00094)	U (0.00098)	U (0.00084)	U (0.00097)	U (0.0012)	U (0.0013)	0.0012 J (0.0015)	0.55 (0.35)	
1,2,4-Trimethylbenzene	4700	300	0.00088 J (0.0021)	0.0014 J (0.0022)	0.0031 J (0.0032)	0.0015 J (0.002)	0.0032 (0.002)	0.00053 J (0.0019)	0.00046 J (0.002)	U (0.0017)	U (0.0019)	U (0.0024)	U (0.0026)	0.00077 J (0.0031)	1.2 (0.7)	
1,3,5-Trimethylbenzene	4700	93	0.00022 J (0.0021)	0.00042 J (0.0022)	0.00096 J (0.0032)	0.0026 (0.002)	0.013 (0.002)	0.0031 (0.0019)	0.0022 (0.002)	U (0.0017)	U (0.0019)	U (0.0024)	U (0.0026)	U (0.0031)	0.57 J (0.7)	
Xylenes (total)	7900	1000	0.0047 J (0.0021)	0.0081 J (0.0022)	0.014 J (0.0032)	0.00168 J (0.002)	0.00328 J (0.002)	0.00101 J (0.0019)	U (0.002)	U (0.0017)	U (0.0019)	U (0.0024)	U (0.0026)	0.0039 J (0.0031)	1.66 J (0.7)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
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ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AW04-c	302-AW04-c	302-AW04-c	302-AW04-c	302-AW04-c	302-AW04-c	302-AW05-d	302-AX02-c	302-AX02-c	302-AX02-c	302-AX02-c	302-AX02-c	302-AX03-a	302-AX03-a
Cell	Soil Direct Contact	Soil to	302-AW04	302-AW04	302-AW04	302-AW04	302-AW04	302-AW04	302-AW05	302-AX02	302-AX02	302-AX02	302-AX02	302-AX02	302-AX03	302-AX03
Field Sample ID	Numeric Value	Groundwater	302-AW04-C1-VOC	302-AW04-C2-VOC	302-AW04-C3-VOC	302-AW04-C4-VOC	302-AW04-C5-VOC	302-AW05-C1-VOC	302-AX02-C1-VOC	302-AX02-C2-VOC	302-AX02-C3-VOC	302-AX02-C4-VOC	302-AX02-C5-VOC	302-AX03-C1-VOC	302-AX03-C2-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.9 - 1.1	1.2 - 1.4	2.3 - 2.4	3.4 - 3.5	5.3 - 5.5	0.9 - 1.1	0.8 - 0.9	1.2 - 1.4	2.7 - 2.9	3.4 - 3.5	4.9 - 5.0	0.6 - 0.8	2.7 - 2.9	
Sample Date	(mg/kg)	(mg/kg)	9/27/2022	9/27/2022	9/27/2022	9/27/2022	9/27/2022	9/15/2022	9/29/2022	9/29/2022	9/29/2022	9/29/2022	9/29/2022	9/29/2022	9/29/2022	
VOCs																
Benzene	280	0.5	0.00016 J (0.00048)	0.19 (0.033)	U (0.00057)	U (0.00054)	U (0.00057)	U (0.00048)	0.34 (0.00057)	2 (0.033)	U (0.00049)	4.7 (0.052)	U (0.00057)	U (0.00055)	0.00078 (0.00051)	
Cumene	10000	2500	U (0.00095)	0.011 J (0.065)	0.00019 J (0.0011)	U (0.0011)	U (0.0011)	U (0.00096)	0.0025 (0.0011)	0.031 J (0.066)	0.0025 (0.00097)	0.086 J (0.1)	U (0.0011)	U (0.0011)	U (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.00048)	U (0.00049)	U (0.00057)	U (0.00054)	U (0.00057)	U (0.00048)	U (0.00057)	U (0.033)	U (0.00049)	U (0.052)	U (0.00057)	U (0.00055)	U (0.00051)	
1,2-Dichloroethane	85	0.5	U (0.00095)	U (0.00097)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.00096)	U (0.0011)	U (0.066)	U (0.00097)	U (0.1)	U (0.0011)	U (0.0011)	U (0.001)	
Ethyl Benzene	880	70	U (0.00095)	0.32 (0.065)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.00096)	0.011 (0.0011)	0.13 (0.066)	0.001 (0.00097)	0.39 (0.1)	U (0.0011)	U (0.0011)	U (0.001)	
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.0019)	U (0.0023)	U (0.0022)	U (0.0023)	U (0.0019)	U (0.0023)	U (0.13)	U (0.0019)	U (0.21)	U (0.0023)	U (0.0022)	U (0.002)	
Toluene	10000	100	U (0.00095)	0.003 (0.00097)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.00096)	0.0085 (0.0011)	0.062 J (0.066)	0.0009 J (0.00097)	0.14 (0.1)	U (0.0011)	U (0.0011)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	0.76 (0.13)	U (0.0023)	U (0.0022)	U (0.0023)	U (0.0019)	0.016 (0.0023)	0.42 (0.13)	0.0006 J (0.0019)	1.3 (0.21)	U (0.0023)	U (0.0022)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	0.26 (0.13)	U (0.0023)	U (0.0022)	U (0.0023)	U (0.0019)	0.0071 (0.0023)	0.13 (0.13)	U (0.0019)	0.4 (0.21)	U (0.0023)	U (0.0022)	U (0.002)	
Xylenes (total)	7900	1000	U (0.0019)	1.024 J (0.13)	U (0.0023)	U (0.0022)	U (0.0023)	U (0.0019)	0.0214 J (0.0023)	0.196 J (0.13)	0.00152 J (0.0019)	0.65 J (0.21)	U (0.0023)	U (0.0022)	U (0.002)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-AX03-a	302-AX06-a	302-AY02-b	302-AY02-c	302-AY02-d	302-AY03-a	302-AY03-b	302-AY03-c	302-AY04-a	302-AY04-b	302-AY04-c	302-AY05-c	302-AY05-c
Cell	Soil Direct Contact	Soil to	302-AX03	302-AX06	302-AY02	302-AY02	302-AY02	302-AY03	302-AY03	302-AY03	302-AY04	302-AY04	302-AY04	302-AY05	302-AY05
Field Sample ID	Numeric Value	Groundwater	302-AX03-C3-VOC	302-AX06-C1-VOC	302-AY02-C3-VOC	302-AY02-C1-VOC	302-AY02-C2-VOC	302-AY03-C3-VOC	302-AY03-C1-VOC	302-AY03-C2-VOC	302-AY04-C1-VOC	302-AY04-C2-VOC	302-AY04-C3-VOC	302-AY05-C1-VOC	302-AY05-C2-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	4.9 - 5.0	1.8 - 2.0	2.0 - 2.1	0.8 - 0.9	0.3 - 0.5	0.5 - 0.6	0.2 - 0.3	0.3 - 0.5	0.6 - 0.8	2.4 - 2.6	4.9 - 5.0	0.6 - 0.8	1.2 - 1.4
Sample Date	(mg/kg)	(mg/kg)	9/29/2022	9/15/2022	10/10/2022	10/10/2022	10/10/2022	9/29/2022	9/29/2022	9/29/2022	9/30/2022	9/30/2022	9/30/2022	9/30/2022	9/30/2022
VOCs															
Benzene	280	0.5	U (0.0013)	U (0.00046)	0.79 (0.18)	0.016 (0.00086)	0.078 (0.00049)	U (0.00064)	0.0019 (0.0005)	0.01 (0.00068)	0.053 (0.035)	U (0.024)	U (0.029)	0.00021 J (0.00057)	U (0.00089)
Cumene	10000	2500	U (0.0026)	U (0.00093)	140 (0.88)	0.05 (0.0017)	0.0091 (0.00098)	U (0.0013)	U (0.001)	0.00055 J (0.0014)	5.6 (0.069)	0.18 (0.047)	U (0.059)	U (0.0011)	U (0.0018)
1,2-Dibromoethane	3.7	0.005	U (0.0013)	U (0.00046)	U (0.18)	U (0.00086)	U (0.00049)	U (0.00064)	U (0.0005)	U (0.00068)	U (0.035)	U (0.024)	U (0.029)	U (0.00057)	U (0.00089)
1,2-Dichloroethane	85	0.5	U (0.0026)	U (0.00093)	U (0.35)	U (0.0017)	U (0.00098)	U (0.0013)	U (0.001)	U (0.0014)	U (0.069)	U (0.047)	U (0.059)	U (0.0011)	U (0.0018)
Ethyl Benzene	880	70	U (0.0026)	U (0.00093)	0.81 (0.35)	0.027 (0.0017)	0.011 (0.00098)	U (0.0013)	0.00052 J (0.001)	0.0026 (0.0014)	13 (0.069)	0.053 (0.047)	0.02 J (0.059)	U (0.0011)	U (0.0018)
Methyl tert-butyl ether	8500	2	U (0.0052)	U (0.0018)	U (0.7)	U (0.0034)	U (0.002)	U (0.0026)	U (0.002)	U (0.0027)	U (0.14)	U (0.094)	U (0.12)	U (0.0023)	U (0.0036)
Toluene	10000	100	U (0.0026)	U (0.00093)	0.26 J (0.35)	0.013 (0.0017)	0.014 (0.00098)	U (0.0013)	U (0.001)	0.0015 (0.0014)	0.1 (0.069)	U (0.047)	U (0.059)	U (0.0011)	U (0.0018)
1,2,4-Trimethylbenzene	4700	300	U (0.0052)	U (0.0018)	0.66 J (0.7)	0.11 (0.0034)	0.02 (0.002)	U (0.0026)	0.00036 J (0.002)	0.0026 J (0.0027)	12 (0.14)	U (0.094)	0.024 J (0.12)	0.00046 J (0.0023)	0.0008 J (0.0036)
1,3,5-Trimethylbenzene	4700	93	U (0.0052)	U (0.0018)	0.31 J (0.7)	0.067 (0.0034)	0.011 (0.002)	U (0.0026)	U (0.002)	0.00084 J (0.0027)	1.8 (0.14)	U (0.094)	U (0.12)	U (0.0023)	U (0.0036)
Xylenes (total)	7900	1000	U (0.0052)	U (0.0018)	0.78 J (0.7)	0.059 J (0.0034)	0.0203 J (0.002)	U (0.0026)	0.00158 J (0.002)	0.0079 J (0.0027)	3.36 J (0.14)	U (0.094)	U (0.12)	U (0.0023)	U (0.0036)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AY05-c 302-AY05	302-AY05-c 302-AY05	302-AY05-c 302-AY05	302-AY07-d 302-AY07	302-AZ02-a 302-AZ02	302-AZ02-b 302-AZ02	302-AZ02-b 302-AZ02	302-AZ03-c 302-AZ03	302-AZ03-c 302-AZ03	302-AZ03-c 302-AZ03	302-AZ03-c 302-AZ03	302-AZ03-c 302-AZ03	302-AZ03-c 302-AZ03	302-BA03-c 302-BA03
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value	302-AY05-C3-VOC 1.8 - 2.0	302-AY05-C4-VOC 2.4 - 2.6	302-AY05-C5-VOC 3.0 - 3.2	302-AY07-C1-VOC 0.8 - 0.9	302-AZ02-C3-VOC 1.5 - 1.7	302-AZ02-C1-VOC 0.5 - 0.6	302-AZ02-C2-VOC 1.1 - 1.2	302-AZ03-C1-VOC 0.5 - 0.6	302-AZ03-C2-VOC 0.8 - 0.9	302-AZ03-C3-VOC 1.7 - 1.8	302-AZ03-C4-VOC 2.4 - 2.6	302-AZ03-C5-VOC 3.4 - 3.5	302-BA03-C1-VOC 0.5 - 0.6	
Collection Depth (ft bgs)	(mg/kg)	(mg/kg)	9/30/2022	9/30/2022	9/30/2022	9/15/2022	10/10/2022	10/10/2022	10/10/2022	10/3/2022	10/3/2022	10/3/2022	10/3/2022	10/3/2022	10/10/2022	
VOCs																
Benzene	280	0.5	U (0.00047)	U (0.00049)	U (0.00053)	U (0.00046)	U (0.00056)	U (0.00085)	0.0012 (0.00059)	0.9 (0.074)	U (0.032)	0.66 (0.026)	U (0.00046)	0.15 (0.035)	U (0.0016)	
Cumene	10000	2500	U (0.00094)	U (0.00099)	U (0.0011)	U (0.00093)	U (0.0011)	U (0.0017)	U (0.0012)	3.6 (0.15)	0.066 (0.064)	0.56 (0.053)	0.00092 J (0.00093)	0.1 (0.07)	U (0.0032)	
1,2-Dibromoethane	3.7	0.005	U (0.00047)	U (0.00049)	U (0.00053)	U (0.00046)	U (0.00056)	U (0.00085)	U (0.00059)	U (0.074)	U (0.032)	U (0.026)	U (0.00046)	U (0.035)	U (0.0016)	
1,2-Dichloroethane	85	0.5	U (0.00094)	U (0.00099)	U (0.0011)	U (0.00093)	U (0.0011)	U (0.0017)	U (0.0012)	U (0.15)	U (0.064)	U (0.053)	U (0.00093)	U (0.07)	U (0.0032)	
Ethyl Benzene	880	70	U (0.00094)	U (0.00099)	U (0.0011)	U (0.00093)	U (0.0011)	U (0.0017)	0.00092 J (0.0012)	16 (0.15)	0.074 (0.064)	3.2 (0.053)	0.0003 J (0.00093)	0.54 (0.07)	U (0.0032)	
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.002)	U (0.0021)	U (0.0018)	U (0.0022)	U (0.0034)	U (0.0024)	U (0.3)	U (0.13)	U (0.1)	0.0024 (0.0018)	U (0.14)	U (0.0065)	
Toluene	10000	100	U (0.00094)	U (0.00099)	U (0.0011)	U (0.00093)	U (0.0011)	U (0.0017)	0.0048 (0.0012)	1.6 (0.15)	0.035 J (0.064)	0.23 (0.053)	U (0.00093)	U (0.07)	U (0.0032)	
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	U (0.002)	U (0.0021)	U (0.0018)	U (0.0022)	U (0.0034)	0.002 J (0.0024)	84 (1.5)	1.6 (0.13)	10 (0.1)	0.0011 J (0.0018)	1.9 (0.14)	U (0.0065)	
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	U (0.002)	U (0.0021)	U (0.0018)	U (0.0022)	U (0.0034)	0.00075 J (0.0024)	23 (0.3)	0.49 (0.13)	3.4 (0.1)	0.00034 J (0.0018)	0.62 (0.14)	U (0.0065)	
Xylenes (total)	7900	1000	U (0.0019)	U (0.002)	U (0.0021)	U (0.0018)	U (0.0022)	U (0.0034)	0.0061 J (0.0024)	79 J (0.3)	0.57 J (0.13)	13.7 J (0.1)	0.001315 J (0.0018)	1.8 J (0.14)	U (0.0065)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-BA03-c	302-BA03-c	302-BA04-d	302-BA04-d	302-BB04-c	302-BB04-c	302-BB07-c	302-BB07-c	302-BB07-c	302-BB07-d	302-BB07-d	302-BB08-d	302-BB08-d	
Cell	Soil Direct Contact	Soil to	302-BA03	302-BA03	302-BA04	302-BA04	302-BB04	302-BB04	302-BB07	302-BB07	302-BB07	302-BB07	302-BB07	302-BB08	302-BB08	
Field Sample ID	Numeric Value	Groundwater	302-BA03-C2-VOC	302-BA03-C3-VOC	302-BA04-C1-VOC	302-BA04-C2-VOC	302-BB04-C1-VOC	302-BB04-C2-VOC	302-BB07-C3-VOC	302-BB07-C4-VOC	302-BB07-C5-VOC	302-BB07-C1-VOC	302-BB07-C2-VOC	302-BB08-C1-VOC	302-BB08-C2-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.9 - 1.1	1.5 - 1.7	0.9 - 1.1	2.1 - 2.3	0.3 - 0.5	0.6 - 0.8	2.0 - 2.1	2.9 - 3.0	3.8 - 4.0	0.3 - 0.5	0.8 - 0.9	0.0 - 0.2	0.3 - 0.5	
Sample Date	(mg/kg)	(mg/kg)	10/10/2022	10/10/2022	10/3/2022	10/3/2022	10/10/2022	10/10/2022	9/16/2022	9/16/2022	9/16/2022	9/16/2022	9/16/2022	9/16/2022	9/16/2022	
VOCs																
Benzene	280	0.5	U (0.00099)	U (0.0005)	0.00056 (0.00049)	1.7 (0.07)	U (0.00085)	U (0.026)	27 (0.11)	0.71 J (1.5)	65 (1.5)	1 (0.054)	7.3 (0.27)	0.0028 (0.00058)	0.00044 (0.00043)	
Cumene	10000	2500	U (0.002)	U (0.00099)	0.0017 (0.00099)	3.4 (0.14)	U (0.0017)	0.037 J (0.052)	3.8 (0.23)	2 J (3)	5.8 (3)	1.5 (0.11)	3.5 (0.54)	U (0.0012)	U (0.00086)	
1,2-Dibromoethane	3.7	0.005	U (0.00099)	U (0.0005)	U (0.00049)	U (0.07)	U (0.00085)	U (0.026)	U (0.11)	U (1.5)	U (1.5)	U (0.054)	U (0.27)	U (0.00058)	U (0.00043)	
1,2-Dichloroethane	85	0.5	U (0.002)	U (0.00099)	U (0.00099)	U (0.14)	U (0.0017)	U (0.052)	U (0.23)	U (3)	U (3)	U (0.11)	U (0.54)	U (0.0012)	U (0.00086)	
Ethyl Benzene	880	70	U (0.002)	U (0.00099)	0.0018 (0.00099)	18 (0.14)	U (0.0017)	0.01 J (0.052)	56 (0.23)	16 (3)	65 (3)	4.8 (0.11)	16 (0.54)	U (0.0012)	U (0.00086)	
Methyl tert-butyl ether	8500	2	U (0.004)	U (0.002)	0.00023 J (0.002)	U (0.28)	U (0.0034)	U (0.1)	U (0.46)	U (6)	U (6.1)	U (0.22)	U (1.1)	U (0.0023)	U (0.0017)	
Toluene	10000	100	U (0.002)	U (0.00099)	0.00075 J (0.00099)	0.86 (0.14)	U (0.0017)	U (0.052)	44 (0.23)	2.6 J (3)	150 (3)	3.3 (0.11)	15 (0.54)	U (0.0012)	U (0.00086)	
1,2,4-Trimethylbenzene	4700	300	U (0.004)	U (0.002)	0.04 (0.002)	69 (1.1)	U (0.0034)	2.2 (0.1)	50 (0.46)	9.9 (6)	110 (6.1)	8 (0.22)	14 (1.1)	U (0.0023)	U (0.0017)	
1,3,5-Trimethylbenzene	4700	93	U (0.004)	U (0.002)	0.013 (0.002)	21 (0.28)	U (0.0034)	0.6 (0.1)	19 (0.46)	1.4 J (6)	41 (6.1)	4.1 (0.22)	6.6 (1.1)	U (0.0023)	U (0.0017)	
Xylenes (total)	7900	1000	U (0.004)	U (0.002)	0.0207 J (0.002)	80.1 J (0.28)	U (0.0034)	0.228 J (0.1)	193 J (0.57)	9.6 J (6)	316 J (6.1)	19.6 J (0.22)	64 J (1.1)	U (0.0023)	U (0.0017)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1c
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	302-BB08-d	302-BC04-d	302-BC06-b	302-BC06-b	302-BC06-b
Cell	Soil Direct Contact	Soil to	302-BB08	302-BC04	302-BC06	302-BC06	302-BC06
Field Sample ID	Numeric Value	Groundwater	302-BB08-C3-VOC	302-BC04-C1-VOC	302-BC06-C1-VOC	302-BC06-C2-VOC	302-BC06-C3-VOC
Collection Depth (ft bgs)	(0-2 ft bgs)	Numeric Value	0.5 - 0.6	0.5 - 0.6	0.3 - 0.5	0.9 - 1.1	1.7 - 1.8
Sample Date	(mg/kg)	(mg/kg)	9/16/2022	10/20/2022	9/16/2022	9/16/2022	9/16/2022
VOCs							
Benzene	280	0.5	U (0.0004)	0.00098 (0.00066)	0.066 (0.00058)	31 (29)	12 (2.8)
Cumene	10000	2500	U (0.0008)	0.001 J (0.0013)	0.0011 J (0.0012)	7.1 J (57)	9.1 (5.6)
1,2-Dibromoethane	3.7	0.005	U (0.0004)	U (0.00066)	U (0.00058)	U (29)	U (2.8)
1,2-Dichloroethane	85	0.5	U (0.0008)	U (0.0013)	U (0.0012)	U (57)	U (5.6)
Ethyl Benzene	880	70	U (0.0008)	0.00071 J (0.0013)	0.014 (0.0012)	120 (57)	100 (5.6)
Methyl tert-butyl ether	8500	2	U (0.0016)	U (0.0026)	U (0.0023)	U (110)	U (11)
Toluene	10000	100	U (0.0008)	U (0.0013)	0.0033 (0.0012)	U (57)	7.9 (5.6)
1,2,4-Trimethylbenzene	4700	300	U (0.0016)	0.0015 J (0.0026)	0.0088 (0.0023)	600 (110)	510 (11)
1,3,5-Trimethylbenzene	4700	93	U (0.0016)	0.00073 J (0.0026)	0.0038 (0.0023)	200 (110)	200 (11)
Xylenes (total)	7900	1000	U (0.0016)	0.00668 J (0.0026)	0.026 J (0.0023)	520 J (110)	385 J (11)

Notes:

- 1 Concentrations are presented in mg/kg.
- 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- 4 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1d
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-AC01-a 301-AC01	301-AC01-a 301-AC01	301-AC01-a 301-AC01	301-AC01-a 301-AC01	301-AC01-a 301-AC01	301-AC01-a 301-AC01	301-L01-d 301-L01	301-T03-a 301-T03	301-T03-c 301-T03	301-T03-c 301-T03	301-T03-c 301-T03	301-T03-c 301-T03	302-AD01-b 302-AD01	302-AD01-b 302-AD01
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	301-AC01-C1-VOC 0.6 - 0.8	301-AC01-C2-VOC 2.4 - 2.6	301-AC01-C3-VOC 4.6 - 4.7	301-AC01-C4-VOC 5.5 - 5.6	301-AC01-C5-VOC 7.9 - 8.1	301-L01-C1-VOC 1.1 - 1.2	301-T03-C5-VOC 1.2 - 1.4	301-T03-C1-VOC 0.2 - 0.3	301-T03-C2-VOC 0.6 - 0.8	301-T03-C3-VOC 0.9 - 1.1	301-T03-C4-VOC 1.4 - 1.5	302-AD01-C1-VOC 2.4 - 2.6	302-AD01-C2-VOC 4.9 - 5.0	
Collection Depth (ft bgs)	Sample Date	(mg/kg)	(mg/kg)	11/4/2022	11/4/2022	11/7/2022	11/7/2022	11/7/2022	10/21/2022	5/20/2022	5/20/2022	5/20/2022	5/20/2022	5/20/2022	11/4/2022	11/4/2022
VOCs																
Benzene	280	0.5	0.00023 J (0.00064)	U (0.00046)	U (0.00049)	0.00018 J (0.00047)	U (0.029)	0.00022 J (0.0005)	0.00028 J (0.00046)	0.00025 J (0.00039)	U (0.00044)	U (0.00051)	0.00017 J (0.00047)	0.00024 J (0.00053)	U (0.00051)	
Cumene	10000	2500	U (0.0013)	U (0.00093)	U (0.00097)	0.00045 J (0.00094)	3 (0.058)	U (0.001)	0.00088 J (0.00092)	0.00033 J (0.00079)	0.00032 J (0.00088)	U (0.001)	0.0016 (0.00094)	U (0.001)	U (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.00064)	U (0.00046)	U (0.00049)	U (0.00047)	U (0.029)	U (0.0005)	U (0.00046)	U (0.00039)	U (0.00044)	U (0.00051)	U (0.00047)	U (0.00053)	U (0.00051)	
1,2-Dichloroethane	85	0.5	U (0.0013)	U (0.00093)	U (0.00097)	U (0.00094)	U (0.058)	U (0.001)	U (0.00092)	U (0.00079)	U (0.00088)	U (0.001)	U (0.00094)	U (0.001)	U (0.001)	
Ethyl Benzene	880	70	U (0.0013)	U (0.00093)	U (0.00097)	U (0.00094)	U (0.058)	U (0.001)	U (0.00092)	U (0.00079)	U (0.00088)	U (0.001)	U (0.00094)	U (0.001)	U (0.001)	
Methyl tert-butyl ether	8500	2	U (0.0026)	U (0.0018)	U (0.0019)	U (0.0019)	U (0.12)	U (0.002)	U (0.0018)	U (0.0016)	U (0.0018)	U (0.002)	U (0.0019)	U (0.0021)	U (0.002)	
Toluene	10000	100	U (0.0013)	U (0.00093)	U (0.00097)	U (0.00094)	U (0.058)	U (0.001)	U (0.00092)	U (0.00079)	U (0.00088)	U (0.001)	U (0.00094)	U (0.001)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	U (0.0026)	U (0.0018)	U (0.0019)	U (0.0019)	U (0.12)	U (0.002)	U (0.0018)	U (0.0016)	U (0.0018)	U (0.002)	U (0.0019)	U (0.0021)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	U (0.0026)	U (0.0018)	U (0.0019)	U (0.0019)	U (0.12)	U (0.002)	U (0.0018)	U (0.0016)	U (0.0018)	U (0.002)	U (0.0019)	U (0.0021)	U (0.002)	
Xylenes (total)	7900	1000	U (0.0026)	U (0.0018)	U (0.0019)	U (0.0019)	U (0.12)	U (0.002)	U (0.0018)	U (0.0016)	U (0.0018)	U (0.002)	U (0.0019)	U (0.0021)	U (0.002)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1d
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AD01-d 302-AD01	302-AD02-d 302-AD02	302-AD02-d 302-AD02	302-AD02-d 302-AD02	302-AD02-d 302-AD02	302-AD02-d 302-AD02	302-AD02-d 302-AD02	302-AD02-d 302-AD02	302-AE01-d 302-AE01	302-AE01-d 302-AE01	302-AE01-d 302-AE01	302-AE01-d 302-AE01	302-AE01-d 302-AE01	302-AE02-a 302-AE02	302-AE02-b 302-AE02
Field Sample ID	Numeric Value	Numeric Value	302-AD01-C3-VOC	302-AD02-C1-VOC	302-AD02-C2-VOC	302-AD02-C3-VOC	302-AD02-C4-VOC	302-AD02-C5-VOC	302-AD02-C5-VOC	302-AE01-C1-VOC	302-AE01-C2-VOC	302-AE01-C3-VOC	302-AE01-C4-VOC	302-AE01-C5-VOC	302-AE02-C1-VOC	302-AE02-C2-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)		7.5 - 7.6	0.6 - 0.8	2.4 - 2.6	3.7 - 3.8	5.5 - 5.6	6.4 - 6.6	6.4 - 6.6	0.5 - 0.6	2.3 - 2.4	3.0 - 3.2	4.9 - 5.0	6.1 - 6.2	0.2 - 0.3	9.5 - 10.0	
Sample Date	(mg/kg)	(mg/kg)	11/8/2022	11/7/2022	11/7/2022	11/7/2022	11/7/2022	11/7/2022	11/7/2022	10/28/2022	10/28/2022	10/28/2022	10/28/2022	10/28/2022	11/8/2022	11/8/2022	
VOCs																	
Benzene	280	0.5	U (0.00036)	U (0.00074)	U (0.00048)	U (0.0005)	U (0.025)	U (0.00046)	U (0.00059)	0.00026 J (0.00049)	U (0.00048)	U (0.00079)	U (0.14)	U (0.00048)	U (0.00065)		
Cumene	10000	2500	U (0.00073)	U (0.0015)	U (0.00096)	U (0.001)	10 (0.05)	0.013 (0.00092)	U (0.0012)	U (0.00099)	U (0.00096)	U (0.0016)	2.6 (0.28)	U (0.00097)	U (0.0013)		
1,2-Dibromoethane	3.7	0.005	U (0.00036)	U (0.00074)	U (0.00048)	U (0.0005)	U (0.025)	U (0.00046)	U (0.00059)	U (0.00049)	U (0.00048)	U (0.00079)	U (0.14)	U (0.00048)	U (0.00065)		
1,2-Dichloroethane	85	0.5	U (0.00073)	U (0.0015)	U (0.00096)	U (0.001)	U (0.05)	U (0.00092)	U (0.0012)	U (0.00099)	U (0.00096)	U (0.0016)	U (0.28)	U (0.00097)	U (0.0013)		
Ethyl Benzene	880	70	U (0.00073)	U (0.0015)	U (0.00096)	U (0.001)	0.011 J (0.05)	U (0.00092)	U (0.0012)	U (0.00099)	U (0.00096)	U (0.0016)	U (0.28)	U (0.00097)	U (0.0013)		
Methyl tert-butyl ether	8500	2	U (0.0014)	U (0.003)	U (0.0019)	U (0.002)	U (0.1)	U (0.0018)	U (0.0024)	U (0.002)	U (0.0019)	U (0.0031)	U (0.57)	U (0.0019)	U (0.0026)		
Toluene	10000	100	U (0.00073)	U (0.0015)	U (0.00096)	U (0.001)	U (0.05)	U (0.00092)	U (0.0012)	U (0.00099)	U (0.00096)	U (0.0016)	U (0.28)	U (0.00097)	U (0.0013)		
1,2,4-Trimethylbenzene	4700	300	U (0.0014)	U (0.003)	U (0.0019)	U (0.002)	0.048 J (0.1)	U (0.0018)	U (0.0024)	U (0.002)	U (0.0019)	U (0.0031)	U (0.57)	U (0.0019)	U (0.0026)		
1,3,5-Trimethylbenzene	4700	93	U (0.0014)	U (0.003)	U (0.0019)	U (0.002)	U (0.1)	U (0.0018)	U (0.0024)	U (0.002)	U (0.0019)	U (0.0031)	U (0.57)	U (0.0019)	U (0.0026)		
Xylenes (total)	7900	1000	U (0.0014)	U (0.003)	U (0.0019)	U (0.002)	0.09 J (0.1)	U (0.0018)	U (0.0024)	U (0.002)	U (0.0019)	U (0.0031)	U (0.57)	U (0.0019)	U (0.0026)		

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1d
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AE02-b 302-AE02	302-AE02-b 302-AE02	302-AF01-d 302-AF01	302-AF01-d 302-AF01	302-AF01-d 302-AF01	302-AF02-a 302-AF02	302-AF02-a 302-AF02	302-AF02-a 302-AF02	302-AF02-a 302-AF02	302-AG01-d 302-AG01	302-AG01-d 302-AG01	302-AG01-d 302-AG01	302-AG01-d 302-AG01	
Field Sample ID	Numeric Value	Numeric Value	302-AE02-C3-VOC	302-AE02-C4-VOC	302-AF01-C1-VOC	302-AF01-C2-VOC	302-AF01-C3-VOC	302-AF02-C1-VOC	302-AF02-C2-VOC	302-AF02-C3-VOC	302-AF02-C4-VOC	302-AG01-C1-VOC	302-AG01-C2-VOC	302-AG01-C3-VOC	302-AG01-C4-VOC	
Collection Depth (ft bgs)	(0-2 ft bgs)		5.3 - 5.5	22.5 - 23.0	1.5 - 1.7	3.0 - 3.2	5.5 - 5.6	1.1 - 1.2	2.4 - 2.6	5.0 - 5.2	6.1 - 6.2	0.3 - 0.5	2.1 - 2.3	3.4 - 3.5	4.9 - 5.0	
Sample Date	(mg/kg)	(mg/kg)	11/8/2022	11/8/2022	10/31/2022	10/31/2022	10/31/2022	11/3/2022	11/3/2022	11/3/2022	11/3/2022	11/2/2022	11/2/2022	11/2/2022	11/2/2022	
VOCs																
Benzene	280	0.5	U (0.00047)	U (0.027)	U (0.00067)	U (0.027)	U (0.00046)	U (0.00052)	U (0.00052)	U (0.00048)	U (0.053)	U (0.00048)	U (0.00078)	U (0.00052)	U (0.00049)	
Cumene	10000	2500	U (0.00095)	13 (0.053)	U (0.0013)	4.6 (0.055)	0.003 (0.00093)	U (0.001)	U (0.001)	U (0.00097)	10 (0.11)	U (0.00095)	U (0.0016)	U (0.001)	U (0.00099)	
1,2-Dibromoethane	3.7	0.005	U (0.00047)	U (0.027)	U (0.00067)	U (0.027)	U (0.00046)	U (0.00052)	U (0.00052)	U (0.00048)	U (0.053)	U (0.00048)	U (0.00078)	U (0.00052)	U (0.00049)	
1,2-Dichloroethane	85	0.5	U (0.00095)	U (0.053)	U (0.0013)	U (0.055)	U (0.00093)	U (0.001)	U (0.001)	U (0.00097)	U (0.11)	U (0.00095)	U (0.0016)	U (0.001)	U (0.00099)	
Ethyl Benzene	880	70	U (0.00095)	1.5 (0.053)	U (0.0013)	U (0.055)	U (0.00093)	U (0.001)	U (0.001)	U (0.00097)	U (0.11)	U (0.00095)	U (0.0016)	U (0.001)	U (0.00099)	
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.11)	U (0.0027)	U (0.11)	U (0.0018)	U (0.0021)	U (0.0021)	U (0.0019)	U (0.21)	U (0.0019)	U (0.0031)	U (0.0021)	U (0.002)	
Toluene	10000	100	U (0.00095)	U (0.053)	U (0.0013)	U (0.055)	U (0.00093)	U (0.001)	U (0.001)	U (0.00097)	U (0.11)	U (0.00095)	U (0.0016)	U (0.001)	U (0.00099)	
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	4.9 (0.11)	U (0.0027)	U (0.11)	U (0.0018)	U (0.0021)	U (0.0021)	U (0.0019)	0.042 J (0.21)	U (0.0019)	U (0.0031)	U (0.0021)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	U (0.11)	U (0.0027)	U (0.11)	U (0.0018)	U (0.0021)	U (0.0021)	U (0.0019)	U (0.21)	U (0.0019)	U (0.0031)	U (0.0021)	U (0.002)	
Xylenes (total)	7900	1000	U (0.0019)	0.2765 J (0.11)	U (0.0027)	U (0.11)	U (0.0018)	U (0.0021)	U (0.0021)	U (0.0019)	U (0.21)	U (0.0019)	U (0.0031)	U (0.0021)	U (0.002)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1d
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AG01-d 302-AG01	302-AG02-d 302-AG02	302-AG02-d 302-AG02	302-AG02-d 302-AG02	302-AG02-d 302-AG02	302-AG02-d 302-AG02	302-AH01-a 302-AH01	302-AH01-a 302-AH01	302-AH01-d 302-AH01	302-AH02-c 302-AH02	302-AH02-d 302-AH02	302-AH02-d 302-AH02	302-AH02-d 302-AH02	302-AH02-d 302-AH02	302-AH03-a 302-AH03
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	302-AG01-C5-VOC 6.4 - 3.8	302-AG02-C1-VOC 0.6 - 0.8	302-AG02-C2-VOC 2.1 - 2.3	302-AG02-C3-VOC 4.3 - 4.4	302-AG02-C4-VOC 5.8 - 5.9	302-AH01-C1-VOC 0.9 - 1.1	302-AH01-C3-VOC 4.0 - 4.1	302-AH01-C2-VOC 4.3 - 4.4	302-AH02-C3-VOC 5.5 - 5.6	302-AH02-C1-VOC 0.6 - 0.8	302-AH02-C2-VOC 3.0 - 3.2	302-AH02-C4-VOC 7.6 - 7.8	302-AH03-C3-VOC 4.9 - 5.0	Sample Date	(mg/kg)
Collection Depth (ft bgs)	Sample Date	(mg/kg)	11/2/2022	11/1/2022	11/1/2022	11/1/2022	11/1/2022	11/10/2022	11/10/2022	11/10/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	
VOCs																	
Benzene	280	0.5	U (0.0005)	U (0.00049)	U (0.00048)	U (0.00054)	0.098 (0.028)	U (0.00057)	0.0014 (0.00049)	0.00021 J (0.00047)	0.00025 J (0.00055)	0.023 (0.00057)	0.003 (0.00057)	2800 (13)	220 (1.6)		
Cumene	10000	2500	U (0.001)	U (0.00098)	U (0.00096)	U (0.0011)	4.2 (0.057)	U (0.0011)	U (0.00098)	U (0.00094)	U (0.0011)	U (0.0011)	U (0.0011)	U (0.0011)	7.2 (5.3)	14 (0.64)	
1,2-Dibromoethane	3.7	0.005	U (0.0005)	U (0.00049)	U (0.00048)	U (0.00054)	U (0.028)	U (0.00057)	U (0.00049)	U (0.00047)	U (0.00055)	U (0.00057)	U (0.00057)	U (2.6)	U (0.32)		
1,2-Dichloroethane	85	0.5	U (0.001)	U (0.00098)	U (0.00096)	U (0.0011)	U (0.057)	U (0.0011)	U (0.00098)	U (0.00094)	U (0.0011)	0.00062 J (0.0011)	U (0.0011)	U (5.3)	U (0.64)		
Ethyl Benzene	880	70	U (0.001)	U (0.00098)	U (0.00096)	U (0.0011)	0.048 J (0.057)	U (0.0011)	U (0.00098)	U (0.00094)	U (0.0011)	U (0.0011)	U (0.0011)	6.6 (5.3)	9.7 (0.64)		
Methyl tert-butyl ether	8500	2	U (0.002)	U (0.002)	0.00019 J (0.0019)	U (0.0022)	U (0.11)	U (0.0023)	U (0.002)	U (0.0019)	U (0.0022)	U (0.0023)	U (0.0023)	U (10)	U (1.3)		
Toluene	10000	100	U (0.001)	U (0.00098)	U (0.00096)	U (0.0011)	0.038 J (0.057)	U (0.0011)	U (0.00098)	U (0.00094)	U (0.0011)	0.0024 (0.0011)	U (0.0011)	2000 (26)	0.53 J (0.64)		
1,2,4-Trimethylbenzene	4700	300	U (0.002)	U (0.002)	U (0.0019)	U (0.0022)	0.36 (0.11)	U (0.0023)	U (0.002)	U (0.0019)	U (0.0022)	U (0.0023)	U (0.0023)	3.2 J (10)	95 (1.3)		
1,3,5-Trimethylbenzene	4700	93	U (0.002)	U (0.002)	U (0.0019)	U (0.0022)	U (0.11)	U (0.0023)	U (0.002)	U (0.0019)	U (0.0022)	U (0.0023)	U (0.0023)	U (10)	4.8 (1.3)		
Xylenes (total)	7900	1000	U (0.002)	U (0.002)	U (0.0019)	U (0.0022)	0.3385 J (0.11)	U (0.0023)	U (0.002)	U (0.0019)	U (0.0022)	U (0.0023)	U (0.0023)	20.5 J (10)	2.32 J (1.3)		

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1d
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AH03-a 302-AH03	302-AH03-b 302-AH03	302-AH03-b 302-AH03	302-AI01-b 302-AI01	302-AI02-b 302-AI02	302-AI02-b 302-AI02	302-AI02-d 302-AI02	302-AI02-d 302-AI02	302-AI02-d 302-AI02	302-AI03-c 302-AI03	302-AI03-c 302-AI03	302-AI03-c 302-AI03	302-AI03-c 302-AI03	
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	302-AH03-C4-VOC 7.6 - 7.8	302-AH03-C1-VOC 1.1 - 1.2	302-AH03-C2-VOC 2.7 - 2.9	302-AI01-C1-VOC 3.2 - 3.4	302-AI02-C1-VOC 0.9 - 1.1	302-AI02-C3-VOC 3.4 - 3.5	302-AI02-C2-VOC 2.7 - 2.9	302-AI02-C4-VOC 6.1 - 6.2	302-AI02-C5-VOC 8.5 - 8.7	302-AI03-C1-VOC 0.6 - 0.8	302-AI03-C2-VOC 2.1 - 2.3	302-AI03-C3-VOC 3.0 - 3.2	302-AI03-C4-VOC 5.2 - 5.3	
Collection Depth (ft bgs)	Sample Date	(mg/kg)	11/9/2022	11/9/2022	11/9/2022	10/25/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	10/27/2022	10/27/2022	10/27/2022	10/27/2022	
VOCs																
Benzene	280	0.5	0.068 (0.00046)	0.0029 (0.0006)	0.0011 (0.00054)	U (0.00064)	U (0.0005)	0.00032 J (0.00046)	U (0.00047)	0.46 (0.026)	94 (2.6)	0.064 (0.033)	0.68 (0.028)	0.0064 (0.00057)	0.006 (0.0008)	
Cumene	10000	2500	0.0022 (0.00093)	U (0.0012)	U (0.0011)	U (0.0013)	U (0.001)	U (0.00091)	U (0.00093)	U (0.00092)	U (0.26)	0.16 (0.066)	U (0.056)	U (0.0011)	U (0.0016)	
1,2-Dibromoethane	3.7	0.005	U (0.00046)	U (0.0006)	U (0.00054)	U (0.00064)	U (0.0005)	U (0.00046)	U (0.00047)	U (0.00046)	U (0.13)	U (0.033)	U (0.028)	U (0.00057)	U (0.0008)	
1,2-Dichloroethane	85	0.5	U (0.00093)	U (0.0012)	U (0.0011)	U (0.0013)	U (0.001)	U (0.00091)	U (0.00093)	0.013 J (0.052)	2.3 (0.26)	U (0.066)	U (0.056)	U (0.0011)	U (0.0016)	
Ethyl Benzene	880	70	0.0013 (0.00093)	U (0.0012)	U (0.0011)	U (0.0013)	U (0.001)	U (0.00091)	U (0.00093)	0.00098 (0.00092)	0.69 (0.26)	0.059 J (0.066)	U (0.056)	U (0.0011)	U (0.0016)	
Methyl tert-butyl ether	8500	2	U (0.0018)	U (0.0024)	U (0.0022)	U (0.0025)	U (0.002)	U (0.0018)	U (0.0019)	U (0.0018)	U (0.53)	U (0.13)	U (0.11)	U (0.0023)	U (0.0032)	
Toluene	10000	100	0.0022 (0.00093)	U (0.0012)	U (0.0011)	U (0.0013)	U (0.001)	U (0.00091)	U (0.00093)	0.2 (0.052)	190 (5.3)	U (0.066)	U (0.056)	U (0.0011)	U (0.0016)	
1,2,4-Trimethylbenzene	4700	300	0.015 (0.0018)	U (0.0024)	U (0.0022)	U (0.0025)	U (0.002)	U (0.0018)	U (0.0019)	U (0.0018)	U (0.53)	2.8 (0.13)	U (0.11)	U (0.0023)	U (0.0032)	
1,3,5-Trimethylbenzene	4700	93	0.001 J (0.0018)	U (0.0024)	U (0.0022)	U (0.0025)	U (0.002)	U (0.0018)	U (0.0019)	U (0.0018)	U (0.53)	4.6 (0.13)	U (0.11)	U (0.0023)	U (0.0032)	
Xylenes (total)	7900	1000	0.000985 J (0.0018)	U (0.0024)	U (0.0022)	U (0.0025)	U (0.002)	U (0.0018)	U (0.0019)	0.00329 J (0.0018)	2.41 J (0.53)	0.633 J (0.13)	U (0.11)	U (0.0023)	U (0.0032)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1d
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AI04-a 302-AI04	302-AI04-a 302-AI04	302-AI04-a 302-AI04	302-AI04-a 302-AI04	302-AJ03-c 302-AJ03	302-AJ03-c 302-AJ03	302-AJ03-c 302-AJ03	302-AJ03-c 302-AJ03	302-AK02-a 302-AK02	302-AK02-a 302-AK02	302-AK02-a 302-AK02	302-AK02-d 302-AK02	302-AL02-a 302-AL02
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	302-AI04-C1-VOC 0.3 - 0.5	302-AI04-C2-VOC 2.1 - 2.3	302-AI04-C3-VOC 3.7 - 3.8	302-AI04-C4-VOC 5.0 - 5.2	302-AJ03-C1-VOC 1.8 - 2.0	302-AJ03-C2-VOC 2.4 - 2.6	302-AJ03-C3-VOC 4.6 - 4.7	302-AJ03-C4-VOC 6.7 - 6.9	302-AK02-C1-VOC 0.5 - 0.6	302-AK02-C3-VOC 2.3 - 2.4	302-AK02-C4-VOC 3.0 - 3.2	302-AK02-C2-VOC 1.8 - 2.0	302-AL02-C3-VOC 1.5 - 1.7
Collection Depth (ft bgs)	(0-2 ft bgs)	(mg/kg)	10/26/2022	10/26/2022	10/26/2022	10/26/2022	10/26/2022	10/26/2022	10/26/2022	10/26/2022	10/25/2022	10/25/2022	10/25/2022	10/25/2022	11/11/2022
Sample Date	(mg/kg)	(mg/kg)	10/26/2022	10/26/2022	10/26/2022	10/26/2022	10/26/2022	10/26/2022	10/26/2022	10/26/2022	10/25/2022	10/25/2022	10/25/2022	10/25/2022	11/11/2022
VOCs															
Benzene	280	0.5	0.0002 J (0.00054)	0.00019 J (0.0005)	1.2 (0.026)	1.1 (0.029)	0.00041 J (0.00059)	0.00049 J (0.00057)	0.009 (0.00046)	0.016 (0.00057)	0.0052 (0.0003)	U (0.001)	U (0.00048)	U (0.00058)	U (0.00054)
Cumene	10000	2500	0.00052 J (0.0011)	0.00013 J (0.001)	0.00035 J (0.00091)	0.0004 J (0.001)	U (0.0012)	U (0.0011)	U (0.00092)	U (0.0011)	U (0.0006)	U (0.0021)	U (0.00096)	U (0.0012)	U (0.0011)
1,2-Dibromoethane	3.7	0.005	U (0.00054)	U (0.0005)	U (0.00046)	U (0.0005)	U (0.00059)	U (0.00057)	U (0.00046)	U (0.00057)	U (0.0003)	U (0.001)	U (0.00048)	U (0.00058)	U (0.00054)
1,2-Dichloroethane	85	0.5	U (0.0011)	U (0.001)	U (0.00091)	U (0.001)	U (0.0012)	U (0.0011)	U (0.00092)	U (0.0011)	U (0.0006)	U (0.0021)	U (0.00096)	U (0.0012)	U (0.0011)
Ethyl Benzene	880	70	0.00025 J (0.0011)	U (0.001)	U (0.00091)	U (0.001)	U (0.0012)	U (0.0011)	U (0.00092)	U (0.0011)	U (0.0006)	U (0.0021)	U (0.00096)	U (0.0012)	U (0.0011)
Methyl tert-butyl ether	8500	2	U (0.0022)	U (0.002)	U (0.0018)	U (0.002)	U (0.0024)	U (0.0023)	U (0.0018)	U (0.0023)	U (0.0012)	U (0.0042)	U (0.0019)	U (0.0023)	U (0.0022)
Toluene	10000	100	U (0.0011)	U (0.001)	U (0.00091)	U (0.001)	U (0.0012)	U (0.0011)	U (0.00092)	U (0.0011)	U (0.0006)	U (0.0021)	U (0.00096)	U (0.0012)	U (0.0011)
1,2,4-Trimethylbenzene	4700	300	0.00036 J (0.0022)	U (0.002)	U (0.0018)	U (0.002)	U (0.0024)	U (0.0023)	U (0.0018)	U (0.0023)	U (0.0012)	U (0.0042)	U (0.0019)	U (0.0023)	U (0.0022)
1,3,5-Trimethylbenzene	4700	93	U (0.0022)	U (0.002)	U (0.0018)	U (0.002)	U (0.0024)	U (0.0023)	U (0.0018)	U (0.0023)	U (0.0012)	U (0.0042)	U (0.0019)	U (0.0023)	U (0.0022)
Xylenes (total)	7900	1000	U (0.0022)	U (0.002)	U (0.0018)	U (0.002)	U (0.0024)	U (0.0023)	U (0.0018)	U (0.0023)	U (0.0012)	U (0.0042)	U (0.0019)	U (0.0023)	0.00149 J (0.0022)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.1d
Cut Soil Discrete Analytical Results - VOCs
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AL02-a 302-AL02	302-AL02-c 302-AL02	302-AL02-d 302-AL02	302-AM01-c 302-AM01	302-AM01-c 302-AM01	302-AM01-c 302-AM01	302-AM01-c 302-AM01	302-AM01-c 302-AM01	302-AO01-a 302-AO01
Field Sample ID	Numeric Value (0-2 ft bgs)	Numeric Value (mg/kg)	302-AL02-C4-VOC 2.1 - 2.3	302-AL02-C1-VOC 0.0 - 0.2	302-AL02-C2-VOC 1.1 - 1.2	302-AM01-C1-VOC 0.2 - 0.3	302-AM01-C2-VOC 0.6 - 0.8	302-AM01-C3-VOC 0.9 - 1.1	302-AM01-C4-VOC 1.4 - 1.5	302-AO01-C1-VOC 0.6 - 0.8	
Collection Depth (ft bgs)	Sample Date	(mg/kg)	11/11/2022	11/11/2022	11/11/2022	10/24/2022	10/24/2022	10/24/2022	10/24/2022	10/24/2022	
VOCs											
Benzene	280	0.5	0.00083 (0.00046)	U (0.00054)	U (0.00063)	2.8 (0.027)	0.0041 (0.00053)	U (0.00054)	0.00023 J (0.00046)	U (0.001)	
Cumene	10000	2500	U (0.00093)	U (0.0011)	U (0.0013)	0.0088 J (0.055)	U (0.001)	U (0.0011)	U (0.00093)	U (0.0021)	
1,2-Dibromoethane	3.7	0.005	U (0.00046)	U (0.00054)	U (0.00063)	U (0.027)	U (0.00053)	U (0.00054)	U (0.00046)	U (0.001)	
1,2-Dichloroethane	85	0.5	U (0.00093)	U (0.0011)	U (0.0013)	U (0.055)	U (0.001)	U (0.0011)	U (0.00093)	U (0.0021)	
Ethyl Benzene	880	70	U (0.00093)	U (0.0011)	U (0.0013)	0.019 J (0.055)	U (0.001)	U (0.0011)	U (0.00093)	U (0.0021)	
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.0022)	U (0.0025)	U (0.11)	U (0.0021)	U (0.0021)	U (0.0019)	U (0.0042)	
Toluene	10000	100	U (0.00093)	U (0.0011)	U (0.0013)	0.092 (0.055)	U (0.001)	U (0.0011)	U (0.00093)	U (0.0021)	
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	0.00037 J (0.0022)	U (0.0025)	0.036 J (0.11)	U (0.0021)	U (0.0021)	U (0.0019)	U (0.0042)	
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	U (0.0022)	U (0.0025)	0.01 J (0.11)	U (0.0021)	U (0.0021)	U (0.0019)	U (0.0042)	
Xylenes (total)	7900	1000	0.00125 J (0.0019)	0.00148 J (0.0022)	0.00171 J (0.0025)	0.151 J (0.11)	U (0.0021)	U (0.0021)	U (0.0019)	U (0.0042)	

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOCs -- Volatile Organic Compounds.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-A15-C	101-D14-C	101-D16-C	101-D20-C	101-E14-S	101-F13-C	101-G10-C	101-G16-C	101-G23-C	101-G24-C	101-G25-C	101-G26-C	101-H10-C
Field Sample ID	Value (0-2 ft bgs)	Value	101-A15-C-COMP	101-D14-C-COMP	101-D16-C-COMP	101-D20-C-COMP	101-E14-S-COMP	101-F13-C-COMP	101-G10-C-COMP	101-G16-C-COMP	101-G23-C-COMP	101-G24-C-COMP	101-G25-C-COMP	101-G26-C-COMP	101-H10-C-COMP
Sample Date	(mg/kg)	(mg/kg)	1/4/2021	1/4/2021	1/4/2021	1/7/2021	1/6/2021	1/6/2021	1/5/2021	1/7/2021	1/15/2021	1/15/2021	1/15/2021	1/15/2021	1/5/2021
PAHs															
Anthracene	190000	350	0.13 (0.0079)	13 (0.48)	0.62 (0.039)	0.072 (0.0071)	0.18 (0.091)	0.86 (0.19)	0.037 (0.0091)	0.42 (0.039)	0.035 (0.0073)	0.31 (0.016)	0.3 (0.076)	1.5 (0.082)	0.058 (0.0082)
Benzo(a)anthracene	130	340	0.35 (0.0079)	24 (0.48)	2.8 (0.039)	0.34 (0.0071)	0.71 (0.091)	3.4 (0.19)	0.15 (0.0091)	0.86 (0.039)	0.042 (0.0073)	0.5 (0.016)	1 (0.076)	4.3 (0.082)	0.16 (0.0082)
Benzo(a)pyrene	91	46	0.31 (0.0079)	19 (0.48)	2.5 (0.039)	0.33 (0.0071)	0.66 (0.091)	2.7 (0.19)	0.2 (0.0091)	0.69 (0.039)	0.051 (0.0073)	0.42 (0.016)	1.1 (0.076)	3.4 (0.082)	0.24 (0.0082)
Benzo(b)fluoranthene	76	170	0.4 (0.0079)	28 (0.48)	3.3 (0.039)	0.45 (0.0071)	0.93 (0.091)	4 (0.19)	0.24 (0.0091)	0.84 (0.039)	0.04 (0.0073)	0.39 (0.016)	1.2 (0.076)	4.6 (0.082)	0.29 (0.0082)
Benzo(g,h,i)perylene	190000	180	0.18 (0.0079)	11 (0.48)	1.6 (0.039)	0.17 (0.0071)	0.48 (0.091)	1.8 (0.19)	0.2 (0.0091)	0.49 (0.039)	0.047 (0.0073)	0.25 (0.016)	1.6 (0.076)	1.4 (0.082)	0.32 (0.0082)
Chrysene	760	230	0.27 (0.0079)	20 (0.48)	2.1 (0.039)	0.33 (0.0071)	0.62 (0.091)	2.8 (0.19)	0.17 (0.0091)	1 (0.039)	0.047 (0.0073)	0.44 (0.016)	0.95 (0.076)	3.2 (0.082)	0.16 (0.0082)
Fluorene	130000	3800	0.068 (0.0079)	8.9 (0.48)	0.26 (0.039)	0.019 (0.0071)	0.053 J (0.091)	0.22 (0.19)	0.017 (0.0091)	1.2 (0.039)	0.0083 (0.0073)	U (0.016)	0.13 (0.076)	2.2 (0.082)	0.017 (0.0082)
Naphthalene	66	25	0.082 (0.0079)	4.2 (0.48)	0.44 (0.039)	0.035 (0.0071)	0.082 J (0.091)	0.54 (0.19)	0.077 (0.0091)	0.14 (0.039)	0.051 (0.0073)	0.24 (0.016)	0.27 (0.076)	3.4 (0.082)	0.12 (0.0082)
Phenanthrene	190000	10000	0.43 (0.0079)	48 (0.48)	2.2 (0.039)	0.3 (0.0071)	0.67 (0.091)	3.9 (0.19)	0.089 (0.0091)	3.2 (0.039)	0.17 (0.0073)	1.2 (0.016)	0.96 (0.076)	4.5 (0.082)	0.15 (0.0082)
Pyrene	96000	2200	0.5 (0.0079)	39 (0.48)	3.3 (0.039)	0.54 (0.0071)	1.1 (0.091)	5.2 (0.19)	0.21 (0.0091)	1 (0.039)	0.11 (0.0073)	1.1 (0.016)	1.4 (0.076)	5.7 (0.082)	0.19 (0.0082)
Metals															
Lead	1000	450	29 (2.35)	104 (2.79)	202 (2.31)	33.1 (2.15)	343 (2.75)	959 (2.24)	85.4 (2.59)	269 (2.23)	982 (2.22)	60.6 (2.35)	476 (2.27)	1090 (2.41)	110 (2.4)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-H12-C	101-H17-C	101-H20-C	101-H21-C	101-H22-C	101-H23-C	101-H24-C	101-H27-C	101-H28-C	101-I13-C	101-I13-S	101-I15-C	101-I18-C
Field Sample ID	Value (0-2 ft bgs)	Value	101-H12-C-COMP	101-H17-C-COMP	101-H20-C-COMP	101-H21-C-COMP	101-H22-C-COMP	101-H23-C-COMP	101-H24-C-COMP	101-H27-C-COMP	101-H28-C-COMP	101-I13-C-COMP	101-I13-S-COMP	101-I15-C-COMP	101-I18-C-COMP
Sample Date	(mg/kg)	(mg/kg)	1/5/2021	1/7/2021	1/8/2021	1/8/2021	1/11/2021	1/11/2021	1/12/2021	1/18/2021	1/13/2021	1/5/2021	1/6/2021	1/6/2021	1/7/2021
PAHs															
Anthracene	190000	350	0.21 (0.075)	2.7 (0.16)	0.18 (0.086)	0.078 (0.019)	0.031 J (0.038)	0.88 (0.078)	0.034 (0.0077)	0.28 (0.039)	0.0077 J (0.0078)	0.023 (0.01)	0.17 (0.019)	0.23 (0.04)	0.62 (0.079)
Benzo(a)anthracene	130	340	1.3 (0.075)	4.6 (0.16)	0.88 (0.086)	0.65 (0.019)	0.17 (0.038)	3.9 (0.078)	0.071 (0.0077)	1 (0.039)	0.032 (0.0078)	0.078 (0.01)	0.9 (0.019)	0.87 (0.04)	2.2 (0.079)
Benzo(a)pyrene	91	46	1 (0.075)	3.3 (0.16)	2.1 (0.086)	0.64 (0.019)	0.58 (0.038)	3.7 (0.078)	0.063 (0.0077)	1.6 (0.039)	0.031 (0.0078)	0.066 (0.01)	1 (0.019)	0.78 (0.04)	1.6 (0.079)
Benzo(b)fluoranthene	76	170	1.5 (0.075)	3.8 (0.16)	0.78 (0.086)	0.45 (0.019)	0.4 (0.038)	4.1 (0.078)	0.067 (0.0077)	1.6 (0.039)	0.042 (0.0078)	0.096 (0.01)	1.4 (0.019)	1.1 (0.04)	2.1 (0.079)
Benzo(g,h,i)perylene	190000	180	0.75 (0.075)	2.2 (0.16)	0.44 (0.086)	0.18 (0.019)	1.4 (0.038)	2.4 (0.078)	0.045 (0.0077)	1.1 (0.039)	0.017 (0.0078)	0.034 (0.01)	0.48 (0.019)	0.5 (0.04)	0.87 (0.079)
Chrysene	760	230	1.3 (0.075)	4.6 (0.16)	4.6 (0.086)	1.1 (0.019)	0.19 (0.038)	3.4 (0.078)	0.08 (0.0077)	1 (0.039)	0.035 (0.0078)	0.066 (0.01)	0.79 (0.019)	0.73 (0.04)	1.6 (0.079)
Fluorene	130000	3800	0.021 J (0.075)	3.1 (0.16)	0.26 (0.086)	0.082 (0.019)	U (0.038)	0.38 (0.078)	0.018 (0.0077)	0.12 (0.039)	0.0032 J (0.0078)	0.0074 J (0.01)	0.037 (0.019)	0.06 (0.04)	0.18 (0.079)
Naphthalene	66	25	0.12 (0.075)	1.6 (0.16)	0.46 (0.086)	0.055 (0.019)	0.033 J (0.038)	0.88 (0.078)	0.033 (0.0077)	0.22 (0.039)	0.0076 J (0.0078)	0.059 (0.01)	0.7 (0.019)	0.11 (0.04)	0.094 (0.079)
Phenanthrene	190000	10000	1.2 (0.075)	11 (0.16)	3.1 (0.086)	0.28 (0.019)	0.11 (0.038)	3 (0.078)	0.094 (0.0077)	1.1 (0.039)	0.031 (0.0078)	0.085 (0.01)	0.68 (0.019)	0.83 (0.04)	2.3 (0.079)
Pyrene	96000	2200	2.3 (0.075)	7 (0.16)	1.6 (0.086)	0.81 (0.019)	0.11 (0.038)	5 (0.078)	0.12 (0.0077)	1.2 (0.039)	0.051 (0.0078)	0.1 (0.01)	0.84 (0.019)	1.3 (0.04)	2.8 (0.079)
Metals															
Lead	1000	450	61.9 (2.31)	310 (2.35)	111 (2.5)	65.7 (2.86)	22.6 (2.18)	272 (2.3)	1010 (2.3)	63.2 (2.26)	60.6 (2.3)	141 (3.05)	1670 (2.83)	573 (2.39)	307 (2.38)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	101-I20-C	101-I21-C	101-I22-C	101-I23-C	101-I24-C	101-I25-C	101-I26-C	101-I29-C	101-I30-C1	101-I30-C2	101-J13-C	101-J17-C	101-J20-C
			101-I20-C-COMP	101-I21-C-COMP	101-I22-C-COMP	101-I23-C-COMP	101-I24-C-COMP	101-I25-C-COMP	101-I26-C-COMP	101-I29-C-COMP	101-I30-C1-COMP	101-I30-C2-COMP	101-J13-C-COMP	101-J17-C-COMP	101-J20-C-COMP
Field Sample ID			1/7/2021	1/8/2021	1/11/2021	1/11/2021	1/12/2021	1/12/2021	1/13/2021	3/10/2021	1/14/2021	1/14/2021	1/5/2021	1/6/2021	1/12/2021
Sample Date															
PAHs															
Anthracene	190000	350	31 (1.4)	0.15 (0.038)	0.16 (0.015)	0.26 (0.037)	0.2 (0.016)	0.7 (0.038)	0.027 (0.0076)	0.0065 J (0.0079)	0.034 (0.0079)	0.0034 J (0.0081)	0.092 (0.0083)	0.26 (0.08)	0.16 (0.0075)
Benzo(a)anthracene	130	340	38 (1.4)	1 (0.038)	0.94 (0.015)	0.46 (0.037)	0.94 (0.016)	1.1 (0.038)	0.11 (0.0076)	0.02 (0.0079)	0.21 (0.0079)	0.0047 J (0.0081)	0.31 (0.0083)	0.81 (0.08)	0.47 (0.0075)
Benzo(a)pyrene	91	46	28 (1.4)	0.98 (0.038)	0.8 (0.015)	0.44 (0.037)	0.82 (0.016)	1 (0.038)	0.1 (0.0076)	0.02 (0.0079)	0.21 (0.0079)	0.0045 J (0.0081)	0.43 (0.0083)	0.68 (0.08)	0.41 (0.0075)
Benzo(b)fluoranthene	76	170	33 (1.4)	1.4 (0.038)	1 (0.015)	0.39 (0.037)	1.2 (0.016)	0.9 (0.038)	0.14 (0.0076)	0.025 (0.0079)	0.27 (0.0079)	0.0048 J (0.0081)	0.31 (0.0083)	0.89 (0.08)	0.49 (0.0075)
Benzo(g,h,i)perylene	190000	180	13 (1.4)	0.7 (0.038)	0.48 (0.015)	0.54 (0.037)	0.5 (0.016)	0.73 (0.038)	0.049 (0.0076)	0.015 (0.0079)	0.099 (0.0079)	0.0034 J (0.0081)	0.43 (0.0083)	0.39 (0.08)	0.2 (0.0075)
Chrysene	760	230	28 (1.4)	0.89 (0.038)	0.76 (0.015)	0.46 (0.037)	1 (0.016)	1.3 (0.038)	0.11 (0.0076)	0.022 (0.0079)	0.18 (0.0079)	0.006 J (0.0081)	0.35 (0.0083)	0.7 (0.08)	0.38 (0.0075)
Fluorene	130000	3800	22 (1.4)	0.028 J (0.038)	0.057 (0.015)	0.021 J (0.037)	0.059 (0.016)	0.76 (0.038)	0.011 (0.0076)	0.0043 J (0.0079)	0.0088 (0.0079)	U (0.0081)	0.33 (0.0083)	0.075 J (0.08)	0.045 (0.0075)
Naphthalene	66	25	29 (1.4)	0.1 (0.038)	0.037 (0.015)	0.24 (0.037)	0.082 (0.016)	1.6 (0.038)	0.014 (0.0076)	0.021 (0.0079)	0.016 (0.0079)	U (0.0081)	0.47 (0.0083)	0.12 (0.08)	0.093 (0.0075)
Phenanthrene	190000	10000	89 (1.4)	0.57 (0.038)	0.51 (0.015)	1.1 (0.037)	0.93 (0.016)	3.4 (0.038)	0.12 (0.0076)	0.03 (0.0079)	0.11 (0.0079)	0.0091 (0.0081)	0.24 (0.0083)	1 (0.08)	0.4 (0.0075)
Pyrene	96000	2200	59 (1.4)	1.2 (0.038)	1.3 (0.015)	1 (0.037)	1.6 (0.016)	1.8 (0.038)	0.18 (0.0076)	0.031 (0.0079)	0.25 (0.0079)	0.0065 J (0.0081)	0.57 (0.0083)	1.2 (0.08)	0.52 (0.0075)
Metals															
Lead	1000	450	142 (2.12)	14.7 (2.27)	19.6 (2.32)	97.8 (2.24)	196 (2.4)	452 (2.21)	82.9 (2.29)	213 (2.35)	65.6 (2.3)	5.92 (2.38)	223 (2.5)	117 (2.3)	14.1 (2.22)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	101-J21-C	101-J23-C	101-J26-C	101-J27-C	101-J28-C	101-J29-C	101-J31-C	101-J32-C1	101-J32-C2	101-K20-C	101-K21-C	101-K23-C	101-K26-C
			101-J21-C	101-J23-C	101-J26-C	101-J27-C	101-J28-C	101-J29-C	101-J31-C	101-J32-C1	101-J32-C2	101-K20-C	101-K21-C	101-K23-C	101-K26-C
Field Sample ID	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)	101-J21-C-COMP	101-J23-C-COMP	101-J26-C-COMP	101-J27-C-COMP	101-J28-C-COMP	101-J29-C-COMP	101-J31-C-COMP	101-J32-C1-COMP	101-J32-C2-COMP	101-K20-C-COMP	101-K21-C-COMP	101-K23-C-COMP	101-K26-C-COMP
Sample Date			1/8/2021	1/12/2021	1/13/2021	1/13/2021	1/13/2021	1/13/2021	1/14/2021	1/20/2021	1/20/2021	1/12/2021	1/12/2021	1/12/2021	1/13/2021
PAHs															
Anthracene	190000	350	0.049 (0.0079)	0.0094 (0.0074)	0.031 J (0.041)	0.0019 J (0.0079)	0.27 (0.04)	0.0042 J (0.04)	0.2 (0.016)	0.64 (0.078)	1.2 (0.16)	0.12 (0.039)	0.013 (0.0072)	0.085 (0.0077)	0.0096 J (0.042)
Benzo(a)anthracene	130	340	0.17 (0.0079)	0.051 (0.0074)	0.14 (0.041)	0.0062 J (0.0079)	0.51 (0.04)	0.012 J (0.04)	0.66 (0.016)	2 (0.078)	2.7 (0.16)	0.29 (0.039)	0.073 (0.0072)	0.34 (0.0077)	0.034 J (0.042)
Benzo(a)pyrene	91	46	0.17 (0.0079)	0.056 (0.0074)	0.22 (0.041)	0.0066 J (0.0079)	0.51 (0.04)	0.013 J (0.04)	0.56 (0.016)	1.7 (0.078)	2.2 (0.16)	0.26 (0.039)	0.08 (0.0072)	0.3 (0.0077)	0.047 (0.042)
Benzo(b)fluoranthene	76	170	0.23 (0.0079)	0.039 (0.0074)	0.16 (0.041)	0.008 (0.0079)	0.28 (0.04)	0.019 J (0.04)	0.77 (0.016)	2.2 (0.078)	2.8 (0.16)	0.32 (0.039)	0.11 (0.0072)	0.37 (0.0077)	0.054 (0.042)
Benzo(g,h,i)perylene	190000	180	0.089 (0.0079)	0.36 (0.0074)	0.18 (0.041)	0.011 (0.0079)	0.45 (0.04)	0.013 J (0.04)	0.29 (0.016)	1.1 (0.078)	1 (0.16)	0.15 (0.039)	0.067 (0.0072)	0.17 (0.0077)	0.045 (0.042)
Chrysene	760	230	0.17 (0.0079)	0.095 (0.0074)	0.15 (0.041)	0.0057 J (0.0079)	0.61 (0.04)	0.027 J (0.04)	0.6 (0.016)	1.6 (0.078)	2.2 (0.16)	0.28 (0.039)	0.071 (0.0072)	0.29 (0.0077)	0.12 (0.042)
Fluorene	130000	3800	0.016 (0.0079)	0.0015 J (0.0074)	0.013 J (0.041)	0.0015 J (0.0079)	0.048 (0.04)	U (0.04)	0.082 (0.016)	0.24 (0.078)	0.73 (0.16)	0.083 (0.039)	0.0032 J (0.0072)	0.028 (0.0077)	0.0092 J (0.042)
Naphthalene	66	25	0.0091 (0.0079)	0.0031 J (0.0074)	0.051 (0.041)	0.0021 J (0.0079)	0.15 (0.04)	U (0.04)	0.066 (0.016)	0.24 (0.078)	0.62 (0.16)	0.041 (0.039)	0.014 (0.0072)	0.015 (0.0077)	U (0.042)
Phenanthrene	190000	10000	0.18 (0.0079)	0.014 (0.0074)	0.12 (0.041)	0.0061 J (0.0079)	1.5 (0.04)	0.016 J (0.04)	0.64 (0.016)	2.5 (0.078)	4.5 (0.16)	0.52 (0.039)	0.044 (0.0072)	0.37 (0.0077)	0.056 (0.042)
Pyrene	96000	2200	0.26 (0.0079)	0.076 (0.0074)	0.14 (0.041)	0.0073 J (0.0079)	1.2 (0.04)	0.023 J (0.04)	0.87 (0.016)	3.3 (0.078)	5 (0.16)	0.48 (0.039)	0.097 (0.0072)	0.52 (0.0077)	0.067 (0.042)
Metals															
Lead	1000	450	14.6 (2.31)	144 (2.23)	50.8 (2.45)	5.91 (2.41)	87.1 (2.34)	13.3 (2.4)	202 (2.35)	3240 (2.35)	423 (2.31)	104 (2.22)	49 (2.16)	15.1 (2.26)	97.5 (2.51)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-K29-C	101-K30-C1	101-K30-C2	101-K31-C1	101-K31-C2	101-K33-C	101-K34-C1	101-K34-C2	101-L29-C	101-L30-C1	101-L30-C2	101-L31-C1	101-L31-C2	
Field Sample ID	Value (0-2 ft bgs)	Value	101-K29-C-COMP	101-K30-C1-COMP	101-K30-C2-COMP	101-K31-C1-COMP	101-K31-C2-COMP	101-K33-C-COMP	101-K34-C1-COMP	101-K34-C2-COMP	101-L29-C-COMP	101-L30-C1-COMP	101-L30-C2-COMP	101-L31-C1-COMP	101-L31-C2-COMP	
Sample Date	(mg/kg)	(mg/kg)	1/14/2021	1/14/2021	1/14/2021	1/14/2021	1/14/2021	1/20/2021	1/20/2021	1/20/2021	1/14/2021	1/19/2021	1/19/2021	1/19/2021	1/19/2021	
PAHs																
Anthracene	190000	350	0.02 (0.016)	0.13 (0.0079)	0.14 (0.0076)	0.15 (0.0076)	8.7 (0.41)	0.3 (0.079)	3.3 (0.42)	0.23 (0.04)	0.0021 J (0.015)	0.12 (0.016)	0.19 (0.015)	0.71 (0.2)	0.46 (0.08)	
Benzo(a)anthracene	130	340	0.089 (0.016)	0.37 (0.0079)	0.28 (0.0076)	0.48 (0.0076)	18 (0.41)	1.4 (0.079)	10 (0.42)	0.14 (0.04)	0.0033 J (0.015)	0.35 (0.016)	0.42 (0.015)	5.9 (0.2)	2.4 (0.08)	
Benzo(a)pyrene	91	46	0.092 (0.016)	0.32 (0.0079)	0.23 (0.0076)	0.4 (0.0076)	16 (0.41)	2.6 (0.079)	8.5 (0.42)	0.35 (0.04)	0.006 J (0.015)	0.39 (0.016)	0.39 (0.015)	4.9 (0.2)	2.6 (0.08)	
Benzo(b)fluoranthene	76	170	0.13 (0.016)	0.42 (0.0079)	0.34 (0.0076)	0.56 (0.0076)	21 (0.41)	3.2 (0.079)	11 (0.42)	0.22 (0.04)	0.0071 J (0.015)	0.45 (0.016)	0.48 (0.015)	8.1 (0.2)	4.4 (0.08)	
Benzo(g,h,i)perylene	190000	180	0.053 (0.016)	0.33 (0.0079)	0.21 (0.0076)	0.25 (0.0076)	8.2 (0.41)	3.4 (0.079)	5.2 (0.42)	0.17 (0.04)	0.016 (0.015)	0.27 (0.016)	0.25 (0.015)	4.1 (0.2)	2.5 (0.08)	
Chrysene	760	230	0.094 (0.016)	0.31 (0.0079)	0.27 (0.0076)	0.46 (0.0076)	15 (0.41)	3.7 (0.079)	10 (0.42)	0.5 (0.04)	0.006 J (0.015)	0.34 (0.016)	0.4 (0.015)	5.3 (0.2)	2.6 (0.08)	
Fluorene	130000	3800	0.0062 J (0.016)	0.034 (0.0079)	0.13 (0.0076)	0.048 (0.0076)	4.5 (0.41)	0.19 (0.079)	1.6 (0.42)	0.094 (0.04)	U (0.015)	0.085 (0.016)	0.11 (0.015)	0.12 J (0.2)	0.99 (0.08)	
Naphthalene	66	25	0.02 (0.016)	0.16 (0.0079)	0.42 (0.0076)	0.032 (0.0076)	2.4 (0.41)	2 (0.079)	0.72 (0.42)	0.33 (0.04)	U (0.015)	0.12 (0.016)	0.13 (0.015)	0.058 J (0.2)	0.31 (0.08)	
Phenanthrene	190000	10000	0.089 (0.016)	0.41 (0.0079)	0.67 (0.0076)	0.64 (0.0076)	34 (0.41)	1.6 (0.079)	18 (0.42)	0.33 (0.04)	0.0067 J (0.015)	0.36 (0.016)	0.66 (0.015)	2.3 (0.2)	3.3 (0.08)	
Pyrene	96000	2200	0.14 (0.016)	0.56 (0.0079)	0.49 (0.0076)	0.74 (0.0076)	35 (0.41)	2 (0.079)	20 (0.42)	0.44 (0.04)	0.005 J (0.015)	0.64 (0.016)	0.85 (0.015)	9.6 (0.2)	3.1 (0.08)	
Metals																
Lead	1000	450	205 (2.34)	60.5 (2.37)	457 (2.27)	909 (2.26)	576 (2.32)	190 (2.33)	119 (2.41)	73 (2.26)	8.58 (2.14)	34.9 (2.31)	267 (2.29)	322 (2.29)	219 (2.31)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	101-L32-C1	101-L32-C2	101-L32-S	101-L33-C1	101-L33-C2	101-L34-S	101-L35-C1	101-L35-C2	101-M26-C	101-M28-C	101-M29-C	101-M30-C	101-M31-C
			101-L32-C1-COMP	101-L32-C2-COMP	101-L32-S-COMP	101-L33-C1-COMP	101-L33-C2-COMP	101-L34-S-COMP	101-L35-C1-COMP	101-L35-C2-COMP	101-M26-C-COMP	101-M28-C-COMP	101-M29-C-COMP	101-M30-C-COMP	101-M31-C-COMP
Field Sample ID	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)	1/19/2021	1/19/2021	1/20/2021	1/20/2021	1/20/2021	1/21/2021	1/21/2021	1/21/2021	1/13/2021	1/15/2021	1/14/2021	1/18/2021	1/18/2021
Sample Date	(mg/kg)	(mg/kg)	1/19/2021	1/19/2021	1/20/2021	1/20/2021	1/20/2021	1/21/2021	1/21/2021	1/21/2021	1/13/2021	1/15/2021	1/14/2021	1/18/2021	1/18/2021
PAHs															
Anthracene	190000	350	0.22 (0.039)	0.041 (0.0081)	0.097 (0.0076)	0.71 (0.04)	0.02 (0.0082)	1.2 (0.078)	0.5 (0.039)	0.71 (0.16)	0.088 (0.0078)	U (0.016)	0.031 (0.008)	0.54 (0.04)	65 (4.3)
Benzo(a)anthracene	130	340	0.5 (0.039)	0.13 (0.0081)	0.39 (0.0076)	0.3 (0.04)	0.054 (0.0082)	3.3 (0.078)	1.3 (0.039)	6.2 (0.16)	0.32 (0.0078)	0.44 (0.016)	0.066 (0.008)	1.5 (0.04)	71 (4.3)
Benzo(a)pyrene	91	46	0.42 (0.039)	0.11 (0.0081)	0.33 (0.0076)	0.31 (0.04)	0.061 (0.0082)	2.1 (0.078)	1.7 (0.039)	6.3 (0.16)	0.35 (0.0078)	0.45 (0.016)	0.055 (0.008)	1.4 (0.04)	53 (4.3)
Benzo(b)fluoranthene	76	170	0.52 (0.039)	0.15 (0.0081)	0.42 (0.0076)	0.35 (0.04)	0.068 (0.0082)	3 (0.078)	1.8 (0.039)	8.9 (0.16)	0.44 (0.0078)	0.43 (0.016)	0.074 (0.008)	1.7 (0.04)	61 (4.3)
Benzo(g,h,i)perylene	190000	180	0.26 (0.039)	0.061 (0.0081)	0.18 (0.0076)	0.3 (0.04)	0.045 (0.0082)	1.1 (0.078)	1.8 (0.039)	4 (0.16)	0.22 (0.0078)	U (0.016)	0.039 (0.008)	0.85 (0.04)	27 (4.3)
Chrysene	760	230	0.52 (0.039)	0.11 (0.0081)	0.32 (0.0076)	0.99 (0.04)	0.064 (0.0082)	2.3 (0.078)	1.1 (0.039)	5.9 (0.16)	0.32 (0.0078)	0.52 (0.016)	0.086 (0.008)	1.4 (0.04)	58 (4.3)
Fluorene	130000	3800	0.14 (0.039)	0.032 (0.0081)	0.036 (0.0076)	1.5 (0.04)	0.024 (0.0082)	0.45 (0.078)	0.47 (0.039)	0.26 (0.16)	0.017 (0.0078)	U (0.016)	0.031 (0.008)	0.23 (0.04)	44 (4.3)
Naphthalene	66	25	0.051 (0.039)	0.015 (0.0081)	0.032 (0.0076)	0.29 (0.04)	0.03 (0.0082)	0.19 (0.078)	0.9 (0.039)	0.55 (0.16)	0.089 (0.0078)	0.52 (0.016)	0.011 (0.008)	0.092 (0.04)	28 (4.3)
Phenanthrene	190000	10000	0.86 (0.039)	0.28 (0.0081)	0.39 (0.0076)	3.7 (0.04)	0.13 (0.0082)	5.4 (0.078)	1.8 (0.039)	3.7 (0.16)	0.37 (0.0078)	U (0.016)	0.14 (0.008)	2.1 (0.04)	220 (4.3)
Pyrene	96000	2200	1.2 (0.039)	0.22 (0.0081)	0.62 (0.0076)	1.3 (0.04)	0.14 (0.0082)	4.6 (0.078)	1.6 (0.039)	7.6 (0.16)	0.54 (0.0078)	0.75 (0.016)	0.15 (0.008)	2.9 (0.04)	150 (4.3)
Metals															
Lead	1000	450	88.3 (2.28)	93.8 (2.45)	60.1 (2.16)	65.5 (2.35)	8.54 (2.41)	69.4 (2.3)	194 (2.29)	151 (2.37)	320 (2.32)	142 (2.36)	42 (2.29)	311 (2.3)	180 (2.57)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-M32-C1	101-M32-C2	101-M33-C1	101-M33-C2	101-M34-C1	101-M34-C2	101-M36-C	101-N29-C	101-N31-C	101-N32-C	101-N33-C	101-N34-C	101-N35-C
			101-M32-C1	101-M32-C2	101-M33-C1	101-M33-C2	101-M34-C1	101-M34-C2	101-M36-C	101-N29-C	101-N31-C	101-N32-C	101-N33-C	101-N33-C	101-N34-C
Field Sample ID	Value (0-2 ft bgs)	Value	101-M32-C1-COMP	101-M32-C2-COMP	101-M33-C1-COMP	101-M33-C2-COMP	101-M34-C1-COMP	101-M34-C2-COMP	101-M36-C-COMP	101-N29-C-COMP	101-N31-C-COMP	101-N32-C-COMP	101-N33-C-COMP	101-N34-C-COMP	101-N35-C-COMP
Sample Date	(mg/kg)	(mg/kg)	1/19/2021	1/19/2021	1/21/2021	1/21/2021	1/21/2021	1/21/2021	1/21/2021	1/15/2021	1/18/2021	1/18/2021	1/18/2021	1/19/2021	1/21/2021
PAHs															
Anthracene	190000	350	1 (0.2)	0.33 (0.04)	0.7 (0.041)	1.1 (0.085)	34 (2)	8.2 (0.39)	0.68 (0.078)	1.9 (0.4)	0.42 (0.078)	0.096 (0.074)	0.33 (0.041)	1.2 (0.16)	0.056 (0.0078)
Benzo(a)anthracene	130	340	2.6 (0.2)	0.42 (0.04)	0.47 (0.041)	1.2 (0.085)	61 (2)	14 (0.39)	2 (0.078)	U (0.4)	1.2 (0.078)	0.19 (0.074)	0.58 (0.041)	3.9 (0.16)	0.21 (0.0078)
Benzo(a)pyrene	91	46	1.9 (0.2)	0.3 (0.04)	0.33 (0.041)	0.7 (0.085)	40 (2)	9.1 (0.39)	2.3 (0.078)	1.7 (0.4)	0.88 (0.078)	0.089 (0.074)	0.34 (0.041)	3.3 (0.16)	0.24 (0.0078)
Benzo(b)fluoranthene	76	170	2.6 (0.2)	0.23 (0.04)	0.35 (0.041)	0.76 (0.085)	47 (2)	11 (0.39)	1.9 (0.078)	1.2 (0.4)	1 (0.078)	0.092 (0.074)	0.61 (0.041)	4.5 (0.16)	0.25 (0.0078)
Benzo(g,h,i)perylene	190000	180	1.6 (0.2)	0.45 (0.04)	0.29 (0.041)	0.43 (0.085)	17 (2)	4.7 (0.39)	2.4 (0.078)	2.1 (0.4)	0.46 (0.078)	0.071 J (0.074)	0.26 (0.041)	2.1 (0.16)	0.27 (0.0078)
Chrysene	760	230	2.8 (0.2)	0.49 (0.04)	0.65 (0.041)	1.1 (0.085)	38 (2)	9.9 (0.39)	1.8 (0.078)	U (0.4)	1.3 (0.078)	0.19 (0.074)	0.97 (0.041)	4 (0.16)	0.2 (0.0078)
Fluorene	130000	3800	0.65 (0.2)	0.16 (0.04)	0.87 (0.041)	1.7 (0.085)	16 (2)	3.7 (0.39)	0.45 (0.078)	5.3 (0.4)	0.92 (0.078)	0.38 (0.074)	0.31 (0.041)	0.65 (0.16)	0.033 (0.0078)
Naphthalene	66	25	0.43 (0.2)	0.12 (0.04)	0.76 (0.041)	1.3 (0.085)	3.1 (2)	2.1 (0.39)	1.3 (0.078)	2.7 (0.4)	0.92 (0.078)	0.078 (0.074)	0.35 (0.041)	0.21 (0.16)	0.047 (0.0078)
Phenanthrene	190000	10000	4.8 (0.2)	1.5 (0.04)	1.9 (0.041)	4.6 (0.085)	110 (2)	25 (0.39)	1.6 (0.078)	16 (0.4)	3 (0.078)	0.71 (0.074)	1.2 (0.041)	7 (0.16)	0.25 (0.0078)
Pyrene	96000	2200	5.6 (0.2)	1.6 (0.04)	2.3 (0.041)	3.7 (0.085)	92 (2)	20 (0.39)	5.4 (0.078)	4.6 (0.4)	2 (0.078)	0.25 (0.074)	1.7 (0.041)	7.8 (0.16)	0.33 (0.0078)
Metals															
Lead	1000	450	453 (2.34)	28.6 (2.38)	93.2 (2.45)	126 (2.52)	58.3 (2.36)	113 (2.35)	193 (2.29)	782 (2.38)	85.4 (2.28)	37 (2.2)	89.6 (2.42)	94.9 (2.37)	114 (2.31)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-O28-C	101-O29-C	101-O30-C	101-O31-C	101-O33-S	101-O34-C	101-O36-C	101-O37-C	101-P12-C1	101-P12-C2	101-P31-C1	101-P31-C2	101-P35-C
Field Sample ID	Value (0-2 ft bgs)	Value	101-O28-C-COMP	101-O29-C-COMP	101-O30-C-COMP	101-O31-C-COMP	101-O33-S-COMP	101-O34-C-COMP	101-O36-C-COMP	101-O37-C-COMP	101-P12-C1-COMP	101-P12-C2-COMP	101-P31-C1-COMP	101-P31-C2-COMP	101-P35-C-COMP
Sample Date	(mg/kg)	(mg/kg)	1/15/2021	1/15/2021	1/22/2021	1/18/2021	1/22/2021	1/22/2021	1/22/2021	1/25/2021	2/10/2021	2/10/2021	1/25/2021	1/25/2021	1/22/2021
PAHs															
Anthracene	190000	350	0.61 (0.082)	0.58 (0.038)	0.5 (0.077)	0.085 (0.077)	0.0097 J (0.039)	0.64 (0.086)	0.019 J (0.039)	0.025 J (0.039)	0.019 (0.016)	0.025 (0.016)	0.16 (0.041)	0.012 (0.008)	1.2 (0.078)
Benzo(a)anthracene	130	340	0.91 (0.082)	0.97 (0.038)	2.7 (0.077)	0.3 (0.077)	0.056 (0.039)	2.4 (0.086)	0.035 J (0.039)	0.13 (0.039)	0.15 (0.016)	0.14 (0.016)	0.2 (0.041)	0.0053 J (0.008)	2.4 (0.078)
Benzo(a)pyrene	91	46	0.64 (0.082)	0.72 (0.038)	1.9 (0.077)	0.26 (0.077)	0.049 (0.039)	1.8 (0.086)	0.025 J (0.039)	0.12 (0.039)	0.12 (0.016)	0.11 (0.016)	0.13 (0.041)	0.0019 J (0.008)	1.3 (0.078)
Benzo(b)fluoranthene	76	170	0.58 (0.082)	0.92 (0.038)	2.4 (0.077)	0.24 (0.077)	0.063 (0.039)	2.3 (0.086)	0.028 J (0.039)	0.12 (0.039)	0.15 (0.016)	0.15 (0.016)	0.13 (0.041)	0.0024 J (0.008)	1.7 (0.078)
Benzo(g,h,i)perylene	190000	180	0.48 (0.082)	0.32 (0.038)	1.1 (0.077)	0.46 (0.077)	0.037 J (0.039)	0.87 (0.086)	0.021 J (0.039)	0.1 (0.039)	0.083 (0.016)	0.09 (0.016)	0.13 (0.041)	0.0016 J (0.008)	0.47 (0.078)
Chrysene	760	230	1.3 (0.082)	0.84 (0.038)	2.8 (0.077)	0.26 (0.077)	0.043 (0.039)	2.2 (0.086)	0.032 J (0.039)	0.093 (0.039)	0.11 (0.016)	0.12 (0.016)	0.3 (0.041)	0.0097 (0.008)	1.7 (0.078)
Fluorene	130000	3800	2.2 (0.082)	0.68 (0.038)	0.14 (0.077)	0.028 J (0.077)	U (0.039)	0.48 (0.086)	0.027 J (0.039)	0.0092 J (0.039)	0.016 (0.016)	0.014 J (0.016)	0.38 (0.041)	0.059 (0.008)	1 (0.078)
Naphthalene	66	25	0.74 (0.082)	0.26 (0.038)	0.13 (0.077)	0.3 (0.077)	0.037 J (0.039)	0.21 (0.086)	U (0.039)	0.089 (0.039)	0.032 (0.016)	0.056 (0.016)	0.039 J (0.041)	0.0064 J (0.008)	0.11 (0.078)
Phenanthrene	190000	10000	4.6 (0.082)	2.9 (0.038)	1.9 (0.077)	0.28 (0.077)	0.048 (0.039)	5.7 (0.086)	0.025 J (0.039)	0.086 (0.039)	0.099 (0.016)	0.12 (0.016)	1.2 (0.041)	0.13 (0.008)	5.2 (0.078)
Pyrene	96000	2200	2.1 (0.082)	1.5 (0.038)	4.3 (0.077)	0.18 (0.077)	0.059 (0.039)	4.7 (0.086)	0.046 (0.039)	0.13 (0.039)	0.17 (0.016)	0.17 (0.016)	0.48 (0.041)	0.016 (0.008)	4.2 (0.078)
Metals															
Lead	1000	450	120 (2.34)	302 (2.19)	194 (2.28)	550 (2.26)	237 (2.24)	94.2 (2.53)	34.3 (2.32)	134 (2.33)	34.1 (2.34)	47.8 (2.23)	140 (2.43)	27.9 (11.6)	71.7 (2.32)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-P36-C	101-P36-S	101-P37-C	101-P38-C	101-Q37-C	101-Q38-C	101-Q39-C	101-R23-S	101-R38-C	101-S22-S	101-S23-C	101-S23-S	101-S24-C
Field Sample ID	Value (0-2 ft bgs)	Value	101-P36-C-COMP	101-P36-S-COMP	101-P37-C-COMP	101-P38-C-COMP	101-Q37-C-COMP	101-Q38-C-COMP	101-Q39-C-COMP	101-R23-S-COMP	101-R38-C-COMP	101-S22-S-COMP	101-S23-C-COMP	101-S23-S-COMP	101-S24-C-COMP
Sample Date	(mg/kg)	(mg/kg)	1/22/2021	1/22/2021	1/22/2021	1/25/2021	1/25/2021	1/25/2021	1/25/2021	2/8/2021	1/25/2021	2/10/2021	2/9/2021	2/9/2021	2/5/2021
PAHs															
Anthracene	190000	350	0.0028 J (0.0079)	0.019 (0.016)	0.18 (0.04)	0.042 J (0.14)	0.043 (0.04)	0.021 J (0.041)	3.8 (0.19)	0.022 J (0.038)	0.099 (0.039)	0.06 (0.015)	0.059 (0.037)	0.077 (0.039)	0.053 (0.036)
Benzo(a)anthracene	130	340	0.017 (0.0079)	0.12 (0.016)	0.56 (0.04)	0.26 (0.14)	0.2 (0.04)	0.13 (0.041)	5.8 (0.19)	0.12 (0.038)	0.26 (0.039)	0.071 (0.015)	0.2 (0.037)	0.22 (0.039)	0.16 (0.036)
Benzo(a)pyrene	91	46	0.018 (0.0079)	0.099 (0.016)	0.38 (0.04)	0.26 (0.14)	0.16 (0.04)	0.12 (0.041)	3.7 (0.19)	0.11 (0.038)	0.24 (0.039)	0.07 (0.015)	0.16 (0.037)	0.17 (0.039)	0.13 (0.036)
Benzo(b)fluoranthene	76	170	0.024 (0.0079)	0.12 (0.016)	0.46 (0.04)	0.27 (0.14)	0.2 (0.04)	0.13 (0.041)	4.8 (0.19)	0.12 (0.038)	0.29 (0.039)	0.07 (0.015)	0.18 (0.037)	0.2 (0.039)	0.15 (0.036)
Benzo(g,h,i)perylene	190000	180	0.009 (0.0079)	0.055 (0.016)	0.17 (0.04)	0.27 (0.14)	0.098 (0.04)	0.097 (0.041)	1.8 (0.19)	0.1 (0.038)	0.15 (0.039)	0.074 (0.015)	0.14 (0.037)	0.14 (0.039)	0.11 (0.036)
Chrysene	760	230	0.015 (0.0079)	0.093 (0.016)	0.39 (0.04)	0.23 (0.14)	0.15 (0.04)	0.1 (0.041)	4.3 (0.19)	0.094 (0.038)	0.2 (0.039)	0.12 (0.015)	0.18 (0.037)	0.2 (0.039)	0.15 (0.036)
Fluorene	130000	3800	0.003 J (0.0079)	0.006 J (0.016)	0.032 J (0.04)	U (0.14)	0.014 J (0.04)	0.0062 J (0.041)	1.4 (0.19)	0.01 J (0.038)	0.042 (0.039)	0.15 (0.015)	0.082 (0.037)	0.12 (0.039)	0.047 (0.036)
Naphthalene	66	25	0.0048 J (0.0079)	0.042 (0.016)	0.014 J (0.04)	0.04 J (0.14)	0.017 J (0.04)	0.02 J (0.041)	0.58 (0.19)	0.066 (0.038)	0.042 (0.039)	0.09 (0.015)	0.038 (0.037)	0.093 (0.039)	0.045 (0.036)
Phenanthrene	190000	10000	0.017 (0.0079)	0.085 (0.016)	0.67 (0.04)	0.19 (0.14)	0.21 (0.04)	0.1 (0.041)	11 (0.19)	0.069 (0.038)	0.36 (0.039)	0.38 (0.015)	0.24 (0.037)	0.24 (0.039)	0.22 (0.036)
Pyrene	96000	2200	0.017 (0.0079)	0.15 (0.016)	0.96 (0.04)	0.28 (0.14)	0.3 (0.04)	0.17 (0.041)	7.6 (0.19)	0.1 (0.038)	0.42 (0.039)	0.16 (0.015)	0.31 (0.037)	0.36 (0.039)	0.26 (0.036)
Metals															
Lead	1000	450	37 (2.34)	9.33 (2.32)	271 (2.36)	1710 (2.92)	21.7 (2.27)	36.7 (2.43)	132 (2.15)	73.2 (2.24)	110 (2.34)	174 (2.18)	109 (2.11)	1030 (2.24)	137 (2.24)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-S24-S	101-S25-C	101-S25-S	101-S26-C	101-S26-S	101-S27-S	101-S28-C	101-S29-S	101-S30-C	101-T23-S	101-T24-C	101-T24-S	101-T25-S
Field Sample ID	Value (0-2 ft bgs)	Value	101-S24-S-COMP	101-S25-C-COMP	101-S25-S-COMP	101-S26-C-COMP	101-S26-S-COMP	101-S27-S-COMP	101-S28-C-COMP	101-S29-S-COMP	101-S30-C-COMP	101-T23-S-COMP	101-T24-C-COMP	101-T24-S-COMP	101-T25-S-COMP
Sample Date	(mg/kg)	(mg/kg)	2/5/2021	2/5/2021	2/5/2021	2/8/2021	2/8/2021	2/4/2021	2/4/2021	2/4/2021	1/27/2021	2/9/2021	2/10/2021	2/9/2021	2/10/2021
PAHs															
Anthracene	190000	350	0.078 (0.038)	0.075 (0.038)	0.068 (0.038)	0.12 (0.037)	0.1 (0.037)	0.018 J (0.039)	0.072 (0.038)	0.095 (0.041)	4.4 (0.19)	0.04 (0.039)	1.2 (0.23)	0.011 J (0.014)	0.034 (0.0075)
Benzo(a)anthracene	130	340	0.11 (0.038)	0.62 (0.038)	0.17 (0.038)	0.36 (0.037)	0.28 (0.037)	0.076 (0.039)	0.17 (0.038)	0.24 (0.041)	2 (0.19)	0.11 (0.039)	3.6 (0.23)	0.028 (0.014)	0.13 (0.0075)
Benzo(a)pyrene	91	46	0.081 (0.038)	0.57 (0.038)	0.15 (0.038)	0.26 (0.037)	0.2 (0.037)	0.056 (0.039)	0.13 (0.038)	0.13 (0.041)	0.71 (0.19)	0.11 (0.039)	3 (0.23)	0.021 (0.014)	0.12 (0.0075)
Benzo(b)fluoranthene	76	170	0.081 (0.038)	0.88 (0.038)	0.16 (0.038)	0.24 (0.037)	0.22 (0.037)	0.062 (0.039)	0.14 (0.038)	0.12 (0.041)	0.95 (0.19)	0.11 (0.039)	4 (0.23)	0.023 (0.014)	0.15 (0.0075)
Benzo(g,h,i)perylene	190000	180	0.097 (0.038)	0.32 (0.038)	0.15 (0.038)	0.15 (0.037)	0.15 (0.037)	0.038 J (0.039)	0.098 (0.038)	0.089 (0.041)	0.29 (0.19)	0.09 (0.039)	1.9 (0.23)	0.021 (0.014)	0.094 (0.0075)
Chrysene	760	230	0.14 (0.038)	0.48 (0.038)	0.19 (0.038)	0.34 (0.037)	0.26 (0.037)	0.058 (0.039)	0.15 (0.038)	0.24 (0.041)	1.3 (0.19)	0.11 (0.039)	3.8 (0.23)	0.026 (0.014)	0.14 (0.0075)
Fluorene	130000	3800	0.17 (0.038)	0.14 (0.038)	0.12 (0.038)	0.3 (0.037)	0.15 (0.037)	0.007 J (0.039)	0.092 (0.038)	0.13 (0.041)	5.1 (0.19)	0.12 (0.039)	1.6 (0.23)	0.013 J (0.014)	0.068 (0.0075)
Naphthalene	66	25	0.053 (0.038)	0.061 (0.038)	0.044 (0.038)	0.056 (0.037)	0.13 (0.037)	U (0.039)	0.024 J (0.038)	0.019 J (0.041)	7.1 (0.19)	0.025 J (0.039)	1.7 (0.23)	0.006 J (0.014)	0.043 (0.0075)
Phenanthrene	190000	10000	0.22 (0.038)	0.38 (0.038)	0.18 (0.038)	0.55 (0.037)	0.32 (0.037)	0.029 J (0.039)	0.19 (0.038)	0.13 (0.041)	12 (0.19)	0.22 (0.039)	2.6 (0.23)	0.034 (0.014)	0.14 (0.0075)
Pyrene	96000	2200	0.24 (0.038)	0.52 (0.038)	0.31 (0.038)	0.49 (0.037)	0.47 (0.037)	0.15 (0.039)	0.29 (0.038)	0.38 (0.041)	5.2 (0.19)	0.14 (0.039)	6.5 (0.23)	0.047 (0.014)	0.19 (0.0075)
Metals															
Lead	1000	450	8.16 (2.2)	78.8 (2.19)	83.8 (2.24)	22.3 (2.26)	113 (2.22)	117 (2.28)	79.2 (2.21)	71.6 (2.5)	22.5 (2.26)	46.1 (2.25)	690 (2.31)	49.5 (2.18)	103 (2.25)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-T26-C	101-T26-S	101-T27-S	101-T28-C	101-T28-S	101-T29-C	101-T29-S	101-T30-C	101-T30-S	101-T31-C	101-T31-S	101-T32-C	101-T32-S
Field Sample ID	Value (0-2 ft bgs)	Value	101-T26-C-COMP	101-T26-S-COMP	101-T27-S-COMP	101-T28-C-COMP	101-T28-S-COMP	101-T29-C-COMP	101-T29-S-COMP	101-T30-C-COMP	101-T30-S-COMP	101-T31-C-COMP	101-T31-S-COMP	101-T32-C-COMP	101-T32-S-COMP
Sample Date	(mg/kg)	(mg/kg)	2/4/2021	2/8/2021	2/4/2021	2/3/2021	2/3/2021	2/3/2021	2/3/2021	2/3/2021	2/3/2021	1/28/2021	1/28/2021	1/29/2021	1/29/2021
PAHs															
Anthracene	190000	350	0.13 (0.04)	0.32 (0.038)	0.047 (0.04)	0.46 (0.039)	0.61 (0.037)	0.17 (0.039)	0.18 (0.038)	0.076 (0.038)	0.2 (0.04)	0.23 (0.036)	0.32 (0.037)	0.14 (0.038)	0.17 (0.037)
Benzo(a)anthracene	130	340	0.52 (0.04)	0.51 (0.038)	0.16 (0.04)	0.29 (0.039)	2 (0.037)	0.5 (0.039)	0.3 (0.038)	0.45 (0.038)	0.25 (0.04)	0.73 (0.036)	0.71 (0.037)	0.4 (0.038)	0.82 (0.037)
Benzo(a)pyrene	91	46	0.35 (0.04)	0.33 (0.038)	0.12 (0.04)	0.19 (0.039)	1.3 (0.037)	0.43 (0.039)	0.24 (0.038)	0.55 (0.038)	0.2 (0.04)	0.59 (0.036)	0.52 (0.037)	0.28 (0.038)	0.66 (0.037)
Benzo(b)fluoranthene	76	170	0.44 (0.04)	0.33 (0.038)	0.13 (0.04)	0.2 (0.039)	1.6 (0.037)	0.5 (0.039)	0.25 (0.038)	0.47 (0.038)	0.2 (0.04)	0.57 (0.036)	0.49 (0.037)	0.33 (0.038)	0.74 (0.037)
Benzo(g,h,i)perylene	190000	180	0.23 (0.04)	0.23 (0.038)	0.09 (0.04)	0.16 (0.039)	0.75 (0.037)	0.33 (0.039)	0.25 (0.038)	0.41 (0.038)	0.17 (0.04)	0.5 (0.036)	0.44 (0.037)	0.21 (0.038)	0.68 (0.037)
Chrysene	760	230	0.48 (0.04)	0.53 (0.038)	0.16 (0.04)	0.3 (0.039)	1.8 (0.037)	0.42 (0.039)	0.39 (0.038)	0.51 (0.038)	0.34 (0.04)	0.7 (0.036)	0.85 (0.037)	0.32 (0.038)	0.96 (0.037)
Fluorene	130000	3800	0.11 (0.04)	0.7 (0.038)	0.082 (0.04)	0.93 (0.039)	0.54 (0.037)	0.085 (0.039)	0.61 (0.038)	0.042 (0.038)	0.72 (0.04)	0.33 (0.036)	0.72 (0.037)	0.09 (0.038)	0.094 (0.037)
Naphthalene	66	25	0.031 J (0.04)	0.18 (0.038)	0.013 J (0.04)	0.15 (0.039)	0.19 (0.037)	0.17 (0.039)	0.39 (0.038)	0.087 (0.038)	0.21 (0.04)	0.18 (0.036)	0.24 (0.037)	0.13 (0.038)	0.18 (0.037)
Phenanthrene	190000	10000	0.37 (0.04)	1.5 (0.038)	0.14 (0.04)	1.2 (0.039)	2.4 (0.037)	0.46 (0.039)	0.59 (0.038)	0.25 (0.038)	1.6 (0.04)	0.74 (0.036)	1.4 (0.037)	0.49 (0.038)	0.52 (0.037)
Pyrene	96000	2200	0.76 (0.04)	1 (0.038)	0.26 (0.04)	1.1 (0.039)	2.9 (0.037)	0.68 (0.039)	0.48 (0.038)	0.6 (0.038)	0.57 (0.04)	1 (0.036)	1.1 (0.037)	0.54 (0.038)	0.94 (0.037)
Metals															
Lead	1000	450	217 (2.4)	123 (2.17)	69.8 (2.31)	147 (2.3)	103 (2.14)	132 (2.32)	147 (2.24)	115 (2.26)	100 (2.31)	69.6 (2.2)	144 (2.16)	86.2 (2.29)	101 (2.15)

Notes:

- Concentrations are presented in mg/kg.
- Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-T33-C	101-T33-S	101-T34-C	101-T34-S	101-T38-C	101-U21-C	101-U24-S	101-U26-S	101-U28-S	101-U29-S	101-U30-C	101-U30-S	101-U32-C
Field Sample ID	Value (0-2 ft bgs)	Value	101-T33-C-COMP	101-T33-S-COMP	101-T34-C-COMP	101-T34-S-COMP	101-T38-C-COMP	101-U21-C-COMP	101-U24-S-COMP	101-U26-S-COMP	101-U28-S-COMP	101-U29-S-COMP	101-U30-C-COMP	101-U30-S-COMP	101-U32-C-COMP
Sample Date	(mg/kg)	(mg/kg)	1/29/2021	1/29/2021	1/28/2021	1/28/2021	1/26/2021	2/8/2021	2/10/2021	2/5/2021	2/3/2021	1/29/2021	1/29/2021	1/29/2021	1/28/2021
PAHs															
Anthracene	190000	350	0.11 (0.039)	0.21 (0.041)	0.37 (0.035)	0.35 (0.037)	0.28 (0.04)	0.41 (0.08)	0.44 (0.078)	0.23 (0.038)	0.096 (0.039)	0.14 (0.038)	0.2 (0.037)	0.097 (0.039)	0.12 (0.038)
Benzo(a)anthracene	130	340	0.42 (0.039)	0.7 (0.041)	0.52 (0.035)	1.3 (0.037)	1 (0.04)	0.61 (0.08)	0.44 (0.078)	0.56 (0.038)	0.51 (0.039)	0.39 (0.038)	0.6 (0.037)	0.28 (0.039)	0.44 (0.038)
Benzo(a)pyrene	91	46	0.42 (0.039)	0.56 (0.041)	0.27 (0.035)	1.1 (0.037)	0.8 (0.04)	0.38 (0.08)	0.18 (0.078)	0.5 (0.038)	0.44 (0.039)	0.31 (0.038)	0.36 (0.037)	0.19 (0.039)	0.37 (0.038)
Benzo(b)fluoranthene	76	170	0.47 (0.039)	0.6 (0.041)	0.22 (0.035)	1.2 (0.037)	1 (0.04)	0.28 (0.08)	0.1 (0.078)	0.51 (0.038)	0.23 (0.039)	0.29 (0.038)	0.35 (0.037)	0.18 (0.039)	0.48 (0.038)
Benzo(g,h,i)perylene	190000	180	0.28 (0.039)	0.45 (0.041)	0.28 (0.035)	1.1 (0.037)	0.36 (0.04)	0.31 (0.08)	0.081 (0.078)	0.41 (0.038)	0.57 (0.039)	0.37 (0.038)	0.33 (0.037)	0.15 (0.039)	0.26 (0.038)
Chrysene	760	230	0.41 (0.039)	0.62 (0.041)	0.49 (0.035)	1.1 (0.037)	0.84 (0.04)	0.88 (0.08)	0.49 (0.078)	0.5 (0.038)	0.51 (0.039)	0.4 (0.038)	0.45 (0.037)	0.18 (0.039)	0.35 (0.038)
Fluorene	130000	3800	0.096 (0.039)	0.22 (0.041)	0.79 (0.035)	0.39 (0.037)	0.1 (0.04)	1.2 (0.08)	1.3 (0.078)	0.41 (0.038)	0.14 (0.039)	0.24 (0.038)	0.22 (0.037)	0.084 (0.039)	0.074 (0.038)
Naphthalene	66	25	0.07 (0.039)	0.16 (0.041)	0.31 (0.035)	0.18 (0.037)	0.099 (0.04)	1.2 (0.08)	0.094 (0.078)	0.16 (0.038)	0.11 (0.039)	0.1 (0.038)	0.11 (0.037)	0.033 J (0.039)	0.13 (0.038)
Phenanthrene	190000	10000	0.42 (0.039)	0.53 (0.041)	1.6 (0.035)	1.1 (0.037)	1.3 (0.04)	4.3 (0.08)	4.1 (0.078)	0.59 (0.038)	0.15 (0.039)	0.55 (0.038)	0.49 (0.037)	0.18 (0.039)	0.44 (0.038)
Pyrene	96000	2200	0.46 (0.039)	0.78 (0.041)	1.1 (0.035)	1.6 (0.037)	1.7 (0.04)	1 (0.08)	0.77 (0.078)	0.75 (0.038)	0.48 (0.039)	0.56 (0.038)	0.67 (0.037)	0.32 (0.039)	0.63 (0.038)
Metals															
Lead	1000	450	46.4 (2.29)	137 (2.48)	20.2 (2.07)	77.6 (2.22)	230 (2.41)	205 (2.44)	27 (2.3)	215 (2.25)	35.5 (2.34)	92.3 (2.32)	56.1 (2.18)	46.6 (2.41)	102 (2.27)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	101-U32-S	101-U33-C	101-U33-S	101-U34-C	101-U34-S	101-U35-C	101-U35-S	101-U36-S	101-U37-C1	101-U37-C2	101-V24-C	101-V27-C	101-V30-C
Field Sample ID	Value (0-2 ft bgs)	Value	101-U32-S-COMP	101-U33-C-COMP	101-U33-S-COMP	101-U34-C-COMP	101-U34-S-COMP	101-U35-C-COMP	101-U35-S-COMP	101-U36-S-COMP	101-U37-C1-COMP	101-U37-C2-COMP	101-V24-C-COMP	101-V27-C-COMP	101-V30-C-COMP
Sample Date	(mg/kg)	(mg/kg)	1/28/2021	1/28/2021	1/28/2021	1/27/2021	1/27/2021	1/28/2021	1/28/2021	1/26/2021	1/26/2021	1/26/2021	2/8/2021	1/27/2021	1/27/2021
PAHs															
Anthracene	190000	350	0.2 (0.037)	0.81 (0.038)	0.7 (0.037)	0.62 (0.038)	0.42 (0.038)	0.3 (0.039)	0.79 (0.04)	0.14 (0.038)	0.079 (0.04)	1.8 (0.079)	0.02 J (0.04)	1 (0.084)	0.24 (0.084)
Benzo(a)anthracene	130	340	0.87 (0.037)	1.8 (0.038)	1.2 (0.037)	1.7 (0.038)	1.2 (0.038)	0.45 (0.039)	1.6 (0.04)	0.19 (0.038)	0.42 (0.04)	3.7 (0.079)	0.12 (0.04)	1.9 (0.084)	0.3 (0.084)
Benzo(a)pyrene	91	46	0.72 (0.037)	1.9 (0.038)	1.3 (0.037)	1.4 (0.038)	1.1 (0.038)	0.32 (0.039)	1.3 (0.04)	0.15 (0.038)	0.29 (0.04)	3.2 (0.079)	0.071 (0.04)	1.6 (0.084)	0.62 (0.084)
Benzo(b)fluoranthene	76	170	0.79 (0.037)	1.3 (0.038)	1.2 (0.037)	1.8 (0.038)	1.2 (0.038)	0.34 (0.039)	1.4 (0.04)	0.15 (0.038)	0.36 (0.04)	3.9 (0.079)	0.067 (0.04)	1.2 (0.084)	0.43 (0.084)
Benzo(g,h,i)perylene	190000	180	0.48 (0.037)	1.3 (0.038)	1.1 (0.037)	0.6 (0.038)	0.88 (0.038)	0.24 (0.039)	0.86 (0.04)	0.2 (0.038)	0.26 (0.04)	1.7 (0.079)	0.15 (0.04)	0.78 (0.084)	0.56 (0.084)
Chrysene	760	230	0.72 (0.037)	2.3 (0.038)	1.3 (0.037)	1.6 (0.038)	1.2 (0.038)	0.47 (0.039)	1.3 (0.04)	0.25 (0.038)	0.32 (0.04)	3 (0.079)	0.084 (0.04)	2.9 (0.084)	0.86 (0.084)
Fluorene	130000	3800	0.088 (0.037)	0.59 (0.038)	0.5 (0.037)	0.45 (0.038)	0.44 (0.038)	0.57 (0.039)	0.5 (0.04)	0.3 (0.038)	0.023 J (0.04)	0.9 (0.079)	0.017 J (0.04)	1.9 (0.084)	0.36 (0.084)
Naphthalene	66	25	0.19 (0.037)	0.24 (0.038)	0.32 (0.037)	0.33 (0.038)	0.44 (0.038)	0.2 (0.039)	0.26 (0.04)	0.052 (0.038)	0.047 (0.04)	0.98 (0.079)	0.074 (0.04)	2.3 (0.084)	1.4 (0.084)
Phenanthrene	190000	10000	0.51 (0.037)	0.78 (0.038)	1.2 (0.037)	2 (0.038)	1.6 (0.038)	0.9 (0.039)	2.8 (0.04)	0.46 (0.038)	0.27 (0.04)	6 (0.079)	0.084 (0.04)	6.1 (0.084)	0.91 (0.084)
Pyrene	96000	2200	0.85 (0.037)	1.7 (0.038)	1.9 (0.037)	2.5 (0.038)	1.8 (0.038)	0.89 (0.039)	2.4 (0.04)	0.35 (0.038)	0.49 (0.04)	5.7 (0.079)	0.073 (0.04)	3.6 (0.084)	0.75 (0.084)
Metals															
Lead	1000	450	108 (2.21)	86.5 (2.2)	103 (2.18)	135 (2.27)	69.8 (2.24)	111 (2.23)	62.8 (2.35)	67.4 (2.31)	186 (2.37)	206 (2.31)	16.1 (12.1)	346 (2.5)	74.3 (2.48)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	101-V32-S	101-V33-C	101-V35-C	101-V35-S	101-X43-C	102-D04-C	102-E08-C1	102-E08-C2	102-E11-C	102-E13-C	102-F13-C	102-F16-C	102-F18-C	
			101-V32-S-COMP	101-V33-C-COMP	101-V35-C-COMP	101-V35-S-COMP	101-X43-C-COMP	102-D04-C-COMP	102-E08-C1-COMP	102-E08-C2-COMP	102-E11-C-COMP	102-E13-C-COMP	102-F13-C-COMP	102-F16-C-COMP	102-F18-C-COMP	
Field Sample ID	Sample Date		1/27/2021	1/27/2021	1/26/2021	1/26/2021	1/26/2021	2/12/2021	2/12/2021	2/12/2021	2/12/2021	2/12/2021	2/12/2021	2/11/2021	2/11/2021	
PAHs																
Anthracene		190000	350	0.51 (0.041)	0.74 (0.46)	0.27 (0.04)	0.67 (0.037)	2.1 (0.21)	0.041 J (0.046)	0.021 J (0.075)	0.08 (0.04)	0.44 (0.079)	0.68 (0.079)	1.5 (0.076)	0.46 (0.041)	0.1 (0.037)
Benzo(a)anthracene		130	340	2.6 (0.041)	0.54 (0.46)	0.2 (0.04)	0.8 (0.037)	5.3 (0.21)	0.44 (0.046)	0.067 J (0.075)	0.18 (0.04)	0.24 (0.079)	0.39 (0.079)	0.75 (0.076)	0.41 (0.041)	0.28 (0.037)
Benzo(a)pyrene		91	46	2.5 (0.041)	0.82 (0.46)	0.16 (0.04)	0.57 (0.037)	4.5 (0.21)	0.68 (0.046)	0.086 (0.075)	0.18 (0.04)	0.19 (0.079)	0.3 (0.079)	0.83 (0.076)	0.21 (0.041)	0.25 (0.037)
Benzo(b)fluoranthene		76	170	2.6 (0.041)	0.55 (0.46)	0.14 (0.04)	0.59 (0.037)	5.7 (0.21)	0.6 (0.046)	0.09 (0.075)	0.2 (0.04)	0.24 (0.079)	0.32 (0.079)	0.65 (0.076)	0.29 (0.041)	0.24 (0.037)
Benzo(g,h,i)perylene		190000	180	1.1 (0.041)	1.9 (0.46)	0.43 (0.04)	0.29 (0.037)	2.7 (0.21)	1 (0.046)	0.11 (0.075)	0.12 (0.04)	0.22 (0.079)	0.26 (0.079)	0.88 (0.076)	0.38 (0.041)	0.22 (0.037)
Chrysene		760	230	2.7 (0.041)	1.6 (0.46)	0.27 (0.04)	1 (0.037)	4.5 (0.21)	0.51 (0.046)	0.082 (0.075)	0.18 (0.04)	1.2 (0.079)	0.74 (0.079)	1.8 (0.076)	0.64 (0.041)	0.3 (0.037)
Fluorene		130000	3800	0.31 (0.041)	1.2 (0.46)	0.53 (0.04)	0.95 (0.037)	0.9 (0.21)	0.006 J (0.046)	0.01 J (0.075)	0.041 (0.04)	0.86 (0.079)	1 (0.079)	1.4 (0.076)	1.1 (0.041)	0.16 (0.037)
Naphthalene		66	25	0.34 (0.041)	2.8 (0.46)	0.24 (0.04)	0.19 (0.037)	0.41 (0.21)	0.051 (0.046)	0.073 J (0.075)	0.085 (0.04)	0.43 (0.079)	0.38 (0.079)	0.79 (0.076)	2.6 (0.041)	0.26 (0.037)
Phenanthrene		190000	10000	0.74 (0.041)	1.1 (0.46)	1.2 (0.04)	2.1 (0.037)	8.5 (0.21)	0.12 (0.046)	0.087 (0.075)	0.32 (0.04)	0.55 (0.079)	2.2 (0.079)	3.5 (0.076)	1.6 (0.041)	0.4 (0.037)
Pyrene		96000	2200	3 (0.041)	1.9 (0.46)	0.48 (0.04)	1.2 (0.037)	9.2 (0.21)	0.31 (0.046)	0.093 (0.075)	0.31 (0.04)	1.4 (0.079)	2.2 (0.079)	4.4 (0.076)	1.1 (0.041)	0.44 (0.037)
Metals																
Lead		1000	450	265 (2.35)	1510 (2.67)	120 (2.3)	79.1 (2.14)	362 (2.4)	93.4 (2.82)	104 (2.27)	59.4 (2.36)	46.1 (2.35)	96.2 (2.28)	154 (2.26)	110 (2.43)	29.5 (2.15)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil	Non-Residential Soil to	102-F20-C	102-G23-C	102-G25-C	102-G27-C	102-G29-C	103-A10-C	103-A10-S	103-A11-S1	103-A11-S2	103-A12-S	103-A14-S	103-A15-S	103-A16-S	
	Direct Contact	Groundwater	102-F20-C	102-G23-C	102-G25-C	102-G27-C	102-G29-C	103-A10-C	103-A10-S	103-A11-S1	103-A11-S2	103-A12-S	103-A14-S	103-A15-S	103-A16-S	
Field Sample ID	Value (0-2 ft bgs)	Value	102-F20-C-COMP	102-G23-C-COMP	102-G25-C-COMP	102-G27-C-COMP	102-G29-C-COMP	103-A10-C-COMP	103-A10-S-COMP	103-A11-S1-COMP	103-A11-S2-COMP	103-A12-S-COMP	103-A14-S-COMP	103-A15-S-COMP	103-A16-S-COMP	
Sample Date	(mg/kg)	(mg/kg)	2/11/2021	2/11/2021	2/11/2021	2/11/2021	2/11/2021	2/17/2021	2/17/2021	2/16/2021	2/16/2021	2/16/2021	2/17/2021	2/17/2021	2/17/2021	
PAHs																
Anthracene	190000	350	0.026 J (0.041)	0.72 (0.04)	0.079 (0.039)	0.018 J (0.037)	0.12 (0.076)	0.18 (0.038)	0.18 (0.039)	0.88 (0.15)	0.22 (0.15)	0.26 (0.16)	0.033 J (0.037)	0.054 (0.036)	0.035 J (0.038)	
Benzo(a)anthracene	130	340	0.063 (0.041)	0.53 (0.04)	0.44 (0.039)	0.077 (0.037)	0.33 (0.076)	0.12 (0.038)	0.78 (0.039)	1.7 (0.15)	0.82 (0.15)	0.96 (0.16)	0.15 (0.037)	0.043 (0.036)	0.042 (0.038)	
Benzo(a)pyrene	91	46	0.079 (0.041)	0.27 (0.04)	0.36 (0.039)	0.067 (0.037)	0.26 (0.076)	0.07 (0.038)	0.47 (0.039)	0.93 (0.15)	0.57 (0.15)	0.77 (0.16)	0.027 J (0.037)	0.02 J (0.036)	0.012 J (0.038)	
Benzo(b)fluoranthene	76	170	0.13 (0.041)	0.22 (0.04)	0.45 (0.039)	0.082 (0.037)	0.3 (0.076)	0.06 (0.038)	0.61 (0.039)	1 (0.15)	0.47 (0.15)	0.84 (0.16)	0.041 (0.037)	0.021 J (0.036)	0.0091 J (0.038)	
Benzo(g,h,i)perylene	190000	180	0.26 (0.041)	0.2 (0.04)	0.26 (0.039)	0.071 (0.037)	0.16 (0.076)	U (0.038)	0.42 (0.039)	0.78 (0.15)	0.56 (0.15)	0.82 (0.16)	0.022 J (0.037)	0.018 J (0.036)	0.028 J (0.038)	
Chrysene	760	230	0.32 (0.041)	0.5 (0.04)	0.42 (0.039)	0.072 (0.037)	0.27 (0.076)	0.23 (0.038)	0.84 (0.039)	2.3 (0.15)	0.93 (0.15)	0.89 (0.16)	0.2 (0.037)	0.045 (0.036)	0.04 (0.038)	
Fluorene	130000	3800	0.0094 J (0.041)	0.21 (0.04)	0.016 J (0.039)	0.012 J (0.037)	0.035 J (0.076)	0.77 (0.038)	0.25 (0.039)	1.8 (0.15)	0.36 (0.15)	0.39 (0.16)	0.04 (0.037)	0.34 (0.036)	0.12 (0.038)	
Naphthalene	66	25	0.052 (0.041)	0.12 (0.04)	0.23 (0.039)	0.052 (0.037)	0.076 (0.076)	0.31 (0.038)	0.086 (0.039)	0.58 (0.15)	0.18 (0.15)	0.61 (0.16)	0.017 J (0.037)	0.065 (0.036)	0.028 J (0.038)	
Phenanthrene	190000	10000	0.98 (0.041)	0.21 (0.04)	0.36 (0.039)	0.08 (0.037)	0.46 (0.076)	1.1 (0.038)	0.48 (0.039)	2.3 (0.15)	0.55 (0.15)	1 (0.16)	0.14 (0.037)	0.68 (0.036)	0.22 (0.038)	
Pyrene	96000	2200	0.2 (0.041)	1.9 (0.04)	0.5 (0.039)	0.096 (0.037)	0.62 (0.076)	0.41 (0.038)	1.3 (0.039)	2.6 (0.15)	1.1 (0.15)	1.3 (0.16)	0.15 (0.037)	0.099 (0.036)	0.098 (0.038)	
Metals																
Lead	1000	450	187 (2.41)	56.7 (2.31)	125 (2.22)	19.9 (4.34)	51.7 (2.27)	44.2 (2.23)	123 (2.23)	342 (2.26)	32.9 (2.18)	177 (2.36)	24 (2.15)	14.4 (2.08)	5.47 (2.3)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.
- Abbreviations:**
- PAHs -- Polycyclic Aromatic Hydrocarbons.
 - ft bgs -- Feet Below Ground Surface.
 - mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	103-A17-S	103-AA10-S	103-AA11-S	103-AA12-S	103-B10-S	103-B11-S	103-B13-S	103-B14-S	103-B15-S	103-B16-S	103-B17-S	103-B18-S	103-C10-C
Field Sample ID	Value (0-2 ft bgs)	Value	103-A17-S-COMP	103-AA10-S-COMP	103-AA11-S-COMP	103-AA12-S-COMP	103-B10-S-COMP	103-B11-S-COMP	103-B13-S-COMP	103-B14-S-COMP	103-B15-S-COMP	103-B16-S-COMP	103-B17-S-COMP	103-B18-S-COMP	103-C10-C-COMP
Sample Date	(mg/kg)	(mg/kg)	2/22/2021	2/16/2021	2/16/2021	2/16/2021	2/16/2021	2/16/2021	2/22/2021	2/22/2021	2/19/2021	3/10/2021	2/19/2021	2/22/2021	2/17/2021
PAHs															
Anthracene	190000	350	0.13 (0.04)	0.64 (0.076)	0.53 (0.16)	0.31 (0.076)	0.24 (0.078)	0.52 (0.08)	0.044 (0.039)	0.58 (0.038)	0.33 (0.015)	1.3 (0.15)	0.52 (0.04)	0.11 (0.039)	1.7 (0.076)
Benzo(a)anthracene	130	340	0.11 (0.04)	2.2 (0.076)	2.2 (0.16)	0.77 (0.076)	0.58 (0.078)	1.9 (0.08)	0.035 J (0.039)	2.5 (0.038)	0.14 (0.015)	2.4 (0.15)	0.27 (0.04)	0.046 (0.039)	4.5 (0.076)
Benzo(a)pyrene	91	46	0.048 (0.04)	1.4 (0.076)	1.6 (0.16)	0.37 (0.076)	0.46 (0.078)	1.2 (0.08)	0.023 J (0.039)	2 (0.038)	0.048 (0.015)	1.9 (0.15)	0.16 (0.04)	0.035 J (0.039)	4 (0.076)
Benzo(b)fluoranthene	76	170	0.049 (0.04)	1.6 (0.076)	1.6 (0.16)	0.42 (0.076)	0.44 (0.078)	1.2 (0.08)	0.038 J (0.039)	2.4 (0.038)	0.037 (0.015)	0.98 (0.15)	0.12 (0.04)	0.036 J (0.039)	5.1 (0.076)
Benzo(g,h,i)perylene	190000	180	0.077 (0.04)	0.93 (0.076)	1.1 (0.16)	0.28 (0.076)	0.46 (0.078)	0.74 (0.08)	0.035 J (0.039)	0.92 (0.038)	0.038 (0.015)	1.6 (0.15)	0.15 (0.04)	0.047 (0.039)	2.6 (0.076)
Chrysene	760	230	0.16 (0.04)	2.5 (0.076)	2 (0.16)	0.92 (0.076)	0.57 (0.078)	2.2 (0.08)	0.15 (0.039)	2 (0.038)	0.18 (0.015)	5.3 (0.15)	0.39 (0.04)	0.08 (0.039)	3.9 (0.076)
Fluorene	130000	3800	0.26 (0.04)	1.3 (0.076)	0.66 (0.16)	0.36 (0.076)	0.6 (0.078)	0.7 (0.08)	0.1 (0.039)	0.44 (0.038)	0.51 (0.015)	6 (0.15)	0.82 (0.04)	0.28 (0.039)	0.57 (0.076)
Naphthalene	66	25	0.27 (0.04)	0.16 (0.076)	0.59 (0.16)	0.16 (0.076)	0.27 (0.078)	0.19 (0.08)	0.055 (0.039)	0.12 (0.038)	0.38 (0.015)	0.61 (0.15)	0.41 (0.04)	0.068 (0.039)	0.09 (0.076)
Phenanthrene	190000	10000	0.62 (0.04)	5.7 (0.076)	1.4 (0.16)	1.3 (0.076)	1.5 (0.078)	2.2 (0.08)	0.31 (0.039)	2.1 (0.038)	1.4 (0.015)	11 (0.15)	1.9 (0.04)	0.58 (0.039)	6 (0.076)
Pyrene	96000	2200	0.37 (0.04)	2.9 (0.076)	2.6 (0.16)	1.4 (0.076)	0.8 (0.078)	2.6 (0.08)	0.12 (0.039)	3.2 (0.038)	0.66 (0.015)	4.6 (0.15)	1 (0.04)	0.22 (0.039)	6.9 (0.076)
Metals															
Lead	1000	450	81.5 (2.31)	101 (2.2)	150 (2.27)	239 (2.28)	107 (2.3)	128 (2.35)	37.1 (2.2)	73.5 (2.2)	8.75 (2.18)	15.6 (2.29)	83 (2.36)	80.7 (2.26)	148 (2.24)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	103-C12-S	103-C13-S	103-C14-S	103-C15-S	103-C16-S	103-C17-S	103-C18-S	103-D12-S	103-D13-S	103-D14-S	103-D15-S	103-D16-S	103-D17-S	
Field Sample ID	Value (0-2 ft bgs)	Value	103-C12-S-COMP	103-C13-S-COMP	103-C14-S-COMP	103-C15-S-COMP	103-C16-S-COMP	103-C17-S-COMP	103-C18-S-COMP	103-D12-S-COMP	103-D13-S-COMP	103-D14-S-COMP	103-D15-S-COMP	103-D16-S-COMP	103-D17-S-COMP	
Sample Date	(mg/kg)	(mg/kg)	2/22/2021	2/22/2021	2/19/2021	2/19/2021	2/19/2021	2/23/2021	2/23/2021	2/22/2021	2/22/2021	2/23/2021	2/23/2021	2/24/2021	2/24/2021	
PAHs																
Anthracene	190000	350	0.2 (0.038)	0.057 (0.039)	0.31 (0.014)	U (0.0071)	0.3 (0.036)	0.44 (0.038)	0.79 (0.076)	0.13 (0.038)	0.032 J (0.043)	0.15 (0.076)	0.046 J (0.08)	1.1 (0.038)	0.34 (0.037)	
Benzo(a)anthracene	130	340	0.27 (0.038)	0.1 (0.039)	0.096 (0.014)	U (0.0071)	0.25 (0.036)	3.8 (0.038)	0.67 (0.076)	0.52 (0.038)	0.1 (0.043)	0.15 (0.076)	0.31 (0.08)	0.098 (0.038)	0.084 (0.037)	
Benzo(a)pyrene	91	46	0.52 (0.038)	0.18 (0.039)	0.047 (0.014)	U (0.0071)	0.14 (0.036)	4.8 (0.076)	0.47 (0.076)	0.48 (0.038)	0.1 (0.043)	0.15 (0.076)	0.28 (0.08)	0.075 (0.038)	0.05 (0.037)	
Benzo(b)fluoranthene	76	170	0.41 (0.038)	0.18 (0.039)	0.034 (0.014)	U (0.0071)	0.1 (0.036)	6.5 (0.076)	0.4 (0.076)	0.49 (0.038)	0.11 (0.043)	0.11 (0.076)	0.36 (0.08)	0.069 (0.038)	U (0.037)	
Benzo(g,h,i)perylene	190000	180	0.73 (0.038)	0.48 (0.039)	0.036 (0.014)	U (0.0071)	0.16 (0.036)	2.9 (0.038)	0.48 (0.076)	0.55 (0.038)	0.11 (0.043)	0.14 (0.076)	0.21 (0.08)	0.082 (0.038)	0.048 (0.037)	
Chrysene	760	230	0.88 (0.038)	0.29 (0.039)	0.22 (0.014)	U (0.0071)	0.34 (0.036)	3.3 (0.038)	0.67 (0.076)	0.57 (0.038)	0.087 (0.043)	0.29 (0.076)	0.33 (0.08)	0.18 (0.038)	0.18 (0.037)	
Fluorene	130000	3800	0.15 (0.038)	0.088 (0.039)	0.94 (0.014)	U (0.0071)	0.34 (0.036)	0.53 (0.038)	1.8 (0.076)	0.064 (0.038)	0.012 J (0.043)	0.33 (0.076)	0.031 J (0.08)	0.68 (0.038)	0.75 (0.037)	
Naphthalene	66	25	0.21 (0.038)	U (0.039)	0.34 (0.014)	U (0.0071)	0.25 (0.036)	1.1 (0.038)	1.6 (0.076)	0.14 (0.038)	0.027 J (0.043)	0.12 (0.076)	0.021 J (0.08)	0.29 (0.038)	1.3 (0.037)	
Phenanthrene	190000	10000	0.29 (0.038)	0.28 (0.039)	2.1 (0.069)	U (0.0071)	0.85 (0.036)	0.55 (0.038)	5.4 (0.076)	0.71 (0.038)	0.11 (0.043)	0.85 (0.076)	0.16 (0.08)	1.2 (0.038)	1.4 (0.037)	
Pyrene	96000	2200	0.86 (0.038)	0.21 (0.039)	0.4 (0.014)	U (0.0071)	0.68 (0.036)	6.1 (0.076)	1.6 (0.076)	0.62 (0.038)	0.12 (0.043)	0.43 (0.076)	0.45 (0.08)	0.55 (0.038)	0.57 (0.037)	
Metals																
Lead	1000	450	106 (2.21)	13.4 (2.26)	2.35 (2.07)	4.78 (2.08)	301 (2.06)	38 (2.34)	110 (2.23)	50.5 (2.2)	76.2 (2.54)	28.1 (2.25)	37.6 (2.32)	22.4 (2.27)	16.2 (2.24)	

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	103-E08-C	103-E12-S	103-E13-S	103-E14-S	103-E15-S	103-F07-C	103-F11-C	103-F13-S	103-G07-C	103-G11-C	103-H01-C	103-H05-C	103-I05-C1	
Field Sample ID	Value (0-2 ft bgs)	Value	103-E08-C	103-E12-S	103-E13-S	103-E14-S	103-E15-S	103-F07-C	103-F11-C	103-F13-S	103-G07-C	103-G11-C	103-H01-C	103-H05-C	103-I05-C1	
Sample Date	(mg/kg)	(mg/kg)	2/12/2021	2/24/2021	2/24/2021	2/24/2021	2/23/2021	2/15/2021	2/12/2021	2/15/2021	2/15/2021	2/15/2021	2/15/2021	2/15/2021	2/15/2021	
PAHs																
Anthracene	190000	350	0.033 J (0.036)	0.2 (0.04)	0.019 J (0.039)	0.18 (0.037)	0.1 (0.074)	0.051 (0.038)	0.066 (0.036)	0.17 (0.036)	0.064 (0.037)	0.59 (0.074)	0.2 (0.037)	0.12 (0.038)	0.057 (0.037)	
Benzo(a)anthracene	130	340	0.11 (0.036)	0.38 (0.04)	0.088 (0.039)	0.42 (0.037)	0.11 (0.074)	0.34 (0.038)	0.14 (0.036)	1.2 (0.036)	0.28 (0.037)	2.1 (0.074)	0.77 (0.037)	1 (0.038)	0.17 (0.037)	
Benzo(a)pyrene	91	46	0.12 (0.036)	0.51 (0.04)	0.075 (0.039)	0.25 (0.037)	0.05 J (0.074)	0.37 (0.038)	0.11 (0.036)	0.86 (0.036)	0.46 (0.037)	2 (0.074)	1 (0.037)	1.3 (0.038)	0.2 (0.037)	
Benzo(b)fluoranthene	76	170	0.14 (0.036)	0.7 (0.04)	0.09 (0.039)	0.2 (0.037)	0.046 J (0.074)	0.38 (0.038)	0.15 (0.036)	1.2 (0.036)	0.49 (0.037)	2.6 (0.074)	1.2 (0.037)	1.5 (0.038)	0.21 (0.037)	
Benzo(g,h,i)perylene	190000	180	0.087 (0.036)	0.34 (0.04)	0.088 (0.039)	0.2 (0.037)	0.033 J (0.074)	0.29 (0.038)	0.095 (0.036)	0.64 (0.036)	0.3 (0.037)	1.2 (0.074)	0.75 (0.037)	0.68 (0.038)	0.22 (0.037)	
Chrysene	760	230	0.13 (0.036)	0.86 (0.04)	0.13 (0.039)	0.43 (0.037)	0.2 (0.074)	0.32 (0.038)	0.25 (0.036)	0.81 (0.036)	0.31 (0.037)	2.1 (0.074)	0.79 (0.037)	0.95 (0.038)	0.17 (0.037)	
Fluorene	130000	3800	0.041 (0.036)	0.17 (0.04)	0.025 J (0.039)	0.064 (0.037)	0.21 (0.074)	0.02 J (0.038)	0.14 (0.036)	0.12 (0.036)	0.019 J (0.037)	0.37 (0.074)	0.068 (0.037)	0.034 J (0.038)	0.037 (0.037)	
Naphthalene	66	25	0.018 J (0.036)	0.069 (0.04)	0.015 J (0.039)	0.028 J (0.037)	0.12 (0.074)	0.072 (0.038)	0.028 J (0.036)	0.05 (0.036)	0.06 (0.037)	0.1 (0.074)	0.43 (0.037)	0.081 (0.038)	0.1 (0.037)	
Phenanthrene	190000	10000	0.11 (0.036)	0.33 (0.04)	0.058 (0.039)	0.29 (0.037)	0.45 (0.074)	0.19 (0.038)	0.081 (0.036)	0.78 (0.036)	0.1 (0.037)	1.2 (0.074)	0.32 (0.037)	0.32 (0.038)	0.21 (0.037)	
Pyrene	96000	2200	0.2 (0.036)	0.92 (0.04)	0.14 (0.039)	0.63 (0.037)	0.28 (0.074)	0.41 (0.038)	0.24 (0.036)	1.2 (0.036)	0.29 (0.037)	4.8 (0.074)	0.98 (0.037)	0.95 (0.038)	0.22 (0.037)	
Metals																
Lead	1000	450	43.4 (2.19)	136 (2.28)	60.5 (2.32)	22.8 (2.2)	13.3 (2.24)	80.4 (2.17)	26.2 (2.14)	46.7 (2.14)	109 (2.14)	313 (2.16)	109 (2.18)	134 (2.18)	214 (2.2)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	103-I05-C2	104-A25-C	104-A28-C	104-A28-S	104-A30-S	104-B25-S	104-C23-S	104-C24-C	104-C25-S	104-C26-C	104-C28-C	104-C28-S	104-D21-S
Field Sample ID	Value (0-2 ft bgs)	Value	103-I05-C2-COMP	104-A25-C-COMP	104-A28-C-COMP	104-A28-S-COMP	104-A30-S-COMP	104-B25-S-COMP	104-C23-S-COMP	104-C24-C-COMP	104-C25-S-COMP	104-C26-C-COMP	104-C28-C-COMP	104-C28-S-COMP	104-D21-S-COMP
Sample Date	(mg/kg)	(mg/kg)	2/15/2021	2/25/2021	2/25/2021	2/25/2021	2/25/2021	2/25/2021	3/1/2021	2/25/2021	3/1/2021	2/25/2021	2/25/2021	2/25/2021	2/26/2021
PAHs															
Anthracene	190000	350	0.23 (0.08)	0.68 (0.038)	0.33 (0.037)	0.97 (0.072)	0.21 (0.05)	0.19 (0.076)	0.08 (0.037)	0.34 (0.077)	97 (3.2)	2.9 (0.78)	5.4 (0.39)	7 (0.79)	0.19 (0.039)
Benzo(a)anthracene	130	340	0.72 (0.08)	1.9 (0.038)	0.73 (0.037)	1.4 (0.072)	1.1 (0.05)	0.62 (0.076)	0.38 (0.037)	1.6 (0.077)	140 (3.2)	23 (0.78)	11 (0.39)	36 (0.79)	1.4 (0.039)
Benzo(a)pyrene	91	46	0.34 (0.08)	2.2 (0.038)	0.74 (0.037)	1.6 (0.072)	1.6 (0.05)	0.7 (0.076)	0.85 (0.037)	3.8 (0.077)	110 (3.2)	36 (0.78)	13 (0.39)	49 (0.79)	2.6 (0.039)
Benzo(b)fluoranthene	76	170	0.77 (0.08)	3 (0.038)	0.86 (0.037)	1.9 (0.072)	1.6 (0.05)	0.72 (0.076)	0.6 (0.037)	2.7 (0.077)	140 (3.2)	42 (0.78)	14 (0.39)	53 (0.79)	2 (0.039)
Benzo(g,h,i)perylene	190000	180	0.38 (0.08)	2 (0.038)	0.82 (0.037)	1.2 (0.072)	1.2 (0.05)	0.67 (0.076)	1.5 (0.037)	6.4 (0.077)	58 (3.2)	20 (0.78)	8.1 (0.39)	37 (0.79)	3.9 (0.039)
Chrysene	760	230	1.4 (0.08)	2.1 (0.038)	1.1 (0.037)	2.2 (0.072)	1.1 (0.05)	0.93 (0.076)	0.42 (0.037)	1.5 (0.077)	110 (3.2)	21 (0.78)	9.7 (0.39)	29 (0.79)	1.7 (0.039)
Fluorene	130000	3800	0.58 (0.08)	0.23 (0.038)	0.23 (0.037)	0.7 (0.072)	0.2 (0.05)	0.16 (0.076)	0.055 (0.037)	0.08 (0.077)	62 (3.2)	0.46 J (0.78)	2.8 (0.39)	2 (0.79)	0.067 (0.039)
Naphthalene	66	25	0.58 (0.08)	0.36 (0.038)	0.14 (0.037)	0.24 (0.072)	0.2 (0.05)	0.13 (0.076)	0.08 (0.037)	0.35 (0.077)	37 (3.2)	0.61 J (0.78)	1.9 (0.39)	3 (0.79)	0.43 (0.039)
Phenanthrene	190000	10000	1.5 (0.08)	0.88 (0.038)	0.99 (0.037)	2.9 (0.072)	0.63 (0.05)	0.65 (0.076)	0.15 (0.037)	0.84 (0.077)	300 (3.2)	7.5 (0.78)	19 (0.39)	23 (0.79)	0.7 (0.039)
Pyrene	96000	2200	1.1 (0.08)	2.5 (0.038)	1.4 (0.037)	4.2 (0.072)	0.92 (0.05)	0.98 (0.076)	0.32 (0.037)	1.3 (0.077)	230 (3.2)	17 (0.78)	15 (0.39)	40 (0.79)	1 (0.039)
Metals															
Lead	1000	450	28 (2.34)	119 (2.3)	222 (2.15)	86 (2.08)	537 (2.83)	56.7 (2.21)	46 (2.17)	242 (2.26)	141 (2.34)	96.3 (2.33)	154 (2.23)	48.2 (2.33)	97.7 (2.24)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	104-D22-C	104-D24-C	104-D25-S	104-D26-C	104-D27-S	104-E17-S	104-E20-C	104-E20-S	104-E22-C	104-E23-S	104-E24-C	104-E24-S	104-F18-C
Field Sample ID	Value (0-2 ft bgs)	Value	104-D22-C-COMP	104-D24-C-COMP	104-D25-S-COMP	104-D26-C-COMP	104-D27-S-COMP	104-E17-S-COMP	104-E20-C-COMP	104-E20-S-COMP	104-E22-C-COMP	104-E23-S-COMP	104-E24-C-COMP	104-E24-S-COMP	104-F18-C-COMP
Sample Date	(mg/kg)	(mg/kg)	3/2/2021	2/25/2021	2/25/2021	2/25/2021	2/25/2021	3/1/2021	2/26/2021	2/26/2021	2/26/2021	2/26/2021	2/26/2021	2/26/2021	3/1/2021
PAHs															
Anthracene	190000	350	0.078 (0.037)	2.8 (1.6)	4.2 (0.4)	1.8 (0.24)	21 (0.76)	0.65 (0.076)	0.62 (0.079)	0.18 (0.072)	0.038 J (0.074)	0.042 (0.039)	0.4 (0.16)	0.0086 J (0.071)	0.099 J (0.15)
Benzo(a)anthracene	130	340	0.38 (0.037)	62 (1.6)	20 (0.4)	13 (0.24)	27 (0.76)	0.89 (0.076)	0.49 (0.079)	0.9 (0.072)	0.18 (0.074)	0.18 (0.039)	4.3 (0.16)	0.064 J (0.071)	0.17 (0.15)
Benzo(a)pyrene	91	46	0.68 (0.037)	110 (1.6)	24 (0.4)	19 (0.24)	22 (0.76)	0.72 (0.076)	0.76 (0.079)	2 (0.072)	0.24 (0.074)	0.26 (0.039)	7.4 (0.16)	0.078 (0.071)	0.16 (0.15)
Benzo(b)fluoranthene	76	170	0.63 (0.037)	62 (1.6)	26 (0.4)	20 (0.24)	26 (0.76)	0.78 (0.076)	0.51 (0.079)	1.4 (0.072)	0.24 (0.074)	0.27 (0.039)	7.2 (0.16)	0.11 (0.071)	0.17 (0.15)
Benzo(g,h,i)perylene	190000	180	0.95 (0.037)	98 (1.6)	19 (0.4)	16 (0.24)	12 (0.76)	0.56 (0.076)	1.1 (0.079)	3.6 (0.072)	0.22 (0.074)	0.33 (0.039)	5.5 (0.16)	0.059 J (0.071)	0.19 (0.15)
Chrysene	760	230	0.4 (0.037)	54 (1.6)	15 (0.4)	10 (0.24)	20 (0.76)	0.92 (0.076)	1.4 (0.079)	0.86 (0.072)	0.17 (0.074)	0.21 (0.039)	3.8 (0.16)	0.095 (0.071)	0.15 (0.15)
Fluorene	130000	3800	0.017 J (0.037)	0.62 J (1.6)	0.69 (0.4)	0.46 (0.24)	12 (0.76)	0.93 (0.076)	1.2 (0.079)	0.22 (0.072)	0.013 J (0.074)	0.012 J (0.039)	0.074 J (0.16)	0.011 J (0.071)	0.058 J (0.15)
Naphthalene	66	25	0.2 (0.037)	1.6 (1.6)	1.4 (0.4)	1.1 (0.24)	12 (0.76)	0.74 (0.076)	0.52 (0.079)	0.74 (0.072)	0.019 J (0.074)	0.091 (0.039)	0.5 (0.16)	0.023 J (0.071)	0.1 J (0.15)
Phenanthrene	190000	10000	0.23 (0.037)	8.3 (1.6)	11 (0.4)	4.8 (0.24)	56 (0.76)	3.4 (0.076)	2.4 (0.079)	0.63 (0.072)	0.15 (0.074)	0.16 (0.039)	1.2 (0.16)	0.12 (0.071)	0.17 (0.15)
Pyrene	96000	2200	0.4 (0.037)	22 (1.6)	19 (0.4)	11 (0.24)	41 (0.76)	2 (0.076)	2.2 (0.079)	1.1 (0.072)	0.25 (0.074)	0.24 (0.039)	3 (0.16)	0.14 (0.071)	0.29 (0.15)
Metals															
Lead	1000	450	62.3 (2.2)	266 (2.35)	261 (2.36)	314 (2.79)	249 (2.28)	93 (2.26)	91 (2.31)	72 (2.14)	36.9 (2.12)	302 (2.31)	69.4 (2.22)	127 (2.02)	210 (2.17)

- Notes:**
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 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
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ft bgs -- Feet Below Ground Surface.
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Table 3.2a
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Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	104-F20-C	104-F21-S	104-F22-C	104-G15-C	104-G15-S	104-G18-C	104-G18-S	104-G19-S	104-G20-C	104-H15-C	104-H15-S	104-H16-C	104-H17-C
Field Sample ID	Value (0-2 ft bgs)	Value	104-F20-C	104-F21-S	104-F22-C	104-G15-C	104-G15-S	104-G18-C	104-G18-S	104-G19-S	104-G20-C	104-H15-C	104-H15-S	104-H16-C	104-H17-C
Sample Date	(mg/kg)	(mg/kg)	2/26/2021	3/2/2021	2/26/2021	3/2/2021	3/2/2021	3/1/2021	3/1/2021	3/1/2021	2/26/2021	3/2/2021	3/2/2021	3/2/2021	3/2/2021
PAHs															
Anthracene	190000	350	0.071 J (0.084)	0.12 (0.037)	0.066 J (0.072)	0.08 (0.038)	0.051 (0.039)	0.16 (0.074)	0.089 (0.016)	0.15 (0.073)	0.088 (0.0088)	0.042 (0.038)	0.042 (0.036)	1.3 (0.038)	0.07 (0.038)
Benzo(a)anthracene	130	340	0.37 (0.084)	0.58 (0.037)	0.42 (0.072)	0.19 (0.038)	0.12 (0.039)	0.42 (0.074)	0.21 (0.016)	0.7 (0.073)	0.42 (0.0088)	0.26 (0.038)	0.2 (0.036)	1.8 (0.038)	0.35 (0.038)
Benzo(a)pyrene	91	46	0.4 (0.084)	0.63 (0.037)	0.73 (0.072)	0.23 (0.038)	0.13 (0.039)	0.44 (0.074)	0.2 (0.016)	0.71 (0.073)	0.43 (0.0088)	0.29 (0.038)	0.19 (0.036)	1.3 (0.038)	0.37 (0.038)
Benzo(b)fluoranthene	76	170	0.49 (0.084)	0.73 (0.037)	0.58 (0.072)	0.28 (0.038)	0.14 (0.039)	0.51 (0.074)	0.24 (0.016)	0.86 (0.073)	0.51 (0.0088)	0.3 (0.038)	0.24 (0.036)	1.4 (0.038)	0.39 (0.038)
Benzo(g,h,i)perylene	190000	180	0.29 (0.084)	0.96 (0.037)	0.62 (0.072)	0.27 (0.038)	0.13 (0.039)	0.3 (0.074)	0.13 (0.016)	0.46 (0.073)	0.32 (0.0088)	0.31 (0.038)	0.15 (0.036)	0.69 (0.038)	0.58 (0.038)
Chrysene	760	230	0.38 (0.084)	0.55 (0.037)	0.41 (0.072)	0.25 (0.038)	0.12 (0.039)	0.38 (0.074)	0.2 (0.016)	0.68 (0.073)	0.38 (0.0088)	0.23 (0.038)	0.18 (0.036)	1.4 (0.038)	0.35 (0.038)
Fluorene	130000	3800	0.038 J (0.084)	0.038 (0.037)	0.016 J (0.072)	0.44 (0.038)	0.085 (0.039)	0.52 (0.074)	0.048 (0.016)	0.045 J (0.073)	0.039 (0.0088)	0.012 J (0.038)	0.011 J (0.036)	0.69 (0.038)	0.03 J (0.038)
Naphthalene	66	25	0.046 J (0.084)	0.2 (0.037)	0.099 (0.072)	1.6 (0.038)	0.049 (0.039)	0.12 (0.074)	0.63 (0.016)	0.085 (0.073)	0.098 (0.0088)	0.032 J (0.038)	0.028 J (0.036)	0.15 (0.038)	0.063 (0.038)
Phenanthrene	190000	10000	0.25 (0.084)	0.36 (0.037)	0.17 (0.072)	0.49 (0.038)	0.16 (0.039)	0.82 (0.074)	0.3 (0.016)	0.5 (0.073)	0.37 (0.0088)	0.15 (0.038)	0.15 (0.036)	3.5 (0.038)	0.25 (0.038)
Pyrene	96000	2200	0.54 (0.084)	0.83 (0.037)	0.74 (0.072)	0.26 (0.038)	0.18 (0.039)	0.67 (0.074)	0.34 (0.016)	0.99 (0.073)	0.56 (0.0088)	0.28 (0.038)	0.28 (0.036)	2.6 (0.038)	0.5 (0.038)
Metals															
Lead	1000	450	96.6 (2.42)	44.4 (2.18)	34.3 (2.12)	45.3 (2.21)	73.9 (2.3)	13.5 (2.16)	24.3 (11.8)	119 (10.7)	51.4 (2.57)	314 (2.25)	28.6 (2.11)	91.5 (2.24)	69.4 (2.15)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	104-H17-S	104-H18-S	104-H19-C	104-I12-C	104-I14-C	104-I17-C	104-J10-C	104-J11-C	104-J12-C	104-J13-C	104-J18-C	104-J19-C	104-K07-C
			104-H17-S	104-H18-S	104-H19-C	104-I12-C	104-I14-C	104-I17-C	104-J10-C	104-J11-C	104-J12-C	104-J13-C	104-J18-C	104-J19-C	104-K07-C
Field Sample ID	Value (0-2 ft bgs)	Value	104-H17-S-COMP	104-H18-S-COMP	104-H19-C-COMP	104-I12-C-COMP	104-I14-C-COMP	104-I17-C-COMP	104-J10-C-COMP	104-J11-C-COMP	104-J12-C-COMP	104-J13-C-COMP	104-J18-C-COMP	104-J19-C-COMP	104-K07-C-COMP
Sample Date	(mg/kg)	(mg/kg)	3/2/2021	3/1/2021	3/1/2021	3/4/2021	3/3/2021	3/1/2021	3/3/2021	3/4/2021	3/4/2021	3/3/2021	3/8/2021	3/8/2021	3/9/2021
PAHs															
Anthracene	190000	350	0.09 (0.074)	0.058 J (0.073)	0.043 J (0.074)	0.21 (0.074)	1.4 (0.16)	0.045 J (0.076)	0.13 (0.042)	0.086 (0.038)	1.5 (0.42)	0.2 (0.016)	0.76 (0.08)	4.2 (0.78)	0.024 J (0.038)
Benzo(a)anthracene	130	340	0.37 (0.074)	0.26 (0.073)	0.19 (0.074)	1.1 (0.074)	1.6 (0.16)	0.19 (0.076)	0.21 (0.042)	0.17 (0.038)	1.7 (0.42)	0.39 (0.016)	4.8 (0.08)	20 (0.78)	0.13 (0.038)
Benzo(a)pyrene	91	46	0.45 (0.074)	0.26 (0.073)	0.12 (0.074)	1.1 (0.074)	1.7 (0.16)	0.2 (0.076)	0.17 (0.042)	0.14 (0.038)	0.59 (0.42)	0.39 (0.016)	4.5 (0.08)	28 (0.78)	0.097 (0.038)
Benzo(b)fluoranthene	76	170	0.48 (0.074)	0.32 (0.073)	0.15 (0.074)	0.91 (0.074)	1.7 (0.16)	0.23 (0.076)	0.18 (0.042)	0.2 (0.038)	0.64 (0.42)	0.33 (0.016)	6.8 (0.08)	39 (0.78)	0.11 (0.038)
Benzo(g,h,i)perylene	190000	180	0.42 (0.074)	0.2 (0.073)	0.082 (0.074)	0.8 (0.074)	1.5 (0.16)	0.13 (0.076)	0.15 (0.042)	0.11 (0.038)	0.41 J (0.42)	0.3 (0.016)	3.7 (0.08)	32 (0.78)	0.092 (0.038)
Chrysene	760	230	0.41 (0.074)	0.27 (0.073)	0.63 (0.074)	1.4 (0.074)	2 (0.16)	0.2 (0.076)	0.35 (0.042)	0.26 (0.038)	2.6 (0.42)	0.53 (0.016)	6 (0.08)	20 (0.78)	0.09 (0.038)
Fluorene	130000	3800	0.068 J (0.074)	0.022 J (0.073)	0.063 J (0.074)	0.45 (0.074)	4.3 (0.16)	0.028 J (0.076)	0.36 (0.042)	0.2 (0.038)	5.7 (0.42)	0.27 (0.016)	0.11 (0.08)	1 (0.78)	0.021 J (0.038)
Naphthalene	66	25	0.082 (0.074)	0.032 J (0.073)	0.034 J (0.074)	0.26 (0.074)	1.2 (0.16)	0.027 J (0.076)	0.16 (0.042)	0.25 (0.038)	U (0.42)	0.11 (0.016)	0.45 (0.08)	30 (0.78)	0.049 (0.038)
Phenanthrene	190000	10000	0.19 (0.074)	0.23 (0.073)	0.37 (0.074)	1.1 (0.074)	9.9 (0.16)	0.17 (0.076)	0.77 (0.042)	0.64 (0.038)	12 (0.42)	0.65 (0.016)	3.4 (0.08)	9 (0.78)	0.093 (0.038)
Pyrene	96000	2200	0.58 (0.074)	0.4 (0.073)	0.35 (0.074)	0.95 (0.074)	2.9 (0.16)	0.31 (0.076)	0.41 (0.042)	0.33 (0.038)	U (0.42)	0.65 (0.016)	7.8 (0.08)	31 (0.78)	0.17 (0.038)
Metals															
Lead	1000	450	42.4 (2.21)	22.1 (2.09)	78.8 (2.16)	437 (2.28)	528 (2.37)	26.5 (2.18)	66.6 (2.48)	88.1 (2.2)	410 (2.45)	126 (2.34)	69.9 (2.39)	71.3 (2.27)	54.6 (2.23)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	104-K09-C	104-K10-C1	104-K10-C2	104-K11-C	104-K12-C1	104-K12-C2	104-K13-C	104-K14-C	104-K15-C	104-K18-C	104-L05-C	104-L07-C	104-L08-C
Field Sample ID	Value (0-2 ft bgs)	Value	104-K09-C-COMP	104-K10-C1-COMP	104-K10-C2-COMP	104-K11-C-COMP	104-K12-C1-COMP	104-K12-C2-COMP	104-K13-C-COMP	104-K14-C-COMP	104-K15-C-COMP	104-K18-C-COMP	104-L05-C-COMP	104-L07-C-COMP	104-L08-C-COMP
Sample Date	(mg/kg)	(mg/kg)	3/4/2021	3/4/2021	3/4/2021	3/3/2021	3/3/2021	3/3/2021	3/3/2021	3/3/2021	3/3/2021	3/8/2021	3/5/2021	3/5/2021	3/8/2021
PAHs															
Anthracene	190000	350	0.37 (0.043)	0.39 (0.19)	0.089 (0.023)	0.6 (0.043)	0.18 (0.038)	1.3 (0.079)	0.14 (0.038)	0.98 (0.14)	0.82 (0.041)	0.65 (0.076)	0.38 (0.037)	0.17 (0.04)	0.38 (0.078)
Benzo(a)anthracene	130	340	0.63 (0.043)	0.26 (0.19)	0.12 (0.023)	0.92 (0.043)	1.6 (0.038)	2.4 (0.079)	0.52 (0.038)	3.5 (0.14)	2.3 (0.041)	4.2 (0.076)	0.36 (0.037)	0.99 (0.04)	1 (0.078)
Benzo(a)pyrene	91	46	0.71 (0.043)	0.2 (0.19)	0.14 (0.023)	0.74 (0.043)	1.4 (0.038)	2.2 (0.079)	0.55 (0.038)	4.1 (0.14)	2.2 (0.041)	5.9 (0.076)	0.67 (0.037)	1.3 (0.04)	0.82 (0.078)
Benzo(b)fluoranthene	76	170	0.72 (0.043)	0.26 (0.19)	0.1 (0.023)	0.8 (0.043)	1.6 (0.038)	2.1 (0.079)	0.58 (0.038)	4.5 (0.14)	2.8 (0.041)	6.7 (0.076)	0.54 (0.037)	1.4 (0.04)	0.82 (0.078)
Benzo(g,h,i)perylene	190000	180	0.54 (0.043)	0.17 J (0.19)	0.059 (0.023)	0.38 (0.043)	0.77 (0.038)	1.3 (0.079)	0.48 (0.038)	3.1 (0.14)	1.4 (0.041)	4.8 (0.076)	0.66 (0.037)	0.67 (0.04)	0.57 (0.078)
Chrysene	760	230	0.96 (0.043)	0.84 (0.19)	0.23 (0.023)	0.8 (0.043)	1.2 (0.038)	2.6 (0.079)	0.61 (0.038)	3.8 (0.14)	2 (0.041)	4.1 (0.076)	0.42 (0.037)	0.89 (0.04)	1.1 (0.078)
Fluorene	130000	3800	0.66 (0.043)	0.97 (0.19)	0.16 (0.023)	0.66 (0.043)	0.076 (0.038)	0.42 (0.079)	0.12 (0.038)	0.47 (0.14)	0.34 (0.041)	0.15 (0.076)	1 (0.037)	0.063 (0.04)	0.2 (0.078)
Naphthalene	66	25	0.37 (0.043)	0.22 (0.19)	0.049 (0.023)	0.42 (0.043)	0.54 (0.038)	0.49 (0.079)	0.091 (0.038)	1.2 (0.14)	0.27 (0.041)	2.4 (0.076)	0.16 (0.037)	0.098 (0.04)	0.18 (0.078)
Phenanthrene	190000	10000	1.3 (0.043)	1.5 (0.19)	0.27 (0.023)	1.9 (0.043)	0.4 (0.038)	1.2 (0.079)	0.46 (0.038)	3 (0.14)	2.8 (0.041)	2.6 (0.076)	2.8 (0.037)	0.39 (0.04)	0.44 (0.078)
Pyrene	96000	2200	1.2 (0.043)	0.86 (0.19)	0.27 (0.023)	0.9 (0.043)	1.5 (0.038)	4.4 (0.079)	0.84 (0.038)	6.5 (0.14)	3.4 (0.041)	5.7 (0.076)	0.37 (0.037)	1 (0.04)	1.8 (0.078)
Metals															
Lead	1000	450	108 (2.5)	204 (2.34)	103 (2.33)	62 (2.48)	56.7 (2.25)	46.3 (2.28)	62.2 (2.26)	207 (2.15)	99.3 (2.37)	58.9 (2.2)	84.1 (2.22)	97.6 (2.29)	18 (2.28)

Notes:

- Concentrations are presented in mg/kg.
- Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	104-L09-C1	104-L09-C2	104-L10-C	104-L11-C	104-L12-C	104-L16-C	104-M05-C	104-M06-C	104-M07-C	104-M09-C	104-N21-C	104-O22-C	LS-A-A01-C1
Field Sample ID	Value (0-2 ft bgs)	Value	104-L09-C1-COMP	104-L09-C2-COMP	104-L10-C-COMP	104-L11-C-COMP	104-L12-C-COMP	104-L16-C-COMP	104-M05-C-COMP	104-M06-C-COMP	104-M07-C-COMP	104-M09-C-COMP	104-N21-C-COMP	104-O22-C-COMP	LS-A-A01
Sample Date	(mg/kg)	(mg/kg)	3/4/2021	3/4/2021	3/3/2021	3/5/2021	3/3/2021	3/9/2021	3/5/2021	3/5/2021	3/5/2021	3/3/2021	3/9/2021	3/9/2021	5/1/2023
PAHs															
Anthracene	190000	350	0.026 J (0.036)	0.016 J (0.04)	1.8 (0.15)	1.6 (0.073)	4 (0.18)	0.36 (0.039)	0.011 J (0.038)	0.0069 J (0.0073)	1 (0.039)	0.53 (0.035)	0.85 (0.076)	0.038 (0.037)	0.17 (0.12)
Benzo(a)anthracene	130	340	0.13 (0.036)	0.15 (0.04)	6 (0.15)	2.6 (0.073)	7.6 (0.18)	2.2 (0.039)	0.048 (0.038)	0.024 (0.0073)	3.1 (0.039)	1.7 (0.035)	3.3 (0.076)	0.091 (0.037)	0.48 (0.12)
Benzo(a)pyrene	91	46	0.15 (0.036)	0.13 (0.04)	5.2 (0.15)	1.8 (0.073)	6.5 (0.18)	1.6 (0.039)	0.059 (0.038)	0.025 (0.0073)	3.8 (0.039)	1.6 (0.035)	3.6 (0.076)	0.078 (0.037)	0.52 (0.16)
Benzo(b)fluoranthene	76	170	0.21 (0.036)	0.16 (0.04)	5.3 (0.15)	1.9 (0.073)	6.9 (0.18)	2.1 (0.039)	0.069 (0.038)	0.027 (0.0073)	3.7 (0.039)	1.7 (0.035)	4 (0.076)	0.083 (0.037)	0.66 (0.12)
Benzo(g,h,i)perylene	190000	180	0.1 (0.036)	0.065 (0.04)	2.2 (0.15)	0.93 (0.073)	3.6 (0.18)	1.1 (0.039)	0.048 (0.038)	0.012 (0.0073)	1.8 (0.039)	1.1 (0.035)	2.1 (0.076)	0.12 (0.037)	0.35 (0.16)
Chrysene	760	230	0.15 (0.036)	0.13 (0.04)	4.7 (0.15)	1.6 (0.073)	6.6 (0.18)	1.9 (0.039)	0.05 (0.038)	0.024 (0.0073)	2.8 (0.039)	1.6 (0.035)	3.6 (0.076)	0.088 (0.037)	0.47 (0.12)
Fluorene	130000	3800	0.0095 J (0.036)	U (0.04)	1.4 (0.15)	1.7 (0.073)	1.4 (0.18)	0.14 (0.039)	0.0053 J (0.038)	0.0057 J (0.0073)	0.71 (0.039)	0.27 (0.035)	0.39 (0.076)	0.014 J (0.037)	0.053 J (0.2)
Naphthalene	66	25	0.017 J (0.036)	0.039 J (0.04)	0.91 (0.15)	0.54 (0.073)	2 (0.18)	2.3 (0.039)	0.04 (0.038)	0.0038 J (0.0073)	0.48 (0.039)	0.58 (0.035)	0.49 (0.076)	0.039 (0.037)	0.073 (0.039)
Phenanthrene	190000	10000	0.11 (0.036)	0.047 (0.04)	4.2 (0.15)	4.7 (0.073)	9.5 (0.18)	2.2 (0.039)	0.033 J (0.038)	0.02 (0.0073)	2 (0.039)	1.8 (0.035)	4 (0.076)	0.082 (0.037)	0.58 (0.12)
Pyrene	96000	2200	0.21 (0.036)	0.16 (0.04)	6.8 (0.15)	3.1 (0.073)	11 (0.18)	2.5 (0.039)	0.059 (0.038)	0.035 (0.0073)	3.5 (0.039)	2.8 (0.035)	6 (0.076)	0.21 (0.037)	0.81 (0.12)
Metals															
Lead	1000	450	22.6 (2.06)	320 (2.44)	136 (2.26)	54.5 (2.14)	32.3 (2.15)	5.08 (2.32)	29.9 (2.25)	7.05 (2.17)	82 (2.23)	27 (2.08)	78.1 (2.26)	28.7 (2.09)	994 (2.25)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell Field Sample ID Sample Date	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Value (mg/kg)	LS-A-A01-C2	LS-A-A01-C3	LS-A-A02-C1	LS-A-A02-C2	LS-A-A03-C1	LS-A-A03-C2	LS-A-A04-C1	LS-A-A04-C2	LS-A-A05-C1	LS-A-A05-C2	LS-A-B01-C1	LS-A-B01-C2	LS-A-B02-C1
			LS-A-A01	LS-A-A01	LS-A-A02	LS-A-A02	LS-A-A03	LS-A-A03	LS-A-A04	LS-A-A04	LS-A-A05	LS-A-A05	LS-A-B01	LS-A-B01	LS-A-B02
			LS-A-A01-C2-COMP	LS-A-A01-C3-COMP	LS-A-A02-C1-COMP	LS-A-A02-C2-COMP	LS-A-A03-C1-COMP	LS-A-A03-C2-COMP	LS-A-A04-C1-COMP	LS-A-A04-C2-COMP	LS-A-A05-C1-COMP	LS-A-A05-C2-COMP	LS-A-B01-C1-COMP	LS-A-B01-C2-COMP	LS-A-B02-C1-COMP
			5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023	5/2/2023
PAHs															
Anthracene	190000	350	1.4 (0.12)	3.5 (0.12)	0.24 (0.11)	0.45 (0.12)	0.4 (0.12)	0.68 (0.12)	0.45 (0.11)	1.2 (0.12)	170 (9.2)	17 (1.2)	11 (0.6)	74 (1.3)	6 (0.11)
Benzo(a)anthracene	130	340	3.4 (0.12)	7.4 (0.12)	0.67 (0.11)	1.1 (0.12)	1.3 (0.12)	1.9 (0.12)	1.3 (0.11)	2 (0.12)	200 (9.2)	33 (1.2)	19 (0.6)	150 (13)	14 (1.1)
Benzo(a)pyrene	91	46	3.2 (0.16)	6 (0.17)	0.66 (0.15)	1.1 (0.16)	1.3 (0.16)	1.5 (0.16)	1.3 (0.15)	1.8 (0.16)	190 (12)	25 (1.6)	15 (0.8)	78 (1.7)	11 (1.5)
Benzo(b)fluoranthene	76	170	3.8 (0.12)	8.3 (0.12)	0.8 (0.11)	1.3 (0.12)	1.5 (0.12)	1.9 (0.12)	1.5 (0.11)	2.1 (0.12)	200 (9.2)	28 (1.2)	18 (0.6)	130 (13)	15 (1.1)
Benzo(g,h,i)perylene	190000	180	2 (0.16)	3.9 (0.17)	0.36 (0.15)	0.6 (0.16)	0.68 (0.16)	0.84 (0.16)	0.71 (0.15)	1 (0.16)	82 (12)	13 (1.6)	8.1 (0.8)	42 (1.7)	5.9 (0.15)
Chrysene	760	230	3.3 (0.12)	6.9 (0.12)	0.66 (0.11)	1.2 (0.12)	1.2 (0.12)	1.7 (0.12)	1.2 (0.11)	1.8 (0.12)	170 (9.2)	27 (1.2)	17 (0.6)	85 (1.3)	12 (1.1)
Fluorene	130000	3800	0.41 (0.19)	1.7 (0.21)	0.093 J (0.18)	0.19 (0.19)	0.13 J (0.2)	0.31 (0.2)	0.16 J (0.19)	0.98 (0.2)	120 (15)	9.8 (2)	8 (1)	62 (2.1)	3.5 (0.19)
Naphthalene	66	25	0.27 (0.039)	1.5 (0.042)	0.1 (0.037)	0.41 (0.039)	0.065 (0.039)	0.28 (0.039)	0.086 (0.038)	0.35 (0.04)	61 (3)	6.1 (0.4)	4.6 (0.2)	32 (0.43)	2.9 (0.037)
Phenanthrene	190000	10000	5.2 (0.12)	19 (0.63)	1 (0.11)	2.2 (0.12)	1.5 (0.12)	2.6 (0.12)	1.8 (0.11)	5.7 (0.12)	610 (9.2)	51 (1.2)	36 (0.6)	390 (13)	20 (1.1)
Pyrene	96000	2200	6.1 (0.12)	16 (0.63)	1.2 (0.11)	2.2 (0.12)	2.1 (0.12)	2.8 (0.12)	2.2 (0.11)	4.3 (0.12)	370 (9.2)	53 (1.2)	29 (0.6)	260 (13)	21 (1.1)
Metals															
Lead	1000	450	17500 (46.4)	5380 (49)	65.3 (2.15)	1520 (2.29)	244 (2.32)	687 (2.34)	121 (2.24)	153 (2.36)	61.8 (2.23)	158 (2.33)	346 (2.39)	16800 (49.3)	79.8 (2.15)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	LS-A-B03-C1	LS-A-C01-C1	LS-A-C01-C2	LS-A-C02-C1	LS-A-C02-C2	LS-A-C03-C1	LS-A-C03-C2	LS-A-C04-C1	LS-A-C05-C1	LS-A-D01-C1	LS-A-D01-C2	LS-A-D01-C3	LS-A-D01-C4
			LS-A-B03	LS-A-C01	LS-A-C01	LS-A-C02	LS-A-C02	LS-A-C03	LS-A-C03	LS-A-C04	LS-A-C05	LS-A-D01	LS-A-D01	LS-A-D01	LS-A-D01
Field Sample ID	Value (0-2 ft bgs)	Value	LS-A-B03-C1-COMP	LS-A-C01-C1-COMP	LS-A-C01-C2-COMP	LS-A-C02-C1-COMP	LS-A-C02-C2-COMP	LS-A-C03-C1-COMP	LS-A-C03-C2-COMP	LS-A-C04-C1-COMP	LS-A-C05-C1-COMP	LS-A-D01-C1-COMP	LS-A-D01-C2-COMP	LS-A-D01-C3-COMP	LS-A-D01-C4-COMP
Sample Date	(mg/kg)	(mg/kg)	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/2/2023	5/3/2023	5/23/2023	5/23/2023	5/23/2023	5/23/2023
PAHs															
Anthracene	190000	350	0.064 J (0.11)	0.69 (0.12)	0.19 (0.11)	0.4 (0.11)	0.1 J (0.11)	0.52 J (0.57)	0.33 J (0.54)	U (0.11)	0.051 J (0.11)	0.6 (0.54)	0.79 (0.13)	U (0.12)	0.85 (0.54)
Benzo(a)anthracene	130	340	0.64 (0.11)	1.5 (0.12)	0.056 J (0.11)	1 (0.11)	0.29 (0.11)	0.82 (0.57)	0.34 J (0.54)	U (0.11)	0.066 J (0.11)	0.65 (0.54)	0.62 (0.13)	0.088 J (0.12)	0.71 (0.54)
Benzo(a)pyrene	91	46	0.86 (0.15)	1.5 (0.16)	U (0.15)	1.2 (0.15)	0.28 (0.15)	0.81 (0.76)	U (0.72)	U (0.14)	0.075 J (0.15)	0.48 J (0.72)	0.45 (0.17)	0.08 J (0.16)	0.56 J (0.72)
Benzo(b)fluoranthene	76	170	1.1 (0.11)	1.8 (0.12)	0.049 J (0.11)	1.4 (0.11)	0.31 (0.11)	0.75 (0.57)	U (0.54)	U (0.11)	0.072 J (0.11)	0.38 J (0.54)	0.34 (0.13)	0.093 J (0.12)	0.48 J (0.54)
Benzo(g,h,i)perylene	190000	180	0.51 (0.15)	0.77 (0.16)	0.026 J (0.15)	0.69 (0.15)	0.23 (0.15)	0.49 J (0.76)	U (0.72)	U (0.14)	0.14 J (0.15)	0.37 J (0.72)	0.35 (0.17)	0.068 J (0.16)	0.47 J (0.72)
Chrysene	760	230	0.79 (0.11)	1.5 (0.12)	0.062 J (0.11)	1 (0.11)	0.3 (0.11)	2 (0.57)	0.94 (0.54)	U (0.11)	0.16 (0.11)	1 (0.54)	1.2 (0.13)	0.1 J (0.12)	1.2 (0.54)
Fluorene	130000	3800	0.022 J (0.19)	0.31 (0.19)	0.49 (0.19)	0.057 J (0.19)	0.047 J (0.18)	2.5 (0.95)	1.3 (0.9)	U (0.18)	0.16 J (0.19)	1.3 (0.9)	1.6 (0.22)	0.027 J (0.2)	2.1 (0.9)
Naphthalene	66	25	U (0.038)	0.33 (0.039)	0.058 (0.038)	0.085 (0.037)	0.14 (0.037)	0.25 (0.19)	U (0.18)	U (0.035)	0.31 (0.038)	0.16 J (0.18)	0.68 (0.044)	U (0.041)	0.87 (0.18)
Phenanthrene	190000	10000	0.35 (0.11)	2.7 (0.12)	1.1 (0.11)	0.69 (0.11)	0.34 (0.11)	5.6 (0.57)	4.6 (0.54)	U (0.11)	0.37 (0.11)	4.3 (0.54)	4.2 (0.13)	0.11 J (0.12)	5.3 (0.54)
Pyrene	96000	2200	0.94 (0.11)	2.3 (0.12)	0.16 (0.11)	1.5 (0.11)	0.4 (0.11)	1.5 (0.57)	0.61 (0.54)	U (0.11)	0.15 (0.11)	0.99 (0.54)	1.3 (0.13)	0.14 (0.12)	1.7 (0.54)
Metals															
Lead	1000	450	36.2 (2.27)	291 (2.2)	51.6 (2.29)	96.4 (2.23)	277 (2.21)	177 (2.24)	15.4 (2.08)	7.87 (2.09)	15.1 (2.21)	122 (2.12)	550 (2.54)	98.1 (2.43)	171 (2.2)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	LS-A-D02-C1	LS-A-D02-C2	LS-A-D02-C3	LS-A-D02-C4	LS-A-D03-C1	LS-A-D03-C2	LS-A-D04-C1	LS-A-D04-C2	LS-A-D04-C3	LS-A-D04-C4	LS-A-D04-C5	LS-A-D05-C1	LS-A-D05-C2
			LS-A-D02	LS-A-D02	LS-A-D02	LS-A-D02	LS-A-D03	LS-A-D03	LS-A-D04	LS-A-D04	LS-A-D04	LS-A-D04	LS-A-D04	LS-A-D04	LS-A-D05
Field Sample ID	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)	LS-A-D02-C1-COMP 5/3/2023	LS-A-D02-C2-COMP 5/3/2023	LS-A-D02-C3-COMP 5/3/2023	LS-A-D02-C4-COMP 5/3/2023	LS-A-D03-C1-COMP 5/3/2023	LS-A-D03-C2-COMP 5/3/2023	LS-A-D04-C1-COMP 5/3/2023	LS-A-D04-C2-COMP 5/3/2023	LS-A-D04-C3-COMP 5/3/2023	LS-A-D04-C4-COMP 5/3/2023	LS-A-D04-C5-COMP 5/3/2023	LS-A-D05-C1-COMP 5/4/2023	LS-A-D05-C2-COMP 5/4/2023
PAHs															
Anthracene	190000	350	0.13 (0.11)	0.62 (0.11)	0.065 J (0.12)	0.37 J (1.1)	0.11 (0.11)	U (0.11)	0.12 (0.11)	0.052 J (0.11)	0.35 (0.11)	1.9 (0.12)	0.16 (0.11)	0.65 J (1.2)	U (0.12)
Benzo(a)anthracene	130	340	0.47 (0.11)	2.5 (0.11)	0.18 (0.12)	0.33 J (1.1)	0.13 (0.11)	0.11 (0.11)	0.48 (0.11)	0.12 (0.11)	0.89 (0.11)	1.7 (0.12)	0.21 (0.11)	4.2 (1.2)	0.1 J (0.12)
Benzo(a)pyrene	91	46	0.6 (0.15)	2.8 (0.15)	0.18 (0.15)	U (1.5)	0.098 J (0.15)	0.2 (0.15)	0.68 (0.15)	0.14 J (0.15)	0.98 (0.15)	1.6 (0.15)	0.21 (0.15)	3.7 (1.5)	0.13 J (0.16)
Benzo(b)fluoranthene	76	170	0.66 (0.11)	3.4 (0.11)	0.23 (0.12)	U (1.1)	0.1 J (0.11)	0.2 (0.11)	0.69 (0.11)	0.14 (0.11)	0.74 (0.11)	1.3 (0.12)	0.26 (0.11)	2.6 (1.2)	0.11 J (0.12)
Benzo(g,h,i)perylene	190000	180	0.55 (0.15)	1.9 (0.15)	0.14 J (0.15)	U (1.5)	0.081 J (0.15)	0.14 J (0.15)	0.68 (0.15)	0.18 (0.15)	1.4 (0.15)	1.3 (0.15)	0.18 (0.15)	2.3 (1.5)	0.2 (0.16)
Chrysene	760	230	0.54 (0.11)	2.7 (0.11)	0.19 (0.12)	0.61 J (1.1)	0.17 (0.11)	0.12 (0.11)	0.46 (0.11)	0.17 (0.11)	1.2 (0.11)	2.4 (0.12)	0.34 (0.11)	8.4 (1.2)	0.12 (0.12)
Fluorene	130000	3800	0.044 J (0.19)	0.33 (0.19)	0.21 (0.19)	1.8 (1.8)	0.17 J (0.18)	U (0.19)	0.023 J (0.18)	0.031 J (0.18)	0.2 (0.19)	1.6 (0.19)	0.16 J (0.19)	0.59 J (1.9)	U (0.2)
Naphthalene	66	25	0.33 (0.038)	0.63 (0.038)	0.59 (0.038)	4 (0.37)	0.071 (0.037)	0.025 J (0.038)	0.28 (0.037)	0.12 (0.037)	0.56 (0.038)	1.7 (0.038)	0.14 (0.038)	0.25 J (0.38)	0.074 (0.039)
Phenanthrene	190000	10000	0.51 (0.11)	2.6 (0.11)	0.49 (0.12)	3 (1.1)	0.82 (0.11)	0.08 J (0.11)	0.24 (0.11)	0.18 (0.11)	1 (0.11)	4 (0.12)	0.47 (0.11)	2.5 (1.2)	0.085 J (0.12)
Pyrene	96000	2200	0.67 (0.11)	3.4 (0.11)	0.27 (0.12)	0.6 J (1.1)	0.44 (0.11)	0.12 (0.11)	0.51 (0.11)	0.23 (0.11)	1.6 (0.11)	4.1 (0.12)	0.42 (0.11)	5 (1.2)	0.13 (0.12)
Metals															
Lead	1000	450	105 (2.19)	1120 (2.22)	352 (2.26)	82.8 (2.25)	90.8 (2.19)	43.6 (2.24)	105 (2.23)	180 (2.12)	98.1 (2.21)	88.6 (2.28)	336 (2.22)	488 (2.34)	53.7 (2.27)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
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Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	LS-A-D05-C3	LS-A-D05-C4	LS-A-D06-C1	LS-A-D06-C2	LS-A-D06-C3	LS-A-D06-C4	LS-A-D06-C5	LS-A-D07-C1	LS-A-D07-C2	LS-A-D07-C3	LS-A-D07-C4	LS-A-D07-C5	LS-A-E02-C1
			LS-A-D05	LS-A-D05	LS-A-D06	LS-A-D06	LS-A-D06	LS-A-D06	LS-A-D06	LS-A-D06	LS-A-D07	LS-A-D07	LS-A-D07	LS-A-D07	LS-A-D07
Field Sample ID	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)	LS-A-D05-C3-COMP 5/4/2023	LS-A-D05-C4-COMP 5/4/2023	LS-A-D06-C1-COMP 5/4/2023	LS-A-D06-C2-COMP 5/4/2023	LS-A-D06-C3-COMP 5/4/2023	LS-A-D06-C4-COMP 5/4/2023	LS-A-D06-C5-COMP 5/4/2023	LS-A-D07-C1-COMP 5/4/2023	LS-A-D07-C2-COMP 5/4/2023	LS-A-D07-C3-COMP 5/4/2023	LS-A-D07-C4-COMP 5/4/2023	LS-A-D07-C5-COMP 5/4/2023	LS-A-E02-C1-COMP 5/5/2023
PAHs															
Anthracene	190000	350	0.17 (0.12)	U (0.11)	0.12 (0.11)	0.15 (0.11)	0.23 (0.11)	0.37 (0.12)	0.26 (0.12)	1.9 (0.11)	2.5 (1.1)	0.23 (0.11)	0.38 (0.11)	0.13 (0.11)	U (0.11)
Benzo(a)anthracene	130	340	0.75 (0.12)	0.12 (0.11)	0.32 (0.11)	0.15 (0.11)	0.14 (0.11)	0.29 (0.12)	0.16 (0.12)	3.8 (0.11)	0.71 J (1.1)	0.092 J (0.11)	0.12 (0.11)	1.5 (0.11)	0.1 J (0.11)
Benzo(a)pyrene	91	46	0.77 (0.16)	0.69 (0.15)	0.32 (0.15)	0.19 (0.15)	0.25 (0.15)	0.39 (0.16)	0.18 (0.15)	3.7 (0.15)	0.54 J (1.5)	U (0.14)	0.11 J (0.15)	0.9 (0.15)	0.11 J (0.14)
Benzo(b)fluoranthene	76	170	0.94 (0.12)	0.31 (0.11)	0.34 (0.11)	0.13 (0.11)	0.14 (0.11)	0.3 (0.12)	0.087 J (0.12)	3.9 (0.11)	0.4 J (1.1)	U (0.11)	0.075 J (0.11)	0.91 (0.11)	0.13 (0.11)
Benzo(g,h,i)perylene	190000	180	0.51 (0.16)	0.94 (0.15)	0.21 (0.15)	0.17 (0.15)	0.32 (0.15)	0.34 (0.16)	0.24 (0.15)	1.5 (0.15)	0.36 J (1.5)	0.15 (0.14)	0.1 J (0.15)	0.38 (0.15)	0.063 J (0.14)
Chrysene	760	230	0.84 (0.12)	0.51 (0.11)	0.32 (0.11)	0.22 (0.11)	0.28 (0.11)	0.54 (0.12)	0.24 (0.12)	3.5 (0.11)	0.82 J (1.1)	0.3 (0.11)	0.15 (0.11)	3.1 (0.11)	0.092 J (0.11)
Fluorene	130000	3800	0.1 J (0.19)	U (0.18)	0.032 J (0.19)	0.19 (0.19)	0.47 (0.19)	0.63 (0.19)	0.35 (0.19)	0.5 (0.19)	3.6 (1.8)	1.1 (0.18)	0.69 (0.19)	0.23 (0.18)	U (0.18)
Naphthalene	66	25	0.043 (0.039)	U (0.037)	0.057 (0.038)	0.76 (0.038)	2.2 (0.038)	3.1 (0.039)	1.6 (0.039)	0.69 (0.038)	0.41 (0.37)	U (0.036)	0.13 (0.038)	0.23 (0.037)	U (0.036)
Phenanthrene	190000	10000	0.53 (0.12)	0.029 J (0.11)	0.56 (0.11)	0.62 (0.11)	0.76 (0.11)	1.3 (0.12)	0.76 (0.12)	8.9 (1.1)	9.7 (1.1)	1.4 (0.11)	1.7 (0.11)	0.65 (0.11)	0.09 J (0.11)
Pyrene	96000	2200	1.1 (0.12)	0.22 (0.11)	0.49 (0.11)	0.4 (0.11)	0.39 (0.11)	0.79 (0.12)	0.47 (0.12)	7.1 (0.11)	4.7 (1.1)	0.32 (0.11)	0.7 (0.11)	0.65 (0.11)	0.14 (0.11)
Metals															
Lead	1000	450	122 (2.34)	36.9 (2.18)	156 (2.24)	194 (2.27)	684 (2.22)	158 (2.31)	489 (2.32)	274 (2.25)	145 (2.09)	177 (2.11)	70.6 (2.15)	104 (2.12)	83.7 (2.13)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell Field Sample ID Sample Date	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Value (mg/kg)	LS-A-E02-C2	LS-A-E02-C3	LS-A-E02-C4	LS-A-E02-C5	LS-A-E03-C1	LS-A-E03-C2	LS-A-E03-C3	LS-A-E03-C4	LS-A-E03-C5	LS-A-E04-C1	LS-A-E04-C2	LS-A-E05-C1	LS-A-E05-C2
			LS-A-E02	LS-A-E02	LS-A-E02	LS-A-E02	LS-A-E03	LS-A-E03	LS-A-E03	LS-A-E03	LS-A-E03	LS-A-E04	LS-A-E04	LS-A-E05	LS-A-E05
			LS-A-E02-C2-COMP	LS-A-E02-C3-COMP	LS-A-E02-C4-COMP	LS-A-E02-C5-COMP	LS-A-E03-C1-COMP	LS-A-E03-C2-COMP	LS-A-E03-C3-COMP	LS-A-E03-C4-COMP	LS-A-E03-C5-COMP	LS-A-E04-C1-COMP	LS-A-E04-C2-COMP	LS-A-E05-C1-COMP	LS-A-E05-C2-COMP
			5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023
PAHs															
Anthracene	190000	350	U (0.11)	U (0.11)	U (1.1)	U (1.2)	U (0.12)	U (0.13)	U (1.2)	U (1.2)	0.33 J (0.6)	0.63 J (1.1)	0.42 J (0.56)	1.5 (1.2)	4.5 (1.2)
Benzo(a)anthracene	130	340	0.067 J (0.11)	0.12 (0.11)	0.24 J (1.1)	0.39 J (1.2)	0.054 J (0.12)	0.029 J (0.13)	U (1.2)	0.44 J (1.2)	0.36 J (0.6)	0.41 J (1.1)	1 (0.56)	3 (1.2)	7.7 (1.2)
Benzo(a)pyrene	91	46	0.074 J (0.14)	0.12 J (0.14)	U (1.4)	0.63 J (1.5)	0.078 J (0.16)	U (0.17)	U (1.6)	0.66 J (1.6)	U (0.79)	U (1.5)	1 (0.75)	2.4 (1.6)	4.4 (1.6)
Benzo(b)fluoranthene	76	170	0.083 J (0.11)	0.14 (0.11)	U (1.1)	U (1.2)	0.056 J (0.12)	0.042 J (0.13)	U (1.2)	0.38 J (1.2)	0.24 J (0.6)	U (1.1)	0.75 (0.56)	1.5 (1.2)	2.1 (1.2)
Benzo(g,h,i)perylene	190000	180	0.053 J (0.14)	0.075 J (0.14)	0.21 J (1.4)	0.49 J (1.5)	0.073 J (0.16)	0.038 J (0.17)	U (1.6)	0.72 J (1.6)	0.12 J (0.79)	U (1.5)	0.59 J (0.75)	1.3 J (1.6)	2.8 (1.6)
Chrysene	760	230	0.065 J (0.11)	0.11 (0.11)	0.4 J (1.1)	0.69 J (1.2)	0.075 J (0.12)	0.027 J (0.13)	0.24 J (1.2)	0.61 J (1.2)	0.72 (0.6)	0.88 J (1.1)	2.2 (0.56)	5 (1.2)	13 (1.2)
Fluorene	130000	3800	U (0.18)	U (0.18)	U (1.8)	0.59 J (1.9)	0.03 J (0.19)	U (0.22)	U (1.9)	0.29 J (2)	0.78 J (0.99)	1.4 J (1.9)	0.46 J (0.94)	1.8 J (2.1)	11 (1.9)
Naphthalene	66	25	U (0.036)	U (0.036)	U (0.36)	U (0.39)	U (0.039)	0.029 J (0.043)	0.37 J (0.39)	0.39 (0.39)	U (0.2)	0.27 J (0.38)	0.32 (0.19)	0.99 (0.41)	1.5 (0.39)
Phenanthrene	190000	10000	0.058 J (0.11)	0.11 (0.11)	0.26 J (1.1)	1.3 (1.2)	0.069 J (0.12)	0.044 J (0.13)	0.25 J (1.2)	1.2 (1.2)	3.2 (0.6)	4.8 (1.1)	2 (0.56)	7.4 (1.2)	39 (1.2)
Pyrene	96000	2200	0.11 (0.11)	0.17 (0.11)	0.75 J (1.1)	1.8 (1.2)	0.16 (0.12)	0.04 J (0.13)	0.27 J (1.2)	0.51 J (1.2)	1 (0.6)	1.1 (1.1)	1.6 (0.56)	6.7 (1.2)	17 (1.2)
Metals															
Lead	1000	450	22.3 (2.1)	216 (2.12)	53.7 (2.17)	56.1 (2.3)	62.9 (2.27)	381 (2.49)	58.7 (2.28)	256 (2.34)	54.4 (2.34)	133 (2.23)	82.5 (2.23)	634 (2.4)	222 (2.29)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell Field Sample ID Sample Date	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Value (mg/kg)	LS-A-E05-C3	LS-A-E06-C1	LS-A-E06-C2	LS-A-E07-C1	LS-A-E08-C1	LS-A-E08-C2	LS-A-E08-C3	LS-A-F01-C1	LS-A-F03-C1	LS-A-F04-C1	LS-A-F05-C1	LS-A-G01-C1	LS-A-G01-C2	
			LS-A-E05	LS-A-E06	LS-A-E06	LS-A-E07	LS-A-E08	LS-A-E08	LS-A-E08	LS-A-F01	LS-A-F03	LS-A-F04	LS-A-F05	LS-A-G01	LS-A-G01	
			LS-A-E05-C3-COMP	LS-A-E06-C1-COMP	LS-A-E06-C2-COMP	LS-A-E07-C1-COMP	LS-A-E08-C1-COMP	LS-A-E08-C2-COMP	LS-A-E08-C3-COMP	LS-A-F01-C1-COMP	LS-A-F03-C1-COMP	LS-A-F04-C1-COMP	LS-A-F05-C1-COMP	LS-A-G01-C1-COMP	LS-A-G01-C2-COMP	
			5/5/2023	5/8/2023	5/8/2023	5/8/2023	5/8/2023	5/8/2023	5/8/2023	5/9/2023	5/8/2023	5/25/2023	5/25/2023	5/22/2023	5/22/2023	
PAHs																
Anthracene	190000	350	1.2 (0.61)	0.21 (0.11)	0.15 (0.11)	0.16 (0.12)	0.14 (0.13)	0.19 (0.12)	0.093 J (0.12)	0.72 (0.55)	0.44 (0.12)	0.3 (0.11)	0.28 (0.11)	U (0.1)	0.067 J (0.1)	
Benzo(a)anthracene	130	340	1.3 (0.61)	0.31 (0.11)	0.32 (0.11)	1.3 (0.12)	0.16 (0.13)	0.56 (0.12)	0.057 J (0.12)	4 (0.55)	0.64 (0.12)	0.88 (0.11)	1.2 (0.11)	U (0.1)	0.2 (0.1)	
Benzo(a)pyrene	91	46	0.65 J (0.81)	0.31 (0.15)	0.35 (0.14)	1.3 (0.15)	0.14 J (0.17)	0.39 (0.17)	U (0.16)	10 (0.74)	0.65 (0.16)	1.5 (0.15)	1.3 (0.15)	U (0.14)	0.18 (0.14)	
Benzo(b)fluoranthene	76	170	0.28 J (0.61)	0.32 (0.11)	0.34 (0.11)	0.79 (0.12)	0.16 (0.13)	0.23 (0.12)	0.034 J (0.12)	5.4 (0.55)	0.47 (0.12)	1.2 (0.11)	1.5 (0.11)	U (0.1)	0.2 (0.1)	
Benzo(g,h,i)perylene	190000	180	0.4 J (0.81)	0.21 (0.15)	0.29 (0.14)	1.6 (0.15)	0.13 J (0.17)	0.26 (0.17)	0.029 J (0.16)	10 (0.74)	0.37 (0.16)	1.1 (0.15)	0.84 (0.15)	U (0.14)	0.13 J (0.14)	
Chrysene	760	230	2.2 (0.61)	0.39 (0.11)	0.43 (0.11)	2 (0.12)	0.22 (0.13)	1.1 (0.12)	0.091 J (0.12)	4.8 (0.55)	1.4 (0.12)	1.4 (0.11)	1.1 (0.11)	U (0.1)	0.2 (0.1)	
Fluorene	130000	3800	2.9 (1)	0.31 (0.19)	0.18 (0.18)	0.067 J (0.19)	0.23 (0.22)	0.34 (0.21)	0.25 (0.2)	1.2 (0.92)	0.83 (0.2)	0.29 (0.18)	0.073 J (0.19)	U (0.17)	0.03 J (0.17)	
Naphthalene	66	25	0.62 (0.2)	0.069 (0.037)	0.072 (0.036)	0.051 (0.038)	0.099 (0.044)	0.048 (0.042)	0.044 (0.039)	0.25 (0.18)	0.048 (0.04)	0.22 (0.037)	0.14 (0.037)	U (0.034)	0.042 (0.034)	
Phenanthrene	190000	10000	6.3 (0.61)	0.46 (0.11)	0.31 (0.11)	0.16 (0.12)	0.5 (0.13)	0.74 (0.12)	0.26 (0.12)	1.8 (0.55)	5.6 (0.12)	0.84 (0.11)	1.1 (0.11)	U (0.1)	0.18 (0.1)	
Pyrene	96000	2200	2.7 (0.61)	0.51 (0.11)	0.54 (0.11)	1.1 (0.12)	0.35 (0.13)	0.86 (0.12)	0.13 (0.12)	3.3 (0.55)	1.2 (0.12)	1.4 (0.11)	1.9 (0.11)	U (0.1)	0.27 (0.1)	
Metals																
Lead	1000	450	314 (2.33)	96.7 (2.15)	148 (2.07)	75.6 (2.24)	238 (2.55)	171 (2.45)	81 (2.27)	143 (2.17)	409 (2.4)	252 (2.19)	649 (2.21)	3.81 (2.04)	64 (2.04)	

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	LS-A-G01-C3	LS-A-G02-C1	LS-A-G02-C2	LS-A-G02-C3	LS-A-G03-C1	LS-A-G03-C2	LS-A-G04-C1	LS-A-G04-C2	LS-A-G04-C3	LS-A-G05-C1	LS-A-G05-C2	LS-A-G05-C3	LS-A-G05-C4
			LS-A-G01	LS-A-G02	LS-A-G02	LS-A-G02	LS-A-G03	LS-A-G03	LS-A-G04	LS-A-G04	LS-A-G04	LS-A-G05	LS-A-G05	LS-A-G05	LS-A-G05
Field Sample ID	Value (0-2 ft bgs)	Value	LS-A-G01-C3-COMP	LS-A-G02-C1-COMP	LS-A-G02-C2-COMP	LS-A-G02-C3-COMP	LS-A-G03-C1-COMP	LS-A-G03-C2-COMP	LS-A-G04-C1-COMP	LS-A-G04-C2-COMP	LS-A-G04-C3-COMP	LS-A-G05-C1-COMP	LS-A-G05-C2-COMP	LS-A-G05-C3-COMP	LS-A-G05-C4-COMP
Sample Date	(mg/kg)	(mg/kg)	5/22/2023	5/11/2023	5/11/2023	5/11/2023	5/10/2023	5/10/2023	5/11/2023	5/11/2023	5/11/2023	5/10/2023	5/10/2023	5/10/2023	5/10/2023
PAHs															
Anthracene	190000	350	0.29 (0.1)	0.17 (0.1)	0.45 J (0.52)	1 (0.53)	0.25 (0.11)	0.41 (0.11)	14 (0.52)	12 (0.51)	3.2 (0.55)	U (0.52)	1.6 (0.56)	0.6 (0.1)	0.57 (0.1)
Benzo(a)anthracene	130	340	0.58 (0.1)	0.17 (0.1)	0.5 J (0.52)	0.43 J (0.53)	0.24 (0.11)	0.42 (0.11)	5.8 (0.52)	9.6 (0.51)	2.4 (0.55)	0.94 (0.52)	3.8 (0.56)	0.9 (0.1)	1.6 (0.1)
Benzo(a)pyrene	91	46	0.54 (0.14)	0.2 (0.14)	0.42 J (0.69)	0.35 J (0.71)	0.25 (0.14)	0.37 (0.14)	4.9 (0.7)	6.6 (0.69)	1.7 (0.74)	1.6 (0.69)	3.5 (0.75)	0.66 (0.14)	1 (0.14)
Benzo(b)fluoranthene	76	170	0.67 (0.1)	0.13 (0.1)	0.35 J (0.52)	0.31 J (0.53)	0.17 (0.11)	0.35 (0.11)	5.1 (0.52)	7.7 (0.51)	1.7 (0.55)	0.87 (0.52)	2.4 (0.56)	0.44 (0.1)	0.45 (0.1)
Benzo(g,h,i)perylene	190000	180	0.38 (0.14)	0.17 (0.14)	0.36 J (0.69)	0.3 J (0.71)	0.22 (0.14)	0.24 (0.14)	3.1 (0.7)	3.7 (0.69)	0.84 (0.74)	1.9 (0.69)	2.3 (0.75)	0.38 (0.14)	0.56 (0.14)
Chrysene	760	230	0.58 (0.1)	0.26 (0.1)	0.93 (0.52)	0.86 (0.53)	0.32 (0.11)	0.51 (0.11)	5.9 (0.52)	7.6 (0.51)	2.5 (0.55)	1.2 (0.52)	4.1 (0.56)	0.97 (0.1)	1.6 (0.1)
Fluorene	130000	3800	0.17 (0.17)	0.18 (0.17)	0.77 J (0.86)	2 (0.89)	0.36 (0.18)	0.58 (0.18)	11 (0.87)	17 (0.86)	4.3 (0.92)	U (0.86)	1.1 (0.93)	0.73 (0.17)	0.37 (0.17)
Naphthalene	66	25	0.2 (0.034)	0.064 (0.035)	0.16 J (0.17)	0.37 (0.18)	1.5 (0.036)	0.56 (0.036)	0.57 (0.17)	0.13 J (0.17)	0.23 (0.18)	0.1 J (0.17)	1.2 (0.19)	0.48 (0.035)	0.18 (0.034)
Phenanthrene	190000	10000	1 (0.1)	0.74 (0.1)	2.1 (0.52)	5.2 (0.53)	1 (0.11)	2.1 (0.11)	39 (2.6)	54 (2.6)	14 (0.55)	0.2 J (0.52)	1.2 (0.56)	1.5 (0.1)	0.7 (0.1)
Pyrene	96000	2200	0.88 (0.1)	0.49 (0.1)	1.5 (0.52)	1.1 (0.53)	0.52 (0.11)	0.95 (0.11)	20 (0.52)	34 (0.51)	7.3 (0.55)	0.7 (0.52)	4.4 (0.56)	1.5 (0.1)	2.2 (0.1)
Metals															
Lead	1000	450	116 (1.96)	39.2 (2.06)	17.4 (2.03)	50.8 (2.08)	95.1 (2.03)	23.3 (2.11)	26.5 (2.11)	10.5 (2.06)	5.7 (2.2)	96.5 (2.04)	179 (2.15)	5.6 (2.06)	6.91 (2)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
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Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	LS-A-G05-C5	LS-A-G06-C1	LS-A-G06-C2	LS-A-G07-C1	LS-A-G08-C1	LS-A-H01-C1	LS-A-H01-C2	LS-A-H01-C3	LS-A-H02-C1	LS-A-H02-C2	LS-A-H02-C3	LS-A-H02-C4	LS-A-H02-C5
			LS-A-G05	LS-A-G06	LS-A-G06	LS-A-G07	LS-A-G08	LS-A-H01	LS-A-H01	LS-A-H01	LS-A-H02	LS-A-H02	LS-A-H02	LS-A-H02	LS-A-H02
Field Sample ID	Value (0-2 ft bgs)	Value	LS-A-G05-C5-COMP	LS-A-G06-C1-COMP	LS-A-G06-C2-COMP	LS-A-G07-C1-COMP	LS-A-G08-C1-COMP	LS-A-H01-C1-COMP	LS-A-H01-C2-COMP	LS-A-H01-C3-COMP	LS-A-H02-C1-COMP	LS-A-H02-C2-COMP	LS-A-H02-C3-COMP	LS-A-H02-C4-COMP	LS-A-H02-C5-COMP
Sample Date	(mg/kg)	(mg/kg)	5/10/2023	5/22/2023	5/22/2023	5/24/2023	5/24/2023	5/11/2023	5/11/2023	5/11/2023	5/18/2023	5/18/2023	5/18/2023	5/18/2023	5/18/2023
PAHs															
Anthracene	190000	350	0.64 (0.1)	1.5 (0.12)	0.24 J (0.57)	U (0.13)	0.83 (0.11)	0.083 J (0.11)	U (0.52)	0.56 (0.51)	0.28 (0.11)	3.2 (1.2)	2.3 (0.55)	1.3 (0.55)	0.99 (0.54)
Benzo(a)anthracene	130	340	0.48 (0.1)	5.2 (0.12)	0.87 (0.57)	0.098 J (0.13)	4 (0.11)	0.09 J (0.11)	U (0.52)	0.26 J (0.51)	0.84 (0.11)	2.3 (1.2)	2.1 (0.55)	1.6 (0.55)	3.3 (0.54)
Benzo(a)pyrene	91	46	0.24 (0.14)	7.2 (0.16)	1.7 (0.76)	0.11 J (0.18)	6 (0.14)	0.096 J (0.14)	U (0.7)	U (0.68)	1.7 (0.15)	1.8 (1.6)	1.2 (0.73)	1.3 (0.73)	3 (0.72)
Benzo(b)fluoranthene	76	170	0.16 (0.1)	8 (0.6)	2.2 (0.57)	0.14 (0.13)	6.4 (0.11)	0.11 (0.11)	U (0.52)	0.2 J (0.51)	1.3 (0.11)	0.89 J (1.2)	0.64 (0.55)	0.88 (0.55)	2.5 (0.54)
Benzo(g,h,i)perylene	190000	180	0.32 (0.14)	5.3 (0.16)	2.6 (0.76)	0.072 J (0.18)	3.3 (0.14)	0.094 J (0.14)	U (0.7)	0.12 J (0.68)	1.4 (0.15)	1.5 J (1.6)	1.3 (0.73)	1.9 (0.73)	3 (0.72)
Chrysene	760	230	0.76 (0.1)	4.5 (0.12)	1.3 (0.57)	0.11 J (0.13)	3.4 (0.11)	0.12 (0.11)	U (0.52)	0.88 (0.51)	1.1 (0.11)	4 (1.2)	2.8 (0.55)	2.4 (0.55)	3.8 (0.54)
Fluorene	130000	3800	1.5 (0.17)	0.45 (0.2)	0.53 J (0.95)	U (0.22)	0.1 J (0.18)	0.039 J (0.18)	U (0.87)	1.6 (0.84)	0.21 (0.19)	1.8 J (2)	1.1 (0.92)	1.2 (0.91)	0.9 (0.9)
Naphthalene	66	25	0.65 (0.034)	0.42 (0.04)	0.75 (0.19)	0.047 (0.045)	0.29 (0.036)	0.074 (0.035)	U (0.17)	U (0.17)	0.35 (0.038)	0.64 (0.4)	0.47 (0.18)	0.44 (0.18)	0.58 (0.18)
Phenanthrene	190000	10000	3.5 (0.1)	4.7 (0.12)	0.84 (0.57)	0.12 J (0.13)	3 (0.11)	0.36 (0.11)	U (0.52)	1.2 (0.51)	0.85 (0.11)	8.9 (1.2)	5.5 (0.55)	4.9 (0.55)	4.1 (0.54)
Pyrene	96000	2200	1 (0.1)	5.4 (0.12)	1.2 (0.57)	0.15 (0.13)	3.4 (0.11)	0.14 (0.11)	U (0.52)	0.89 (0.51)	0.83 (0.11)	8 (1.2)	5.9 (0.55)	3.4 (0.55)	4.1 (0.54)
Metals															
Lead	1000	450	3.52 (2.02)	281 (2.26)	386 (2.22)	165 (2.6)	94.1 (2.2)	48.5 (2.09)	33.6 (2.01)	13.9 (1.98)	157 (2.33)	176 (2.3)	90.2 (2.22)	51 (2.2)	37.9 (2.09)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	LS-A-H03-C1	LS-A-H03-C2	LS-A-H03-C3	LS-A-H04-C1	LS-A-H04-C2	LS-A-H04-C3	LS-A-H05-C1	LS-A-H05-C2	LS-A-H06-C1	LS-A-H07-C1	LS-A-I01-C1	LS-A-I02-C1	LS-A-I03-C1
			LS-A-H03	LS-A-H03	LS-A-H03	LS-A-H04	LS-A-H04	LS-A-H04	LS-A-H05	LS-A-H05	LS-A-H06	LS-A-H07	LS-A-I01	LS-A-I02	LS-A-I03
Field Sample ID	Value (0-2 ft bgs)	Value	LS-A-H03-C1-COMP	LS-A-H03-C2-COMP	LS-A-H03-C3-COMP	LS-A-H04-C1-COMP	LS-A-H04-C2-COMP	LS-A-H04-C3-COMP	LS-A-H05-C1-COMP	LS-A-H05-C2-COMP	LS-A-H06-C1-COMP	LS-A-H07-C1-COMP	LS-A-I01-C1-COMP	LS-A-I02-C1-COMP	LS-A-I03-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	5/12/2023	5/12/2023	5/12/2023	5/18/2023	5/18/2023	5/18/2023	5/12/2023	5/12/2023	5/12/2023	5/18/2023	5/23/2023	5/23/2023	5/17/2023
PAHs															
Anthracene	190000	350	0.2 (0.11)	U (0.11)	0.22 J (0.55)	0.44 (0.12)	0.63 (0.11)	0.65 (0.11)	0.15 (0.11)	0.097 J (0.11)	0.44 (0.12)	0.23 J (0.54)	0.33 J (0.57)	0.052 J (0.11)	U (0.12)
Benzo(a)anthracene	130	340	0.21 (0.11)	0.038 J (0.11)	0.28 J (0.55)	0.54 (0.12)	0.59 (0.11)	0.66 (0.11)	0.37 (0.11)	0.054 J (0.11)	1 (0.12)	0.6 (0.54)	1.3 (0.57)	0.15 (0.11)	U (0.12)
Benzo(a)pyrene	91	46	0.14 J (0.15)	U (0.15)	0.23 J (0.73)	0.46 (0.16)	0.88 (0.15)	1.3 (0.15)	U (0.14)	U (0.14)	0.74 (0.16)	0.61 J (0.72)	1.6 (0.76)	0.18 (0.14)	U (0.15)
Benzo(b)fluoranthene	76	170	0.12 (0.11)	0.04 J (0.11)	0.24 J (0.55)	0.6 (0.12)	0.68 (0.11)	0.72 (0.11)	U (0.11)	U (0.11)	0.5 (0.12)	0.66 (0.54)	1.2 (0.57)	0.18 (0.11)	U (0.12)
Benzo(g,h,i)perylene	190000	180	0.076 J (0.15)	0.037 J (0.15)	0.16 J (0.73)	0.47 (0.16)	1 (0.15)	1.6 (0.15)	U (0.14)	U (0.14)	0.62 (0.16)	0.41 J (0.72)	1.9 (0.76)	0.16 (0.14)	0.051 J (0.15)
Chrysene	760	230	0.34 (0.11)	0.081 J (0.11)	0.66 (0.55)	1 (0.12)	1.7 (0.11)	2 (0.11)	0.084 J (0.11)	0.3 (0.11)	1.4 (0.12)	0.64 (0.54)	1.9 (0.57)	0.22 (0.11)	0.036 J (0.12)
Fluorene	130000	3800	0.44 (0.19)	0.042 J (0.19)	0.5 J (0.92)	1.1 (0.2)	1.4 (0.19)	1.3 (0.19)	0.54 (0.18)	0.3 (0.18)	0.49 (0.2)	0.1 J (0.9)	0.32 J (0.95)	0.03 J (0.18)	0.042 J (0.19)
Naphthalene	66	25	0.038 (0.038)	U (0.038)	U (0.18)	0.4 (0.039)	0.98 (0.038)	1.4 (0.038)	0.053 (0.036)	0.022 J (0.036)	0.075 (0.04)	U (0.18)	0.43 (0.19)	0.076 (0.036)	U (0.039)
Phenanthrene	190000	10000	1.4 (0.11)	0.14 (0.11)	1.5 (0.55)	0.72 (0.12)	2.7 (0.11)	3.6 (0.11)	1.3 (0.11)	0.52 (0.11)	1.6 (0.12)	0.53 J (0.54)	1.6 (0.57)	0.11 (0.11)	U (0.12)
Pyrene	96000	2200	0.32 (0.11)	U (0.11)	0.64 (0.55)	0.88 (0.12)	0.85 (0.11)	1 (0.11)	0.27 (0.11)	0.12 (0.11)	1.9 (0.12)	0.95 (0.54)	1.2 (0.57)	0.25 (0.11)	0.062 J (0.12)
Metals															
Lead	1000	450	32.9 (2.25)	94.2 (2.25)	14.7 (2.21)	54.1 (2.3)	63.9 (2.27)	18.1 (2.2)	49.4 (2.2)	20.4 (2.15)	485 (2.38)	41.6 (2.14)	579 (2.3)	69.4 (2.15)	10.6 (2.3)

Notes:

- Concentrations are presented in mg/kg.
- Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	LS-A-103-C2	LS-A-103-C3	LS-A-103-C4	LS-A-104-C1	LS-A-104-C2	LS-B-B01-C1	LS-B-B02-C1	LS-B-B03-C1	LS-B-C01-C1	LS-B-D01-C1	LS-B-D01-C2	LS-B-E01-C1	LS-B-E01-C2
			LS-A-103	LS-A-103	LS-A-103	LS-A-104	LS-A-104	LS-B-B01	LS-B-B02	LS-B-B03	LS-B-C01	LS-B-D01	LS-B-D01	LS-B-E01	LS-B-E01
Field Sample ID	Value (0-2 ft bgs)	Value	LS-A-103-C2-COMP	LS-A-103-C3-COMP	LS-A-103-C4-COMP	LS-A-104-C1-COMP	LS-A-104-C2-COMP	LS-B-B01-C1-COMP	LS-B-B02-C1-COMP	LS-B-B03-C1-COMP	LS-B-C01-C1-COMP	LS-B-D01-C1-COMP	LS-B-D01-C2-COMP	LS-B-E01-C1-COMP	LS-B-E01-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	5/17/2023	5/17/2023	5/17/2023	5/17/2023	5/17/2023	5/9/2023	5/9/2023	5/9/2023	5/9/2023	5/9/2023	5/9/2023	5/5/2023	5/5/2023
PAHs															
Anthracene	190000	350	0.12 (0.12)	U (0.12)	U (0.11)	U (0.56)	0.17 (0.11)	0.17 J (0.38)	1.3 J (1.6)	22 (2.9)	0.66 (0.63)	0.12 J (0.14)	U (0.12)	0.11 (0.11)	0.082 J (0.12)
Benzo(a)anthracene	130	340	0.18 (0.12)	U (0.12)	0.029 J (0.11)	0.4 J (0.56)	0.18 (0.11)	0.67 (0.38)	1.1 J (1.6)	27 (2.9)	0.53 J (0.63)	0.5 (0.14)	U (0.12)	0.16 (0.11)	0.22 (0.12)
Benzo(a)pyrene	91	46	0.17 (0.16)	U (0.15)	U (0.14)	0.26 J (0.74)	0.14 J (0.15)	0.82 (0.51)	0.8 J (2.1)	21 (3.9)	0.52 J (0.84)	0.52 (0.19)	U (0.16)	0.16 (0.15)	0.16 (0.16)
Benzo(b)fluoranthene	76	170	0.14 (0.12)	U (0.12)	U (0.11)	0.38 J (0.56)	0.19 (0.11)	0.7 (0.38)	0.84 J (1.6)	26 (2.9)	0.4 J (0.63)	0.57 (0.14)	U (0.12)	0.18 (0.11)	0.16 (0.12)
Benzo(g,h,i)perylene	190000	180	0.13 J (0.16)	U (0.15)	0.055 J (0.14)	0.28 J (0.74)	0.093 J (0.15)	0.54 (0.51)	0.5 J (2.1)	9.8 (3.9)	0.46 J (0.84)	0.29 (0.19)	U (0.16)	0.14 J (0.15)	0.16 (0.16)
Chrysene	760	230	0.21 (0.12)	0.022 J (0.12)	0.046 J (0.11)	0.95 (0.56)	0.7 (0.11)	1.1 (0.38)	1.2 J (1.6)	24 (2.9)	1.1 (0.63)	0.55 (0.14)	0.028 J (0.12)	0.23 (0.11)	0.35 (0.12)
Fluorene	130000	3800	0.068 J (0.2)	0.034 J (0.19)	0.058 J (0.18)	0.21 J (0.93)	0.26 (0.19)	0.062 J (0.64)	1.6 J (2.6)	22 (4.8)	1.8 (1)	0.034 J (0.23)	0.06 J (0.2)	0.14 J (0.19)	0.098 J (0.2)
Naphthalene	66	25	0.04 (0.039)	U (0.038)	U (0.036)	U (0.18)	0.035 J (0.037)	0.21 (0.13)	11 (0.53)	52 (0.97)	2.1 (0.21)	0.029 J (0.047)	1.2 (0.04)	0.046 (0.037)	0.03 J (0.041)
Phenanthrene	190000	10000	0.098 J (0.12)	0.049 J (0.12)	0.085 J (0.11)	0.62 (0.56)	0.7 (0.11)	0.69 (0.38)	4.1 (1.6)	83 (2.9)	4.5 (0.63)	0.52 (0.14)	0.16 (0.12)	0.43 (0.11)	0.19 (0.12)
Pyrene	96000	2200	0.35 (0.12)	0.037 J (0.12)	0.064 J (0.11)	0.27 J (0.56)	0.38 (0.11)	1 (0.38)	1.9 (1.6)	48 (2.9)	1.4 (0.63)	0.71 (0.14)	0.033 J (0.12)	0.27 (0.11)	0.25 (0.12)
Metals															
Lead	1000	450	34.4 (2.28)	85.1 (2.29)	6.79 (2.06)	16.8 (2.18)	54 (2.18)	326 (2.59)	181 (2.04)	104 (2.32)	79.5 (2.5)	165 (2.8)	13 (2.38)	91.6 (2.13)	455 (2.48)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2a
Stockpile or Cut Soil Analytical Results - PAHs and Lead
Innovation Campus
Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	LS-B-E01-C3	LS-B-F01-C1	LS-B-G01-C1	LS-B-G01-C2	LS-B-G02-C1	LS-B-G02-C2	LS-B-G02-C3	LS-B-G02-C4	LS-B-H01-C1	LS-B-H02-C1	LS-B-H02-C2	LS-B-H02-C3
			LS-B-E01	LS-B-F01	LS-B-G01	LS-B-G01	LS-B-G02	LS-B-G02	LS-B-G02	LS-B-G02	LS-B-H01	LS-B-H02	LS-B-H02	LS-B-H02
Field Sample ID	Value (0-2 ft bgs)	Value	LS-B-E01-C3-COMP	LS-B-F01-C1-COMP	LS-B-G01-C1-COMP	LS-B-G01-C2-COMP	LS-B-G02-C1-COMP	LS-B-G02-C2-COMP	LS-B-G02-C3-COMP	LS-B-G02-C4-COMP	LS-B-H01-C1-COMP	LS-B-H02-C1-COMP	LS-B-H02-C2-COMP	LS-B-H02-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	5/24/2023	5/8/2023	5/10/2023	5/10/2023	5/22/2023	5/22/2023	5/22/2023	5/22/2023	5/12/2023	5/17/2023	5/17/2023	5/17/2023
PAHs														
Anthracene	190000	350	0.09 J (0.12)	0.44 J (0.58)	0.68 J (1.1)	0.54 J (0.55)	1 (0.53)	0.78 (0.52)	1.5 (1.1)	U (0.11)	0.058 J (0.11)	0.71 (0.57)	1.3 (0.6)	0.26 (0.11)
Benzo(a)anthracene	130	340	0.09 J (0.12)	1.2 (0.58)	0.61 J (1.1)	0.52 J (0.55)	6.8 (0.53)	4.2 (0.52)	6.8 (1.1)	0.035 J (0.11)	0.039 J (0.11)	0.47 J (0.57)	2.1 (0.6)	0.22 (0.11)
Benzo(a)pyrene	91	46	0.11 J (0.16)	0.87 (0.78)	U (1.4)	U (0.74)	9.8 (0.71)	6.1 (0.69)	8.9 (1.4)	U (0.15)	U (0.15)	0.34 J (0.76)	1.6 (0.8)	0.29 (0.15)
Benzo(b)fluoranthene	76	170	0.096 J (0.12)	0.64 (0.58)	0.35 J (1.1)	U (0.55)	11 (0.53)	7.1 (0.52)	11 (1.1)	U (0.11)	U (0.11)	0.29 J (0.57)	1.9 (0.6)	0.16 (0.11)
Benzo(g,h,i)perylene	190000	180	0.098 J (0.16)	0.53 J (0.78)	0.38 J (1.4)	U (0.74)	6.5 (0.71)	4.3 (0.69)	5.4 (1.4)	U (0.15)	U (0.15)	0.46 J (0.76)	0.99 (0.8)	0.38 (0.15)
Chrysene	760	230	0.15 (0.12)	2.2 (0.58)	0.89 J (1.1)	0.81 (0.55)	6 (0.53)	3.7 (0.52)	6.5 (1.1)	0.04 J (0.11)	0.073 J (0.11)	0.78 (0.57)	2.4 (0.6)	0.42 (0.11)
Fluorene	130000	3800	0.2 (0.2)	0.78 J (0.98)	1 J (1.8)	1 (0.92)	0.18 J (0.88)	0.39 J (0.86)	0.49 J (1.8)	U (0.19)	0.21 (0.19)	3.3 (0.95)	4.7 (1)	1.3 (0.19)
Naphthalene	66	25	0.063 (0.04)	1.5 (0.2)	0.5 (0.36)	2.3 (0.18)	0.43 (0.18)	0.4 (0.17)	1.2 (0.35)	U (0.038)	0.16 (0.038)	0.61 (0.19)	0.69 (0.2)	0.16 (0.038)
Phenanthrene	190000	10000	0.33 (0.12)	2.4 (0.58)	3 (1.1)	3.9 (0.55)	2.9 (0.53)	2.8 (0.52)	5 (1.1)	0.038 J (0.11)	0.48 (0.11)	4.2 (0.57)	9.6 (0.6)	2.8 (0.11)
Pyrene	96000	2200	0.2 (0.12)	1.8 (0.58)	1.8 (1.1)	1 (0.55)	4.6 (0.53)	4.3 (0.52)	6.8 (1.1)	0.037 J (0.11)	U (0.11)	1.2 (0.57)	4.9 (0.6)	0.43 (0.11)
Metals														
Lead	1000	450	115 (2.43)	84.1 (2.34)	149 (2.12)	40.5 (2.15)	180 (2.03)	67.7 (2.08)	30.6 (2.07)	11 (2.24)	11.7 (2.26)	41.3 (2.22)	79.2 (2.36)	30.2 (2.31)

Notes:

- Concentrations are presented in mg/kg.
- Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	201-A01-C1	201-A01-C2	201-A01-CX	201-A01-D1	201-A02-C1	201-A02-C2	201-A02-CX	201-A03-C1	201-A03-C2	201-A03-CX	201-A04-C1	201-A04-C2	201-A04-C3
			201-A01	201-A01	201-A01	201-A01	201-A02	201-A02	201-A02	201-A03	201-A03	201-A03	201-A04	201-A04	201-A04
Field Sample ID	Value (0-2 ft bgs)	Value	201-A01-C1-COMP	201-A01-C2-COMP	201-A01-CX-COMP	201-A01-D1-COMP	201-A02-C1-COMP	201-A02-C2-COMP	201-A02-CX-COMP	201-A03-C1-COMP	201-A03-C2-COMP	201-A03-CX-COMP	201-A04-C1-COMP	201-A04-C2-COMP	201-A04-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	1/17/2022	1/17/2022	1/17/2022	3/28/2023	1/18/2022	1/18/2022	1/18/2022	1/18/2022	1/18/2022	1/18/2022	1/19/2022	1/19/2022	1/19/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	0.59 (0.12)	1.3 (0.12)	U (0.12)	0.16 (0.12)	U (0.12)	U (0.12)	0.039 J (0.12)	0.2 (0.11)	0.19 (0.12)	0.094 J (0.11)
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.12)	1 (0.12)	3.2 (0.12)	0.031 J (0.12)	0.44 (0.12)	0.044 J (0.12)	U (0.12)	0.038 J (0.12)	1.6 (0.11)	0.21 (0.12)	0.12 (0.11)
Benzo(a)pyrene	91	46	U (0.17)	U (0.16)	U (0.16)	0.99 (0.16)	2.7 (0.16)	U (0.16)	0.36 (0.16)	U (0.16)	U (0.16)	U (0.16)	3.3 (0.15)	0.17 (0.16)	0.11 J (0.15)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	1.2 (0.12)	3.2 (0.12)	U (0.12)	0.42 (0.12)	0.04 J (0.12)	U (0.12)	U (0.12)	3.2 (0.11)	0.2 (0.12)	0.13 (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.17)	U (0.16)	U (0.16)	0.52 (0.16)	1.4 (0.16)	U (0.16)	0.18 (0.16)	U (0.16)	U (0.16)	U (0.16)	2 (0.15)	0.067 J (0.16)	0.055 J (0.15)
Chrysene	760	230	U (0.12)	U (0.12)	U (0.12)	0.99 (0.12)	3.2 (0.12)	0.063 J (0.12)	0.45 (0.12)	0.041 J (0.12)	U (0.12)	0.033 J (0.12)	1.4 (0.11)	0.19 (0.12)	0.11 (0.11)
Fluorene	130000	3800	U (0.21)	U (0.2)	U (0.2)	0.36 (0.2)	0.53 (0.2)	0.031 J (0.2)	0.17 J (0.2)	0.093 J (0.2)	U (0.21)	0.098 J (0.2)	0.08 J (0.19)	0.3 (0.2)	0.13 J (0.19)
Naphthalene	66	25	0.037 J (0.21)	0.045 J (0.2)	U (0.2)	0.15 (0.041)	1.2 (0.2)	0.47 (0.2)	1.6 (0.2)	3.4 (0.2)	0.37 (0.21)	4.7 (0.2)	2.4 (0.19)	2.4 (0.2)	1.5 (0.19)
Phenanthrene	190000	10000	U (0.12)	U (0.12)	U (0.12)	2.5 (0.12)	5.6 (0.12)	0.098 J (0.12)	0.93 (0.12)	0.15 (0.12)	0.026 J (0.12)	0.2 (0.12)	0.55 (0.11)	0.75 (0.12)	0.35 (0.11)
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.12)	2 (0.12)	5 (0.12)	0.028 J (0.12)	0.62 (0.12)	0.069 J (0.12)	U (0.12)	0.089 J (0.12)	1.1 (0.11)	0.5 (0.12)	0.29 (0.11)
Metals															
Lead	1000	450	7.91 (4.73)	13.6 (4.69)	13.4 (4.6)	<u>2540 (2.4)</u>	10.9 (4.69)	6.32 (4.65)	7.34 (4.77)	19.5 (4.62)	78 (4.86)	9.68 (4.67)	47.2 (4.39)	47.5 (2.37)	17.8 (2.18)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	201-A04-CX 201-A04	201-A05-C1 201-A05	201-A05-C2 201-A05	201-A05-C3 201-A05	201-A05-CX 201-A05	201-A06-C1 201-A06	201-A06-C2 201-A06	201-A06-CX 201-A06	201-A07-C1 201-A07	201-A07-C2 201-A07	201-A07-CX 201-A07	201-A08-C1 201-A08	201-A08-C2 201-A08
Field Sample ID	Value (0-2 ft bgs)	Value	201-A04-CX-COMP	201-A05-C1-COMP	201-A05-C2-COMP	201-A05-C3-COMP	201-A05-CX-COMP	201-A06-C1-COMP	201-A06-C2-COMP	201-A06-CX-COMP	201-A07-C1-COMP	201-A07-C2-COMP	201-A07-CX-COMP	201-A08-C1-COMP	201-A08-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	1/19/2022	1/19/2022	1/19/2022	1/19/2022	1/19/2022	1/21/2022	1/21/2022	1/21/2022	1/19/2022	1/19/2022	1/19/2022	1/20/2022	1/20/2022
PAHs															
Anthracene	190000	350	0.2 (0.12)	U (0.13)	U (0.12)	U (0.11)	0.096 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	0.34 (0.12)	0.028 J (0.13)	U (0.12)	0.029 J (0.11)	0.11 (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)pyrene	91	46	0.4 (0.16)	U (0.17)	U (0.16)	U (0.15)	0.18 (0.14)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.16)	U (0.15)
Benzo(b)fluoranthene	76	170	0.45 (0.12)	U (0.13)	U (0.12)	U (0.11)	0.18 (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	0.22 (0.16)	U (0.17)	U (0.16)	U (0.15)	0.12 J (0.14)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.16)	U (0.15)
Chrysene	760	230	0.34 (0.12)	0.042 J (0.13)	0.04 J (0.12)	0.083 J (0.11)	0.18 (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Fluorene	130000	3800	0.24 (0.2)	0.083 J (0.22)	0.083 J (0.2)	0.11 J (0.19)	0.41 (0.18)	0.15 J (0.2)	0.031 J (0.2)	U (0.19)	0.021 J (0.19)	U (0.19)	U (0.2)	0.032 J (0.2)	U (0.19)
Naphthalene	66	25	3.7 (0.2)	2 (0.22)	0.25 (0.2)	1.5 (0.19)	0.72 (0.18)	0.078 J (0.2)	0.43 (0.2)	U (0.19)	1.4 (0.19)	0.77 (0.19)	0.22 (0.2)	0.89 (0.2)	0.77 (0.19)
Phenanthrene	190000	10000	0.73 (0.12)	0.22 (0.13)	0.24 (0.12)	0.36 (0.11)	1.2 (0.11)	0.22 (0.12)	0.057 J (0.12)	0.048 J (0.12)	0.062 J (0.12)	0.034 J (0.12)	U (0.12)	0.078 J (0.12)	U (0.12)
Pyrene	96000	2200	0.74 (0.12)	0.048 J (0.13)	0.029 J (0.12)	0.045 J (0.11)	0.15 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.042 J (0.12)	0.019 J (0.12)	U (0.12)	0.045 J (0.12)	U (0.12)
Metals															
Lead	1000	450	80.4 (2.32)	116 (2.53)	4.48 (2.36)	8.67 (4.34)	6.92 (4.07)	40.2 (11.8)	7.7 J (11.9)	7.8 J (11.5)	7.13 (2.2)	25.8 (2.2)	6.92 (2.42)	53 (11.6)	13.4 (11.3)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	201-A08-CX 201-A08	201-A09-C1 201-A09	201-A09-C2 201-A09	201-A09-CX 201-A09	201-A10-C1 201-A10	201-A10-C2 201-A10	201-A10-CX 201-A10	201-A11-C1 201-A11	201-A11-C2 201-A11	201-A11-CX 201-A11	201-A12-C1 201-A12	201-A12-C2 201-A12	201-A12-CX 201-A12
Field Sample ID	Value (0-2 ft bgs)	Value	201-A08-CX-COMP	201-A09-C1-COMP	201-A09-C2-COMP	201-A09-CX-COMP	201-A10-C1-COMP	201-A10-C2-COMP	201-A10-CX-COMP	201-A11-C1-COMP	201-A11-C2-COMP	201-A11-CX-COMP	201-A12-C1-COMP	201-A12-C2-COMP	201-A12-CX-COMP
Sample Date	(mg/kg)	(mg/kg)	1/20/2022	1/20/2022	1/20/2022	1/20/2022	1/21/2022	1/21/2022	1/21/2022	1/21/2022	1/21/2022	1/21/2022	1/24/2022	1/24/2022	1/24/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	U (0.12)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	0.059 J (0.12)	U (0.12)	U (0.12)	U (0.12)	0.031 J (0.12)	0.098 J (0.12)	U (0.12)	U (0.12)
Benzo(a)pyrene	91	46	U (0.16)	U (0.17)	U (0.17)	U (0.17)	U (0.18)	0.093 J (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	0.11 J (0.16)	U (0.15)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	0.12 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.14 (0.12)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.17)	U (0.17)	U (0.17)	U (0.18)	0.069 J (0.15)	U (0.16)	U (0.16)	U (0.16)	0.037 J (0.16)	0.072 J (0.16)	U (0.15)	U (0.16)
Chrysene	760	230	U (0.12)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	0.082 J (0.12)	U (0.12)	U (0.12)	U (0.12)	0.033 J (0.12)	0.11 J (0.12)	0.024 J (0.12)	U (0.12)
Fluorene	130000	3800	0.023 J (0.2)	U (0.22)	U (0.21)	U (0.21)	0.022 J (0.22)	U (0.19)	U (0.2)	0.054 J (0.19)	0.12 J (0.21)	U (0.2)	U (0.2)	U (0.19)	U (0.21)
Naphthalene	66	25	0.34 (0.2)	0.39 (0.22)	2.1 (0.21)	0.2 J (0.21)	0.028 J (0.22)	0.045 J (0.19)	U (0.2)	2.4 (0.19)	0.17 J (0.21)	0.14 J (0.2)	0.033 J (0.2)	1 (0.19)	0.046 J (0.21)
Phenanthrene	190000	10000	0.055 J (0.12)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	0.028 J (0.12)	U (0.12)	0.097 J (0.12)	0.18 (0.12)	0.039 J (0.12)	0.11 J (0.12)	0.034 J (0.12)	U (0.12)
Pyrene	96000	2200	0.024 J (0.12)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	0.065 J (0.12)	U (0.12)	0.031 J (0.12)	0.039 J (0.12)	0.044 J (0.12)	0.16 (0.12)	0.039 J (0.12)	U (0.12)
Metals															
Lead	1000	450	45.6 (11.7)	111 (12.3)	27.7 (12.2)	26.6 (12)	7.65 J (12.9)	51.9 (11.5)	7.2 J (12.4)	93.9 (11.3)	301 (12)	26.2 (11.8)	126 (2.21)	51.8 (2.23)	132 (2.36)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	201-A13-C1	201-A13-C2	201-A13-CX	201-A14-C1	201-A14-C2	201-A14-CX	201-A15-C1	201-A15-CX	201-B01-C1	201-B01-CX	201-B02-C1	201-B02-C2	201-B02-C3
			201-A13	201-A13	201-A13	201-A14	201-A14	201-A14	201-A15	201-A15	201-B01	201-B01	201-B02	201-B02	201-B02
			201-A13-C1-COMP	201-A13-C2-COMP	201-A13-CX-COMP	201-A14-C1-COMP	201-A14-C2-COMP	201-A14-CX-COMP	201-A15-C1-COMP	201-A15-CX-COMP	201-B01-C1-COMP	201-B01-CX-COMP	201-B02-C1-COMP	201-B02-C2-COMP	201-B02-C3-COMP
Field Sample ID	Sample Date	Sample Date	1/24/2022	1/24/2022	1/24/2022	1/24/2022	1/24/2022	1/24/2022	1/25/2022	1/25/2022	1/25/2022	1/25/2022	1/26/2022	1/26/2022	1/26/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	0.24 (0.12)	0.084 J (0.11)	0.27 (0.12)	0.33 (0.11)	0.061 J (0.13)	U (1.2)	0.041 J (0.12)	0.046 J (0.12)	0.12 (0.11)	0.42 (0.12)	U (0.12)
Benzo(a)anthracene	130	340	0.062 J (0.12)	0.025 J (0.12)	0.41 (0.12)	0.14 (0.11)	0.76 (0.12)	0.62 (0.11)	0.099 J (0.13)	U (1.2)	U (0.12)	U (0.12)	0.2 (0.11)	0.57 (0.12)	U (0.12)
Benzo(a)pyrene	91	46	0.083 J (0.16)	U (0.16)	0.31 (0.16)	0.18 (0.15)	0.75 (0.16)	0.5 (0.14)	0.077 J (0.17)	U (1.6)	U (0.16)	U (0.16)	0.14 J (0.15)	0.54 (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	0.1 J (0.12)	U (0.12)	0.42 (0.12)	0.21 (0.11)	0.9 (0.12)	0.65 (0.11)	0.16 (0.13)	U (1.2)	U (0.12)	U (0.12)	0.19 (0.11)	0.58 (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	0.066 J (0.16)	U (0.16)	0.17 (0.16)	0.12 J (0.15)	0.38 (0.16)	0.3 (0.14)	0.065 J (0.17)	U (1.6)	U (0.16)	U (0.16)	0.078 J (0.15)	0.22 (0.16)	U (0.16)
Chrysene	760	230	0.065 J (0.12)	0.022 J (0.12)	0.41 (0.12)	0.18 (0.11)	0.74 (0.12)	0.59 (0.11)	0.12 J (0.13)	U (1.2)	U (0.12)	U (0.12)	0.18 (0.11)	0.51 (0.12)	U (0.12)
Fluorene	130000	3800	U (0.2)	U (0.2)	0.081 J (0.2)	0.2 (0.19)	0.29 (0.2)	0.12 J (0.18)	0.2 J (0.21)	0.72 J (2)	0.56 (0.2)	0.99 (0.19)	0.14 J (0.19)	0.25 (0.2)	U (0.21)
Naphthalene	66	25	0.47 (0.2)	1.2 (0.2)	0.67 (0.2)	0.13 J (0.19)	0.13 J (0.2)	0.05 J (0.18)	0.11 J (0.21)	5 (2)	4.2 (0.2)	11 (0.97)	9.6 (0.94)	2.1 (0.2)	0.059 J (0.21)
Phenanthrene	190000	10000	0.054 J (0.12)	0.037 J (0.12)	0.88 (0.12)	0.48 (0.11)	1.4 (0.12)	1.2 (0.11)	0.29 (0.13)	0.28 J (1.2)	0.22 (0.12)	0.47 (0.12)	0.61 (0.11)	1.4 (0.12)	U (0.12)
Pyrene	96000	2200	0.087 J (0.12)	0.038 J (0.12)	0.74 (0.12)	0.33 (0.11)	1.5 (0.12)	1.2 (0.11)	0.26 (0.13)	U (1.2)	0.023 J (0.12)	0.023 J (0.12)	0.41 (0.11)	1 (0.12)	U (0.12)
Metals															
Lead	1000	450	632 (2.26)	9.26 (2.32)	350 (2.35)	45.1 (2.21)	15 (11.6)	296 (2.1)	60.9 (12.1)	776 (2.33)	8.22 J (11.8)	5.31 (2.27)	158 (2.13)	39.4 (2.35)	5.7 (2.37)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	201-B02-CX	201-B03-C1	201-B03-C2	201-B03-CX	201-B04-C1	201-B04-C2	201-B04-CX	201-B05-C1	201-B05-C2	201-B05-CX	201-B06-C1	201-B06-C2	201-B06-CX
			201-B02	201-B03	201-B03	201-B03	201-B04	201-B04	201-B04	201-B05	201-B05	201-B05	201-B06	201-B06	201-B06
Field Sample ID	Value (0-2 ft bgs)	Value	201-B02-CX-COMP	201-B03-C1-COMP	201-B03-C2-COMP	201-B03-CX-COMP	201-B04-C1-COMP	201-B04-C2-COMP	201-B04-CX-COMP	201-B05-C1-COMP	201-B05-C2-COMP	201-B05-CX-COMP	201-B06-C1-COMP	201-B06-C2-COMP	201-B06-CX-COMP
Sample Date	(mg/kg)	(mg/kg)	1/26/2022	1/26/2022	1/26/2022	1/26/2022	1/26/2022	1/26/2022	1/26/2022	1/27/2022	1/27/2022	1/27/2022	1/27/2022	1/27/2022	1/27/2022
PAHs															
Anthracene	190000	350	0.29 (0.12)	U (0.12)	U (0.12)	0.085 J (0.12)	U (0.12)	0.11 (0.11)	0.063 J (0.13)	U (0.12)	0.044 J (0.11)	U (0.12)	U (0.12)	U (0.12)	0.12 (0.12)
Benzo(a)anthracene	130	340	0.03 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.045 J (0.11)	U (0.13)	0.036 J (0.12)	0.071 J (0.11)	U (0.12)	0.028 J (0.12)	0.06 J (0.12)	0.18 (0.12)
Benzo(a)pyrene	91	46	U (0.15)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	0.065 J (0.15)	U (0.17)	0.062 J (0.16)	0.13 J (0.15)	U (0.16)	U (0.16)	0.072 J (0.15)	0.26 (0.15)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.096 J (0.11)	U (0.13)	0.068 J (0.12)	0.15 (0.11)	U (0.12)	0.048 J (0.12)	0.095 J (0.12)	0.34 (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.15)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	0.048 J (0.15)	U (0.17)	0.05 J (0.16)	0.12 J (0.15)	U (0.16)	0.03 J (0.16)	0.066 J (0.15)	0.19 (0.15)
Chrysene	760	230	0.032 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.073 J (0.11)	U (0.13)	0.031 J (0.12)	0.069 J (0.11)	U (0.12)	0.037 J (0.12)	0.062 J (0.12)	0.2 (0.12)
Fluorene	130000	3800	2 (0.19)	0.38 (0.19)	U (0.2)	0.86 (0.2)	U (0.2)	0.51 (0.19)	0.73 (0.21)	0.2 (0.2)	1.2 (0.19)	0.046 J (0.2)	0.028 J (0.2)	0.035 J (0.19)	1.5 (0.19)
Naphthalene	66	25	5 (0.19)	2.9 (0.19)	0.062 J (0.2)	0.64 (0.2)	0.24 (0.2)	22 (3.8)	1.3 (0.21)	1.4 (0.2)	4.3 (0.19)	0.49 (0.2)	0.26 (0.2)	0.94 (0.19)	6 (0.19)
Phenanthrene	190000	10000	2.3 (0.12)	0.35 (0.12)	U (0.12)	0.63 (0.12)	U (0.12)	0.39 (0.11)	0.53 (0.13)	0.094 J (0.12)	0.44 (0.11)	0.03 J (0.12)	0.046 J (0.12)	0.093 J (0.12)	1 (0.12)
Pyrene	96000	2200	0.19 (0.12)	0.026 J (0.12)	U (0.12)	0.074 J (0.12)	U (0.12)	0.12 (0.11)	0.031 J (0.13)	0.056 J (0.12)	0.075 J (0.11)	U (0.12)	0.038 J (0.12)	0.097 J (0.12)	0.21 (0.12)
Metals															
Lead	1000	450	3.28 (2.22)	44 (2.2)	5.38 (2.38)	26.6 (2.37)	350 (2.27)	58.3 (11.2)	5.11 (2.43)	156 (2.39)	126 (4.48)	17.9 (4.97)	1090 (2.38)	3.16 (2.28)	158 (2.36)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	201-B07-C1	201-B07-C2	201-B07-CX	201-B08-C1	201-B08-C2	201-B08-CX	201-B09-C1	201-B09-C2	201-B09-CX	201-B10-C1	201-B10-C2	201-B10-CX	201-B11-C1
Field Sample ID	Value (0-2 ft bgs)	Value	201-B07-C1-COMP	201-B07-C2-COMP	201-B07-CX-COMP	201-B08-C1-COMP	201-B08-C2-COMP	201-B08-CX-COMP	201-B09-C1-COMP	201-B09-C2-COMP	201-B09-CX-COMP	201-B10-C1-COMP	201-B10-C2-COMP	201-B10-CX-COMP	201-B11-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	2/2/2022	2/2/2022	2/2/2022	1/28/2022	1/28/2022	1/28/2022	1/28/2022	1/28/2022	1/28/2022	1/28/2022	1/28/2022	1/28/2022	2/2/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.1)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.13)	U (0.12)	U (0.13)	U (0.59)	U (0.12)	U (0.12)	0.2 (0.11)
Benzo(a)anthracene	130	340	U (0.12)	U (0.1)	U (0.12)	U (0.12)	0.043 J (0.12)	0.048 J (0.13)	0.027 J (0.13)	U (0.12)	U (0.13)	0.17 J (0.59)	0.081 J (0.12)	U (0.12)	0.54 (0.11)
Benzo(a)pyrene	91	46	U (0.16)	U (0.14)	U (0.16)	U (0.16)	U (0.15)	U (0.18)	U (0.17)	U (0.16)	U (0.17)	U (0.78)	0.075 J (0.16)	U (0.16)	0.46 (0.15)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.1)	U (0.12)	U (0.12)	0.052 J (0.12)	0.046 J (0.13)	U (0.13)	U (0.12)	U (0.13)	0.19 J (0.59)	0.11 J (0.12)	U (0.12)	0.57 (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.14)	U (0.16)	U (0.16)	0.031 J (0.15)	U (0.18)	U (0.17)	U (0.16)	U (0.17)	0.15 J (0.78)	0.053 J (0.16)	U (0.16)	0.25 (0.15)
Chrysene	760	230	U (0.12)	U (0.1)	U (0.12)	U (0.12)	0.043 J (0.12)	0.043 J (0.13)	0.024 J (0.13)	0.03 J (0.12)	U (0.13)	0.23 J (0.59)	0.079 J (0.12)	U (0.12)	0.46 (0.11)
Fluorene	130000	3800	0.66 (0.2)	0.03 J (0.18)	0.57 (0.2)	U (0.21)	U (0.19)	U (0.22)	U (0.22)	0.024 J (0.21)	0.024 J (0.22)	U (0.98)	0.15 J (0.2)	0.39 (0.2)	0.082 J (0.18)
Naphthalene	66	25	0.14 J (0.2)	0.024 J (0.18)	2.2 (0.2)	U (0.21)	0.048 J (0.19)	U (0.22)	0.052 J (0.22)	1.4 (0.21)	0.36 (0.22)	U (0.98)	0.053 J (0.2)	0.18 J (0.2)	0.074 J (0.18)
Phenanthrene	190000	10000	0.59 (0.12)	U (0.1)	0.4 (0.12)	U (0.12)	0.045 J (0.12)	0.092 J (0.13)	0.032 J (0.13)	0.043 J (0.12)	U (0.13)	U (0.59)	0.2 (0.12)	0.37 (0.12)	0.6 (0.11)
Pyrene	96000	2200	0.051 J (0.12)	U (0.1)	0.022 J (0.12)	U (0.12)	0.045 J (0.12)	0.075 J (0.13)	0.032 J (0.13)	0.036 J (0.12)	U (0.13)	0.16 J (0.59)	0.12 (0.12)	0.028 J (0.12)	0.85 (0.11)
Metals															
Lead	1000	450	117 (11.6)	44 (10.3)	3.73 (2.3)	35.3 (2.43)	248 (2.29)	118 (2.52)	14.9 (2.51)	200 (2.37)	21.8 (2.51)	298 (2.3)	69.8 (2.28)	4.5 (2.36)	250 (2.15)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	201-B11-C2	201-B11-C3	201-B11-CX	201-B12-C1	201-B12-C2	201-B12-CX	201-C01-C1	201-C01-C2	201-C01-C3	201-C01-CX	201-C02-C1	201-C02-C2	201-C02-CX
			201-B11	201-B11	201-B11	201-B12	201-B12	201-B12	201-C01	201-C01	201-C01	201-C01	201-C02	201-C02	201-C02
Field Sample ID	Value (0-2 ft bgs)	Value	201-B11-C2-COMP	201-B11-C3-COMP	201-B11-CX-COMP	201-B12-C1-COMP	201-B12-C2-COMP	201-B12-CX-COMP	201-C01-C1-COMP	201-C01-C2-COMP	201-C01-C3-COMP	201-C01-CX-COMP	201-C02-C1-COMP	201-C02-C2-COMP	201-C02-CX-COMP
Sample Date	(mg/kg)	(mg/kg)	2/2/2022	2/2/2022	2/2/2022	2/2/2022	2/2/2022	2/2/2022	2/3/2022	2/3/2022	2/3/2022	2/3/2022	2/3/2022	2/3/2022	2/3/2022
PAHs															
Anthracene	190000	350	0.15 (0.12)	7.9 (1.2)	0.047 J (0.12)	0.052 J (0.12)	U (0.12)	U (0.11)	1.1 (0.32)	0.042 J (0.12)	U (0.12)	0.053 J (0.12)	0.077 J (0.12)	0.069 J (0.11)	1.3 (1.2)
Benzo(a)anthracene	130	340	0.55 (0.12)	9.7 (1.2)	0.17 (0.12)	0.065 J (0.12)	0.023 J (0.12)	U (0.11)	0.88 (0.32)	0.035 J (0.12)	U (0.12)	0.028 J (0.12)	0.026 J (0.12)	0.032 J (0.11)	0.47 J (1.2)
Benzo(a)pyrene	91	46	0.68 (0.16)	9.7 (1.6)	0.18 (0.16)	0.068 J (0.16)	U (0.16)	U (0.15)	0.53 (0.43)	U (0.17)	U (0.16)	U (0.16)	U (0.17)	U (0.15)	U (1.6)
Benzo(b)fluoranthene	76	170	0.77 (0.12)	9.8 (1.2)	0.22 (0.12)	0.08 J (0.12)	U (0.12)	U (0.11)	0.65 (0.32)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (1.2)
Benzo(g,h,i)perylene	190000	180	0.46 (0.16)	5.9 (0.16)	0.16 (0.16)	0.068 J (0.16)	U (0.16)	U (0.15)	0.26 J (0.43)	U (0.17)	U (0.16)	U (0.16)	U (0.17)	U (0.15)	U (1.6)
Chrysene	760	230	0.53 (0.12)	8.9 (1.2)	0.18 (0.12)	0.081 J (0.12)	0.024 J (0.12)	U (0.11)	0.93 (0.32)	0.034 J (0.12)	U (0.12)	0.03 J (0.12)	0.036 J (0.12)	0.03 J (0.11)	0.58 J (1.2)
Fluorene	130000	3800	0.05 J (0.2)	4.5 (0.2)	U (0.2)	0.75 (0.2)	0.15 J (0.2)	0.043 J (0.18)	3.6 (0.54)	0.073 J (0.21)	0.16 J (0.21)	0.68 (0.2)	0.15 J (0.21)	0.092 J (0.19)	2.5 (2)
Naphthalene	66	25	0.12 J (0.2)	0.88 (0.2)	0.052 J (0.2)	0.58 (0.2)	0.98 (0.2)	0.088 J (0.18)	U (0.54)	0.039 J (0.21)	0.1 J (0.21)	0.85 (0.2)	0.89 (0.21)	0.25 (0.19)	0.53 J (2)
Phenanthrene	190000	10000	0.44 (0.12)	28 (1.2)	0.18 (0.12)	0.42 (0.12)	0.16 (0.12)	0.034 J (0.11)	6.6 (0.32)	0.082 J (0.12)	0.2 (0.12)	0.46 (0.12)	0.41 (0.12)	0.26 (0.11)	6.4 (1.2)
Pyrene	96000	2200	0.74 (0.12)	23 (1.2)	0.25 (0.12)	0.11 J (0.12)	0.042 J (0.12)	U (0.11)	2.2 (0.32)	0.066 J (0.12)	0.034 J (0.12)	0.07 J (0.12)	0.06 J (0.12)	0.062 J (0.11)	1.4 (1.2)
Metals															
Lead	1000	450	269 (2.26)	64.3 (2.24)	75.4 (2.23)	1060 (11.8)	88 (2.27)	9.28 (2.12)	503 (2.15)	59.2 (2.42)	15.5 (2.47)	4.76 (2.44)	704 (2.38)	133 (2.19)	11.6 (11.3)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	201-C03-C1	201-C03-C2	201-C03-CX	201-C04-C1	201-C04-C2	201-C04-CX	201-C05-C1	201-C05-C2	201-C05-CX	201-C06-C1	201-C06-C2	201-C06-CX	201-C07-C1	
			201-C03	201-C03	201-C03	201-C04	201-C04	201-C04	201-C05	201-C05	201-C05	201-C06	201-C06	201-C06	201-C07	
			201-C03-C1-COMP	201-C03-C2-COMP	201-C03-CX-COMP	201-C04-C1-COMP	201-C04-C2-COMP	201-C04-CX-COMP	201-C05-C1-COMP	201-C05-C2-COMP	201-C05-CX-COMP	201-C06-C1-COMP	201-C06-C2-COMP	201-C06-CX-COMP	201-C07-C1-COMP	
Field Sample ID	Sample Date	Value (mg/kg)	2/4/2022	2/4/2022	2/4/2022	2/4/2022	2/4/2022	2/4/2022	2/17/2022	2/17/2022	2/17/2022	2/22/2022	2/22/2022	2/22/2022	2/17/2022	
PAHs																
Anthracene		190000	350	U (0.12)	0.73 (0.6)	0.05 J (0.12)	0.051 J (0.12)	U (0.12)	0.045 J (0.12)	0.074 J (0.12)	0.041 J (0.12)	U (1.9)	U (0.11)	4.4 (1.4)	U (1.4)	U (0.13)
Benzo(a)anthracene		130	340	U (0.12)	0.26 (0.12)	0.032 J (0.12)	0.07 J (0.12)	0.029 J (0.12)	0.068 J (0.12)	0.17 (0.12)	0.13 (0.12)	0.43 J (1.9)	0.043 J (0.11)	3.5 (1.4)	1.2 J (1.4)	0.059 J (0.13)
Benzo(a)pyrene		91	46	U (0.16)	0.08 J (0.16)	U (0.16)	0.052 J (0.16)	U (0.16)	U (0.16)	0.13 J (0.16)	0.097 J (0.16)	U (2.5)	0.05 J (0.15)	2.8 (1.9)	0.86 J (1.9)	0.061 J (0.17)
Benzo(b)fluoranthene		76	170	U (0.12)	0.085 J (0.12)	U (0.12)	0.078 J (0.12)	U (0.12)	0.067 J (0.12)	0.18 (0.12)	0.12 (0.12)	U (1.9)	0.037 J (0.11)	2.6 (1.4)	0.69 J (1.4)	0.057 J (0.13)
Benzo(g,h,i)perylene		190000	180	U (0.16)	0.058 J (0.16)	U (0.16)	0.058 J (0.16)	U (0.16)	0.041 J (0.16)	0.099 J (0.16)	0.072 J (0.16)	U (2.5)	0.059 J (0.15)	1.8 J (1.9)	0.68 J (1.9)	0.047 J (0.17)
Chrysene		760	230	U (0.12)	0.5 (0.12)	0.038 J (0.12)	0.13 (0.12)	0.054 J (0.12)	0.13 (0.12)	0.15 (0.12)	0.26 (0.12)	1.9 (1.9)	0.051 J (0.11)	4.4 (1.4)	2.1 (1.4)	0.12 J (0.13)
Fluorene		130000	3800	0.021 J (0.2)	1.3 (0.2)	0.077 J (0.2)	0.16 J (0.19)	0.11 J (0.2)	0.12 J (0.21)	0.033 J (0.2)	0.061 J (0.2)	1.1 J (3.1)	U (0.19)	5.6 (2.4)	0.33 J (2.4)	0.04 J (0.22)
Naphthalene		66	25	U (0.2)	2.9 (0.2)	0.067 J (0.2)	0.69 (0.19)	0.74 (0.2)	0.61 (0.21)	0.031 J (0.2)	0.067 J (0.2)	U (3.1)	0.16 J (0.19)	3.6 (2.4)	0.34 J (2.4)	0.099 J (0.22)
Phenanthrene		190000	10000	0.05 J (0.12)	4 (0.12)	0.23 (0.12)	0.25 (0.12)	0.11 J (0.12)	0.21 (0.12)	0.34 (0.12)	0.14 (0.12)	2.6 (1.9)	0.054 J (0.11)	19 (1.4)	0.56 J (1.4)	0.15 (0.13)
Pyrene		96000	2200	U (0.12)	0.59 (0.12)	0.067 J (0.12)	0.17 (0.12)	0.069 J (0.12)	0.17 (0.12)	0.27 (0.12)	0.2 (0.12)	0.76 J (1.9)	0.06 J (0.11)	8.1 (1.4)	2.4 (1.4)	0.11 J (0.13)
Metals																
Lead		1000	450	98.8 (2.37)	358 (2.33)	99.1 (2.44)	646 (2.24)	155 (2.42)	786 (2.4)	87.6 (2.36)	26.2 (2.37)	141 (3.66)	514 (2.24)	1380 (2.82)	80.7 (2.9)	11.9 (2.52)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	201-C07-C2 201-C07	201-C07-CX 201-C07	201-C08-C1 201-C08	201-C08-C2 201-C08	201-C08-CX 201-C08	201-C09-C1 201-C09	201-C09-C2 201-C09	201-C09-CX 201-C09	201-C10-C1 201-C10	201-C10-C2 201-C10	201-C10-CX 201-C10	201-C11-C1 201-C11	201-C11-C2 201-C11
Field Sample ID	Value (0-2 ft bgs)	Value	201-C07-C2-COMP	201-C07-CX-COMP	201-C08-C1-COMP	201-C08-C2-COMP	201-C08-CX-COMP	201-C09-C1-COMP	201-C09-C2-COMP	201-C09-CX-COMP	201-C10-C1-COMP	201-C10-C2-COMP	201-C10-CX-COMP	201-C11-C1-COMP	201-C11-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	2/17/2022	2/17/2022	2/17/2022	2/17/2022	2/17/2022	2/22/2022	2/22/2022	2/22/2022	2/18/2022	2/18/2022	2/18/2022	3/28/2022	3/28/2022
PAHs															
Anthracene	190000	350	U (0.12)	0.075 J (0.12)	0.072 J (0.12)	U (0.12)	0.9 (0.12)	U (0.12)	U (0.12)	U (0.13)	0.3 (0.12)	0.04 J (0.11)	0.24 (0.12)	U (3.5)	0.43 J (0.64)
Benzo(a)anthracene	130	340	U (0.12)	0.1 J (0.12)	0.087 J (0.12)	0.023 J (0.12)	0.99 (0.12)	U (0.12)	U (0.12)	U (0.13)	0.71 (0.12)	0.16 (0.11)	0.72 (0.12)	2.6 J (3.5)	1 (0.64)
Benzo(a)pyrene	91	46	U (0.17)	0.059 J (0.17)	0.095 J (0.16)	U (0.16)	0.9 (0.16)	U (0.16)	U (0.16)	U (0.17)	0.67 (0.15)	0.12 J (0.14)	0.74 (0.16)	5 (4.7)	1.2 (0.85)
Benzo(b)fluoranthene	76	170	U (0.12)	0.05 J (0.12)	0.055 J (0.12)	U (0.12)	0.41 (0.12)	U (0.12)	U (0.12)	U (0.13)	1 (0.12)	0.17 (0.11)	0.93 (0.12)	5.5 (3.5)	1.1 (0.64)
Benzo(g,h,i)perylene	190000	180	U (0.17)	0.06 J (0.17)	0.11 J (0.16)	U (0.16)	0.9 (0.16)	0.026 J (0.16)	U (0.16)	U (0.17)	0.4 (0.15)	0.11 J (0.14)	0.72 (0.16)	3.7 J (4.7)	0.78 J (0.85)
Chrysene	760	230	U (0.12)	0.2 (0.12)	0.098 J (0.12)	0.047 J (0.12)	1.2 (0.12)	0.046 J (0.12)	U (0.12)	0.035 J (0.13)	0.81 (0.12)	0.18 (0.11)	0.8 (0.12)	5.7 (3.5)	1.2 (0.64)
Fluorene	130000	3800	U (0.21)	0.11 J (0.21)	0.078 J (0.2)	U (0.2)	0.79 (0.2)	U (0.2)	U (0.2)	U (0.21)	0.22 (0.19)	U (0.18)	0.11 J (0.2)	1.7 J (5.9)	0.34 J (1.1)
Naphthalene	66	25	U (0.21)	0.81 (0.21)	U (0.2)	U (0.2)	0.16 J (0.2)	0.033 J (0.2)	U (0.2)	U (0.21)	0.061 J (0.19)	0.039 J (0.18)	0.29 (0.2)	1.7 J (5.9)	0.24 J (1.1)
Phenanthrene	190000	10000	U (0.12)	0.44 (0.12)	0.32 (0.12)	U (0.12)	1.8 (0.12)	U (0.12)	U (0.12)	U (0.13)	1.5 (0.12)	0.17 (0.11)	0.85 (0.12)	4.7 (3.5)	1.4 (0.64)
Pyrene	96000	2200	U (0.12)	0.21 (0.12)	0.25 (0.12)	0.044 J (0.12)	3.6 (0.12)	0.031 J (0.12)	U (0.12)	0.037 J (0.13)	1.2 (0.12)	0.24 (0.11)	1 (0.12)	5.6 (3.5)	2 (0.64)
Metals															
Lead	1000	450	11.9 (2.42)	139 (2.4)	15 (2.37)	58.4 (2.28)	55.6 (2.42)	6.28 (2.28)	8.82 J (11.9)	177 (2.45)	4230 (2.22)	225 (2.06)	226 (2.37)	257 (2.26)	2460 (2.5)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	201-C11-C3 201-C11 201-C11-C3-COMP 3/28/2022	201-C11-CX 201-C11 201-C11-CX-COMP 3/28/2022	201-D01-C1 201-D01 201-D01-C1-COMP 1/31/2022	201-D01-C2 201-D01 201-D01-C2-COMP 1/31/2022	201-D01-CX 201-D01 201-D01-CX-COMP 1/31/2022	201-D02-C1 201-D02 201-D02-C1-COMP 1/31/2022	201-D02-C2 201-D02 201-D02-C2-COMP 1/31/2022	201-D02-CX 201-D02 201-D02-CX-COMP 1/31/2022	201-D03-C1 201-D03 201-D03-C1-COMP 1/31/2022	201-D03-CX 201-D03 201-D03-CX-COMP 1/31/2022	201-D04-C1 201-D04 201-D04-C1-COMP 2/1/2022	201-D04-C2 201-D04 201-D04-C2-COMP 2/1/2022	201-D04-CX 201-D04 201-D04-CX-COMP 2/1/2022
Field Sample ID Sample Date	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)													
PAHs															
Anthracene	190000	350	0.82 J (2.3)	U (4.8)	0.32 J (0.35)	0.26 J (0.34)	U (0.34)	U (0.13)	0.4 (0.12)	0.14 (0.12)	U (0.13)	U (0.3)	0.64 (0.12)	2.9 (0.12)	0.086 J (0.12)
Benzo(a)anthracene	130	340	2.6 (2.3)	2.4 J (4.8)	0.61 (0.35)	0.79 (0.34)	U (0.34)	0.085 J (0.13)	0.84 (0.12)	0.31 (0.12)	0.06 J (0.13)	U (0.3)	2.2 (0.12)	5.9 (0.12)	0.24 (0.12)
Benzo(a)pyrene	91	46	2.4 J (3.1)	3.2 J (6.4)	0.68 (0.46)	1 (0.46)	U (0.45)	0.11 J (0.17)	0.75 (0.16)	0.31 (0.15)	0.069 J (0.17)	U (0.4)	2.2 (0.16)	7.2 (0.16)	0.25 (0.16)
Benzo(b)fluoranthene	76	170	3.5 (2.3)	4.9 (4.8)	1 (0.35)	1.7 (0.34)	U (0.34)	0.12 J (0.13)	0.9 (0.12)	0.42 (0.12)	0.11 J (0.13)	U (0.3)	3.4 (0.12)	5.8 (0.59)	0.35 (0.12)
Benzo(g,h,i)perylene	190000	180	1.6 J (3.1)	2.6 J (6.4)	0.47 (0.46)	0.74 (0.46)	U (0.45)	0.087 J (0.17)	0.36 (0.16)	0.18 (0.15)	0.057 J (0.17)	U (0.4)	1.3 (0.16)	5.2 (0.16)	0.15 J (0.16)
Chrysene	760	230	8.5 (2.3)	8.8 (4.8)	0.91 (0.35)	1.1 (0.34)	U (0.34)	0.13 (0.13)	0.76 (0.12)	0.44 (0.12)	0.096 J (0.13)	U (0.3)	2.3 (0.12)	6.1 (0.12)	0.28 (0.12)
Fluorene	130000	3800	1.2 J (3.9)	1.3 J (8)	0.12 J (0.58)	0.12 J (0.57)	U (0.56)	U (0.21)	0.13 J (0.2)	0.083 J (0.19)	0.15 J (0.21)	0.07 J (0.5)	0.19 (0.19)	0.92 (0.2)	0.041 J (0.2)
Naphthalene	66	25	1.8 J (3.9)	3 J (8)	0.74 (0.58)	0.6 (0.57)	U (0.56)	0.14 J (0.21)	0.14 J (0.2)	0.35 (0.19)	1.1 (0.21)	0.11 J (0.5)	0.46 (0.19)	0.44 (0.2)	0.11 J (0.2)
Phenanthrene	190000	10000	4.7 (2.3)	1.2 J (4.8)	1.3 (0.35)	1.2 (0.34)	U (0.34)	0.16 (0.13)	1.3 (0.12)	0.71 (0.12)	0.2 (0.13)	0.085 J (0.3)	2.3 (0.12)	10 (0.59)	0.43 (0.12)
Pyrene	96000	2200	4.8 (2.3)	9.9 (4.8)	0.94 (0.35)	1.1 (0.34)	U (0.34)	0.1 J (0.13)	1.5 (0.12)	0.58 (0.12)	0.13 (0.13)	U (0.3)	3.6 (0.12)	11 (0.59)	0.39 (0.12)
Metals															
Lead	1000	450	<u>16700 (11.8)</u>	<u>17600 (13.4)</u>	289 (2.28)	294 (4.51)	224 (2.27)	<u>489 (2.43)</u>	<u>518 (2.32)</u>	260 (2.26)	16.9 (2.46)	7.5 J (10.1)	258 (2.24)	<u>808 (2.3)</u>	145 (2.32)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	201-D05-C1	201-D05-C2	201-D05-CX	201-D06-C1	201-D06-C2	201-D06-CX	201-D07-C1	201-D07-C2	201-D07-C3	201-D07-CX	201-D08-C1	201-D08-C2	201-D08-C3
			201-D05	201-D05	201-D05	201-D06	201-D06	201-D06	201-D07	201-D07	201-D07	201-D07	201-D08	201-D08	201-D08
			201-D05-C1-COMP	201-D05-C2-COMP	201-D05-CX-COMP	201-D06-C1-COMP	201-D06-C2-COMP	201-D06-CX-COMP	201-D07-C1-COMP	201-D07-C2-COMP	201-D07-C3-COMP	201-D07-CX-COMP	201-D08-C1-COMP	201-D08-C2-COMP	201-D08-C3-COMP
Field Sample ID	Sample Date	Sample Date	2/1/2022	2/1/2022	2/1/2022	2/22/2022	2/22/2022	2/22/2022	2/1/2022	2/1/2022	2/1/2022	2/1/2022	2/18/2022	2/18/2022	2/18/2022
PAHs															
Anthracene	190000	350	0.43 (0.12)	0.14 J (0.23)	0.2 (0.14)	U (1.3)	U (1.2)	0.31 (0.12)	0.056 J (0.11)	0.12 (0.12)	0.69 (0.12)	U (0.12)	0.14 (0.12)	U (1.3)	0.89 J (2.6)
Benzo(a)anthracene	130	340	0.82 (0.12)	0.37 (0.23)	0.3 (0.14)	0.71 J (1.3)	0.42 J (1.2)	0.54 (0.12)	0.13 (0.11)	0.18 (0.12)	1.5 (0.12)	0.12 (0.12)	0.32 (0.12)	0.65 J (1.3)	0.62 J (2.6)
Benzo(a)pyrene	91	46	0.67 (0.16)	0.28 J (0.31)	0.32 (0.19)	0.66 J (1.7)	U (1.5)	0.5 (0.16)	0.21 (0.15)	0.19 (0.16)	1.4 (0.16)	0.24 (0.16)	0.28 (0.16)	1 J (1.8)	U (3.5)
Benzo(b)fluoranthene	76	170	1.2 (0.12)	0.35 (0.23)	0.42 (0.14)	0.99 J (1.3)	0.57 J (1.2)	0.56 (0.12)	0.23 (0.11)	0.21 (0.12)	1.8 (0.12)	0.16 (0.12)	0.39 (0.12)	0.82 J (1.3)	U (2.6)
Benzo(g,h,i)perylene	190000	180	0.42 (0.16)	0.13 J (0.31)	0.24 (0.19)	0.76 J (1.7)	0.35 J (1.5)	0.29 (0.16)	0.2 (0.15)	0.11 J (0.16)	0.62 (0.16)	0.2 (0.16)	0.28 (0.16)	1.3 J (1.8)	U (3.5)
Chrysene	760	230	1.1 (0.12)	0.54 (0.23)	0.44 (0.14)	1.9 (1.3)	0.61 J (1.2)	0.55 (0.12)	0.18 (0.11)	0.18 (0.12)	1.5 (0.12)	0.14 (0.12)	0.45 (0.12)	1.1 J (1.3)	0.56 J (2.6)
Fluorene	130000	3800	0.32 (0.19)	0.16 J (0.39)	0.43 (0.23)	0.35 J (2.2)	0.2 J (1.9)	0.17 J (0.2)	0.027 J (0.18)	0.092 J (0.2)	0.29 (0.2)	U (0.2)	0.087 J (0.2)	U (2.2)	1.5 J (4.4)
Naphthalene	66	25	0.68 (0.19)	0.18 J (0.39)	3.6 (0.23)	0.59 J (2.2)	0.24 J (1.9)	0.2 (0.2)	0.12 J (0.18)	0.042 J (0.2)	0.12 J (0.2)	0.062 J (0.2)	0.16 J (0.2)	0.82 J (2.2)	8 (4.4)
Phenanthrene	190000	10000	1.2 (0.12)	0.38 (0.23)	0.98 (0.14)	0.83 J (1.3)	0.67 J (1.2)	1 (0.12)	0.19 (0.11)	0.41 (0.12)	2.9 (0.12)	0.076 J (0.12)	0.44 (0.12)	0.93 J (1.3)	4 (2.6)
Pyrene	96000	2200	1.2 (0.12)	0.62 (0.23)	0.54 (0.14)	2.1 (1.3)	0.68 J (1.2)	0.99 (0.12)	0.23 (0.11)	0.28 (0.12)	3 (0.12)	0.11 J (0.12)	0.58 (0.12)	0.56 J (1.3)	2.1 J (2.6)
Metals															
Lead	1000	450	152 (2.22)	74.7 (2.21)	2390 (2.69)	3.75 (2.56)	224 (2.3)	10.8 (2.33)	147 (4.24)	100 (2.36)	61.4 (2.42)	73.6 (2.27)	549 (2.38)	4610 (2.57)	11700 (2.53)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	201-D08-CX 201-D08	201-D09-C1 201-D09	201-D09-C2 201-D09	201-D09-C3 201-D09	201-D09-CX 201-D09	201-D10-C1 201-D10	201-D10-C2 201-D10	201-D10-CX 201-D10	201-D11-C1 201-D11	201-D11-C2 201-D11	201-D11-CX 201-D11	201-D12-C1 201-D12	201-D12-CX 201-D12
Field Sample ID	Value (0-2 ft bgs)	Value	201-D08-CX-COMP	201-D09-C1-COMP	201-D09-C2-COMP	201-D09-C3-COMP	201-D09-CX-COMP	201-D10-C1-COMP	201-D10-C2-COMP	201-D10-CX-COMP	201-D11-C1-COMP	201-D11-C2-COMP	201-D11-CX-COMP	201-D12-C1-COMP	201-D12-CX-COMP
Sample Date	(mg/kg)	(mg/kg)	2/18/2022	2/21/2022	2/21/2022	2/21/2022	2/21/2022	2/21/2022	2/21/2022	2/21/2022	2/21/2022	2/21/2022	2/21/2022	2/18/2022	2/18/2022
PAHs															
Anthracene	190000	350	2.7 (2.7)	0.064 J (0.12)	U (0.6)	U (0.11)	U (0.12)	0.073 J (0.12)	0.18 (0.12)	0.11 J (0.12)	0.3 (0.11)	0.091 J (0.12)	22 (2.3)	0.34 (0.11)	U (0.12)
Benzo(a)anthracene	130	340	2 J (2.7)	0.24 (0.12)	U (0.6)	0.053 J (0.11)	U (0.12)	0.12 (0.12)	0.62 (0.12)	0.45 (0.12)	0.42 (0.11)	0.091 J (0.12)	23 (2.3)	0.27 (0.11)	0.023 J (0.12)
Benzo(a)pyrene	91	46	1.2 J (3.7)	0.24 (0.16)	U (0.8)	0.047 J (0.15)	U (0.15)	0.1 J (0.16)	0.76 (0.16)	0.43 (0.16)	0.35 (0.15)	0.086 J (0.15)	15 (3)	0.18 (0.15)	U (0.16)
Benzo(b)fluoranthene	76	170	1.1 J (2.7)	0.3 (0.12)	U (0.6)	0.048 J (0.11)	U (0.12)	0.12 (0.12)	0.97 (0.12)	0.57 (0.12)	0.51 (0.11)	0.12 (0.12)	20 (2.3)	0.25 (0.11)	U (0.12)
Benzo(g,h,i)perylene	190000	180	0.97 J (3.7)	0.15 J (0.16)	0.15 J (0.8)	U (0.15)	U (0.15)	0.046 J (0.16)	0.55 (0.16)	0.22 (0.16)	0.2 (0.15)	0.046 J (0.15)	5.2 (0.15)	0.16 (0.15)	U (0.16)
Chrysene	760	230	4.3 (2.7)	0.25 (0.12)	0.1 J (0.6)	0.047 J (0.11)	U (0.12)	0.11 J (0.12)	0.7 (0.12)	0.44 (0.12)	0.4 (0.11)	0.11 J (0.12)	20 (2.3)	0.25 (0.11)	0.033 J (0.12)
Fluorene	130000	3800	3.6 J (4.6)	0.02 J (0.2)	U (1)	U (0.19)	U (0.19)	0.037 J (0.2)	0.07 J (0.19)	0.032 J (0.2)	0.21 (0.19)	0.19 (0.19)	9.7 (3.8)	0.31 (0.18)	0.076 J (0.2)
Naphthalene	66	25	9.7 (4.6)	0.052 J (0.2)	U (1)	U (0.19)	U (0.19)	0.026 J (0.2)	0.18 J (0.19)	U (0.2)	0.048 J (0.19)	0.15 J (0.19)	7 (0.19)	0.36 (0.18)	0.044 J (0.2)
Phenanthrene	190000	10000	11 (2.7)	0.29 (0.12)	0.13 J (0.6)	0.082 J (0.11)	U (0.12)	0.26 (0.12)	0.85 (0.12)	0.43 (0.12)	0.75 (0.11)	0.53 (0.12)	82 (2.3)	1.2 (0.11)	0.18 (0.12)
Pyrene	96000	2200	5.6 (2.7)	0.41 (0.12)	0.13 J (0.6)	0.087 J (0.11)	U (0.12)	0.19 (0.12)	1 (0.12)	0.79 (0.12)	1.1 (0.11)	0.26 (0.12)	40 (2.3)	0.5 (0.11)	0.048 J (0.12)
Metals															
Lead	1000	450	<u>39400 (26.3)</u>	503 (2.3)	6.04 (2.36)	233 (11.1)	7.27 (2.32)	29.7 (12)	239 (2.35)	914 (2.35)	488 (2.16)	31.8 (11.2)	47.6 (11.4)	876 (2.09)	7.9 (4.73)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	201-E01-C1 201-E01	201-E01-CX 201-E01	201-E02-C1 201-E02	201-E02-CX 201-E02	201-E03-C1 201-E03	201-E03-CX 201-E03	201-E04-C1 201-E04	201-E04-C2 201-E04	201-E04-CX 201-E04	201-E05-C1 201-E05	201-E05-CX 201-E05	201-F01-C1 201-F01	201-F01-CX 201-F01
Field Sample ID	Value (0-2 ft bgs)	Value	201-E01-C1-COMP	201-E01-CX-COMP	201-E02-C1-COMP	201-E02-CX-COMP	201-E03-C1-COMP	201-E03-CX-COMP	201-E04-C1-COMP	201-E04-C2-COMP	201-E04-CX-COMP	201-E05-C1-COMP	201-E05-CX-COMP	201-F01-C1-COMP	201-F01-CX-COMP
Sample Date	(mg/kg)	(mg/kg)	2/23/2022	2/23/2022	2/23/2022	2/23/2022	4/19/2022	4/19/2022	2/23/2022	2/23/2022	2/23/2022	2/23/2022	2/23/2022	4/19/2022	4/19/2022
PAHs															
Anthracene	190000	350	0.14 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.057 J (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)anthracene	130	340	0.12 (0.12)	U (0.12)	0.065 J (0.12)	U (0.12)	0.082 J (0.12)	U (0.12)	0.18 (0.12)	U (0.12)	U (0.11)	0.066 J (0.11)	U (0.12)	0.074 J (0.12)	U (0.11)
Benzo(a)pyrene	91	46	0.094 J (0.16)	U (0.16)	0.057 J (0.16)	U (0.16)	0.076 J (0.16)	U (0.15)	0.18 (0.16)	U (0.16)	U (0.14)	0.074 J (0.14)	U (0.16)	0.09 J (0.16)	U (0.15)
Benzo(b)fluoranthene	76	170	0.068 J (0.12)	U (0.12)	0.066 J (0.12)	U (0.12)	0.09 J (0.12)	U (0.12)	0.21 (0.12)	U (0.12)	U (0.11)	0.079 J (0.11)	U (0.12)	0.099 J (0.12)	U (0.11)
Benzo(g,h,i)perylene	190000	180	0.082 J (0.16)	U (0.16)	0.036 J (0.16)	U (0.16)	0.044 J (0.16)	U (0.15)	0.1 J (0.16)	U (0.16)	U (0.14)	0.067 J (0.14)	U (0.16)	0.05 J (0.16)	U (0.15)
Chrysene	760	230	0.24 (0.12)	U (0.12)	0.058 J (0.12)	U (0.12)	0.078 J (0.12)	0.021 J (0.12)	0.18 (0.12)	U (0.12)	U (0.11)	0.074 J (0.11)	U (0.12)	0.068 J (0.12)	U (0.11)
Fluorene	130000	3800	0.24 (0.2)	U (0.19)	U (0.2)	U (0.2)	U (0.19)	U (0.19)	0.031 J (0.2)	U (0.2)	U (0.18)	U (0.18)	U (0.2)	U (0.2)	U (0.19)
Naphthalene	66	25	0.057 J (0.2)	U (0.19)	U (0.2)	U (0.2)	U (0.19)	U (0.19)	0.032 J (0.2)	U (0.2)	U (0.18)	0.027 J (0.18)	U (0.2)	U (0.2)	U (0.19)
Phenanthrene	190000	10000	0.59 (0.12)	U (0.12)	0.097 J (0.12)	U (0.12)	0.062 J (0.12)	U (0.12)	0.32 (0.12)	U (0.12)	U (0.11)	0.066 J (0.11)	U (0.12)	0.044 J (0.12)	U (0.11)
Pyrene	96000	2200	0.65 (0.12)	U (0.12)	0.098 J (0.12)	U (0.12)	0.12 (0.12)	0.028 J (0.12)	0.31 (0.12)	U (0.12)	U (0.11)	0.094 J (0.11)	U (0.12)	0.097 J (0.12)	U (0.11)
Metals															
Lead	1000	450	57.5 (2.33)	40 (2.23)	11.5 (2.35)	6.16 (2.4)	13.2 (2.32)	124 (2.28)	151 (2.33)	10 (2.32)	6.29 (2.12)	103 (2.2)	14.6 (2.43)	51.2 (2.35)	17.4 (2.28)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	201-F02-C1 201-F02 4/19/2022	201-F02-CX 201-F02 4/19/2022	201-F03-C1 201-F03 2/24/2022	201-F03-C2 201-F03 2/24/2022	201-F03-CX 201-F03 2/24/2022	201-F04-C1 201-F04 4/19/2022	201-F04-CX 201-F04 4/19/2022	201-F05-C1 201-F05 3/29/2022	201-F05-CX 201-F05 3/29/2022	202-A01-C1 202-A01 3/30/2022	202-A01-C2 202-A01 3/30/2022	202-A01-C3 202-A01 3/30/2022	202-A01-CX 202-A01 3/30/2022	
Field Sample ID	Value (0-2 ft bgs)	Value	201-F02-C1-COMP	201-F02-CX-COMP	201-F03-C1-COMP	201-F03-C2-COMP	201-F03-CX-COMP	201-F04-C1-COMP	201-F04-CX-COMP	201-F05-C1-COMP	201-F05-CX-COMP	202-A01-C1-COMP	202-A01-C2-COMP	202-A01-C3-COMP	202-A01-CX-COMP	
Sample Date	(mg/kg)	(mg/kg)														
PAHs																
Anthracene	190000	350	0.4 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.37 (0.11)	U (0.11)	U (0.11)	U (0.11)	0.12 (0.11)	U (0.1)	
Benzo(a)anthracene	130	340	0.036 J (0.12)	U (0.12)	0.026 J (0.12)	U (0.12)	U (0.12)	U (0.12)	0.057 J (0.12)	0.13 (0.12)	1.3 (0.11)	U (0.11)	0.07 J (0.11)	0.028 J (0.11)	0.025 J (0.11)	U (0.1)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	0.065 J (0.16)	0.16 (0.15)	1.5 (0.15)	U (0.15)	0.07 J (0.15)	U (0.15)	U (0.14)	U (0.14)
Benzo(b)fluoranthene	76	170	0.049 J (0.12)	U (0.12)	0.036 J (0.12)	U (0.12)	U (0.12)	U (0.12)	0.071 J (0.12)	0.17 (0.12)	1.6 (0.11)	U (0.11)	0.091 J (0.11)	0.04 J (0.11)	U (0.11)	U (0.1)
Benzo(g,h,i)perylene	190000	180	0.038 J (0.16)	U (0.16)	0.048 J (0.16)	U (0.16)	U (0.16)	U (0.16)	0.034 J (0.16)	0.14 J (0.15)	0.73 (0.15)	U (0.15)	0.05 J (0.15)	U (0.15)	U (0.14)	U (0.14)
Chrysene	760	230	0.047 J (0.12)	U (0.12)	0.027 J (0.12)	U (0.12)	U (0.12)	U (0.12)	0.06 J (0.12)	0.19 (0.12)	1.3 (0.11)	U (0.11)	0.073 J (0.11)	0.024 J (0.11)	0.035 J (0.11)	U (0.1)
Fluorene	130000	3800	1.1 (0.2)	0.1 J (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.2)	U (0.19)	0.19 (0.19)	U (0.19)	0.031 J (0.19)	U (0.19)	1.2 (0.18)	U (0.17)
Naphthalene	66	25	0.26 (0.2)	0.55 (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	0.038 J (0.19)	0.12 J (0.19)	U (0.19)	0.037 J (0.19)	U (0.19)	0.21 (0.18)	U (0.17)	U (0.17)
Phenanthrene	190000	10000	2.7 (0.12)	0.15 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.099 J (0.12)	0.1 J (0.12)	1.8 (0.11)	U (0.11)	0.12 (0.11)	U (0.11)	1.8 (0.11)	U (0.1)
Pyrene	96000	2200	0.32 (0.12)	0.02 J (0.12)	0.022 J (0.12)	U (0.12)	U (0.12)	U (0.12)	0.089 J (0.12)	0.23 (0.12)	2.5 (0.11)	U (0.11)	0.11 (0.11)	0.032 J (0.11)	0.13 (0.11)	U (0.1)
Metals																
Lead	1000	450	53 (2.38)	10.8 (2.36)	22.2 (2.24)	37.9 (12.3)	5.23 (2.27)	101 (12)	1160 (11.4)	19.2 (2.26)	37.2 (2.3)	17.1 (2.26)	58.4 (2.21)	52.3 (2.12)	3.95 (2.03)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	202-A02-C1	202-A02-CX	202-A03-C1	202-A03-C2	202-A03-C3	202-A03-CX	202-A04-C1	202-A04-C2	202-A04-C3	202-A04-CX	202-A05-C1	202-A05-C2	202-A05-CX
			202-A02	202-A02	202-A03	202-A03	202-A03	202-A03	202-A03	202-A04	202-A04	202-A04	202-A04	202-A05	202-A05
Field Sample ID			202-A02-C1-COMP	202-A02-CX-COMP	202-A03-C1-COMP	202-A03-C2-COMP	202-A03-C3-COMP	202-A03-CX-COMP	202-A04-C1-COMP	202-A04-C2-COMP	202-A04-C3-COMP	202-A04-CX-COMP	202-A05-C1-COMP	202-A05-C2-COMP	202-A05-CX-COMP
Sample Date			3/29/2022	3/29/2022	3/29/2022	3/29/2022	3/29/2022	3/29/2022	3/31/2022	3/31/2022	3/31/2022	3/31/2022	3/31/2022	3/31/2022	3/31/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.56)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	0.034 J (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.56)	U (0.12)	U (0.12)	U (0.12)	0.096 J (0.11)	0.027 J (0.12)	U (0.12)
Benzo(a)pyrene	91	46	U (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.17)	U (0.16)	U (0.75)	U (0.16)	U (0.16)	U (0.16)	0.16 (0.15)	U (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	0.035 J (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.56)	U (0.12)	U (0.12)	U (0.12)	0.18 (0.11)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.17)	U (0.16)	U (0.75)	U (0.16)	U (0.16)	U (0.16)	0.1 J (0.15)	U (0.16)	U (0.16)
Chrysene	760	230	0.032 J (0.12)	U (0.11)	0.029 J (0.11)	U (0.12)	U (0.13)	U (0.12)	0.42 J (0.56)	U (0.12)	U (0.12)	U (0.12)	0.098 J (0.11)	0.024 J (0.12)	U (0.12)
Fluorene	130000	3800	U (0.19)	U (0.19)	U (0.19)	U (0.2)	U (0.21)	U (0.2)	0.84 J (0.94)	U (0.2)	U (0.2)	U (0.19)	U (0.18)	U (0.2)	U (0.2)
Naphthalene	66	25	U (0.19)	U (0.19)	U (0.19)	U (0.2)	U (0.21)	U (0.2)	0.16 J (0.94)	U (0.2)	U (0.2)	U (0.19)	U (0.18)	U (0.2)	U (0.2)
Phenanthrene	190000	10000	0.033 J (0.12)	U (0.11)	0.031 J (0.11)	U (0.12)	U (0.13)	U (0.12)	1.5 (0.56)	U (0.12)	U (0.12)	U (0.12)	0.061 J (0.11)	U (0.12)	U (0.12)
Pyrene	96000	2200	0.049 J (0.12)	U (0.11)	0.032 J (0.11)	U (0.12)	U (0.13)	U (0.12)	0.44 J (0.56)	U (0.12)	U (0.12)	U (0.12)	0.1 J (0.11)	0.033 J (0.12)	U (0.12)
Metals															
Lead	1000	450	150 (2.26)	7.65 (2.22)	37.2 (2.15)	22.6 (2.42)	16.1 (2.46)	4.68 (2.42)	15.1 (4.34)	7.9 (2.47)	8.57 (2.41)	6.46 (2.26)	6.81 (4.49)	5.82 (2.32)	9.53 (2.35)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-A06-C1 202-A06 202-A06-C1-COMP 4/28/2022	202-A06-C2 202-A06 202-A06-C2-COMP 4/28/2022	202-A06-C3 202-A06 202-A06-C3-COMP 4/28/2022	202-A06-CX 202-A06 202-A06-CX-COMP 4/28/2022	202-A07-C1 202-A07 202-A07-C1-COMP 4/28/2022	202-A07-C2 202-A07 202-A07-C2-COMP 4/28/2022	202-A07-C3 202-A07 202-A07-C3-COMP 4/28/2022	202-A07-CX 202-A07 202-A07-CX-COMP 4/28/2022	202-A08-C1 202-A08 202-A08-C1-COMP 2/24/2022	202-A08-C2 202-A08 202-A08-C2-COMP 2/24/2022	202-A08-CX 202-A08 202-A08-CX-COMP 2/24/2022	202-A09-C1 202-A09 202-A09-C1-COMP 2/24/2022	202-A09-C2 202-A09 202-A09-C2-COMP 2/24/2022
Field Sample ID Sample Date	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)													
PAHs															
Anthracene	190000	350	U (0.12)	U (0.13)	U (0.12)	U (0.1)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	0.05 J (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)
Benzo(a)anthracene	130	340	U (0.12)	U (0.13)	U (0.12)	U (0.1)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	0.1 J (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)
Benzo(a)pyrene	91	46	U (0.16)	U (0.17)	U (0.16)	U (0.14)	U (0.16)	U (0.18)	U (0.15)	U (0.15)	0.07 J (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.18)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.13)	U (0.12)	U (0.1)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	0.075 J (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.17)	U (0.16)	U (0.14)	U (0.16)	U (0.18)	U (0.15)	U (0.15)	0.034 J (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.18)
Chrysene	760	230	U (0.12)	U (0.13)	U (0.12)	U (0.1)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	0.097 J (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)
Fluorene	130000	3800	U (0.2)	U (0.21)	U (0.2)	U (0.18)	U (0.2)	U (0.22)	U (0.19)	U (0.19)	0.019 J (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.22)
Naphthalene	66	25	U (0.2)	U (0.21)	U (0.2)	U (0.18)	U (0.2)	U (0.22)	U (0.19)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.22)
Phenanthrene	190000	10000	U (0.12)	U (0.13)	U (0.12)	U (0.1)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	0.2 (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)
Pyrene	96000	2200	U (0.12)	U (0.13)	U (0.12)	U (0.1)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	0.19 (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)
Metals															
Lead	1000	450	4.23 (2.32)	5.03 (4.89)	4.99 (2.28)	3.2 (2.04)	5.78 (4.84)	6.19 (5.3)	4.12 (2.26)	4.11 (2.22)	8.04 J (11.6)	8.53 J (11.5)	4.24 (2.32)	23.9 (11.2)	8.98 J (13.3)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-A09-C3 202-A09	202-A09-CX 202-A09	202-B01-C1 202-B01	202-B01-C2 202-B01	202-B01-C3 202-B01	202-B01-CX 202-B01	202-B02-C1 202-B02	202-B02-C2 202-B02	202-B02-C3 202-B02	202-B02-CX 202-B02	202-B03-C1 202-B03	202-B03-C2 202-B03	202-B03-C3 202-B03
Field Sample ID	Value (0-2 ft bgs)	Value	202-A09-C3-COMP	202-A09-CX-COMP	202-B01-C1-COMP	202-B01-C2-COMP	202-B01-C3-COMP	202-B01-CX-COMP	202-B02-C1-COMP	202-B02-C2-COMP	202-B02-C3-COMP	202-B02-CX-COMP	202-B03-C1-COMP	202-B03-C2-COMP	202-B03-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	2/24/2022	2/24/2022	3/30/2022	3/30/2022	3/30/2022	3/30/2022	3/30/2022	3/30/2022	3/30/2022	3/30/2022	3/2/2022	3/2/2022	3/2/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	0.2 J (0.6)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	0.045 J (0.12)	U (0.6)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.16)	U (0.8)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.15)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	0.052 J (0.12)	U (0.6)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.16)	U (0.8)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.15)	U (0.16)
Chrysene	760	230	U (0.12)	U (0.12)	0.043 J (0.12)	0.26 J (0.6)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Fluorene	130000	3800	U (0.2)	U (0.2)	U (0.2)	2.4 (1)	0.084 J (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.19)	U (0.19)	U (0.2)
Naphthalene	66	25	U (0.2)	U (0.2)	U (0.2)	1.7 (1)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.19)	U (0.19)	U (0.2)
Phenanthrene	190000	10000	U (0.12)	U (0.12)	0.057 J (0.12)	2.5 (0.6)	0.14 (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Pyrene	96000	2200	U (0.12)	U (0.12)	0.066 J (0.12)	0.19 J (0.6)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Metals															
Lead	1000	450	7.03 J (11.5)	7.76 J (12.2)	53.7 (2.36)	8.04 (2.34)	3.55 (2.3)	6.64 (2.37)	12.7 (2.37)	5.52 (2.31)	6.08 (2.46)	6.98 (2.34)	10.9 (2.28)	26 (2.28)	4.32 (2.39)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-B03-CX 202-B03 202-B03-CX-COMP 3/2/2022	202-B04-C1 202-B04 202-B04-C1-COMP 3/2/2022	202-B04-C2 202-B04 202-B04-C2-COMP 3/2/2022	202-B04-C3 202-B04 202-B04-C3-COMP 3/2/2022	202-B04-C4 202-B04 202-B04-C4-COMP 3/2/2022	202-B04-CX 202-B04 202-B04-CX-COMP 3/2/2022	202-B05-C1 202-B05 202-B05-C1-COMP 3/2/2022	202-B05-C2 202-B05 202-B05-C2-COMP 3/2/2022	202-B05-C3 202-B05 202-B05-C3-COMP 3/2/2022	202-B05-CX 202-B05 202-B05-CX-COMP 3/2/2022	202-B06-C1 202-B06 202-B06-C1-COMP 3/1/2022	202-B06-C2 202-B06 202-B06-C2-COMP 3/1/2022	202-B06-CX 202-B06 202-B06-CX-COMP 3/1/2022
Field Sample ID	Value (0-2 ft bgs)	Value													
Sample Date	(mg/kg)	(mg/kg)													
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.024 J (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.18)	U (0.16)	U (0.16)	U (0.16)	U (0.15)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.18)	U (0.16)	U (0.16)	U (0.16)	U (0.15)
Chrysene	760	230	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.022 J (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Fluorene	130000	3800	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.19)	U (0.2)	U (0.22)	U (0.2)	U (0.19)	U (0.2)	U (0.18)
Naphthalene	66	25	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.19)	U (0.2)	U (0.22)	U (0.2)	U (0.19)	U (0.2)	U (0.18)
Phenanthrene	190000	10000	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.032 J (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Metals															
Lead	1000	450	6.28 (4.6)	8 (2.38)	5.46 (2.35)	7.22 (2.35)	5.99 (4.58)	4.69 J (4.7)	46.1 (4.35)	4.61 J (4.81)	45.9 (2.6)	4.84 (2.36)	4.86 (2.3)	5.78 J (11.3)	4.05 (2.14)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-B07-C1	202-B07-C2	202-B07-C3	202-B07-CX	202-B08-C1	202-B08-C2	202-B08-C3	202-B08-CX	202-B09-C1	202-B09-C2	202-B09-CX	202-B10-C1	202-B10-C2
Field Sample ID	Value (0-2 ft bgs)	Value	202-B07-C1-COMP	202-B07-C2-COMP	202-B07-C3-COMP	202-B07-CX-COMP	202-B08-C1-COMP	202-B08-C2-COMP	202-B08-C3-COMP	202-B08-CX-COMP	202-B09-C1-COMP	202-B09-C2-COMP	202-B09-CX-COMP	202-B10-C1-COMP	202-B10-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	3/1/2022	3/1/2022	3/1/2022	3/1/2022	2/25/2022	2/25/2022	2/25/2022	2/25/2022	2/25/2022	2/25/2022	2/25/2022	2/25/2022	2/25/2022
PAHs															
Anthracene	190000	350	U (0.11)	U (0.12)	U (0.11)	U (0.11)	0.1 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)
Benzo(a)anthracene	130	340	U (0.11)	U (0.12)	U (0.11)	0.04 J (0.11)	0.3 (0.12)	U (0.12)	0.13 (0.12)	U (0.12)	0.11 J (0.12)	0.074 J (0.12)	U (0.12)	0.12 (0.12)	U (0.13)
Benzo(a)pyrene	91	46	U (0.15)	U (0.16)	U (0.15)	0.045 J (0.15)	0.26 (0.16)	U (0.16)	0.13 J (0.15)	U (0.16)	0.1 J (0.16)	0.064 J (0.15)	U (0.16)	0.11 J (0.16)	U (0.18)
Benzo(b)fluoranthene	76	170	U (0.11)	U (0.12)	U (0.11)	0.052 J (0.11)	0.3 (0.12)	U (0.12)	0.15 (0.12)	U (0.12)	0.11 J (0.12)	0.082 J (0.12)	U (0.12)	0.12 (0.12)	U (0.13)
Benzo(g,h,i)perylene	190000	180	U (0.15)	U (0.16)	U (0.15)	0.031 J (0.15)	0.18 (0.16)	U (0.16)	0.078 J (0.15)	U (0.16)	0.056 J (0.16)	0.037 J (0.15)	U (0.16)	0.066 J (0.16)	U (0.18)
Chrysene	760	230	U (0.11)	U (0.12)	U (0.11)	0.039 J (0.11)	0.32 (0.12)	U (0.12)	0.14 (0.12)	U (0.12)	0.11 J (0.12)	0.063 J (0.12)	U (0.12)	0.12 (0.12)	U (0.13)
Fluorene	130000	3800	U (0.19)	U (0.2)	U (0.19)	U (0.18)	0.036 J (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.19)	U (0.19)	U (0.2)	U (0.2)	U (0.22)
Naphthalene	66	25	U (0.19)	U (0.2)	U (0.19)	0.045 J (0.18)	0.14 J (0.2)	U (0.2)	0.032 J (0.19)	U (0.2)	U (0.19)	U (0.19)	U (0.2)	0.026 J (0.2)	U (0.22)
Phenanthrene	190000	10000	U (0.11)	U (0.12)	U (0.11)	0.045 J (0.11)	0.51 (0.12)	U (0.12)	0.14 (0.12)	U (0.12)	0.14 (0.12)	0.093 J (0.12)	U (0.12)	0.13 (0.12)	U (0.13)
Pyrene	96000	2200	0.025 J (0.11)	U (0.12)	U (0.11)	0.059 J (0.11)	0.59 (0.12)	U (0.12)	0.22 (0.12)	U (0.12)	0.19 (0.12)	0.11 J (0.12)	U (0.12)	0.18 (0.12)	U (0.13)
Metals															
Lead	1000	450	10.2 (2.22)	6.72 J (11.5)	43.5 (2.21)	83.6 (11)	9.44 (2.42)	12.9 (12)	129 (11.5)	6.59 J (12.1)	147 (11.1)	28.6 (11.5)	10.3 (2.34)	85 (11.6)	34.9 (2.58)

- Notes:**
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 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-B10-C3	202-B10-CX	202-C01-C1	202-C01-C2	202-C01-C3	202-C01-CX	202-C02-C1	202-C02-C2	202-C02-C3	202-C02-C4	202-C02-CX	202-C03-C1	202-C03-C2
Field Sample ID	Value (0-2 ft bgs)	Value	202-B10-C3-COMP	202-B10-CX-COMP	202-C01-C1-COMP	202-C01-C2-COMP	202-C01-C3-COMP	202-C01-CX-COMP	202-C02-C1-COMP	202-C02-C2-COMP	202-C02-C3-COMP	202-C02-C4-COMP	202-C02-CX-COMP	202-C03-C1-COMP	202-C03-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	2/25/2022	2/25/2022	4/5/2022	4/5/2022	4/5/2022	4/5/2022	4/1/2022	4/1/2022	4/1/2022	4/1/2022	4/1/2022	4/1/2022	4/1/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	0.15 (0.12)	0.2 (0.12)	0.05 J (0.12)	0.12 (0.1)	1.5 (0.12)	0.23 (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	0.054 J (0.12)	U (0.12)	0.32 (0.12)	0.22 (0.12)	U (0.12)	U (0.1)	3.5 (0.12)	0.074 J (0.11)	0.043 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)pyrene	91	46	0.05 J (0.16)	U (0.16)	0.37 (0.16)	0.28 (0.16)	U (0.17)	U (0.14)	3.6 (0.15)	0.072 J (0.15)	U (0.16)	U (0.15)	U (0.16)	U (0.17)	U (0.16)
Benzo(b)fluoranthene	76	170	0.056 J (0.12)	U (0.12)	0.42 (0.12)	0.32 (0.12)	U (0.12)	U (0.1)	4.6 (0.12)	0.086 J (0.11)	0.051 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	0.03 J (0.16)	U (0.16)	0.2 (0.16)	0.16 (0.16)	U (0.17)	U (0.14)	1.9 (0.15)	0.052 J (0.15)	0.031 J (0.16)	U (0.15)	U (0.16)	U (0.17)	U (0.16)
Chrysene	760	230	0.052 J (0.12)	U (0.12)	0.33 (0.12)	0.24 (0.12)	U (0.12)	U (0.1)	3.4 (0.12)	0.25 (0.11)	0.05 J (0.12)	U (0.12)	0.037 J (0.12)	0.043 J (0.12)	U (0.12)
Fluorene	130000	3800	U (0.2)	U (0.19)	0.19 J (0.2)	0.59 (0.2)	0.37 (0.21)	0.82 (0.17)	0.61 (0.19)	1.3 (0.19)	0.11 J (0.2)	U (0.19)	0.18 J (0.2)	0.24 (0.21)	0.1 J (0.2)
Naphthalene	66	25	U (0.2)	U (0.19)	0.16 J (0.2)	0.68 (0.2)	1.3 (0.21)	U (0.17)	0.22 (0.19)	0.39 (0.19)	0.032 J (0.2)	U (0.19)	0.037 J (0.2)	0.049 J (0.21)	U (0.2)
Phenanthrene	190000	10000	0.057 J (0.12)	U (0.12)	0.45 (0.12)	1.1 (0.12)	0.5 (0.12)	1.2 (0.1)	5.6 (0.12)	2.2 (0.11)	0.19 (0.12)	U (0.12)	0.3 (0.12)	0.44 (0.12)	0.077 J (0.12)
Pyrene	96000	2200	0.078 J (0.12)	U (0.12)	0.57 (0.12)	0.43 (0.12)	0.022 J (0.12)	0.059 J (0.1)	6.5 (0.12)	0.37 (0.11)	0.086 J (0.12)	U (0.12)	0.049 J (0.12)	0.051 J (0.12)	U (0.12)
Metals															
Lead	1000	450	5.51 (2.28)	2.99 (2.3)	13 (2.39)	7.74 (2.35)	5.59 (2.48)	5.7 (2.02)	220 (2.22)	139 (2.18)	28.6 (2.29)	7.84 (4.48)	7.63 (2.36)	57.6 (4.92)	42.8 (4.6)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-C03-C3	202-C03-C4	202-C03-CX	202-C04-C1	202-C04-C2	202-C04-C3	202-C04-CX	202-C05-C1	202-C05-C2	202-C05-C3	202-C05-CX	202-C06-C1	202-C06-C2
Field Sample ID	Value (0-2 ft bgs)	Value	202-C03-C3-COMP	202-C03-C4-COMP	202-C03-CX-COMP	202-C04-C1-COMP	202-C04-C2-COMP	202-C04-C3-COMP	202-C04-CX-COMP	202-C05-C1-COMP	202-C05-C2-COMP	202-C05-C3-COMP	202-C05-CX-COMP	202-C06-C1-COMP	202-C06-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	4/1/2022	4/1/2022	4/1/2022	3/31/2022	3/31/2022	3/31/2022	3/31/2022	4/1/2022	4/1/2022	4/1/2022	4/1/2022	3/4/2022	3/4/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.11)	U (0.11)	U (0.11)	0.041 J (0.12)	U (0.12)	0.08 J (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	U (0.12)	U (0.11)	U (0.11)	0.022 J (0.11)	0.24 (0.12)	U (0.12)	0.17 (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.022 J (0.12)
Benzo(a)pyrene	91	46	U (0.16)	U (0.15)	U (0.15)	U (0.15)	0.25 (0.16)	U (0.16)	0.14 J (0.16)	U (0.17)	U (0.17)	U (0.17)	U (0.16)	U (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.11)	U (0.11)	0.032 J (0.11)	0.32 (0.12)	U (0.12)	0.16 (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.15)	U (0.15)	0.022 J (0.15)	0.14 J (0.16)	U (0.16)	0.055 J (0.16)	U (0.17)	U (0.17)	U (0.17)	U (0.16)	U (0.16)	U (0.16)
Chrysene	760	230	U (0.12)	U (0.11)	U (0.11)	0.04 J (0.11)	0.25 (0.12)	U (0.12)	0.15 (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.021 J (0.12)
Fluorene	130000	3800	0.039 J (0.2)	U (0.19)	U (0.18)	U (0.18)	U (0.2)	U (0.2)	0.038 J (0.2)	U (0.21)	U (0.21)	U (0.21)	U (0.2)	U (0.2)	U (0.2)
Naphthalene	66	25	U (0.2)	U (0.19)	U (0.18)	U (0.18)	U (0.2)	U (0.2)	U (0.2)	U (0.21)	U (0.21)	U (0.21)	U (0.2)	U (0.2)	U (0.2)
Phenanthrene	190000	10000	U (0.12)	U (0.11)	U (0.11)	U (0.11)	0.14 (0.12)	U (0.12)	0.3 (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Pyrene	96000	2200	U (0.12)	U (0.11)	U (0.11)	0.045 J (0.11)	0.37 (0.12)	U (0.12)	0.27 (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.027 J (0.12)
Metals															
Lead	1000	450	5.96 (2.29)	10.5 (4.46)	7.14 (2.07)	10.4 (2.15)	110 (2.48)	37.5 (2.33)	76.1 (2.36)	7.56 (2.4)	4.61 (2.44)	5.69 (2.42)	9.25 (2.31)	8.58 (2.4)	71.9 (11.5)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-C06-C3 202-C06 202-C06-C3-COMP 3/4/2022	202-C06-CX 202-C06 202-C06-CX-COMP 3/4/2022	202-C07-C1 202-C07 202-C07-C1-COMP 3/4/2022	202-C07-C2 202-C07 202-C07-C2-COMP 3/4/2022	202-C07-C3 202-C07 202-C07-C3-COMP 3/4/2022	202-C07-C4 202-C07 202-C07-C4-COMP 3/4/2022	202-C07-CX 202-C07 202-C07-CX-COMP 3/4/2022	202-C08-C1 202-C08 202-C08-C1-COMP 3/7/2022	202-C08-C2 202-C08 202-C08-C2-COMP 3/7/2022	202-C08-C3 202-C08 202-C08-C3-COMP 3/7/2022	202-C08-C4 202-C08 202-C08-C4-COMP 3/7/2022	202-C08-CX 202-C08 202-C08-CX-COMP 3/7/2022	202-C09-C1 202-C09 202-C09-C1-COMP 3/1/2022
Field Sample ID Sample Date	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)													
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.14)	U (0.15)	U (0.14)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.15)	U (0.16)	U (0.15)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.14)	U (0.15)	U (0.14)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.15)	U (0.16)	U (0.15)
Chrysene	760	230	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)
Fluorene	130000	3800	U (0.2)	U (0.2)	U (0.18)	U (0.19)	U (0.18)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.21)	U (0.19)	U (0.2)	U (0.18)
Naphthalene	66	25	U (0.2)	U (0.2)	U (0.18)	U (0.19)	U (0.18)	U (0.2)	0.037 J (0.2)	U (0.2)	U (0.2)	U (0.21)	U (0.19)	U (0.2)	U (0.18)
Phenanthrene	190000	10000	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)
Metals															
Lead	1000	450	7.94 (2.39)	4.8 (2.42)	24 (2.07)	6.04 (2.31)	4.26 (2.22)	5.12 (2.28)	7.14 J (11.6)	19.6 (2.35)	6.28 (2.4)	8.05 (2.48)	5.62 (2.27)	5.19 (2.34)	7.25 (2.23)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-C09-C2 202-C09	202-C09-C3 202-C09	202-C09-CX 202-C09	202-C10-C1 202-C10	202-C10-C2 202-C10	202-C10-C3 202-C10	202-C10-CX 202-C10	202-C11-C1 202-C11	202-C11-C2 202-C11	202-C11-CX 202-C11	202-C12-C1 202-C12	202-C12-C2 202-C12	202-C12-C3 202-C12
Field Sample ID	Value (0-2 ft bgs)	Value	202-C09-C2-COMP 3/1/2022	202-C09-C3-COMP 3/1/2022	202-C09-CX-COMP 3/1/2022	202-C10-C1-COMP 2/28/2022	202-C10-C2-COMP 2/28/2022	202-C10-C3-COMP 2/28/2022	202-C10-CX-COMP 2/28/2022	202-C11-C1-COMP 2/28/2022	202-C11-C2-COMP 2/28/2022	202-C11-CX-COMP 2/28/2022	202-C12-C1-COMP 3/9/2022	202-C12-C2-COMP 3/9/2022	202-C12-C3-COMP 3/9/2022
Sample Date	(mg/kg)	(mg/kg)													
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.048 J (0.12)	U (0.1)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.12)	0.052 J (0.12)	0.13 (0.12)	U (0.1)	U (0.11)	0.072 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.16)	U (0.16)	0.11 J (0.16)	U (0.14)	U (0.15)	0.08 J (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	0.058 J (0.12)	0.12 (0.12)	U (0.1)	U (0.11)	0.092 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.16)	0.034 J (0.16)	0.078 J (0.16)	U (0.14)	U (0.15)	0.062 J (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)
Chrysene	760	230	U (0.12)	U (0.12)	U (0.12)	0.053 J (0.12)	0.13 (0.12)	U (0.1)	U (0.11)	0.076 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)
Fluorene	130000	3800	U (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.18)	U (0.18)	U (0.19)	U (0.2)	U (0.19)	U (0.2)	U (0.19)	U (0.21)
Naphthalene	66	25	U (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.18)	U (0.18)	0.036 J (0.19)	U (0.2)	U (0.19)	U (0.2)	U (0.19)	U (0.21)
Phenanthrene	190000	10000	U (0.12)	U (0.12)	U (0.12)	0.055 J (0.12)	0.24 (0.12)	U (0.1)	U (0.11)	0.067 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.12)	0.083 J (0.12)	0.25 (0.12)	U (0.1)	0.02 J (0.11)	0.091 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)
Metals															
Lead	1000	450	7.7 (2.29)	11 (2.27)	6.86 J (12)	8.17 (2.37)	7.54 J (11.5)	5.02 (2.04)	36.1 (2.17)	74.1 (11.4)	4.77 (2.39)	11.2 J (11.8)	8.4 (2.28)	7.01 (2.27)	9.3 (2.49)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-C12-C4	202-C12-CX	202-D01-C1	202-D01-C2	202-D01-C3	202-D01-C4	202-D01-CX	202-D02-C1	202-D02-C2	202-D02-C3	202-D02-CX	202-D03-C1	202-D03-C2
Field Sample ID	Value (0-2 ft bgs)	Value	202-C12-C4-COMP	202-C12-CX-COMP	202-D01-C1-COMP	202-D01-C2-COMP	202-D01-C3-COMP	202-D01-C4-COMP	202-D01-CX-COMP	202-D02-C1-COMP	202-D02-C2-COMP	202-D02-C3-COMP	202-D02-CX-COMP	202-D03-C1-COMP	202-D03-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	3/9/2022	3/9/2022	3/22/2022	3/22/2022	3/22/2022	3/22/2022	3/22/2022	4/4/2022	4/4/2022	4/4/2022	4/4/2022	4/4/2022	4/4/2022
PAHs															
Anthracene	190000	350	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	U (0.11)	U (0.11)	0.07 J (0.11)	0.069 J (0.12)	U (0.12)	0.052 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)pyrene	91	46	U (0.14)	U (0.15)	0.064 J (0.15)	0.06 J (0.16)	U (0.16)	0.05 J (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	U (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.11)	U (0.11)	0.094 J (0.11)	0.072 J (0.12)	U (0.12)	0.071 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.14)	U (0.15)	0.044 J (0.15)	0.032 J (0.16)	U (0.16)	0.035 J (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	U (0.16)	U (0.16)
Chrysene	760	230	U (0.11)	U (0.11)	0.071 J (0.11)	0.062 J (0.12)	U (0.12)	0.056 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)
Fluorene	130000	3800	U (0.18)	U (0.19)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	0.065 J (0.19)	0.15 J (0.19)	U (0.2)	0.086 J (0.2)
Naphthalene	66	25	U (0.18)	U (0.19)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	0.17 J (0.19)	U (0.2)	U (0.2)
Phenanthrene	190000	10000	U (0.11)	U (0.11)	0.056 J (0.11)	0.085 J (0.12)	U (0.12)	0.046 J (0.12)	U (0.12)	U (0.12)	U (0.12)	0.12 (0.11)	0.34 (0.12)	U (0.12)	U (0.12)
Pyrene	96000	2200	U (0.11)	U (0.11)	0.1 J (0.11)	0.091 J (0.12)	U (0.12)	0.08 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.035 J (0.12)	U (0.12)	0.048 J (0.12)
Metals															
Lead	1000	450	7.25 (2.18)	7.98 (2.2)	181 (2.22)	4.79 (2.44)	5.67 (2.26)	63.2 (2.27)	5.13 (2.23)	5.21 (2.35)	7.67 (2.42)	5.45 (2.22)	6.51 (2.27)	13.5 (2.35)	4.71 (2.33)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	202-D03-C3	202-D03-CX	202-D04-C1	202-D04-C2	202-D04-C3	202-D04-CX	202-D05-C1	202-D05-C2	202-D05-C3	202-D05-C4	202-D05-CX	202-D06-C1	202-D06-C2
			202-D03	202-D03	202-D04	202-D04	202-D04	202-D04	202-D04	202-D05	202-D05	202-D05	202-D05	202-D05	202-D06
Field Sample ID	Value (0-2 ft bgs)	Value	202-D03-C3-COMP	202-D03-CX-COMP	202-D04-C1-COMP	202-D04-C2-COMP	202-D04-C3-COMP	202-D04-CX-COMP	202-D05-C1-COMP	202-D05-C2-COMP	202-D05-C3-COMP	202-D05-C4-COMP	202-D05-CX-COMP	202-D06-C1-COMP	202-D06-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	4/4/2022	4/4/2022	3/4/2022	3/4/2022	3/4/2022	3/4/2022	3/7/2022	3/7/2022	3/7/2022	3/7/2022	3/7/2022	3/7/2022	3/7/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.14)	U (0.12)	U (0.13)	U (0.11)	U (0.13)	U (0.14)
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.14)	U (0.12)	U (0.13)	U (0.11)	U (0.13)	U (0.14)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.18)	U (0.16)	U (0.17)	U (0.15)	U (0.18)	U (0.19)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.14)	U (0.12)	U (0.13)	U (0.11)	U (0.13)	U (0.14)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.18)	U (0.16)	U (0.17)	U (0.15)	U (0.18)	U (0.19)
Chrysene	760	230	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.14)	U (0.12)	U (0.13)	U (0.11)	U (0.13)	U (0.14)
Fluorene	130000	3800	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.21)	U (0.23)	U (0.2)	U (0.21)	U (0.19)	U (0.22)	U (0.23)
Naphthalene	66	25	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.21)	U (0.23)	U (0.2)	U (0.21)	U (0.19)	U (0.22)	U (0.23)
Phenanthrene	190000	10000	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.14)	U (0.12)	U (0.13)	U (0.11)	U (0.13)	U (0.14)
Pyrene	96000	2200	U (0.12)	0.022 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.14)	U (0.12)	U (0.13)	U (0.11)	U (0.13)	U (0.14)
Metals															
Lead	1000	450	5.16 (2.39)	7.23 J (11.6)	5.85 (2.39)	6.4 (2.32)	3.06 (2.34)	4.19 (2.26)	8.26 (2.4)	7.53 (2.57)	20.3 (2.34)	9.19 (2.48)	5.27 (2.24)	5.84 (2.55)	9.58 (2.75)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-D06-C3 202-D06	202-D06-CX 202-D06	202-D07-C1 202-D07	202-D07-C2 202-D07	202-D07-C3 202-D07	202-D07-C4 202-D07	202-D07-CX 202-D07	202-D08-C1 202-D08	202-D08-C2 202-D08	202-D08-C3 202-D08	202-D08-CX 202-D08	202-D09-C1 202-D09	202-D09-C2 202-D09
Field Sample ID	Value (0-2 ft bgs)	Value	202-D06-C3-COMP	202-D06-CX-COMP	202-D07-C1-COMP	202-D07-C2-COMP	202-D07-C3-COMP	202-D07-C4-COMP	202-D07-CX-COMP	202-D08-C1-COMP	202-D08-C2-COMP	202-D08-C3-COMP	202-D08-CX-COMP	202-D09-C1-COMP	202-D09-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	3/7/2022	3/7/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022	3/8/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)
Benzo(a)anthracene	130	340	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	0.034 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)
Benzo(a)pyrene	91	46	U (0.16)	U (0.15)	U (0.15)	U (0.16)	U (0.16)	U (0.14)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.14)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	0.039 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.15)	U (0.15)	U (0.16)	U (0.16)	U (0.14)	U (0.16)	0.025 J (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.14)	U (0.16)
Chrysene	760	230	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	0.031 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)
Fluorene	130000	3800	U (0.2)	U (0.19)	U (0.19)	U (0.2)	U (0.19)	U (0.18)	U (0.2)	U (0.18)	U (0.19)	U (0.2)	U (0.2)	U (0.18)	U (0.2)
Naphthalene	66	25	U (0.2)	U (0.19)	U (0.19)	U (0.2)	U (0.19)	U (0.18)	U (0.2)	U (0.18)	U (0.19)	U (0.2)	U (0.2)	U (0.18)	U (0.2)
Phenanthrene	190000	10000	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	0.033 J (0.11)	U (0.12)	0.069 J (0.12)	U (0.12)	U (0.11)	U (0.12)
Pyrene	96000	2200	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	0.046 J (0.11)	U (0.12)	0.037 J (0.12)	U (0.12)	U (0.11)	U (0.12)
Metals															
Lead	1000	450	4.9 (2.29)	4.24 (2.21)	35.2 (2.28)	4.61 (2.35)	5.39 (2.27)	2.43 (2.08)	7.02 (2.32)	38 (2.21)	5.75 (2.22)	8.79 J (11.5)	13.3 (11.6)	6.8 (2.21)	6.45 (2.24)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-D09-C3	202-D09-C4	202-D09-CX	202-E01-C1	202-E01-C2	202-E01-C3	202-E01-C4	202-E01-CX	202-E02-C1	202-E02-C2	202-E02-C3	202-E02-CX	202-E03-C1
Field Sample ID	Value (0-2 ft bgs)	Value	202-D09-C3-COMP	202-D09-C4-COMP	202-D09-CX-COMP	202-E01-C1-COMP	202-E01-C2-COMP	202-E01-C3-COMP	202-E01-C4-COMP	202-E01-CX-COMP	202-E02-C1-COMP	202-E02-C2-COMP	202-E02-C3-COMP	202-E02-CX-COMP	202-E03-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	3/8/2022	3/8/2022	3/8/2022	3/22/2022	3/22/2022	3/22/2022	3/22/2022	3/22/2022	3/24/2022	3/24/2022	3/24/2022	3/24/2022	3/24/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.13)	U (0.11)	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.12)	0.03 J (0.11)	0.026 J (0.12)	0.087 J (0.12)	U (0.13)	U (0.11)	0.04 J (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.12)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	0.081 J (0.15)	U (0.17)	U (0.14)	U (0.16)	U (0.15)	U (0.15)	U (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	0.041 J (0.11)	U (0.12)	0.098 J (0.12)	U (0.13)	U (0.11)	0.039 J (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.16)	0.041 J (0.15)	U (0.16)	0.051 J (0.15)	U (0.17)	U (0.14)	U (0.16)	U (0.15)	U (0.15)	U (0.16)	U (0.16)
Chrysene	760	230	U (0.12)	U (0.12)	U (0.12)	0.026 J (0.11)	0.027 J (0.12)	0.088 J (0.12)	U (0.13)	U (0.11)	0.034 J (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.12)
Fluorene	130000	3800	U (0.2)	U (0.21)	U (0.2)	U (0.18)	U (0.2)	U (0.19)	U (0.21)	0.052 J (0.18)	U (0.19)	U (0.18)	U (0.19)	U (0.2)	U (0.2)
Naphthalene	66	25	U (0.2)	U (0.21)	U (0.2)	U (0.18)	U (0.2)	U (0.19)	U (0.21)	0.12 J (0.18)	U (0.19)	U (0.18)	U (0.19)	U (0.2)	U (0.2)
Phenanthrene	190000	10000	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.067 J (0.12)	0.16 (0.12)	U (0.13)	U (0.11)	0.06 J (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.12)
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.12)	0.029 J (0.11)	0.052 J (0.12)	0.15 (0.12)	U (0.13)	U (0.11)	0.056 J (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.12)
Metals															
Lead	1000	450	6.29 (2.35)	6.76 (2.45)	9.29 J (11.8)	59.3 (2.2)	80.2 (2.29)	79.1 (2.33)	25.7 (12.5)	2.35 (2.13)	13.1 (11.5)	49.7 (10.6)	4.72 (2.16)	3.37 (2.34)	44.9 (11.7)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-E03-C2 202-E03	202-E03-C3 202-E03	202-E03-CX 202-E03	202-E04-C1 202-E04	202-E04-C2 202-E04	202-E04-C3 202-E04	202-E04-CX 202-E04	202-E05-C1 202-E05	202-E05-C2 202-E05	202-E05-C3 202-E05	202-E05-CX 202-E05	202-E06-C1 202-E06	202-E06-C2 202-E06
Field Sample ID	Value (0-2 ft bgs)	Value	202-E03-C2-COMP	202-E03-C3-COMP	202-E03-CX-COMP	202-E04-C1-COMP	202-E04-C2-COMP	202-E04-C3-COMP	202-E04-CX-COMP	202-E05-C1-COMP	202-E05-C2-COMP	202-E05-C3-COMP	202-E05-CX-COMP	202-E06-C1-COMP	202-E06-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	3/24/2022	3/24/2022	3/24/2022	3/23/2022	3/23/2022	3/23/2022	3/23/2022	3/22/2022	3/22/2022	3/22/2022	3/22/2022	3/23/2022	3/23/2022
PAHs															
Anthracene	190000	350	0.094 J (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.13)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	0.35 (0.12)	0.12 (0.12)	U (0.11)	U (0.12)	U (0.13)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.057 J (0.12)	U (0.12)
Benzo(a)pyrene	91	46	0.34 (0.16)	0.1 J (0.16)	U (0.14)	U (0.15)	U (0.18)	U (0.18)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	U (0.16)	0.065 J (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	0.44 (0.12)	0.13 (0.12)	U (0.11)	U (0.12)	U (0.13)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.079 J (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	0.22 (0.16)	0.065 J (0.16)	U (0.14)	U (0.15)	U (0.18)	U (0.18)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	U (0.16)	0.043 J (0.16)	U (0.16)
Chrysene	760	230	0.33 (0.12)	0.11 J (0.12)	U (0.11)	U (0.12)	U (0.13)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.055 J (0.12)	U (0.12)
Fluorene	130000	3800	0.026 J (0.2)	U (0.2)	U (0.18)	U (0.19)	U (0.22)	U (0.22)	U (0.2)	U (0.22)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)
Naphthalene	66	25	0.042 J (0.2)	U (0.2)	U (0.18)	U (0.19)	U (0.22)	U (0.22)	U (0.2)	U (0.22)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)
Phenanthrene	190000	10000	0.36 (0.12)	0.11 J (0.12)	U (0.11)	U (0.12)	U (0.13)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.051 J (0.12)	U (0.12)
Pyrene	96000	2200	0.55 (0.12)	0.15 (0.12)	U (0.11)	0.026 J (0.12)	U (0.13)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.087 J (0.12)	U (0.12)
Metals															
Lead	1000	450	320 (2.32)	129 (11.8)	8.53 J (10.4)	46.5 (11.4)	15.7 (2.52)	5.95 (2.65)	5.55 (2.33)	317 (12.7)	13.1 (12.2)	14 (11.5)	10.5 J (11.8)	2.6 (2.28)	19.8 (2.33)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-E06-C3 202-E06	202-E06-CX 202-E06	202-E07-C1 202-E07	202-E07-C2 202-E07	202-E07-C3 202-E07	202-E07-CX 202-E07	202-E08-C1 202-E08	202-E08-C2 202-E08	202-E08-C3 202-E08	202-E08-C4 202-E08	202-E08-CX 202-E08	202-E09-C1 202-E09	202-E09-C2 202-E09
Field Sample ID	Value (0-2 ft bgs)	Value	202-E06-C3-COMP	202-E06-CX-COMP	202-E07-C1-COMP	202-E07-C2-COMP	202-E07-C3-COMP	202-E07-CX-COMP	202-E08-C1-COMP	202-E08-C2-COMP	202-E08-C3-COMP	202-E08-C4-COMP	202-E08-CX-COMP	202-E09-C1-COMP	202-E09-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	3/23/2022	3/23/2022	3/23/2022	3/23/2022	3/23/2022	3/23/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022
PAHs															
Anthracene	190000	350	U (0.1)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.11)	U (0.12)
Benzo(a)anthracene	130	340	U (0.1)	U (0.12)	U (0.12)	0.14 (0.12)	0.044 J (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.044 J (0.11)	U (0.12)
Benzo(a)pyrene	91	46	U (0.14)	U (0.16)	U (0.16)	0.14 J (0.16)	0.051 J (0.15)	U (0.16)	U (0.15)	U (0.17)	U (0.15)	U (0.16)	U (0.16)	U (0.14)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.1)	U (0.12)	U (0.12)	0.16 (0.12)	0.052 J (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.052 J (0.11)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.14)	U (0.16)	U (0.16)	0.078 J (0.16)	0.027 J (0.15)	U (0.16)	U (0.15)	U (0.17)	U (0.15)	U (0.16)	U (0.16)	0.022 J (0.14)	U (0.16)
Chrysene	760	230	0.042 J (0.1)	U (0.12)	U (0.12)	0.15 (0.12)	0.041 J (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.04 J (0.11)	U (0.12)
Fluorene	130000	3800	0.02 J (0.17)	U (0.2)	U (0.2)	U (0.2)	U (0.18)	U (0.2)	U (0.19)	U (0.21)	U (0.19)	U (0.2)	U (0.2)	U (0.18)	0.02 J (0.2)
Naphthalene	66	25	U (0.17)	U (0.2)	U (0.2)	U (0.2)	U (0.18)	U (0.2)	U (0.19)	U (0.21)	U (0.19)	U (0.2)	U (0.2)	U (0.18)	U (0.2)
Phenanthrene	190000	10000	0.21 (0.1)	U (0.12)	U (0.12)	0.11 J (0.12)	0.055 J (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.059 J (0.11)	0.05 J (0.12)
Pyrene	96000	2200	0.021 J (0.1)	U (0.12)	U (0.12)	0.23 (0.12)	0.067 J (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.063 J (0.11)	U (0.12)
Metals															
Lead	1000	450	2.15 (2.07)	52.6 (2.38)	7.12 (2.35)	6.58 J (11.3)	18.4 (2.17)	8.42 J (12)	1.65 J (2.24)	8.26 (2.45)	3.2 (2.12)	5.72 (2.35)	6.03 (2.36)	73.1 (10.8)	6.92 (2.32)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-E09-C3 202-E09	202-E09-C4 202-E09	202-E09-CX 202-E09	202-E10-C1 202-E10	202-E10-C2 202-E10	202-E10-C3 202-E10	202-E10-C4 202-E10	202-E10-CX 202-E10	202-E11-C1 202-E11	202-E11-C2 202-E11	202-E11-C3 202-E11	202-E11-CX 202-E11	202-E12-C1 202-E12
Field Sample ID	Value (0-2 ft bgs)	Value	202-E09-C3-COMP	202-E09-C4-COMP	202-E09-CX-COMP	202-E10-C1-COMP	202-E10-C2-COMP	202-E10-C3-COMP	202-E10-C4-COMP	202-E10-CX-COMP	202-E11-C1-COMP	202-E11-C2-COMP	202-E11-C3-COMP	202-E11-CX-COMP	202-E12-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	3/10/2022	3/10/2022	3/10/2022	4/28/2022	4/28/2022	4/28/2022	4/28/2022	4/28/2022	3/11/2022	3/11/2022	3/11/2022	3/11/2022	3/10/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.1)	U (0.11)	U (0.13)	0.15 (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.1)	U (0.1)	U (0.11)
Benzo(a)anthracene	130	340	U (0.12)	U (0.1)	U (0.11)	U (0.13)	0.63 (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.1)	U (0.1)	U (0.11)
Benzo(a)pyrene	91	46	U (0.16)	U (0.14)	U (0.14)	U (0.18)	0.68 (0.17)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	U (0.15)	U (0.14)	U (0.14)	U (0.15)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.1)	U (0.11)	U (0.13)	0.74 (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.1)	U (0.1)	U (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.14)	U (0.14)	U (0.18)	0.32 (0.17)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	U (0.15)	U (0.14)	U (0.14)	U (0.15)
Chrysene	760	230	U (0.12)	U (0.1)	0.02 J (0.11)	U (0.13)	0.61 (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.1)	U (0.1)	U (0.11)
Fluorene	130000	3800	U (0.2)	0.02 J (0.18)	0.031 J (0.18)	U (0.22)	0.093 J (0.22)	U (0.2)	U (0.21)	U (0.2)	U (0.2)	U (0.18)	U (0.17)	U (0.18)	U (0.19)
Naphthalene	66	25	U (0.2)	U (0.18)	0.25 (0.18)	U (0.22)	1.4 (0.22)	U (0.2)	U (0.21)	U (0.2)	U (0.2)	U (0.18)	U (0.17)	U (0.18)	U (0.19)
Phenanthrene	190000	10000	U (0.12)	0.071 J (0.1)	0.11 (0.11)	U (0.13)	0.54 (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.1)	U (0.1)	U (0.11)
Pyrene	96000	2200	U (0.12)	U (0.1)	U (0.11)	U (0.13)	0.61 (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.1)	U (0.1)	U (0.11)
Metals															
Lead	1000	450	2.28 J (2.4)	5.13 (2.06)	1.89 J (2.07)	196 (5.22)	3.89 (2.52)	32 (12)	14.3 (4.89)	4.2 (2.32)	5.56 (4.54)	1.83 J (2.14)	1.59 J (2.02)	6.32 (2.05)	5.7 (2.25)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-E12-C2 202-E12	202-E12-C3 202-E12	202-E12-CX 202-E12	202-E13-C1 202-E13	202-E13-C2 202-E13	202-E13-C3 202-E13	202-E13-C4 202-E13	202-E13-CX 202-E13	202-E14-C1 202-E14	202-E14-C2 202-E14	202-E14-C3 202-E14	202-E14-CX 202-E14	202-E15-C1 202-E15
Field Sample ID	Value (0-2 ft bgs)	Value	202-E12-C2-COMP 3/10/2022	202-E12-C3-COMP 3/10/2022	202-E12-CX-COMP 3/10/2022	202-E13-C1-COMP 3/9/2022	202-E13-C2-COMP 3/9/2022	202-E13-C3-COMP 3/9/2022	202-E13-C4-COMP 3/9/2022	202-E13-CX-COMP 3/9/2022	202-E14-C1-COMP 3/9/2022	202-E14-C2-COMP 3/9/2022	202-E14-C3-COMP 3/9/2022	202-E14-CX-COMP 3/9/2022	202-E15-C1-COMP 3/10/2022
Sample Date	(mg/kg)	(mg/kg)													
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.12)
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.12)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	U (0.16)
Chrysene	760	230	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.12)
Fluorene	130000	3800	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.21)	U (0.2)	U (0.2)	U (0.2)	U (0.18)	U (0.19)	U (0.2)
Naphthalene	66	25	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.21)	U (0.2)	U (0.2)	U (0.2)	U (0.18)	U (0.19)	U (0.2)
Phenanthrene	190000	10000	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.12)
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.12)
Metals															
Lead	1000	450	7.42 (2.27)	6.96 (2.38)	5.69 (4.5)	7.73 J (12)	13.2 (2.4)	5.73 (2.37)	7.49 J (12.1)	5.03 (2.36)	7.74 (2.3)	5.31 (2.35)	18.3 (11)	4.47 (2.17)	11.6 J (12.2)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-E15-C2 202-E15 202-E15-C2-COMP 3/10/2022	202-E15-C3 202-E15 202-E15-C3-COMP 3/10/2022	202-E15-CX 202-E15 202-E15-CX-COMP 3/10/2022	202-F01-C1 202-F01 202-F01-C1-COMP 4/12/2022	202-F01-CX 202-F01 202-F01-CX-COMP 4/12/2022	202-F02-C1 202-F02 202-F02-C1-COMP 3/25/2022	202-F02-C2 202-F02 202-F02-C2-COMP 3/25/2022	202-F02-C3 202-F02 202-F02-C3-COMP 3/25/2022	202-F02-CX 202-F02 202-F02-CX-COMP 3/25/2022	202-F03-C1 202-F03 202-F03-C1-COMP 3/25/2022	202-F03-C2 202-F03 202-F03-C2-COMP 3/25/2022	202-F03-C3 202-F03 202-F03-C3-COMP 3/25/2022	202-F03-CX 202-F03 202-F03-CX-COMP 3/25/2022	
Field Sample ID Sample Date	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)														
PAHs																
Anthracene	190000	350	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.27 (0.12)	U (0.13)	U (0.13)	U (0.14)	
Benzo(a)anthracene	130	340	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	1 (0.12)	U (0.13)	U (0.13)	U (0.14)	
Benzo(a)pyrene	91	46	U (0.16)	U (0.14)	U (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	1.3 (0.16)	U (0.17)	U (0.17)	U (0.19)	
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	1.5 (0.12)	U (0.13)	U (0.13)	U (0.14)	
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.14)	U (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	0.8 (0.16)	U (0.17)	U (0.17)	U (0.19)	
Chrysene	760	230	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.88 (0.12)	U (0.13)	U (0.13)	U (0.14)	
Fluorene	130000	3800	U (0.2)	U (0.18)	U (0.19)	U (0.19)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	0.18 J (0.19)	0.079 J (0.2)	U (0.21)	U (0.21)	U (0.24)	
Naphthalene	66	25	U (0.2)	U (0.18)	U (0.19)	U (0.19)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	3.9 (0.19)	0.071 J (0.2)	U (0.21)	U (0.21)	U (0.24)	
Phenanthrene	190000	10000	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	0.29 (0.11)	0.67 (0.12)	U (0.13)	U (0.13)	U (0.14)	
Pyrene	96000	2200	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	0.02 J (0.11)	0.97 (0.12)	U (0.13)	U (0.13)	U (0.14)	
Metals																
Lead	1000	450	25.6 (2.33)	6.1 (2.18)	6.25 (2.3)	27.7 (11.2)	7.57 J (11.3)	8.38 (2.33)	6.17 (4.74)	4.92 (2.34)	6.04 (2.22)	7.58 (4.55)	31.9 (2.46)	7.63 (2.48)	6.26 (2.7)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-F04-C1 202-F04 202-F04-C1-COMP 3/25/2022	202-F04-C2 202-F04 202-F04-C2-COMP 3/25/2022	202-F04-C3 202-F04 202-F04-C3-COMP 3/25/2022	202-F04-CX 202-F04 202-F04-CX-COMP 3/25/2022	202-F05-C1 202-F05 202-F05-C1-COMP 4/5/2022	202-F05-C2 202-F05 202-F05-C2-COMP 4/5/2022	202-F05-C3 202-F05 202-F05-C3-COMP 4/5/2022	202-F05-CX 202-F05 202-F05-CX-COMP 4/5/2022	202-F06-C1 202-F06 202-F06-C1-COMP 3/14/2022	202-F06-C2 202-F06 202-F06-C2-COMP 3/14/2022	202-F06-C3 202-F06 202-F06-C3-COMP 3/14/2022	202-F06-C4 202-F06 202-F06-C4-COMP 3/14/2022	202-F06-CX 202-F06 202-F06-CX-COMP 3/14/2022	
Field Sample ID Sample Date	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)														
PAHs																
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.1)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	0.036 J (0.1)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.15)	U (0.17)	U (0.16)	0.083 J (0.14)	U (0.14)	U (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	0.058 J (0.1)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.15)	U (0.17)	U (0.16)	0.13 J (0.14)	U (0.14)	U (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	
Chrysene	760	230	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	0.054 J (0.1)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	
Fluorene	130000	3800	U (0.2)	U (0.2)	U (0.19)	U (0.21)	U (0.2)	U (0.18)	U (0.18)	U (0.19)	U (0.19)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	
Naphthalene	66	25	U (0.2)	U (0.2)	U (0.19)	U (0.21)	U (0.2)	U (0.18)	U (0.18)	U (0.19)	U (0.19)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	
Phenanthrene	190000	10000	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	0.067 J (0.1)	U (0.11)	U (0.11)	0.024 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.11)	U (0.13)	0.02 J (0.12)	0.052 J (0.1)	U (0.11)	U (0.11)	0.029 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	
Metals																
Lead	1000	450	6.22 (2.34)	5.73 (2.36)	6.91 (4.31)	8.68 (2.46)	31.8 (2.4)	70.8 (2.14)	5.36 (2.1)	6.96 (2.2)	13.5 (11.2)	8.87 J (11.4)	6.83 J (11.7)	7.32 J (11.2)	224 (11.8)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-F07-C1	202-F07-C2	202-F07-C3	202-F07-C4	202-F07-CX	202-F08-C1	202-F08-C2	202-F08-C3	202-F08-CX	202-F09-C1	202-F09-C2	202-F09-CX	202-F10-C1	
Field Sample ID	Value (0-2 ft bgs)	Value	202-F07	202-F07	202-F07	202-F07	202-F07	202-F08	202-F08	202-F08	202-F08	202-F09	202-F09	202-F09	202-F10	
Sample Date	(mg/kg)	(mg/kg)	202-F07-C1-COMP	202-F07-C2-COMP	202-F07-C3-COMP	202-F07-C4-COMP	202-F07-CX-COMP	202-F08-C1-COMP	202-F08-C2-COMP	202-F08-C3-COMP	202-F08-CX-COMP	202-F09-C1-COMP	202-F09-C2-COMP	202-F09-CX-COMP	202-F10-C1-COMP	
			4/27/2022	4/27/2022	4/27/2022	4/27/2022	4/27/2022	4/27/2022	4/27/2022	4/27/2022	4/27/2022	4/28/2022	4/28/2022	4/28/2022	4/6/2022	
PAHs																
Anthracene	190000	350	U (0.12)	U (0.12)	0.04 J (0.12)	U (0.12)	0.058 J (0.11)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	0.031 J (0.13)	0.023 J (0.12)	U (0.12)	U (0.12)	
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	U (0.17)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	U (0.16)	
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	0.04 J (0.13)	U (0.12)	U (0.12)	U (0.12)	
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	U (0.17)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	U (0.16)	
Chrysene	760	230	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	0.029 J (0.13)	0.02 J (0.12)	U (0.12)	U (0.12)	
Fluorene	130000	3800	0.092 J (0.2)	0.043 J (0.21)	0.55 (0.2)	0.23 (0.2)	1.6 (0.19)	U (0.2)	U (0.2)	U (0.21)	U (0.2)	U (0.21)	U (0.2)	U (0.2)	U (0.19)	
Naphthalene	66	25	0.15 J (0.2)	0.15 J (0.21)	0.56 (0.2)	1.9 (0.2)	5.3 (0.19)	U (0.2)	U (0.2)	U (0.21)	U (0.2)	U (0.21)	U (0.2)	U (0.2)	U (0.19)	
Phenanthrene	190000	10000	0.095 J (0.12)	U (0.12)	0.54 (0.12)	0.1 J (0.12)	1.4 (0.11)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	0.025 J (0.13)	0.023 J (0.12)	U (0.12)	U (0.12)	
Metals																
Lead	1000	450	6.17 (2.42)	5.07 (2.45)	8.53 (2.42)	8.23 (2.31)	8.68 (2.3)	60.3 (2.38)	6.14 (2.27)	7.2 (2.45)	27.4 (2.38)	79.3 (4.89)	4.44 (2.28)	6.21 (2.35)	62.2 (2.34)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-F10-C2	202-F10-C3	202-F10-C4	202-F10-CX	202-F11-C1	202-F11-C2	202-F11-C3	202-F11-CX	202-F12-C1	202-F12-C2	202-F12-C3	202-F12-CX	202-F13-C1
Field Sample ID	Value (0-2 ft bgs)	Value	202-F10-C2-COMP	202-F10-C3-COMP	202-F10-C4-COMP	202-F10-CX-COMP	202-F11-C1-COMP	202-F11-C2-COMP	202-F11-C3-COMP	202-F11-CX-COMP	202-F12-C1-COMP	202-F12-C2-COMP	202-F12-C3-COMP	202-F12-CX-COMP	202-F13-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	4/6/2022	4/6/2022	4/6/2022	4/6/2022	4/8/2022	4/8/2022	4/8/2022	4/8/2022	4/12/2022	4/12/2022	4/12/2022	4/12/2022	4/8/2022
PAHs															
Anthracene	190000	350	U (0.11)	U (0.12)	U (0.1)	0.069 J (0.1)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	0.067 J (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	U (0.11)	0.081 J (0.12)	U (0.1)	0.022 J (0.1)	0.03 J (0.12)	U (0.12)	U (0.11)	0.032 J (0.11)	0.19 (0.12)	U (0.13)	U (0.12)	U (0.12)	0.097 J (0.12)
Benzo(a)pyrene	91	46	U (0.15)	0.084 J (0.15)	U (0.14)	U (0.14)	U (0.16)	U (0.16)	U (0.14)	U (0.14)	0.15 J (0.16)	U (0.17)	U (0.16)	U (0.16)	0.12 J (0.16)
Benzo(b)fluoranthene	76	170	U (0.11)	0.091 J (0.12)	U (0.1)	U (0.1)	U (0.12)	U (0.12)	U (0.11)	0.037 J (0.11)	0.16 (0.12)	U (0.13)	U (0.12)	U (0.12)	0.18 (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.15)	0.055 J (0.15)	U (0.14)	0.021 J (0.14)	U (0.16)	U (0.16)	U (0.14)	U (0.14)	0.082 J (0.16)	U (0.17)	U (0.16)	U (0.16)	0.077 J (0.16)
Chrysene	760	230	U (0.11)	0.08 J (0.12)	U (0.1)	0.031 J (0.1)	0.026 J (0.12)	U (0.12)	U (0.11)	0.031 J (0.11)	0.19 (0.12)	U (0.13)	U (0.12)	U (0.12)	0.11 J (0.12)
Fluorene	130000	3800	U (0.19)	U (0.19)	U (0.17)	0.13 J (0.18)	U (0.2)	U (0.2)	U (0.18)	U (0.18)	0.044 J (0.2)	U (0.22)	U (0.2)	U (0.2)	U (0.19)
Naphthalene	66	25	U (0.19)	U (0.19)	U (0.17)	0.024 J (0.18)	U (0.2)	U (0.2)	U (0.18)	U (0.18)	0.09 J (0.2)	U (0.22)	U (0.2)	U (0.2)	0.024 J (0.19)
Phenanthrene	190000	10000	U (0.11)	0.083 J (0.12)	U (0.1)	0.28 (0.1)	0.038 J (0.12)	U (0.12)	U (0.11)	0.093 J (0.11)	0.34 (0.12)	U (0.13)	U (0.12)	U (0.12)	0.074 J (0.12)
Pyrene	96000	2200	U (0.11)	0.14 (0.12)	U (0.1)	0.15 (0.1)	0.043 J (0.12)	U (0.12)	U (0.11)	0.056 J (0.11)	0.3 (0.12)	0.032 J (0.13)	U (0.12)	U (0.12)	0.1 J (0.12)
Metals															
Lead	1000	450	24.7 (2.25)	303 (11.4)	5.1 (2.06)	65.3 (2.01)	349 (2.4)	9.94 (2.41)	4.36 (2.07)	3.58 (2.05)	140 (2.24)	85.6 (12.7)	8.24 (2.49)	4.21 (2.39)	52.6 (2.25)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-F13-C2	202-F13-C3	202-F13-C4	202-F13-CX	202-F14-C1	202-F14-C2	202-F14-C3	202-F14-CX	202-F15-C1	202-F15-C2	202-F15-C3	202-F15-C4	202-F15-CX
Field Sample ID	Value (0-2 ft bgs)	Value	202-F13	202-F13	202-F13	202-F13	202-F14	202-F14	202-F14	202-F14	202-F15	202-F15	202-F15	202-F15	202-F15
Sample Date	(mg/kg)	(mg/kg)	202-F13-C2-COMP	202-F13-C3-COMP	202-F13-C4-COMP	202-F13-CX-COMP	202-F14-C1-COMP	202-F14-C2-COMP	202-F14-C3-COMP	202-F14-CX-COMP	202-F15-C1-COMP	202-F15-C2-COMP	202-F15-C3-COMP	202-F15-C4-COMP	202-F15-CX-COMP
			4/8/2022	4/8/2022	4/8/2022	4/8/2022	4/6/2022	4/6/2022	4/6/2022	4/6/2022	3/18/2022	3/18/2022	3/18/2022	3/18/2022	3/18/2022
PAHs															
Anthracene	190000	350	2.9 (0.12)	U (0.11)	0.14 (0.12)	U (0.12)	0.074 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.32)	0.15 (0.1)	U (0.1)	U (0.1)	5.8 (0.12)
Benzo(a)anthracene	130	340	2.2 (0.12)	0.039 J (0.11)	0.078 J (0.12)	U (0.12)	0.56 (0.12)	0.036 J (0.12)	U (0.12)	U (0.12)	0.098 J (0.32)	0.31 (0.1)	0.047 J (0.1)	U (0.1)	7.5 (0.58)
Benzo(a)pyrene	91	46	2 (0.16)	U (0.15)	0.08 J (0.16)	U (0.16)	0.55 (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.43)	0.28 (0.14)	0.044 J (0.14)	U (0.14)	6 (0.77)
Benzo(b)fluoranthene	76	170	2.3 (0.12)	0.052 J (0.11)	0.094 J (0.12)	U (0.12)	0.67 (0.12)	0.039 J (0.12)	U (0.12)	U (0.12)	0.12 J (0.32)	0.32 (0.1)	0.051 J (0.1)	U (0.1)	7.8 (0.58)
Benzo(g,h,i)perylene	190000	180	1.2 (0.16)	0.039 J (0.15)	0.075 J (0.16)	U (0.16)	0.27 (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.43)	0.15 (0.14)	U (0.14)	U (0.14)	3.8 (0.15)
Chrysene	760	230	2.1 (0.12)	0.046 J (0.11)	0.089 J (0.12)	U (0.12)	0.54 (0.12)	0.034 J (0.12)	U (0.12)	U (0.12)	0.1 J (0.32)	0.29 (0.1)	0.045 J (0.1)	U (0.1)	6.4 (0.58)
Fluorene	130000	3800	2.7 (0.2)	0.092 J (0.19)	0.84 (0.2)	0.12 J (0.2)	0.032 J (0.21)	0.048 J (0.2)	U (0.2)	U (0.2)	U (0.54)	0.082 J (0.18)	0.017 J (0.18)	U (0.17)	3.5 (0.19)
Naphthalene	66	25	U (0.2)	0.059 J (0.19)	0.87 (0.2)	0.74 (0.2)	U (0.21)	0.16 J (0.2)	U (0.2)	U (0.2)	U (0.54)	0.082 J (0.18)	U (0.18)	U (0.17)	1.2 (0.19)
Phenanthrene	190000	10000	16 (1.2)	0.21 (0.11)	1.6 (0.12)	0.15 (0.12)	0.24 (0.12)	0.11 J (0.12)	U (0.12)	U (0.12)	0.069 J (0.32)	0.54 (0.1)	0.11 (0.1)	0.035 J (0.1)	18 (0.58)
Pyrene	96000	2200	6.7 (0.12)	0.065 J (0.11)	0.18 (0.12)	U (0.12)	0.82 (0.12)	0.075 J (0.12)	U (0.12)	U (0.12)	0.14 J (0.32)	0.54 (0.1)	0.094 J (0.1)	0.027 J (0.1)	13 (0.58)
Metals															
Lead	1000	450	68.5 (2.36)	31.3 (2.29)	10.5 (2.3)	6.1 (2.35)	259 (2.42)	99.2 (11.7)	9.54 J (11.6)	17.1 (11.6)	47 (2.16)	26.9 (2.08)	4.35 (2.1)	5.16 (2.05)	16.5 (2.24)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-F16-C1	202-F16-C2	202-F16-C3	202-F16-C4	202-F16-CX	202-F17-C1	202-F17-C2	202-F17-C3	202-F17-CX	202-G01-C1	202-G01-C2	202-G01-C3	202-G01-CX	
Field Sample ID	Value (0-2 ft bgs)	Value	202-F16	202-F16	202-F16	202-F16	202-F16	202-F17	202-F17	202-F17	202-F17	202-G01	202-G01	202-G01	202-G01	
Sample Date	(mg/kg)	(mg/kg)	202-F16-C1-COMP	202-F16-C2-COMP	202-F16-C3-COMP	202-F16-C4-COMP	202-F16-CX-COMP	202-F17-C1-COMP	202-F17-C2-COMP	202-F17-C3-COMP	202-F17-CX-COMP	202-G01-C1-COMP	202-G01-C2-COMP	202-G01-C3-COMP	202-G01-CX-COMP	
			3/16/2022	3/16/2022	3/16/2022	3/16/2022	3/16/2022	3/16/2022	3/16/2022	3/16/2022	3/16/2022	3/14/2022	3/14/2022	3/14/2022	3/14/2022	
PAHs																
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.18)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.18)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	
Chrysene	760	230	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	
Fluorene	130000	3800	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.22)	U (0.19)	U (0.2)	U (0.18)	U (0.19)	
Naphthalene	66	25	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.22)	U (0.19)	U (0.2)	U (0.18)	U (0.19)	
Phenanthrene	190000	10000	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	
Metals																
Lead	1000	450	4.41 (2.36)	4.53 (2.38)	4.52 (2.37)	5.09 (2.44)	6.76 (2.39)	59.3 (2.27)	4.42 (2.32)	4.21 (2.35)	4.47 (2.65)	35.6 (11.2)	4.76 (2.33)	2.33 (2.15)	2.4 (2.29)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-G02-C1	202-G02-C2	202-G02-C3	202-G02-C4	202-G02-CX	202-G03-C1	202-G03-C2	202-G03-C3	202-G03-CX	202-G04-C1	202-G04-C2	202-G04-C3	202-G04-C4
Field Sample ID	Value (0-2 ft bgs)	Value	202-G02-C1-COMP	202-G02-C2-COMP	202-G02-C3-COMP	202-G02-C4-COMP	202-G02-CX-COMP	202-G03-C1-COMP	202-G03-C2-COMP	202-G03-C3-COMP	202-G03-CX-COMP	202-G04-C1-COMP	202-G04-C2-COMP	202-G04-C3-COMP	202-G04-C4-COMP
Sample Date	(mg/kg)	(mg/kg)	3/14/2022	3/14/2022	3/14/2022	3/14/2022	3/14/2022	3/11/2022	3/11/2022	3/11/2022	3/11/2022	3/11/2022	3/11/2022	3/11/2022	3/11/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.1)	U (0.11)	U (0.11)
Benzo(a)anthracene	130	340	0.052 J (0.12)	0.082 J (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.1)	U (0.11)	U (0.11)
Benzo(a)pyrene	91	46	0.048 J (0.16)	0.065 J (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	U (0.14)	U (0.17)	U (0.16)	U (0.14)	U (0.14)	U (0.15)
Benzo(b)fluoranthene	76	170	0.061 J (0.12)	0.1 J (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.1)	U (0.11)	U (0.11)
Benzo(g,h,i)perylene	190000	180	0.026 J (0.16)	0.044 J (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	U (0.14)	U (0.17)	U (0.16)	U (0.14)	U (0.14)	U (0.15)
Chrysene	760	230	0.053 J (0.12)	0.088 J (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.1)	U (0.11)	U (0.11)
Fluorene	130000	3800	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.21)	U (0.2)	U (0.2)	U (0.18)	U (0.21)	U (0.2)	U (0.17)	U (0.18)	U (0.18)
Naphthalene	66	25	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.21)	U (0.2)	U (0.2)	U (0.18)	U (0.21)	U (0.2)	U (0.17)	U (0.18)	U (0.18)
Phenanthrene	190000	10000	0.12 (0.12)	0.13 (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	0.062 J (0.12)	U (0.1)	U (0.11)	0.022 J (0.11)
Pyrene	96000	2200	0.11 J (0.12)	0.13 (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.1)	U (0.11)	U (0.11)
Metals															
Lead	1000	450	62.1 (11.6)	24.8 (11.3)	6.76 J (11.5)	17.8 (11.2)	7.91 J (12.2)	6.04 (2.35)	6.8 (4.8)	2.48 (2.14)	2.78 (2.39)	7.04 (4.8)	3.77 (2.03)	2.32 (2.17)	2.12 J (2.16)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-G04-CX 202-G04	202-G05-C1 202-G05	202-G05-C2 202-G05	202-G05-C3 202-G05	202-G05-C4 202-G05	202-G05-CX 202-G05	202-G06-C1 202-G06	202-G06-C2 202-G06	202-G06-C3 202-G06	202-G06-CX 202-G06	202-G07-C1 202-G07	202-G07-C2 202-G07	202-G07-C3 202-G07
Field Sample ID	Value (0-2 ft bgs)	Value	202-G04-CX-COMP	202-G05-C1-COMP	202-G05-C2-COMP	202-G05-C3-COMP	202-G05-C4-COMP	202-G05-CX-COMP	202-G06-C1-COMP	202-G06-C2-COMP	202-G06-C3-COMP	202-G06-CX-COMP	202-G07-C1-COMP	202-G07-C2-COMP	202-G07-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	3/11/2022	3/15/2022	3/15/2022	3/15/2022	3/15/2022	3/15/2022	3/21/2022	3/21/2022	3/21/2022	3/21/2022	3/16/2022	3/16/2022	3/16/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.13)	U (0.11)	U (0.12)	U (0.13)	U (0.1)	U (0.11)	7.2 J (7.9)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)anthracene	130	340	U (0.12)	U (0.13)	U (0.11)	U (0.12)	U (0.13)	U (0.1)	U (0.11)	18 (7.9)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)pyrene	91	46	U (0.16)	U (0.17)	U (0.15)	U (0.16)	U (0.17)	U (0.14)	U (0.15)	22 (10)	U (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.15)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.13)	U (0.11)	U (0.12)	U (0.13)	U (0.1)	U (0.11)	27 (7.9)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.17)	U (0.15)	U (0.16)	U (0.17)	U (0.14)	U (0.15)	13 (10)	U (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.15)
Chrysene	760	230	U (0.12)	U (0.13)	U (0.11)	U (0.12)	U (0.13)	U (0.1)	U (0.11)	20 (7.9)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Fluorene	130000	3800	U (0.2)	U (0.21)	U (0.18)	U (0.2)	U (0.21)	U (0.17)	U (0.18)	6.9 J (13)	U (0.2)	U (0.2)	U (0.19)	U (0.21)	U (0.18)
Naphthalene	66	25	U (0.2)	U (0.21)	U (0.18)	U (0.2)	U (0.21)	U (0.17)	U (0.18)	8.7 J (13)	U (0.2)	U (0.2)	U (0.19)	U (0.21)	U (0.18)
Phenanthrene	190000	10000	U (0.12)	U (0.13)	U (0.11)	U (0.12)	U (0.13)	U (0.1)	U (0.11)	46 (7.9)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Pyrene	96000	2200	U (0.12)	U (0.13)	U (0.11)	U (0.12)	U (0.13)	U (0.1)	U (0.11)	44 (7.9)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Metals															
Lead	1000	450	6.26 (2.44)	7.12 (2.47)	3.28 (2.2)	5.83 (4.84)	5.99 (5.04)	5.39 (2.09)	7.91 (4.44)	5.92 (5.06)	48.4 (4.66)	15.8 (4.58)	5.27 (2.3)	4.82 (2.54)	6.2 (2.18)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-G07-CX 202-G07	202-G08-C1 202-G08	202-G08-C2 202-G08	202-G08-C3 202-G08	202-G08-CX 202-G08	202-G09-C1 202-G09	202-G09-C2 202-G09	202-G09-C3 202-G09	202-G09-CX 202-G09	202-G10-C1 202-G10	202-G10-C2 202-G10	202-G10-CX 202-G10	202-H01-C1 202-H01
Field Sample ID	Value (0-2 ft bgs)	Value	202-G07-CX-COMP	202-G08-C1-COMP	202-G08-C2-COMP	202-G08-C3-COMP	202-G08-CX-COMP	202-G09-C1-COMP	202-G09-C2-COMP	202-G09-C3-COMP	202-G09-CX-COMP	202-G10-C1-COMP	202-G10-C2-COMP	202-G10-CX-COMP	202-H01-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	3/16/2022	3/15/2022	3/15/2022	3/15/2022	3/15/2022	3/17/2022	3/17/2022	3/17/2022	3/17/2022	3/15/2022	3/15/2022	3/15/2022	4/11/2022
PAHs															
Anthracene	190000	350	U (0.11)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.14)	U (0.12)	U (0.13)	U (0.12)
Benzo(a)anthracene	130	340	U (0.11)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.14)	U (0.12)	U (0.13)	0.034 J (0.12)
Benzo(a)pyrene	91	46	U (0.15)	U (0.16)	U (0.17)	U (0.18)	U (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.16)	U (0.18)	U (0.16)	U (0.18)	U (0.15)
Benzo(b)fluoranthene	76	170	U (0.11)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.14)	U (0.12)	U (0.13)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.15)	U (0.16)	U (0.17)	U (0.18)	U (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.16)	U (0.18)	U (0.16)	U (0.18)	0.023 J (0.15)
Chrysene	760	230	U (0.11)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.14)	U (0.12)	U (0.13)	0.035 J (0.12)
Fluorene	130000	3800	U (0.19)	U (0.21)	U (0.21)	U (0.22)	U (0.2)	U (0.2)	U (0.2)	U (0.21)	U (0.2)	U (0.23)	U (0.2)	U (0.22)	U (0.19)
Naphthalene	66	25	U (0.19)	U (0.21)	U (0.21)	U (0.22)	U (0.2)	U (0.2)	U (0.2)	U (0.21)	U (0.2)	U (0.23)	U (0.2)	U (0.22)	0.044 J (0.19)
Phenanthrene	190000	10000	U (0.11)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.14)	U (0.12)	U (0.13)	0.15 (0.12)
Pyrene	96000	2200	U (0.11)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.14)	U (0.12)	U (0.13)	0.082 J (0.12)
Metals															
Lead	1000	450	1.82 J (2.29)	16 (2.46)	8.66 (4.79)	6.87 (5.36)	5.5 (4.7)	47.1 (2.26)	5.69 (2.35)	4.87 (2.39)	4.64 (2.4)	9.88 (2.63)	6.69 (4.75)	5.57 (2.66)	2820 (2.27)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	202-H01-C2	202-H01-C3	202-H01-C4	202-H01-CX	202-H02-C1	202-H02-C2	202-H02-C3	202-H02-C4	202-H02-CX	202-H03-C1	202-H03-C2	202-H03-C3	202-H03-CX
			202-H01	202-H01	202-H01	202-H01	202-H02	202-H02	202-H02	202-H02	202-H02	202-H02	202-H03	202-H03	202-H03
Field Sample ID	Value (0-2 ft bgs)	Value	202-H01-C2-COMP	202-H01-C3-COMP	202-H01-C4-COMP	202-H01-CX-COMP	202-H02-C1-COMP	202-H02-C2-COMP	202-H02-C3-COMP	202-H02-C4-COMP	202-H02-CX-COMP	202-H03-C1-COMP	202-H03-C2-COMP	202-H03-C3-COMP	202-H03-CX-COMP
Sample Date	(mg/kg)	(mg/kg)	4/11/2022	4/11/2022	4/11/2022	4/11/2022	4/14/2022	4/14/2022	4/14/2022	4/14/2022	4/14/2022	4/13/2022	4/13/2022	4/13/2022	4/13/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.14)	U (0.12)	U (0.12)	0.36 (0.12)	0.057 J (0.12)	0.093 J (0.13)	U (0.11)
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.14)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.11)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.18)	U (0.16)	U (0.19)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.18)	U (0.14)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.14)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.18)	U (0.16)	U (0.19)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.18)	U (0.14)
Chrysene	760	230	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.14)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.11)
Fluorene	130000	3800	U (0.2)	U (0.2)	U (0.2)	0.028 J (0.18)	U (0.22)	0.15 J (0.2)	U (0.24)	2.1 (0.2)	U (0.2)	1.2 (0.2)	0.31 (0.2)	0.45 (0.22)	0.18 (0.18)
Naphthalene	66	25	U (0.2)	0.11 J (0.2)	0.4 (0.2)	0.061 J (0.18)	0.32 (0.22)	0.55 (0.2)	6.8 (0.24)	3.6 (0.2)	1.1 (0.2)	4.1 (0.2)	1.1 (0.2)	2.1 (0.22)	0.32 (0.18)
Phenanthrene	190000	10000	U (0.12)	U (0.12)	U (0.12)	0.074 J (0.11)	0.65 (0.13)	0.25 (0.12)	1.2 (0.14)	4.3 (0.12)	1.4 (0.12)	2.1 (0.12)	0.43 (0.12)	0.66 (0.13)	0.22 (0.11)
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.033 J (0.13)	U (0.12)	0.087 J (0.14)	0.24 (0.12)	0.088 J (0.12)	0.16 (0.12)	0.025 J (0.12)	0.031 J (0.13)	U (0.11)
Metals															
Lead	1000	450	274 (2.29)	75.1 (2.33)	306 (2.35)	4.15 (2.15)	369 (2.64)	5.06 (2.42)	5.5 (2.69)	6.04 (2.33)	3.16 (2.4)	68.5 (2.35)	13.5 (2.3)	3.91 (2.67)	3.78 (2.13)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-H04-C1	202-H04-C2	202-H04-C3	202-H04-CX	202-H05-C1	202-H05-C2	202-H05-C3	202-H05-C4	202-H05-CX	202-H06-C1	202-H06-C2	202-H06-C3	202-H06-CX
Field Sample ID	Value (0-2 ft bgs)	Value	202-H04-C1-COMP	202-H04-C2-COMP	202-H04-C3-COMP	202-H04-CX-COMP	202-H05-C1-COMP	202-H05-C2-COMP	202-H05-C3-COMP	202-H05-C4-COMP	202-H05-CX-COMP	202-H06-C1-COMP	202-H06-C2-COMP	202-H06-C3-COMP	202-H06-CX-COMP
Sample Date	(mg/kg)	(mg/kg)	4/13/2022	4/13/2022	4/13/2022	4/13/2022	4/11/2022	4/11/2022	4/11/2022	4/11/2022	4/11/2022	4/27/2022	4/27/2022	4/27/2022	4/27/2022
PAHs															
Anthracene	190000	350	0.36 (0.12)	0.18 (0.13)	0.49 (0.13)	0.8 (0.12)	0.36 (0.12)	U (0.12)	U (0.12)	0.073 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)
Benzo(a)anthracene	130	340	0.32 (0.12)	U (0.13)	U (0.13)	U (0.12)	0.054 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	0.024 J (0.12)
Benzo(a)pyrene	91	46	0.7 (0.15)	U (0.18)	U (0.17)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.16)
Benzo(b)fluoranthene	76	170	0.76 (0.12)	U (0.13)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.033 J (0.12)	U (0.13)	U (0.12)
Benzo(g,h,i)perylene	190000	180	0.65 (0.15)	U (0.18)	U (0.17)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.16)
Chrysene	760	230	0.38 (0.12)	U (0.13)	0.024 J (0.13)	U (0.12)	0.048 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.025 J (0.12)	U (0.13)	U (0.12)
Fluorene	130000	3800	U (0.19)	0.72 (0.22)	2.2 (0.21)	3.2 (0.19)	0.22 (0.2)	U (0.2)	U (0.2)	0.044 J (0.21)	U (0.2)	0.41 (0.2)	U (0.2)	0.03 J (0.22)	U (0.2)
Naphthalene	66	25	0.51 (0.19)	1.2 (0.22)	4.7 (0.21)	1.3 (0.19)	0.19 J (0.2)	U (0.2)	U (0.2)	0.046 J (0.21)	U (0.2)	0.98 (0.2)	U (0.2)	U (0.22)	U (0.2)
Phenanthrene	190000	10000	1.2 (0.12)	1.2 (0.13)	4.3 (0.13)	7.1 (0.12)	1.1 (0.12)	U (0.12)	U (0.12)	0.23 (0.12)	U (0.12)	0.37 (0.12)	U (0.12)	0.068 J (0.13)	0.026 J (0.12)
Pyrene	96000	2200	0.65 (0.12)	0.15 (0.13)	0.42 (0.13)	0.48 (0.12)	0.38 (0.12)	U (0.12)	U (0.12)	0.064 J (0.12)	U (0.12)	U (0.12)	0.027 J (0.12)	U (0.13)	0.031 J (0.12)
Metals															
Lead	1000	450	5.26 (2.29)	8.98 J (13.5)	7.8 (2.54)	4.06 (2.3)	11.2 (2.27)	5.88 (2.3)	5.81 (2.32)	5.81 (2.4)	6.69 (2.36)	7.27 (2.3)	91.4 (2.22)	10.5 (2.54)	11.5 (2.35)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-H07-C1	202-H07-C2	202-H07-C3	202-H07-CX	202-H08-C1	202-H08-C2	202-H08-C3	202-H08-C4	202-H08-CX	202-H09-C1	202-H09-C2	202-H09-C3	202-H09-C4
Field Sample ID	Value (0-2 ft bgs)	Value	202-H07-C1-COMP	202-H07-C2-COMP	202-H07-C3-COMP	202-H07-CX-COMP	202-H08-C1-COMP	202-H08-C2-COMP	202-H08-C3-COMP	202-H08-C4-COMP	202-H08-CX-COMP	202-H09-C1-COMP	202-H09-C2-COMP	202-H09-C3-COMP	202-H09-C4-COMP
Sample Date	(mg/kg)	(mg/kg)	4/22/2022	4/22/2022	4/22/2022	4/22/2022	4/22/2022	4/22/2022	4/22/2022	4/22/2022	4/22/2022	4/27/2022	4/27/2022	4/27/2022	4/27/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.065 J (0.14)
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.14)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	U (0.16)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.19)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.14)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	U (0.16)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.19)
Chrysene	760	230	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.025 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.14)
Fluorene	130000	3800	U (0.19)	U (0.19)	U (0.2)	U (0.2)	U (0.18)	0.047 J (0.18)	U (0.2)	U (0.19)	U (0.19)	0.15 J (0.19)	U (0.2)	0.094 J (0.2)	0.55 (0.23)
Naphthalene	66	25	U (0.19)	U (0.19)	U (0.2)	U (0.2)	U (0.18)	0.031 J (0.18)	U (0.2)	U (0.19)	U (0.19)	0.25 (0.19)	0.083 J (0.2)	0.35 (0.2)	3 (0.23)
Phenanthrene	190000	10000	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.11 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.28 (0.11)	0.04 J (0.12)	0.23 (0.12)	1.4 (0.14)
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.032 J (0.11)	U (0.12)	U (0.12)	U (0.12)	0.026 J (0.11)	U (0.12)	U (0.12)	0.041 J (0.14)
Metals															
Lead	1000	450	5.63 (2.27)	15.6 (11.5)	10.4 J (11.7)	6.67 (2.41)	5.22 (2.14)	117 (10.8)	6.12 (2.45)	5.43 (2.26)	5.65 (2.33)	129 (2.18)	5.86 (2.37)	6.33 (2.37)	5.8 (2.79)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-H09-CX 202-H09	202-H10-C1 202-H10	202-H10-C2 202-H10	202-H10-C3 202-H10	202-H10-CX 202-H10	202-H11-C1 202-H11	202-H11-C2 202-H11	202-H11-C3 202-H11	202-H11-C4 202-H11	202-H11-CX 202-H11	202-I01-C1 202-I01	202-I01-C2 202-I01	202-I01-C3 202-I01
Field Sample ID	Value (0-2 ft bgs)	Value	202-H09-CX-COMP	202-H10-C1-COMP	202-H10-C2-COMP	202-H10-C3-COMP	202-H10-CX-COMP	202-H11-C1-COMP	202-H11-C2-COMP	202-H11-C3-COMP	202-H11-C4-COMP	202-H11-CX-COMP	202-I01-C1-COMP	202-I01-C2-COMP	202-I01-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	4/27/2022	4/14/2022	4/14/2022	4/14/2022	4/14/2022	4/26/2022	4/26/2022	4/26/2022	4/26/2022	4/26/2022	3/18/2022	3/18/2022	3/18/2022
PAHs															
Anthracene	190000	350	U (0.13)	1.1 (0.12)	U (0.14)	U (0.1)	U (0.12)	U (0.11)	U (0.11)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	1.7 (0.14)	U (0.12)
Benzo(a)anthracene	130	340	U (0.13)	U (0.12)	U (0.14)	U (0.1)	U (0.12)	0.026 J (0.11)	U (0.11)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	2.2 (0.14)	U (0.12)
Benzo(a)pyrene	91	46	U (0.17)	U (0.16)	U (0.18)	U (0.14)	U (0.16)	U (0.15)	U (0.15)	U (0.17)	U (0.16)	U (0.16)	U (0.15)	1.9 (0.18)	U (0.15)
Benzo(b)fluoranthene	76	170	U (0.13)	U (0.12)	U (0.14)	U (0.1)	U (0.12)	U (0.11)	U (0.11)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	2.3 (0.14)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.17)	U (0.16)	U (0.18)	U (0.14)	U (0.16)	U (0.15)	U (0.15)	U (0.17)	U (0.16)	U (0.16)	U (0.15)	0.92 (0.18)	U (0.15)
Chrysene	760	230	U (0.13)	0.026 J (0.12)	U (0.14)	U (0.1)	U (0.12)	0.021 J (0.11)	U (0.11)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	2 (0.14)	U (0.12)
Fluorene	130000	3800	0.094 J (0.22)	3.5 (0.2)	U (0.23)	U (0.17)	U (0.2)	U (0.19)	U (0.19)	0.021 J (0.21)	0.021 J (0.21)	0.053 J (0.2)	U (0.19)	0.99 (0.23)	U (0.19)
Naphthalene	66	25	0.18 J (0.22)	4.4 (0.2)	0.69 (0.23)	0.57 (0.17)	7.8 (0.2)	U (0.19)	0.09 J (0.19)	5.6 (0.21)	8.2 (0.21)	2.1 (0.2)	U (0.19)	0.42 (0.23)	U (0.19)
Phenanthrene	190000	10000	0.29 (0.13)	7.8 (0.12)	0.66 (0.14)	0.56 (0.1)	6.3 (0.12)	0.023 J (0.11)	U (0.11)	U (0.13)	0.025 J (0.12)	0.068 J (0.12)	U (0.11)	5.7 (0.14)	U (0.12)
Pyrene	96000	2200	U (0.13)	0.78 (0.12)	0.065 J (0.14)	U (0.1)	0.57 (0.12)	0.032 J (0.11)	U (0.11)	U (0.13)	U (0.12)	U (0.12)	U (0.11)	4.4 (0.14)	U (0.12)
Metals															
Lead	1000	450	7.68 (2.5)	457 (11.8)	16.2 (2.78)	4.6 (2.06)	8.42 (2.35)	10.1 (2.17)	41.8 (2.23)	6.37 (2.54)	6.19 (2.42)	8.42 (2.45)	12.5 (2.23)	215 (2.63)	4.14 (2.23)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-I01-CX 202-I01	202-I02-C1 202-I02	202-I02-C2 202-I02	202-I02-C3 202-I02	202-I02-C4 202-I02	202-I02-CX 202-I02	202-I03-C1 202-I03	202-I03-C2 202-I03	202-I03-CX 202-I03	202-I04-C1 202-I04	202-I04-C2 202-I04	202-I04-C3 202-I04	202-I04-CX 202-I04	
Field Sample ID	Value (0-2 ft bgs)	Value	202-I01-CX-COMP 3/18/2022	202-I02-C1-COMP 4/25/2022	202-I02-C2-COMP 4/25/2022	202-I02-C3-COMP 4/25/2022	202-I02-C4-COMP 4/25/2022	202-I02-CX-COMP 4/25/2022	202-I03-C1-COMP 3/17/2022	202-I03-C2-COMP 3/17/2022	202-I03-CX-COMP 3/17/2022	202-I04-C1-COMP 4/22/2022	202-I04-C2-COMP 4/22/2022	202-I04-C3-COMP 4/22/2022	202-I04-CX-COMP 4/22/2022	
Sample Date	(mg/kg)	(mg/kg)														
PAHs																
Anthracene	190000	350	0.72 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	
Benzo(a)anthracene	130	340	0.76 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.043 J (0.11)	
Benzo(a)pyrene	91	46	0.69 (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	U (0.17)	U (0.16)	U (0.17)	U (0.17)	U (0.16)	U (0.17)	U (0.15)	
Benzo(b)fluoranthene	76	170	0.79 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.042 J (0.11)	
Benzo(g,h,i)perylene	190000	180	0.33 (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	U (0.17)	U (0.16)	U (0.17)	U (0.17)	U (0.16)	U (0.17)	0.025 J (0.15)	
Chrysene	760	230	0.73 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.04 J (0.11)	
Fluorene	130000	3800	0.33 (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.2)	U (0.21)	U (0.2)	U (0.21)	U (0.21)	U (0.2)	U (0.21)	U (0.19)	
Naphthalene	66	25	0.1 J (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.2)	U (0.21)	U (0.2)	U (0.21)	U (0.21)	U (0.2)	U (0.21)	U (0.19)	
Phenanthrene	190000	10000	1.9 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	0.03 J (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.076 J (0.11)	
Pyrene	96000	2200	1.4 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	0.029 J (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.077 J (0.11)	
Metals																
Lead	1000	450	6.49 J (11.8)	5.86 (2.46)	6.9 (2.38)	4.56 (2.36)	5.95 (2.36)	6.42 (2.39)	24.6 (2.43)	19.2 (2.27)	6.54 (2.51)	5.23 (2.46)	5.64 (2.39)	4.68 (2.44)	5.74 (2.19)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-105-C1 202-105	202-105-C2 202-105	202-105-C3 202-105	202-105-CX 202-105	202-106-C1 202-106	202-106-C2 202-106	202-106-C3 202-106	202-106-C4 202-106	202-106-CX 202-106	202-107-C1 202-107	202-107-C2 202-107	202-107-C3 202-107	202-107-CX 202-107
Field Sample ID	Value (0-2 ft bgs)	Value	202-105-C1-COMP	202-105-C2-COMP	202-105-C3-COMP	202-105-CX-COMP	202-106-C1-COMP	202-106-C2-COMP	202-106-C3-COMP	202-106-C4-COMP	202-106-CX-COMP	202-107-C1-COMP	202-107-C2-COMP	202-107-C3-COMP	202-107-CX-COMP
Sample Date	(mg/kg)	(mg/kg)	3/21/2022	3/21/2022	3/21/2022	3/21/2022	3/17/2022	3/17/2022	3/17/2022	3/17/2022	3/17/2022	4/25/2022	4/25/2022	4/25/2022	4/25/2022
PAHs															
Anthracene	190000	350	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)pyrene	91	46	U (0.17)	U (0.16)	U (0.17)	U (0.16)	U (0.15)	U (0.17)	U (0.15)	U (0.17)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.17)	U (0.16)	U (0.17)	U (0.16)	U (0.15)	U (0.17)	U (0.15)	U (0.17)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)
Chrysene	760	230	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Fluorene	130000	3800	U (0.21)	U (0.2)	U (0.21)	U (0.2)	U (0.18)	U (0.22)	U (0.19)	U (0.22)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)
Naphthalene	66	25	U (0.21)	U (0.2)	U (0.21)	U (0.2)	U (0.18)	U (0.22)	U (0.19)	U (0.22)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)
Phenanthrene	190000	10000	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Pyrene	96000	2200	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Metals															
Lead	1000	450	6.38 (4.87)	5.75 (2.31)	22.3 (2.47)	15.3 (4.63)	6.08 (2.19)	7 (2.47)	3.69 (2.25)	6.42 (2.6)	7 (2.27)	3.8 (2.34)	5.91 (2.33)	7.13 (2.3)	4.2 (2.48)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-I08-C1 202-I08 202-I08-C1-COMP 3/21/2022	202-I08-C2 202-I08 202-I08-C2-COMP 3/21/2022	202-I08-CX 202-I08 202-I08-CX-COMP 3/21/2022	202-J01-C1 202-J01 202-J01-C1-COMP 4/26/2022	202-J01-C2 202-J01 202-J01-C2-COMP 4/26/2022	202-J01-C3 202-J01 202-J01-C3-COMP 4/26/2022	202-J01-C4 202-J01 202-J01-C4-COMP 4/26/2022	202-J01-CX 202-J01 202-J01-CX-COMP 4/26/2022	202-J02-C1 202-J02 202-J02-C1-COMP 4/21/2022	202-J02-C2 202-J02 202-J02-C2-COMP 4/21/2022	202-J02-C3 202-J02 202-J02-C3-COMP 4/21/2022	202-J02-C4 202-J02 202-J02-C4-COMP 4/21/2022	202-J02-CX 202-J02 202-J02-CX-COMP 4/21/2022
Field Sample ID Sample Date	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)													
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.11)	U (0.11)	0.056 J (0.11)	U (0.13)	U (0.11)	0.065 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.13)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.14)	U (0.14)	U (0.14)	U (0.17)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.18)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.13)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.14)	U (0.14)	U (0.14)	U (0.17)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.18)
Chrysene	760	230	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.13)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)
Fluorene	130000	3800	U (0.2)	U (0.2)	U (0.18)	0.049 J (0.18)	1.5 (0.18)	0.21 (0.21)	0.27 (0.19)	1.3 (0.2)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.22)
Naphthalene	66	25	U (0.2)	U (0.2)	U (0.18)	1.5 (0.18)	4.4 (0.18)	2.7 (0.21)	1.4 (0.19)	3.1 (0.2)	0.14 J (0.19)	1.7 (0.2)	0.38 (0.2)	1.4 (0.2)	2.3 (0.22)
Phenanthrene	190000	10000	U (0.12)	U (0.12)	U (0.11)	0.056 J (0.11)	2.8 (0.11)	0.34 (0.13)	0.45 (0.11)	2.6 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.11)	U (0.11)	0.23 (0.11)	U (0.13)	0.026 J (0.11)	0.23 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)
Metals															
Lead	1000	450	4 (2.36)	9.49 (2.29)	31.5 (2.07)	6.42 (2.16)	5.56 (2.14)	6.76 (2.54)	6.43 (2.16)	6.59 (2.3)	7.31 (2.29)	247 (2.31)	28.5 (12)	5.8 (2.3)	5.36 (2.56)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell Field Sample ID Sample Date	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Value (mg/kg)	202-J03-C1	202-J03-C2	202-J03-CX	202-J04-C1	202-J04-C2	202-J04-C3	202-J04-C4	202-J04-CX	202-J05-C1	202-J05-C2	202-J05-CX	202-J06-C1	202-J06-C2
			202-J03	202-J03	202-J03	202-J04	202-J04	202-J04	202-J04	202-J04	202-J05	202-J05	202-J05	202-J06	202-J06
			202-J03-C1-COMP	202-J03-C2-COMP	202-J03-CX-COMP	202-J04-C1-COMP	202-J04-C2-COMP	202-J04-C3-COMP	202-J04-C4-COMP	202-J04-CX-COMP	202-J05-C1-COMP	202-J05-C2-COMP	202-J05-CX-COMP	202-J06-C1-COMP	202-J06-C2-COMP
			4/21/2022	4/21/2022	4/21/2022	4/26/2022	4/26/2022	4/26/2022	4/26/2022	4/26/2022	4/25/2022	4/25/2022	4/25/2022	4/20/2022	4/20/2022
PAHs															
Anthracene	190000	350	U (0.11)	U (0.13)	U (0.13)	U (0.12)	1.3 (1.1)	0.084 J (0.11)	5.3 J (5.9)	28 (1.2)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	0.027 J (0.11)	U (0.13)	U (0.13)	U (0.12)	U (1.1)	U (0.11)	U (5.9)	89 (5.8)	U (0.12)	U (0.12)	0.067 J (0.12)	0.027 J (0.12)	0.068 J (0.12)
Benzo(a)pyrene	91	46	U (0.15)	U (0.18)	U (0.17)	U (0.15)	U (1.5)	U (0.15)	U (7.8)	100 (7.7)	U (0.16)	U (0.15)	0.052 J (0.16)	U (0.16)	0.061 J (0.16)
Benzo(b)fluoranthene	76	170	U (0.11)	U (0.13)	U (0.13)	U (0.12)	U (1.1)	U (0.11)	U (5.9)	120 (5.8)	U (0.12)	U (0.12)	0.06 J (0.12)	U (0.12)	0.08 J (0.12)
Benzo(g,h,i)perylene	190000	180	0.03 J (0.15)	U (0.18)	U (0.17)	U (0.15)	U (1.5)	U (0.15)	U (7.8)	40 (1.5)	U (0.16)	U (0.15)	0.026 J (0.16)	0.039 J (0.16)	0.046 J (0.16)
Chrysene	760	230	0.027 J (0.11)	U (0.13)	U (0.13)	U (0.12)	U (1.1)	U (0.11)	U (5.9)	61 (1.2)	U (0.12)	U (0.12)	0.051 J (0.12)	0.036 J (0.12)	0.075 J (0.12)
Fluorene	130000	3800	U (0.19)	0.058 J (0.22)	0.12 J (0.21)	0.44 (0.19)	5.2 (1.9)	2.1 (0.18)	59 (9.8)	23 (1.9)	U (0.2)	U (0.19)	U (0.2)	U (0.2)	U (0.19)
Naphthalene	66	25	0.17 J (0.19)	8 (0.22)	3 (0.21)	0.79 (0.19)	1.3 J (1.9)	3.3 (0.18)	9.2 J (9.8)	3.5 (1.9)	U (0.2)	U (0.19)	U (0.2)	0.038 J (0.2)	U (0.19)
Phenanthrene	190000	10000	0.06 J (0.11)	0.078 J (0.13)	0.15 (0.13)	0.92 (0.12)	10 (1.1)	3.9 (0.11)	120 (5.9)	140 (5.8)	U (0.12)	U (0.12)	0.13 (0.12)	0.09 J (0.12)	0.076 J (0.12)
Pyrene	96000	2200	0.048 J (0.11)	U (0.13)	U (0.13)	0.064 J (0.12)	2 (1.1)	0.29 (0.11)	9.6 (5.9)	150 (5.8)	U (0.12)	U (0.12)	0.11 J (0.12)	0.063 J (0.12)	0.12 (0.12)
Metals															
Lead	1000	450	72.8 (11.1)	8.14 (2.58)	6.91 (2.49)	8.35 (2.27)	6.44 (2.24)	8.9 (2.24)	173 (2.37)	37 (2.32)	11.2 J (12)	1960 (2.3)	2730 (2.4)	226 (2.28)	21.7 (2.32)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-J06-C3	202-J06-CX	202-J07-C1	202-J07-C2	202-J07-C3	202-J07-CX	202-J08-C1	202-J08-C2	202-J08-C3	202-J08-CX	202-J09-C1	202-J09-C2	202-J09-C3
Field Sample ID	Value (0-2 ft bgs)	Value	202-J06-C3-COMP	202-J06-CX-COMP	202-J07-C1-COMP	202-J07-C2-COMP	202-J07-C3-COMP	202-J07-CX-COMP	202-J08-C1-COMP	202-J08-C2-COMP	202-J08-C3-COMP	202-J08-CX-COMP	202-J09-C1-COMP	202-J09-C2-COMP	202-J09-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	4/20/2022	4/20/2022	4/26/2022	4/26/2022	4/26/2022	4/26/2022	4/25/2022	4/25/2022	4/25/2022	4/25/2022	4/20/2022	4/20/2022	4/20/2022
PAHs															
Anthracene	190000	350	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	0.044 J (0.12)	0.055 J (0.12)	U (0.12)	U (0.11)	0.041 J (0.11)	0.038 J (0.11)
Benzo(a)anthracene	130	340	0.059 J (0.11)	0.062 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.06 J (0.13)	U (0.12)	U (0.12)	U (0.12)	0.048 J (0.11)	0.074 J (0.11)	0.14 (0.11)
Benzo(a)pyrene	91	46	0.064 J (0.15)	0.06 J (0.16)	U (0.17)	U (0.16)	U (0.17)	U (0.16)	U (0.18)	U (0.16)	U (0.17)	U (0.16)	0.048 J (0.15)	0.078 J (0.15)	0.14 J (0.15)
Benzo(b)fluoranthene	76	170	0.075 J (0.11)	0.079 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.06 J (0.13)	U (0.12)	U (0.12)	U (0.12)	0.056 J (0.11)	0.066 J (0.11)	0.15 (0.11)
Benzo(g,h,i)perylene	190000	180	0.041 J (0.15)	0.05 J (0.16)	U (0.17)	U (0.16)	U (0.17)	U (0.16)	0.03 J (0.18)	U (0.16)	U (0.17)	U (0.16)	0.038 J (0.15)	0.1 J (0.15)	0.13 J (0.15)
Chrysene	760	230	0.06 J (0.11)	0.074 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.051 J (0.13)	U (0.12)	U (0.12)	U (0.12)	0.049 J (0.11)	0.09 J (0.11)	0.14 (0.11)
Fluorene	130000	3800	U (0.19)	U (0.2)	U (0.21)	U (0.2)	U (0.21)	U (0.2)	U (0.22)	0.17 J (0.2)	0.3 (0.21)	0.36 (0.2)	U (0.19)	0.027 J (0.19)	U (0.19)
Naphthalene	66	25	U (0.19)	U (0.2)	U (0.21)	U (0.2)	U (0.21)	U (0.2)	U (0.22)	0.028 J (0.2)	0.2 J (0.21)	U (0.19)	U (0.19)	0.026 J (0.19)	0.025 J (0.19)
Phenanthrene	190000	10000	0.038 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.053 J (0.13)	0.53 (0.12)	0.7 (0.12)	0.42 (0.12)	0.045 J (0.11)	0.1 J (0.11)	0.16 (0.11)
Pyrene	96000	2200	0.07 J (0.11)	0.097 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.083 J (0.13)	0.025 J (0.12)	0.029 J (0.12)	0.023 J (0.12)	0.063 J (0.11)	0.12 (0.11)	0.2 (0.11)
Metals															
Lead	1000	450	7.23 (2.26)	9.99 (2.34)	23.2 (2.38)	7.32 (2.39)	5.88 (2.54)	8.31 (2.28)	76.1 (12.6)	18 (2.39)	7.65 (2.45)	5.89 (2.44)	9.52 (2.24)	132 (11.1)	49.8 (11.2)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	202-J09-C4	202-J09-CX	301-A01-C1	301-AA01-C1	301-AA01-C2	301-AA01-C3	301-AA01-C4	301-AA06-C1	301-AA06-C2	301-AA06-C3	301-AA07-C1	301-AA07-C2	301-AA07-C3	
Field Sample ID	Value (0-2 ft bgs)	Value	202-J09-C4-COMP	202-J09-CX-COMP	301-A01-C1-COMP	301-AA01-C1-COMP	301-AA01-C2-COMP	301-AA01-C3-COMP	301-AA01-C4-COMP	301-AA06-C1-COMP	301-AA06-C2-COMP	301-AA06-C3-COMP	301-AA07-C1-COMP	301-AA07-C2-COMP	301-AA07-C3-COMP	
Sample Date	(mg/kg)	(mg/kg)	4/20/2022	4/20/2022	5/17/2022	6/10/2022	6/10/2022	6/10/2022	6/10/2022	5/31/2022	5/31/2022	5/31/2022	5/31/2022	5/31/2022	5/31/2022	
PAHs																
Anthracene	190000	350	0.1 J (0.11)	U (0.12)	U (0.12)	U (0.53)	U (0.11)	U (0.11)	U (0.12)	0.052 J (0.13)	U (0.12)	0.1 J (0.11)	0.22 (0.12)	0.042 J (0.12)	U (0.12)	
Benzo(a)anthracene	130	340	0.17 (0.11)	0.039 J (0.12)	U (0.12)	U (0.53)	U (0.11)	0.021 J (0.11)	U (0.12)	0.028 J (0.13)	U (0.12)	0.035 J (0.11)	0.028 J (0.12)	0.094 J (0.12)	0.024 J (0.12)	
Benzo(a)pyrene	91	46	0.13 J (0.15)	U (0.15)	U (0.16)	U (0.7)	U (0.15)	U (0.14)	U (0.15)	U (0.17)	U (0.16)	U (0.15)	U (0.15)	0.094 J (0.15)	U (0.16)	
Benzo(b)fluoranthene	76	170	0.14 (0.11)	0.035 J (0.12)	U (0.12)	U (0.53)	U (0.11)	U (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.11)	U (0.12)	0.1 J (0.12)	U (0.12)	
Benzo(g,h,i)perylene	190000	180	0.071 J (0.15)	0.064 J (0.15)	U (0.16)	U (0.7)	U (0.15)	U (0.14)	U (0.15)	U (0.17)	U (0.16)	U (0.15)	U (0.15)	0.059 J (0.15)	U (0.16)	
Chrysene	760	230	0.17 (0.11)	0.044 J (0.12)	U (0.12)	U (0.53)	U (0.11)	U (0.11)	U (0.12)	0.035 J (0.13)	U (0.12)	0.047 J (0.11)	0.037 J (0.12)	0.11 J (0.12)	0.056 J (0.12)	
Fluorene	130000	3800	0.044 J (0.19)	U (0.19)	U (0.2)	U (0.88)	U (0.18)	U (0.18)	U (0.19)	0.15 J (0.21)	U (0.2)	0.28 (0.19)	0.52 (0.19)	0.086 J (0.19)	0.13 J (0.2)	
Naphthalene	66	25	U (0.19)	0.05 J (0.19)	U (0.2)	0.26 J (0.88)	U (0.18)	0.088 J (0.18)	0.063 J (0.19)	0.22 (0.21)	U (0.2)	0.32 (0.19)	0.053 J (0.19)	0.13 J (0.19)	0.27 (0.2)	
Phenanthrene	190000	10000	0.38 (0.11)	0.083 J (0.12)	U (0.12)	U (0.53)	U (0.11)	U (0.11)	U (0.12)	0.24 (0.13)	0.039 J (0.12)	0.88 (0.11)	1.3 (0.12)	0.27 (0.12)	0.25 (0.12)	
Pyrene	96000	2200	0.27 (0.11)	0.058 J (0.12)	U (0.12)	U (0.53)	U (0.11)	0.023 J (0.11)	U (0.12)	0.075 J (0.13)	0.027 J (0.12)	0.12 (0.11)	0.28 (0.12)	0.16 (0.12)	0.042 J (0.12)	
Metals																
Lead	1000	450	55 (2.21)	827 (2.26)	9.85 (2.33)	25.2 (2.04)	6.6 (2.18)	2.29 (2.13)	2.35 (2.3)	73.8 (2.44)	79.7 (2.27)	7.58 (4.57)	6.93 (2.32)	16.4 (2.25)	12.5 (4.79)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-AA08-C1	301-AA08-C2	301-AA08-C3	301-AA09-C1	301-AA09-C2	301-AA09-C3	301-AA09-C4	301-AA09-C5	301-AB02-C1	301-AB02-C2	301-AB02-C3	301-AB02-C4	301-AB03-C1
			301-AA08	301-AA08	301-AA08	301-AA09	301-AA09	301-AA09	301-AA09	301-AA09	301-AA09	301-AB02	301-AB02	301-AB02	301-AB02
Field Sample ID	Value (0-2 ft bgs)	Value	301-AA08-C1-COMP	301-AA08-C2-COMP	301-AA08-C3-COMP	301-AA09-C1-COMP	301-AA09-C2-COMP	301-AA09-C3-COMP	301-AA09-C4-COMP	301-AA09-C5-COMP	301-AB02-C1-COMP	301-AB02-C2-COMP	301-AB02-C3-COMP	301-AB02-C4-COMP	301-AB03-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	5/25/2022	5/25/2022	5/25/2022	6/24/2022	6/24/2022	6/24/2022	6/24/2022	6/24/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022
PAHs															
Anthracene	190000	350	0.36 (0.12)	U (0.11)	U (0.11)	0.35 (0.11)	0.15 (0.13)	1.2 (0.12)	0.96 (0.13)	0.8 (0.12)	U (0.32)	U (0.1)	U (0.11)	U (0.11)	0.22 (0.11)
Benzo(a)anthracene	130	340	0.1 J (0.12)	U (0.11)	U (0.11)	1.5 (0.11)	0.48 (0.13)	2.4 (0.12)	2.2 (0.13)	3.9 (0.12)	U (0.32)	U (0.1)	U (0.11)	U (0.11)	0.4 (0.11)
Benzo(a)pyrene	91	46	U (0.16)	U (0.14)	U (0.14)	2.1 (0.15)	0.56 (0.18)	2.4 (0.17)	2.5 (0.18)	4.4 (0.16)	U (0.43)	U (0.13)	U (0.15)	U (0.14)	0.36 (0.15)
Benzo(b)fluoranthene	76	170	0.056 J (0.12)	U (0.11)	U (0.11)	2.1 (0.11)	0.58 (0.13)	3 (0.12)	2.9 (0.13)	4.9 (0.12)	0.093 J (0.32)	U (0.1)	U (0.11)	U (0.11)	0.41 (0.11)
Benzo(g,h,i)perylene	190000	180	0.026 J (0.16)	U (0.14)	U (0.14)	0.66 (0.15)	0.43 (0.18)	1.4 (0.17)	1.3 (0.18)	2.4 (0.16)	0.082 J (0.43)	0.022 J (0.13)	U (0.15)	U (0.14)	0.17 (0.15)
Chrysene	760	230	0.2 (0.12)	U (0.11)	U (0.11)	1.4 (0.11)	0.48 (0.13)	2.4 (0.12)	2.2 (0.13)	3.6 (0.12)	0.17 J (0.32)	0.044 J (0.1)	U (0.11)	U (0.11)	0.37 (0.11)
Fluorene	130000	3800	1.4 (0.2)	U (0.18)	U (0.18)	0.32 (0.18)	0.094 J (0.22)	0.75 (0.21)	0.55 (0.22)	0.38 (0.2)	U (0.54)	0.022 J (0.17)	U (0.18)	U (0.18)	0.12 J (0.19)
Naphthalene	66	25	0.36 (0.2)	U (0.18)	U (0.18)	1.5 (0.18)	0.78 (0.22)	0.83 (0.21)	2.3 (0.22)	1.3 (0.2)	U (0.54)	0.054 J (0.17)	U (0.18)	U (0.18)	0.23 (0.19)
Phenanthrene	190000	10000	3.3 (0.12)	U (0.11)	U (0.11)	1.1 (0.11)	0.48 (0.13)	4.3 (0.12)	2.9 (0.13)	2.2 (0.12)	U (0.32)	0.043 J (0.1)	U (0.11)	U (0.11)	0.86 (0.11)
Pyrene	96000	2200	0.51 (0.12)	U (0.11)	U (0.11)	2.1 (0.11)	0.68 (0.13)	4.5 (0.12)	3.6 (0.13)	4.2 (0.12)	0.065 J (0.32)	0.024 J (0.1)	U (0.11)	U (0.11)	0.7 (0.11)
Metals															
Lead	1000	450	9.28 (2.44)	5.11 (4.14)	4.65 (2.16)	147 (4.35)	1410 (2.53)	148 (5.01)	312 (5.27)	117 (2.35)	4.14 (2.12)	1.13 J (1.99)	3.7 (2.16)	1.69 J (2.08)	432 (2.15)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil	Non-Residential Soil to	301-AB03-C2	301-AB03-C3	301-AB03-C4	301-AB03-C5	301-AB04-C1	301-AB04-C2	301-AB04-C3	301-AB04-C4	301-AB06-C1	301-AB06-C2	301-AB06-C3	301-AB06-C4	301-AB06-C5
	Direct Contact	Groundwater	301-AB03	301-AB03	301-AB03	301-AB03	301-AB04	301-AB04	301-AB04	301-AB04	301-AB06	301-AB06	301-AB06	301-AB06	301-AB06
Field Sample ID	Value (0-2 ft bgs)	Value	301-AB03-C2-COMP	301-AB03-C3-COMP	301-AB03-C4-COMP	301-AB03-C5-COMP	301-AB04-C1-COMP	301-AB04-C2-COMP	301-AB04-C3-COMP	301-AB04-C4-COMP	301-AB06-C1-COMP	301-AB06-C2-COMP	301-AB06-C3-COMP	301-AB06-C4-COMP	301-AB06-C5-COMP
Sample Date	(mg/kg)	(mg/kg)	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/2/2022	6/2/2022	6/2/2022	6/2/2022	6/2/2022
PAHs															
Anthracene	190000	350	0.15 (0.11)	U (0.12)	U (0.12)	2.8 (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	0.21 (0.11)	0.087 J (0.12)	0.12 (0.12)	2.5 (0.12)	0.1 J (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)pyrene	91	46	0.2 (0.15)	0.13 J (0.16)	0.17 (0.16)	2.5 (0.15)	0.13 J (0.16)	U (0.16)	U (0.15)	U (0.15)	U (0.14)	U (0.16)	U (0.16)	U (0.16)	U (0.15)
Benzo(b)fluoranthene	76	170	0.24 (0.11)	0.11 J (0.12)	0.16 (0.12)	2.2 (0.12)	0.15 (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	0.13 J (0.15)	0.12 J (0.16)	0.14 J (0.16)	1.3 (0.15)	0.086 J (0.16)	U (0.16)	U (0.15)	U (0.15)	U (0.14)	U (0.16)	U (0.16)	U (0.16)	U (0.15)
Chrysene	760	230	0.21 (0.11)	0.1 J (0.12)	0.14 (0.12)	2.4 (0.12)	0.1 J (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Fluorene	130000	3800	0.095 J (0.19)	U (0.2)	U (0.2)	1.5 (0.19)	U (0.2)	U (0.2)	U (0.19)	U (0.18)	U (0.18)	U (0.2)	U (0.2)	U (0.2)	U (0.19)
Naphthalene	66	25	0.39 (0.19)	0.045 J (0.2)	0.047 J (0.2)	1.4 (0.19)	0.027 J (0.2)	U (0.2)	U (0.19)	U (0.18)	U (0.18)	U (0.2)	U (0.2)	U (0.2)	U (0.19)
Phenanthrene	190000	10000	0.49 (0.11)	0.05 J (0.12)	0.096 J (0.12)	9 (0.58)	0.085 J (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Pyrene	96000	2200	0.7 (0.11)	0.089 J (0.12)	0.15 (0.12)	4.4 (0.12)	0.17 (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Metals															
Lead	1000	450	70 (2.25)	44.2 (11.6)	190 (11.7)	181 (2.28)	9.49 (2.42)	6.56 (4.64)	5.56 (2.28)	7.82 (2.15)	64.1 (2.08)	28.7 (2.29)	11.8 (2.26)	4.55 (2.4)	5.41 (2.32)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-AB07-C1 301-AB07 301-AB07-C1-COMP 5/26/2022	301-AB07-C2 301-AB07 301-AB07-C2-COMP 5/26/2022	301-AB07-C3 301-AB07 301-AB07-C3-COMP 5/26/2022	301-AB08-C1 301-AB08 301-AB08-C1-COMP 5/27/2022	301-AB08-C2 301-AB08 301-AB08-C2-COMP 5/27/2022	301-AB08-C3 301-AB08 301-AB08-C3-COMP 5/27/2022	301-AB08-C4 301-AB08 301-AB08-C4-COMP 5/27/2022	301-AB09-C1 301-AB09 301-AB09-C1-COMP 6/1/2022	301-AC04-C1 301-AC04 301-AC04-C1-COMP 6/13/2022	301-AC04-C2 301-AC04 301-AC04-C2-COMP 6/13/2022	301-AC04-C3 301-AC04 301-AC04-C3-COMP 6/13/2022	301-AC04-C4 301-AC04 301-AC04-C4-COMP 6/13/2022	301-AC04-C5 301-AC04 301-AC04-C5-COMP 6/13/2022
Field Sample ID Sample Date	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)													
PAHs															
Anthracene	190000	350	U (0.11)	U (0.11)	U (0.1)	U (0.12)	U (0.11)	U (0.11)	U (0.1)	0.18 (0.13)	U (0.51)	U (1.5)	1.4 (0.12)	0.16 (0.13)	0.16 (0.11)
Benzo(a)anthracene	130	340	0.056 J (0.11)	U (0.11)	U (0.1)	U (0.12)	0.075 J (0.11)	0.038 J (0.11)	0.036 J (0.1)	0.54 (0.13)	U (0.51)	U (1.5)	4.4 (0.12)	0.63 (0.13)	0.45 (0.11)
Benzo(a)pyrene	91	46	0.063 J (0.15)	U (0.15)	U (0.14)	U (0.16)	0.099 J (0.14)	U (0.14)	U (0.14)	0.59 (0.18)	U (0.68)	U (2)	4.8 (0.16)	0.57 (0.18)	0.37 (0.15)
Benzo(b)fluoranthene	76	170	0.073 J (0.11)	U (0.11)	U (0.1)	U (0.12)	0.11 (0.11)	0.044 J (0.11)	0.041 J (0.1)	0.61 (0.13)	U (0.51)	U (1.5)	5.8 (0.12)	0.69 (0.13)	0.46 (0.11)
Benzo(g,h,i)perylene	190000	180	0.035 J (0.15)	U (0.15)	U (0.14)	U (0.16)	0.069 J (0.14)	0.028 J (0.14)	0.021 J (0.14)	0.36 (0.18)	U (0.68)	U (2)	2.6 (0.16)	0.28 (0.18)	0.17 (0.15)
Chrysene	760	230	0.056 J (0.11)	U (0.11)	U (0.1)	U (0.12)	0.074 J (0.11)	0.05 J (0.11)	0.035 J (0.1)	0.51 (0.13)	U (0.51)	U (1.5)	3.9 (0.12)	0.59 (0.13)	0.44 (0.11)
Fluorene	130000	3800	U (0.19)	U (0.19)	U (0.18)	U (0.2)	U (0.18)	U (0.18)	U (0.18)	0.066 J (0.22)	0.25 J (0.84)	0.47 J (2.6)	0.89 (0.2)	0.17 J (0.22)	0.46 (0.19)
Naphthalene	66	25	U (0.19)	U (0.19)	U (0.18)	U (0.2)	U (0.18)	U (0.18)	U (0.18)	0.041 J (0.22)	1.3 (0.84)	U (2.6)	0.18 J (0.22)	0.13 J (0.22)	0.27 (0.19)
Phenanthrene	190000	10000	0.053 J (0.11)	U (0.11)	U (0.1)	U (0.12)	0.071 J (0.11)	0.049 J (0.11)	0.041 J (0.1)	0.78 (0.13)	0.15 J (0.51)	0.58 J (1.5)	3.3 (0.12)	0.76 (0.13)	1.1 (0.11)
Pyrene	96000	2200	0.088 J (0.11)	U (0.11)	U (0.1)	0.02 J (0.12)	0.084 J (0.11)	0.056 J (0.11)	0.053 J (0.1)	0.82 (0.13)	U (0.51)	U (1.5)	7.5 (0.12)	0.87 (0.13)	0.61 (0.11)
Metals															
Lead	1000	450	7.61 (4.35)	4.32 (2.22)	1.61 J (2.04)	8.24 (2.36)	26.6 (2.07)	21.5 (2.07)	55.4 (2.04)	80.2 (2.56)	63.3 (1.94)	62.9 (10)	9.48 (2.31)	81.4 (2.67)	5.79 (2.23)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil	Non-Residential Soil to	301-AC05-C1	301-AC05-C2	301-AC05-C3	301-AC05-C4	301-AC05-C5	301-AC06-C1	301-AC06-C2	301-AC06-C3	301-AC06-C4	301-AC06-C5	301-AC07-C1	301-AC07-C2	301-AC07-C3
	Direct Contact	Groundwater	301-AC05	301-AC05	301-AC05	301-AC05	301-AC05	301-AC06	301-AC06	301-AC06	301-AC06	301-AC06	301-AC07	301-AC07	301-AC07
Field Sample ID	Value (0-2 ft bgs)	Value	301-AC05-C1-COMP	301-AC05-C2-COMP	301-AC05-C3-COMP	301-AC05-C4-COMP	301-AC05-C5-COMP	301-AC06-C1-COMP	301-AC06-C2-COMP	301-AC06-C3-COMP	301-AC06-C4-COMP	301-AC06-C5-COMP	301-AC07-C1-COMP	301-AC07-C2-COMP	301-AC07-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	5/27/2022	5/27/2022	5/27/2022	5/27/2022	5/27/2022	6/1/2022	6/1/2022	6/1/2022
PAHs															
Anthracene	190000	350	U (0.11)	U (0.12)	U (0.34)	U (0.31)	U (0.1)	0.037 J (0.11)	U (0.11)	U (0.12)	U (0.14)	U (0.12)	0.04 J (0.11)	U (0.12)	U (0.11)
Benzo(a)anthracene	130	340	U (0.11)	0.051 J (0.12)	U (0.34)	U (0.31)	U (0.1)	0.084 J (0.11)	U (0.11)	0.078 J (0.12)	U (0.14)	U (0.12)	0.13 (0.11)	U (0.12)	0.059 J (0.11)
Benzo(a)pyrene	91	46	U (0.15)	0.06 J (0.16)	U (0.46)	U (0.41)	U (0.14)	0.065 J (0.15)	U (0.15)	0.06 J (0.16)	U (0.18)	U (0.16)	0.15 (0.15)	U (0.16)	0.071 J (0.15)
Benzo(b)fluoranthene	76	170	U (0.11)	0.064 J (0.12)	U (0.34)	U (0.31)	U (0.1)	0.082 J (0.11)	U (0.11)	0.079 J (0.12)	U (0.14)	U (0.12)	0.19 (0.11)	U (0.12)	0.076 J (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.15)	0.029 J (0.16)	U (0.46)	U (0.41)	U (0.14)	0.036 J (0.15)	U (0.15)	0.031 J (0.16)	U (0.18)	U (0.16)	0.11 J (0.15)	U (0.16)	0.044 J (0.15)
Chrysene	760	230	U (0.11)	0.048 J (0.12)	U (0.34)	U (0.31)	U (0.1)	0.074 J (0.11)	U (0.11)	0.068 J (0.12)	U (0.14)	U (0.12)	0.15 (0.11)	U (0.12)	0.065 J (0.11)
Fluorene	130000	3800	U (0.19)	U (0.2)	U (0.58)	U (0.51)	U (0.18)	U (0.19)	U (0.19)	U (0.2)	U (0.23)	U (0.2)	0.018 J (0.19)	U (0.19)	U (0.18)
Naphthalene	66	25	U (0.19)	U (0.2)	U (0.58)	U (0.51)	U (0.18)	U (0.19)	U (0.19)	U (0.2)	U (0.23)	U (0.2)	0.032 J (0.19)	U (0.19)	U (0.18)
Phenanthrene	190000	10000	U (0.11)	0.046 J (0.12)	U (0.34)	U (0.31)	U (0.1)	0.15 (0.11)	U (0.11)	0.14 (0.12)	U (0.14)	U (0.12)	0.16 (0.11)	U (0.12)	0.057 J (0.11)
Pyrene	96000	2200	U (0.11)	0.09 J (0.12)	U (0.34)	U (0.31)	U (0.1)	0.14 (0.11)	U (0.11)	0.13 (0.12)	U (0.14)	U (0.12)	0.21 (0.11)	0.024 J (0.12)	0.08 J (0.11)
Metals															
Lead	1000	450	2.85 (2.22)	6.26 (2.25)	3.63 (2.24)	4.89 (2.08)	3.97 (2.05)	70.4 (2.23)	8.37 (2.22)	8.68 (2.35)	7.35 (2.67)	7.07 (2.42)	58.6 (2.21)	69.6 (2.21)	12 (2.22)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-AC07-C4	301-AC07-C5	301-AC08-C1	301-AC08-C2	301-AC08-C3	301-AC08-C4	301-AC08-C5	301-AC09-C1	301-AC09-C2	301-AC09-C3	301-B01-C1	301-C01-C1	301-C02-C1
			301-AC07	301-AC07	301-AC08	301-AC08	301-AC08	301-AC08	301-AC08	301-AC08	301-AC08	301-AC09	301-AC09	301-AC09	301-B01
Field Sample ID	Value (0-2 ft bgs)	Value	301-AC07-C4-COMP	301-AC07-C5-COMP	301-AC08-C1-COMP	301-AC08-C2-COMP	301-AC08-C3-COMP	301-AC08-C4-COMP	301-AC08-C5-COMP	301-AC09-C1-COMP	301-AC09-C2-COMP	301-AC09-C3-COMP	301-B01-C1-COMP	301-C01-C1-COMP	301-C02-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	6/1/2022	6/1/2022	6/3/2022	6/3/2022	6/3/2022	6/3/2022	6/3/2022	6/9/2022	6/9/2022	6/9/2022	5/17/2022	5/17/2022	6/3/2022
PAHs															
Anthracene	190000	350	U (0.11)	U (0.12)	0.11 (0.11)	U (0.12)	0.056 J (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.19 J (0.59)	U (0.12)
Benzo(a)anthracene	130	340	0.1 J (0.11)	0.058 J (0.12)	0.33 (0.11)	0.18 (0.12)	0.24 (0.12)	0.091 J (0.12)	0.11 (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.59)	0.14 (0.12)
Benzo(a)pyrene	91	46	0.11 J (0.15)	0.063 J (0.15)	0.42 (0.15)	0.24 (0.16)	0.32 (0.16)	0.1 J (0.16)	0.13 J (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.78)	0.14 J (0.16)
Benzo(b)fluoranthene	76	170	0.13 (0.11)	0.076 J (0.12)	0.43 (0.11)	0.26 (0.12)	0.35 (0.12)	0.11 J (0.12)	0.13 (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.23 J (0.59)	0.17 (0.12)
Benzo(g,h,i)perylene	190000	180	0.07 J (0.15)	0.034 J (0.15)	0.26 (0.15)	0.11 J (0.16)	0.18 (0.16)	0.059 J (0.16)	0.067 J (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.78)	0.091 J (0.16)
Chrysene	760	230	0.14 (0.11)	0.075 J (0.12)	0.31 (0.11)	0.17 (0.12)	0.22 (0.12)	0.096 J (0.12)	0.11 (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.18 J (0.59)	0.15 (0.12)
Fluorene	130000	3800	U (0.19)	U (0.19)	0.03 J (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	0.035 J (0.19)	0.83 J (0.98)	U (0.2)
Naphthalene	66	25	0.026 J (0.19)	U (0.19)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	0.21 (0.19)	2.2 (0.98)	U (0.2)
Phenanthrene	190000	10000	0.089 J (0.11)	0.048 J (0.12)	0.48 (0.11)	0.15 (0.12)	0.18 (0.12)	0.045 J (0.12)	0.1 J (0.11)	U (0.12)	U (0.12)	U (0.12)	0.048 J (0.12)	1.1 (0.59)	0.11 J (0.12)
Pyrene	96000	2200	0.16 (0.11)	0.091 J (0.12)	0.49 (0.11)	0.18 (0.12)	0.28 (0.12)	0.1 J (0.12)	0.16 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.022 J (0.12)	0.25 J (0.59)	0.19 (0.12)
Metals															
Lead	1000	450	8.64 (2.23)	12.8 (2.32)	16.4 (2.19)	93.9 (11.6)	53.3 (11.7)	7.97 J (11.9)	39.1 (2.22)	9.19 (2.36)	6.46 (2.4)	7.06 (2.27)	11.9 (2.27)	65.5 (2.29)	91.8 (11.7)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
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Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-C02-C2 301-C02	301-D01-C1 301-D01	301-D01-C2 301-D01	301-D01-C3 301-D01	301-D01-C4 301-D01	301-D01-D1 301-D01	301-E01-C1 301-E01	301-E02-C1 301-E02	301-E02-C2 301-E02	301-E02-C3 301-E02	301-E02-C4 301-E02	301-E02-C5 301-E02	301-E02-D1 301-E02
Field Sample ID	Value (0-2 ft bgs)	Value	301-C02-C2-COMP	301-D01-C1-COMP	301-D01-C2-COMP	301-D01-C3-COMP	301-D01-C4-COMP	301-D01-D1-COMP	301-E01-C1-COMP	301-E02-C1-COMP	301-E02-C2-COMP	301-E02-C3-COMP	301-E02-C4-COMP	301-E02-C5-COMP	301-E02-D1-COMP
Sample Date	(mg/kg)	(mg/kg)	6/3/2022	6/6/2022	6/6/2022	6/6/2022	6/6/2022	3/28/2023	5/17/2022	6/7/2022	6/7/2022	6/7/2022	6/7/2022	6/7/2022	3/28/2023
PAHs															
Anthracene	190000	350	U (0.12)	0.16 (0.11)	0.1 J (0.12)	U (0.11)	0.19 (0.11)	U (0.11)	0.05 J (0.12)	0.26 (0.12)	U (0.12)	U (0.12)	0.1 J (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	U (0.12)	0.24 (0.11)	0.17 (0.12)	0.1 J (0.11)	0.15 (0.11)	0.026 J (0.11)	0.081 J (0.12)	0.044 J (0.12)	U (0.12)	0.033 J (0.12)	0.026 J (0.12)	0.039 J (0.12)	U (0.12)
Benzo(a)pyrene	91	46	U (0.16)	0.21 (0.15)	0.14 J (0.16)	0.13 J (0.14)	0.15 (0.15)	U (0.15)	0.066 J (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	0.063 J (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.12)	0.22 (0.11)	0.15 (0.12)	0.14 (0.11)	0.15 (0.11)	U (0.11)	0.08 J (0.12)	0.045 J (0.12)	U (0.12)	0.048 J (0.12)	0.039 J (0.12)	0.072 J (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.16)	0.16 (0.15)	0.067 J (0.16)	0.063 J (0.14)	0.11 J (0.15)	U (0.15)	0.03 J (0.16)	U (0.16)	U (0.16)	0.028 J (0.16)	0.032 J (0.15)	0.052 J (0.16)	0.032 J (0.16)
Chrysene	760	230	U (0.12)	0.23 (0.11)	0.16 (0.12)	0.098 J (0.11)	0.15 (0.11)	0.02 J (0.11)	0.072 J (0.12)	0.11 J (0.12)	U (0.12)	0.035 J (0.12)	0.031 J (0.12)	0.044 J (0.12)	U (0.12)
Fluorene	130000	3800	U (0.2)	0.25 (0.19)	0.06 J (0.2)	0.051 J (0.18)	0.59 (0.18)	U (0.19)	0.043 J (0.2)	1.1 (0.19)	U (0.2)	U (0.19)	0.38 (0.19)	U (0.2)	U (0.19)
Naphthalene	66	25	0.44 (0.2)	0.92 (0.19)	0.15 J (0.2)	0.67 (0.18)	0.75 (0.18)	0.13 (0.038)	0.034 J (0.2)	0.88 (0.19)	0.073 J (0.2)	0.66 (0.19)	0.27 (0.19)	0.097 J (0.2)	1.4 (0.039)
Phenanthrene	190000	10000	U (0.12)	0.73 (0.11)	0.35 (0.12)	0.084 J (0.11)	1.1 (0.11)	0.043 J (0.11)	0.13 (0.12)	1.8 (0.12)	0.028 J (0.12)	0.045 J (0.12)	0.52 (0.12)	0.043 J (0.12)	0.029 J (0.12)
Pyrene	96000	2200	U (0.12)	0.53 (0.11)	0.26 (0.12)	0.12 (0.11)	0.31 (0.11)	0.034 J (0.11)	0.15 (0.12)	0.34 (0.12)	0.023 J (0.12)	0.054 J (0.12)	0.086 J (0.12)	0.052 J (0.12)	0.029 J (0.12)
Metals															
Lead	1000	450	14 (12.2)	68.6 (2.25)	27 (2.34)	14.6 (2.14)	102 (4.42)	59.4 (2.3)	15.8 (2.4)	9.01 (2.3)	26.4 (2.26)	33.1 (11.1)	29.5 (2.26)	58.2 (2.35)	1640 (2.25)

- Notes:**
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 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-E03-C1 301-E03 301-E03-C1-COMP 6/6/2022	301-F01-C1 301-F01 301-F01-C1-COMP 5/18/2022	301-F01-C2 301-F01 301-F01-C2-COMP 5/18/2022	301-F01-C3 301-F01 301-F01-C3-COMP 5/18/2022	301-F01-C4 301-F01 301-F01-C4-COMP 5/18/2022	301-F01-C5 301-F01 301-F01-C5-COMP 5/18/2022	301-F01-D1 301-F01 301-F01-D1-COMP 3/29/2023	301-F02-C1 301-F02 301-F02-C1-COMP 6/6/2022	301-F02-C2 301-F02 301-F02-C2-COMP 6/6/2022	301-G01-C1 301-G01 301-G01-C1-COMP 5/18/2022	301-G01-C2 301-G01 301-G01-C2-COMP 5/18/2022	301-G01-D1 301-G01 301-G01-D1-COMP 3/30/2023	301-G02-C1 301-G02 301-G02-C1-COMP 5/19/2022	
Field Sample ID Sample Date	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)														
PAHs																
Anthracene	190000	350	0.28 (0.12)	0.69 (0.12)	0.55 (0.11)	0.073 J (0.12)	0.28 (0.12)	U (0.12)	0.22 (0.12)	0.12 (0.12)	0.087 J (0.12)	U (0.12)	1.1 (0.12)	0.12 (0.12)	0.35 (0.14)	
Benzo(a)anthracene	130	340	0.39 (0.12)	2.2 (0.12)	0.5 (0.11)	0.048 J (0.12)	0.3 (0.12)	U (0.12)	0.29 (0.12)	0.093 J (0.12)	0.039 J (0.12)	0.024 J (0.12)	3.3 (0.12)	0.056 J (0.12)	0.85 (0.14)	
Benzo(a)pyrene	91	46	0.35 (0.16)	2.6 (0.16)	0.4 (0.15)	U (0.16)	0.19 (0.16)	U (0.16)	0.25 (0.16)	0.094 J (0.15)	U (0.16)	U (0.16)	3.5 (0.16)	U (0.16)	0.77 (0.18)	
Benzo(b)fluoranthene	76	170	0.38 (0.12)	3 (0.12)	0.46 (0.11)	0.034 J (0.12)	0.22 (0.12)	U (0.12)	0.3 (0.12)	0.1 J (0.12)	0.055 J (0.12)	U (0.12)	3.9 (0.12)	0.036 J (0.12)	0.89 (0.14)	
Benzo(g,h,i)perylene	190000	180	0.17 (0.16)	1.3 (0.16)	0.17 (0.15)	U (0.16)	0.064 J (0.16)	U (0.16)	0.086 J (0.16)	0.058 J (0.15)	0.034 J (0.16)	U (0.16)	1.8 (0.16)	U (0.16)	0.41 (0.18)	
Chrysene	760	230	0.36 (0.12)	2.1 (0.12)	0.41 (0.11)	0.036 J (0.12)	0.24 (0.12)	U (0.12)	0.27 (0.12)	0.094 J (0.12)	0.036 J (0.12)	U (0.12)	3.2 (0.12)	0.05 J (0.12)	0.86 (0.14)	
Fluorene	130000	3800	0.33 (0.2)	0.34 (0.2)	0.51 (0.19)	0.1 J (0.2)	0.28 (0.2)	U (0.2)	0.14 J (0.21)	0.37 (0.19)	0.38 (0.2)	U (0.2)	0.92 (0.2)	0.29 (0.2)	0.19 J (0.23)	
Naphthalene	66	25	0.083 J (0.2)	0.55 (0.2)	1 (0.19)	0.45 (0.2)	0.1 J (0.2)	U (0.2)	0.23 (0.041)	0.21 (0.19)	0.15 J (0.2)	0.21 (0.2)	1.1 (0.2)	1.8 (0.039)	2.7 (0.23)	
Phenanthrene	190000	10000	1.3 (0.12)	2.7 (0.12)	2.2 (0.11)	0.31 (0.12)	1.1 (0.12)	U (0.12)	0.76 (0.12)	0.64 (0.12)	0.53 (0.12)	0.05 J (0.12)	5.1 (0.12)	0.56 (0.12)	1.5 (0.14)	
Pyrene	96000	2200	0.8 (0.12)	4.1 (0.12)	1.1 (0.11)	0.12 (0.12)	0.71 (0.12)	U (0.12)	0.51 (0.12)	0.19 (0.12)	0.082 J (0.12)	0.042 J (0.12)	5.6 (0.12)	0.16 (0.12)	1.4 (0.14)	
Metals																
Lead	1000	450	77.4 (2.37)	212 (2.38)	26.7 (2.16)	8.89 (2.34)	8.05 (2.29)	7.02 (2.36)	12.9 (2.4)	116 (2.32)	599 (2.33)	96.1 (2.39)	7.58 (2.37)	8.38 (2.38)	9.92 (2.73)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-G02-C2 301-G02	301-G02-C3 301-G02	301-G02-C4 301-G02	301-G03-C1 301-G03	301-G03-C2 301-G03	301-G03-C3 301-G03	301-G04-C1 301-G04	301-H01-C1 301-H01	301-H01-C2 301-H01	301-H01-D1 301-H01	301-H02-C1 301-H02	301-H02-C2 301-H02	301-H02-C3 301-H02
Field Sample ID	Value (0-2 ft bgs)	Value	301-G02-C2-COMP	301-G02-C3-COMP	301-G02-C4-COMP	301-G03-C1-COMP	301-G03-C2-COMP	301-G03-C3-COMP	301-G04-C1-COMP	301-H01-C1-COMP	301-H01-C2-COMP	301-H01-D1-COMP	301-H02-C1-COMP	301-H02-C2-COMP	301-H02-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	5/19/2022	5/19/2022	5/19/2022	5/20/2022	5/20/2022	5/20/2022	6/2/2022	5/19/2022	5/19/2022	3/30/2023	5/23/2022	5/23/2022	5/23/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	13 (1.2)	U (0.12)	U (0.11)	U (0.12)	0.13 (0.12)	0.056 J (0.12)	0.042 J (0.11)	U (0.12)	U (0.12)	0.087 J (0.12)
Benzo(a)anthracene	130	340	U (0.12)	0.022 J (0.12)	U (0.12)	28 (1.2)	U (0.12)	U (0.11)	U (0.12)	0.052 J (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)pyrene	91	46	U (0.15)	U (0.16)	U (0.15)	34 (1.6)	U (0.16)	U (0.15)	U (0.17)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	40 (1.2)	U (0.12)	U (0.11)	U (0.12)	0.043 J (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.15)	U (0.16)	U (0.15)	16 (1.6)	U (0.16)	U (0.15)	U (0.17)	0.029 J (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	U (0.16)
Chrysene	760	230	U (0.12)	0.021 J (0.12)	U (0.12)	26 (1.2)	0.047 J (0.12)	U (0.11)	U (0.12)	0.054 J (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)
Fluorene	130000	3800	U (0.19)	0.087 J (0.2)	U (0.19)	10 (2.1)	0.029 J (0.2)	0.069 J (0.19)	0.17 J (0.21)	0.45 (0.2)	0.21 (0.2)	0.26 (0.19)	0.023 J (0.2)	U (0.2)	0.39 (0.2)
Naphthalene	66	25	0.025 J (0.19)	6 (0.2)	0.33 (0.19)	16 (2.1)	1.3 (0.2)	1.2 (0.19)	0.063 J (0.21)	2.6 (0.2)	1.7 (0.2)	3.8 (0.038)	U (0.2)	U (0.2)	2.6 (0.2)
Phenanthrene	190000	10000	U (0.12)	0.2 (0.12)	U (0.12)	51 (1.2)	0.075 J (0.12)	0.11 (0.11)	0.19 (0.12)	1 (0.12)	0.47 (0.12)	0.42 (0.11)	0.044 J (0.12)	U (0.12)	0.57 (0.12)
Pyrene	96000	2200	0.019 J (0.12)	0.05 J (0.12)	U (0.12)	55 (1.2)	0.029 J (0.12)	0.027 J (0.11)	0.042 J (0.12)	0.12 (0.12)	0.034 J (0.12)	0.057 J (0.11)	0.022 J (0.12)	U (0.12)	0.037 J (0.12)
Metals															
Lead	1000	450	24.9 (2.23)	6.58 (2.32)	12.4 (2.27)	322 (2.4)	15.2 (2.32)	7.65 (2.2)	38.2 (2.4)	348 (2.33)	519 (2.42)	19.6 (2.26)	7.7 (2.39)	6.54 (2.31)	15.6 (2.42)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-H02-C4 301-H02	301-H03-C1 301-H03	301-H03-C2 301-H03	301-H03-C3 301-H03	301-I01-C1 301-I01	301-I01-C2 301-I01	301-I01-C3 301-I01	301-I02-C1 301-I02	301-I02-C2 301-I02	301-I02-C3 301-I02	301-I02-C4 301-I02	301-I02-C5 301-I02	301-I03-C1 301-I03
Field Sample ID	Value (0-2 ft bgs)	Value	301-H02-C4-COMP	301-H03-C1-COMP	301-H03-C2-COMP	301-H03-C3-COMP	301-I01-C1-COMP	301-I01-C2-COMP	301-I01-C3-COMP	301-I02-C1-COMP	301-I02-C2-COMP	301-I02-C3-COMP	301-I02-C4-COMP	301-I02-C5-COMP	301-I03-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	5/23/2022	5/23/2022	5/23/2022	5/23/2022	5/20/2022	5/20/2022	5/20/2022	5/24/2022	5/24/2022	5/24/2022	5/24/2022	5/24/2022	6/2/2022
PAHs															
Anthracene	190000	350	U (0.13)	U (0.11)	U (0.12)	0.072 J (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.14 (0.12)	U (0.12)	0.087 J (0.12)	0.17 (0.12)	0.15 (0.12)
Benzo(a)anthracene	130	340	U (0.13)	0.049 J (0.11)	U (0.12)	0.038 J (0.12)	0.025 J (0.13)	U (0.12)	U (0.12)	0.025 J (0.12)	0.091 J (0.12)	U (0.12)	U (0.12)	U (0.12)	0.65 (0.12)
Benzo(a)pyrene	91	46	U (0.17)	0.068 J (0.15)	U (0.16)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	U (0.15)	0.073 J (0.16)	U (0.17)	U (0.16)	U (0.16)	0.69 (0.16)
Benzo(b)fluoranthene	76	170	U (0.13)	0.074 J (0.11)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	0.039 J (0.12)	0.078 J (0.12)	U (0.12)	U (0.12)	U (0.12)	0.82 (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.17)	0.05 J (0.15)	U (0.16)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	0.027 J (0.15)	0.035 J (0.16)	U (0.17)	U (0.16)	U (0.16)	0.4 (0.16)
Chrysene	760	230	U (0.13)	0.049 J (0.11)	U (0.12)	0.028 J (0.12)	U (0.13)	U (0.12)	U (0.12)	0.026 J (0.12)	0.079 J (0.12)	U (0.12)	U (0.12)	U (0.12)	0.62 (0.12)
Fluorene	130000	3800	0.025 J (0.21)	U (0.19)	0.032 J (0.2)	0.32 (0.2)	0.026 J (0.21)	U (0.2)	0.14 J (0.2)	0.02 J (0.19)	0.32 (0.2)	0.063 J (0.21)	0.33 (0.2)	0.73 (0.21)	0.055 J (0.19)
Naphthalene	66	25	0.22 (0.21)	0.42 (0.19)	0.14 J (0.2)	49 (2)	0.085 J (0.21)	0.13 J (0.2)	0.65 (0.2)	0.25 (0.19)	2.8 (0.2)	0.85 (0.21)	0.32 (0.2)	2.6 (0.21)	0.047 J (0.19)
Phenanthrene	190000	10000	0.045 J (0.13)	0.046 J (0.11)	0.05 J (0.12)	0.39 (0.12)	0.053 J (0.13)	U (0.12)	0.24 (0.12)	0.047 J (0.12)	0.77 (0.12)	0.12 (0.12)	0.6 (0.12)	1.3 (0.12)	0.33 (0.12)
Pyrene	96000	2200	U (0.13)	0.063 J (0.11)	U (0.12)	0.12 (0.12)	0.028 J (0.13)	U (0.12)	0.03 J (0.12)	0.032 J (0.12)	0.27 (0.12)	0.022 J (0.12)	0.028 J (0.12)	0.064 J (0.12)	0.9 (0.12)
Metals															
Lead	1000	450	6.28 (2.5)	34.5 (2.26)	6.86 (2.53)	5.08 (2.42)	259 (2.53)	18 (2.39)	12.7 (2.38)	43.8 (2.27)	7.9 (2.41)	12.1 (2.54)	9.47 (2.3)	6.65 (2.48)	388 (2.19)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-J01-C1	301-J01-C2	301-J01-C3	301-J01-C4	301-J02-C1	301-J02-C2	301-J02-C3	301-J02-C4	301-K01-C1	301-K01-C2	301-K01-C3	301-K01-C4	301-K02-C1
Field Sample ID	Value (0-2 ft bgs)	Value	301-J01	301-J01	301-J01	301-J01	301-J02	301-J02	301-J02	301-J02	301-K01	301-K01	301-K01	301-K01	301-K02
Sample Date	(mg/kg)	(mg/kg)	301-J01-C1-COMP	301-J01-C2-COMP	301-J01-C3-COMP	301-J01-C4-COMP	301-J02-C1-COMP	301-J02-C2-COMP	301-J02-C3-COMP	301-J02-C4-COMP	301-K01-C1-COMP	301-K01-C2-COMP	301-K01-C3-COMP	301-K01-C4-COMP	301-K02-C1-COMP
			6/3/2022	6/3/2022	6/3/2022	6/3/2022	5/25/2022	5/25/2022	5/25/2022	5/25/2022	5/25/2022	5/25/2022	5/25/2022	5/25/2022	5/26/2022
PAHs															
Anthracene	190000	350	1.1 (0.12)	0.2 (0.12)	0.1 J (0.11)	U (0.13)	U (0.12)	U (0.11)	U (0.11)	U (0.13)	0.037 J (0.11)	U (0.12)	U (0.12)	U (0.6)	U (0.12)
Benzo(a)anthracene	130	340	2.9 (0.12)	0.082 J (0.12)	0.079 J (0.11)	0.032 J (0.13)	U (0.12)	U (0.11)	U (0.11)	U (0.13)	0.043 J (0.11)	U (0.12)	U (0.12)	U (0.6)	U (0.12)
Benzo(a)pyrene	91	46	3 (0.17)	U (0.16)	0.064 J (0.14)	U (0.17)	U (0.16)	U (0.15)	U (0.14)	U (0.18)	0.049 J (0.15)	U (0.16)	U (0.16)	U (0.79)	U (0.16)
Benzo(b)fluoranthene	76	170	3.6 (0.12)	0.074 J (0.12)	0.081 J (0.11)	U (0.13)	U (0.12)	U (0.11)	U (0.11)	U (0.13)	0.036 J (0.11)	U (0.12)	U (0.12)	U (0.6)	U (0.12)
Benzo(g,h,i)perylene	190000	180	1.8 (0.17)	U (0.16)	0.036 J (0.14)	U (0.17)	U (0.16)	U (0.15)	U (0.14)	U (0.18)	0.048 J (0.15)	U (0.16)	U (0.16)	U (0.79)	U (0.16)
Chrysene	760	230	2.8 (0.12)	0.098 J (0.12)	0.079 J (0.11)	0.025 J (0.13)	U (0.12)	U (0.11)	U (0.11)	U (0.13)	0.06 J (0.11)	U (0.12)	U (0.12)	U (0.6)	U (0.12)
Fluorene	130000	3800	0.91 (0.21)	0.36 (0.2)	0.76 (0.18)	0.16 J (0.21)	U (0.2)	U (0.19)	0.092 J (0.18)	0.055 J (0.22)	U (0.19)	0.11 J (0.2)	0.089 J (0.19)	0.96 J (0.99)	0.094 J (0.2)
Naphthalene	66	25	0.38 (0.21)	0.28 (0.2)	5.9 (0.18)	0.58 (0.21)	0.49 (0.2)	U (0.19)	0.44 (0.18)	0.45 (0.22)	0.17 J (0.19)	0.037 J (0.2)	0.045 J (0.19)	20 (0.99)	0.098 J (0.2)
Phenanthrene	190000	10000	2.9 (0.12)	0.81 (0.12)	0.63 (0.11)	0.16 (0.13)	0.027 J (0.12)	U (0.11)	0.067 J (0.11)	0.06 J (0.13)	0.17 (0.11)	0.17 (0.12)	0.2 (0.12)	0.78 (0.6)	0.069 J (0.12)
Pyrene	96000	2200	4.5 (0.12)	0.26 (0.12)	0.18 (0.11)	0.063 J (0.13)	U (0.12)	U (0.11)	U (0.11)	U (0.13)	0.12 (0.11)	U (0.12)	0.037 J (0.12)	U (0.6)	U (0.12)
Metals															
Lead	1000	450	137 (2.43)	8.13 (2.43)	5.88 (2.12)	20 (2.46)	19 (4.67)	7.46 (4.42)	7.42 (2.09)	9.57 (5.17)	230 (2.2)	15.5 (4.49)	4.77 (2.29)	24.5 (2.37)	16.9 (2.36)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	301-K02-C2	301-K02-C3	301-L02-C1	301-L02-C2	301-L02-C3	301-L02-C4	301-L03-C1	301-L03-C2	301-L03-C3	301-M02-C1	301-M02-C2	301-M02-C3	301-M02-C4
			301-K02	301-K02	301-L02	301-L02	301-L02	301-L02	301-L03	301-L03	301-L03	301-M02	301-M02	301-M02	301-M02
Field Sample ID	Value (0-2 ft bgs)	Value	301-K02-C2-COMP	301-K02-C3-COMP	301-L02-C1-COMP	301-L02-C2-COMP	301-L02-C3-COMP	301-L02-C4-COMP	301-L03-C1-COMP	301-L03-C2-COMP	301-L03-C3-COMP	301-M02-C1-COMP	301-M02-C2-COMP	301-M02-C3-COMP	301-M02-C4-COMP
Sample Date	(mg/kg)	(mg/kg)	5/26/2022	5/26/2022	5/27/2022	5/27/2022	5/27/2022	5/27/2022	5/27/2022	5/27/2022	5/27/2022	5/31/2022	5/31/2022	5/31/2022	5/31/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.59)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.061 J (0.12)	0.048 J (0.11)	0.051 J (0.12)	U (0.11)
Benzo(a)anthracene	130	340	U (0.12)	U (0.59)	0.078 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.039 J (0.12)	0.025 J (0.11)	0.023 J (0.12)	U (0.11)
Benzo(a)pyrene	91	46	U (0.17)	U (0.79)	0.078 J (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.14)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.59)	0.093 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.057 J (0.12)	U (0.11)	U (0.12)	U (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.17)	U (0.79)	0.082 J (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	0.051 J (0.16)	U (0.15)	U (0.16)	U (0.14)
Chrysene	760	230	U (0.12)	U (0.59)	0.091 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.13 (0.12)	0.026 J (0.11)	0.021 J (0.12)	U (0.11)
Fluorene	130000	3800	U (0.21)	2 (0.99)	U (0.19)	0.037 J (0.2)	0.023 J (0.2)	U (0.2)	0.047 J (0.19)	U (0.2)	U (0.2)	0.17 J (0.2)	0.16 J (0.19)	0.09 J (0.2)	U (0.18)
Naphthalene	66	25	U (0.21)	4.4 (0.99)	0.079 J (0.19)	0.025 J (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.2)	0.7 (0.2)	0.17 J (0.19)	0.089 J (0.2)	U (0.18)
Phenanthrene	190000	10000	U (0.12)	1 (0.59)	0.068 J (0.11)	0.042 J (0.12)	0.027 J (0.12)	U (0.12)	0.044 J (0.11)	U (0.12)	U (0.12)	0.28 (0.12)	0.27 (0.11)	0.16 (0.12)	U (0.11)
Pyrene	96000	2200	U (0.12)	U (0.59)	0.076 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.13 (0.12)	0.085 J (0.11)	0.06 J (0.12)	U (0.11)
Metals															
Lead	1000	450	10.5 (4.8)	5.98 (2.33)	209 (2.25)	24.1 (11.8)	12.5 (2.36)	6.82 (2.27)	14.1 (2.26)	7.72 (2.31)	5.08 (2.44)	130 (2.38)	10.2 (2.24)	6.73 (2.29)	7.73 (2.2)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	301-M03-C1	301-M03-C2	301-M04-C1	301-N02-C1	301-N02-C2	301-N02-C3	301-N02-C4	301-N02-D1	301-N03-C1	301-O02-C1	301-O02-C2	301-O02-C3	301-O02-D1		
			301-M03	301-M03	301-M04	301-N02	301-N02	301-N02	301-N02	301-N02	301-N02	301-N03	301-O02	301-O02	301-O02	301-O02	301-O02
			301-M03-C1-COMP	301-M03-C2-COMP	301-M04-C1-COMP	301-N02-C1-COMP	301-N02-C2-COMP	301-N02-C3-COMP	301-N02-C4-COMP	301-N02-D1-COMP	301-N03-C1-COMP	301-O02-C1-COMP	301-O02-C2-COMP	301-O02-C3-COMP	301-O02-D1-COMP	301-O02-D1-COMP	301-O02-D1-COMP
Field Sample ID			5/31/2022	5/31/2022	6/2/2022	6/1/2022	6/1/2022	6/1/2022	6/1/2022	3/31/2023	6/1/2022	6/1/2022	6/1/2022	6/1/2022	3/30/2023		
Sample Date																	
PAHs																	
Anthracene	190000	350	U (0.11)	U (0.12)	0.89 J (1.3)	0.1 J (0.12)	U (0.12)	U (0.12)	U (0.12)	0.62 J (1.2)	U (0.12)	U (0.11)	0.075 J (0.11)	0.084 J (0.12)	U (0.11)		
Benzo(a)anthracene	130	340	0.046 J (0.11)	U (0.12)	1.1 J (1.3)	0.046 J (0.12)	U (0.12)	U (0.12)	0.022 J (0.12)	U (1.2)	0.093 J (0.12)	0.069 J (0.11)	0.088 J (0.11)	0.095 J (0.12)	U (0.11)		
Benzo(a)pyrene	91	46	0.075 J (0.14)	U (0.16)	1.2 J (1.7)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (1.6)	0.12 J (0.16)	0.084 J (0.14)	0.058 J (0.14)	0.072 J (0.16)	U (0.15)		
Benzo(b)fluoranthene	76	170	0.062 J (0.11)	U (0.12)	1.1 J (1.3)	0.054 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (1.2)	0.13 (0.12)	0.11 (0.11)	0.077 J (0.11)	0.088 J (0.12)	U (0.11)		
Benzo(g,h,i)perylene	190000	180	0.061 J (0.14)	U (0.16)	0.97 J (1.7)	0.03 J (0.16)	U (0.16)	U (0.16)	U (0.16)	U (1.6)	0.084 J (0.16)	0.072 J (0.14)	0.028 J (0.14)	0.033 J (0.16)	U (0.15)		
Chrysene	760	230	0.057 J (0.11)	U (0.12)	2 (1.3)	0.077 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (1.2)	0.095 J (0.12)	0.11 (0.11)	0.081 J (0.11)	0.085 J (0.12)	U (0.11)		
Fluorene	130000	3800	U (0.18)	U (0.2)	1 J (2.1)	0.14 J (0.2)	U (0.2)	U (0.2)	U (0.2)	4 (2)	U (0.2)	U (0.18)	0.23 (0.18)	0.18 J (0.2)	0.1 J (0.19)		
Naphthalene	66	25	U (0.18)	U (0.2)	2.2 (2.1)	0.052 J (0.2)	U (0.2)	U (0.2)	U (0.2)	29 (0.4)	0.16 J (0.2)	1.3 (0.18)	0.13 J (0.18)	0.13 J (0.2)	0.096 (0.038)		
Phenanthrene	190000	10000	U (0.11)	U (0.12)	2.4 (1.3)	0.66 (0.12)	U (0.12)	U (0.12)	0.034 J (0.12)	5 (1.2)	0.086 J (0.12)	0.076 J (0.11)	0.42 (0.11)	0.43 (0.12)	0.16 (0.11)		
Pyrene	96000	2200	0.021 J (0.11)	0.022 J (0.12)	3.2 (1.3)	0.22 (0.12)	U (0.12)	U (0.12)	0.025 J (0.12)	0.41 J (1.2)	0.099 J (0.12)	0.1 J (0.11)	0.2 (0.11)	0.22 (0.12)	0.023 J (0.11)		
Metals																	
Lead	1000	450	299 (2.08)	10.5 (4.77)	15.4 (4.96)	18.1 (2.32)	9.29 (2.34)	7.33 (2.37)	16.1 (11.4)	8.41 (2.34)	150 (2.29)	26 (2.02)	8.53 (2.1)	23.8 (11.8)	7.52 (2.25)		

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-P02-C1 301-P02 6/2/2022	301-P02-C2 301-P02 6/2/2022	301-P02-C3 301-P02 6/2/2022	301-P02-C4 301-P02 6/2/2022	301-P02-C5 301-P02 6/2/2022	301-Q02-C1 301-Q02 5/19/2022	301-Q02-C2 301-Q02 5/19/2022	301-Q02-C3 301-Q02 5/19/2022	301-Q03-C1 301-Q03 5/18/2022	301-Q03-C2 301-Q03 5/18/2022	301-Q04-C1 301-Q04 6/10/2022	301-Q04-D1 301-Q04 3/31/2023	301-R02-C1 301-R02 5/19/2022
Field Sample ID	Value (0-2 ft bgs)	Value	301-P02-C1-COMP	301-P02-C2-COMP	301-P02-C3-COMP	301-P02-C4-COMP	301-P02-C5-COMP	301-Q02-C1-COMP	301-Q02-C2-COMP	301-Q02-C3-COMP	301-Q03-C1-COMP	301-Q03-C2-COMP	301-Q04-C1-COMP	301-Q04-D1-COMP	301-R02-C1-COMP
Sample Date	(mg/kg)	(mg/kg)													
PAHs															
Anthracene	190000	350	0.12 (0.11)	0.28 (0.12)	0.2 (0.12)	0.41 (0.12)	0.069 J (0.11)	0.12 (0.12)	U (0.11)	U (0.1)	U (0.12)	0.058 J (0.12)	0.13 (0.11)	0.26 (0.12)	0.038 J (0.11)
Benzo(a)anthracene	130	340	0.24 (0.11)	0.29 (0.12)	0.074 J (0.12)	0.16 (0.12)	U (0.11)	2.2 (0.12)	0.066 J (0.11)	U (0.1)	U (0.12)	U (0.12)	0.43 (0.11)	0.59 (0.12)	0.022 J (0.11)
Benzo(a)pyrene	91	46	0.4 (0.15)	0.37 (0.16)	0.065 J (0.15)	0.16 (0.15)	U (0.15)	6.3 (0.16)	0.066 J (0.15)	U (0.14)	U (0.16)	U (0.17)	0.48 (0.15)	0.56 (0.16)	U (0.14)
Benzo(b)fluoranthene	76	170	0.26 (0.11)	0.37 (0.12)	0.081 J (0.12)	0.19 (0.12)	U (0.11)	6.2 (0.12)	0.083 J (0.11)	U (0.1)	U (0.12)	U (0.12)	0.44 (0.11)	0.58 (0.12)	U (0.11)
Benzo(g,h,i)perylene	190000	180	0.33 (0.15)	0.22 (0.16)	0.062 J (0.15)	0.14 J (0.15)	U (0.15)	9.4 (0.82)	0.082 J (0.15)	U (0.14)	U (0.16)	U (0.17)	0.25 (0.15)	0.26 (0.16)	U (0.14)
Chrysene	760	230	0.32 (0.11)	0.28 (0.12)	0.1 J (0.12)	0.2 (0.12)	U (0.11)	6.5 (0.12)	0.15 (0.11)	U (0.1)	U (0.12)	0.022 J (0.12)	0.68 (0.11)	0.52 (0.12)	0.048 J (0.11)
Fluorene	130000	3800	0.49 (0.19)	1.3 (0.2)	0.91 (0.19)	1.7 (0.19)	0.23 (0.19)	0.13 J (0.21)	U (0.18)	U (0.17)	0.049 J (0.2)	0.25 (0.21)	0.048 J (0.19)	0.077 J (0.2)	0.038 J (0.18)
Naphthalene	66	25	4.2 (0.19)	0.61 (0.2)	0.62 (0.19)	2 (0.19)	0.19 (0.19)	0.4 (0.21)	0.059 J (0.18)	U (0.17)	0.034 J (0.2)	0.5 (0.21)	0.052 J (0.19)	0.049 (0.04)	0.049 J (0.18)
Phenanthrene	190000	10000	0.7 (0.11)	1.8 (0.12)	1.2 (0.12)	2.5 (0.12)	0.098 J (0.11)	1.4 (0.12)	0.12 (0.11)	U (0.1)	0.047 J (0.12)	0.32 (0.12)	0.55 (0.11)	0.97 (0.12)	0.12 (0.11)
Pyrene	96000	2200	0.34 (0.11)	0.43 (0.12)	0.26 (0.12)	0.54 (0.12)	0.074 J (0.11)	4.6 (0.12)	0.13 (0.11)	U (0.1)	U (0.12)	0.067 J (0.12)	0.99 (0.11)	1 (0.12)	0.18 (0.11)
Metals															
Lead	1000	450	39.3 (4.29)	37.3 (2.39)	62.8 (2.27)	109 (2.2)	8.13 (4.43)	7.06 (2.42)	74 (2.18)	2.05 (2.04)	124 (2.38)	9.24 (2.48)	81.4 (11.2)	72.7 (2.33)	18 (2.12)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	301-R02-C2	301-R02-C3	301-R02-C4	301-R03-C1	301-R03-C2	301-S02-C1	301-S02-C2	301-S02-C3	301-S02-C4	301-S02-C5	301-S03-C1	301-T04-C1	301-T04-C2	
			301-R02	301-R02	301-R02	301-R03	301-R03	301-S02	301-S02	301-S02	301-S02	301-S02	301-S02	301-S03	301-T04	301-T04
			301-R02-C2-COMP	301-R02-C3-COMP	301-R02-C4-COMP	301-R03-C1-COMP	301-R03-C2-COMP	301-S02-C1-COMP	301-S02-C2-COMP	301-S02-C3-COMP	301-S02-C4-COMP	301-S02-C5-COMP	301-S03-C1-COMP	301-T04-C1-COMP	301-T04-C2-COMP	
Field Sample ID	Sample Date	Value (mg/kg)	5/19/2022	5/19/2022	5/19/2022	5/18/2022	5/18/2022	5/19/2022	5/19/2022	5/19/2022	5/19/2022	5/19/2022	5/17/2022	5/17/2022	5/17/2022	
PAHs																
Anthracene		190000	350	2.2 (0.6)	0.092 J (0.1)	0.16 (0.13)	0.045 J (0.12)	U (0.12)	U (0.12)	0.057 J (0.11)	U (0.11)	U (0.14)	U (0.12)	U (0.57)	U (0.11)	0.058 J (0.11)
Benzo(a)anthracene		130	340	4.2 (0.6)	0.026 J (0.1)	U (0.13)	0.11 J (0.12)	0.058 J (0.12)	0.21 (0.12)	0.06 J (0.11)	0.063 J (0.11)	U (0.14)	U (0.12)	U (0.57)	0.043 J (0.11)	0.033 J (0.11)
Benzo(a)pyrene		91	46	3.7 (0.8)	U (0.14)	U (0.17)	0.21 (0.16)	0.053 J (0.16)	0.058 J (0.16)	0.059 J (0.15)	U (0.15)	U (0.18)	U (0.16)	U (0.76)	0.05 J (0.15)	U (0.14)
Benzo(b)fluoranthene		76	170	4.2 (0.6)	U (0.1)	U (0.13)	0.2 (0.12)	0.073 J (0.12)	0.072 J (0.12)	0.057 J (0.11)	U (0.11)	U (0.14)	U (0.12)	U (0.57)	0.051 J (0.11)	0.046 J (0.11)
Benzo(g,h,i)perylene		190000	180	1.9 (0.8)	U (0.14)	U (0.17)	0.14 J (0.16)	0.044 J (0.16)	0.043 J (0.16)	0.17 (0.15)	0.075 J (0.15)	U (0.18)	U (0.16)	U (0.76)	0.026 J (0.15)	0.029 J (0.14)
Chrysene		760	230	4.2 (0.6)	0.047 J (0.1)	U (0.13)	0.096 J (0.12)	0.098 J (0.12)	0.53 (0.12)	0.22 (0.11)	0.18 (0.11)	U (0.14)	U (0.12)	U (0.57)	0.037 J (0.11)	0.066 J (0.11)
Fluorene		130000	3800	1.1 (1)	0.46 (0.17)	1.3 (0.21)	0.038 J (0.2)	0.11 J (0.2)	U (0.2)	0.074 J (0.18)	U (0.19)	U (0.23)	U (0.19)	0.74 J (0.96)	0.052 J (0.18)	0.31 (0.18)
Naphthalene		66	25	2.1 (1)	0.11 J (0.17)	0.3 (0.21)	0.066 J (0.2)	0.79 (0.2)	0.049 J (0.2)	0.038 J (0.18)	U (0.19)	U (0.23)	U (0.19)	U (0.96)	U (0.18)	0.086 J (0.18)
Phenanthrene		190000	10000	8.3 (0.6)	0.82 (0.1)	2.4 (0.13)	0.16 (0.12)	0.18 (0.12)	0.26 (0.12)	1.3 (0.11)	0.16 (0.11)	U (0.14)	U (0.12)	0.74 (0.57)	0.048 J (0.11)	0.38 (0.11)
Pyrene		96000	2200	6.6 (0.6)	0.097 J (0.1)	0.082 J (0.13)	0.12 (0.12)	0.13 (0.12)	0.7 (0.12)	0.31 (0.11)	0.18 (0.11)	U (0.14)	U (0.12)	U (0.57)	0.054 J (0.11)	0.087 J (0.11)
Metals																
Lead		1000	450	15.4 (2.33)	15.8 (2)	5.15 (2.49)	22 (2.38)	14.1 (2.3)	19.4 (2.4)	4.49 (2.11)	9.14 (2.18)	10.8 (2.68)	7.74 (2.32)	10.4 (2.25)	25.4 (2.21)	9.34 (2.18)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-T04-C3 301-T04	301-U04-C1 301-U04	301-U04-C2 301-U04	301-U04-C3 301-U04	301-U04-C4 301-U04	301-V04-C1 301-V04	301-V04-C2 301-V04	301-V04-C3 301-V04	301-V04-C4 301-V04	301-W03-C1 301-W03	301-W03-C2 301-W03	301-W03-C3 301-W03	301-W04-C1 301-W04
Field Sample ID	Value (0-2 ft bgs)	Value	301-T04-C3-COMP	301-U04-C1-COMP	301-U04-C2-COMP	301-U04-C3-COMP	301-U04-C4-COMP	301-V04-C1-COMP	301-V04-C2-COMP	301-V04-C3-COMP	301-V04-C4-COMP	301-W03-C1-COMP	301-W03-C2-COMP	301-W03-C3-COMP	301-W04-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	5/17/2022	5/20/2022	5/20/2022	5/20/2022	5/20/2022	5/20/2022	5/20/2022	5/20/2022	5/20/2022	5/23/2022	5/23/2022	5/23/2022	6/10/2022
PAHs															
Anthracene	190000	350	U (0.12)	0.11 (0.1)	0.082 J (0.11)	0.28 (0.11)	0.56 (0.12)	U (0.12)	0.14 (0.12)	U (0.12)	U (0.1)	0.21 (0.13)	U (0.1)	U (0.1)	0.038 J (0.11)
Benzo(a)anthracene	130	340	U (0.12)	0.12 (0.1)	0.18 (0.11)	0.06 J (0.11)	0.11 J (0.12)	0.036 J (0.12)	0.14 (0.12)	U (0.12)	U (0.1)	0.28 (0.13)	U (0.1)	U (0.1)	0.2 (0.11)
Benzo(a)pyrene	91	46	U (0.16)	0.066 J (0.14)	0.13 J (0.14)	U (0.15)	0.09 J (0.16)	U (0.16)	0.11 J (0.16)	U (0.16)	U (0.14)	0.16 J (0.17)	U (0.14)	U (0.14)	0.4 (0.15)
Benzo(b)fluoranthene	76	170	U (0.12)	0.12 (0.1)	0.19 (0.11)	0.051 J (0.11)	0.11 J (0.12)	0.048 J (0.12)	0.14 (0.12)	U (0.12)	U (0.1)	0.15 (0.13)	U (0.1)	U (0.1)	0.4 (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.16)	0.051 J (0.14)	0.11 J (0.14)	0.036 J (0.15)	0.065 J (0.16)	0.025 J (0.16)	0.1 J (0.16)	U (0.16)	U (0.14)	0.14 J (0.17)	U (0.14)	U (0.14)	0.46 (0.15)
Chrysene	760	230	U (0.12)	0.22 (0.1)	0.2 (0.11)	0.074 J (0.11)	0.15 (0.12)	0.026 J (0.12)	0.24 (0.12)	U (0.12)	U (0.1)	0.78 (0.13)	U (0.1)	U (0.1)	0.22 (0.11)
Fluorene	130000	3800	0.23 (0.19)	0.16 J (0.17)	0.11 J (0.18)	0.44 (0.19)	1.4 (0.2)	0.054 J (0.2)	0.31 (0.2)	U (0.2)	U (0.18)	0.25 (0.21)	U (0.18)	U (0.17)	U (0.19)
Naphthalene	66	25	0.041 J (0.19)	0.71 (0.17)	0.35 (0.18)	0.041 J (0.19)	0.1 J (0.2)	0.064 J (0.2)	0.16 J (0.2)	U (0.2)	U (0.18)	0.31 (0.21)	U (0.18)	U (0.17)	0.045 J (0.19)
Phenanthrene	190000	10000	0.23 (0.12)	0.6 (0.1)	0.45 (0.11)	1.3 (0.11)	3.4 (0.12)	0.12 (0.12)	0.67 (0.12)	0.024 J (0.12)	U (0.1)	1.7 (0.13)	U (0.1)	U (0.1)	0.17 (0.11)
Pyrene	96000	2200	0.032 J (0.12)	0.38 (0.1)	0.29 (0.11)	0.3 (0.11)	0.41 (0.12)	0.069 J (0.12)	0.41 (0.12)	0.02 J (0.12)	U (0.1)	1 (0.13)	U (0.1)	U (0.1)	0.36 (0.11)
Metals															
Lead	1000	450	10.1 (2.31)	11 (2.02)	123 (2.15)	28.4 (2.22)	123 (2.35)	295 (2.32)	228 (2.35)	18 (2.41)	8.43 (2.12)	6.33 (2.51)	21.6 (2.1)	15.5 (4.14)	73.3 (2.22)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-X03-C1 301-X03 301-X03-C1-COMP 5/23/2022	301-X03-C2 301-X03 301-X03-C2-COMP 5/23/2022	301-X03-C3 301-X03 301-X03-C3-COMP 5/23/2022	301-X03-C4 301-X03 301-X03-C4-COMP 5/23/2022	301-Y03-C1 301-Y03 301-Y03-C1-COMP 5/23/2022	301-Y03-C2 301-Y03 301-Y03-C2-COMP 5/23/2022	301-Y03-C3 301-Y03 301-Y03-C3-COMP 5/23/2022	301-Y04-C1 301-Y04 301-Y04-C1-COMP 5/25/2022	301-Y04-C2 301-Y04 301-Y04-C2-COMP 5/25/2022	301-Y04-C3 301-Y04 301-Y04-C3-COMP 5/25/2022	301-Y04-C4 301-Y04 301-Y04-C4-COMP 5/25/2022	301-Y05-C1 301-Y05 301-Y05-C1-COMP 6/9/2022	301-Y05-C2 301-Y05 301-Y05-C2-COMP 6/9/2022
Field Sample ID Sample Date	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)													
PAHs															
Anthracene	190000	350	U (0.11)	U (0.1)	U (0.1)	U (0.11)	U (0.1)	U (0.1)	0.13 (0.11)	U (0.13)	U (0.11)	U (0.13)	U (0.11)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	U (0.11)	U (0.1)	U (0.1)	U (0.11)	U (0.1)	U (0.1)	0.054 J (0.11)	0.028 J (0.13)	U (0.11)	0.028 J (0.13)	U (0.11)	0.033 J (0.12)	0.032 J (0.12)
Benzo(a)pyrene	91	46	U (0.14)	U (0.14)	U (0.14)	U (0.14)	U (0.13)	0.058 J (0.13)	U (0.15)	U (0.17)	U (0.15)	U (0.18)	U (0.15)	U (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.11)	U (0.1)	U (0.1)	U (0.11)	U (0.1)	U (0.1)	U (0.11)	U (0.13)	U (0.11)	U (0.13)	U (0.11)	0.039 J (0.12)	0.049 J (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.14)	U (0.14)	U (0.14)	U (0.14)	U (0.13)	U (0.13)	U (0.15)	U (0.17)	U (0.15)	U (0.18)	U (0.15)	0.029 J (0.16)	0.037 J (0.16)
Chrysene	760	230	U (0.11)	U (0.1)	U (0.1)	U (0.11)	0.027 J (0.1)	0.044 J (0.1)	0.082 J (0.11)	0.023 J (0.13)	U (0.11)	0.023 J (0.13)	U (0.11)	0.031 J (0.12)	0.034 J (0.12)
Fluorene	130000	3800	U (0.18)	U (0.18)	U (0.17)	U (0.18)	0.043 J (0.17)	U (0.17)	0.54 (0.19)	U (0.21)	U (0.19)	0.032 J (0.22)	U (0.18)	U (0.2)	U (0.2)
Naphthalene	66	25	U (0.18)	U (0.18)	U (0.17)	U (0.18)	0.11 J (0.17)	U (0.17)	0.32 (0.19)	U (0.21)	U (0.19)	0.042 J (0.22)	U (0.18)	U (0.2)	U (0.2)
Phenanthrene	190000	10000	U (0.11)	U (0.1)	U (0.1)	U (0.11)	0.082 J (0.1)	0.032 J (0.1)	0.96 (0.11)	U (0.13)	U (0.11)	0.15 (0.13)	U (0.11)	0.025 J (0.12)	0.028 J (0.12)
Pyrene	96000	2200	U (0.11)	U (0.1)	U (0.1)	U (0.11)	0.023 J (0.1)	0.019 J (0.1)	0.16 (0.11)	0.03 J (0.13)	U (0.11)	0.063 J (0.13)	U (0.11)	0.034 J (0.12)	0.042 J (0.12)
Metals															
Lead	1000	450	9.69 (2.12)	3.12 (2)	3.32 (2.02)	3.08 (2.19)	37.6 (1.98)	215 (1.99)	5.43 (2.19)	29.9 (2.52)	15.7 (2.26)	5.34 (2.63)	24.1 (2.14)	30.4 (2.31)	118 (2.33)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	301-Z04-C1 301-Z04	301-Z04-C2 301-Z04	301-Z04-C3 301-Z04	301-Z04-C4 301-Z04	301-Z04-C5 301-Z04	301-Z05-C1 301-Z05	301-Z05-C2 301-Z05	301-Z05-C3 301-Z05	301-Z06-C1 301-Z06	301-Z06-C2 301-Z06	301-Z06-C3 301-Z06	301-Z06-C4 301-Z06	301-Z06-C5 301-Z06
Field Sample ID	Value (0-2 ft bgs)	Value	301-Z04-C1-COMP	301-Z04-C2-COMP	301-Z04-C3-COMP	301-Z04-C4-COMP	301-Z04-C5-COMP	301-Z05-C1-COMP	301-Z05-C2-COMP	301-Z05-C3-COMP	301-Z06-C1-COMP	301-Z06-C2-COMP	301-Z06-C3-COMP	301-Z06-C4-COMP	301-Z06-C5-COMP
Sample Date	(mg/kg)	(mg/kg)	5/26/2022	5/26/2022	5/26/2022	5/26/2022	5/26/2022	5/24/2022	5/24/2022	5/24/2022	5/24/2022	5/24/2022	5/24/2022	5/24/2022	5/24/2022
PAHs															
Anthracene	190000	350	0.21 (0.12)	0.052 J (0.12)	0.062 J (0.12)	0.057 J (0.11)	0.11 J (0.12)	U (0.1)	U (0.12)	U (0.12)	U (0.11)	0.036 J (0.11)	U (0.11)	U (0.11)	0.086 J (0.11)
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.1)	U (0.12)	U (0.12)	0.07 J (0.11)	U (0.11)	0.052 J (0.11)	0.027 J (0.11)	0.048 J (0.11)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.14)	U (0.16)	U (0.16)	0.089 J (0.15)	U (0.14)	0.067 J (0.15)	U (0.15)	U (0.15)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.1)	U (0.12)	U (0.12)	0.097 J (0.11)	U (0.11)	0.075 J (0.11)	0.038 J (0.11)	0.045 J (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.14)	U (0.16)	U (0.16)	0.061 J (0.15)	U (0.14)	0.053 J (0.15)	0.025 J (0.15)	0.03 J (0.15)
Chrysene	760	230	0.02 J (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	0.035 J (0.1)	0.052 J (0.12)	U (0.12)	0.076 J (0.11)	0.082 J (0.11)	0.068 J (0.11)	0.035 J (0.11)	0.19 (0.11)
Fluorene	130000	3800	0.98 (0.2)	0.25 (0.2)	0.4 (0.2)	0.25 (0.19)	0.5 (0.2)	0.017 J (0.18)	0.2 J (0.21)	0.068 J (0.2)	0.074 J (0.19)	0.31 (0.18)	0.023 J (0.18)	0.049 J (0.18)	0.81 (0.19)
Naphthalene	66	25	0.28 (0.2)	0.055 J (0.2)	0.13 J (0.2)	0.054 J (0.19)	0.1 J (0.2)	U (0.18)	U (0.21)	U (0.2)	0.054 J (0.19)	U (0.18)	0.023 J (0.18)	U (0.18)	U (0.19)
Phenanthrene	190000	10000	1.8 (0.12)	0.5 (0.12)	0.68 (0.12)	0.58 (0.11)	1.1 (0.12)	0.035 J (0.1)	0.049 J (0.12)	0.12 (0.12)	0.18 (0.11)	0.3 (0.11)	0.076 J (0.11)	0.068 J (0.11)	1.4 (0.11)
Pyrene	96000	2200	0.07 J (0.12)	U (0.12)	0.022 J (0.12)	0.021 J (0.11)	0.036 J (0.12)	0.017 J (0.1)	0.047 J (0.12)	U (0.12)	0.11 (0.11)	0.066 J (0.11)	0.092 J (0.11)	0.041 J (0.11)	0.16 (0.11)
Metals															
Lead	1000	450	12.7 (4.61)	8.09 (4.8)	6.26 (4.64)	8.53 (4.4)	10.7 (4.69)	9.6 (2.06)	7.48 (2.42)	6.02 (2.3)	56.6 (2.23)	5.96 (2.11)	72.7 (2.12)	4.85 (2.17)	6.73 (2.18)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AD08-C1	302-AD08-C2	302-AD08-C3	302-AD08-C4	302-AD09-C1	302-AD09-C2	302-AD09-C3	302-AD09-C4	302-AD09-C5	302-AD10-C1	302-AD10-C2	302-AD10-C3	302-AD10-C4
Field Sample ID	Value (0-2 ft bgs)	Value	302-AD08-C1-COMP	302-AD08-C2-COMP	302-AD08-C3-COMP	302-AD08-C4-COMP	302-AD09-C1-COMP	302-AD09-C2-COMP	302-AD09-C3-COMP	302-AD09-C4-COMP	302-AD09-C5-COMP	302-AD10-C1-COMP	302-AD10-C2-COMP	302-AD10-C3-COMP	302-AD10-C4-COMP
Sample Date	(mg/kg)	(mg/kg)	6/2/2022	6/2/2022	6/2/2022	6/2/2022	6/1/2022	6/1/2022	6/1/2022	6/1/2022	6/1/2022	6/3/2022	6/3/2022	6/3/2022	6/3/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.11)	U (0.11)	0.038 J (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.22 (0.11)	U (0.13)	0.47 (0.11)	2.1 (0.11)
Benzo(a)anthracene	130	340	0.035 J (0.12)	0.092 J (0.11)	0.058 J (0.11)	0.095 J (0.12)	U (0.12)	0.04 J (0.12)	0.023 J (0.11)	U (0.12)	0.039 J (0.12)	0.18 (0.11)	U (0.13)	0.47 (0.11)	5.1 (0.11)
Benzo(a)pyrene	91	46	U (0.15)	0.12 J (0.15)	0.068 J (0.15)	0.15 (0.15)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	0.15 (0.15)	U (0.17)	0.36 (0.15)	5 (0.15)
Benzo(b)fluoranthene	76	170	0.038 J (0.12)	0.12 (0.11)	0.077 J (0.11)	0.16 (0.12)	U (0.12)	0.049 J (0.12)	U (0.11)	U (0.12)	0.043 J (0.12)	0.18 (0.11)	U (0.13)	0.48 (0.11)	6.4 (0.11)
Benzo(g,h,i)perylene	190000	180	0.026 J (0.15)	0.071 J (0.15)	0.052 J (0.15)	0.12 J (0.15)	U (0.16)	0.034 J (0.16)	U (0.15)	U (0.16)	0.024 J (0.16)	0.1 J (0.15)	U (0.17)	0.35 (0.15)	3.3 (0.15)
Chrysene	760	230	0.05 J (0.12)	0.11 (0.11)	0.074 J (0.11)	0.12 (0.12)	U (0.12)	0.044 J (0.12)	0.026 J (0.11)	U (0.12)	0.037 J (0.12)	0.21 (0.11)	U (0.13)	0.63 (0.11)	4.6 (0.11)
Fluorene	130000	3800	0.038 J (0.19)	0.02 J (0.19)	0.019 J (0.19)	0.03 J (0.19)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.19)	0.43 (0.18)	U (0.21)	0.81 (0.19)	0.78 (0.19)
Naphthalene	66	25	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.2)	0.027 J (0.2)	U (0.19)	U (0.2)	U (0.19)	0.58 (0.18)	U (0.21)	0.79 (0.19)	0.6 (0.19)
Phenanthrene	190000	10000	0.049 J (0.12)	0.056 J (0.11)	0.072 J (0.11)	0.13 (0.12)	U (0.12)	0.074 J (0.12)	0.026 J (0.11)	U (0.12)	0.037 J (0.12)	0.98 (0.11)	U (0.13)	1.3 (0.11)	9.4 (0.56)
Pyrene	96000	2200	0.062 J (0.12)	0.13 (0.11)	0.089 J (0.11)	0.15 (0.12)	U (0.12)	0.063 J (0.12)	0.054 J (0.11)	U (0.12)	0.052 J (0.12)	0.5 (0.11)	0.024 J (0.13)	0.98 (0.11)	10 (0.56)
Metals															
Lead	1000	450	5.13 (2.26)	63.9 (2.27)	42.9 (2.22)	48.8 (2.3)	258 (2.33)	11.9 (2.25)	86.2 (2.16)	7.12 (2.38)	45.1 (2.33)	70.6 (2.18)	230 (12.9)	256 (2.22)	107 (2.24)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AD11-C1	302-AD11-C2	302-AD11-C3	302-AD11-C4	302-AD12-C1	302-AD12-C2	302-AD12-C3	302-AD12-C4	302-AD12-C5	302-AD13-C1	302-AD13-C2	302-AD13-C3	302-AE09-C1
			302-AD11	302-AD11	302-AD11	302-AD11	302-AD12	302-AD12	302-AD12	302-AD12	302-AD12	302-AD13	302-AD13	302-AD13	302-AE09
Field Sample ID	Value (0-2 ft bgs)	Value	302-AD11-C1-COMP	302-AD11-C2-COMP	302-AD11-C3-COMP	302-AD11-C4-COMP	302-AD12-C1-COMP	302-AD12-C2-COMP	302-AD12-C3-COMP	302-AD12-C4-COMP	302-AD12-C5-COMP	302-AD13-C1-COMP	302-AD13-C2-COMP	302-AD13-C3-COMP	302-AE09-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/9/2022	6/9/2022	6/9/2022	6/8/2022
PAHs															
Anthracene	190000	350	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.14)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.052 J (0.12)	U (0.12)
Benzo(a)anthracene	130	340	0.028 J (0.11)	0.022 J (0.11)	0.029 J (0.12)	0.085 J (0.12)	U (0.12)	U (0.14)	U (0.13)	0.15 (0.12)	0.048 J (0.12)	U (0.12)	U (0.12)	0.18 (0.12)	U (0.12)
Benzo(a)pyrene	91	46	U (0.15)	U (0.15)	U (0.16)	0.11 J (0.16)	U (0.16)	U (0.18)	U (0.17)	0.15 J (0.16)	0.056 J (0.16)	U (0.15)	U (0.16)	0.19 (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	0.033 J (0.11)	U (0.11)	0.04 J (0.12)	0.14 (0.12)	U (0.12)	U (0.14)	U (0.13)	0.15 (0.12)	0.057 J (0.12)	U (0.12)	U (0.12)	0.2 (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.15)	U (0.15)	U (0.16)	0.068 J (0.16)	U (0.16)	U (0.18)	U (0.17)	0.08 J (0.16)	0.04 J (0.16)	U (0.15)	U (0.16)	0.079 J (0.16)	U (0.16)
Chrysene	760	230	0.024 J (0.11)	U (0.11)	0.028 J (0.12)	0.078 J (0.12)	U (0.12)	U (0.14)	U (0.13)	0.17 (0.12)	0.045 J (0.12)	U (0.12)	U (0.12)	0.16 (0.12)	U (0.12)
Fluorene	130000	3800	U (0.19)	U (0.19)	U (0.2)	U (0.19)	U (0.2)	U (0.23)	U (0.21)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.2)	U (0.2)
Naphthalene	66	25	U (0.19)	U (0.19)	U (0.2)	U (0.19)	U (0.2)	U (0.23)	U (0.21)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.2)	U (0.2)
Phenanthrene	190000	10000	U (0.11)	U (0.11)	U (0.12)	0.058 J (0.12)	U (0.12)	U (0.14)	U (0.13)	0.05 J (0.12)	0.051 J (0.12)	U (0.12)	U (0.12)	0.17 (0.12)	U (0.12)
Pyrene	96000	2200	0.035 J (0.11)	0.029 J (0.11)	0.041 J (0.12)	0.1 J (0.12)	U (0.12)	U (0.14)	U (0.13)	0.2 (0.12)	0.061 J (0.12)	U (0.12)	U (0.12)	0.23 (0.12)	U (0.12)
Metals															
Lead	1000	450	34.8 (2.24)	38.3 (2.2)	6.71 (2.32)	26.7 (2.3)	5.44 (2.4)	6.88 (2.66)	9.78 (2.5)	108 (4.65)	35.6 (2.34)	15.2 (2.22)	42.8 (2.31)	11.8 (2.33)	7.2 (2.33)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil	Non-Residential Soil to	302-AE09-C2	302-AE09-C3	302-AE09-C4	302-AE10-C1	302-AE10-C2	302-AE10-C3	302-AE10-C4	302-AF06-C1	302-AF06-C2	302-AF06-C3	302-AF06-C4	302-AF06-C5	302-AG07-C1	
	Direct Contact	Groundwater	302-AE09	302-AE09	302-AE09	302-AE10	302-AE10	302-AE10	302-AE10	302-AF06	302-AF06	302-AF06	302-AF06	302-AF06	302-AG07	
Field Sample ID	Value (0-2 ft bgs)	Value	302-AE09-C2-COMP	302-AE09-C3-COMP	302-AE09-C4-COMP	302-AE10-C1-COMP	302-AE10-C2-COMP	302-AE10-C3-COMP	302-AE10-C4-COMP	302-AF06-C1-COMP	302-AF06-C2-COMP	302-AF06-C3-COMP	302-AF06-C4-COMP	302-AF06-C5-COMP	302-AG07-C1-COMP	
Sample Date	(mg/kg)	(mg/kg)	6/8/2022	6/8/2022	6/8/2022	6/9/2022	6/9/2022	6/9/2022	6/9/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	
PAHs																
Anthracene	190000	350	U (0.12)	U (0.11)	U (0.1)	U (0.11)	U (0.11)	U (0.1)	U (0.12)	1.5 (0.12)	0.083 J (0.11)	0.13 (0.12)	U (0.12)	0.069 J (0.11)	U (0.12)	
Benzo(a)anthracene	130	340	U (0.12)	U (0.11)	U (0.1)	U (0.11)	U (0.11)	0.08 J (0.1)	0.035 J (0.12)	3.8 (0.12)	0.48 (0.11)	0.68 (0.12)	0.029 J (0.12)	0.28 (0.11)	0.08 J (0.12)	
Benzo(a)pyrene	91	46	U (0.16)	U (0.15)	U (0.14)	U (0.15)	U (0.15)	0.079 J (0.14)	U (0.16)	3.8 (0.15)	0.51 (0.15)	1.1 (0.16)	U (0.16)	0.28 (0.15)	0.081 J (0.15)	
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.11)	U (0.1)	U (0.11)	U (0.11)	0.091 J (0.1)	0.04 J (0.12)	4.8 (0.12)	0.61 (0.11)	1.2 (0.12)	U (0.12)	0.35 (0.11)	0.097 J (0.12)	
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.15)	U (0.14)	U (0.15)	U (0.15)	0.044 J (0.14)	U (0.16)	1.9 (0.15)	0.26 (0.15)	0.8 (0.16)	U (0.16)	0.16 (0.15)	0.043 J (0.15)	
Chrysene	760	230	U (0.12)	U (0.11)	U (0.1)	U (0.11)	U (0.11)	0.08 J (0.1)	0.033 J (0.12)	3.6 (0.12)	0.43 (0.11)	0.8 (0.12)	0.025 J (0.12)	0.31 (0.11)	0.074 J (0.12)	
Fluorene	130000	3800	U (0.19)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.19)	0.49 (0.19)	0.028 J (0.19)	0.064 J (0.2)	U (0.2)	0.046 J (0.19)	U (0.19)	
Naphthalene	66	25	U (0.19)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.19)	0.035 J (0.19)	0.033 J (0.19)	U (0.2)	U (0.2)	0.059 J (0.19)	U (0.19)	
Phenanthrene	190000	10000	0.024 J (0.12)	U (0.11)	U (0.1)	U (0.11)	U (0.11)	0.1 (0.1)	0.026 J (0.12)	4.6 (0.12)	0.22 (0.11)	0.45 (0.12)	0.026 J (0.12)	0.33 (0.11)	0.11 J (0.12)	
Pyrene	96000	2200	0.025 J (0.12)	U (0.11)	U (0.1)	U (0.11)	U (0.11)	0.13 (0.1)	0.046 J (0.12)	5.9 (0.12)	0.68 (0.11)	0.97 (0.12)	0.04 J (0.12)	0.47 (0.11)	0.12 (0.12)	
Metals																
Lead	1000	450	18 (2.3)	6.95 (2.21)	3.84 (2.15)	8.09 (2.16)	14.1 (4.31)	21.6 (2.08)	6.05 (2.27)	7.74 (2.32)	5.5 (2.16)	55.4 (2.37)	21.6 (2.43)	8.11 (2.21)	5.75 (2.33)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil	Non-Residential Soil to	302-AG07-C2	302-AG07-C3	302-AJ09-C1	302-AJ09-C2	302-AJ09-C3	302-AJ09-C4	302-AJ09-C5	302-AK06-C1	302-AK06-C2	302-AK06-C3	302-AK06-C4	302-AL06-C1	302-AL06-C2
	Direct Contact	Groundwater	302-AG07	302-AG07	302-AJ09	302-AJ09	302-AJ09	302-AJ09	302-AJ09	302-AK06	302-AK06	302-AK06	302-AK06	302-AL06	302-AL06
Field Sample ID	Value (0-2 ft bgs)	Value	302-AG07-C2-COMP	302-AG07-C3-COMP	302-AJ09-C1-COMP	302-AJ09-C2-COMP	302-AJ09-C3-COMP	302-AJ09-C4-COMP	302-AJ09-C5-COMP	302-AK06-C1-COMP	302-AK06-C2-COMP	302-AK06-C3-COMP	302-AK06-C4-COMP	302-AL06-C1-COMP	302-AL06-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	6/14/2022	6/14/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/8/2022	6/7/2022	6/7/2022	6/7/2022	6/7/2022	6/7/2022	6/7/2022
PAHs															
Anthracene	190000	350	U (0.11)	U (0.12)	0.04 J (0.12)	0.1 J (0.11)	0.085 J (0.11)	0.065 J (0.11)	0.18 (0.11)	0.077 J (0.11)	0.12 (0.11)	U (0.12)	0.26 (0.11)	0.14 (0.11)	U (0.12)
Benzo(a)anthracene	130	340	U (0.11)	U (0.12)	0.12 (0.12)	0.48 (0.11)	0.3 (0.11)	0.26 (0.11)	0.12 (0.11)	0.23 (0.11)	0.32 (0.11)	0.056 J (0.12)	0.84 (0.11)	0.4 (0.11)	0.049 J (0.12)
Benzo(a)pyrene	91	46	U (0.15)	U (0.16)	0.12 J (0.15)	0.5 (0.15)	0.38 (0.15)	0.32 (0.15)	0.082 J (0.15)	0.3 (0.15)	0.4 (0.15)	0.062 J (0.16)	1.1 (0.15)	0.55 (0.14)	0.062 J (0.15)
Benzo(b)fluoranthene	76	170	U (0.11)	U (0.12)	0.14 (0.12)	0.59 (0.11)	0.42 (0.11)	0.36 (0.11)	0.071 J (0.11)	0.31 (0.11)	0.47 (0.11)	0.067 J (0.12)	1.3 (0.11)	0.68 (0.11)	0.073 J (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.15)	U (0.16)	0.086 J (0.15)	0.31 (0.15)	0.24 (0.15)	0.2 (0.15)	0.058 J (0.15)	0.29 (0.15)	0.29 (0.15)	0.051 J (0.16)	0.74 (0.15)	0.44 (0.14)	0.049 J (0.15)
Chrysene	760	230	U (0.11)	U (0.12)	0.12 (0.12)	0.45 (0.11)	0.3 (0.11)	0.26 (0.11)	0.19 (0.11)	0.27 (0.11)	0.34 (0.11)	0.061 J (0.12)	0.89 (0.11)	0.46 (0.11)	0.054 J (0.12)
Fluorene	130000	3800	U (0.19)	U (0.2)	0.03 J (0.19)	0.027 J (0.18)	0.039 J (0.18)	0.027 J (0.19)	0.67 (0.19)	0.028 J (0.18)	0.039 J (0.19)	U (0.2)	0.088 J (0.19)	0.045 J (0.18)	U (0.19)
Naphthalene	66	25	U (0.19)	U (0.2)	0.042 J (0.19)	0.025 J (0.18)	0.061 J (0.18)	0.18 J (0.19)	0.15 J (0.19)	0.28 (0.18)	0.34 (0.19)	0.024 J (0.2)	0.24 (0.19)	0.26 (0.18)	0.083 J (0.19)
Phenanthrene	190000	10000	U (0.11)	U (0.12)	0.14 (0.12)	0.37 (0.11)	0.26 (0.11)	0.23 (0.11)	1.1 (0.11)	0.24 (0.11)	0.32 (0.11)	0.051 J (0.12)	0.85 (0.11)	0.36 (0.11)	0.058 J (0.12)
Pyrene	96000	2200	U (0.11)	U (0.12)	0.19 (0.12)	0.78 (0.11)	0.48 (0.11)	0.34 (0.11)	0.41 (0.11)	0.29 (0.11)	0.44 (0.11)	0.078 J (0.12)	1.4 (0.11)	0.51 (0.11)	0.082 J (0.12)
Metals															
Lead	1000	450	4.77 (2.13)	7.43 J (12)	209 (4.56)	186 (2.21)	170 (2.25)	136 (2.25)	10.3 (2.28)	5.23 (2.12)	194 (2.24)	230 (2.31)	230 (2.22)	75.7 (2.12)	107 (2.26)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AL06-C3 302-AL06 302-AL06-C3-COMP 6/7/2022	302-AL06-C4 302-AL06 302-AL06-C4-COMP 6/7/2022	302-AL06-C5 302-AL06 302-AL06-C5-COMP 6/7/2022	302-AN02-C1 302-AN02 302-AN02-C1-COMP 6/8/2022	302-AN02-C2 302-AN02 302-AN02-C2-COMP 6/8/2022	302-AN02-C3 302-AN02 302-AN02-C3-COMP 6/8/2022	302-AN02-C4 302-AN02 302-AN02-C4-COMP 6/8/2022	302-AN02-C5 302-AN02 302-AN02-C5-COMP 6/8/2022	302-AO03-C1 302-AO03 302-AO03-C1-COMP 6/8/2022	302-AO03-C2 302-AO03 302-AO03-C2-COMP 6/8/2022	302-AO03-C3 302-AO03 302-AO03-C3-COMP 6/8/2022	302-AO03-C4 302-AO03 302-AO03-C4-COMP 6/8/2022	302-AQ02-C1 302-AQ02 302-AQ02-C1-COMP 6/15/2022
Field Sample ID Sample Date	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)													
PAHs															
Anthracene	190000	350	U (0.11)	U (0.12)	0.13 (0.12)	U (0.11)	0.054 J (0.11)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.11)
Benzo(a)anthracene	130	340	0.06 J (0.11)	0.043 J (0.12)	0.44 (0.12)	0.058 J (0.11)	0.12 (0.11)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.08 J (0.11)
Benzo(a)pyrene	91	46	0.087 J (0.15)	0.054 J (0.16)	0.78 (0.17)	0.06 J (0.15)	0.11 J (0.14)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	U (0.17)	U (0.15)	0.22 (0.15)
Benzo(b)fluoranthene	76	170	0.095 J (0.11)	0.06 J (0.12)	0.85 (0.12)	0.066 J (0.11)	0.12 (0.11)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.2 (0.11)
Benzo(g,h,i)perylene	190000	180	0.067 J (0.15)	0.031 J (0.16)	0.61 (0.17)	0.047 J (0.15)	0.069 J (0.14)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	U (0.17)	U (0.15)	0.16 (0.15)
Chrysene	760	230	0.062 J (0.11)	0.041 J (0.12)	0.58 (0.12)	0.059 J (0.11)	0.12 (0.11)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.086 J (0.11)
Fluorene	130000	3800	U (0.19)	U (0.19)	0.059 J (0.21)	U (0.18)	0.021 J (0.18)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.19)	U (0.21)	U (0.19)	U (0.18)
Naphthalene	66	25	0.047 J (0.19)	0.043 J (0.19)	0.54 (0.21)	U (0.18)	0.023 J (0.18)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.19)	U (0.21)	U (0.19)	0.032 J (0.18)
Phenanthrene	190000	10000	0.065 J (0.11)	0.036 J (0.12)	0.3 (0.12)	0.074 J (0.11)	0.28 (0.11)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.091 J (0.11)
Pyrene	96000	2200	0.083 J (0.11)	0.069 J (0.12)	0.63 (0.12)	0.086 J (0.11)	0.24 (0.11)	0.021 J (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.081 J (0.11)
Metals															
Lead	1000	450	161 (2.27)	30.1 (2.26)	206 (2.43)	72.9 (4.35)	203 (10.6)	252 (2.31)	7.13 (2.43)	6.84 (2.24)	42.8 (2.39)	5.83 (2.33)	8.19 (2.44)	8.02 J (11)	665 (2.15)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	302-AQ02-C2	302-AQ02-C3	302-AQ02-C4	302-AQ02-C5	302-AR02-C1	302-AR02-C2	302-AR02-C3	302-AR02-C4	302-AS03-C1	302-AS03-C2	302-AS03-C3	302-AV01-C1	302-AV01-C2
			302-AQ02	302-AQ02	302-AQ02	302-AQ02	302-AR02	302-AR02	302-AR02	302-AR02	302-AS03	302-AS03	302-AS03	302-AS03	302-AV01
Field Sample ID	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)	302-AQ02-C2-COMP	302-AQ02-C3-COMP	302-AQ02-C4-COMP	302-AQ02-C5-COMP	302-AR02-C1-COMP	302-AR02-C2-COMP	302-AR02-C3-COMP	302-AR02-C4-COMP	302-AS03-C1-COMP	302-AS03-C2-COMP	302-AS03-C3-COMP	302-AV01-C1-COMP	302-AV01-C2-COMP
Sample Date			6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/15/2022
PAHs															
Anthracene	190000	350	0.14 (0.12)	0.17 (0.11)	0.17 (0.12)	0.11 J (0.13)	0.4 (0.11)	0.14 (0.12)	U (0.12)	U (0.12)	U (0.11)	0.13 (0.11)	U (0.12)	0.1 J (0.12)	1.2 (0.12)
Benzo(a)anthracene	130	340	0.039 J (0.12)	0.096 J (0.11)	0.11 J (0.12)	0.039 J (0.13)	0.79 (0.11)	0.13 (0.12)	U (0.12)	U (0.12)	U (0.11)	0.048 J (0.11)	U (0.12)	0.21 (0.12)	3.2 (0.12)
Benzo(a)pyrene	91	46	U (0.15)	0.089 J (0.14)	0.068 J (0.16)	U (0.18)	0.74 (0.15)	0.11 J (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	U (0.15)	0.25 (0.16)	3.2 (0.17)
Benzo(b)fluoranthene	76	170	U (0.12)	0.11 (0.11)	0.071 J (0.12)	U (0.13)	0.84 (0.11)	0.07 J (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.12)	0.36 (0.12)	3.6 (0.12)
Benzo(g,h,i)perylene	190000	180	0.031 J (0.15)	0.06 J (0.14)	0.069 J (0.16)	U (0.18)	0.28 (0.15)	0.096 J (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	U (0.15)	0.27 (0.16)	1.7 (0.17)
Chrysene	760	230	0.063 J (0.12)	0.1 J (0.11)	0.17 (0.12)	0.05 J (0.13)	0.72 (0.11)	0.14 (0.12)	U (0.12)	U (0.12)	U (0.11)	0.054 J (0.11)	U (0.12)	0.25 (0.12)	2.9 (0.12)
Fluorene	130000	3800	0.72 (0.19)	1.2 (0.18)	0.53 (0.2)	0.31 (0.22)	0.099 J (0.19)	0.15 J (0.2)	U (0.19)	U (0.2)	U (0.19)	0.15 J (0.19)	U (0.19)	0.031 J (0.2)	0.34 (0.21)
Naphthalene	66	25	1.4 (0.19)	2.9 (0.18)	1.1 (0.2)	0.14 J (0.22)	0.064 J (0.19)	0.17 J (0.2)	U (0.19)	U (0.2)	U (0.19)	U (0.19)	0.048 J (0.19)	0.47 (0.2)	1.1 (0.21)
Phenanthrene	190000	10000	1 (0.12)	1.4 (0.11)	0.59 (0.12)	0.53 (0.13)	1 (0.11)	0.43 (0.12)	U (0.12)	U (0.12)	U (0.11)	0.26 (0.11)	0.073 J (0.12)	0.17 (0.12)	4 (0.12)
Pyrene	96000	2200	0.16 (0.12)	0.18 (0.11)	0.3 (0.12)	0.17 (0.13)	0.76 (0.11)	0.31 (0.12)	U (0.12)	U (0.12)	U (0.11)	0.064 J (0.11)	0.037 J (0.12)	0.25 (0.12)	4.8 (0.12)
Metals															
Lead	1000	450	600 (2.29)	88.4 (4.27)	578 (2.38)	723 (2.67)	298 (4.58)	160 (2.32)	18.2 (4.48)	12.1 (4.75)	159 (2.28)	10.5 (2.17)	1420 (2.29)	291 (2.34)	164 (4.74)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	302-AV01-C3	302-AV03-C1	302-AV03-C2	302-AV03-C3	302-AV03-C4	302-AW01-C1	302-AW01-C2	302-AW01-C3	302-AW03-C1	302-AW03-C2	302-AW03-C3	302-AW03-C4	302-AW03-C5
			302-AV01	302-AV03	302-AV03	302-AV03	302-AV03	302-AV03	302-AW01	302-AW01	302-AW01	302-AW03	302-AW03	302-AW03	302-AW03
Field Sample ID	Value (0-2 ft bgs)	Value	302-AV01-C3-COMP	302-AV03-C1-COMP	302-AV03-C2-COMP	302-AV03-C3-COMP	302-AV03-C4-COMP	302-AW01-C1-COMP	302-AW01-C2-COMP	302-AW01-C3-COMP	302-AW03-C1-COMP	302-AW03-C2-COMP	302-AW03-C3-COMP	302-AW03-C4-COMP	302-AW03-C5-COMP
Sample Date	(mg/kg)	(mg/kg)	6/15/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/15/2022	6/15/2022	6/15/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022
PAHs															
Anthracene	190000	350	0.93 J (1.5)	U (0.12)	U (0.12)	U (0.6)	U (0.12)	0.11 J (0.12)	0.64 (0.16)	1.7 (0.14)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	3.7 (1.5)	U (0.12)	U (0.12)	U (0.6)	0.023 J (0.12)	0.52 (0.12)	2.6 (0.16)	5.5 (0.14)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)
Benzo(a)pyrene	91	46	3.7 (2)	U (0.16)	U (0.16)	U (0.8)	U (0.15)	0.52 (0.16)	2.9 (0.22)	4.8 (0.19)	U (0.16)	U (0.15)	U (0.15)	U (0.15)	U (0.16)
Benzo(b)fluoranthene	76	170	3.9 (1.5)	U (0.12)	U (0.12)	U (0.6)	U (0.12)	0.67 (0.12)	3.1 (0.16)	5.4 (0.14)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	2.3 (2)	U (0.16)	U (0.16)	U (0.8)	U (0.15)	0.29 (0.16)	1.4 (0.22)	2.4 (0.19)	U (0.16)	U (0.15)	0.024 J (0.15)	U (0.15)	U (0.16)
Chrysene	760	230	3.8 (1.5)	U (0.12)	U (0.12)	U (0.6)	0.16 (0.12)	0.62 (0.12)	2.6 (0.16)	4.6 (0.14)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)
Fluorene	130000	3800	0.52 J (2.4)	U (0.2)	U (0.2)	U (1)	U (0.19)	0.061 J (0.2)	0.56 (0.28)	1.5 (0.23)	U (0.2)	U (0.19)	U (0.19)	U (0.19)	U (0.2)
Naphthalene	66	25	1.7 J (2.4)	U (0.2)	U (0.2)	U (1)	U (0.19)	0.17 J (0.2)	4.9 (0.28)	12 (1.2)	U (0.2)	0.032 J (0.19)	0.036 J (0.19)	U (0.19)	U (0.2)
Phenanthrene	190000	10000	1.7 (1.5)	U (0.12)	U (0.12)	0.54 J (0.6)	0.07 J (0.12)	0.32 (0.12)	2.1 (0.16)	4.7 (0.14)	0.026 J (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)
Pyrene	96000	2200	4.8 (1.5)	U (0.12)	U (0.12)	0.59 J (0.6)	0.055 J (0.12)	0.69 (0.12)	4 (0.16)	9.1 (0.14)	0.023 J (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)
Metals															
Lead	1000	450	590 (2.89)	11.7 J (11.8)	6.34 (4.76)	10.8 J (11.7)	254 (11.5)	44.7 (2.34)	116 (3.2)	176 (5.36)	298 (2.26)	10.6 (2.21)	24.4 (4.31)	5.98 (2.27)	57.8 (2.36)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil	Non-Residential Soil to	302-AX01-C1	302-AX01-C2	302-AX01-C3	302-AX01-C4	302-AX04-C1	302-AX04-C2	302-AX04-C3	302-AX04-C4	302-AX04-C5	302-AX05-C1	302-AX05-C2	302-AX05-C3	302-AX05-C4
	Direct Contact	Groundwater	302-AX01	302-AX01	302-AX01	302-AX01	302-AX04	302-AX04	302-AX04	302-AX04	302-AX04	302-AX05	302-AX05	302-AX05	302-AX05
Field Sample ID	Value (0-2 ft bgs)	Value	302-AX01-C1-COMP	302-AX01-C2-COMP	302-AX01-C3-COMP	302-AX01-C4-COMP	302-AX04-C1-COMP	302-AX04-C2-COMP	302-AX04-C3-COMP	302-AX04-C4-COMP	302-AX04-C5-COMP	302-AX05-C1-COMP	302-AX05-C2-COMP	302-AX05-C3-COMP	302-AX05-C4-COMP
Sample Date	(mg/kg)	(mg/kg)	6/15/2022	6/15/2022	6/15/2022	6/15/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022	6/13/2022
PAHs															
Anthracene	190000	350	0.25 (0.14)	0.39 (0.16)	0.42 (0.15)	0.37 (0.18)	U (0.12)	0.16 (0.12)	U (0.12)	U (0.12)	0.056 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	0.63 (0.14)	0.36 (0.16)	0.56 (0.15)	0.93 (0.18)	U (0.12)	0.15 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)pyrene	91	46	0.86 (0.18)	0.54 (0.21)	0.76 (0.2)	0.99 (0.24)	U (0.16)	0.22 (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	0.97 (0.14)	0.53 (0.16)	0.81 (0.15)	1 (0.18)	U (0.12)	0.24 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	0.46 (0.18)	0.38 (0.21)	0.51 (0.2)	0.45 (0.24)	U (0.16)	0.14 J (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)
Chrysene	760	230	0.66 (0.14)	0.42 (0.16)	0.61 (0.15)	0.96 (0.18)	U (0.12)	0.15 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Fluorene	130000	3800	0.16 J (0.23)	0.35 (0.26)	0.32 (0.26)	0.54 (0.29)	U (0.2)	0.67 (0.2)	U (0.2)	0.046 J (0.2)	0.42 (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)
Naphthalene	66	25	3.6 (0.23)	6.4 (0.26)	6.4 (0.26)	2.2 (0.29)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	0.029 J (0.2)	0.076 J (0.2)	U (0.2)	U (0.2)	U (0.2)
Phenanthrene	190000	10000	0.87 (0.14)	1.1 (0.16)	1.2 (0.15)	1.2 (0.18)	U (0.12)	1.3 (0.12)	U (0.12)	0.081 J (0.12)	0.81 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Pyrene	96000	2200	0.63 (0.14)	0.51 (0.16)	0.77 (0.15)	1.5 (0.18)	U (0.12)	0.32 (0.12)	U (0.12)	U (0.12)	0.064 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Metals															
Lead	1000	450	117 (2.69)	277 (14.9)	257 (14.6)	250 (16.8)	5.82 (2.39)	7.97 (2.48)	6.04 (4.6)	4.54 (2.43)	9.11 (4.83)	9.11 (2.4)	7.29 (2.45)	17.8 (2.39)	19.7 (4.72)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AY06-C1 302-AY06 302-AY06-C1-COMP 6/10/2022	302-AY06-C2 302-AY06 302-AY06-C2-COMP 6/10/2022	302-AY06-C3 302-AY06 302-AY06-C3-COMP 6/10/2022	302-AY06-C4 302-AY06 302-AY06-C4-COMP 6/10/2022	302-AZ05-C1 302-AZ05 302-AZ05-C1-COMP 6/10/2022	302-AZ05-C2 302-AZ05 302-AZ05-C2-COMP 6/10/2022	302-AZ05-C3 302-AZ05 302-AZ05-C3-COMP 6/10/2022	302-AZ05-C4 302-AZ05 302-AZ05-C4-COMP 6/10/2022	302-BA05-C1 302-BA05 302-BA05-C1-COMP 6/10/2022	302-BA05-C2 302-BA05 302-BA05-C2-COMP 6/10/2022	302-BA05-C3 302-BA05 302-BA05-C3-COMP 6/10/2022	302-BA05-C4 302-BA05 302-BA05-C4-COMP 6/10/2022	302-BB06-C1 302-BB06 302-BB06-C1-COMP 6/9/2022
Field Sample ID Sample Date	Value (0-2 ft bgs) (mg/kg)	Value (mg/kg)													
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.49 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.14)
Benzo(a)anthracene	130	340	0.028 J (0.12)	U (0.12)	U (0.13)	U (0.12)	0.12 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.14)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.17)	U (0.16)	0.2 (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.19)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.13)	U (0.12)	0.19 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.14)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.17)	U (0.16)	0.18 (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.19)
Chrysene	760	230	0.024 J (0.12)	U (0.12)	U (0.13)	U (0.12)	0.14 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.14)
Fluorene	130000	3800	U (0.2)	0.023 J (0.2)	0.029 J (0.21)	U (0.2)	U (0.19)	U (0.19)	U (0.2)	2.1 (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.23)
Naphthalene	66	25	U (0.2)	U (0.2)	U (0.21)	U (0.2)	0.04 J (0.19)	U (0.19)	U (0.2)	4.6 (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.23)
Phenanthrene	190000	10000	0.043 J (0.12)	0.057 J (0.12)	0.08 J (0.13)	U (0.12)	0.15 (0.12)	U (0.12)	U (0.12)	4.1 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.039 J (0.14)
Pyrene	96000	2200	0.042 J (0.12)	U (0.12)	U (0.13)	U (0.12)	0.23 (0.12)	U (0.12)	U (0.12)	0.14 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.029 J (0.14)
Metals															
Lead	1000	450	42.4 (11.6)	6.55 (2.39)	5.13 (2.42)	5.36 (2.29)	328 (2.28)	7.97 (2.26)	6.12 (2.31)	7.02 (2.41)	81 (2.35)	6.27 (2.33)	7.1 (2.44)	5.23 (2.46)	42.1 (2.76)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-BB06-C2 302-BB06 302-BB06-C2-COMP 6/9/2022	302-BB06-C3 302-BB06 302-BB06-C3-COMP 6/9/2022	302-BB06-C4 302-BB06 302-BB06-C4-COMP 6/9/2022	302-BC05-C1 302-BC05 302-BC05-C1-COMP 6/9/2022	302-BC05-C2 302-BC05 302-BC05-C2-COMP 6/9/2022	302-BC05-C3 302-BC05 302-BC05-C3-COMP 6/9/2022	302-BC05-C4 302-BC05 302-BC05-C4-COMP 6/9/2022	302-BC05-C5 302-BC05 302-BC05-C5-COMP 6/9/2022	302-BD05-C1 302-BD05 302-BD05-C1-COMP 6/9/2022	302-BD05-C2 302-BD05 302-BD05-C2-COMP 6/9/2022	302-BD05-C3 302-BD05 302-BD05-C3-COMP 6/9/2022	302-BD05-C4 302-BD05 302-BD05-C4-COMP 6/9/2022	302-BE04-C1 302-BE04 302-BE04-C1-COMP 6/9/2022
Field Sample ID	Value (0-2 ft bgs)	Value													
Sample Date	(mg/kg)	(mg/kg)													
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	U (0.56)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.12)	U (0.56)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.16)	U (0.74)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	U (0.56)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.16)	U (0.74)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)
Chrysene	760	230	U (0.12)	U (0.12)	U (0.12)	U (0.56)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Fluorene	130000	3800	U (0.2)	U (0.2)	U (0.2)	U (0.92)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)
Naphthalene	66	25	U (0.2)	U (0.2)	U (0.2)	U (0.92)	U (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.2)
Phenanthrene	190000	10000	U (0.12)	U (0.12)	U (0.12)	U (0.56)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.12)	U (0.56)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Metals															
Lead	1000	450	4.59 (2.34)	6.88 (2.44)	5.98 (2.4)	564 (2.17)	6.23 (2.24)	6.81 (2.32)	5.69 (2.28)	6.44 (2.35)	34.2 (2.32)	7.17 (2.27)	6.48 (2.36)	5.93 (2.28)	623 (4.54)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	303-AY01-C1 303-AY01	303-AY01-C2 303-AY01	303-AY01-C3 303-AY01	303-AZ01-C1 303-AZ01	303-AZ01-C2 303-AZ01	303-AZ01-C3 303-AZ01	303-BA01-C1 303-BA01	303-BA01-C2 303-BA01	303-BA02-C1 303-BA02	303-BB01-C1 303-BB01	303-BB02-C1 303-BB02	303-BB02-C2 303-BB02	303-BB02-C3 303-BB02	
Field Sample ID	Value (0-2 ft bgs)	Value	303-AY01-C1-COMP	303-AY01-C2-COMP	303-AY01-C3-COMP	303-AZ01-C1-COMP	303-AZ01-C2-COMP	303-AZ01-C3-COMP	303-BA01-C1-COMP	303-BA01-C2-COMP	303-BA02-C1-COMP	303-BB01-C1-COMP	303-BB02-C1-COMP	303-BB02-C2-COMP	303-BB02-C3-COMP	
Sample Date	(mg/kg)	(mg/kg)	6/22/2022	6/22/2022	6/22/2022	6/21/2022	6/21/2022	6/21/2022	6/22/2022	6/22/2022	6/21/2022	6/23/2022	6/22/2022	6/22/2022	6/22/2022	
PAHs																
Anthracene	190000	350	0.5 (0.16)	0.96 (0.19)	0.96 (0.16)	0.51 (0.17)	0.56 (0.13)	0.043 J (0.12)	0.13 (0.11)	0.67 (0.15)	1.6 (0.15)	0.23 J (0.36)	0.21 (0.12)	2.3 (0.13)	1.1 (0.13)	
Benzo(a)anthracene	130	340	0.94 (0.16)	1.7 (0.19)	1.7 (0.16)	0.74 (0.17)	0.9 (0.13)	0.13 (0.12)	0.38 (0.11)	1.8 (0.15)	1.2 (0.15)	0.61 (0.36)	0.61 (0.12)	3.1 (0.13)	2.6 (0.13)	
Benzo(a)pyrene	91	46	1.5 (0.21)	2.2 (0.25)	3 (0.22)	0.69 (0.23)	1.1 (0.17)	0.13 J (0.16)	0.47 (0.15)	2.9 (0.2)	1.4 (0.2)	0.93 (0.48)	0.58 (0.16)	4 (0.17)	1.9 (0.17)	
Benzo(b)fluoranthene	76	170	1.4 (0.16)	2.7 (0.19)	3 (0.16)	0.66 (0.17)	1.1 (0.13)	0.16 (0.12)	0.53 (0.11)	3 (0.15)	1.8 (0.15)	0.9 (0.36)	0.71 (0.12)	3.6 (0.13)	2.1 (0.13)	
Benzo(g,h,i)perylene	190000	180	1.1 (0.21)	1.1 (0.25)	0.84 (0.22)	0.29 (0.23)	0.66 (0.17)	0.068 J (0.16)	0.52 (0.15)	1.8 (0.2)	1 (0.2)	0.6 (0.48)	0.42 (0.16)	1.1 (0.17)	1.3 (0.17)	
Chrysene	760	230	0.99 (0.16)	2 (0.19)	2 (0.16)	0.76 (0.17)	1.1 (0.13)	0.12 (0.12)	0.36 (0.11)	2.1 (0.15)	1.5 (0.15)	0.66 (0.36)	0.58 (0.12)	2.9 (0.13)	2.3 (0.13)	
Fluorene	130000	3800	0.34 (0.27)	1.4 (0.31)	0.74 (0.28)	0.33 (0.29)	0.48 (0.22)	U (0.2)	0.033 J (0.19)	0.42 (0.25)	1.6 (0.26)	0.07 J (0.6)	0.097 J (0.2)	2.4 (0.22)	0.92 (0.21)	
Naphthalene	66	25	5.6 (0.27)	7.4 (0.31)	8.4 (0.28)	1.5 (0.29)	4.8 (0.22)	0.12 J (0.2)	0.61 (0.19)	6.7 (0.25)	13 (1.3)	0.68 (0.6)	0.75 (0.2)	11 (2.2)	7.7 (0.21)	
Phenanthrene	190000	10000	1.2 (0.16)	4.4 (0.19)	2.5 (0.16)	1.6 (0.17)	2 (0.13)	0.18 (0.12)	0.34 (0.11)	1.6 (0.15)	5.5 (0.15)	0.47 (0.36)	0.72 (0.12)	10 (1.3)	4.8 (0.13)	
Pyrene	96000	2200	1.2 (0.16)	3.4 (0.19)	3 (0.16)	1.6 (0.17)	1.9 (0.13)	0.2 (0.12)	0.39 (0.11)	2.3 (0.15)	2.3 (0.15)	0.79 (0.36)	0.81 (0.12)	4.6 (0.13)	3.9 (0.13)	
Metals																
Lead	1000	450	23.6 (3.25)	170 (3.6)	176 (3.24)	44.8 (3.33)	62.6 (2.51)	60.8 (2.47)	260 (2.23)	479 (3.04)	131 (2.99)	107 (2.28)	128 (2.28)	152 (5.14)	99.2 (2.52)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	303-BC01-C1 303-BC01	303-BC01-C2 303-BC01	303-BD01-C1 303-BD01	303-BD01-C2 303-BD01	303-BD04-C1 303-BD04	303-BD04-C2 303-BD04	303-BE01-C1 303-BE01	303-BE01-C2 303-BE01	303-BE03-C1 303-BE03	303-BE03-C2 303-BE03	303-BF01-C1 303-BF01	303-BF01-C2 303-BF01	303-BF05-C1 303-BF05	
Field Sample ID	Value (0-2 ft bgs)	Value	303-BC01-C1-COMP	303-BC01-C2-COMP	303-BD01-C1-COMP	303-BD01-C2-COMP	303-BD04-C1-COMP	303-BD04-C2-COMP	303-BE01-C1-COMP	303-BE01-C2-COMP	303-BE03-C1-COMP	303-BE03-C2-COMP	303-BF01-C1-COMP	303-BF01-C2-COMP	303-BF05-C1-COMP	
Sample Date	(mg/kg)	(mg/kg)	6/22/2022	6/22/2022	6/17/2022	6/17/2022	6/20/2022	6/20/2022	6/24/2022	6/24/2022	6/20/2022	6/20/2022	6/24/2022	6/24/2022	6/20/2022	
PAHs																
Anthracene	190000	350	2.5 (0.12)	0.43 (0.12)	0.66 (0.13)	7.9 (0.15)	U (0.55)	U (0.12)	0.32 (0.12)	0.55 (0.1)	0.67 (0.57)	U (0.12)	0.15 (0.12)	0.35 (0.13)	U (0.12)	
Benzo(a)anthracene	130	340	3.5 (0.12)	0.65 (0.12)	1.3 (0.13)	14 (1.5)	0.27 J (0.55)	0.06 J (0.12)	1.2 (0.12)	1.9 (0.1)	1.7 (0.57)	0.067 J (0.12)	0.1 J (0.12)	0.69 (0.13)	0.091 J (0.12)	
Benzo(a)pyrene	91	46	2.4 (0.16)	0.75 (0.17)	1.5 (0.17)	14 (2.1)	U (0.73)	0.059 J (0.15)	1.6 (0.16)	2.2 (0.14)	2.6 (0.76)	0.067 J (0.17)	0.084 J (0.16)	0.62 (0.17)	0.14 J (0.16)	
Benzo(b)fluoranthene	76	170	2.7 (0.12)	0.82 (0.12)	1.6 (0.13)	14 (1.5)	0.27 J (0.55)	0.07 J (0.12)	1.5 (0.12)	2.5 (0.1)	2.9 (0.57)	0.084 J (0.12)	0.093 J (0.12)	0.69 (0.13)	0.16 (0.12)	
Benzo(g,h,i)perylene	190000	180	1.6 (0.16)	0.45 (0.17)	0.73 (0.17)	4.7 (0.21)	0.2 J (0.73)	0.034 J (0.15)	0.77 (0.16)	1.2 (0.14)	1.1 (0.76)	0.034 J (0.17)	0.055 J (0.16)	0.29 (0.17)	0.1 J (0.16)	
Chrysene	760	230	3.1 (0.12)	0.67 (0.12)	1.3 (0.13)	13 (1.5)	0.26 J (0.55)	0.052 J (0.12)	1.2 (0.12)	1.9 (0.1)	1.6 (0.57)	0.058 J (0.12)	0.29 (0.12)	0.67 (0.13)	0.092 J (0.12)	
Fluorene	130000	3800	1.7 (0.21)	0.4 (0.21)	0.67 (0.21)	3.7 (0.26)	U (0.91)	U (0.19)	0.29 (0.19)	0.31 (0.18)	0.33 J (0.95)	U (0.21)	1.1 (0.2)	0.35 (0.21)	U (0.2)	
Naphthalene	66	25	11 (2.1)	2.8 (0.21)	2.8 (0.21)	4.3 (0.26)	U (0.91)	U (0.19)	0.51 (0.19)	0.84 (0.18)	7.1 (0.95)	U (0.21)	0.086 J (0.2)	0.1 J (0.21)	0.05 J (0.2)	
Phenanthrene	190000	10000	12 (1.2)	1.2 (0.12)	1.8 (0.13)	32 (1.5)	0.23 J (0.55)	0.054 J (0.12)	1.1 (0.12)	1.6 (0.1)	2.2 (0.57)	0.068 J (0.12)	2.2 (0.12)	1.5 (0.13)	0.036 J (0.12)	
Pyrene	96000	2200	6.2 (0.12)	1.3 (0.12)	1.4 (0.13)	28 (1.5)	0.38 J (0.55)	0.072 J (0.12)	1.6 (0.12)	2.9 (0.1)	1.6 (0.57)	0.1 J (0.12)	0.21 (0.12)	1.1 (0.13)	0.1 J (0.12)	
Metals																
Lead	1000	450	170 (2.42)	141 (2.55)	152 (2.56)	306 (2.93)	122 (2.15)	51.6 (2.26)	163 (11.4)	41.4 (2.06)	16.4 (2.23)	8.05 (2.4)	241 (4.7)	64.8 (2.52)	150 (2.46)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	303-BF05-C2 303-BF05 6/20/2022	303-BF05-C3 303-BF05 6/20/2022	303-BF05-C4 303-BF05 6/20/2022	303-BG01-C1 303-BG01 6/24/2022	303-BG04-C1 303-BG04 6/21/2022	303-BG04-C2 303-BG04 6/21/2022	303-BG04-C3 303-BG04 6/21/2022	303-BG04-C4 303-BG04 6/21/2022	303-BH01-C1 303-BH01 6/23/2022	303-BH02-C1 303-BH02 6/17/2022	303-BH02-C2 303-BH02 6/17/2022	303-BH02-C3 303-BH02 6/17/2022	303-BH02-C4 303-BH02 6/17/2022
Field Sample ID	Value (0-2 ft bgs)	Value	303-BF05-C2-COMP	303-BF05-C3-COMP	303-BF05-C4-COMP	303-BG01-C1-COMP	303-BG04-C1-COMP	303-BG04-C2-COMP	303-BG04-C3-COMP	303-BG04-C4-COMP	303-BH01-C1-COMP	303-BH02-C1-COMP	303-BH02-C2-COMP	303-BH02-C3-COMP	303-BH02-C4-COMP
Sample Date	(mg/kg)	(mg/kg)													
PAHs															
Anthracene	190000	350	0.2 (0.15)	0.068 J (0.11)	0.13 (0.11)	1.2 (0.16)	U (0.11)	0.14 (0.11)	0.24 (0.15)	0.13 (0.11)	0.16 (0.14)	0.22 (0.12)	U (0.12)	0.11 J (0.15)	0.058 J (0.12)
Benzo(a)anthracene	130	340	0.53 (0.15)	0.16 (0.11)	0.38 (0.11)	5.1 (0.16)	0.07 J (0.11)	0.56 (0.11)	0.76 (0.15)	0.34 (0.11)	0.61 (0.14)	0.38 (0.12)	0.11 J (0.12)	0.28 (0.15)	0.2 (0.12)
Benzo(a)pyrene	91	46	0.66 (0.2)	0.16 (0.15)	0.52 (0.14)	6.6 (0.22)	0.099 J (0.15)	0.78 (0.15)	0.77 (0.2)	0.34 (0.15)	0.71 (0.18)	0.4 (0.16)	0.12 J (0.16)	0.41 (0.19)	0.18 (0.16)
Benzo(b)fluoranthene	76	170	0.72 (0.15)	0.18 (0.11)	0.52 (0.11)	6.7 (0.16)	0.1 J (0.11)	0.83 (0.11)	0.88 (0.15)	0.41 (0.11)	0.77 (0.14)	0.42 (0.12)	0.14 (0.12)	0.39 (0.15)	0.18 (0.12)
Benzo(g,h,i)perylene	190000	180	0.42 (0.2)	0.11 J (0.15)	0.3 (0.14)	3.1 (0.22)	0.052 J (0.15)	0.49 (0.15)	0.48 (0.2)	0.17 (0.15)	0.41 (0.18)	0.18 (0.16)	0.07 J (0.16)	0.15 J (0.19)	0.16 (0.16)
Chrysene	760	230	0.53 (0.15)	0.16 (0.11)	0.39 (0.11)	4.6 (0.16)	0.091 J (0.11)	0.95 (0.11)	0.78 (0.15)	0.33 (0.11)	0.62 (0.14)	0.34 (0.12)	0.1 J (0.12)	0.27 (0.15)	0.17 (0.12)
Fluorene	130000	3800	0.084 J (0.25)	0.044 J (0.19)	0.079 J (0.18)	0.56 (0.27)	U (0.18)	0.06 J (0.18)	0.17 J (0.25)	0.1 J (0.19)	0.04 J (0.23)	0.12 J (0.2)	U (0.2)	0.085 J (0.24)	0.028 J (0.2)
Naphthalene	66	25	0.64 (0.25)	1 (0.19)	1.1 (0.18)	3.2 (0.27)	0.038 J (0.18)	0.39 (0.18)	3.2 (0.25)	1.8 (0.19)	0.16 J (0.23)	0.26 (0.2)	0.054 J (0.2)	1.7 (0.24)	0.17 J (0.2)
Phenanthrene	190000	10000	0.52 (0.15)	0.26 (0.11)	0.35 (0.11)	2.8 (0.16)	0.099 J (0.11)	0.41 (0.11)	0.95 (0.15)	0.5 (0.11)	0.51 (0.14)	0.74 (0.12)	0.066 J (0.12)	0.54 (0.15)	0.19 (0.12)
Pyrene	96000	2200	0.62 (0.15)	0.24 (0.11)	0.39 (0.11)	5 (0.16)	0.12 (0.11)	0.73 (0.11)	1.1 (0.15)	0.44 (0.11)	1 (0.14)	0.58 (0.12)	0.14 (0.12)	0.38 (0.15)	0.31 (0.12)
Metals															
Lead	1000	450	462 (3.06)	123 (2.27)	89.1 (2.12)	103 (3.15)	75.4 (2.1)	4.74 (4.34)	66.8 (2.93)	13.8 (2.24)	305 (2.62)	10.3 (2.44)	111 (2.26)	62.5 (2.97)	14.2 (2.32)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	303-BH02-C5 303-BH02	303-BI01-C1 303-BI01	303-BI01-C2 303-BI01	303-BI03-C1 303-BI03	303-BI03-C2 303-BI03	303-BI03-C3 303-BI03	303-BI03-C4 303-BI03	303-BJ01-C1 303-BJ01	303-BJ01-C2 303-BJ01	303-BJ02-C1 303-BJ02	303-BJ02-C2 303-BJ02	303-BJ02-C3 303-BJ02	303-BK01-C1 303-BK01	
Field Sample ID	Value (0-2 ft bgs)	Value	303-BH02-C5-COMP	303-BI01-C1-COMP	303-BI01-C2-COMP	303-BI03-C1-COMP	303-BI03-C2-COMP	303-BI03-C3-COMP	303-BI03-C4-COMP	303-BJ01-C1-COMP	303-BJ01-C2-COMP	303-BJ02-C1-COMP	303-BJ02-C2-COMP	303-BJ02-C3-COMP	303-BK01-C1-COMP	
Sample Date	(mg/kg)	(mg/kg)	6/17/2022	6/23/2022	6/23/2022	6/17/2022	6/17/2022	6/17/2022	6/17/2022	6/23/2022	6/23/2022	6/17/2022	6/17/2022	6/17/2022	6/23/2022	
PAHs																
Anthracene	190000	350	U (0.12)	0.25 (0.14)	0.36 (0.12)	2 (0.15)	4.6 (0.16)	0.54 (0.15)	18 (0.69)	U (0.46)	U (0.12)	0.05 J (0.13)	0.87 (0.14)	0.87 (0.13)	0.81 (0.61)	
Benzo(a)anthracene	130	340	0.11 J (0.12)	1 (0.14)	1.1 (0.12)	3.6 (0.15)	7.7 (0.16)	0.88 (0.15)	41 (0.69)	0.34 J (0.46)	0.11 J (0.12)	0.12 J (0.13)	0.54 (0.14)	1.6 (0.13)	0.66 (0.61)	
Benzo(a)pyrene	91	46	0.13 J (0.16)	1.3 (0.18)	1.3 (0.16)	3.2 (0.2)	6 (0.21)	1.2 (0.2)	41 (0.92)	0.57 J (0.61)	0.079 J (0.15)	0.11 J (0.17)	0.49 (0.19)	1.6 (0.17)	0.67 J (0.82)	
Benzo(b)fluoranthene	76	170	0.16 (0.12)	1.4 (0.14)	1.3 (0.12)	3.9 (0.15)	7.2 (0.16)	1.2 (0.15)	38 (6.9)	0.72 (0.46)	0.12 (0.12)	0.13 (0.13)	0.69 (0.14)	1.6 (0.13)	0.84 (0.61)	
Benzo(g,h,i)perylene	190000	180	0.096 J (0.16)	0.68 (0.18)	0.58 (0.16)	1.7 (0.2)	3.6 (0.21)	0.84 (0.2)	18 (0.92)	0.35 J (0.61)	0.048 J (0.15)	0.07 J (0.17)	0.33 (0.19)	1 (0.17)	0.43 J (0.82)	
Chrysene	760	230	0.1 J (0.12)	0.98 (0.14)	0.98 (0.12)	3.4 (0.15)	7.2 (0.16)	0.91 (0.15)	37 (0.69)	0.51 (0.46)	0.099 J (0.12)	0.11 J (0.13)	0.6 (0.14)	1.7 (0.13)	0.66 (0.61)	
Fluorene	130000	3800	U (0.2)	0.076 J (0.23)	0.14 J (0.2)	1.3 (0.25)	2.6 (0.26)	0.49 (0.26)	8.1 (1.2)	U (0.77)	U (0.19)	0.021 J (0.21)	0.96 (0.24)	1.2 (0.22)	2.9 (1)	
Naphthalene	66	25	0.092 J (0.2)	0.7 (0.23)	0.48 (0.2)	1.1 (0.25)	3.2 (0.26)	4.7 (0.26)	13 (1.2)	0.3 J (0.77)	U (0.19)	U (0.21)	1.1 (0.24)	4 (0.22)	0.6 J (1)	
Phenanthrene	190000	10000	0.061 J (0.12)	0.63 (0.14)	0.97 (0.12)	8.4 (0.15)	19 (0.79)	1.7 (0.15)	42 (6.9)	0.26 J (0.46)	0.11 J (0.12)	0.15 (0.13)	2.7 (0.14)	4.5 (0.13)	6.8 (0.61)	
Pyrene	96000	2200	0.14 (0.12)	1.2 (0.14)	1.5 (0.12)	6.5 (0.15)	16 (0.79)	1.6 (0.15)	44 (6.9)	0.82 (0.46)	0.15 (0.12)	0.17 (0.13)	0.82 (0.14)	3.2 (0.13)	1.2 (0.61)	
Metals																
Lead	1000	450	442 (2.31)	140 (2.74)	152 (2.31)	74.5 (2.91)	159 (3.12)	106 (3)	133 (2.64)	44.7 (3.06)	36.6 (4.5)	50.3 (2.55)	439 (2.88)	59.9 (2.66)	11.9 (2.48)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	303-BK03-C1	303-BK03-C2	303-BK03-C3	303-BL02-C1	303-BL02-C2	303-BL02-C3	303-BM02-C1	303-BM02-C2	303-BM02-C3	303-BN02-C1	303-BN02-C2	303-BN02-C3	303-BN03-C1
			303-BK03	303-BK03	303-BK03	303-BL02	303-BL02	303-BL02	303-BM02	303-BM02	303-BM02	303-BN02	303-BN02	303-BN02	303-BN02
Field Sample ID	Value (0-2 ft bgs)	Value	303-BK03-C1-COMP	303-BK03-C2-COMP	303-BK03-C3-COMP	303-BL02-C1-COMP	303-BL02-C2-COMP	303-BL02-C3-COMP	303-BM02-C1-COMP	303-BM02-C2-COMP	303-BM02-C3-COMP	303-BN02-C1-COMP	303-BN02-C2-COMP	303-BN02-C3-COMP	303-BN03-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	6/17/2022	6/17/2022	6/17/2022	6/16/2022	6/16/2022	6/16/2022	6/16/2022	6/16/2022	6/16/2022	6/16/2022	6/16/2022	6/16/2022	6/20/2022
PAHs															
Anthracene	190000	350	0.4 (0.11)	1.8 (0.11)	0.17 (0.13)	0.037 J (0.11)	0.054 J (0.14)	2.6 (0.14)	0.38 (0.11)	U (0.12)	0.78 (0.46)	0.38 (0.1)	0.13 (0.11)	0.096 J (0.11)	0.83 (0.59)
Benzo(a)anthracene	130	340	1.8 (0.11)	3.3 (0.11)	0.49 (0.13)	0.049 J (0.11)	0.18 (0.14)	4.4 (0.14)	1.5 (0.11)	0.087 J (0.12)	0.98 (0.46)	0.59 (0.1)	0.61 (0.11)	0.15 (0.11)	2.1 (0.59)
Benzo(a)pyrene	91	46	1.4 (0.14)	3.7 (0.15)	0.55 (0.17)	0.047 J (0.15)	0.22 (0.19)	4 (0.18)	1.4 (0.15)	0.076 J (0.15)	1.2 (0.62)	0.42 (0.14)	0.56 (0.15)	0.12 J (0.15)	2 (0.78)
Benzo(b)fluoranthene	76	170	1.6 (0.11)	4.1 (0.11)	0.58 (0.13)	0.038 J (0.11)	0.22 (0.14)	4.2 (0.14)	1.7 (0.11)	0.084 J (0.12)	1 (0.46)	0.54 (0.1)	0.62 (0.11)	0.14 (0.11)	2.3 (0.59)
Benzo(g,h,i)perylene	190000	180	0.57 (0.14)	1.3 (0.15)	0.26 (0.17)	0.035 J (0.15)	0.13 J (0.19)	1.9 (0.18)	0.93 (0.15)	0.051 J (0.15)	1.1 (0.62)	0.34 (0.14)	0.26 (0.15)	0.062 J (0.15)	1.4 (0.78)
Chrysene	760	230	1.5 (0.11)	3 (0.11)	0.45 (0.13)	0.068 J (0.11)	0.18 (0.14)	4.2 (0.14)	1.5 (0.11)	0.077 J (0.12)	1.5 (0.46)	0.52 (0.1)	0.54 (0.11)	0.15 (0.11)	2 (0.59)
Fluorene	130000	3800	0.093 J (0.18)	0.78 (0.18)	0.096 J (0.21)	0.084 J (0.19)	0.046 J (0.24)	2.7 (0.23)	0.19 (0.19)	U (0.19)	1.4 (0.78)	0.22 (0.18)	0.026 J (0.19)	0.073 J (0.19)	0.33 J (0.98)
Naphthalene	66	25	0.15 J (0.18)	0.16 J (0.18)	0.31 (0.21)	0.033 J (0.19)	0.26 (0.24)	2.1 (0.23)	0.21 (0.19)	0.038 J (0.19)	1.2 (0.78)	0.29 (0.18)	0.29 (0.19)	0.082 J (0.19)	1.3 (0.98)
Phenanthrene	190000	10000	1.2 (0.11)	5.6 (0.11)	0.63 (0.13)	0.22 (0.11)	0.17 (0.14)	8.9 (0.14)	1 (0.11)	0.084 J (0.12)	3.3 (0.46)	1.6 (0.1)	0.14 (0.11)	0.32 (0.11)	3 (0.59)
Pyrene	96000	2200	2 (0.11)	5.5 (0.11)	0.72 (0.13)	0.082 J (0.11)	0.2 (0.14)	5.8 (0.14)	2.4 (0.11)	0.13 (0.12)	3.1 (0.46)	1.1 (0.1)	0.62 (0.11)	0.23 (0.11)	3.2 (0.59)
Metals															
Lead	1000	450	19.5 (2.13)	11 (2.17)	142 (5.12)	436 (2.28)	63.1 (2.82)	90.4 (2.69)	74.6 (2.2)	60 (2.27)	168 (6.2)	112 (2.1)	10.3 (2.2)	6.78 (2.25)	86.7 (2.33)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	303-BO02-C1 303-BO02 6/16/2022	303-BO02-C2 303-BO02 6/16/2022	303-BO02-C3 303-BO02 6/16/2022	303-BP02-C1 303-BP02 6/17/2022	303-BP02-C2 303-BP02 6/17/2022	303-BP02-C3 303-BP02 6/17/2022	303-BQ01-C1 303-BQ01 6/23/2022	303-BQ02-C1 303-BQ02 6/17/2022	303-BQ02-C2 303-BQ02 6/17/2022	303-BQ02-C3 303-BQ02 6/17/2022	303-BR02-C1 303-BR02 6/16/2022	303-BR02-C2 303-BR02 6/16/2022	303-BS02-C1 303-BS02 6/16/2022	
Field Sample ID	Value (0-2 ft bgs)	Value	303-BO02-C1-COMP	303-BO02-C2-COMP	303-BO02-C3-COMP	303-BP02-C1-COMP	303-BP02-C2-COMP	303-BP02-C3-COMP	303-BQ01-C1-COMP	303-BQ02-C1-COMP	303-BQ02-C2-COMP	303-BQ02-C3-COMP	303-BR02-C1-COMP	303-BR02-C2-COMP	303-BS02-C1-COMP	
Sample Date	(mg/kg)	(mg/kg)														
PAHs																
Anthracene	190000	350	0.13 (0.11)	0.12 (0.12)	0.42 (0.13)	0.48 (0.12)	0.081 J (0.12)	0.25 (0.11)	0.25 (0.14)	2.2 (0.14)	0.51 (0.13)	0.6 (0.13)	0.059 J (0.12)	0.05 J (0.12)	0.2 J (0.35)	
Benzo(a)anthracene	130	340	0.14 (0.11)	0.07 J (0.12)	1.8 (0.13)	1.1 (0.12)	0.093 J (0.12)	0.26 (0.11)	0.56 (0.14)	3.4 (0.14)	0.52 (0.13)	0.64 (0.13)	0.28 (0.12)	0.26 (0.12)	0.34 J (0.35)	
Benzo(a)pyrene	91	46	0.16 (0.15)	0.098 J (0.16)	1.7 (0.18)	0.94 (0.16)	0.11 J (0.15)	0.14 J (0.15)	0.85 (0.19)	3.3 (0.18)	1.2 (0.17)	0.5 (0.18)	0.33 (0.16)	0.25 (0.16)	0.63 (0.47)	
Benzo(b)fluoranthene	76	170	0.18 (0.11)	0.096 J (0.12)	1.6 (0.13)	1.2 (0.12)	0.11 J (0.12)	0.18 (0.11)	0.97 (0.14)	3.3 (0.14)	1.3 (0.13)	0.68 (0.13)	0.38 (0.12)	0.31 (0.12)	0.45 (0.35)	
Benzo(g,h,i)perylene	190000	180	0.11 J (0.15)	0.071 J (0.16)	0.84 (0.18)	0.52 (0.16)	0.046 J (0.15)	0.074 J (0.15)	0.5 (0.19)	1.4 (0.18)	1.2 (0.17)	0.3 (0.18)	0.16 (0.16)	0.21 (0.16)	0.26 J (0.47)	
Chrysene	760	230	0.18 (0.11)	0.07 J (0.12)	1.5 (0.13)	1.2 (0.12)	0.093 J (0.12)	0.22 (0.11)	0.56 (0.14)	3.2 (0.14)	0.58 (0.13)	0.75 (0.13)	0.26 (0.12)	0.25 (0.12)	0.42 (0.35)	
Fluorene	130000	3800	0.85 (0.18)	0.13 J (0.2)	0.27 (0.22)	0.38 (0.2)	0.084 J (0.19)	0.45 (0.18)	0.12 J (0.24)	3 (0.23)	4.4 (0.22)	2.9 (0.22)	0.042 J (0.19)	U (0.2)	0.22 J (0.59)	
Naphthalene	66	25	8.6 (0.91)	0.42 (0.2)	0.99 (0.22)	0.12 J (0.2)	0.65 (0.19)	1.3 (0.18)	1.2 (0.24)	11 (1.2)	2.1 (0.22)	12 (1.1)	0.2 (0.19)	0.5 (0.2)	2 (0.59)	
Phenanthrene	190000	10000	0.68 (0.11)	0.06 J (0.12)	1 (0.13)	1.3 (0.12)	0.29 (0.12)	1 (0.11)	0.73 (0.14)	12 (0.69)	2 (0.13)	5 (0.13)	0.15 (0.12)	0.11 J (0.12)	0.72 (0.35)	
Pyrene	96000	2200	0.35 (0.11)	0.16 (0.12)	2.8 (0.13)	2.1 (0.12)	0.17 (0.12)	0.5 (0.11)	0.75 (0.14)	6.9 (0.14)	0.79 (0.13)	1.2 (0.13)	0.32 (0.12)	0.3 (0.12)	0.74 (0.35)	
Metals																
Lead	1000	450	47.8 (2.11)	90.4 (2.36)	83.9 (2.59)	279 (2.26)	222 (2.28)	113 (2.25)	88.4 (2.83)	95.5 (2.7)	168 (2.61)	1650 (2.65)	369 (2.34)	89.1 (2.41)	215 (4.92)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2b
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1A
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	303-BS02-C2 303-BS02	303-BS03-C1 303-BS03	303-BT01-C1 303-BT01	303-BT01-C2 303-BT01	303-BT01-C3 303-BT01	303-BU01-C1 303-BU01	303-BU01-C2 303-BU01	303-BV01-C1 303-BV01	303-BW01-C1 303-BW01
Field Sample ID	Value (0-2 ft bgs)	Value	303-BS02-C2-COMP	303-BS03-C1-COMP	303-BT01-C1-COMP	303-BT01-C2-COMP	303-BT01-C3-COMP	303-BU01-C1-COMP	303-BU01-C2-COMP	303-BV01-C1-COMP	303-BW01-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	6/16/2022	6/14/2022	6/16/2022	6/16/2022	6/16/2022	6/16/2022	6/16/2022	6/15/2022	6/14/2022
PAHs											
Anthracene	190000	350	U (0.13)	U (0.12)	U (0.33)	0.14 J (0.34)	U (0.32)	0.63 (0.12)	0.98 (0.12)	1.2 (0.12)	0.17 (0.12)
Benzo(a)anthracene	130	340	0.035 J (0.13)	U (0.12)	0.56 (0.33)	0.18 J (0.34)	0.16 J (0.32)	1.3 (0.12)	1.7 (0.12)	2 (0.12)	0.48 (0.12)
Benzo(a)pyrene	91	46	U (0.17)	U (0.16)	0.52 (0.44)	0.15 J (0.46)	0.16 J (0.42)	1.3 (0.16)	1.9 (0.16)	1.9 (0.16)	0.57 (0.16)
Benzo(b)fluoranthene	76	170	U (0.13)	U (0.12)	0.61 (0.33)	0.19 J (0.34)	0.16 J (0.32)	1.4 (0.12)	2.1 (0.12)	2.1 (0.12)	0.65 (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.17)	U (0.16)	0.28 J (0.44)	U (0.46)	0.092 J (0.42)	0.75 (0.16)	1 (0.16)	0.84 (0.16)	0.32 (0.16)
Chrysene	760	230	0.032 J (0.13)	U (0.12)	0.5 (0.33)	0.17 J (0.34)	0.15 J (0.32)	1.4 (0.12)	1.6 (0.12)	1.9 (0.12)	0.52 (0.12)
Fluorene	130000	3800	U (0.21)	U (0.19)	U (0.56)	0.14 J (0.58)	0.074 J (0.53)	0.87 (0.2)	3.1 (0.21)	1.2 (0.2)	0.12 J (0.19)
Naphthalene	66	25	U (0.21)	U (0.19)	0.11 J (0.56)	0.12 J (0.58)	0.085 J (0.53)	0.71 (0.2)	1.1 (0.21)	1.4 (0.2)	0.4 (0.19)
Phenanthrene	190000	10000	0.055 J (0.13)	U (0.12)	0.18 J (0.33)	0.5 (0.34)	0.14 J (0.32)	2.1 (0.12)	4.2 (0.12)	4.2 (0.12)	0.29 (0.12)
Pyrene	96000	2200	0.052 J (0.13)	U (0.12)	0.49 (0.33)	0.34 (0.34)	0.2 J (0.32)	1.9 (0.12)	2.6 (0.12)	3.5 (0.12)	0.73 (0.12)
Metals											
Lead	1000	450	154 (2.49)	39.2 (11.5)	98.9 (2.3)	105 (2.41)	4.53 (2.16)	57.2 (2.36)	126 (2.45)	442 (2.24)	162 (2.25)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	301-AA02-C1	301-AA02-C2	301-AA02-C3	301-AA02-C4	301-AA03-C1	301-AA03-C2	301-AA03-C3	301-AA03-C4	301-AA04-C1	301-AA04-C2	301-AA04-C3	301-AA04-C4	301-AA04-C5
Cell	Direct Contact	Groundwater	301-AA02	301-AA02	301-AA02	301-AA02	301-AA03	301-AA03	301-AA03	301-AA03	301-AA04	301-AA04	301-AA04	301-AA04	301-AA04
Field Sample ID	Value (0-2 ft bgs)	Value	301-AA02-C1-COMP	301-AA02-C2-COMP	301-AA02-C3-COMP	301-AA02-C4-COMP	301-AA03-C1-COMP	301-AA03-C2-COMP	301-AA03-C3-COMP	301-AA03-C4-COMP	301-AA04-C1-COMP	301-AA04-C2-COMP	301-AA04-C3-COMP	301-AA04-C4-COMP	301-AA04-C5-COMP
Sample Date	(mg/kg)	(mg/kg)	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/8/2022	8/8/2022	8/8/2022	8/8/2022	8/8/2022	8/8/2022	8/8/2022	8/8/2022	8/8/2022
PAHs															
Anthracene	190000	350	U (0.1)	U (1.1)	U (0.1)	U (0.1)	U (0.12)	U (0.12)	0.11 J (0.12)	U (0.12)	U (1)	U (0.11)	U (0.11)	U (0.34)	0.22 (0.11)
Benzo(a)anthracene	130	340	U (0.1)	U (1.1)	0.067 J (0.1)	0.072 J (0.1)	U (0.12)	0.093 J (0.12)	0.18 (0.12)	U (0.12)	0.19 J (1)	0.14 (0.11)	0.14 (0.11)	0.17 J (0.34)	0.67 (0.11)
Benzo(a)pyrene	91	46	U (0.14)	U (1.5)	0.071 J (0.14)	0.078 J (0.14)	U (0.15)	0.1 J (0.16)	0.15 J (0.16)	U (0.15)	U (1.4)	0.15 (0.15)	0.18 (0.15)	0.2 J (0.45)	0.8 (0.15)
Benzo(b)fluoranthene	76	170	U (0.1)	U (1.1)	0.082 J (0.1)	0.09 J (0.1)	U (0.12)	0.12 (0.12)	0.18 (0.12)	U (0.12)	U (1)	0.17 (0.11)	0.13 (0.11)	0.2 J (0.34)	1.4 (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.14)	U (1.5)	0.034 J (0.14)	0.045 J (0.14)	U (0.15)	0.056 J (0.16)	0.066 J (0.16)	U (0.15)	0.21 J (1.4)	0.13 J (0.15)	0.14 J (0.15)	0.16 J (0.45)	0.7 (0.15)
Chrysene	760	230	U (0.1)	U (1.1)	0.065 J (0.1)	0.073 J (0.1)	U (0.12)	0.1 J (0.12)	0.16 (0.12)	U (0.12)	0.22 J (1)	0.2 (0.11)	0.26 (0.11)	0.18 J (0.34)	1.1 (0.11)
Fluorene	130000	3800	U (0.18)	U (1.9)	U (0.17)	U (0.17)	U (0.19)	0.02 J (0.2)	0.058 J (0.2)	U (0.19)	U (1.7)	U (0.19)	U (0.19)	U (0.56)	0.06 J (0.19)
Naphthalene	66	25	U (0.18)	U (1.9)	U (0.17)	U (0.17)	U (0.19)	0.062 J (0.2)	U (0.2)	U (0.19)	U (1.7)	U (0.19)	U (0.19)	U (0.56)	0.5 (0.19)
Phenanthrene	190000	10000	U (0.1)	U (1.1)	0.056 J (0.1)	0.076 J (0.1)	U (0.12)	0.17 (0.12)	0.39 (0.12)	U (0.12)	0.22 J (1)	0.078 J (0.11)	U (0.11)	0.1 J (0.34)	0.97 (0.11)
Pyrene	96000	2200	0.022 J (0.1)	0.21 J (1.1)	0.089 J (0.1)	0.096 J (0.1)	U (0.12)	0.21 (0.12)	0.31 (0.12)	U (0.12)	0.25 J (1)	0.16 (0.11)	0.19 (0.11)	0.21 J (0.34)	0.98 (0.11)
Metals															
Lead	1000	450	4.64 (2.08)	5.9 (2.16)	14.8 (2.06)	62.5 (2.05)	5.98 (2.24)	35.2 (2.31)	343 (2.3)	48.4 (22.1)	13.9 (1.97)	21.3 (4.31)	57.9 (2.15)	23.2 (2.24)	37.9 (2.21)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	301-AA05-C1	301-AA05-C2	301-AA05-C3	301-AA05-C4	301-AA05-C5	301-AB01-C1	301-AB01-C2	301-AB01-C3	301-AB01-C4	301-AB05-C1	301-AB05-C2	301-AB05-C3	301-AB05-C4
Cell	Direct Contact	Groundwater	301-AA05	301-AA05	301-AA05	301-AA05	301-AA05	301-AB01	301-AB01	301-AB01	301-AB01	301-AB05	301-AB05	301-AB05	301-AB05
Field Sample ID	Value (0-2 ft bgs)	Value	301-AA05-C1-COMP	301-AA05-C2-COMP	301-AA05-C3-COMP	301-AA05-C4-COMP	301-AA05-C5-COMP	301-AB01-C1-COMP	301-AB01-C2-COMP	301-AB01-C3-COMP	301-AB01-C4-COMP	301-AB05-C1-COMP	301-AB05-C2-COMP	301-AB05-C3-COMP	301-AB05-C4-COMP
Sample Date	(mg/kg)	(mg/kg)	8/10/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022	8/15/2022	8/15/2022	8/15/2022	8/15/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022
PAHs															
Anthracene	190000	350	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.1)	U (0.12)	U (0.12)	U (0.11)	U (0.15)	U (0.11)	0.039 J (0.12)	U (0.11)
Benzo(a)anthracene	130	340	0.1 J (0.11)	0.094 J (0.12)	U (0.11)	0.22 (0.12)	0.08 J (0.11)	U (0.1)	U (0.12)	U (0.12)	U (0.11)	0.25 (0.15)	U (0.11)	0.087 J (0.12)	0.026 J (0.11)
Benzo(a)pyrene	91	46	0.12 J (0.14)	0.089 J (0.16)	U (0.14)	0.34 (0.16)	U (0.15)	U (0.13)	U (0.16)	U (0.16)	U (0.15)	0.25 (0.2)	U (0.15)	0.074 J (0.16)	U (0.15)
Benzo(b)fluoranthene	76	170	0.15 (0.11)	0.12 (0.12)	U (0.11)	0.26 (0.12)	U (0.11)	U (0.1)	U (0.12)	U (0.12)	U (0.11)	0.4 (0.15)	U (0.11)	0.08 J (0.12)	U (0.11)
Benzo(g,h,i)perylene	190000	180	0.15 (0.14)	0.067 J (0.16)	U (0.14)	0.38 (0.16)	U (0.15)	U (0.13)	U (0.16)	U (0.16)	U (0.15)	0.2 (0.2)	U (0.15)	0.047 J (0.16)	U (0.15)
Chrysene	760	230	0.15 (0.11)	0.19 (0.12)	U (0.11)	0.34 (0.12)	0.047 J (0.11)	U (0.1)	U (0.12)	U (0.12)	U (0.11)	0.32 (0.15)	U (0.11)	0.084 J (0.12)	0.025 J (0.11)
Fluorene	130000	3800	0.021 J (0.18)	0.026 J (0.19)	0.058 J (0.18)	U (0.2)	U (0.19)	U (0.17)	U (0.2)	U (0.19)	U (0.19)	U (0.24)	U (0.19)	0.021 J (0.2)	U (0.19)
Naphthalene	66	25	0.093 J (0.18)	0.037 J (0.19)	0.046 J (0.18)	0.047 J (0.2)	U (0.19)	U (0.17)	U (0.2)	U (0.19)	U (0.19)	0.034 J (0.24)	U (0.19)	U (0.2)	U (0.19)
Phenanthrene	190000	10000	0.16 (0.11)	0.11 J (0.12)	0.11 (0.11)	0.13 (0.12)	U (0.11)	U (0.1)	U (0.12)	U (0.12)	U (0.11)	0.2 (0.15)	U (0.11)	0.16 (0.12)	U (0.11)
Pyrene	96000	2200	0.16 (0.11)	0.15 (0.12)	U (0.11)	0.15 (0.12)	0.12 (0.11)	U (0.1)	U (0.12)	U (0.12)	U (0.11)	0.42 (0.15)	0.02 J (0.11)	0.14 (0.12)	0.032 J (0.11)
Metals															
Lead	1000	450	68.1 (10.5)	68.6 (11.4)	3.93 J (10.3)	7.16 (2.33)	7.62 (4.31)	2.68 (1.95)	3.99 (2.32)	6.02 (2.25)	7.22 (2.29)	102 (2.78)	65.3 (2.2)	37.2 (4.69)	37.6 (2.13)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	301-AB05-C5	301-AC02-C1	301-AC02-C2	301-AC02-C3	301-AC02-C4	301-AC02-C5	301-AC03-C1	301-AC03-C2	301-AC03-C3	301-AC03-C4	301-T01-C1	301-T01-C2	301-T01-C3
Cell	Direct Contact	Groundwater	301-AB05	301-AC02	301-AC02	301-AC02	301-AC02	301-AC02	301-AC03	301-AC03	301-AC03	301-AC03	301-T01	301-T01	301-T01
Field Sample ID	Value (0-2 ft bgs)	Value	301-AB05-C5-COMP	301-AC02-C1-COMP	301-AC02-C2-COMP	301-AC02-C3-COMP	301-AC02-C4-COMP	301-AC02-C5-COMP	301-AC03-C1-COMP	301-AC03-C2-COMP	301-AC03-C3-COMP	301-AC03-C4-COMP	301-T01-C1-COMP	301-T01-C2-COMP	301-T01-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	8/10/2022	8/16/2022	8/16/2022	8/16/2022	8/16/2022	8/16/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/4/2022	8/4/2022	8/4/2022
PAHs															
Anthracene	190000	350	0.069 J (0.12)	0.087 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.1)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	0.39 (0.11)	0.24 (0.11)	0.06 J (0.11)
Benzo(a)anthracene	130	340	0.034 J (0.12)	0.46 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.033 J (0.1)	0.027 J (0.11)	0.033 J (0.11)	U (0.12)	U (0.12)	1.2 (0.11)	0.69 (0.11)	0.22 (0.11)
Benzo(a)pyrene	91	46	U (0.16)	0.56 (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.14)	U (0.15)	U (0.15)	U (0.16)	U (0.16)	1.3 (0.15)	0.74 (0.15)	0.27 (0.14)
Benzo(b)fluoranthene	76	170	U (0.12)	0.64 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.035 J (0.1)	U (0.11)	0.044 J (0.11)	U (0.12)	U (0.12)	1.7 (0.11)	0.83 (0.11)	0.31 (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.16)	0.38 (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.14)	U (0.15)	0.029 J (0.15)	U (0.16)	U (0.16)	0.69 (0.15)	0.38 (0.15)	0.13 J (0.14)
Chrysene	760	230	0.097 J (0.12)	0.46 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.034 J (0.1)	0.026 J (0.11)	0.042 J (0.11)	U (0.12)	U (0.12)	1.1 (0.11)	0.64 (0.11)	0.22 (0.11)
Fluorene	130000	3800	0.4 (0.2)	0.027 J (0.19)	U (0.2)	U (0.2)	U (0.2)	0.14 J (0.18)	U (0.19)	U (0.19)	U (0.2)	U (0.21)	0.1 J (0.19)	0.094 J (0.18)	U (0.18)
Naphthalene	66	25	0.067 J (0.2)	0.05 J (0.19)	U (0.2)	U (0.2)	U (0.2)	0.087 J (0.18)	U (0.19)	U (0.19)	U (0.2)	U (0.21)	0.097 J (0.19)	0.088 J (0.18)	0.025 J (0.18)
Phenanthrene	190000	10000	0.73 (0.12)	0.35 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.28 (0.1)	U (0.11)	0.033 J (0.11)	U (0.12)	U (0.12)	1.5 (0.11)	0.76 (0.11)	0.16 (0.11)
Pyrene	96000	2200	0.12 (0.12)	0.73 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.062 J (0.1)	0.039 J (0.11)	0.048 J (0.11)	U (0.12)	U (0.12)	1.8 (0.11)	1 (0.11)	0.32 (0.11)
Metals															
Lead	1000	450	13.3 (2.36)	74.8 (2.31)	5.14 (2.36)	4.74 (2.4)	5.74 (2.28)	35.8 (2.1)	6.09 (2.24)	10 (2.25)	3.4 (2.3)	4.88 (2.4)	142 (2.13)	43.9 (2.16)	15.2 (2.07)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	301-T01-C4	301-T01-C5	301-T02-C1	301-U01-C1	301-U01-C2	301-U01-C3	301-U01-C4	301-U01-C5	301-U02-C1	301-U02-C2	301-U02-C3	301-U02-C4	301-U02-C5
Cell	Direct Contact	Groundwater	301-T01	301-T01	301-T02	301-U01	301-U01	301-U01	301-U01	301-U01	301-U02	301-U02	301-U02	301-U02	301-U02
Field Sample ID	Value (0-2 ft bgs)	Value	301-T01-C4-COMP	301-T01-C5-COMP	301-T02-C1-COMP	301-U01-C1-COMP	301-U01-C2-COMP	301-U01-C3-COMP	301-U01-C4-COMP	301-U01-C5-COMP	301-U02-C1-COMP	301-U02-C2-COMP	301-U02-C3-COMP	301-U02-C4-COMP	301-U02-C5-COMP
Sample Date	(mg/kg)	(mg/kg)	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022	8/4/2022
PAHs															
Anthracene	190000	350	0.47 (0.11)	0.21 (0.12)	0.37 (0.12)	0.38 J (0.57)	0.07 J (0.13)	0.54 (0.12)	0.28 J (0.58)	0.38 J (0.59)	0.062 J (0.13)	U (0.12)	0.28 J (0.62)	0.34 J (0.56)	0.29 (0.11)
Benzo(a)anthracene	130	340	0.43 (0.11)	0.81 (0.12)	0.46 (0.12)	1.2 (0.57)	0.095 J (0.13)	0.46 (0.12)	0.33 J (0.58)	0.17 J (0.59)	0.19 (0.13)	U (0.12)	0.21 J (0.62)	2.3 (0.56)	1.3 (0.11)
Benzo(a)pyrene	91	46	0.32 (0.15)	1.2 (0.15)	0.44 (0.16)	1.6 (0.76)	0.074 J (0.17)	0.34 (0.16)	0.26 J (0.78)	U (0.79)	0.23 (0.17)	U (0.16)	U (0.83)	5.2 (0.75)	2.9 (0.14)
Benzo(b)fluoranthene	76	170	0.35 (0.11)	1.4 (0.12)	0.48 (0.12)	1.7 (0.57)	0.094 J (0.13)	0.39 (0.12)	0.31 J (0.58)	0.2 J (0.59)	0.25 (0.13)	U (0.12)	U (0.62)	3.2 (0.56)	2.1 (0.11)
Benzo(g,h,i)perylene	190000	180	0.12 J (0.15)	0.64 (0.15)	0.26 (0.16)	0.86 (0.76)	0.037 J (0.17)	0.13 J (0.16)	0.14 J (0.78)	U (0.79)	0.096 J (0.17)	U (0.16)	U (0.83)	5.7 (0.75)	3.4 (0.14)
Chrysene	760	230	0.41 (0.11)	0.76 (0.12)	0.6 (0.12)	1.3 (0.57)	0.12 J (0.13)	0.42 (0.12)	0.41 J (0.58)	0.21 J (0.59)	0.18 (0.13)	U (0.12)	0.83 (0.62)	3 (0.56)	1.7 (0.11)
Fluorene	130000	3800	1.1 (0.18)	0.05 J (0.19)	0.75 (0.2)	0.21 J (0.94)	0.39 (0.21)	1.2 (0.2)	0.58 J (0.98)	1.1 (0.99)	U (0.22)	U (0.19)	0.5 J (1)	0.22 J (0.94)	0.15 J (0.18)
Naphthalene	66	25	0.62 (0.18)	0.051 J (0.19)	0.37 (0.2)	0.18 J (0.94)	U (0.21)	0.64 (0.2)	U (0.98)	0.25 J (0.99)	0.037 J (0.22)	U (0.19)	0.19 J (1)	0.9 J (0.94)	0.87 (0.18)
Phenanthrene	190000	10000	3.2 (0.11)	0.42 (0.12)	1.5 (0.12)	1.5 (0.57)	0.72 (0.13)	3.4 (0.12)	1.5 (0.58)	2 (0.59)	0.18 (0.13)	U (0.12)	1.9 (0.62)	1.3 (0.56)	1.2 (0.11)
Pyrene	96000	2200	1 (0.11)	0.98 (0.12)	0.81 (0.12)	1.6 (0.57)	0.18 (0.13)	1.1 (0.12)	0.69 (0.58)	0.47 J (0.59)	0.3 (0.13)	U (0.12)	0.44 J (0.62)	1.3 (0.56)	1.1 (0.11)
Metals															
Lead	1000	450	6.48 (2.19)	64.3 (2.29)	17.5 (2.34)	73.9 (2.22)	157 (2.49)	11.1 (2.32)	111 (4.66)	11.4 (2.29)	179 (2.52)	163 (2.27)	37.4 (2.46)	3.16 (2.22)	134 (2.06)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	301-U03-C1	301-U03-C2	301-U03-C3	301-U03-C4	301-U03-C5	301-V01-C1	301-V01-C2	301-V01-C3	301-V01-C4	301-V02-C1	301-V02-C2	301-V02-C3	301-V02-C4	
Cell	Direct Contact	Groundwater	301-U03	301-U03	301-U03	301-U03	301-U03	301-V01	301-V01	301-V01	301-V01	301-V02	301-V02	301-V02	301-V02	
Field Sample ID	Value (0-2 ft bgs)	Value	301-U03-C1-COMP	301-U03-C2-COMP	301-U03-C3-COMP	301-U03-C4-COMP	301-U03-C5-COMP	301-V01-C1-COMP	301-V01-C2-COMP	301-V01-C3-COMP	301-V01-C4-COMP	301-V02-C1-COMP	301-V02-C2-COMP	301-V02-C3-COMP	301-V02-C4-COMP	
Sample Date	(mg/kg)	(mg/kg)	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	
PAHs																
Anthracene	190000	350	U (0.12)	0.08 J (0.1)	U (0.1)	0.045 J (0.11)	0.66 (0.55)	U (0.1)	0.053 J (0.12)	0.065 J (0.11)	0.068 J (0.12)	0.044 J (0.11)	U (0.12)	U (0.11)	U (0.57)	
Benzo(a)anthracene	130	340	0.073 J (0.12)	0.11 (0.1)	0.05 J (0.1)	0.074 J (0.11)	0.47 J (0.55)	0.081 J (0.1)	0.36 (0.12)	0.2 (0.11)	0.22 (0.12)	0.16 (0.11)	0.13 (0.12)	0.1 J (0.11)	U (0.57)	
Benzo(a)pyrene	91	46	0.1 J (0.16)	0.11 J (0.14)	0.056 J (0.14)	0.087 J (0.15)	U (0.74)	0.16 (0.13)	0.45 (0.16)	0.2 (0.15)	0.21 (0.16)	0.17 (0.15)	0.12 J (0.16)	0.12 J (0.15)	U (0.76)	
Benzo(b)fluoranthene	76	170	0.12 (0.12)	0.11 (0.1)	0.068 J (0.1)	0.12 (0.11)	U (0.55)	0.12 (0.1)	0.53 (0.12)	0.23 (0.11)	0.26 (0.12)	0.2 (0.11)	0.15 (0.12)	0.14 (0.11)	U (0.57)	
Benzo(g,h,i)perylene	190000	180	0.11 J (0.16)	0.13 J (0.14)	0.046 J (0.14)	0.095 J (0.15)	0.27 J (0.74)	0.16 (0.13)	0.31 (0.16)	0.088 J (0.15)	0.097 J (0.16)	0.098 J (0.15)	0.061 J (0.16)	0.079 J (0.15)	U (0.76)	
Chrysene	760	230	0.1 J (0.12)	0.21 (0.1)	0.056 J (0.1)	0.11 (0.11)	0.87 (0.55)	0.099 J (0.1)	0.38 (0.12)	0.21 (0.11)	0.23 (0.12)	0.17 (0.11)	0.13 (0.12)	0.12 (0.11)	0.18 J (0.57)	
Fluorene	130000	3800	0.024 J (0.2)	0.13 J (0.17)	U (0.17)	0.13 J (0.19)	3.2 (0.92)	U (0.17)	U (0.19)	0.039 J (0.19)	0.024 J (0.2)	U (0.19)	U (0.2)	U (0.19)	0.22 J (0.95)	
Naphthalene	66	25	0.044 J (0.2)	0.14 J (0.17)	0.061 J (0.17)	0.26 (0.19)	1.5 (0.92)	0.04 J (0.17)	U (0.19)	U (0.19)	U (0.2)	0.034 J (0.19)	U (0.2)	0.086 J (0.19)	U (0.95)	
Phenanthrene	190000	10000	0.067 J (0.12)	0.27 (0.1)	0.054 J (0.1)	0.3 (0.11)	7.4 (0.55)	0.065 J (0.1)	0.27 (0.12)	0.31 (0.11)	0.3 (0.12)	0.2 (0.11)	0.16 (0.12)	0.088 J (0.11)	0.43 J (0.57)	
Pyrene	96000	2200	0.1 J (0.12)	0.43 (0.1)	0.083 J (0.1)	0.16 (0.11)	1.2 (0.55)	0.063 J (0.1)	0.53 (0.12)	0.36 (0.11)	0.39 (0.12)	0.25 (0.11)	0.22 (0.12)	0.16 (0.11)	0.29 J (0.57)	
Metals																
Lead	1000	450	60.2 (2.39)	12.3 (2.09)	7.31 (2.04)	19.4 (2.26)	32.5 (2.28)	110 (2.03)	54.6 (2.25)	0.522 J (2.26)	11.8 (2.38)	37.8 (2.25)	31 (2.34)	61.8 (2.19)	51.4 (2.22)	

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	301-V02-C5	301-V03-C1	301-V03-C2	301-V03-C3	301-V03-C4	301-V03-C5	301-W01-C1	301-W01-C2	301-W01-C3	301-W01-C4	301-W02-C1	301-W02-C2	301-W02-C3
Cell	Direct Contact	Groundwater	301-V02	301-V03	301-V03	301-V03	301-V03	301-V03	301-W01	301-W01	301-W01	301-W01	301-W02	301-W02	301-W02
Field Sample ID	Value (0-2 ft bgs)	Value	301-V02-C5-COMP	301-V03-C1-COMP	301-V03-C2-COMP	301-V03-C3-COMP	301-V03-C4-COMP	301-V03-C5-COMP	301-W01-C1-COMP	301-W01-C2-COMP	301-W01-C3-COMP	301-W01-C4-COMP	301-W02-C1-COMP	301-W02-C2-COMP	301-W02-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	8/5/2022	10/20/2022	10/20/2022	10/20/2022	10/20/2022	10/20/2022	8/11/2022	8/11/2022	8/11/2022	8/11/2022	8/12/2022	8/12/2022	8/12/2022
PAHs															
Anthracene	190000	350	0.074 J (0.11)	0.097 J (0.22)	0.068 J (0.11)	U (0.12)	0.95 (0.12)	0.25 (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	0.058 J (0.11)	U (0.11)	U (0.11)
Benzo(a)anthracene	130	340	0.028 J (0.11)	0.84 (0.22)	0.54 (0.11)	0.031 J (0.12)	0.15 (0.12)	0.1 J (0.12)	0.13 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.16 (0.11)	0.048 J (0.11)	0.022 J (0.11)
Benzo(a)pyrene	91	46	U (0.15)	0.9 (0.29)	0.69 (0.15)	U (0.16)	0.087 J (0.16)	0.094 J (0.16)	0.17 (0.15)	U (0.16)	U (0.16)	U (0.16)	0.19 (0.15)	0.051 J (0.15)	U (0.14)
Benzo(b)fluoranthene	76	170	0.04 J (0.11)	1 (0.22)	0.82 (0.11)	0.036 J (0.12)	0.18 (0.12)	0.11 J (0.12)	0.18 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.21 (0.11)	0.058 J (0.11)	U (0.11)
Benzo(g,h,i)perylene	190000	180	0.03 J (0.15)	0.5 (0.29)	0.38 (0.15)	U (0.16)	0.062 J (0.16)	0.058 J (0.16)	0.15 (0.15)	U (0.16)	U (0.16)	U (0.16)	0.18 (0.15)	0.042 J (0.15)	U (0.14)
Chrysene	760	230	0.095 J (0.11)	0.82 (0.22)	0.57 (0.11)	0.03 J (0.12)	0.19 (0.12)	0.35 (0.12)	0.29 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.16 (0.11)	0.056 J (0.11)	0.023 J (0.11)
Fluorene	130000	3800	0.27 (0.19)	0.04 J (0.36)	U (0.18)	U (0.2)	2.3 (0.2)	1.1 (0.2)	0.064 J (0.18)	U (0.2)	U (0.21)	U (0.2)	0.031 J (0.18)	U (0.19)	U (0.18)
Naphthalene	66	25	0.36 (0.19)	0.14 J (0.36)	0.044 J (0.18)	U (0.2)	0.58 (0.2)	0.41 (0.2)	0.11 J (0.18)	U (0.2)	U (0.21)	U (0.2)	0.095 J (0.18)	U (0.19)	U (0.18)
Phenanthrene	190000	10000	0.45 (0.11)	0.24 (0.22)	0.27 (0.11)	U (0.12)	3.8 (0.12)	1.9 (0.12)	0.17 (0.11)	U (0.12)	U (0.12)	0.031 J (0.12)	0.22 (0.11)	0.041 J (0.11)	0.033 J (0.11)
Pyrene	96000	2200	0.12 (0.11)	0.9 (0.22)	0.99 (0.11)	0.04 J (0.12)	0.87 (0.12)	0.36 (0.12)	0.23 (0.11)	U (0.12)	U (0.12)	0.023 J (0.12)	0.25 (0.11)	0.068 J (0.11)	0.051 J (0.11)
Metals															
Lead	1000	450	116 (2.3)	62.8 (2.22)	48 (2.24)	147 (2.36)	490 (2.3)	6.56 (2.32)	30.2 (2.2)	9.09 (2.49)	5.96 (2.47)	267 (2.32)	59.7 (2.22)	35.5 (2.19)	19 (2.15)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	301-W02-C4	301-W02-C5	301-X01-C1	301-X01-C2	301-X01-C3	301-X01-C4	301-X02-C1	301-X02-C2	301-X02-C3	301-X02-C4	301-X02-C5	301-Y01-C1	301-Y01-C2
Cell	Direct Contact	Groundwater	301-W02	301-W02	301-X01	301-X01	301-X01	301-X01	301-X02	301-X02	301-X02	301-X02	301-X02	301-Y01	301-Y01
Field Sample ID	Value (0-2 ft bgs)	Value	301-W02-C4-COMP	301-W02-C5-COMP	301-X01-C1-COMP	301-X01-C2-COMP	301-X01-C3-COMP	301-X01-C4-COMP	301-X02-C1-COMP	301-X02-C2-COMP	301-X02-C3-COMP	301-X02-C4-COMP	301-X02-C5-COMP	301-Y01-C1-COMP	301-Y01-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	8/12/2022	8/12/2022	8/11/2022	8/11/2022	8/11/2022	8/11/2022	8/12/2022	8/12/2022	8/12/2022	8/12/2022	8/12/2022	8/11/2022	8/11/2022
PAHs															
Anthracene	190000	350	U (0.1)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	0.18 (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.12 (0.12)	U (0.11)
Benzo(a)anthracene	130	340	U (0.1)	U (0.12)	0.036 J (0.13)	0.056 J (0.12)	U (0.12)	0.088 J (0.12)	0.2 (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.42 (0.12)	0.065 J (0.11)
Benzo(a)pyrene	91	46	U (0.14)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	0.098 J (0.16)	0.12 J (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	0.38 (0.17)	0.072 J (0.15)
Benzo(b)fluoranthene	76	170	U (0.1)	U (0.12)	0.038 J (0.13)	0.046 J (0.12)	U (0.12)	0.11 J (0.12)	0.14 (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.27 (0.12)	0.085 J (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.14)	U (0.16)	0.026 J (0.17)	0.023 J (0.16)	U (0.16)	0.059 J (0.16)	0.092 J (0.16)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	0.24 (0.17)	0.054 J (0.15)
Chrysene	760	230	U (0.1)	U (0.12)	0.038 J (0.13)	0.12 (0.12)	U (0.12)	0.095 J (0.12)	0.5 (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.95 (0.12)	0.064 J (0.11)
Fluorene	130000	3800	U (0.17)	U (0.2)	0.031 J (0.21)	0.43 (0.2)	U (0.2)	0.024 J (0.2)	0.083 J (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.2)	0.055 J (0.21)	U (0.18)
Naphthalene	66	25	U (0.17)	U (0.2)	U (0.21)	0.21 (0.2)	U (0.2)	U (0.2)	0.031 J (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.2)	0.18 J (0.21)	U (0.18)
Phenanthrene	190000	10000	U (0.1)	U (0.12)	0.064 J (0.13)	0.85 (0.12)	U (0.12)	0.24 (0.12)	0.73 (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.86 (0.12)	0.058 J (0.11)
Pyrene	96000	2200	U (0.1)	U (0.12)	0.053 J (0.13)	0.14 (0.12)	U (0.12)	0.2 (0.12)	1.4 (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.87 (0.12)	0.1 J (0.11)
Metals															
Lead	1000	450	5.08 (2.06)	5.78 (2.45)	49 (2.58)	6.78 (2.4)	6.42 (2.37)	31.4 (2.27)	70.9 (2.28)	8.39 (4.64)	6.82 (2.19)	11.2 J (11.5)	4.38 (2.33)	5.18 (2.52)	8.82 (2.16)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	301-Y01-C3	301-Y01-C4	301-Y02-C1	301-Y02-C2	301-Y02-C3	301-Y02-C4	301-Z01-C1	301-Z01-C2	301-Z01-C3	301-Z01-C4	301-Z02-C1	301-Z02-C2	301-Z02-C3	
Cell	Direct Contact	Groundwater	301-Y01	301-Y01	301-Y02	301-Y02	301-Y02	301-Y02	301-Z01	301-Z01	301-Z01	301-Z01	301-Z02	301-Z02	301-Z02	
Field Sample ID	Value (0-2 ft bgs)	Value	301-Y01-C3-COMP	301-Y01-C4-COMP	301-Y02-C1-COMP	301-Y02-C2-COMP	301-Y02-C3-COMP	301-Y02-C4-COMP	301-Z01-C1-COMP	301-Z01-C2-COMP	301-Z01-C3-COMP	301-Z01-C4-COMP	301-Z02-C1-COMP	301-Z02-C2-COMP	301-Z02-C3-COMP	
Sample Date	(mg/kg)	(mg/kg)	8/11/2022	8/11/2022	8/12/2022	8/12/2022	8/12/2022	8/12/2022	8/5/2022	8/5/2022	8/5/2022	8/5/2022	8/9/2022	8/9/2022	8/9/2022	
PAHs																
Anthracene	190000	350	U (0.13)	U (0.12)	U (0.11)	0.1 J (0.12)	0.4 (0.12)	0.72 (0.12)	U (0.1)	U (0.11)	U (0.13)	U (0.11)	U (0.12)	0.61 (0.11)	U (0.12)	
Benzo(a)anthracene	130	340	U (0.13)	0.035 J (0.12)	0.038 J (0.11)	0.03 J (0.12)	0.15 (0.12)	0.19 (0.12)	U (0.1)	U (0.11)	U (0.13)	U (0.11)	U (0.12)	2.7 (0.11)	U (0.12)	
Benzo(a)pyrene	91	46	U (0.18)	U (0.17)	U (0.15)	U (0.16)	U (0.16)	0.066 J (0.17)	U (0.14)	U (0.15)	U (0.17)	U (0.14)	U (0.16)	3.5 (0.15)	U (0.16)	
Benzo(b)fluoranthene	76	170	U (0.13)	U (0.12)	0.053 J (0.11)	U (0.12)	0.05 J (0.12)	0.061 J (0.12)	U (0.1)	U (0.11)	U (0.13)	U (0.11)	U (0.12)	3.9 (0.11)	U (0.12)	
Benzo(g,h,i)perylene	190000	180	U (0.18)	U (0.17)	0.036 J (0.15)	U (0.16)	0.042 J (0.16)	0.05 J (0.17)	U (0.14)	U (0.15)	0.025 J (0.17)	U (0.14)	U (0.16)	1.6 (0.15)	U (0.16)	
Chrysene	760	230	0.039 J (0.13)	0.055 J (0.12)	0.045 J (0.11)	0.15 (0.12)	0.6 (0.12)	0.66 (0.12)	U (0.1)	U (0.11)	U (0.13)	U (0.11)	U (0.12)	2.5 (0.11)	U (0.12)	
Fluorene	130000	3800	0.026 J (0.22)	0.12 J (0.21)	0.025 J (0.19)	0.64 (0.2)	2.3 (0.2)	3.6 (0.21)	U (0.18)	U (0.19)	U (0.22)	U (0.18)	U (0.2)	0.13 J (0.18)	U (0.21)	
Naphthalene	66	25	U (0.22)	0.05 J (0.21)	U (0.19)	U (0.2)	U (0.2)	U (0.21)	U (0.18)	U (0.19)	U (0.22)	U (0.18)	U (0.2)	0.22 (0.18)	U (0.21)	
Phenanthrene	190000	10000	U (0.13)	0.23 (0.12)	0.094 J (0.11)	1.2 (0.12)	5.2 (0.12)	8.2 (0.12)	U (0.1)	U (0.11)	U (0.13)	U (0.11)	U (0.12)	1.8 (0.11)	U (0.12)	
Pyrene	96000	2200	0.03 J (0.13)	0.054 J (0.12)	0.061 J (0.11)	0.14 (0.12)	0.48 (0.12)	0.59 (0.12)	U (0.1)	U (0.11)	U (0.13)	U (0.11)	U (0.12)	3.4 (0.11)	U (0.12)	
Metals																
Lead	1000	450	10.1 (2.68)	46 (2.41)	86.3 (2.33)	13.4 (2.43)	6.61 (2.4)	4.62 (2.4)	4.88 (2.12)	4.77 (2.22)	22.6 (2.52)	8.42 (2.1)	0.456 J (2.38)	12.2 (2.12)	8.41 J (23.9)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	301-Z02-C4	301-Z02-C5	301-Z03-C1	301-Z03-C2	301-Z03-C3	301-Z03-C4	302-AD03-C1	302-AD03-C2	302-AD03-C3	302-AD03-C4	302-AD04-C1	302-AD04-C2	302-AD04-C3	
Cell	Direct Contact	Groundwater	301-Z02	301-Z02	301-Z03	301-Z03	301-Z03	301-Z03	302-AD03	302-AD03	302-AD03	302-AD03	302-AD04	302-AD04	302-AD04	
Field Sample ID	Value (0-2 ft bgs)	Value	301-Z02-C4-COMP	301-Z02-C5-COMP	301-Z03-C1-COMP	301-Z03-C2-COMP	301-Z03-C3-COMP	301-Z03-C4-COMP	302-AD03-C1-COMP	302-AD03-C2-COMP	302-AD03-C3-COMP	302-AD03-C4-COMP	302-AD04-C1-COMP	302-AD04-C2-COMP	302-AD04-C3-COMP	
Sample Date	(mg/kg)	(mg/kg)	8/9/2022	8/9/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022	8/16/2022	8/16/2022	8/16/2022	8/16/2022	8/17/2022	8/17/2022	8/17/2022	
PAHs																
Anthracene	190000	350	U (0.12)	0.18 (0.14)	0.66 (0.58)	0.05 J (0.12)	U (0.14)	U (0.13)	U (0.11)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	
Benzo(a)anthracene	130	340	0.031 J (0.12)	0.078 J (0.14)	0.36 J (0.58)	U (0.12)	0.031 J (0.14)	0.065 J (0.13)	U (0.11)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	
Benzo(a)pyrene	91	46	U (0.16)	0.11 J (0.18)	U (0.77)	U (0.16)	U (0.19)	0.064 J (0.17)	U (0.15)	U (0.16)	U (0.15)	U (0.17)	U (0.16)	U (0.18)	U (0.16)	
Benzo(b)fluoranthene	76	170	0.048 J (0.12)	0.13 J (0.14)	U (0.58)	U (0.12)	U (0.14)	0.069 J (0.13)	U (0.11)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	
Benzo(g,h,i)perylene	190000	180	U (0.16)	0.13 J (0.18)	U (0.77)	U (0.16)	U (0.19)	0.046 J (0.17)	U (0.15)	U (0.16)	U (0.15)	U (0.17)	U (0.16)	U (0.18)	U (0.16)	
Chrysene	760	230	0.032 J (0.12)	0.094 J (0.14)	0.58 (0.58)	U (0.12)	0.06 J (0.14)	0.062 J (0.13)	U (0.11)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	
Fluorene	130000	3800	U (0.2)	1.2 (0.23)	1.9 (0.96)	0.32 (0.2)	0.16 J (0.24)	U (0.21)	U (0.18)	U (0.2)	U (0.18)	U (0.22)	U (0.2)	U (0.22)	U (0.2)	
Naphthalene	66	25	U (0.2)	0.88 (0.23)	0.54 J (0.96)	0.055 J (0.2)	0.031 J (0.24)	U (0.21)	U (0.18)	U (0.2)	U (0.18)	U (0.22)	U (0.2)	U (0.22)	U (0.2)	
Phenanthrene	190000	10000	U (0.12)	1.9 (0.14)	3 (0.58)	0.48 (0.12)	0.26 (0.14)	0.08 J (0.13)	U (0.11)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	
Pyrene	96000	2200	0.039 J (0.12)	0.32 (0.14)	1.2 (0.58)	0.1 J (0.12)	0.076 J (0.14)	0.093 J (0.13)	U (0.11)	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.13)	U (0.12)	
Metals																
Lead	1000	450	115 (4.63)	5.68 (5.29)	12.7 (2.24)	31.4 (2.33)	15.7 (5.52)	107 (2.47)	8.59 (2.24)	9.16 (4.68)	4.17 (2.22)	3.21 (2.6)	7.09 (2.28)	6.59 (2.57)	4.14 (2.38)	

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AD04-C4	302-AD04-C5	302-AD05-C1	302-AD05-C2	302-AD05-C3	302-AD05-C4	302-AD06-C1	302-AD06-C2	302-AD06-C3	302-AD06-C4	302-AD07-C1	302-AD07-C2	302-AD07-C3
			302-AD04	302-AD04	302-AD05	302-AD05	302-AD05	302-AD05	302-AD05	302-AD06	302-AD06	302-AD06	302-AD06	302-AD07	302-AD07
Field Sample ID	Value (0-2 ft bgs)	Value	302-AD04-C4-COMP	302-AD04-C5-COMP	302-AD05-C1-COMP	302-AD05-C2-COMP	302-AD05-C3-COMP	302-AD05-C4-COMP	302-AD06-C1-COMP	302-AD06-C2-COMP	302-AD06-C3-COMP	302-AD06-C4-COMP	302-AD07-C1-COMP	302-AD07-C2-COMP	302-AD07-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/17/2022	8/18/2022	8/18/2022	8/18/2022	8/18/2022	8/18/2022	8/18/2022	8/18/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.13)	U (0.11)	U (0.12)	U (0.12)	U (0.12)	0.26 (0.14)	0.05 J (0.12)	6.8 (1.3)	0.13 J (0.14)	U (0.12)	1.2 (0.13)	0.09 J (0.11)
Benzo(a)anthracene	130	340	U (0.12)	U (0.13)	0.069 J (0.11)	U (0.12)	U (0.12)	U (0.12)	0.92 (0.14)	0.22 (0.12)	23 (1.3)	0.39 (0.14)	0.024 J (0.12)	4.6 (0.13)	0.27 (0.11)
Benzo(a)pyrene	91	46	U (0.16)	U (0.17)	0.079 J (0.15)	U (0.17)	U (0.16)	U (0.16)	0.96 (0.19)	0.25 (0.15)	20 (1.8)	0.43 (0.19)	U (0.16)	3.6 (0.17)	0.27 (0.14)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.13)	0.091 J (0.11)	U (0.12)	U (0.12)	U (0.12)	1.2 (0.14)	0.29 (0.12)	23 (1.3)	0.47 (0.14)	U (0.12)	3.4 (0.13)	0.32 (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.17)	0.098 J (0.15)	U (0.17)	U (0.16)	U (0.16)	0.57 (0.19)	0.17 (0.15)	9.7 (1.8)	0.32 (0.19)	U (0.16)	1.7 (0.17)	0.16 (0.14)
Chrysene	760	230	U (0.12)	U (0.13)	0.059 J (0.11)	U (0.12)	U (0.12)	U (0.12)	0.94 (0.14)	0.24 (0.12)	20 (1.3)	0.41 (0.14)	0.02 J (0.12)	5.4 (0.13)	0.27 (0.11)
Fluorene	130000	3800	U (0.2)	U (0.21)	0.032 J (0.19)	U (0.21)	U (0.2)	U (0.2)	0.16 J (0.24)	0.025 J (0.19)	1.9 J (2.2)	0.053 J (0.24)	U (0.2)	0.44 (0.21)	0.046 J (0.18)
Naphthalene	66	25	U (0.2)	U (0.21)	0.03 J (0.19)	U (0.21)	U (0.2)	U (0.2)	0.15 J (0.24)	0.073 J (0.19)	0.39 J (2.2)	0.037 J (0.24)	U (0.2)	0.22 (0.21)	0.024 J (0.18)
Phenanthrene	190000	10000	U (0.12)	U (0.13)	0.067 J (0.11)	U (0.12)	U (0.12)	0.046 J (0.12)	1.4 (0.14)	0.26 (0.12)	25 (1.3)	0.54 (0.14)	U (0.12)	5.7 (0.13)	0.41 (0.11)
Pyrene	96000	2200	U (0.12)	U (0.13)	0.088 J (0.11)	U (0.12)	U (0.12)	U (0.12)	1.5 (0.14)	0.4 (0.12)	42 (1.3)	0.74 (0.14)	0.028 J (0.12)	8.3 (0.64)	0.62 (0.11)
Metals															
Lead	1000	450	29.3 (4.82)	4.32 (2.45)	4.98 (2.19)	7.15 (4.84)	5.26 (2.32)	6.9 (2.49)	47.5 (2.85)	54.6 (2.22)	36.4 (13.4)	23.1 (13.8)	493 (11.4)	109 (12.5)	6.31 (2.06)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AD07-C4	302-AD07-C5	302-AE03-C1	302-AE03-C2	302-AE03-C3	302-AE03-C4	302-AE03-C5	302-AE04-C1	302-AE04-C2	302-AE04-C3	302-AE04-C4	302-AE04-C5	302-AE05-C1
Cell	Direct Contact	Groundwater	302-AD07	302-AD07	302-AE03	302-AE03	302-AE03	302-AE03	302-AE03	302-AE04	302-AE04	302-AE04	302-AE04	302-AE04	302-AE05
Field Sample ID	Value (0-2 ft bgs)	Value	302-AD07-C4-COMP	302-AD07-C5-COMP	302-AE03-C1-COMP	302-AE03-C2-COMP	302-AE03-C3-COMP	302-AE03-C4-COMP	302-AE03-C5-COMP	302-AE04-C1-COMP	302-AE04-C2-COMP	302-AE04-C3-COMP	302-AE04-C4-COMP	302-AE04-C5-COMP	302-AE05-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	8/18/2022	8/18/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	8/18/2022	8/18/2022	8/18/2022	8/18/2022	8/18/2022	8/19/2022
PAHs															
Anthracene	190000	350	0.05 J (0.12)	0.31 (0.11)	U (0.12)	U (0.12)	0.2 (0.11)	U (0.12)	0.4 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)anthracene	130	340	0.21 (0.12)	0.39 (0.11)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	0.097 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.096 J (0.11)
Benzo(a)pyrene	91	46	0.22 (0.16)	0.39 (0.15)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	0.13 J (0.16)	U (0.17)	U (0.15)	U (0.15)	U (0.16)	U (0.16)	0.084 J (0.15)
Benzo(b)fluoranthene	76	170	0.27 (0.12)	0.47 (0.11)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	0.14 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.1 J (0.11)
Benzo(g,h,i)perylene	190000	180	0.13 J (0.16)	0.23 (0.15)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	0.065 J (0.16)	U (0.17)	U (0.15)	U (0.15)	U (0.16)	U (0.16)	0.047 J (0.15)
Chrysene	760	230	0.24 (0.12)	0.37 (0.11)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	0.1 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.098 J (0.11)
Fluorene	130000	3800	U (0.2)	0.081 J (0.19)	U (0.2)	U (0.2)	0.85 (0.19)	U (0.2)	1.5 (0.2)	U (0.21)	U (0.19)	U (0.19)	U (0.2)	U (0.2)	U (0.19)
Naphthalene	66	25	U (0.2)	0.068 J (0.19)	U (0.2)	U (0.2)	U (0.19)	U (0.2)	U (0.2)	U (0.21)	U (0.19)	U (0.19)	U (0.2)	U (0.2)	U (0.19)
Phenanthrene	190000	10000	0.19 (0.12)	0.52 (0.11)	U (0.12)	U (0.12)	0.89 (0.11)	U (0.12)	2.7 (0.12)	0.039 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.059 J (0.11)
Pyrene	96000	2200	0.4 (0.12)	0.69 (0.11)	U (0.12)	U (0.12)	0.095 J (0.11)	U (0.12)	0.57 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.21 (0.11)
Metals															
Lead	1000	450	26.4 (2.31)	5.52 (2.29)	6.78 (2.3)	6.26 (2.32)	7.44 (2.3)	263 (2.41)	50.4 (2.29)	17.8 (12.5)	92.9 (11.2)	6.15 (2.35)	49.8 (2.42)	7.47 (2.34)	44.3 (4.38)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AE05-C2	302-AE05-C3	302-AE05-C4	302-AE05-C5	302-AE06-C1	302-AE06-C2	302-AE06-C3	302-AE06-C4	302-AE07-C1	302-AE07-C2	302-AE07-C3	302-AE07-C4	302-AE07-C5
Cell	Direct Contact	Groundwater	302-AE05	302-AE05	302-AE05	302-AE05	302-AE06	302-AE06	302-AE06	302-AE06	302-AE07	302-AE07	302-AE07	302-AE07	302-AE07
Field Sample ID	Value (0-2 ft bgs)	Value	302-AE05-C2-COMP	302-AE05-C3-COMP	302-AE05-C4-COMP	302-AE05-C5-COMP	302-AE06-C1-COMP	302-AE06-C2-COMP	302-AE06-C3-COMP	302-AE06-C4-COMP	302-AE07-C1-COMP	302-AE07-C2-COMP	302-AE07-C3-COMP	302-AE07-C4-COMP	302-AE07-C5-COMP
Sample Date	(mg/kg)	(mg/kg)	8/19/2022	8/19/2022	8/19/2022	8/19/2022	8/26/2022	8/26/2022	8/26/2022	8/26/2022	8/26/2022	8/26/2022	8/26/2022	8/26/2022	8/26/2022
PAHs															
Anthracene	190000	350	0.34 (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.13)	0.046 J (0.11)	U (0.1)	0.074 J (0.11)	0.067 J (0.12)	0.04 J (0.11)	U (0.11)	U (0.13)	0.045 J (0.12)
Benzo(a)anthracene	130	340	0.64 (0.11)	U (0.12)	0.079 J (0.11)	U (0.12)	0.12 J (0.13)	0.2 (0.11)	0.072 J (0.1)	0.24 (0.11)	0.19 (0.12)	0.071 J (0.11)	0.051 J (0.11)	U (0.13)	0.076 J (0.12)
Benzo(a)pyrene	91	46	0.36 (0.14)	U (0.16)	0.066 J (0.15)	U (0.16)	0.15 J (0.18)	0.25 (0.14)	0.09 J (0.14)	0.3 (0.14)	0.2 (0.16)	0.098 J (0.15)	0.067 J (0.15)	U (0.17)	0.098 J (0.16)
Benzo(b)fluoranthene	76	170	0.58 (0.11)	U (0.12)	0.083 J (0.11)	U (0.12)	0.18 (0.13)	0.29 (0.11)	0.1 (0.1)	0.42 (0.11)	0.23 (0.12)	0.11 (0.11)	0.076 J (0.11)	U (0.13)	0.12 (0.12)
Benzo(g,h,i)perylene	190000	180	0.097 J (0.14)	U (0.16)	0.034 J (0.15)	U (0.16)	0.11 J (0.18)	0.17 (0.14)	0.084 J (0.14)	0.26 (0.14)	0.12 J (0.16)	0.06 J (0.15)	0.057 J (0.15)	U (0.17)	0.056 J (0.16)
Chrysene	760	230	0.63 (0.11)	U (0.12)	0.088 J (0.11)	U (0.12)	0.13 (0.13)	0.19 (0.11)	0.075 J (0.1)	0.31 (0.11)	0.18 (0.12)	0.075 J (0.11)	0.06 J (0.11)	U (0.13)	0.096 J (0.12)
Fluorene	130000	3800	0.022 J (0.18)	U (0.2)	U (0.19)	U (0.2)	0.074 J (0.22)	U (0.18)	U (0.17)	0.018 J (0.18)	0.034 J (0.2)	0.1 J (0.19)	U (0.18)	0.11 J (0.22)	0.23 (0.2)
Naphthalene	66	25	U (0.18)	U (0.2)	0.034 J (0.19)	U (0.2)	0.19 J (0.22)	0.047 J (0.18)	0.025 J (0.17)	0.1 J (0.18)	0.034 J (0.2)	0.8 (0.19)	U (0.18)	0.79 (0.22)	0.95 (0.2)
Phenanthrene	190000	10000	0.042 J (0.11)	U (0.12)	0.11 (0.11)	U (0.12)	0.26 (0.13)	0.19 (0.11)	0.069 J (0.1)	0.29 (0.11)	0.32 (0.12)	0.25 (0.11)	0.048 J (0.11)	0.18 (0.13)	0.46 (0.12)
Pyrene	96000	2200	1.8 (0.11)	0.026 J (0.12)	0.18 (0.11)	U (0.12)	0.21 (0.13)	0.34 (0.11)	0.11 (0.1)	0.41 (0.11)	0.34 (0.12)	0.14 (0.11)	0.071 J (0.11)	U (0.13)	0.098 J (0.12)
Metals															
Lead	1000	450	12.6 (4.17)	3.9 (2.37)	7.54 (2.24)	23.1 (11.6)	412 (2.62)	106 (2.12)	188 (2.07)	197 (2.1)	154 (2.53)	93.4 (2.27)	80 (2.19)	26.9 (2.54)	7.46 (2.29)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AE08-C1	302-AE08-C2	302-AE08-C3	302-AE08-C4	302-AF03-C1	302-AF03-C2	302-AF03-C3	302-AF03-C4	302-AF03-C5	302-AF04-C1	302-AF04-C2	302-AF04-C3	302-AF04-C4
Cell	Direct Contact	Groundwater	302-AE08	302-AE08	302-AE08	302-AE08	302-AF03	302-AF03	302-AF03	302-AF03	302-AF03	302-AF04	302-AF04	302-AF04	302-AF04
Field Sample ID	Value (0-2 ft bgs)	Value	302-AE08-C1-COMP	302-AE08-C2-COMP	302-AE08-C3-COMP	302-AE08-C4-COMP	302-AF03-C1-COMP	302-AF03-C2-COMP	302-AF03-C3-COMP	302-AF03-C4-COMP	302-AF03-C5-COMP	302-AF04-C1-COMP	302-AF04-C2-COMP	302-AF04-C3-COMP	302-AF04-C4-COMP
Sample Date	(mg/kg)	(mg/kg)	8/30/2022	8/30/2022	8/30/2022	8/30/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/17/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.13)	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	0.075 J (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	0.25 (0.12)
Benzo(a)anthracene	130	340	0.069 J (0.12)	U (0.13)	U (0.12)	U (0.11)	0.034 J (0.11)	U (0.12)	U (0.12)	0.068 J (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)
Benzo(a)pyrene	91	46	0.1 J (0.16)	U (0.17)	U (0.16)	U (0.15)	0.047 J (0.14)	U (0.17)	U (0.16)	0.067 J (0.16)	U (0.14)	U (0.15)	U (0.15)	U (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	0.11 J (0.12)	U (0.13)	U (0.12)	U (0.11)	0.055 J (0.11)	U (0.12)	U (0.12)	0.084 J (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	0.058 J (0.16)	U (0.17)	U (0.16)	U (0.15)	0.036 J (0.14)	U (0.17)	U (0.16)	0.035 J (0.16)	U (0.14)	U (0.15)	U (0.15)	U (0.16)	U (0.16)
Chrysene	760	230	0.063 J (0.12)	U (0.13)	U (0.12)	U (0.11)	0.037 J (0.11)	U (0.12)	U (0.12)	0.068 J (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.12)
Fluorene	130000	3800	U (0.2)	U (0.22)	U (0.2)	U (0.19)	U (0.18)	U (0.21)	0.12 J (0.2)	U (0.2)	U (0.18)	U (0.19)	U (0.19)	U (0.2)	0.77 (0.2)
Naphthalene	66	25	U (0.2)	U (0.22)	U (0.2)	U (0.19)	U (0.18)	U (0.21)	0.072 J (0.2)	0.16 J (0.2)	U (0.18)	U (0.19)	U (0.19)	U (0.2)	0.053 J (0.2)
Phenanthrene	190000	10000	0.063 J (0.12)	U (0.13)	U (0.12)	U (0.11)	0.043 J (0.11)	U (0.12)	0.27 (0.12)	0.66 (0.12)	U (0.11)	U (0.11)	U (0.11)	0.026 J (0.12)	1.7 (0.12)
Pyrene	96000	2200	0.09 J (0.12)	U (0.13)	U (0.12)	U (0.11)	0.06 J (0.11)	U (0.12)	U (0.12)	0.13 (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	0.079 J (0.12)
Metals															
Lead	1000	450	31.4 (2.34)	7.41 (2.57)	5.59 (2.32)	6.1 (2.27)	37.7 (2.05)	6.88 (2.41)	6.45 (2.37)	16.4 (2.3)	6.3 (2.19)	151 (2.22)	116 (2.26)	13.6 (2.42)	9.15 (2.37)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AF04-C5	302-AF05-C1	302-AF05-C2	302-AF05-C3	302-AF05-C4	302-AF05-C5	302-AF07-C1	302-AF07-C2	302-AF07-C3	302-AF07-C4	302-AF07-C5	302-AF08-C1	302-AF08-C2
Cell	Direct Contact	Groundwater	302-AF04	302-AF05	302-AF05	302-AF05	302-AF05	302-AF05	302-AF07	302-AF07	302-AF07	302-AF07	302-AF07	302-AF08	302-AF08
Field Sample ID	Value (0-2 ft bgs)	Value	302-AF04-C5-COMP	302-AF05-C1-COMP	302-AF05-C2-COMP	302-AF05-C3-COMP	302-AF05-C4-COMP	302-AF05-C5-COMP	302-AF07-C1-COMP	302-AF07-C2-COMP	302-AF07-C3-COMP	302-AF07-C4-COMP	302-AF07-C5-COMP	302-AF08-C1-COMP	302-AF08-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	10/19/2022	8/19/2022	8/19/2022	8/19/2022	8/19/2022	8/19/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022
PAHs															
Anthracene	190000	350	U (0.12)	0.42 (0.12)	0.62 (0.12)	U (0.12)	U (0.11)	0.39 (0.11)	0.13 (0.12)	1.4 (0.12)	U (0.12)	0.053 J (0.12)	0.047 J (0.11)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	U (0.12)	1.9 (0.12)	1.8 (0.12)	U (0.12)	U (0.11)	1.3 (0.11)	0.024 J (0.12)	2.5 (0.12)	0.072 J (0.12)	0.14 (0.12)	0.26 (0.11)	0.068 J (0.12)	U (0.12)
Benzo(a)pyrene	91	46	U (0.16)	2.8 (0.16)	2.2 (0.15)	U (0.15)	U (0.15)	1.6 (0.15)	U (0.16)	2.4 (0.16)	0.09 J (0.16)	0.14 J (0.16)	0.45 (0.15)	0.076 J (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.12)	3 (0.12)	2.5 (0.12)	U (0.12)	U (0.11)	1.9 (0.11)	U (0.12)	2.6 (0.12)	0.12 (0.12)	0.16 (0.12)	0.43 (0.11)	0.09 J (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.16)	1.6 (0.16)	1.4 (0.15)	U (0.15)	U (0.15)	0.82 (0.15)	U (0.16)	1.1 (0.16)	0.057 J (0.16)	0.071 J (0.16)	0.29 (0.15)	0.045 J (0.16)	U (0.16)
Chrysene	760	230	U (0.12)	1.8 (0.12)	2 (0.12)	0.02 J (0.12)	U (0.11)	1.4 (0.11)	0.027 J (0.12)	2.2 (0.12)	0.064 J (0.12)	0.13 (0.12)	0.25 (0.11)	0.066 J (0.12)	U (0.12)
Fluorene	130000	3800	0.14 J (0.2)	0.13 J (0.2)	0.36 (0.19)	U (0.19)	U (0.18)	0.44 (0.19)	0.65 (0.2)	0.69 (0.2)	U (0.2)	0.031 J (0.2)	0.02 J (0.19)	U (0.2)	U (0.2)
Naphthalene	66	25	U (0.2)	0.091 J (0.2)	0.56 (0.19)	U (0.19)	U (0.18)	0.27 (0.19)	U (0.2)	0.19 J (0.2)	U (0.2)	0.039 J (0.2)	0.031 J (0.19)	0.16 J (0.2)	U (0.2)
Phenanthrene	190000	10000	U (0.12)	1.4 (0.12)	2.6 (0.12)	0.043 J (0.12)	U (0.11)	1.9 (0.11)	0.96 (0.12)	5.2 (0.12)	0.055 J (0.12)	0.24 (0.12)	0.18 (0.11)	0.084 J (0.12)	U (0.12)
Pyrene	96000	2200	0.05 J (0.12)	3.1 (0.12)	3.1 (0.12)	0.026 J (0.12)	U (0.11)	2.1 (0.11)	0.06 J (0.12)	4.8 (0.12)	0.094 J (0.12)	0.26 (0.12)	0.3 (0.11)	0.1 J (0.12)	U (0.12)
Metals															
Lead	1000	450	10.6 (2.3)	37.4 (2.35)	175 (11.6)	17.8 (4.56)	9.64 J (21)	22.4 (2.19)	2.96 (2.34)	79.6 (2.36)	26.9 (2.47)	7.24 (2.38)	5.62 (2.19)	60.5 (2.33)	12.9 (2.49)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AF08-C3	302-AF08-C4	302-AF09-C1	302-AF09-C2	302-AF09-C3	302-AG03-C1	302-AG03-C2	302-AG03-C3	302-AG03-C4	302-AG03-C5	302-AG04-C1	302-AG04-C2	302-AG04-C3
Cell	Direct Contact	Groundwater	302-AF08	302-AF08	302-AF09	302-AF09	302-AF09	302-AG03	302-AG03	302-AG03	302-AG03	302-AG03	302-AG04	302-AG04	302-AG04
Field Sample ID	Value (0-2 ft bgs)	Value	302-AF08-C3-COMP	302-AF08-C4-COMP	302-AF09-C1-COMP	302-AF09-C2-COMP	302-AF09-C3-COMP	302-AG03-C1-COMP	302-AG03-C2-COMP	302-AG03-C3-COMP	302-AG03-C4-COMP	302-AG03-C5-COMP	302-AG04-C1-COMP	302-AG04-C2-COMP	302-AG04-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	8/29/2022	8/29/2022	8/31/2022	8/31/2022	8/31/2022	10/18/2022	10/18/2022	10/18/2022	10/18/2022	10/18/2022	8/22/2022	8/22/2022	8/22/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.11)	0.078 J (0.11)	U (0.12)	U (0.12)	0.82 (0.1)	0.4 (0.11)	0.56 (0.12)	0.78 (0.12)	0.51 (0.13)	U (0.1)	0.12 J (0.13)	U (0.12)
Benzo(a)anthracene	130	340	U (0.12)	U (0.11)	0.33 (0.11)	U (0.12)	U (0.12)	U (0.1)	0.13 (0.11)	0.037 J (0.12)	0.043 J (0.12)	U (0.13)	0.03 J (0.1)	0.37 (0.13)	U (0.12)
Benzo(a)pyrene	91	46	U (0.16)	U (0.15)	0.28 (0.15)	U (0.16)	U (0.16)	U (0.14)	0.2 (0.14)	U (0.16)	U (0.16)	U (0.18)	U (0.14)	0.48 (0.17)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.11)	0.32 (0.11)	U (0.12)	U (0.12)	U (0.1)	0.23 (0.11)	0.037 J (0.12)	U (0.12)	U (0.13)	0.034 J (0.1)	0.5 (0.13)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.15)	0.13 J (0.15)	U (0.16)	U (0.16)	U (0.14)	0.16 (0.14)	U (0.16)	0.024 J (0.16)	U (0.18)	0.043 J (0.14)	0.44 (0.17)	U (0.16)
Chrysene	760	230	U (0.12)	U (0.11)	0.31 (0.11)	U (0.12)	U (0.12)	0.023 J (0.1)	0.13 (0.11)	0.038 J (0.12)	0.059 J (0.12)	U (0.13)	0.056 J (0.1)	0.43 (0.13)	U (0.12)
Fluorene	130000	3800	U (0.2)	U (0.19)	0.018 J (0.19)	U (0.21)	U (0.2)	2.6 (0.17)	1.2 (0.18)	1.9 (0.2)	3 (0.2)	1.1 (0.22)	0.036 J (0.17)	0.063 J (0.21)	U (0.2)
Naphthalene	66	25	U (0.2)	U (0.19)	U (0.19)	U (0.21)	U (0.2)	U (0.17)	0.29 (0.18)	2.4 (0.2)	4.2 (0.2)	0.096 J (0.22)	U (0.17)	0.21 (0.21)	U (0.2)
Phenanthrene	190000	10000	U (0.12)	U (0.11)	0.3 (0.11)	U (0.12)	U (0.12)	4.6 (0.1)	2.6 (0.11)	3.7 (0.12)	4.4 (0.12)	2.9 (0.13)	0.11 (0.1)	0.54 (0.13)	U (0.12)
Pyrene	96000	2200	U (0.12)	U (0.11)	0.48 (0.11)	U (0.12)	0.021 J (0.12)	0.36 (0.1)	0.32 (0.11)	0.22 (0.12)	0.4 (0.12)	0.21 (0.13)	0.044 J (0.1)	0.57 (0.13)	U (0.12)
Metals															
Lead	1000	450	3.18 (2.42)	9.7 (2.19)	107 (4.49)	18.9 (4.72)	26.5 (4.71)	5.1 (2.03)	24.3 (2.13)	5.99 (2.4)	64.5 (2.43)	21 (2.63)	8.12 (2.04)	2420 (5.04)	12.7 (11.9)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AG04-C4	302-AG05-C1	302-AG05-C2	302-AG05-C3	302-AG05-C4	302-AG06-C1	302-AG06-C2	302-AG06-C3	302-AG06-C4	302-AG08-C1	302-AG08-C2	302-AG08-C3	302-AG08-C4
Cell	Direct Contact	Groundwater	302-AG04	302-AG05	302-AG05	302-AG05	302-AG05	302-AG06	302-AG06	302-AG06	302-AG06	302-AG08	302-AG08	302-AG08	302-AG08
Field Sample ID	Value (0-2 ft bgs)	Value	302-AG04-C4-COMP	302-AG05-C1-COMP	302-AG05-C2-COMP	302-AG05-C3-COMP	302-AG05-C4-COMP	302-AG06-C1-COMP	302-AG06-C2-COMP	302-AG06-C3-COMP	302-AG06-C4-COMP	302-AG08-C1-COMP	302-AG08-C2-COMP	302-AG08-C3-COMP	302-AG08-C4-COMP
Sample Date	(mg/kg)	(mg/kg)	8/22/2022	8/22/2022	8/22/2022	8/22/2022	8/22/2022	8/22/2022	8/22/2022	8/22/2022	8/22/2022	8/30/2022	8/30/2022	8/30/2022	8/30/2022
PAHs															
Anthracene	190000	350	U (0.12)	0.038 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.11)	0.087 J (0.12)	0.072 J (0.14)	0.47 (0.11)	0.07 J (0.12)
Benzo(a)anthracene	130	340	U (0.12)	0.11 (0.11)	0.027 J (0.12)	U (0.12)	U (0.12)	0.049 J (0.11)	U (0.12)	U (0.12)	U (0.11)	0.18 (0.12)	0.23 (0.14)	0.81 (0.11)	0.13 (0.12)
Benzo(a)pyrene	91	46	U (0.16)	0.1 J (0.15)	U (0.16)	U (0.16)	U (0.16)	0.05 J (0.14)	U (0.16)	U (0.16)	U (0.15)	0.15 (0.15)	0.29 (0.19)	0.7 (0.15)	0.14 J (0.16)
Benzo(b)fluoranthene	76	170	U (0.12)	0.078 J (0.11)	U (0.12)	U (0.12)	U (0.12)	0.071 J (0.11)	U (0.12)	U (0.12)	U (0.11)	0.15 (0.12)	0.28 (0.14)	0.77 (0.11)	0.12 (0.12)
Benzo(g,h,i)perylene	190000	180	0.067 J (0.16)	0.079 J (0.15)	U (0.16)	U (0.16)	U (0.16)	0.034 J (0.14)	U (0.16)	U (0.16)	U (0.15)	0.11 J (0.15)	0.17 J (0.19)	0.35 (0.15)	0.16 (0.16)
Chrysene	760	230	U (0.12)	0.15 (0.11)	0.026 J (0.12)	U (0.12)	U (0.12)	0.056 J (0.11)	U (0.12)	U (0.12)	U (0.11)	0.21 (0.12)	0.22 (0.14)	0.76 (0.11)	0.16 (0.12)
Fluorene	130000	3800	U (0.2)	0.099 J (0.19)	U (0.2)	U (0.2)	U (0.2)	U (0.18)	U (0.2)	U (0.2)	U (0.19)	0.17 J (0.19)	0.11 J (0.24)	0.42 (0.19)	0.064 J (0.2)
Naphthalene	66	25	U (0.2)	0.51 (0.19)	U (0.2)	0.03 J (0.2)	U (0.2)	U (0.18)	U (0.2)	U (0.2)	0.048 J (0.19)	0.75 (0.19)	0.81 (0.24)	1.3 (0.19)	0.51 (0.2)
Phenanthrene	190000	10000	U (0.12)	0.1 J (0.11)	U (0.12)	U (0.12)	U (0.12)	0.098 J (0.11)	U (0.12)	U (0.12)	0.025 J (0.11)	0.36 (0.12)	0.27 (0.14)	1.5 (0.11)	0.28 (0.12)
Pyrene	96000	2200	U (0.12)	0.16 (0.11)	0.033 J (0.12)	U (0.12)	U (0.12)	0.095 J (0.11)	U (0.12)	U (0.12)	0.023 J (0.11)	0.24 (0.12)	0.24 (0.14)	1 (0.11)	0.22 (0.12)
Metals															
Lead	1000	450	6.89 J (11.6)	6.91 (4.53)	5.16 (4.58)	6.7 (2.44)	6.8 (2.34)	255 (2.1)	15.2 J (23.7)	5.36 (2.41)	3.37 (2.15)	<u>3080 (2.32)</u>	<u>3870 (2.81)</u>	<u>9720 (4.51)</u>	<u>6280 (2.36)</u>

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AG08-C5	302-AG09-C1	302-AG10-C1	302-AH04-C1	302-AH04-C2	302-AH04-C3	302-AH04-C4	302-AH04-C5	302-AH05-C1	302-AH05-C2	302-AH05-C3	302-AH05-C4	302-AH06-C1
			302-AG08	302-AG09	302-AG10	302-AH04	302-AH04	302-AH04	302-AH04	302-AH04	302-AH05	302-AH05	302-AH05	302-AH05	302-AH05
Field Sample ID	Value (0-2 ft bgs)	Value	302-AG08-C5-COMP	302-AG09-C1-COMP	302-AG10-C1-COMP	302-AH04-C1-COMP	302-AH04-C2-COMP	302-AH04-C3-COMP	302-AH04-C4-COMP	302-AH04-C5-COMP	302-AH05-C1-COMP	302-AH05-C2-COMP	302-AH05-C3-COMP	302-AH05-C4-COMP	302-AH06-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	8/30/2022	8/30/2022	8/31/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/20/2022	10/20/2022	10/20/2022	10/20/2022	8/23/2022
PAHs															
Anthracene	190000	350	U (0.13)	U (0.11)	0.045 J (0.11)	0.13 (0.12)	0.09 J (0.11)	U (0.13)	0.064 J (0.12)	0.089 J (0.12)	U (0.12)	U (0.12)	U (0.12)	0.093 J (0.11)	U (0.12)
Benzo(a)anthracene	130	340	0.05 J (0.13)	U (0.11)	0.13 (0.11)	0.047 J (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.25 (0.11)	0.035 J (0.12)
Benzo(a)pyrene	91	46	U (0.18)	U (0.15)	0.12 J (0.15)	U (0.16)	U (0.15)	U (0.17)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	0.38 (0.15)	U (0.15)
Benzo(b)fluoranthene	76	170	0.054 J (0.13)	U (0.11)	0.12 (0.11)	0.05 J (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.41 (0.11)	0.065 J (0.12)
Benzo(g,h,i)perylene	190000	180	0.035 J (0.18)	U (0.15)	0.071 J (0.15)	0.026 J (0.16)	U (0.15)	U (0.17)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	0.024 J (0.16)	0.26 (0.15)	0.041 J (0.15)
Chrysene	760	230	0.057 J (0.13)	U (0.11)	0.14 (0.11)	0.044 J (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.021 J (0.12)	0.27 (0.11)	0.041 J (0.12)
Fluorene	130000	3800	0.049 J (0.22)	U (0.19)	U (0.19)	0.67 (0.2)	0.43 (0.19)	0.04 J (0.22)	0.52 (0.2)	0.98 (0.2)	U (0.2)	U (0.2)	U (0.19)	0.042 J (0.19)	U (0.19)
Naphthalene	66	25	0.3 (0.22)	U (0.19)	U (0.19)	0.2 (0.2)	0.1 J (0.19)	U (0.22)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	0.074 J (0.19)	U (0.19)
Phenanthrene	190000	10000	0.093 J (0.13)	U (0.11)	0.19 (0.11)	1 (0.12)	0.89 (0.11)	0.062 J (0.13)	0.78 (0.12)	1.3 (0.12)	U (0.12)	U (0.12)	U (0.12)	0.28 (0.11)	0.026 J (0.12)
Pyrene	96000	2200	0.069 J (0.13)	U (0.11)	0.27 (0.11)	0.16 (0.12)	0.054 J (0.11)	U (0.13)	0.039 J (0.12)	0.064 J (0.12)	U (0.12)	U (0.12)	0.025 J (0.12)	0.28 (0.11)	0.063 J (0.12)
Metals															
Lead	1000	450	<u>6160 (2.53)</u>	9.87 (2.24)	41.1 (4.58)	128 (2.3)	5.77 (2.22)	14.8 (2.6)	8.31 (2.36)	28 (2.41)	29.3 (2.22)	32.2 (2.35)	7.65 (2.33)	<u>656 (2.22)</u>	7.15 (2.24)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AH06-C2	302-AH06-C3	302-AH06-C4	302-AH06-C5	302-AH07-C1	302-AH07-C2	302-AH07-C3	302-AH07-C4	302-AH08-C1	302-AH08-C2	302-AH08-C3	302-AH09-C1	302-AI05-C1
Cell	Direct Contact	Groundwater	302-AH06	302-AH06	302-AH06	302-AH06	302-AH07	302-AH07	302-AH07	302-AH07	302-AH08	302-AH08	302-AH08	302-AH09	302-AI05
Field Sample ID	Value (0-2 ft bgs)	Value	302-AH06-C2-COMP	302-AH06-C3-COMP	302-AH06-C4-COMP	302-AH06-C5-COMP	302-AH07-C1-COMP	302-AH07-C2-COMP	302-AH07-C3-COMP	302-AH07-C4-COMP	302-AH08-C1-COMP	302-AH08-C2-COMP	302-AH08-C3-COMP	302-AH09-C1-COMP	302-AI05-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	8/23/2022	8/23/2022	8/23/2022	8/23/2022	8/23/2022	8/23/2022	8/23/2022	8/23/2022	10/20/2022	10/20/2022	10/20/2022	8/31/2022	10/5/2022
PAHs															
Anthracene	190000	350	0.12 (0.12)	0.23 (0.12)	U (0.11)	U (0.11)	U (0.11)	0.044 J (0.11)	0.053 J (0.1)	0.051 J (0.1)	U (0.11)	0.13 (0.12)	U (0.11)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	0.22 (0.12)	0.21 (0.12)	U (0.11)	U (0.11)	0.028 J (0.11)	0.18 (0.11)	0.2 (0.1)	0.23 (0.1)	0.028 J (0.11)	U (0.12)	0.18 (0.11)	0.084 J (0.12)	U (0.12)
Benzo(a)pyrene	91	46	0.15 J (0.16)	0.18 (0.16)	U (0.15)	U (0.15)	U (0.14)	0.22 (0.14)	0.2 (0.14)	0.22 (0.14)	0.12 J (0.15)	0.069 J (0.16)	0.16 (0.15)	0.1 J (0.16)	U (0.16)
Benzo(b)fluoranthene	76	170	0.12 (0.12)	0.23 (0.12)	U (0.11)	U (0.11)	0.036 J (0.11)	0.26 (0.11)	0.24 (0.1)	0.27 (0.1)	0.065 J (0.11)	U (0.12)	0.2 (0.11)	0.11 J (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	0.063 J (0.16)	0.12 J (0.16)	U (0.15)	U (0.15)	0.021 J (0.14)	0.16 (0.14)	0.15 (0.14)	0.15 (0.14)	0.28 (0.15)	0.16 (0.16)	0.098 J (0.15)	0.07 J (0.16)	U (0.16)
Chrysene	760	230	0.23 (0.12)	0.22 (0.12)	U (0.11)	U (0.11)	0.026 J (0.11)	0.2 (0.11)	0.2 (0.1)	0.22 (0.1)	0.049 J (0.11)	0.033 J (0.12)	0.16 (0.11)	0.092 J (0.12)	U (0.12)
Fluorene	130000	3800	0.1 J (0.2)	0.23 (0.2)	U (0.19)	0.026 J (0.19)	U (0.18)	0.021 J (0.18)	0.022 J (0.17)	0.021 J (0.17)	0.035 J (0.19)	0.56 (0.2)	U (0.18)	U (0.2)	0.039 J (0.2)
Naphthalene	66	25	U (0.2)	0.097 J (0.2)	U (0.19)	U (0.19)	U (0.18)	0.041 J (0.18)	0.034 J (0.17)	0.054 J (0.17)	0.028 J (0.19)	0.11 J (0.2)	U (0.18)	0.04 J (0.2)	U (0.2)
Phenanthrene	190000	10000	0.44 (0.12)	1.1 (0.12)	U (0.11)	0.042 J (0.11)	0.025 J (0.11)	0.19 (0.11)	0.22 (0.1)	0.19 (0.1)	0.094 J (0.11)	1 (0.12)	0.089 J (0.11)	0.1 J (0.12)	0.056 J (0.12)
Pyrene	96000	2200	0.32 (0.12)	0.58 (0.12)	U (0.11)	U (0.11)	0.042 J (0.11)	0.31 (0.11)	0.33 (0.1)	0.34 (0.1)	0.04 J (0.11)	0.088 J (0.12)	0.22 (0.11)	0.13 (0.12)	U (0.12)
Metals															
Lead	1000	450	27.2 (2.3)	6.86 (2.35)	2.59 (2.24)	8.24 (2.21)	20.6 (2.17)	61.4 (2.14)	8.22 (2.04)	32.2 (2.02)	376 (2.26)	37.6 (2.43)	9.4 (2.18)	2200 (2.4)	5.33 (2.35)

Notes:

- Concentrations are presented in mg/kg.
- No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AI05-C2	302-AI05-C3	302-AI05-C4	302-AI05-C5	302-AI06-C1	302-AI06-C2	302-AI06-C3	302-AI06-C4	302-AI07-C1	302-AI07-C2	302-AI07-C3	302-AI07-C4	302-AI07-C5
Cell	Direct Contact	Groundwater	302-AI05	302-AI05	302-AI05	302-AI05	302-AI06	302-AI06	302-AI06	302-AI06	302-AI07	302-AI07	302-AI07	302-AI07	302-AI07
Field Sample ID	Value (0-2 ft bgs)	Value	302-AI05-C2-COMP	302-AI05-C3-COMP	302-AI05-C4-COMP	302-AI05-C5-COMP	302-AI06-C1-COMP	302-AI06-C2-COMP	302-AI06-C3-COMP	302-AI06-C4-COMP	302-AI07-C1-COMP	302-AI07-C2-COMP	302-AI07-C3-COMP	302-AI07-C4-COMP	302-AI07-C5-COMP
Sample Date	(mg/kg)	(mg/kg)	10/5/2022	10/5/2022	10/5/2022	10/5/2022	8/24/2022	8/24/2022	8/24/2022	8/24/2022	8/23/2022	8/23/2022	8/23/2022	8/23/2022	8/23/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.13)	0.038 J (0.11)	0.9 (0.14)	U (0.14)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)anthracene	130	340	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.13)	0.13 (0.11)	2.9 (0.14)	U (0.14)	0.033 J (0.12)	U (0.12)	0.14 (0.12)	0.044 J (0.12)	0.039 J (0.11)
Benzo(a)pyrene	91	46	U (0.16)	U (0.15)	U (0.16)	U (0.15)	U (0.17)	0.14 J (0.15)	3.5 (0.18)	U (0.18)	U (0.16)	U (0.16)	0.16 (0.16)	U (0.16)	U (0.15)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.13)	0.18 (0.11)	3.9 (0.14)	U (0.14)	0.045 J (0.12)	U (0.12)	0.28 (0.12)	0.053 J (0.12)	0.048 J (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.15)	U (0.16)	U (0.15)	U (0.17)	0.079 J (0.15)	1.8 (0.18)	U (0.18)	0.028 J (0.16)	U (0.16)	0.16 (0.16)	0.027 J (0.16)	0.029 J (0.15)
Chrysene	760	230	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.13)	0.13 (0.11)	2.9 (0.14)	U (0.14)	0.033 J (0.12)	U (0.12)	0.21 (0.12)	0.04 J (0.12)	0.037 J (0.11)
Fluorene	130000	3800	U (0.19)	U (0.19)	U (0.2)	0.082 J (0.19)	U (0.22)	U (0.19)	0.69 (0.23)	U (0.22)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.19)
Naphthalene	66	25	U (0.19)	U (0.19)	U (0.2)	U (0.19)	U (0.22)	0.03 J (0.19)	0.42 (0.23)	U (0.22)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.19)
Phenanthrene	190000	10000	U (0.12)	0.027 J (0.11)	U (0.12)	0.11 (0.11)	U (0.13)	0.16 (0.11)	3.2 (0.14)	U (0.14)	0.032 J (0.12)	U (0.12)	0.13 (0.12)	0.043 J (0.12)	0.052 J (0.11)
Pyrene	96000	2200	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.13)	0.21 (0.11)	4.6 (0.14)	U (0.14)	0.053 J (0.12)	U (0.12)	0.25 (0.12)	0.072 J (0.12)	0.071 J (0.11)
Metals															
Lead	1000	450	7.23 (2.38)	11.9 (2.22)	8.51 (2.36)	9.1 (2.23)	31.4 (2.63)	39.5 (2.17)	117 (2.72)	5.87 (2.69)	62.6 (2.46)	72.8 (2.43)	22 (2.39)	28.1 (4.7)	6.24 (4.49)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AI08-C1	302-AI09-C1	302-AJ05-C1	302-AJ05-C2	302-AJ05-C3	302-AJ05-C4	302-AJ05-C5	302-AJ06-C1	302-AJ06-C2	302-AJ06-C3	302-AJ07-C1	302-AJ07-C2	302-AJ07-C3
Cell	Direct Contact	Groundwater	302-AI08	302-AI09	302-AJ05	302-AJ05	302-AJ05	302-AJ05	302-AJ05	302-AJ06	302-AJ06	302-AJ06	302-AJ07	302-AJ07	302-AJ07
Field Sample ID	Value (0-2 ft bgs)	Value	302-AI08-C1-COMP	302-AI09-C1-COMP	302-AJ05-C1-COMP	302-AJ05-C2-COMP	302-AJ05-C3-COMP	302-AJ05-C4-COMP	302-AJ05-C5-COMP	302-AJ06-C1-COMP	302-AJ06-C2-COMP	302-AJ06-C3-COMP	302-AJ07-C1-COMP	302-AJ07-C2-COMP	302-AJ07-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	9/26/2022	9/1/2022	10/5/2022	10/5/2022	10/5/2022	10/5/2022	10/5/2022	10/5/2022	10/5/2022	10/5/2022	8/24/2022	8/24/2022	8/24/2022
PAHs															
Anthracene	190000	350	0.82 (0.11)	U (0.12)	U (0.11)	U (0.12)	0.058 J (0.1)	U (0.12)	U (0.1)	0.12 (0.1)	U (0.12)	U (0.12)	U (0.12)	0.11 J (0.14)	U (0.11)
Benzo(a)anthracene	130	340	0.13 (0.11)	U (0.12)	0.027 J (0.11)	U (0.12)	U (0.1)	U (0.12)	U (0.1)	U (0.1)	U (0.12)	U (0.12)	0.15 (0.12)	0.28 (0.14)	0.032 J (0.11)
Benzo(a)pyrene	91	46	0.1 J (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.14)	U (0.16)	U (0.13)	U (0.13)	U (0.16)	U (0.16)	0.16 (0.16)	0.21 (0.18)	U (0.15)
Benzo(b)fluoranthene	76	170	0.12 (0.11)	U (0.12)	0.044 J (0.11)	U (0.12)	U (0.1)	U (0.12)	U (0.1)	U (0.1)	U (0.12)	U (0.12)	0.23 (0.12)	0.22 (0.14)	0.033 J (0.11)
Benzo(g,h,i)perylene	190000	180	0.095 J (0.15)	U (0.15)	0.039 J (0.15)	U (0.16)	U (0.14)	U (0.16)	U (0.13)	U (0.13)	U (0.16)	U (0.16)	0.11 J (0.16)	0.082 J (0.18)	U (0.15)
Chrysene	760	230	0.16 (0.11)	U (0.12)	0.029 J (0.11)	U (0.12)	U (0.1)	U (0.12)	U (0.1)	U (0.1)	U (0.12)	U (0.12)	0.21 (0.12)	0.24 (0.14)	0.031 J (0.11)
Fluorene	130000	3800	4.1 (0.19)	U (0.19)	U (0.19)	U (0.2)	0.29 (0.17)	0.055 J (0.2)	U (0.17)	0.65 (0.17)	U (0.2)	0.027 J (0.2)	0.021 J (0.2)	0.03 J (0.23)	0.018 J (0.19)
Naphthalene	66	25	16 (0.93)	U (0.19)	0.035 J (0.19)	U (0.2)	0.038 J (0.17)	U (0.2)	U (0.17)	0.1 J (0.17)	U (0.2)	U (0.2)	U (0.2)	U (0.23)	0.033 J (0.19)
Phenanthrene	190000	10000	8.8 (0.56)	U (0.12)	U (0.11)	U (0.12)	0.18 (0.1)	0.082 J (0.12)	0.026 J (0.1)	0.95 (0.1)	U (0.12)	0.092 J (0.12)	0.12 (0.12)	0.34 (0.14)	0.078 J (0.11)
Pyrene	96000	2200	0.76 (0.11)	U (0.12)	0.033 J (0.11)	U (0.12)	0.021 J (0.1)	U (0.12)	U (0.1)	0.066 J (0.1)	U (0.12)	U (0.12)	0.22 (0.12)	0.39 (0.14)	0.075 J (0.11)
Metals															
Lead	1000	450	116 (4.44)	5.12 (2.32)	77.7 (2.31)	14.2 (2.42)	5.93 (2.07)	2.72 (2.37)	3.41 (2.04)	2.65 (1.96)	6.38 (2.3)	7.08 (2.36)	63.9 (2.31)	17.8 (2.67)	12.6 (2.19)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AJ07-C4	302-AJ08-C1	302-AJ08-C2	302-AJ08-C3	302-AK03-C1	302-AK03-C2	302-AK03-C3	302-AK03-C4	302-AK03-C5	302-AK04-C1	302-AK04-C2	302-AK04-C3	302-AK05-C1
Cell	Direct Contact	Groundwater	302-AJ07	302-AJ08	302-AJ08	302-AJ08	302-AK03	302-AK03	302-AK03	302-AK03	302-AK03	302-AK04	302-AK04	302-AK04	302-AK05
Field Sample ID	Value (0-2 ft bgs)	Value	302-AJ07-C4-COMP	302-AJ08-C1-COMP	302-AJ08-C2-COMP	302-AJ08-C3-COMP	302-AK03-C1-COMP	302-AK03-C2-COMP	302-AK03-C3-COMP	302-AK03-C4-COMP	302-AK03-C5-COMP	302-AK04-C1-COMP	302-AK04-C2-COMP	302-AK04-C3-COMP	302-AK05-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	8/24/2022	8/24/2022	8/24/2022	8/24/2022	10/4/2022	10/4/2022	10/4/2022	10/4/2022	10/4/2022	10/4/2022	10/4/2022	10/4/2022	8/25/2022
PAHs															
Anthracene	190000	350	U (0.11)	U (0.11)	U (0.1)	U (0.11)	U (0.11)	U (0.1)	U (0.1)	U (0.11)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	0.089 J (0.11)
Benzo(a)anthracene	130	340	0.021 J (0.11)	U (0.11)	0.021 J (0.1)	U (0.11)	U (0.11)	U (0.1)	U (0.1)	U (0.11)	U (0.11)	U (0.12)	0.038 J (0.11)	U (0.12)	0.28 (0.11)
Benzo(a)pyrene	91	46	U (0.15)	U (0.15)	U (0.14)	U (0.15)	U (0.14)	U (0.14)	U (0.14)	U (0.15)	U (0.14)	U (0.16)	0.048 J (0.15)	U (0.17)	0.29 (0.15)
Benzo(b)fluoranthene	76	170	U (0.11)	U (0.11)	U (0.1)	U (0.11)	U (0.11)	U (0.1)	U (0.1)	U (0.11)	U (0.11)	U (0.12)	0.057 J (0.11)	U (0.12)	0.31 (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.15)	U (0.15)	U (0.14)	U (0.15)	U (0.14)	U (0.14)	U (0.14)	U (0.15)	U (0.14)	U (0.16)	0.033 J (0.15)	U (0.17)	0.14 J (0.15)
Chrysene	760	230	U (0.11)	U (0.11)	0.031 J (0.1)	U (0.11)	U (0.11)	U (0.1)	U (0.1)	U (0.11)	U (0.11)	U (0.12)	0.042 J (0.11)	U (0.12)	0.26 (0.11)
Fluorene	130000	3800	U (0.19)	U (0.19)	U (0.18)	U (0.19)	U (0.18)	U (0.18)	U (0.17)	U (0.18)	U (0.18)	U (0.2)	U (0.19)	U (0.21)	0.039 J (0.19)
Naphthalene	66	25	0.025 J (0.19)	U (0.19)	U (0.18)	U (0.19)	U (0.18)	U (0.18)	U (0.17)	U (0.18)	U (0.18)	U (0.2)	0.032 J (0.19)	U (0.21)	0.031 J (0.19)
Phenanthrene	190000	10000	0.041 J (0.11)	U (0.11)	0.056 J (0.1)	U (0.11)	U (0.11)	U (0.1)	U (0.1)	U (0.11)	U (0.11)	U (0.12)	0.036 J (0.11)	U (0.12)	0.35 (0.11)
Pyrene	96000	2200	0.037 J (0.11)	U (0.11)	0.033 J (0.1)	U (0.11)	U (0.11)	U (0.1)	U (0.1)	U (0.11)	U (0.11)	U (0.12)	0.053 J (0.11)	U (0.12)	0.37 (0.11)
Metals															
Lead	1000	450	156 (2.24)	123 (2.23)	13.4 (2.13)	6.02 (2.18)	2.32 (2.11)	2.59 (2)	2.19 (2)	7.02 (4.31)	5.63 (2.14)	12.3 (2.42)	823 (2.25)	137 (2.49)	33.2 (2.24)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AK05-C2	302-AK05-C3	302-AK05-C4	302-AK05-C5	302-AK07-C1	302-AK07-C2	302-AK07-C3	302-AK08-C1	302-AL03-C1	302-AL03-C2	302-AL03-C3	302-AL05-C1	302-AL05-C2
Cell	Direct Contact	Groundwater	302-AK05	302-AK05	302-AK05	302-AK05	302-AK07	302-AK07	302-AK07	302-AK08	302-AL03	302-AL03	302-AL03	302-AL05	302-AL05
Field Sample ID	Value (0-2 ft bgs)	Value	302-AK05-C2-COMP	302-AK05-C3-COMP	302-AK05-C4-COMP	302-AK05-C5-COMP	302-AK07-C1-COMP	302-AK07-C2-COMP	302-AK07-C3-COMP	302-AK08-C1-COMP	302-AL03-C1-COMP	302-AL03-C2-COMP	302-AL03-C3-COMP	302-AL05-C1-COMP	302-AL05-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	8/25/2022	8/25/2022	8/25/2022	8/25/2022	10/14/2022	10/14/2022	10/14/2022	9/1/2022	10/4/2022	10/4/2022	10/4/2022	8/25/2022	8/25/2022
PAHs															
Anthracene	190000	350	0.079 J (0.14)	U (0.12)	0.42 (0.11)	0.12 (0.12)	U (0.13)	0.52 (0.11)	1.5 (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.12)	0.35 (0.11)	0.79 (0.15)
Benzo(a)anthracene	130	340	0.2 (0.14)	0.16 (0.12)	0.31 (0.11)	0.15 (0.12)	0.075 J (0.13)	1.2 (0.11)	3.5 (0.12)	U (0.12)	0.07 J (0.11)	0.055 J (0.11)	U (0.12)	0.79 (0.11)	2.4 (0.15)
Benzo(a)pyrene	91	46	0.22 (0.18)	0.2 (0.16)	0.3 (0.15)	0.24 (0.17)	0.097 J (0.17)	1.2 (0.15)	3.5 (0.16)	U (0.15)	0.081 J (0.15)	0.07 J (0.14)	U (0.15)	0.63 (0.15)	2.6 (0.2)
Benzo(b)fluoranthene	76	170	0.24 (0.14)	0.21 (0.12)	0.32 (0.11)	0.22 (0.12)	0.12 J (0.13)	1.5 (0.11)	4.2 (0.12)	U (0.12)	0.1 J (0.11)	0.083 J (0.11)	U (0.12)	0.7 (0.11)	2.8 (0.15)
Benzo(g,h,i)perylene	190000	180	0.12 J (0.18)	0.11 J (0.16)	0.15 (0.15)	0.13 J (0.17)	0.064 J (0.17)	0.67 (0.15)	2.2 (0.16)	U (0.15)	0.065 J (0.15)	0.051 J (0.14)	0.039 J (0.15)	0.26 (0.15)	1.3 (0.2)
Chrysene	760	230	0.19 (0.14)	0.15 (0.12)	0.28 (0.11)	0.13 (0.12)	0.072 J (0.13)	1.2 (0.11)	3 (0.12)	U (0.12)	0.075 J (0.11)	0.062 J (0.11)	0.067 J (0.12)	0.67 (0.11)	2.2 (0.15)
Fluorene	130000	3800	0.022 J (0.23)	U (0.2)	1.6 (0.19)	0.18 J (0.21)	0.024 J (0.21)	0.23 (0.18)	0.78 (0.19)	U (0.19)	U (0.19)	U (0.18)	0.069 J (0.19)	0.16 J (0.19)	0.35 (0.25)
Naphthalene	66	25	U (0.23)	U (0.2)	1.2 (0.19)	0.48 (0.21)	0.086 J (0.21)	0.11 J (0.18)	0.89 (0.19)	U (0.19)	0.029 J (0.19)	0.031 J (0.18)	U (0.19)	0.047 J (0.19)	0.19 J (0.25)
Phenanthrene	190000	10000	0.23 (0.14)	0.12 (0.12)	2.9 (0.11)	0.36 (0.12)	0.063 J (0.13)	2 (0.11)	5.2 (0.12)	U (0.12)	0.054 J (0.11)	0.036 J (0.11)	0.18 (0.12)	1.2 (0.11)	2.7 (0.15)
Pyrene	96000	2200	0.26 (0.14)	0.16 (0.12)	0.53 (0.11)	0.17 (0.12)	0.077 J (0.13)	2.2 (0.11)	5.3 (0.12)	U (0.12)	0.089 J (0.11)	0.08 J (0.11)	0.026 J (0.12)	1.1 (0.11)	3.4 (0.15)
Metals															
Lead	1000	450	80.7 (2.68)	74.5 (2.42)	147 (2.3)	330 (2.5)	12.5 (2.47)	337 (2.19)	282 (2.34)	5.29 (4.65)	150 (2.27)	418 (2.05)	3.08 (2.29)	480 (2.18)	380 (2.93)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AL05-C3	302-AL05-C4	302-AL07-C1	302-AL07-C2	302-AL07-C3	302-AL08-C1	302-AM02-C1	302-AM02-C2	302-AM02-C3	302-AM02-C4	302-AM02-C5	302-AM03-C1	302-AM03-C2
Cell	Direct Contact	Groundwater	302-AL05	302-AL05	302-AL07	302-AL07	302-AL07	302-AL08	302-AM02	302-AM02	302-AM02	302-AM02	302-AM02	302-AM03	302-AM03
Field Sample ID	Value (0-2 ft bgs)	Value	302-AL05-C3-COMP	302-AL05-C4-COMP	302-AL07-C1-COMP	302-AL07-C2-COMP	302-AL07-C3-COMP	302-AL08-C1-COMP	302-AM02-C1-COMP	302-AM02-C2-COMP	302-AM02-C3-COMP	302-AM02-C4-COMP	302-AM02-C5-COMP	302-AM03-C1-COMP	302-AM03-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	8/25/2022	8/25/2022	10/14/2022	10/14/2022	10/14/2022	9/1/2022	10/6/2022	10/6/2022	10/6/2022	10/6/2022	10/6/2022	8/25/2022	8/25/2022
PAHs															
Anthracene	190000	350	U (0.11)	0.17 (0.11)	0.4 (0.12)	0.065 J (0.11)	0.065 J (0.12)	U (0.13)	0.039 J (0.11)	0.13 (0.12)	U (0.11)	0.71 (0.11)	U (0.11)	U (0.11)	0.93 (0.11)
Benzo(a)anthracene	130	340	U (0.11)	0.63 (0.11)	0.14 (0.12)	U (0.11)	U (0.12)	U (0.13)	0.092 J (0.11)	0.35 (0.12)	0.057 J (0.11)	1.4 (0.11)	0.031 J (0.11)	0.052 J (0.11)	1.6 (0.11)
Benzo(a)pyrene	91	46	U (0.15)	0.79 (0.14)	0.087 J (0.16)	U (0.15)	U (0.16)	U (0.17)	0.09 J (0.15)	0.36 (0.15)	0.06 J (0.15)	1.2 (0.14)	U (0.14)	0.055 J (0.14)	1.3 (0.15)
Benzo(b)fluoranthene	76	170	U (0.11)	1 (0.11)	0.12 (0.12)	U (0.11)	U (0.12)	U (0.13)	0.11 (0.11)	0.42 (0.12)	0.065 J (0.11)	1.6 (0.11)	0.036 J (0.11)	0.066 J (0.11)	1.6 (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.15)	0.67 (0.14)	0.059 J (0.16)	U (0.15)	U (0.16)	U (0.17)	0.068 J (0.15)	0.22 (0.15)	0.049 J (0.15)	0.75 (0.14)	0.032 J (0.14)	0.035 J (0.14)	0.62 (0.15)
Chrysene	760	230	U (0.11)	0.68 (0.11)	0.17 (0.12)	0.025 J (0.11)	U (0.12)	U (0.13)	0.095 J (0.11)	0.4 (0.12)	0.053 J (0.11)	1.3 (0.11)	0.035 J (0.11)	0.05 J (0.11)	1.4 (0.11)
Fluorene	130000	3800	U (0.19)	0.044 J (0.18)	1.5 (0.2)	0.28 (0.18)	0.26 (0.2)	U (0.21)	U (0.19)	0.098 J (0.19)	U (0.19)	0.43 (0.18)	U (0.18)	U (0.18)	0.42 (0.18)
Naphthalene	66	25	U (0.19)	0.27 (0.18)	0.32 (0.2)	0.098 J (0.18)	0.097 J (0.2)	U (0.21)	0.029 J (0.19)	0.13 J (0.19)	U (0.19)	0.14 J (0.18)	U (0.18)	U (0.18)	0.16 J (0.18)
Phenanthrene	190000	10000	U (0.11)	0.45 (0.11)	3.6 (0.12)	0.57 (0.11)	0.51 (0.12)	U (0.13)	0.097 J (0.11)	0.98 (0.12)	0.087 J (0.11)	3.2 (0.11)	0.026 J (0.11)	0.046 J (0.11)	2.8 (0.11)
Pyrene	96000	2200	U (0.11)	0.87 (0.11)	0.38 (0.12)	0.042 J (0.11)	0.037 J (0.12)	U (0.13)	0.12 (0.11)	0.78 (0.12)	0.092 J (0.11)	2.7 (0.11)	0.044 J (0.11)	0.073 J (0.11)	2.7 (0.11)
Metals															
Lead	1000	450	19.5 (2.24)	41.2 (2.17)	27.3 (2.35)	7.76 (2.2)	2.02 J (2.33)	38.2 (24.6)	65.2 (2.25)	116 (2.31)	33 (2.25)	64 (2.14)	229 (2.13)	77.5 (2.14)	29.2 (2.2)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AM03-C3	302-AM03-C4	302-AM04-C1	302-AM04-C2	302-AM04-C3	302-AM04-C4	302-AM04-C5	302-AM05-C1	302-AM05-C2	302-AM05-C3	302-AM06-C1	302-AN01-C1	302-AN01-C2
Cell	Direct Contact	Groundwater	302-AM03	302-AM03	302-AM04	302-AM04	302-AM04	302-AM04	302-AM04	302-AM05	302-AM05	302-AM05	302-AM06	302-AN01	302-AN01
Field Sample ID	Value (0-2 ft bgs)	Value	302-AM03-C3-COMP	302-AM03-C4-COMP	302-AM04-C1-COMP	302-AM04-C2-COMP	302-AM04-C3-COMP	302-AM04-C4-COMP	302-AM04-C5-COMP	302-AM05-C1-COMP	302-AM05-C2-COMP	302-AM05-C3-COMP	302-AM06-C1-COMP	302-AN01-C1-COMP	302-AN01-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	8/25/2022	8/25/2022	10/13/2022	10/13/2022	10/13/2022	10/13/2022	10/13/2022	10/13/2022	10/13/2022	10/13/2022	9/2/2022	10/6/2022	10/6/2022
PAHs															
Anthracene	190000	350	0.088 J (0.13)	U (0.12)	0.12 J (0.13)	0.19 (0.12)	0.12 (0.11)	0.25 (0.12)	0.2 (0.12)	U (0.12)	0.06 J (0.12)	0.079 J (0.12)	U (0.12)	U (0.11)	U (0.1)
Benzo(a)anthracene	130	340	0.064 J (0.13)	U (0.12)	0.16 (0.13)	0.12 (0.12)	0.11 (0.11)	0.038 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.042 J (0.11)	0.02 J (0.1)
Benzo(a)pyrene	91	46	U (0.18)	U (0.16)	0.16 J (0.18)	0.087 J (0.16)	0.1 J (0.15)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	0.049 J (0.15)	U (0.14)
Benzo(b)fluoranthene	76	170	0.054 J (0.13)	U (0.12)	0.19 (0.13)	0.12 (0.12)	0.1 J (0.11)	0.04 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.056 J (0.11)	U (0.1)
Benzo(g,h,i)perylene	190000	180	0.026 J (0.18)	U (0.16)	0.059 J (0.18)	0.031 J (0.16)	0.039 J (0.15)	U (0.15)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	0.031 J (0.15)	U (0.14)
Chrysene	760	230	0.061 J (0.13)	U (0.12)	0.14 (0.13)	0.12 (0.12)	0.12 (0.11)	0.061 J (0.12)	0.038 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.042 J (0.11)	0.026 J (0.1)
Fluorene	130000	3800	0.26 (0.22)	U (0.2)	0.23 (0.22)	2.6 (0.2)	2.5 (0.19)	1.8 (0.19)	1.6 (0.2)	U (0.2)	0.4 (0.2)	0.37 (0.2)	U (0.2)	U (0.18)	U (0.17)
Naphthalene	66	25	0.056 J (0.22)	U (0.2)	0.084 J (0.22)	1.1 (0.2)	0.54 (0.19)	0.43 (0.19)	0.24 (0.2)	U (0.2)	2.7 (0.2)	1.1 (0.2)	U (0.2)	U (0.18)	U (0.17)
Phenanthrene	190000	10000	0.55 (0.13)	U (0.12)	0.64 (0.13)	6.1 (0.12)	5.7 (0.11)	4 (0.12)	2.9 (0.12)	U (0.12)	0.82 (0.12)	0.95 (0.12)	U (0.12)	0.03 J (0.11)	U (0.1)
Pyrene	96000	2200	0.13 (0.13)	U (0.12)	0.32 (0.13)	0.46 (0.12)	0.37 (0.11)	0.17 (0.12)	0.1 J (0.12)	0.025 J (0.12)	0.043 J (0.12)	0.05 J (0.12)	U (0.12)	0.061 J (0.11)	0.019 J (0.1)
Metals															
Lead	1000	450	3.84 (2.63)	32.6 (2.39)	82.2 (2.6)	15.9 (2.31)	5.64 (2.22)	5.8 (2.22)	8.2 (2.34)	492 (2.29)	6.79 (2.33)	6.07 (2.42)	3.27 (2.35)	13.8 (2.15)	38.8 (2)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AN01-C3	302-AN01-C4	302-AN01-C5	302-AN03-C1	302-AN03-C2	302-AN03-C3	302-AN03-C4	302-AN04-C1	302-AO02-C1	302-AO02-C2	302-AO04-C1	302-AO04-C2	302-AO04-C3	
Cell	Direct Contact	Groundwater	302-AN01	302-AN01	302-AN01	302-AN03	302-AN03	302-AN03	302-AN03	302-AN04	302-AO02	302-AO02	302-AO04	302-AO04	302-AO04	
Field Sample ID	Value (0-2 ft bgs)	Value	302-AN01-C3-COMP	302-AN01-C4-COMP	302-AN01-C5-COMP	302-AN03-C1-COMP	302-AN03-C2-COMP	302-AN03-C3-COMP	302-AN03-C4-COMP	302-AN04-C1-COMP	302-AO02-C1-COMP	302-AO02-C2-COMP	302-AO04-C1-COMP	302-AO04-C2-COMP	302-AO04-C3-COMP	
Sample Date	(mg/kg)	(mg/kg)	10/6/2022	10/6/2022	10/6/2022	10/13/2022	10/13/2022	10/13/2022	10/13/2022	9/2/2022	10/6/2022	10/6/2022	10/12/2022	10/12/2022	10/12/2022	
PAHs																
Anthracene	190000	350	U (0.11)	U (0.12)	U (0.12)	U (0.11)	0.055 J (0.11)	U (0.11)	0.039 J (0.12)	U (0.11)	0.081 J (0.11)	0.15 (0.11)	U (0.11)	U (0.12)	U (0.12)	
Benzo(a)anthracene	130	340	0.058 J (0.11)	U (0.12)	U (0.12)	0.069 J (0.11)	0.11 (0.11)	0.076 J (0.11)	U (0.12)	U (0.11)	0.15 (0.11)	0.27 (0.11)	U (0.11)	U (0.12)	U (0.12)	
Benzo(a)pyrene	91	46	0.062 J (0.15)	U (0.17)	U (0.16)	0.098 J (0.15)	0.14 J (0.15)	0.11 J (0.15)	U (0.16)	U (0.15)	0.2 (0.15)	0.23 (0.15)	U (0.15)	U (0.15)	U (0.16)	
Benzo(b)fluoranthene	76	170	0.076 J (0.11)	U (0.12)	U (0.12)	0.1 J (0.11)	0.17 (0.11)	0.083 J (0.11)	U (0.12)	U (0.11)	0.19 (0.11)	0.3 (0.11)	U (0.11)	U (0.12)	U (0.12)	
Benzo(g,h,i)perylene	190000	180	0.028 J (0.15)	U (0.17)	U (0.16)	0.076 J (0.15)	0.12 J (0.15)	0.059 J (0.15)	U (0.16)	U (0.15)	0.28 (0.15)	0.12 J (0.15)	U (0.15)	U (0.15)	U (0.16)	
Chrysene	760	230	0.098 J (0.11)	U (0.12)	U (0.12)	0.082 J (0.11)	0.18 (0.11)	0.082 J (0.11)	U (0.12)	U (0.11)	0.18 (0.11)	0.29 (0.11)	U (0.11)	U (0.12)	U (0.12)	
Fluorene	130000	3800	U (0.19)	U (0.21)	U (0.19)	U (0.18)	0.07 J (0.19)	U (0.18)	0.24 (0.2)	U (0.18)	U (0.18)	0.055 J (0.19)	U (0.19)	U (0.19)	U (0.2)	
Naphthalene	66	25	U (0.19)	U (0.21)	U (0.19)	0.14 J (0.18)	0.06 J (0.19)	0.08 J (0.18)	0.041 J (0.2)	U (0.18)	0.16 J (0.18)	0.046 J (0.19)	U (0.19)	U (0.19)	0.12 J (0.2)	
Phenanthrene	190000	10000	0.056 J (0.11)	U (0.12)	U (0.12)	0.12 (0.11)	0.28 (0.11)	0.14 (0.11)	0.41 (0.12)	U (0.11)	0.2 (0.11)	0.53 (0.11)	U (0.11)	U (0.12)	U (0.12)	
Pyrene	96000	2200	0.072 J (0.11)	U (0.12)	U (0.12)	0.1 J (0.11)	0.23 (0.11)	0.14 (0.11)	0.037 J (0.12)	U (0.11)	0.22 (0.11)	0.49 (0.11)	0.031 J (0.11)	0.025 J (0.12)	0.026 J (0.12)	
Metals																
Lead	1000	450	26.1 (2.24)	60.9 (2.44)	25.2 (2.27)	197 (2.16)	839 (2.25)	989 (2.15)	79.5 (2.41)	5.15 (2.22)	181 (2.21)	15.9 (2.22)	39.7 (2.14)	38.1 (2.3)	10.4 (2.29)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AO04-C4	302-AO05-C1	302-AO05-C2	302-AO05-C3	302-AO06-C1	302-AP02-C1	302-AP02-C2	302-AP02-C3	302-AP03-C1	302-AP03-C2	302-AP03-C3	302-AP03-C4	302-AP03-C5
Cell	Direct Contact	Groundwater	302-AO04	302-AO05	302-AO05	302-AO05	302-AO06	302-AP02	302-AP02	302-AP02	302-AP03	302-AP03	302-AP03	302-AP03	302-AP03
Field Sample ID	Value (0-2 ft bgs)	Value	302-AO04-C4-COMP	302-AO05-C1-COMP	302-AO05-C2-COMP	302-AO05-C3-COMP	302-AO06-C1-COMP	302-AP02-C1-COMP	302-AP02-C2-COMP	302-AP02-C3-COMP	302-AP03-C1-COMP	302-AP03-C2-COMP	302-AP03-C3-COMP	302-AP03-C4-COMP	302-AP03-C5-COMP
Sample Date	(mg/kg)	(mg/kg)	10/12/2022	10/12/2022	10/12/2022	10/12/2022	9/2/2022	10/11/2022	10/11/2022	10/11/2022	10/14/2022	10/14/2022	10/14/2022	10/14/2022	10/14/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.11)	U (0.11)	U (0.11)	0.81 (0.11)	0.04 J (0.11)	U (0.11)	0.65 (0.1)	0.093 J (0.11)
Benzo(a)anthracene	130	340	0.025 J (0.12)	0.026 J (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.11)	U (0.11)	U (0.11)	2.2 (0.11)	0.14 (0.11)	U (0.11)	1.7 (0.1)	0.3 (0.11)
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.15)	U (0.15)	U (0.15)	2.4 (0.15)	0.15 (0.14)	U (0.15)	1.8 (0.14)	0.3 (0.14)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.11)	U (0.11)	U (0.11)	3.1 (0.11)	0.17 (0.11)	U (0.11)	2.2 (0.1)	0.38 (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.15)	U (0.15)	U (0.15)	1.6 (0.15)	0.094 J (0.14)	0.025 J (0.15)	1.1 (0.14)	0.22 (0.14)
Chrysene	760	230	0.028 J (0.12)	0.022 J (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.11)	U (0.11)	U (0.11)	2 (0.11)	0.13 (0.11)	0.024 J (0.11)	1.6 (0.1)	0.3 (0.11)
Fluorene	130000	3800	0.1 J (0.21)	U (0.2)	U (0.19)	U (0.19)	U (0.21)	U (0.19)	U (0.19)	U (0.18)	0.33 (0.19)	0.022 J (0.18)	U (0.18)	0.35 (0.18)	0.059 J (0.18)
Naphthalene	66	25	1.8 (0.21)	U (0.2)	U (0.19)	U (0.19)	U (0.21)	U (0.19)	U (0.19)	U (0.18)	0.55 (0.19)	0.048 J (0.18)	U (0.18)	0.34 (0.18)	0.1 J (0.18)
Phenanthrene	190000	10000	0.2 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.11)	U (0.11)	U (0.11)	2.3 (0.11)	0.13 (0.11)	U (0.11)	2.4 (0.1)	0.34 (0.11)
Pyrene	96000	2200	0.043 J (0.12)	0.048 J (0.12)	0.04 J (0.12)	0.038 J (0.12)	U (0.13)	0.022 J (0.11)	U (0.11)	U (0.11)	3.4 (0.11)	0.19 (0.11)	0.028 J (0.11)	2.6 (0.1)	0.46 (0.11)
Metals															
Lead	1000	450	11.5 (2.47)	96 (2.42)	7.03 (2.33)	9.93 (2.32)	12.5 (2.4)	36 (2.27)	13.2 (2.19)	17.3 (2.19)	226 (2.22)	289 (2.08)	341 (2.22)	7.87 (2.06)	118 (2.2)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AP04-C1	302-AP04-C2	302-AP05-C1	302-AQ01-C1	302-AQ01-C2	302-AQ01-C3	302-AQ03-C1	302-AQ03-C2	302-AQ04-C1	302-AQ04-C2	302-AR01-C1	302-AR01-C2	302-AR01-C3	
Cell	Direct Contact	Groundwater	302-AP04	302-AP04	302-AP05	302-AQ01	302-AQ01	302-AQ01	302-AQ03	302-AQ03	302-AQ04	302-AQ04	302-AR01	302-AR01	302-AR01	
Field Sample ID	Value (0-2 ft bgs)	Value	302-AP04-C1-COMP	302-AP04-C2-COMP	302-AP05-C1-COMP	302-AQ01-C1-COMP	302-AQ01-C2-COMP	302-AQ01-C3-COMP	302-AQ03-C1-COMP	302-AQ03-C2-COMP	302-AQ04-C1-COMP	302-AQ04-C2-COMP	302-AR01-C1-COMP	302-AR01-C2-COMP	302-AR01-C3-COMP	
Sample Date	(mg/kg)	(mg/kg)	10/12/2022	10/12/2022	9/12/2022	10/7/2022	10/7/2022	10/7/2022	9/19/2022	9/19/2022	9/12/2022	9/12/2022	10/7/2022	10/7/2022	10/7/2022	
PAHs																
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.11)	0.34 (0.1)	U (0.1)	U (0.12)	0.041 J (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.13 J (0.21)	U (0.14)	
Benzo(a)anthracene	130	340	0.049 J (0.12)	0.027 J (0.12)	U (0.11)	1.5 (0.1)	U (0.1)	0.11 J (0.12)	0.049 J (0.12)	U (0.12)	U (0.11)	U (0.12)	0.12 (0.12)	0.4 (0.21)	U (0.14)	
Benzo(a)pyrene	91	46	U (0.16)	U (0.17)	U (0.15)	1.4 (0.14)	U (0.14)	0.13 J (0.16)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	0.13 J (0.16)	0.58 (0.28)	U (0.19)	
Benzo(b)fluoranthene	76	170	0.054 J (0.12)	U (0.12)	U (0.11)	1.6 (0.1)	U (0.1)	0.16 (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	0.22 (0.12)	0.88 (0.21)	U (0.14)	
Benzo(g,h,i)perylene	190000	180	0.038 J (0.16)	U (0.17)	U (0.15)	0.7 (0.14)	U (0.14)	0.089 J (0.16)	0.038 J (0.16)	U (0.16)	U (0.15)	U (0.15)	0.089 J (0.16)	0.42 (0.28)	U (0.19)	
Chrysene	760	230	0.047 J (0.12)	0.024 J (0.12)	U (0.11)	1.5 (0.1)	U (0.1)	0.12 (0.12)	0.044 J (0.12)	U (0.12)	U (0.11)	U (0.12)	0.14 (0.12)	0.68 (0.21)	U (0.14)	
Fluorene	130000	3800	0.031 J (0.2)	0.097 J (0.21)	U (0.18)	0.083 J (0.17)	U (0.18)	U (0.2)	0.067 J (0.2)	0.039 J (0.2)	U (0.19)	U (0.19)	U (0.19)	0.075 J (0.35)	U (0.24)	
Naphthalene	66	25	0.18 J (0.2)	1.1 (0.21)	U (0.18)	0.024 J (0.17)	U (0.18)	0.024 J (0.2)	0.038 J (0.2)	U (0.2)	U (0.19)	U (0.19)	0.028 J (0.19)	0.12 J (0.35)	U (0.24)	
Phenanthrene	190000	10000	0.088 J (0.12)	0.18 (0.12)	U (0.11)	1.6 (0.1)	U (0.1)	0.12 (0.12)	0.24 (0.12)	0.067 J (0.12)	U (0.11)	U (0.12)	0.034 J (0.12)	0.54 (0.21)	U (0.14)	
Pyrene	96000	2200	0.081 J (0.12)	0.061 J (0.12)	0.019 J (0.11)	2.6 (0.1)	U (0.1)	0.17 (0.12)	0.11 J (0.12)	U (0.12)	U (0.11)	U (0.12)	0.14 (0.12)	0.91 (0.21)	U (0.14)	
Metals																
Lead	1000	450	23.5 (2.31)	6.17 (2.35)	7.46 (2.13)	56.1 (1.98)	8.89 (2.08)	136 (22.6)	8.54 (2.44)	6.54 (2.43)	5.3 (2.22)	0.96 J (2.24)	4.78 (2.29)	2270 (4.18)	11 (2.69)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AR03-C1	302-AR03-C2	302-AR03-C3	302-AR03-C4	302-AR03-C5	302-AR04-C1	302-AR04-C2	302-AS01-C1	302-AS01-C2	302-AS01-C3	302-AS01-C4	302-AS04-C1	302-AS04-C2
Cell	Direct Contact	Groundwater	302-AR03	302-AR03	302-AR03	302-AR03	302-AR03	302-AR04	302-AR04	302-AS01	302-AS01	302-AS01	302-AS01	302-AS04	302-AS04
Field Sample ID	Value (0-2 ft bgs)	Value	302-AR03-C1-COMP	302-AR03-C2-COMP	302-AR03-C3-COMP	302-AR03-C4-COMP	302-AR03-C5-COMP	302-AR04-C1-COMP	302-AR04-C2-COMP	302-AS01-C1-COMP	302-AS01-C2-COMP	302-AS01-C3-COMP	302-AS01-C4-COMP	302-AS04-C1-COMP	302-AS04-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	9/19/2022	9/19/2022	9/19/2022	9/19/2022	9/19/2022	9/13/2022	9/13/2022	10/7/2022	10/7/2022	10/7/2022	10/7/2022	9/21/2022	9/21/2022
PAHs															
Anthracene	190000	350	U (0.12)	0.13 (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.35)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)
Benzo(a)anthracene	130	340	0.054 J (0.12)	0.37 (0.12)	0.043 J (0.12)	U (0.12)	0.022 J (0.12)	0.26 (0.12)	U (0.12)	U (0.35)	0.022 J (0.12)	U (0.11)	U (0.12)	U (0.12)	0.022 J (0.12)
Benzo(a)pyrene	91	46	0.053 J (0.16)	0.35 (0.15)	U (0.16)	U (0.17)	U (0.16)	0.24 (0.16)	U (0.16)	U (0.47)	U (0.16)	U (0.15)	U (0.16)	U (0.15)	U (0.16)
Benzo(b)fluoranthene	76	170	0.065 J (0.12)	0.41 (0.12)	0.044 J (0.12)	U (0.12)	U (0.12)	0.32 (0.12)	U (0.12)	U (0.35)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)
Benzo(g,h,i)perylene	190000	180	0.033 J (0.16)	0.26 (0.15)	U (0.16)	U (0.17)	U (0.16)	0.13 J (0.16)	U (0.16)	U (0.47)	U (0.16)	U (0.15)	U (0.16)	U (0.15)	U (0.16)
Chrysene	760	230	0.056 J (0.12)	0.33 (0.12)	0.036 J (0.12)	U (0.12)	U (0.12)	0.22 (0.12)	U (0.12)	U (0.35)	U (0.12)	U (0.11)	U (0.12)	U (0.12)	0.023 J (0.12)
Fluorene	130000	3800	U (0.2)	0.043 J (0.19)	U (0.2)	U (0.21)	0.021 J (0.2)	U (0.2)	U (0.2)	U (0.59)	U (0.2)	U (0.19)	U (0.2)	U (0.19)	U (0.2)
Naphthalene	66	25	U (0.2)	0.096 J (0.19)	U (0.2)	U (0.21)	U (0.2)	U (0.2)	U (0.2)	U (0.59)	U (0.2)	U (0.19)	U (0.2)	U (0.19)	U (0.2)
Phenanthrene	190000	10000	0.14 (0.12)	0.65 (0.12)	0.062 J (0.12)	U (0.12)	0.055 J (0.12)	0.1 J (0.12)	U (0.12)	U (0.35)	0.028 J (0.12)	U (0.11)	U (0.12)	U (0.12)	U (0.12)
Pyrene	96000	2200	0.12 (0.12)	0.72 (0.12)	0.063 J (0.12)	U (0.12)	0.029 J (0.12)	0.3 (0.12)	U (0.12)	U (0.35)	0.028 J (0.12)	U (0.11)	U (0.12)	U (0.12)	0.032 J (0.12)
Metals															
Lead	1000	450	15.2 (2.36)	712 (2.3)	51.4 (2.38)	43.4 (2.39)	56.8 (2.32)	86.6 (2.35)	5.52 (2.37)	9.22 (2.39)	7.8 (2.27)	6.83 (4.34)	3.98 (2.26)	70.4 (4.52)	11.9 (4.58)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AS04-C3	302-AS04-C4	302-AS04-C5	302-AS05-C1	302-AS05-C2	302-AS05-C3	302-AS05-C4	302-AS06-C1	302-AT01-C1	302-AT01-C2	302-AT01-C3	302-AT02-C1	302-AT02-C2
Cell	Direct Contact	Groundwater	302-AS04	302-AS04	302-AS04	302-AS05	302-AS05	302-AS05	302-AS05	302-AS06	302-AT01	302-AT01	302-AT01	302-AT02	302-AT02
Field Sample ID	Value (0-2 ft bgs)	Value	302-AS04-C3-COMP	302-AS04-C4-COMP	302-AS04-C5-COMP	302-AS05-C1-COMP	302-AS05-C2-COMP	302-AS05-C3-COMP	302-AS05-C4-COMP	302-AS06-C1-COMP	302-AT01-C1-COMP	302-AT01-C2-COMP	302-AT01-C3-COMP	302-AT02-C1-COMP	302-AT02-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	9/21/2022	9/21/2022	9/21/2022	9/21/2022	9/21/2022	9/21/2022	9/21/2022	9/13/2022	10/11/2022	10/11/2022	10/11/2022	10/20/2022	10/20/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.11)	U (0.11)	0.12 (0.12)	0.13 (0.11)	0.056 J (0.12)	0.04 J (0.12)	U (0.12)	U (0.11)	7.9 (1.1)	U (0.11)	U (0.1)	U (0.12)
Benzo(a)anthracene	130	340	U (0.12)	0.048 J (0.11)	0.12 (0.11)	0.4 (0.12)	0.034 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	12 (1.1)	0.037 J (0.11)	U (0.1)	U (0.12)
Benzo(a)pyrene	91	46	U (0.16)	0.052 J (0.15)	0.13 J (0.15)	0.37 (0.15)	U (0.15)	U (0.16)	U (0.17)	U (0.16)	U (0.15)	5.2 (0.14)	U (0.15)	U (0.14)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.12)	0.066 J (0.11)	0.18 (0.11)	0.42 (0.12)	0.044 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	17 (1.1)	0.059 J (0.11)	U (0.1)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.16)	0.038 J (0.15)	0.098 J (0.15)	0.26 (0.15)	0.032 J (0.15)	U (0.16)	U (0.17)	U (0.16)	U (0.15)	3 (0.14)	0.038 J (0.15)	U (0.14)	U (0.16)
Chrysene	760	230	U (0.12)	0.057 J (0.11)	0.13 (0.11)	0.4 (0.12)	0.03 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	15 (1.1)	0.041 J (0.11)	U (0.1)	U (0.12)
Fluorene	130000	3800	U (0.2)	U (0.19)	0.048 J (0.19)	0.084 J (0.19)	0.5 (0.19)	0.12 J (0.2)	0.12 J (0.21)	U (0.2)	U (0.18)	2.7 (0.18)	U (0.19)	U (0.17)	U (0.2)
Naphthalene	66	25	U (0.2)	U (0.19)	0.062 J (0.19)	0.091 J (0.19)	0.036 J (0.19)	U (0.2)	U (0.21)	U (0.2)	U (0.18)	0.27 (0.18)	U (0.19)	U (0.17)	U (0.2)
Phenanthrene	190000	10000	U (0.12)	0.079 J (0.11)	0.26 (0.11)	0.46 (0.12)	0.85 (0.11)	U (0.12)	0.042 J (0.12)	U (0.12)	U (0.11)	22 (1.1)	0.03 J (0.11)	U (0.1)	U (0.12)
Pyrene	96000	2200	U (0.12)	0.088 J (0.11)	0.2 (0.11)	0.7 (0.12)	0.062 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	27 (1.1)	0.029 J (0.11)	U (0.1)	U (0.12)
Metals															
Lead	1000	450	9.73 (4.78)	663 (4.52)	225 (4.4)	151 (4.41)	24.5 (4.53)	5.16 (4.58)	5.69 (4.84)	4.18 (2.38)	6.87 (2.21)	9.62 (2.1)	274 (2.17)	3.06 (2.12)	24.5 (2.3)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AT02-C3	302-AT02-C4	302-AT02-C5	302-AT03-C1	302-AT03-C2	302-AT03-C3	302-AT03-C4	302-AT03-C5	302-AT04-C1	302-AT04-C2	302-AT05-C1	302-AU01-C1	302-AU01-C2
Cell	Direct Contact	Groundwater	302-AT02	302-AT02	302-AT02	302-AT03	302-AT03	302-AT03	302-AT03	302-AT03	302-AT04	302-AT04	302-AT05	302-AU01	302-AU01
Field Sample ID	Value (0-2 ft bgs)	Value	302-AT02-C3-COMP	302-AT02-C4-COMP	302-AT02-C5-COMP	302-AT03-C1-COMP	302-AT03-C2-COMP	302-AT03-C3-COMP	302-AT03-C4-COMP	302-AT03-C5-COMP	302-AT04-C1-COMP	302-AT04-C2-COMP	302-AT05-C1-COMP	302-AU01-C1-COMP	302-AU01-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	10/20/2022	10/20/2022	10/20/2022	9/22/2022	9/22/2022	9/22/2022	9/22/2022	9/22/2022	9/22/2022	9/22/2022	9/14/2022	10/11/2022	10/11/2022
PAHs															
Anthracene	190000	350	0.12 J (0.14)	0.062 J (0.13)	U (0.15)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.11)	U (0.12)
Benzo(a)anthracene	130	340	0.088 J (0.14)	0.15 (0.13)	0.057 J (0.15)	U (0.12)	0.033 J (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.11)	U (0.12)
Benzo(a)pyrene	91	46	0.13 J (0.18)	0.23 (0.18)	0.084 J (0.2)	U (0.16)	U (0.16)	U (0.17)	U (0.17)	U (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.15)	U (0.15)
Benzo(b)fluoranthene	76	170	0.15 (0.14)	0.36 (0.13)	0.083 J (0.15)	U (0.12)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.11)	U (0.12)
Benzo(g,h,i)perylene	190000	180	0.14 J (0.18)	0.18 (0.18)	0.085 J (0.2)	U (0.16)	U (0.16)	U (0.17)	U (0.17)	U (0.16)	U (0.16)	U (0.16)	U (0.17)	U (0.15)	U (0.15)
Chrysene	760	230	0.21 (0.14)	0.31 (0.13)	0.18 (0.15)	U (0.12)	0.025 J (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.13)	U (0.11)	U (0.12)
Fluorene	130000	3800	0.32 (0.23)	0.13 J (0.22)	0.049 J (0.25)	U (0.2)	U (0.2)	0.074 J (0.22)	0.037 J (0.21)	U (0.2)	1.2 (0.2)	0.088 J (0.2)	U (0.21)	U (0.19)	U (0.19)
Naphthalene	66	25	0.13 J (0.23)	0.11 J (0.22)	0.038 J (0.25)	U (0.2)	U (0.2)	U (0.22)	U (0.21)	U (0.2)	0.23 (0.2)	0.031 J (0.2)	U (0.21)	U (0.19)	U (0.19)
Phenanthrene	190000	10000	0.66 (0.14)	0.45 (0.13)	0.067 J (0.15)	U (0.12)	0.03 J (0.12)	0.14 (0.13)	U (0.12)	U (0.12)	2 (0.12)	0.14 (0.12)	U (0.13)	U (0.11)	U (0.12)
Pyrene	96000	2200	0.29 (0.14)	0.36 (0.13)	0.13 J (0.15)	U (0.12)	0.044 J (0.12)	U (0.13)	U (0.12)	U (0.12)	0.084 J (0.12)	0.023 J (0.12)	U (0.13)	U (0.11)	U (0.12)
Metals															
Lead	1000	450	751 (2.61)	859 (2.66)	9.52 (2.93)	682 (2.4)	198 (2.28)	11.4 (2.54)	322 (2.38)	8.65 (2.4)	14.4 (2.44)	10.4 (2.38)	6.27 (2.49)	11.7 (2.21)	10.2 (2.19)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AU01-C3	302-AU02-C1	302-AU02-C2	302-AU02-C3	302-AU02-C4	302-AU02-C5	302-AU03-C1	302-AU03-C2	302-AU03-C3	302-AU03-C4	302-AU04-C1	302-AU05-C1	302-AV02-C1
Cell	Direct Contact	Groundwater	302-AU01	302-AU02	302-AU02	302-AU02	302-AU02	302-AU02	302-AU03	302-AU03	302-AU03	302-AU03	302-AU04	302-AU05	302-AV02
Field Sample ID	Value (0-2 ft bgs)	Value	302-AU01-C3-COMP	302-AU02-C1-COMP	302-AU02-C2-COMP	302-AU02-C3-COMP	302-AU02-C4-COMP	302-AU02-C5-COMP	302-AU03-C1-COMP	302-AU03-C2-COMP	302-AU03-C3-COMP	302-AU03-C4-COMP	302-AU04-C1-COMP	302-AU05-C1-COMP	302-AV02-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	10/11/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/23/2022	9/14/2022	9/28/2022
PAHs															
Anthracene	190000	350	8.8 (1)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)anthracene	130	340	0.7 J (1)	U (0.11)	0.14 (0.11)	0.057 J (0.12)	0.038 J (0.12)	0.18 (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.072 J (0.11)
Benzo(a)pyrene	91	46	0.52 J (1.4)	U (0.15)	0.15 (0.14)	0.064 J (0.16)	U (0.16)	0.15 (0.14)	U (0.16)	U (0.18)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	0.087 J (0.14)
Benzo(b)fluoranthene	76	170	1 (1)	U (0.11)	0.32 (0.11)	0.07 J (0.12)	0.047 J (0.12)	0.3 (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.087 J (0.11)
Benzo(g,h,i)perylene	190000	180	0.43 J (1.4)	U (0.15)	0.15 (0.14)	0.034 J (0.16)	0.024 J (0.16)	0.15 (0.14)	U (0.16)	U (0.18)	U (0.16)	U (0.15)	U (0.16)	U (0.16)	0.081 J (0.14)
Chrysene	760	230	1.4 (1)	U (0.11)	0.28 (0.11)	0.058 J (0.12)	0.032 J (0.12)	0.24 (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.092 J (0.11)
Fluorene	130000	3800	1.8 (1.7)	U (0.19)	U (0.18)	U (0.2)	U (0.21)	U (0.18)	U (0.19)	0.034 J (0.22)	0.085 J (0.2)	U (0.19)	0.061 J (0.2)	U (0.2)	U (0.18)
Naphthalene	66	25	0.63 J (1.7)	U (0.19)	0.031 J (0.18)	0.033 J (0.2)	U (0.21)	0.029 J (0.18)	U (0.19)	0.23 (0.22)	0.31 (0.2)	U (0.19)	U (0.2)	U (0.2)	0.058 J (0.18)
Phenanthrene	190000	10000	3.6 (1)	U (0.11)	0.11 (0.11)	0.098 J (0.12)	U (0.12)	0.11 (0.11)	U (0.12)	0.054 J (0.13)	0.17 (0.12)	U (0.12)	0.079 J (0.12)	U (0.12)	0.17 (0.11)
Pyrene	96000	2200	3 (1)	U (0.11)	0.4 (0.11)	0.098 J (0.12)	0.055 J (0.12)	0.44 (0.11)	U (0.12)	U (0.13)	0.022 J (0.12)	U (0.12)	U (0.12)	U (0.12)	0.15 (0.11)
Metals															
Lead	1000	450	1290 (2.06)	44.8 (2.3)	256 (2.07)	81.2 (2.42)	16.8 (2.48)	158 (2.14)	19.8 (2.29)	31.5 (2.6)	10.7 (2.25)	9.35 (2.23)	11 (2.49)	6.27 (2.42)	52.8 (4.12)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AV02-C2	302-AV02-C3	302-AV02-C4	302-AV04-C1	302-AV04-C2	302-AV04-C3	302-AV04-C4	302-AV05-C1	302-AV05-C2	302-AW02-C1	302-AW02-C2	302-AW02-C3	302-AW02-C4
			302-AV02- C2-COMP	302-AV02- C3-COMP	302-AV02- C4-COMP	302-AV04- C1-COMP	302-AV04- C2-COMP	302-AV04- C3-COMP	302-AV04- C4-COMP	302-AV05- C1-COMP	302-AV05- C2-COMP	302-AW02- C1-COMP	302-AW02- C2-COMP	302-AW02- C3-COMP	302-AW02- C4-COMP
Field Sample ID	Value (0-2 ft bgs)	Value	9/28/2022	9/28/2022	9/28/2022	9/27/2022	9/27/2022	9/27/2022	9/27/2022	9/14/2022	9/14/2022	9/28/2022	9/28/2022	9/28/2022	9/28/2022
Sample Date	(mg/kg)	(mg/kg)													
PAHs															
Anthracene	190000	350	0.18 (0.16)	U (1.2)	0.32 (0.1)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (1.2)	U (1.1)
Benzo(a)anthracene	130	340	0.21 (0.16)	U (1.2)	1.6 (0.1)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.13 (0.11)	U (0.11)	0.17 (0.12)	0.047 J (0.12)	0.44 J (1.2)	0.37 J (1.1)
Benzo(a)pyrene	91	46	0.41 (0.21)	U (1.6)	1.2 (0.14)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	0.13 J (0.15)	U (0.15)	0.18 (0.16)	U (0.16)	0.47 J (1.5)	U (1.4)
Benzo(b)fluoranthene	76	170	0.32 (0.16)	U (1.2)	1.8 (0.1)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.17 (0.11)	U (0.11)	0.23 (0.12)	0.065 J (0.12)	0.62 J (1.2)	0.47 J (1.1)
Benzo(g,h,i)perylene	190000	180	0.56 (0.21)	U (1.6)	0.77 (0.14)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	0.084 J (0.15)	U (0.15)	0.13 J (0.16)	U (0.16)	0.46 J (1.5)	0.44 J (1.4)
Chrysene	760	230	0.46 (0.16)	U (1.2)	1.8 (0.1)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.14 (0.11)	U (0.11)	0.2 (0.12)	0.075 J (0.12)	0.62 J (1.2)	0.56 J (1.1)
Fluorene	130000	3800	0.18 J (0.27)	U (2)	0.047 J (0.17)	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.19)	U (0.19)	U (0.2)	U (1.9)	U (1.8)
Naphthalene	66	25	0.72 (0.27)	0.43 J (2)	0.075 J (0.17)	U (0.2)	0.13 J (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.19)	0.06 J (0.19)	0.044 J (0.2)	0.37 J (1.9)	0.27 J (1.8)
Phenanthrene	190000	10000	0.59 (0.16)	U (1.2)	1.3 (0.1)	U (0.12)	0.028 J (0.12)	U (0.12)	U (0.12)	0.086 J (0.11)	U (0.11)	0.13 (0.12)	0.062 J (0.12)	0.52 J (1.2)	0.44 J (1.1)
Pyrene	96000	2200	0.38 (0.16)	0.23 J (1.2)	2.9 (0.1)	U (0.12)	0.021 J (0.12)	U (0.12)	U (0.12)	0.28 (0.11)	U (0.11)	0.32 (0.12)	0.078 J (0.12)	0.58 J (1.2)	0.45 J (1.1)
Metals															
Lead	1000	450	44.5 (15.4)	1400 (2.36)	91.9 (2.08)	8.33 (2.27)	47.4 (2.36)	9.81 (2.31)	7.46 (2.26)	89.9 (2.21)	7.01 (2.16)	48.8 (11.1)	8.21 (4.78)	8.02 (4.63)	62.7 (2.14)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AW04-C1	302-AW04-C2	302-AW04-C3	302-AW04-C4	302-AW04-C5	302-AW05-C1	302-AX02-C1	302-AX02-C2	302-AX02-C3	302-AX02-C4	302-AX02-C5	302-AX03-C1	302-AX03-C2
Cell	Direct Contact	Groundwater	302-AW04	302-AW04	302-AW04	302-AW04	302-AW04	302-AW05	302-AX02	302-AX02	302-AX02	302-AX02	302-AX02	302-AX03	302-AX03
Field Sample ID	Value (0-2 ft bgs)	Value	302-AW04-C1-COMP	302-AW04-C2-COMP	302-AW04-C3-COMP	302-AW04-C4-COMP	302-AW04-C5-COMP	302-AW05-C1-COMP	302-AX02-C1-COMP	302-AX02-C2-COMP	302-AX02-C3-COMP	302-AX02-C4-COMP	302-AX02-C5-COMP	302-AX03-C1-COMP	302-AX03-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	9/27/2022	9/27/2022	9/27/2022	9/27/2022	9/27/2022	9/15/2022	9/29/2022	9/29/2022	9/29/2022	9/29/2022	9/29/2022	9/29/2022	9/29/2022
PAHs															
Anthracene	190000	350	U (0.11)	U (0.11)	U (0.12)	0.16 (0.12)	U (0.11)	U (0.12)	U (0.12)	0.26 (0.12)	U (1.2)	U (0.13)	U (1.1)	U (0.55)	0.18 J (0.55)
Benzo(a)anthracene	130	340	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	0.076 J (0.12)	2.3 (0.12)	0.22 J (1.2)	U (0.13)	U (1.1)	0.9 (0.55)	0.5 J (0.55)
Benzo(a)pyrene	91	46	U (0.15)	U (0.15)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	0.078 J (0.16)	5 (0.16)	U (1.6)	U (0.17)	U (1.5)	0.76 (0.73)	0.44 J (0.73)
Benzo(b)fluoranthene	76	170	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	0.11 J (0.12)	2.5 (0.12)	U (1.2)	U (0.13)	U (1.1)	0.66 (0.55)	0.52 J (0.55)
Benzo(g,h,i)perylene	190000	180	U (0.15)	U (0.15)	U (0.16)	U (0.16)	U (0.15)	U (0.16)	0.059 J (0.16)	2.9 (0.16)	U (1.6)	U (0.17)	U (1.5)	0.45 J (0.73)	0.27 J (0.73)
Chrysene	760	230	U (0.11)	U (0.11)	U (0.12)	U (0.12)	U (0.11)	U (0.12)	0.11 J (0.12)	6 (0.12)	0.26 J (1.2)	U (0.13)	U (1.1)	1.3 (0.55)	0.46 J (0.55)
Fluorene	130000	3800	U (0.19)	U (0.19)	U (0.2)	1 (0.21)	U (0.19)	U (0.2)	U (0.2)	0.15 J (0.2)	U (2)	U (0.22)	U (1.9)	0.1 J (0.91)	0.11 J (0.92)
Naphthalene	66	25	0.052 J (0.19)	0.042 J (0.19)	0.042 J (0.2)	U (0.21)	0.026 J (0.19)	U (0.2)	U (0.2)	0.18 J (0.2)	U (2)	U (0.22)	0.29 J (1.9)	U (0.91)	U (0.92)
Phenanthrene	190000	10000	U (0.11)	U (0.11)	U (0.12)	1.4 (0.12)	U (0.11)	U (0.12)	0.04 J (0.12)	0.86 (0.12)	U (1.2)	U (0.13)	U (1.1)	0.25 J (0.55)	0.7 (0.55)
Pyrene	96000	2200	U (0.11)	0.019 J (0.11)	U (0.12)	0.043 J (0.12)	U (0.11)	U (0.12)	0.13 (0.12)	15 (1.2)	0.37 J (1.2)	U (0.13)	U (1.1)	1.6 (0.55)	0.79 (0.55)
Metals															
Lead	1000	450	11.2 (2.22)	11.7 (2.2)	12.5 (2.26)	6.79 (2.44)	119 (2.26)	5.22 (4.54)	23 (2.34)	398 (2.32)	379 (4.62)	8.36 (2.54)	466 (2.28)	279 (2.17)	11.7 (4.47)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AX03-C3	302-AX06-C1	302-AY02-C1	302-AY02-C2	302-AY02-C3	302-AY03-C1	302-AY03-C2	302-AY03-C3	302-AY04-C1	302-AY04-C2	302-AY04-C3	302-AY05-C1	302-AY05-C2
Cell	Direct Contact	Groundwater	302-AX03	302-AX06	302-AY02	302-AY02	302-AY02	302-AY03	302-AY03	302-AY03	302-AY04	302-AY04	302-AY04	302-AY05	302-AY05
Field Sample ID	Value (0-2 ft bgs)	Value	302-AX03-C3-COMP	302-AX06-C1-COMP	302-AY02-C1-COMP	302-AY02-C2-COMP	302-AY02-C3-COMP	302-AY03-C1-COMP	302-AY03-C2-COMP	302-AY03-C3-COMP	302-AY04-C1-COMP	302-AY04-C2-COMP	302-AY04-C3-COMP	302-AY05-C1-COMP	302-AY05-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	9/29/2022	9/15/2022	10/10/2022	10/10/2022	10/10/2022	9/29/2022	9/29/2022	9/29/2022	9/30/2022	9/30/2022	9/30/2022	9/30/2022	9/30/2022
PAHs															
Anthracene	190000	350	0.09 J (0.11)	U (0.12)	0.85 (0.56)	0.77 (0.11)	0.43 (0.12)	U (0.11)	U (0.12)	1.1 (1.1)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)anthracene	130	340	0.24 (0.11)	U (0.12)	3.4 (0.56)	1.9 (0.11)	0.69 (0.12)	U (0.11)	U (0.12)	8.9 (1.1)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)pyrene	91	46	0.2 (0.15)	U (0.16)	3.6 (0.75)	3 (0.15)	0.55 (0.16)	U (0.15)	U (0.15)	6.9 (1.5)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)
Benzo(b)fluoranthene	76	170	0.16 (0.11)	U (0.12)	2.6 (0.56)	2.1 (0.57)	0.53 (0.12)	U (0.11)	U (0.12)	3.2 (1.1)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Benzo(g,h,i)perylene	190000	180	0.19 (0.15)	U (0.16)	2.1 (0.75)	1.2 (0.15)	0.29 (0.16)	U (0.15)	U (0.15)	4.3 (1.5)	U (0.16)	U (0.16)	U (0.16)	U (0.16)	U (0.15)
Chrysene	760	230	0.42 (0.11)	U (0.12)	7.6 (0.56)	3.2 (0.11)	1.5 (0.12)	U (0.11)	U (0.12)	12 (1.1)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Fluorene	130000	3800	0.072 J (0.18)	U (0.2)	0.81 J (0.94)	0.73 (0.19)	6.8 (0.2)	U (0.19)	U (0.19)	0.78 J (1.9)	U (0.21)	U (0.2)	U (0.2)	U (0.2)	U (0.19)
Naphthalene	66	25	0.12 J (0.18)	U (0.2)	2 (0.94)	2.3 (0.19)	2.4 (0.2)	U (0.19)	U (0.19)	0.23 J (1.9)	0.42 (0.21)	6.9 (0.2)	0.12 J (0.2)	U (0.2)	U (0.19)
Phenanthrene	190000	10000	0.37 (0.11)	U (0.12)	2.5 (0.56)	2.5 (0.11)	4.5 (0.12)	U (0.11)	U (0.12)	9.3 (1.1)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Pyrene	96000	2200	0.37 (0.11)	U (0.12)	11 (0.56)	4.2 (0.11)	2.2 (0.12)	0.023 J (0.11)	U (0.12)	12 (1.1)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.11)
Metals															
Lead	1000	450	273 (2.15)	4.62 J (4.86)	11 (2.19)	236 (2.26)	252 (2.32)	11.1 (11.1)	6.12 (2.22)	325 (2.25)	9.16 (4.98)	34.7 (24.1)	6.54 (4.65)	6.19 (5.01)	7.14 (4.31)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	302-AY05-C3	302-AY05-C4	302-AY05-C5	302-AY07-C1	302-AZ02-C1	302-AZ02-C2	302-AZ02-C3	302-AZ03-C1	302-AZ03-C2	302-AZ03-C3	302-AZ03-C4	302-AZ03-C5	302-BA03-C1	
Cell	Direct Contact	Groundwater	302-AY05	302-AY05	302-AY05	302-AY07	302-AZ02	302-AZ02	302-AZ02	302-AZ03	302-AZ03	302-AZ03	302-AZ03	302-AZ03	302-BA03	
Field Sample ID	Value (0-2 ft bgs)	Value	302-AY05-C3-COMP	302-AY05-C4-COMP	302-AY05-C5-COMP	302-AY07-C1-COMP	302-AZ02-C1-COMP	302-AZ02-C2-COMP	302-AZ02-C3-COMP	302-AZ03-C1-COMP	302-AZ03-C2-COMP	302-AZ03-C3-COMP	302-AZ03-C4-COMP	302-AZ03-C5-COMP	302-BA03-C1-COMP	
Sample Date	(mg/kg)	(mg/kg)	9/30/2022	9/30/2022	9/30/2022	9/15/2022	10/10/2022	10/10/2022	10/10/2022	10/3/2022	10/3/2022	10/3/2022	10/3/2022	10/3/2022	10/10/2022	
PAHs																
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.081 J (0.11)	U (0.11)	U (0.11)	1.1 (0.12)	0.092 J (0.12)	0.067 J (0.12)	0.23 (0.12)	0.23 (0.15)	U (0.12)	
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.12)	0.036 J (0.12)	0.36 (0.11)	0.039 J (0.11)	0.032 J (0.11)	0.42 (0.12)	0.18 (0.12)	0.22 (0.12)	0.42 (0.12)	0.22 (0.15)	U (0.12)	
Benzo(a)pyrene	91	46	U (0.16)	U (0.16)	U (0.16)	U (0.16)	0.41 (0.15)	U (0.15)	U (0.15)	0.35 (0.16)	0.17 (0.16)	0.22 (0.15)	0.35 (0.16)	0.18 J (0.2)	U (0.17)	
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	0.045 J (0.12)	0.42 (0.11)	0.042 J (0.11)	0.033 J (0.11)	0.2 (0.12)	0.21 (0.12)	0.27 (0.12)	0.14 (0.12)	0.15 (0.15)	U (0.12)	
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.16)	U (0.16)	0.023 J (0.16)	0.27 (0.15)	0.027 J (0.15)	0.022 J (0.15)	0.15 J (0.16)	0.11 J (0.16)	0.14 J (0.15)	0.12 J (0.16)	0.26 (0.2)	U (0.17)	
Chrysene	760	230	U (0.12)	U (0.12)	U (0.12)	0.035 J (0.12)	0.33 (0.11)	0.038 J (0.11)	0.029 J (0.11)	0.78 (0.12)	0.18 (0.12)	0.23 (0.12)	0.46 (0.12)	0.32 (0.15)	0.022 J (0.12)	
Fluorene	130000	3800	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	U (0.19)	U (0.19)	U (0.2)	0.05 J (0.2)	0.03 J (0.19)	0.84 (0.2)	0.46 (0.25)	U (0.21)	
Naphthalene	66	25	U (0.2)	U (0.2)	U (0.2)	U (0.2)	U (0.19)	0.04 J (0.19)	U (0.19)	9.1 (0.98)	0.088 J (0.2)	0.049 J (0.19)	0.19 J (0.2)	0.16 J (0.25)	U (0.21)	
Phenanthrene	190000	10000	U (0.12)	U (0.12)	U (0.12)	0.035 J (0.12)	0.3 (0.11)	0.042 J (0.11)	0.034 J (0.11)	8.2 (0.59)	0.38 (0.12)	0.32 (0.12)	1.5 (0.12)	0.24 (0.15)	U (0.12)	
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.12)	0.048 J (0.12)	0.5 (0.11)	0.045 J (0.11)	0.044 J (0.11)	0.96 (0.12)	0.32 (0.12)	0.38 (0.12)	0.51 (0.12)	0.43 (0.15)	0.03 J (0.12)	
Metals																
Lead	1000	450	8.95 (4.71)	8.2 (4.65)	9.1 (4.65)	7.42 (4.66)	16.1 (2.27)	9.67 (2.17)	144 (2.14)	63.2 (2.34)	176 (2.48)	9.52 (2.25)	50.1 (2.31)	18.9 (2.84)	23.3 (2.37)	

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-BA03-C2	302-BA03-C3	302-BA04-C1	302-BA04-C2	302-BB04-C1	302-BB04-C2	302-BB07-C1	302-BB07-C2	302-BB07-C3	302-BB07-C4	302-BB07-C5	302-BB08-C1	302-BB08-C2
			302-BA03	302-BA03	302-BA04	302-BA04	302-BB04	302-BB04	302-BB07	302-BB07	302-BB07	302-BB07	302-BB07	302-BB07	302-BB07
Field Sample ID	Value (0-2 ft bgs)	Value	302-BA03-C2-COMP	302-BA03-C3-COMP	302-BA04-C1-COMP	302-BA04-C2-COMP	302-BB04-C1-COMP	302-BB04-C2-COMP	302-BB07-C1-COMP	302-BB07-C2-COMP	302-BB07-C3-COMP	302-BB07-C4-COMP	302-BB07-C5-COMP	302-BB08-C1-COMP	302-BB08-C2-COMP
Sample Date	(mg/kg)	(mg/kg)	10/10/2022	10/10/2022	10/3/2022	10/3/2022	10/10/2022	10/10/2022	9/16/2022	9/16/2022	9/16/2022	9/16/2022	9/16/2022	9/16/2022	9/16/2022
PAHs															
Anthracene	190000	350	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.12)	0.053 J (0.12)	U (0.11)	0.083 J (0.11)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.11 J (0.12)
Benzo(a)anthracene	130	340	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.2 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.21 (0.11)	0.43 (0.12)
Benzo(a)pyrene	91	46	U (0.16)	U (0.15)	U (0.17)	U (0.16)	U (0.15)	U (0.16)	U (0.15)	0.16 (0.15)	U (0.16)	U (0.17)	U (0.16)	0.25 (0.15)	0.75 (0.15)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	0.18 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.34 (0.11)	0.56 (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.15)	U (0.17)	U (0.16)	U (0.15)	U (0.16)	U (0.15)	0.07 J (0.15)	U (0.16)	U (0.17)	U (0.16)	0.22 (0.15)	1.1 (0.15)
Chrysene	760	230	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.12)	0.021 J (0.12)	U (0.11)	0.19 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.43 (0.11)	0.52 (0.12)
Fluorene	130000	3800	U (0.2)	U (0.19)	U (0.21)	U (0.2)	U (0.19)	0.14 J (0.2)	U (0.19)	U (0.18)	U (0.2)	U (0.21)	U (0.2)	0.39 (0.19)	0.24 (0.19)
Naphthalene	66	25	U (0.2)	U (0.19)	0.056 J (0.21)	U (0.2)	U (0.19)	U (0.2)	0.1 J (0.19)	0.11 J (0.18)	0.032 J (0.2)	0.028 J (0.21)	U (0.2)	0.33 (0.19)	2.4 (0.19)
Phenanthrene	190000	10000	U (0.12)	U (0.11)	0.048 J (0.13)	U (0.12)	U (0.12)	0.37 (0.12)	U (0.11)	0.28 (0.11)	U (0.12)	U (0.12)	U (0.12)	1 (0.11)	0.52 (0.12)
Pyrene	96000	2200	U (0.12)	U (0.11)	U (0.13)	U (0.12)	U (0.12)	0.059 J (0.12)	U (0.11)	0.32 (0.11)	U (0.12)	U (0.12)	U (0.12)	0.4 (0.11)	0.54 (0.12)
Metals															
Lead	1000	450	25.3 (2.29)	17.7 (2.27)	6.38 (2.45)	10.4 (2.38)	17 (2.26)	13.4 (2.35)	9.36 (4.42)	13.3 (4.38)	6.59 (4.71)	5.33 (4.8)	5.63 (4.65)	153 (4.56)	792 (4.67)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2c
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1B
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-BB08-C3	302-BC04-C1	302-BC06-C1	302-BC06-C2	302-BC06-C3
Field Sample ID	Value (0-2 ft bgs)	Value	302-BB08-C3-COMP	302-BC04-C1-COMP	302-BC06-C1-COMP	302-BC06-C2-COMP	302-BC06-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	9/16/2022	10/20/2022	9/16/2022	9/16/2022	9/16/2022
PAHs							
Anthracene	190000	350	0.052 J (0.12)	0.082 J (0.13)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)anthracene	130	340	0.046 J (0.12)	0.043 J (0.13)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)pyrene	91	46	U (0.15)	0.064 J (0.18)	U (0.16)	U (0.15)	U (0.14)
Benzo(b)fluoranthene	76	170	U (0.12)	0.08 J (0.13)	U (0.12)	U (0.12)	U (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.15)	0.058 J (0.18)	U (0.16)	U (0.15)	U (0.14)
Chrysene	760	230	0.071 J (0.12)	0.057 J (0.13)	U (0.12)	U (0.12)	U (0.11)
Fluorene	130000	3800	U (0.19)	0.073 J (0.22)	U (0.2)	0.33 (0.19)	0.087 J (0.18)
Naphthalene	66	25	0.079 J (0.19)	0.032 J (0.22)	0.069 J (0.2)	23 (1.9)	0.86 (0.18)
Phenanthrene	190000	10000	0.2 (0.12)	0.062 J (0.13)	0.037 J (0.12)	0.48 (0.12)	0.22 (0.11)
Pyrene	96000	2200	0.16 (0.12)	0.11 J (0.13)	U (0.12)	U (0.12)	0.029 J (0.11)
Metals							
Lead	1000	450	15.9 (4.63)	122 (2.53)	6.3 (4.96)	4.46 J (4.54)	6.22 (4.26)

Notes:

- 1 Concentrations are presented in mg/kg.
- 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- 5 Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
- 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2d
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs)	Non-Residential Soil to Groundwater Numeric Value	301-AC01-C1 301-AC01 301-AC01-C1-COMP 11/4/2022	301-AC01-C2 301-AC01 301-AC01-C2-COMP 11/4/2022	301-AC01-C3 301-AC01 301-AC01-C3-COMP 11/7/2022	301-AC01-C4 301-AC01 301-AC01-C4-COMP 11/7/2022	301-AC01-C5 301-AC01 301-AC01-C5-COMP 11/7/2022	301-L01-C1 301-L01 301-L01-C1-COMP 10/21/2022	301-T03-C1 301-T03 301-T03-C1-COMP 5/20/2022	301-T03-C2 301-T03 301-T03-C2-COMP 5/20/2022	301-T03-C3 301-T03 301-T03-C3-COMP 5/20/2022	301-T03-C4 301-T03 301-T03-C4-COMP 5/20/2022	301-T03-C5 301-T03 301-T03-C5-COMP 5/20/2022	302-AD01-C1 302-AD01 302-AD01-C1-COMP 11/4/2022
PAHs														
Anthracene	190000	350	U (0.11)	U (0.12)	U (0.13)	U (0.11)	U (0.11)	U (0.12)	U (0.53)	U (0.1)	U (0.53)	U (0.58)	U (0.12)	0.5 (0.12)
Benzo(a)anthracene	130	340	0.11 (0.11)	U (0.12)	U (0.13)	U (0.11)	U (0.11)	U (0.12)	U (0.53)	0.028 J (0.1)	U (0.53)	U (0.58)	0.022 J (0.12)	1.4 (0.12)
Benzo(a)pyrene	91	46	0.13 J (0.15)	U (0.15)	U (0.17)	U (0.15)	U (0.15)	U (0.15)	U (0.71)	U (0.14)	U (0.7)	U (0.77)	U (0.16)	1.6 (0.16)
Benzo(b)fluoranthene	76	170	0.16 (0.11)	U (0.12)	0.037 J (0.13)	U (0.11)	U (0.11)	U (0.12)	U (0.53)	0.031 J (0.1)	U (0.53)	U (0.58)	U (0.12)	1.9 (0.12)
Benzo(g,h,i)perylene	190000	180	0.078 J (0.15)	U (0.15)	U (0.17)	U (0.15)	U (0.15)	U (0.15)	U (0.71)	0.32 (0.14)	U (0.7)	U (0.77)	U (0.16)	0.94 (0.16)
Chrysene	760	230	0.11 (0.11)	U (0.12)	0.022 J (0.13)	U (0.11)	U (0.11)	U (0.12)	U (0.53)	0.038 J (0.1)	U (0.53)	U (0.58)	0.032 J (0.12)	1.4 (0.12)
Fluorene	130000	3800	U (0.19)	U (0.19)	U (0.21)	U (0.19)	U (0.18)	U (0.19)	U (0.89)	U (0.18)	U (0.88)	U (0.97)	U (0.19)	0.28 (0.2)
Naphthalene	66	25	U (0.19)	U (0.19)	U (0.21)	U (0.19)	U (0.18)	U (0.19)	U (0.89)	U (0.18)	U (0.88)	U (0.97)	U (0.19)	0.31 (0.2)
Phenanthrene	190000	10000	0.078 J (0.11)	U (0.12)	U (0.13)	U (0.11)	U (0.11)	U (0.12)	U (0.53)	0.031 J (0.1)	U (0.53)	U (0.58)	U (0.12)	1.9 (0.12)
Pyrene	96000	2200	0.17 (0.11)	U (0.12)	0.032 J (0.13)	U (0.11)	U (0.11)	U (0.12)	U (0.53)	0.039 J (0.1)	U (0.53)	U (0.58)	0.061 J (0.12)	2.3 (0.12)
Metals														
Lead	1000	450	130 (2.27)	7.41 (2.36)	7.79 (2.5)	7.55 (2.27)	7.54 (2.17)	7.13 (2.31)	43.6 (2.14)	10.7 (2.11)	16.4 (2.08)	25.7 (2.21)	37.2 (2.34)	1350 (2.42)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 No concentrations exceed the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2d
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil	Non-Residential Soil to	302-AD01-C2	302-AD01-C3	302-AD02-C1	302-AD02-C2	302-AD02-C3	302-AD02-C4	302-AD02-C5	302-AE01-C1	302-AE01-C2	302-AE01-C3	302-AE01-C4	302-AE01-C5
	Direct Contact	Groundwater	302-AD01	302-AD01	302-AD02	302-AD02	302-AD02	302-AD02	302-AD02	302-AE01	302-AE01	302-AE01	302-AE01	302-AE01
Field Sample ID	Value (0-2 ft bgs)	Value	302-AD01-C2-COMP	302-AD01-C3-COMP	302-AD02-C1-COMP	302-AD02-C2-COMP	302-AD02-C3-COMP	302-AD02-C4-COMP	302-AD02-C5-COMP	302-AE01-C1-COMP	302-AE01-C2-COMP	302-AE01-C3-COMP	302-AE01-C4-COMP	302-AE01-C5-COMP
Sample Date	(mg/kg)	(mg/kg)	11/4/2022	11/8/2022	11/7/2022	11/7/2022	11/7/2022	11/7/2022	11/7/2022	10/28/2022	10/28/2022	10/28/2022	10/28/2022	10/28/2022
PAHs														
Anthracene	190000	350	U (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.11)	0.32 (0.12)	0.079 J (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	0.092 J (0.11)
Benzo(a)anthracene	130	340	0.055 J (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.11)	0.022 J (0.12)	U (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)
Benzo(a)pyrene	91	46	0.064 J (0.16)	U (0.14)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	U (0.14)
Benzo(b)fluoranthene	76	170	0.071 J (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.11)	U (0.12)	U (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)
Benzo(g,h,i)perylene	190000	180	0.039 J (0.16)	U (0.14)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.17)	U (0.16)	U (0.16)	U (0.14)
Chrysene	760	230	0.047 J (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.11)	0.024 J (0.12)	U (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	U (0.11)
Fluorene	130000	3800	U (0.2)	U (0.18)	U (0.19)	U (0.18)	U (0.19)	0.97 (0.19)	0.21 (0.18)	U (0.2)	U (0.21)	U (0.2)	U (0.2)	0.32 (0.18)
Naphthalene	66	25	U (0.2)	U (0.18)	U (0.19)	U (0.18)	U (0.19)	U (0.19)	U (0.18)	U (0.2)	U (0.21)	U (0.2)	U (0.2)	0.068 J (0.18)
Phenanthrene	190000	10000	0.051 J (0.12)	0.022 J (0.11)	U (0.12)	U (0.11)	U (0.11)	1.9 (0.12)	0.42 (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	0.78 (0.11)
Pyrene	96000	2200	0.081 J (0.12)	U (0.11)	U (0.12)	U (0.11)	U (0.11)	0.23 (0.12)	0.045 J (0.11)	U (0.12)	U (0.13)	U (0.12)	U (0.12)	0.089 J (0.11)
Metals														
Lead	1000	450	53.4 (2.38)	3.9 (2.19)	29 (2.3)	7.06 (2.21)	7.01 (2.27)	120 (2.17)	7.57 (2.13)	2.75 (2.32)	6.75 (2.57)	5.67 (2.39)	5.43 (2.41)	5.2 (2.04)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 No concentrations exceed the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2d
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs)	Non-Residential Soil to Groundwater Numeric Value	302-AE02-C1 302-AE02 302-AE02-C1-COMP 11/8/2022	302-AE02-C2 302-AE02 302-AE02-C2-COMP 11/8/2022	302-AE02-C3 302-AE02 302-AE02-C3-COMP 11/8/2022	302-AE02-C4 302-AE02 302-AE02-C4-COMP 11/8/2022	302-AF01-C1 302-AF01 302-AF01-C1-COMP 10/31/2022	302-AF01-C2 302-AF01 302-AF01-C2-COMP 10/31/2022	302-AF01-C3 302-AF01 302-AF01-C3-COMP 10/31/2022	302-AF02-C1 302-AF02 302-AF02-C1-COMP 11/3/2022	302-AF02-C2 302-AF02 302-AF02-C2-COMP 11/3/2022	302-AF02-C3 302-AF02 302-AF02-C3-COMP 11/3/2022	302-AF02-C4 302-AF02 302-AF02-C4-COMP 11/3/2022	302-AG01-C1 302-AG01 302-AG01-C1-COMP 11/2/2022
PAHs														
Anthracene	190000	350	0.22 (0.11)	U (0.1)	U (0.1)	0.84 (0.12)	U (0.12)	U (0.11)	0.085 J (0.11)	U (0.11)	U (0.12)	U (0.11)	U (0.11)	U (0.14)
Benzo(a)anthracene	130	340	0.51 (0.11)	U (0.1)	U (0.1)	0.048 J (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.11)	U (0.11)	U (0.14)
Benzo(a)pyrene	91	46	0.4 (0.15)	U (0.14)	U (0.14)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.15)	U (0.15)	U (0.19)
Benzo(b)fluoranthene	76	170	0.51 (0.11)	U (0.1)	U (0.1)	U (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.11)	U (0.11)	U (0.14)
Benzo(g,h,i)perylene	190000	180	0.22 (0.15)	U (0.14)	U (0.14)	U (0.16)	U (0.16)	U (0.15)	U (0.15)	U (0.15)	U (0.16)	U (0.15)	U (0.15)	U (0.19)
Chrysene	760	230	0.49 (0.11)	U (0.1)	U (0.1)	0.059 J (0.12)	U (0.12)	U (0.11)	U (0.11)	U (0.11)	U (0.12)	U (0.11)	U (0.11)	U (0.14)
Fluorene	130000	3800	0.12 J (0.19)	U (0.17)	U (0.17)	U (0.2)	U (0.19)	U (0.19)	0.25 (0.18)	U (0.19)	U (0.2)	U (0.19)	0.031 J (0.18)	U (0.24)
Naphthalene	66	25	0.086 J (0.19)	U (0.17)	U (0.17)	9.1 (1)	U (0.19)	U (0.19)	0.029 J (0.18)	U (0.19)	U (0.2)	U (0.19)	U (0.18)	U (0.24)
Phenanthrene	190000	10000	0.86 (0.11)	U (0.1)	0.037 J (0.1)	6.8 (0.12)	U (0.12)	U (0.11)	0.58 (0.11)	U (0.11)	U (0.12)	U (0.11)	0.08 J (0.11)	U (0.14)
Pyrene	96000	2200	0.67 (0.11)	U (0.1)	U (0.1)	0.82 (0.12)	U (0.12)	U (0.11)	0.053 J (0.11)	U (0.11)	U (0.12)	U (0.11)	U (0.11)	U (0.14)
Metals														
Lead	1000	450	103 (2.26)	4.13 (2.06)	4.08 (2.09)	4.44 (2.41)	7.8 (2.28)	8.3 (2.25)	3.41 (2.11)	8.06 (2.22)	7.37 (2.38)	6.46 (2.32)	6.04 (2.14)	336 (2.9)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - No concentrations exceed the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2d
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AG01-C2 302-AG01	302-AG01-C3 302-AG01	302-AG01-C4 302-AG01	302-AG01-C5 302-AG01	302-AG02-C1 302-AG02	302-AG02-C2 302-AG02	302-AG02-C3 302-AG02	302-AG02-C4 302-AG02	302-AH01-C1 302-AH01	302-AH01-C2 302-AH01	302-AH01-C3 302-AH01	302-AH02-C1 302-AH02
Field Sample ID	Value (0-2 ft bgs)	Value	302-AG01-C2-COMP	302-AG01-C3-COMP	302-AG01-C4-COMP	302-AG01-C5-COMP	302-AG02-C1-COMP	302-AG02-C2-COMP	302-AG02-C3-COMP	302-AG02-C4-COMP	302-AH01-C1-COMP	302-AH01-C2-COMP	302-AH01-C3-COMP	302-AH02-C1-COMP
Sample Date	(mg/kg)	(mg/kg)	11/2/2022	11/2/2022	11/2/2022	11/2/2022	11/1/2022	11/1/2022	11/1/2022	11/1/2022	11/10/2022	11/10/2022	11/10/2022	11/9/2022
PAHs														
Anthracene	190000	350	U (0.11)	U (0.12)	U (0.12)	U (0.11)	U (0.14)	U (0.12)	U (0.11)	1.5 (0.11)	0.28 (0.12)	U (0.12)	U (0.12)	U (0.13)
Benzo(a)anthracene	130	340	U (0.11)	U (0.12)	U (0.12)	0.024 J (0.11)	U (0.14)	U (0.12)	U (0.11)	0.022 J (0.11)	0.96 (0.12)	U (0.12)	U (0.12)	U (0.13)
Benzo(a)pyrene	91	46	U (0.14)	U (0.16)	U (0.16)	U (0.15)	U (0.19)	U (0.16)	U (0.14)	U (0.15)	0.77 (0.16)	U (0.16)	U (0.16)	U (0.18)
Benzo(b)fluoranthene	76	170	U (0.11)	U (0.12)	U (0.12)	0.042 J (0.11)	U (0.14)	U (0.12)	U (0.11)	U (0.11)	1 (0.12)	U (0.12)	U (0.12)	U (0.13)
Benzo(g,h,i)perylene	190000	180	U (0.14)	U (0.16)	U (0.16)	0.035 J (0.15)	U (0.19)	U (0.16)	U (0.14)	U (0.15)	0.3 (0.16)	U (0.16)	U (0.16)	U (0.18)
Chrysene	760	230	U (0.11)	U (0.12)	U (0.12)	0.025 J (0.11)	U (0.14)	U (0.12)	U (0.11)	0.035 J (0.11)	1.1 (0.12)	U (0.12)	U (0.12)	U (0.13)
Fluorene	130000	3800	U (0.18)	U (0.2)	U (0.19)	U (0.19)	U (0.23)	U (0.2)	U (0.18)	4.5 (0.19)	0.38 (0.2)	U (0.2)	U (0.2)	U (0.22)
Naphthalene	66	25	U (0.18)	U (0.2)	U (0.19)	U (0.19)	U (0.23)	U (0.2)	U (0.18)	6 (0.19)	0.21 (0.2)	U (0.2)	U (0.2)	U (0.22)
Phenanthrene	190000	10000	U (0.11)	U (0.12)	U (0.12)	0.029 J (0.11)	U (0.14)	U (0.12)	U (0.11)	12 (1.1)	3 (0.12)	U (0.12)	U (0.12)	U (0.13)
Pyrene	96000	2200	U (0.11)	U (0.12)	U (0.12)	0.033 J (0.11)	U (0.14)	U (0.12)	U (0.11)	0.83 (0.11)	1.7 (0.12)	U (0.12)	U (0.12)	U (0.13)
Metals														
Lead	1000	450	451 (2.18)	424 (2.31)	3.32 (2.22)	8.23 (2.16)	8.95 (2.77)	1.85 J (2.38)	6.81 (2.06)	5.99 (2.2)	30.7 (2.39)	13.9 (2.39)	11.8 (2.35)	5.82 (2.63)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 No concentrations exceed the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2d
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil	Non-Residential Soil to	302-AH02-C2	302-AH02-C3	302-AH02-C4	302-AH03-C1	302-AH03-C2	302-AH03-C3	302-AH03-C4	302-AI01-C1	302-AI02-C1	302-AI02-C2	302-AI02-C3	302-AI02-C4
	Direct Contact	Groundwater	302-AH02	302-AH02	302-AH02	302-AH03	302-AH03	302-AH03	302-AH03	302-AI01	302-AI02	302-AI02	302-AI02	302-AI02
Field Sample ID	Value (0-2 ft bgs)	Value	302-AH02-C2-COMP	302-AH02-C3-COMP	302-AH02-C4-COMP	302-AH03-C1-COMP	302-AH03-C2-COMP	302-AH03-C3-COMP	302-AH03-C4-COMP	302-AI01-C1-COMP	302-AI02-C1-COMP	302-AI02-C2-COMP	302-AI02-C3-COMP	302-AI02-C4-COMP
Sample Date	(mg/kg)	(mg/kg)	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	11/9/2022	10/25/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
PAHs														
Anthracene	190000	350	U (0.11)	U (0.11)	0.82 (0.12)	U (0.11)	U (0.12)	1 (0.11)	2 (0.22)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.12)
Benzo(a)anthracene	130	340	U (0.11)	U (0.11)	0.031 J (0.12)	0.13 (0.11)	U (0.12)	0.054 J (0.11)	0.042 J (0.22)	0.13 (0.12)	0.12 (0.12)	U (0.12)	U (0.11)	U (0.12)
Benzo(a)pyrene	91	46	U (0.14)	U (0.15)	U (0.17)	0.29 (0.15)	U (0.16)	U (0.15)	U (0.29)	0.34 (0.16)	0.12 J (0.16)	U (0.16)	U (0.15)	U (0.16)
Benzo(b)fluoranthene	76	170	U (0.11)	U (0.11)	U (0.12)	0.27 (0.11)	U (0.12)	U (0.11)	U (0.22)	0.2 (0.12)	0.13 (0.12)	U (0.12)	U (0.11)	U (0.12)
Benzo(g,h,i)perylene	190000	180	U (0.14)	U (0.15)	U (0.17)	0.19 (0.15)	U (0.16)	U (0.15)	U (0.29)	0.6 (0.16)	0.057 J (0.16)	U (0.16)	U (0.15)	U (0.16)
Chrysene	760	230	U (0.11)	U (0.11)	0.061 J (0.12)	0.11 (0.11)	U (0.12)	0.083 J (0.11)	0.064 J (0.22)	0.19 (0.12)	0.1 J (0.12)	U (0.12)	U (0.11)	U (0.12)
Fluorene	130000	3800	U (0.18)	U (0.19)	3.8 (0.21)	U (0.19)	U (0.2)	4.6 (0.19)	6.7 (0.36)	U (0.21)	U (0.2)	U (0.2)	U (0.18)	U (0.2)
Naphthalene	66	25	U (0.18)	U (0.19)	7.5 (0.21)	U (0.19)	U (0.2)	18 (0.95)	13 (1.8)	U (0.21)	U (0.2)	U (0.2)	U (0.18)	U (0.2)
Phenanthrene	190000	10000	U (0.11)	U (0.11)	8.6 (1.2)	0.048 J (0.11)	U (0.12)	18 (0.57)	15 (1.1)	0.052 J (0.12)	0.1 J (0.12)	U (0.12)	U (0.11)	U (0.12)
Pyrene	96000	2200	U (0.11)	U (0.11)	0.77 (0.12)	0.078 J (0.11)	U (0.12)	1.6 (0.11)	1.5 (0.22)	0.051 J (0.12)	0.13 (0.12)	U (0.12)	U (0.11)	U (0.12)
Metals														
Lead	1000	450	5.06 (2.17)	3.86 (2.25)	6.19 (2.38)	8.4 (2.31)	9.71 (2.29)	2.99 (2.28)	4.58 (2.1)	184 (2.5)	55.4 (2.33)	8.69 (2.4)	6.58 (2.13)	8.46 (2.28)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - No concentrations exceed the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2d
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) (mg/kg)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	302-AI02-C5 302-AI02 302-AI02-C5-COMP 11/10/2022	302-AI03-C1 302-AI03 302-AI03-C1-COMP 10/27/2022	302-AI03-C2 302-AI03 302-AI03-C2-COMP 10/27/2022	302-AI03-C3 302-AI03 302-AI03-C3-COMP 10/27/2022	302-AI03-C4 302-AI03 302-AI03-C4-COMP 10/27/2022	302-AI04-C1 302-AI04 302-AI04-C1-COMP 10/26/2022	302-AI04-C2 302-AI04 302-AI04-C2-COMP 10/26/2022	302-AI04-C3 302-AI04 302-AI04-C3-COMP 10/26/2022	302-AI04-C4 302-AI04 302-AI04-C4-COMP 10/26/2022	302-AJ03-C1 302-AJ03 302-AJ03-C1-COMP 10/26/2022	302-AJ03-C2 302-AJ03 302-AJ03-C2-COMP 10/26/2022	302-AJ03-C3 302-AJ03 302-AJ03-C3-COMP 10/26/2022
PAHs														
Anthracene	190000	350	U (0.12)	U (0.12)	U (0.12)	U (0.1)	U (0.11)	U (0.12)	U (0.1)	U (0.12)	U (0.13)	U (0.11)	U (0.11)	U (0.11)
Benzo(a)anthracene	130	340	U (0.12)	U (0.12)	U (0.12)	U (0.1)	U (0.11)	U (0.12)	U (0.1)	U (0.12)	U (0.13)	0.031 J (0.11)	0.098 J (0.11)	U (0.11)
Benzo(a)pyrene	91	46	U (0.16)	U (0.15)	U (0.15)	U (0.14)	U (0.15)	U (0.16)	U (0.14)	U (0.16)	U (0.18)	U (0.14)	0.089 J (0.15)	U (0.15)
Benzo(b)fluoranthene	76	170	U (0.12)	U (0.12)	U (0.12)	U (0.1)	U (0.11)	U (0.12)	U (0.1)	U (0.12)	U (0.13)	0.033 J (0.11)	0.12 (0.11)	U (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.16)	U (0.15)	U (0.15)	U (0.14)	U (0.15)	U (0.16)	U (0.14)	U (0.16)	U (0.18)	U (0.14)	0.059 J (0.15)	U (0.15)
Chrysene	760	230	U (0.12)	U (0.12)	U (0.12)	U (0.1)	U (0.11)	U (0.12)	U (0.1)	U (0.12)	U (0.13)	0.027 J (0.11)	0.099 J (0.11)	U (0.11)
Fluorene	130000	3800	U (0.19)	0.091 J (0.19)	U (0.19)	U (0.17)	U (0.19)	U (0.19)	U (0.17)	U (0.19)	U (0.22)	U (0.18)	U (0.19)	U (0.19)
Naphthalene	66	25	U (0.19)	U (0.19)	U (0.19)	U (0.17)	U (0.19)	U (0.19)	U (0.17)	U (0.19)	U (0.22)	U (0.18)	0.031 J (0.19)	U (0.19)
Phenanthrene	190000	10000	U (0.12)	0.2 (0.12)	U (0.12)	U (0.1)	U (0.11)	U (0.12)	U (0.1)	U (0.12)	U (0.13)	0.044 J (0.11)	0.11 (0.11)	U (0.11)
Pyrene	96000	2200	U (0.12)	U (0.12)	U (0.12)	U (0.1)	U (0.11)	0.022 J (0.12)	U (0.1)	U (0.12)	U (0.13)	0.05 J (0.11)	0.15 (0.11)	U (0.11)
Metals														
Lead	1000	450	8.31 (2.28)	6.89 (2.23)	8 (2.24)	3.88 (2.03)	3.39 (2.2)	6.88 (2.27)	2.04 (1.99)	5.87 (2.38)	5.32 (2.65)	56.2 (2.13)	3.91 (2.26)	2.59 (2.28)

- Notes:**
- 1 Concentrations are presented in mg/kg.
 - 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - 5 No concentrations exceed the Site-specific standard of 2,520 mg/kg for lead.
 - 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2d
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact	Non-Residential Soil to Groundwater	302-AJ03-C4 302-AJ03	302-AK02-C1 302-AK02	302-AK02-C2 302-AK02	302-AK02-C3 302-AK02	302-AK02-C4 302-AK02	302-AL02-C1 302-AL02	302-AL02-C2 302-AL02	302-AL02-C3 302-AL02	302-AL02-C4 302-AL02	302-AM01-C1 302-AM01	302-AM01-C2 302-AM01	302-AM01-C3 302-AM01
Field Sample ID	Value (0-2 ft bgs)	Value	302-AJ03-C4-COMP	302-AK02-C1-COMP	302-AK02-C2-COMP	302-AK02-C3-COMP	302-AK02-C4-COMP	302-AL02-C1-COMP	302-AL02-C2-COMP	302-AL02-C3-COMP	302-AL02-C4-COMP	302-AM01-C1-COMP	302-AM01-C2-COMP	302-AM01-C3-COMP
Sample Date	(mg/kg)	(mg/kg)	10/26/2022	10/25/2022	10/25/2022	10/25/2022	10/25/2022	11/11/2022	11/11/2022	11/11/2022	11/11/2022	10/24/2022	10/24/2022	10/24/2022
PAHs														
Anthracene	190000	350	U (0.11)	U (0.1)	U (0.12)	U (0.12)	U (0.1)	U (0.1)	0.061 J (0.11)	0.23 (0.11)	0.34 (0.12)	0.092 J (0.11)	U (0.11)	U (0.11)
Benzo(a)anthracene	130	340	U (0.11)	U (0.1)	U (0.12)	U (0.12)	U (0.1)	0.025 J (0.1)	0.38 (0.11)	0.29 (0.11)	0.46 (0.12)	0.45 (0.11)	0.081 J (0.11)	U (0.11)
Benzo(a)pyrene	91	46	U (0.15)	U (0.14)	U (0.16)	U (0.15)	U (0.14)	U (0.14)	0.69 (0.15)	0.22 (0.15)	0.34 (0.16)	0.55 (0.15)	0.089 J (0.14)	U (0.14)
Benzo(b)fluoranthene	76	170	U (0.11)	U (0.1)	U (0.12)	U (0.12)	U (0.1)	0.035 J (0.1)	0.74 (0.11)	0.18 (0.11)	0.33 (0.12)	0.61 (0.11)	0.21 (0.11)	U (0.11)
Benzo(g,h,i)perylene	190000	180	U (0.15)	U (0.14)	U (0.16)	U (0.15)	U (0.14)	0.023 J (0.14)	0.46 (0.15)	0.17 (0.15)	0.2 (0.16)	0.4 (0.15)	0.043 J (0.14)	U (0.14)
Chrysene	760	230	U (0.11)	U (0.1)	U (0.12)	U (0.12)	U (0.1)	0.027 J (0.1)	0.42 (0.11)	0.62 (0.11)	0.6 (0.12)	0.42 (0.11)	0.13 (0.11)	U (0.11)
Fluorene	130000	3800	U (0.19)	U (0.18)	U (0.2)	U (0.19)	U (0.18)	U (0.17)	0.026 J (0.18)	0.11 J (0.19)	0.27 (0.2)	0.031 J (0.19)	U (0.18)	U (0.18)
Naphthalene	66	25	U (0.19)	U (0.18)	U (0.2)	U (0.19)	U (0.18)	U (0.17)	0.14 J (0.18)	0.083 J (0.19)	0.13 J (0.2)	0.046 J (0.19)	U (0.18)	U (0.18)
Phenanthrene	190000	10000	U (0.11)	U (0.1)	U (0.12)	U (0.12)	U (0.1)	0.024 J (0.1)	0.3 (0.11)	0.18 (0.11)	0.76 (0.12)	0.35 (0.11)	U (0.11)	U (0.11)
Pyrene	96000	2200	U (0.11)	U (0.1)	U (0.12)	U (0.12)	U (0.1)	0.047 J (0.1)	0.55 (0.11)	0.59 (0.11)	0.79 (0.12)	0.46 (0.11)	0.075 J (0.11)	U (0.11)
Metals														
Lead	1000	450	4.39 (2.2)	6.74 (2.07)	4.72 (2.4)	3.79 (2.26)	5.62 (2.08)	18.8 (2.02)	132 (2.14)	353 (2.27)	3.64 (2.32)	119 (2.15)	11.9 (2.12)	52.3 (2.09)

- Notes:**
- Concentrations are presented in mg/kg.
 - No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - No concentrations exceed the Site-specific standard of 2,520 mg/kg for lead.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.2d
Cut Soil Composite Analytical Results - PAHs and Lead
Industrial Development Phase 1C
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location Cell	Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs)	Non-Residential Soil to Groundwater Numeric Value (mg/kg)	302-AM01-C4 302-AM01 302-AM01-C4-COMP 10/24/2022	302-AO01-C1 302-AO01 302-AO01-C1-COMP 10/24/2022
Field Sample ID Sample Date	Value (mg/kg)	Value (mg/kg)		
PAHs				
Anthracene	190000	350	U (0.11)	U (0.1)
Benzo(a)anthracene	130	340	U (0.11)	0.027 J (0.1)
Benzo(a)pyrene	91	46	U (0.15)	U (0.14)
Benzo(b)fluoranthene	76	170	U (0.11)	0.047 J (0.1)
Benzo(g,h,i)perylene	190000	180	U (0.15)	0.036 J (0.14)
Chrysene	760	230	U (0.11)	0.064 J (0.1)
Fluorene	130000	3800	U (0.19)	U (0.17)
Naphthalene	66	25	U (0.19)	U (0.17)
Phenanthrene	190000	10000	U (0.11)	U (0.1)
Pyrene	96000	2200	U (0.11)	0.04 J (0.1)
Metals				
Lead	1000	450	21.4 (2.14)	5.81 (1.99)

Notes:

- 1 Concentrations are presented in mg/kg.
- 2 No concentrations only exceed the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- 3 Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- 4 Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- 5 No concentrations exceed the Site-specific standard of 2,520 mg/kg for lead.
- 6 A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.3
Underlying Soil Analytical Results
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	101-A15-U-d	101-D14-U-b	101-D16-U-b	101-D20-U-d	101-F13-U-c	101-G10-U-b	101-G16-U-c	101-G23-U-c	101-G24-U-a	101-G25-U-b	101-G26-U-a	101-H10-U-a	101-H12-U-d
Field Sample ID	Direct Contact Numeric	Groundwater Numeric	101-A15-U	101-D14-U	101-D16-U	101-D20-U	101-F13-U	101-G10-U	101-G16-U	101-G23-U	101-G24-U	101-G25-U	101-G26-U	101-H10-U	101-H12-U
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	1.05 - 3.05	1.99 - 3.99	0.99 - 2.99	3.64 - 5.64	1.14 - 3.14	6.26 - 8.26	4.91 - 6.91	5.08 - 7.08	4.25 - 6.25	7.87 - 9.87	5.01 - 7.01	6.26 - 8.26	0.55 - 2.55
Sample Date	(mg/kg)	(mg/kg)	1/4/2021	1/4/2021	1/4/2021	1/7/2021	1/6/2021	1/5/2021	1/7/2021	1/15/2021	1/15/2021	1/15/2021	1/15/2021	1/5/2021	1/5/2021
VOC															
Benzene	280	0.5	U (0.00096)	0.0005 J (0.00062)	U (0.00042)	U (0.0004)	U (0.0007)	U (0.00049)	0.43 (0.052)	0.0031 (0.00051)	0.002 (0.00045)	0.00033 J (0.00052)	0.00096 (0.00052)	0.024 (0.00076)	U (0.001)
Cumene	10000	2500	U (0.0019)	0.007 (0.0012)	U (0.00084)	U (0.00079)	U (0.0014)	0.00012 J (0.00098)	0.52 (0.1)	U (0.001)	0.0013 (0.00091)	U (0.001)	0.0032 (0.001)	0.034 (0.0015)	U (0.002)
1,2-Dibromoethane	3.7	0.005	U (0.00096)	U (0.00062)	U (0.00042)	U (0.0004)	U (0.0007)	U (0.00049)	0.049 J (0.052)	U (0.00051)	U (0.00045)	U (0.00052)	U (0.00052)	U (0.00076)	U (0.001)
1,2-Dichloroethane	85	0.5	U (0.0019)	U (0.0012)	U (0.00084)	U (0.00079)	U (0.0014)	U (0.00098)	U (0.1)	U (0.001)	U (0.00091)	U (0.001)	U (0.001)	0.00071 J (0.0015)	U (0.002)
Ethyl Benzene	880	70	U (0.0019)	0.00051 J (0.0012)	U (0.00084)	U (0.00079)	U (0.0014)	0.00021 J (0.00098)	0.14 (0.1)	0.00031 J (0.001)	0.0009 J (0.00091)	U (0.001)	0.00023 J (0.001)	0.0066 (0.0015)	U (0.002)
Methyl tert-butyl ether	8500	2	U (0.0038)	U (0.0025)	U (0.0017)	U (0.0016)	U (0.0028)	U (0.002)	U (0.21)	U (0.002)	U (0.0018)	U (0.0021)	U (0.0021)	0.00043 J (0.003)	U (0.004)
Toluene	10000	100	U (0.0019)	U (0.0012)	U (0.00084)	0.00046 J (0.00079)	U (0.0014)	U (0.00098)	0.47 (0.1)	0.0015 (0.001)	U (0.00091)	U (0.001)	0.00084 J (0.001)	0.051 (0.0015)	0.0034 (0.002)
1,2,4-Trimethylbenzene	4700	300	U (0.0038)	0.0014 J (0.0025)	U (0.0017)	U (0.0016)	U (0.0028)	U (0.002)	0.58 (0.21)	0.00036 J (0.002)	U (0.0018)	U (0.0021)	0.0043 (0.0021)	0.24 (0.003)	0.0024 J (0.004)
1,3,5-Trimethylbenzene	4700	93	U (0.0038)	0.00051 J (0.0025)	U (0.0017)	U (0.0016)	U (0.0028)	U (0.002)	0.42 (0.21)	U (0.002)	U (0.0018)	U (0.0021)	0.002 J (0.0021)	0.035 (0.003)	0.0016 J (0.004)
Xylenes (total)	7900	1000	U (0.0038)	0.0035 J (0.0025)	U (0.0017)	U (0.0016)	U (0.0028)	U (0.002)	0.95 J (0.21)	0.00136 J (0.002)	U (0.0018)	U (0.0021)	0.0037 J (0.0021)	0.132 J (0.003)	0.0024 J (0.004)
PAHs															
Anthracene	190000	350	4 (0.31)	0.52 (0.072)	0.62 (0.038)	0.0024 J (0.008)	0.0058 J (0.01)	0.0033 J (0.0082)	1.5 (0.098)	0.055 (0.0074)	0.028 (0.0077)	0.51 (0.077)	0.022 (0.0079)	0.067 J (0.076)	0.0047 J (0.01)
Benzo(a)anthracene	130	340	10 (0.31)	0.96 (0.072)	1.5 (0.038)	0.0089 (0.008)	0.036 (0.01)	0.0088 (0.0082)	3.1 (0.098)	0.11 (0.0074)	0.096 (0.0077)	3.1 (0.077)	0.13 (0.0079)	0.28 (0.076)	0.021 (0.01)
Benzo(a)pyrene	91	46	10 (0.31)	0.59 (0.072)	1.3 (0.038)	0.012 (0.008)	0.036 (0.01)	0.014 (0.0082)	1.9 (0.098)	0.097 (0.0074)	0.15 (0.0077)	2.1 (0.077)	0.15 (0.0079)	0.37 (0.076)	0.02 (0.01)
Benzo(b)fluoranthene	76	170	14 (0.31)	0.75 (0.072)	1.7 (0.038)	0.016 (0.008)	0.046 (0.01)	0.018 (0.0082)	2.3 (0.098)	0.11 (0.0074)	0.16 (0.0077)	3.2 (0.077)	0.17 (0.0079)	0.42 (0.076)	0.03 (0.01)
Benzo(g,h,i)perylene	190000	180	6 (0.31)	0.33 (0.072)	0.67 (0.038)	0.0071 J (0.008)	0.024 (0.01)	0.0098 (0.0082)	1.1 (0.098)	0.064 (0.0074)	0.13 (0.0077)	1 (0.077)	0.13 (0.0079)	0.34 (0.076)	0.012 (0.01)
Chrysene	760	230	9.5 (0.31)	0.68 (0.072)	1.3 (0.038)	0.0082 (0.008)	0.036 (0.01)	0.0086 (0.0082)	3.7 (0.098)	0.094 (0.0074)	0.11 (0.0077)	2.8 (0.077)	0.12 (0.0079)	0.33 (0.076)	0.022 (0.01)
Fluorene	130000	3800	1.6 (0.31)	0.42 (0.072)	0.4 (0.038)	0.0017 J (0.008)	0.002 J (0.01)	0.0061 J (0.0082)	2 (0.098)	0.019 (0.0074)	0.023 (0.0077)	0.26 (0.077)	0.0055 J (0.0079)	0.068 J (0.076)	0.0022 J (0.01)
Naphthalene	66	25	0.83 (0.31)	1.4 (0.072)	0.3 (0.038)	0.0014 J (0.008)	0.017 (0.01)	0.0085 (0.0082)	1.5 (0.098)	0.063 (0.0074)	0.083 (0.0077)	0.58 (0.077)	0.035 (0.0079)	0.36 (0.076)	0.043 (0.01)
Phenanthrene	190000	10000	14 (0.31)	1.2 (0.072)	1.9 (0.038)	0.0069 J (0.008)	0.034 (0.01)	0.0088 (0.0082)	4.6 (0.098)	0.2 (0.0074)	0.13 (0.0077)	4 (0.077)	0.052 (0.0079)	0.29 (0.076)	0.019 (0.01)
Pyrene	96000	2200	17 (0.31)	1.2 (0.072)	2.2 (0.038)	0.0098 (0.008)	0.057 (0.01)	0.011 (0.0082)	4 (0.098)	0.16 (0.0074)	0.14 (0.0077)	4.2 (0.077)	0.15 (0.0079)	0.37 (0.076)	0.025 (0.01)
Metals															
Lead	1000	450	196 (2.35)	85.1 (2.16)	45.9 (2.21)	8.86 (2.35)	289 (3.1)	23.9 (2.35)	437 (2.85)	106 (2.24)	83 (2.33)	139 (2.21)	378 (2.33)	230 (2.24)	102 (3.1)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.3
Underlying Soil Analytical Results
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	101-H17-U-b	101-H20-U-a	101-H21-U-a	101-H22-U-a	101-H23-U-c	101-H24-U-d	101-H27-U-d	101-H28-U-d	101-I13-U-a	101-I15-U-b	101-I18-U-a	101-I20-U-a	101-I21-U-b	
Field Sample ID	Direct Contact	Groundwater	101-H17-U	101-H20-U	101-H21-U	101-H22-U	101-H23-U	101-H24-U	101-H27-U	101-H28-U	101-I13-U	101-I15-U	101-I18-U	101-I20-U	101-I21-U	
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	3.97 - 5.97	5.18 - 7.18	4.86 - 6.86	5.49 - 7.49	5.86 - 7.86	6.93 - 8.93	4.15 - 6.15	6.08 - 8.08	9.07 - 11.1	6.64 - 8.64	3.05 - 5.05	4.62 - 6.62	4.61 - 6.61	
Sample Date	(mg/kg)	(mg/kg)	1/7/2021	1/8/2021	1/8/2021	1/11/2021	1/11/2021	1/12/2021	1/18/2021	1/13/2021	1/5/2021	1/6/2021	1/7/2021	1/7/2021	1/8/2021	
VOC																
Benzene	280	0.5	U (0.052)	0.033 J (0.052)	0.0013 (0.00062)	0.0054 (0.00045)	0.00048 (0.00045)	0.0018 (0.00068)	U (0.00044)	U (0.00042)	U (0.063)	U (0.048)	U (0.00057)	0.00065 (0.0005)	0.00047 J (0.00055)	
Cumene	10000	2500	1.6 (0.1)	0.41 (0.1)	0.001 J (0.0012)	0.00059 J (0.00091)	0.00023 J (0.0009)	0.0076 (0.0014)	U (0.00089)	U (0.00083)	U (0.13)	0.15 (0.096)	U (0.0011)	0.00047 J (0.001)	U (0.0011)	
1,2-Dibromoethane	3.7	0.005	U (0.052)	U (0.052)	U (0.00062)	U (0.00045)	U (0.00045)	U (0.00068)	U (0.00044)	U (0.00042)	U (0.063)	U (0.048)	U (0.00057)	U (0.0005)	U (0.00055)	
1,2-Dichloroethane	85	0.5	U (0.1)	U (0.1)	U (0.0012)	U (0.00091)	U (0.0009)	U (0.0014)	U (0.00089)	U (0.00083)	U (0.13)	U (0.096)	U (0.0011)	U (0.001)	U (0.0011)	
Ethyl Benzene	880	70	0.021 J (0.1)	0.069 J (0.1)	0.00092 J (0.0012)	0.00028 J (0.00091)	0.00043 J (0.0009)	0.00087 J (0.0014)	U (0.00089)	U (0.00083)	0.02 J (0.13)	0.022 J (0.096)	U (0.0011)	0.0004 J (0.001)	U (0.0011)	
Methyl tert-butyl ether	8500	2	U (0.21)	U (0.21)	U (0.0025)	U (0.0018)	U (0.0018)	U (0.0027)	U (0.0018)	U (0.0017)	U (0.25)	U (0.19)	U (0.0023)	U (0.002)	U (0.0022)	
Toluene	10000	100	U (0.1)	U (0.1)	0.0016 (0.0012)	0.00081 J (0.00091)	0.00051 J (0.0009)	0.0016 (0.0014)	U (0.00089)	U (0.00083)	0.14 (0.13)	U (0.096)	U (0.0011)	U (0.001)	U (0.0011)	
1,2,4-Trimethylbenzene	4700	300	0.24 (0.21)	0.67 (0.21)	0.00078 J (0.0025)	U (0.0018)	0.00058 J (0.0018)	0.001 J (0.0027)	U (0.0018)	U (0.0017)	0.2 J (0.25)	0.39 (0.19)	U (0.0023)	0.0012 J (0.002)	U (0.0022)	
1,3,5-Trimethylbenzene	4700	93	0.12 J (0.21)	0.26 (0.21)	0.00041 J (0.0025)	U (0.0018)	U (0.0018)	0.00083 J (0.0027)	U (0.0018)	U (0.0017)	0.067 J (0.25)	0.046 J (0.19)	U (0.0023)	0.001 J (0.002)	U (0.0022)	
Xylenes (total)	7900	1000	0.39 J (0.21)	0.7 J (0.21)	0.0035 J (0.0025)	0.001225 J (0.0018)	0.00162 J (0.0018)	0.0068 J (0.0027)	U (0.0018)	U (0.0017)	0.186 J (0.25)	0.126 J (0.19)	U (0.0023)	0.00204 J (0.002)	U (0.0022)	
PAHs																
Anthracene	190000	350	0.52 (0.18)	1.6 J (7.9)	0.03 (0.0079)	0.00063 J (0.0079)	2.6 (0.15)	0.03 (0.0074)	0.00061 J (0.0076)	U (0.0076)	U (0.18)	0.019 (0.009)	40 (3.1)	11 (0.39)	0.001 J (0.0077)	
Benzo(a)anthracene	130	340	U (0.18)	9.8 (7.9)	0.087 (0.0079)	0.0025 J (0.0079)	7.7 (0.15)	0.051 (0.0074)	0.0015 J (0.0076)	U (0.0076)	U (0.18)	0.011 (0.009)	97 (3.1)	26 (0.39)	0.0026 J (0.0077)	
Benzo(a)pyrene	91	46	0.46 (0.18)	2.9 J (7.9)	0.15 (0.0079)	0.0025 J (0.0079)	6.6 (0.15)	0.066 (0.0074)	0.0011 J (0.0076)	U (0.0076)	U (0.18)	0.0094 (0.009)	73 (3.1)	20 (0.39)	0.0023 J (0.0077)	
Benzo(b)fluoranthene	76	170	0.61 (0.18)	4.7 J (7.9)	0.12 (0.0079)	0.0029 J (0.0079)	8.1 (0.15)	0.064 (0.0074)	0.0012 J (0.0076)	U (0.0076)	U (0.18)	0.015 (0.009)	100 (3.1)	26 (0.39)	0.003 J (0.0077)	
Benzo(g,h,i)perylene	190000	180	0.37 (0.18)	4.1 J (7.9)	0.11 (0.0079)	0.0027 J (0.0079)	3.8 (0.15)	0.059 (0.0074)	0.0008 J (0.0076)	U (0.0076)	U (0.18)	0.032 (0.009)	40 (3.1)	9 (0.39)	0.0019 J (0.0077)	
Chrysene	760	230	1.7 (0.18)	20 (7.9)	0.11 (0.0079)	0.0022 J (0.0079)	6.5 (0.15)	0.078 (0.0074)	0.0012 J (0.0076)	U (0.0076)	U (0.18)	0.012 (0.009)	81 (3.1)	20 (0.39)	0.0022 J (0.0077)	
Fluorene	130000	3800	1.6 (0.18)	3.3 J (7.9)	0.015 (0.0079)	U (0.0079)	1.7 (0.15)	0.028 (0.0074)	U (0.0076)	U (0.0076)	U (0.18)	0.024 (0.009)	20 (3.1)	5.4 (0.39)	U (0.0077)	
Naphthalene	66	25	1.5 (0.18)	8.9 (7.9)	0.029 (0.0079)	U (0.0079)	1.9 (0.15)	0.046 (0.0074)	0.0017 J (0.0076)	U (0.0076)	8.5 (0.18)	0.82 (0.009)	16 (3.1)	3.6 (0.39)	0.0015 J (0.0077)	
Phenanthrene	190000	10000	2.9 (0.18)	15 (7.9)	0.081 (0.0079)	0.0028 J (0.0079)	6.2 (0.15)	0.14 (0.0074)	0.0013 J (0.0076)	U (0.0076)	0.026 J (0.18)	0.052 (0.009)	180 (3.1)	31 (0.39)	0.0036 J (0.0077)	
Pyrene	96000	2200	1.2 (0.18)	8.4 (7.9)	0.11 (0.0079)	0.0039 J (0.0079)	11 (0.15)	0.11 (0.0074)	0.002 J (0.0076)	U (0.0076)	0.014 J (0.18)	0.03 (0.009)	150 (3.1)	33 (0.39)	0.0031 J (0.0077)	
Metals																
Lead	1000	450	44.8 (2.66)	16200 (15.7)	67.1 (2.36)	7.6 (2.22)	111 (2.26)	75.3 (2.19)	140 (2.34)	6.38 (2.23)	165 (2.71)	33.5 (2.72)	44400 (22.5)	785 (2.24)	10.1 (2.27)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.3
Underlying Soil Analytical Results
Innovation Campus

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	101-I22-U-a	101-I23-U-c	101-I24-U-b	101-I25-U-d	101-I26-U-c	101-I29-U-b	101-I30-U-c	101-I13-U-c	101-I17-U-c	101-J20-U-d	101-J21-U-b	101-J23-U-c	101-J26-U-a	
Field Sample ID	Direct Contact Numeric	Groundwater Numeric	101-I22-U	101-I23-U	101-I24-U	101-I25-U	101-I26-U	101-I29-U	101-I30-U	101-I13-U	101-I17-U	101-J20-U	101-J21-U	101-J23-U	101-J26-U	
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	3.73 - 5.73	2.54 - 4.54	2.56 - 4.56	11.3 - 13.3	7.66 - 9.66	8.09 - 10.1	11.6 - 13.6	5.63 - 7.63	3.78 - 5.78	3.97 - 5.97	1.09 - 3.09	1.16 - 3.16	0.2 - 2.2	
Sample Date	(mg/kg)	(mg/kg)	1/11/2021	1/11/2021	1/12/2021	1/12/2021	1/13/2021	3/10/2021	1/14/2021	1/5/2021	1/6/2021	1/12/2021	1/8/2021	1/12/2021	1/13/2021	
VOC																
Benzene	280	0.5	0.00048 (0.00048)	0.06 (0.037)	U (0.00066)	U (0.00056)	0.41 (0.026)	U (0.00063)	U (0.00045)	0.23 J (0.32)	0.22 (0.036)	U (0.00049)	U (0.00045)	U (0.0004)	U (0.0005)	
Cumene	10000	2500	U (0.00096)	1.7 (0.075)	U (0.0013)	U (0.0011)	1 (0.053)	U (0.0013)	U (0.00091)	4.9 (0.64)	0.13 (0.072)	U (0.00097)	U (0.0009)	U (0.00081)	U (0.001)	
1,2-Dibromoethane	3.7	0.005	U (0.00048)	U (0.037)	U (0.00066)	U (0.00056)	U (0.026)	U (0.00063)	U (0.00045)	U (0.32)	U (0.036)	U (0.00049)	U (0.00045)	U (0.0004)	U (0.0005)	
1,2-Dichloroethane	85	0.5	U (0.00096)	U (0.075)	U (0.0013)	U (0.0011)	U (0.053)	U (0.0013)	U (0.00091)	U (0.64)	U (0.072)	U (0.00097)	U (0.0009)	U (0.00081)	U (0.001)	
Ethyl Benzene	880	70	U (0.00096)	0.15 (0.075)	U (0.0013)	U (0.0011)	0.14 (0.053)	U (0.0013)	U (0.00091)	0.14 J (0.64)	0.13 (0.072)	U (0.00097)	U (0.0009)	U (0.00081)	U (0.001)	
Methyl tert-butyl ether	8500	2	U (0.0019)	U (0.15)	U (0.0026)	U (0.0022)	U (0.11)	U (0.0025)	U (0.0018)	U (1.3)	U (0.14)	U (0.0019)	U (0.0018)	U (0.0016)	U (0.002)	
Toluene	10000	100	U (0.00096)	0.32 (0.075)	U (0.0013)	U (0.0011)	0.089 (0.053)	U (0.0013)	U (0.00091)	U (0.64)	0.09 (0.072)	U (0.00097)	U (0.0009)	U (0.00081)	U (0.001)	
1,2,4-Trimethylbenzene	4700	300	U (0.0019)	0.8 (0.15)	U (0.0026)	U (0.0022)	0.091 J (0.11)	U (0.0025)	U (0.0018)	0.36 J (1.3)	0.084 J (0.14)	U (0.0019)	U (0.0018)	U (0.0016)	U (0.002)	
1,3,5-Trimethylbenzene	4700	93	U (0.0019)	0.29 (0.15)	U (0.0026)	U (0.0022)	0.017 J (0.11)	U (0.0025)	U (0.0018)	2.7 (1.3)	0.031 J (0.14)	U (0.0019)	U (0.0018)	U (0.0016)	U (0.002)	
Xylenes (total)	7900	1000	U (0.0019)	1.63 J (0.15)	U (0.0026)	U (0.0022)	0.257 J (0.11)	U (0.0025)	U (0.0018)	0.72 J (1.3)	0.319 J (0.14)	U (0.0019)	U (0.0018)	U (0.0016)	U (0.002)	
PAHs																
Anthracene	190000	350	U (0.0079)	3.2 (0.39)	0.16 (0.038)	0.0077 (0.0071)	0.016 (0.0078)	0.019 J (0.038)	U (0.0076)	1.1 (0.091)	0.0065 J (0.0079)	U (0.0074)	0.0037 J (0.0077)	0.0079 (0.0072)	0.37 (0.038)	
Benzo(a)anthracene	130	340	0.0038 J (0.0079)	1.1 (0.39)	0.69 (0.038)	0.012 (0.0071)	0.039 (0.0078)	0.05 (0.038)	U (0.0076)	0.68 (0.091)	0.012 (0.0079)	0.0012 J (0.0074)	0.032 (0.0077)	0.022 (0.0072)	1.1 (0.038)	
Benzo(a)pyrene	91	46	0.011 (0.0079)	0.27 J (0.39)	1.3 (0.038)	0.02 (0.0071)	0.053 (0.0078)	0.046 (0.038)	U (0.0076)	0.56 (0.091)	0.0083 (0.0079)	U (0.0074)	0.046 (0.0077)	0.019 (0.0072)	0.98 (0.038)	
Benzo(b)fluoranthene	76	170	0.0084 (0.0079)	0.43 (0.39)	0.76 (0.038)	0.011 (0.0071)	0.068 (0.0078)	0.06 (0.038)	U (0.0076)	0.61 (0.091)	0.011 (0.0079)	0.00097 J (0.0074)	0.05 (0.0077)	0.026 (0.0072)	1.3 (0.038)	
Benzo(g,h,i)perylene	190000	180	0.018 (0.0079)	0.089 J (0.39)	2 (0.038)	0.04 (0.0071)	0.036 (0.0078)	0.032 J (0.038)	U (0.0076)	0.47 (0.091)	0.0076 J (0.0079)	U (0.0074)	0.029 (0.0077)	0.3 (0.0072)	0.36 (0.038)	
Chrysene	760	230	0.0039 J (0.0079)	0.88 (0.39)	0.89 (0.038)	0.015 (0.0071)	0.043 (0.0078)	0.061 (0.038)	U (0.0076)	0.91 (0.091)	0.012 (0.0079)	0.00071 J (0.0074)	0.03 (0.0077)	0.021 (0.0072)	0.96 (0.038)	
Fluorene	130000	3800	U (0.0079)	6.7 (0.39)	U (0.038)	U (0.0071)	0.041 (0.0078)	0.012 J (0.038)	U (0.0076)	5.3 (0.091)	0.01 (0.0079)	U (0.0074)	0.001 J (0.0077)	0.0026 J (0.0072)	0.14 (0.038)	
Naphthalene	66	25	U (0.0079)	6.3 (0.39)	0.21 (0.038)	0.01 (0.0071)	0.019 (0.0078)	0.42 (0.038)	U (0.0076)	1.7 (0.091)	0.0061 J (0.0079)	U (0.0074)	U (0.0077)	0.0021 J (0.0072)	0.033 J (0.038)	
Phenanthrene	190000	10000	0.0012 J (0.0079)	17 (0.39)	1.1 (0.038)	0.039 (0.0071)	0.094 (0.0078)	0.084 (0.038)	U (0.0076)	6.9 (0.091)	0.02 (0.0079)	U (0.0074)	0.017 (0.0077)	0.012 (0.0072)	2 (0.038)	
Pyrene	96000	2200	0.0027 J (0.0079)	4.6 (0.39)	1 (0.038)	0.027 (0.0071)	0.066 (0.0078)	0.091 (0.038)	U (0.0076)	1.6 (0.091)	0.036 (0.0079)	0.0011 J (0.0074)	0.04 (0.0077)	0.029 (0.0072)	2 (0.038)	
Metals																
Lead	1000	450	6 (2.34)	7.94 (2.25)	69.6 (2.26)	23 (2.11)	101 (2.31)	11.6 (2.31)	10.6 (2.23)	46.1 (2.68)	256 (2.32)	21.4 (2.27)	87.7 (2.32)	9.65 (2.18)	36.5 (2.27)	

Notes:

- Concentrations are presented in mg/kg.
- Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
- Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
- Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
- Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
- Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
- A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:

VOC -- Volatile Organic Compounds.
 PAHs -- Polycyclic Aromatic Hydrocarbons.
 ft bgs -- Feet Below Ground Surface.
 mg/kg -- Milligram per Kilogram.

Table 3.3
Underlying Soil Analytical Results
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	101-J27-U-b	101-J28-U-a	101-J29-U-c	101-J31-U-a	101-J32-U-d	101-K20-U-d	101-K21-U-a	101-K23-U-b	101-K26-U-b	101-K29-U-d	101-K30-U-d	101-K31-U-a	101-K33-U-d	
Field Sample ID	Direct Contact Numeric	Groundwater Numeric	101-J27-U	101-J28-U	101-J29-U	101-J31-U	101-J32-U	101-K20-U	101-K21-U	101-K23-U	101-K26-U	101-K29-U	101-K30-U	101-K31-U	101-K33-U	
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	0.85 - 2.85	6.27 - 8.27	8.93 - 10.9	11.8 - 13.8	12.1 - 14.1	4.24 - 6.24	0.17 - 2.17	0.9 - 2.9	3.11 - 5.11	8.93 - 10.9	10.7 - 12.7	11.7 - 13.7	12.4 - 14.4	
Sample Date	(mg/kg)	(mg/kg)	1/13/2021	1/13/2021	1/13/2021	1/14/2021	1/20/2021	1/12/2021	1/12/2021	1/12/2021	1/13/2021	1/14/2021	1/14/2021	1/14/2021	1/20/2021	
VOC																
Benzene	280	0.5	U (0.00065)	U (0.0005)	U (0.00077)	U (0.0003)	U (0.00053)	U (0.00052)	0.0016 (0.00075)	U (0.00053)	U (0.00049)	U (0.00057)	U (0.0005)	U (0.00054)	0.00028 J (0.00086)	
Cumene	10000	2500	U (0.0013)	U (0.001)	U (0.0015)	U (0.0006)	U (0.0011)	U (0.001)	0.00054 J (0.0015)	U (0.001)	0.00016 J (0.00099)	U (0.0011)	U (0.001)	U (0.0011)	U (0.0017)	
1,2-Dibromoethane	3.7	0.005	U (0.00065)	U (0.0005)	U (0.00077)	U (0.0003)	U (0.00053)	U (0.00052)	U (0.00075)	U (0.00053)	U (0.00049)	U (0.00057)	U (0.0005)	U (0.00054)	U (0.00086)	
1,2-Dichloroethane	85	0.5	U (0.0013)	U (0.001)	U (0.0015)	U (0.0006)	U (0.0011)	U (0.001)	U (0.0015)	U (0.001)	U (0.00099)	U (0.0011)	U (0.001)	U (0.0011)	U (0.0017)	
Ethyl Benzene	880	70	U (0.0013)	U (0.001)	U (0.0015)	U (0.0006)	U (0.0011)	U (0.001)	0.00035 J (0.0015)	U (0.001)	U (0.00099)	U (0.0011)	U (0.001)	U (0.0011)	U (0.0017)	
Methyl tert-butyl ether	8500	2	U (0.0026)	U (0.002)	U (0.0031)	U (0.0012)	U (0.0021)	U (0.0021)	U (0.003)	U (0.0021)	U (0.002)	U (0.0023)	U (0.002)	U (0.0022)	U (0.0034)	
Toluene	10000	100	U (0.0013)	U (0.001)	U (0.0015)	U (0.0006)	U (0.0011)	U (0.001)	0.0036 (0.0015)	U (0.001)	U (0.00099)	U (0.0011)	U (0.001)	U (0.0011)	U (0.0017)	
1,2,4-Trimethylbenzene	4700	300	U (0.0026)	U (0.002)	U (0.0031)	U (0.0012)	U (0.0021)	U (0.0021)	0.00064 J (0.003)	U (0.0021)	0.0035 (0.002)	U (0.0023)	U (0.002)	U (0.0022)	0.001 J (0.0034)	
1,3,5-Trimethylbenzene	4700	93	U (0.0026)	U (0.002)	U (0.0031)	U (0.0012)	U (0.0021)	U (0.0021)	0.001 J (0.003)	U (0.0021)	0.0016 J (0.002)	U (0.0023)	U (0.002)	U (0.0022)	0.00056 J (0.0034)	
Xylenes (total)	7900	1000	U (0.0026)	U (0.002)	U (0.0031)	U (0.0012)	U (0.0021)	U (0.0021)	0.00245 J (0.003)	U (0.0021)	U (0.002)	U (0.0023)	U (0.002)	U (0.0022)	U (0.0034)	
PAHs																
Anthracene	190000	350	0.016 (0.0077)	U (0.0078)	0.13 (0.078)	U (0.0079)	0.3 (0.039)	0.001 J (0.0076)	0.0014 J (0.0078)	0.088 (0.025)	0.14 (0.04)	U (0.0081)	0.01 (0.0075)	0.77 (0.079)	0.0025 J (0.0078)	
Benzo(a)anthracene	130	340	0.069 (0.0077)	0.00078 J (0.0078)	0.54 (0.078)	U (0.0079)	1 (0.039)	0.0032 J (0.0076)	0.0078 (0.0078)	0.21 (0.025)	0.061 (0.04)	U (0.0081)	0.086 (0.0075)	2 (0.079)	0.034 (0.0078)	
Benzo(a)pyrene	91	46	0.081 (0.0077)	U (0.0078)	0.51 (0.078)	U (0.0079)	1.4 (0.039)	0.0026 J (0.0076)	0.014 (0.0078)	0.17 (0.025)	U (0.04)	U (0.0081)	0.084 (0.0075)	1.8 (0.079)	0.13 (0.0078)	
Benzo(b)fluoranthene	76	170	0.1 (0.0077)	U (0.0078)	0.54 (0.078)	U (0.0079)	1.6 (0.039)	0.0033 J (0.0076)	0.0099 (0.0078)	0.21 (0.025)	0.039 J (0.04)	U (0.0081)	0.11 (0.0075)	2.6 (0.079)	0.13 (0.0078)	
Benzo(g,h,i)perylene	190000	180	0.074 (0.0077)	0.0065 J (0.0078)	0.36 (0.078)	U (0.0079)	0.99 (0.039)	0.002 J (0.0076)	0.018 (0.0078)	0.1 (0.025)	U (0.04)	U (0.0081)	0.058 (0.0075)	0.92 (0.079)	0.33 (0.0078)	
Chrysene	760	230	0.13 (0.0077)	U (0.0078)	0.75 (0.078)	U (0.0079)	0.93 (0.039)	0.0028 J (0.0076)	0.007 J (0.0078)	0.18 (0.025)	0.26 (0.04)	U (0.0081)	0.085 (0.0075)	2.2 (0.079)	0.055 (0.0078)	
Fluorene	130000	3800	0.0046 J (0.0077)	0.0014 J (0.0078)	U (0.078)	U (0.0079)	0.16 (0.039)	U (0.0076)	U (0.0078)	0.034 (0.025)	0.53 (0.04)	U (0.0081)	0.003 J (0.0075)	0.81 (0.079)	0.0016 J (0.0078)	
Naphthalene	66	25	0.039 (0.0077)	U (0.0078)	0.034 J (0.078)	U (0.0079)	0.41 (0.039)	U (0.0076)	0.0055 J (0.0078)	0.015 J (0.025)	0.034 J (0.04)	U (0.0081)	0.0053 J (0.0075)	0.74 (0.079)	0.033 (0.0078)	
Phenanthrene	190000	10000	0.083 (0.0077)	0.00094 J (0.0078)	0.58 (0.078)	U (0.0079)	1 (0.039)	0.0038 J (0.0076)	0.0057 J (0.0078)	0.32 (0.025)	2.1 (0.04)	0.00094 J (0.0081)	0.062 (0.0075)	6.1 (0.079)	0.0092 (0.0078)	
Pyrene	96000	2200	0.11 (0.0077)	0.0007 J (0.0078)	1.2 (0.078)	U (0.0079)	1.5 (0.039)	0.0049 J (0.0076)	0.0058 J (0.0078)	0.33 (0.025)	0.14 (0.04)	0.00098 J (0.0081)	0.16 (0.0075)	4.5 (0.079)	0.013 (0.0078)	
Metals																
Lead	1000	450	115 (2.3)	5.07 (2.34)	122 (2.3)	9.17 (2.35)	5.39 (2.38)	9.48 (2.21)	91.9 (2.29)	147 (2.56)	9.93 (2.43)	7.93 (2.36)	81.4 (2.18)	13300 (11.3)	17.4 (2.27)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.3
Underlying Soil Analytical Results
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	101-K34-U-b	101-L29-U-d	101-L30-U-c	101-L31-U-b	101-L32-U-a	101-L33-U-d	101-L35-U-d	101-M26-U-a	101-M28-U-c	101-M29-U-d	101-M30-U-b	101-M31-U-d	101-M32-U-c
Field Sample ID	Direct Contact Numeric	Groundwater Numeric	101-K34-U	101-L29-U	101-L30-U	101-L31-U	101-L32-U	101-L33-U	101-L35-U	101-M26-U	101-M28-U	101-M29-U	101-M30-U	101-M31-U	101-M32-U
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	11.6 - 13.6	7.55 - 9.55	8.86 - 10.9	10.4 - 12.4	14.1 - 16.1	11.5 - 13.5	7.09 - 9.09	2.18 - 4.18	3.58 - 5.58	3.83 - 5.83	4.42 - 6.42	4.82 - 6.82	8.73 - 10.7
Sample Date	(mg/kg)	(mg/kg)	1/20/2021	1/14/2021	1/19/2021	1/19/2021	1/19/2021	1/20/2021	1/21/2021	1/13/2021	1/15/2021	1/14/2021	1/18/2021	1/18/2021	1/19/2021
VOC															
Benzene	280	0.5	0.00046 J (0.00069)	U (0.00062)	0.00053 J (0.00073)	U (0.032)	U (0.00042)	0.00021 J (0.00041)	U (0.12)	U (0.00039)	0.091 (0.032)	U (0.00043)	U (0.00054)	U (0.00098)	U (0.00054)
Cumene	10000	2500	U (0.0014)	U (0.0012)	0.00023 J (0.0015)	0.12 (0.063)	U (0.00084)	0.00071 J (0.00082)	0.41 (0.24)	0.00079 (0.00079)	0.07 (0.065)	0.036 (0.00087)	U (0.0011)	U (0.002)	U (0.0011)
1,2-Dibromoethane	3.7	0.005	U (0.00069)	U (0.00062)	U (0.00073)	U (0.032)	U (0.00042)	U (0.00041)	U (0.12)	U (0.00039)	U (0.032)	U (0.00043)	U (0.00054)	U (0.00098)	U (0.00054)
1,2-Dichloroethane	85	0.5	U (0.0014)	U (0.0012)	U (0.0015)	U (0.063)	U (0.00084)	U (0.00082)	U (0.24)	U (0.00079)	U (0.065)	U (0.00087)	U (0.0011)	U (0.002)	U (0.0011)
Ethyl Benzene	880	70	U (0.0014)	U (0.0012)	0.0004 J (0.0015)	U (0.063)	U (0.00084)	U (0.00082)	U (0.24)	U (0.00079)	0.02 J (0.065)	U (0.00087)	U (0.0011)	U (0.002)	U (0.0011)
Methyl tert-butyl ether	8500	2	U (0.0028)	U (0.0025)	U (0.0029)	U (0.13)	U (0.0017)	U (0.0016)	U (0.48)	U (0.0016)	U (0.13)	U (0.0017)	U (0.0022)	U (0.0039)	U (0.0022)
Toluene	10000	100	0.00075 J (0.0014)	U (0.0012)	U (0.0015)	U (0.063)	U (0.00084)	0.00048 J (0.00082)	U (0.24)	U (0.00079)	0.11 (0.065)	U (0.00087)	U (0.0011)	U (0.002)	U (0.0011)
1,2,4-Trimethylbenzene	4700	300	0.00056 J (0.0028)	U (0.0025)	U (0.0029)	0.13 (0.13)	U (0.0017)	0.00049 J (0.0016)	U (0.48)	U (0.0016)	0.21 (0.13)	0.00075 J (0.0017)	U (0.0022)	U (0.0039)	U (0.0022)
1,3,5-Trimethylbenzene	4700	93	U (0.0028)	U (0.0025)	U (0.0029)	0.031 J (0.13)	U (0.0017)	U (0.0016)	U (0.48)	U (0.0016)	0.11 J (0.13)	U (0.0017)	U (0.0022)	U (0.0039)	U (0.0022)
Xylenes (total)	7900	1000	0.0015 J (0.0028)	U (0.0025)	U (0.0029)	0.0705 J (0.13)	U (0.0017)	0.00106 J (0.0016)	0.36 J (0.48)	0.00123 J (0.0016)	0.55 J (0.13)	0.00226 J (0.0017)	U (0.0022)	U (0.0039)	U (0.0022)
PAHs															
Anthracene	190000	350	U (0.0075)	U (0.008)	0.082 (0.0075)	0.2 (0.077)	U (0.0079)	0.0029 J (0.0086)	0.76 (0.039)	4.9 (0.74)	0.16 (0.04)	0.14 (0.016)	9.2 (0.43)	0.062 (0.0081)	0.0022 J (0.0081)
Benzo(a)anthracene	130	340	U (0.0075)	0.0014 J (0.008)	0.14 (0.0075)	0.42 (0.077)	U (0.0079)	0.0037 J (0.0086)	0.15 (0.039)	0.71 J (0.74)	0.14 (0.04)	0.21 (0.016)	19 (0.43)	0.28 (0.0081)	0.0094 (0.0081)
Benzo(a)pyrene	91	46	U (0.0075)	0.00096 J (0.008)	0.18 (0.0075)	0.3 (0.077)	U (0.0079)	0.0026 J (0.0086)	0.036 J (0.039)	0.56 J (0.74)	0.24 (0.04)	0.14 (0.016)	16 (0.43)	0.2 (0.0081)	0.0083 (0.0081)
Benzo(b)fluoranthene	76	170	U (0.0075)	0.0012 J (0.008)	0.22 (0.0075)	0.38 (0.077)	U (0.0079)	0.003 J (0.0086)	0.031 J (0.039)	0.67 J (0.74)	0.2 (0.04)	0.18 (0.016)	20 (0.43)	0.28 (0.0081)	0.013 (0.0081)
Benzo(g,h,i)perylene	190000	180	U (0.0075)	U (0.008)	0.18 (0.0075)	0.18 (0.077)	U (0.0079)	0.0019 J (0.0086)	0.019 J (0.039)	0.44 J (0.74)	0.84 (0.04)	0.089 (0.016)	8.7 (0.43)	0.12 (0.0081)	0.0065 J (0.0081)
Chrysene	760	230	U (0.0075)	0.001 J (0.008)	0.14 (0.0075)	0.41 (0.077)	U (0.0079)	0.0031 J (0.0086)	0.13 (0.039)	1.2 (0.74)	0.21 (0.04)	0.32 (0.016)	17 (0.43)	0.24 (0.0081)	0.0093 (0.0081)
Fluorene	130000	3800	U (0.0075)	U (0.008)	0.04 (0.0075)	0.18 (0.077)	U (0.0079)	0.0045 J (0.0086)	1.4 (0.039)	14 (0.74)	0.077 (0.04)	0.35 (0.016)	5.6 (0.43)	0.017 (0.0081)	U (0.0081)
Naphthalene	66	25	U (0.0075)	U (0.008)	0.084 (0.0075)	0.054 J (0.077)	U (0.0079)	0.003 J (0.0086)	U (0.039)	0.49 J (0.74)	1.2 (0.04)	0.092 (0.016)	2.3 (0.43)	0.071 (0.0081)	0.0026 J (0.0081)
Phenanthrene	190000	10000	0.0012 J (0.0075)	U (0.008)	0.19 (0.0075)	0.64 (0.077)	U (0.0079)	0.0071 J (0.0086)	3.5 (0.039)	42 (0.74)	0.5 (0.04)	1.2 (0.016)	31 (0.43)	0.3 (0.0081)	0.016 (0.0081)
Pyrene	96000	2200	0.0014 J (0.0075)	U (0.008)	0.2 (0.0075)	0.64 (0.077)	0.00095 J (0.0079)	0.008 J (0.0086)	0.94 (0.039)	5.5 (0.74)	0.2 (0.04)	0.062 (0.016)	35 (0.43)	0.33 (0.0081)	0.014 (0.0081)
Metals															
Lead	1000	450	4.23 (2.26)	5.85 (2.33)	41.2 (2.22)	176 (2.29)	3.52 (2.25)	5.46 (2.5)	10.9 (2.31)	37.6 (2.18)	34.9 (2.32)	27.9 (2.46)	1100 (2.44)	132 (2.29)	8.56 (2.35)

- Notes:**
- Concentrations are presented in mg/kg.
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 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
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Table 3.3
Underlying Soil Analytical Results
Innovation Campus
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Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	101-M33-U-c	101-M34-U-d	101-M36-U-a	101-N29-U-c	101-N31-U-d	101-N32-U-c	101-N33-U-b	101-N34-U-b	101-N35-U-c	101-O28-U-b	101-O29-U-a	101-O30-U-a	101-O31-U-c
Field Sample ID	Direct Contact Numeric	Groundwater Numeric	101-M33-U	101-M34-U	101-M36-U	101-N29-U	101-N31-U	101-N32-U	101-N33-U	101-N34-U	101-N35-U	101-O28-U	101-O29-U	101-O30-U	101-O31-U
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	9.25 - 11.3	9.26 - 11.3	4.03 - 6.03	3.94 - 5.94	1.95 - 3.95	1.94 - 3.94	5.06 - 7.06	5.07 - 7.07	3.94 - 5.94	2.5 - 4.5	2.71 - 4.71	2.8 - 4.8	1.47 - 3.47
Sample Date	(mg/kg)	(mg/kg)	1/21/2021	1/21/2021	1/21/2021	1/15/2021	1/18/2021	1/18/2021	1/18/2021	1/19/2021	1/21/2021	1/15/2021	1/15/2021	1/22/2021	1/18/2021
VOC															
Benzene	280	0.5	U (0.03)	0.43 (0.04)	0.64 (0.068)	0.0092 (0.0006)	0.21 (0.044)	U (0.00045)	0.035 J (0.077)	0.038 J (0.071)	0.00034 J (0.00048)	U (0.00049)	0.6 (0.073)	U (0.032)	0.00028 J (0.00069)
Cumene	10000	2500	0.93 (0.06)	0.35 (0.08)	1 (0.14)	0.055 (0.0012)	1.7 (0.087)	0.0093 (0.0009)	0.92 (0.15)	1.2 (0.14)	0.012 (0.00096)	U (0.00099)	0.73 (0.15)	0.1 (0.063)	0.00069 J (0.0014)
1,2-Dibromoethane	3.7	0.005	U (0.03)	U (0.00054)	U (0.068)	U (0.0006)	U (0.044)	U (0.00045)	U (0.0011)	U (0.071)	0.0013 (0.00048)	U (0.00049)	U (0.073)	U (0.032)	U (0.00069)
1,2-Dichloroethane	85	0.5	U (0.06)	U (0.0011)	U (0.14)	U (0.0012)	U (0.087)	U (0.0009)	U (0.0022)	U (0.14)	U (0.00096)	U (0.00099)	U (0.15)	U (0.063)	U (0.0014)
Ethyl Benzene	880	70	0.14 (0.06)	0.35 (0.08)	0.097 J (0.14)	0.0049 (0.0012)	0.12 (0.087)	0.0003 J (0.0009)	U (0.0022)	0.041 J (0.14)	0.00015 J (0.00096)	U (0.00099)	6.4 (0.15)	0.01 J (0.063)	U (0.0014)
Methyl tert-butyl ether	8500	2	U (0.12)	U (0.0022)	U (0.27)	U (0.0024)	U (0.17)	U (0.0018)	U (0.0043)	U (0.28)	U (0.0019)	U (0.002)	U (0.29)	U (0.13)	U (0.0028)
Toluene	10000	100	U (0.06)	0.41 (0.08)	3.8 (0.14)	0.01 (0.0012)	0.24 (0.087)	U (0.0009)	U (0.0022)	U (0.14)	U (0.00096)	U (0.00099)	2.8 (0.15)	U (0.063)	U (0.0014)
1,2,4-Trimethylbenzene	4700	300	1 (0.12)	1.2 (0.16)	0.19 J (0.27)	0.011 (0.0024)	0.067 J (0.17)	U (0.0018)	0.0011 J (0.0043)	0.14 J (0.28)	0.00066 J (0.0019)	U (0.002)	46 (0.58)	0.028 J (0.13)	U (0.0028)
1,3,5-Trimethylbenzene	4700	93	0.4 (0.12)	0.23 (0.16)	0.58 (0.27)	0.00086 J (0.0024)	U (0.17)	U (0.0018)	U (0.0043)	0.027 J (0.28)	U (0.0019)	U (0.002)	7.4 (0.29)	U (0.13)	U (0.0028)
Xylenes (total)	7900	1000	0.419 J (0.12)	2.15 J (0.16)	0.54 J (0.27)	0.0218 J (0.0024)	0.44 J (0.17)	0.00131 J (0.0018)	0.0804 J (0.15)	0.296 J (0.28)	0.00283 J (0.0019)	U (0.002)	20.8 J (0.29)	U (0.13)	U (0.0028)
PAHs															
Anthracene	190000	350	0.83 (0.038)	0.002 J (0.0081)	0.41 (0.02)	1.4 (0.16)	0.23 (0.076)	0.0034 J (0.0078)	0.81 (0.096)	2.2 (0.087)	0.52 (0.079)	0.039 (0.0073)	5.1 (0.79)	0.16 (0.04)	6.7 (0.41)
Benzo(a)anthracene	130	340	0.56 (0.038)	0.003 J (0.0081)	0.54 (0.02)	0.91 (0.16)	0.79 (0.076)	0.0023 J (0.0078)	0.31 (0.096)	3 (0.087)	0.71 (0.079)	0.16 (0.0073)	17 (0.79)	0.19 (0.04)	20 (0.41)
Benzo(a)pyrene	91	46	0.22 (0.038)	0.0022 J (0.0081)	0.56 (0.02)	0.47 (0.16)	0.48 (0.076)	0.0019 J (0.0078)	0.52 (0.096)	2 (0.087)	0.39 (0.079)	0.22 (0.0073)	7.4 (0.79)	0.074 (0.04)	16 (0.41)
Benzo(b)fluoranthene	76	170	0.15 (0.038)	0.0031 J (0.0081)	0.52 (0.02)	0.49 (0.16)	0.5 (0.076)	0.0017 J (0.0078)	0.47 (0.096)	2.2 (0.087)	0.41 (0.079)	0.2 (0.0073)	5.2 (0.79)	0.098 (0.04)	21 (0.41)
Benzo(g,h,i)perylene	190000	180	0.23 (0.038)	0.0019 J (0.0081)	0.54 (0.02)	0.36 (0.16)	0.31 (0.076)	0.0009 J (0.0078)	0.72 (0.096)	0.9 (0.087)	0.23 (0.079)	0.11 (0.0073)	U (0.79)	0.054 (0.04)	8.6 (0.41)
Chrysene	760	230	0.47 (0.038)	0.0096 (0.0081)	0.69 (0.02)	0.86 (0.16)	1.7 (0.076)	0.0061 J (0.0078)	1 (0.096)	3.5 (0.087)	2.3 (0.079)	0.53 (0.0073)	22 (0.79)	0.3 (0.04)	17 (0.41)
Fluorene	130000	3800	1.6 (0.038)	0.0021 J (0.0081)	0.36 (0.02)	4.1 (0.16)	0.47 (0.076)	0.024 (0.0078)	2.8 (0.096)	4.8 (0.087)	1.6 (0.079)	0.047 (0.0073)	11 (0.79)	0.75 (0.04)	2.2 (0.41)
Naphthalene	66	25	0.12 (0.038)	0.0085 (0.0081)	1.4 (0.02)	0.7 (0.16)	0.42 (0.076)	0.0016 J (0.0078)	2.4 (0.096)	1.8 (0.087)	0.44 (0.079)	0.08 (0.0073)	14 (0.79)	0.057 (0.04)	0.5 (0.41)
Phenanthrene	190000	10000	3.5 (0.038)	0.0036 J (0.0081)	1.2 (0.02)	15 (0.16)	1.1 (0.076)	0.026 (0.0078)	8.1 (0.096)	20 (0.44)	5.8 (0.079)	0.11 (0.0073)	47 (0.79)	0.23 (0.04)	25 (0.41)
Pyrene	96000	2200	2.6 (0.038)	0.011 (0.0081)	1.4 (0.02)	1.6 (0.16)	1.4 (0.076)	0.009 (0.0078)	1.4 (0.096)	6 (0.087)	1.8 (0.079)	0.44 (0.0073)	23 (0.79)	0.26 (0.04)	33 (0.41)
Metals															
Lead	1000	450	5.1 (2.26)	9.92 (2.43)	141 (3.06)	37.7 (2.35)	25.6 (2.21)	8.38 (2.24)	110 (2.79)	42.2 (2.63)	67.5 (2.34)	81 (2.17)	136 (2.33)	120 (2.34)	9.76 (2.44)

- Notes:**
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 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
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Table 3.3
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Location	Non-Residential Soil	Non-Residential Soil to	101-O34-U-d	101-O36-U-c	101-O37-U-d	101-P12-U-a	101-P31-U-d	101-P35-U-a	101-P36-U-c	101-P37-U-b	101-P38-U-c	101-Q37-U-a	101-Q38-U-c	101-Q39-U-a	101-R38-U-c
Field Sample ID	Direct Contact Numeric	Groundwater Numeric	101-O34-U	101-O36-U	101-O37-U	101-P12-U	101-P31-U	101-P35-U	101-P36-U	101-P37-U	101-P38-U	101-Q37-U	101-Q38-U	101-Q39-U	101-R38-U
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	1.91 - 3.91	4.43 - 6.43	4.02 - 6.02	4.33 - 6.33	9.69 - 11.7	2.66 - 4.66	5.45 - 7.45	6.8 - 8.8	3.39 - 5.39	6.8 - 8.8	5.33 - 7.33	0.57 - 2.57	0.57 - 2.57
Sample Date	(mg/kg)	(mg/kg)	1/22/2021	1/22/2021	1/25/2021	2/10/2021	1/25/2021	1/22/2021	1/22/2021	1/22/2021	1/25/2021	1/25/2021	1/25/2021	1/25/2021	1/25/2021
VOC															
Benzene	280	0.5	0.065 (0.036)	U (0.00054)	U (0.00052)	U (0.00063)	U (0.033)	1.4 (0.066)	U (0.00044)	U (0.00083)	0.00082 J (0.0012)	U (0.00053)	U (0.00051)	U (0.00061)	U (0.00059)
Cumene	10000	2500	0.52 (0.072)	U (0.0011)	U (0.001)	U (0.0013)	U (0.066)	2.1 (0.13)	0.022 (0.00088)	U (0.0017)	U (0.0024)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0012)
1,2-Dibromoethane	3.7	0.005	U (0.036)	U (0.00054)	U (0.00052)	U (0.00063)	U (0.033)	U (0.066)	U (0.00044)	U (0.00083)	U (0.0012)	U (0.00053)	U (0.00051)	U (0.00061)	U (0.00059)
1,2-Dichloroethane	85	0.5	U (0.072)	U (0.0011)	U (0.001)	U (0.0013)	U (0.066)	U (0.13)	U (0.00088)	U (0.0017)	U (0.0024)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0012)
Ethyl Benzene	880	70	0.17 (0.072)	0.00015 J (0.0011)	U (0.001)	U (0.0013)	U (0.066)	6.1 (0.13)	U (0.00088)	U (0.0017)	U (0.0024)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0012)
Methyl tert-butyl ether	8500	2	U (0.14)	U (0.0022)	U (0.0021)	U (0.0025)	U (0.13)	U (0.26)	U (0.0018)	U (0.0033)	U (0.0049)	U (0.0021)	U (0.002)	U (0.0024)	U (0.0024)
Toluene	10000	100	U (0.072)	U (0.0011)	U (0.001)	U (0.0013)	U (0.066)	0.1 J (0.13)	U (0.00088)	U (0.0017)	U (0.0024)	U (0.0011)	U (0.001)	U (0.0012)	U (0.0012)
1,2,4-Trimethylbenzene	4700	300	0.14 (0.14)	U (0.0022)	U (0.0021)	U (0.0025)	U (0.13)	9.7 (0.26)	0.00036 J (0.0018)	U (0.0033)	U (0.0049)	U (0.0021)	U (0.002)	U (0.0024)	U (0.0024)
1,3,5-Trimethylbenzene	4700	93	0.14 (0.14)	U (0.0022)	U (0.0021)	U (0.0025)	U (0.13)	4.4 (0.26)	U (0.0018)	U (0.0033)	U (0.0049)	U (0.0021)	U (0.002)	U (0.0024)	U (0.0024)
Xylenes (total)	7900	1000	0.076 J (0.14)	U (0.0022)	U (0.0021)	U (0.0025)	U (0.13)	8.97 J (0.26)	U (0.0018)	U (0.0033)	U (0.0049)	U (0.0021)	U (0.002)	U (0.0024)	U (0.0024)
PAHs															
Anthracene	190000	350	0.046 (0.038)	0.0051 J (0.0078)	0.016 J (0.12)	0.027 J (0.043)	0.053 (0.037)	0.037 J (0.038)	0.00087 J (0.0079)	0.99 (0.095)	0.0028 J (0.0083)	U (0.0082)	U (0.0079)	0.15 (0.034)	0.00074 J (0.0082)
Benzo(a)anthracene	130	340	0.31 (0.038)	0.02 (0.0078)	0.097 J (0.12)	0.15 (0.043)	U (0.037)	0.07 (0.038)	0.0046 J (0.0079)	6.2 (0.095)	0.016 (0.0083)	U (0.0082)	0.0041 J (0.0079)	0.42 (0.034)	0.0013 J (0.0082)
Benzo(a)pyrene	91	46	0.23 (0.038)	0.011 (0.0078)	0.071 J (0.12)	0.15 (0.043)	U (0.037)	0.068 (0.038)	0.00095 J (0.0079)	5.8 (0.095)	0.018 (0.0083)	U (0.0082)	0.0039 J (0.0079)	0.3 (0.034)	U (0.0082)
Benzo(b)fluoranthene	76	170	0.31 (0.038)	0.014 (0.0078)	0.086 J (0.12)	0.22 (0.043)	0.0069 J (0.037)	0.078 (0.038)	0.0016 J (0.0079)	6.5 (0.095)	0.019 (0.0083)	U (0.0082)	0.0052 J (0.0079)	0.41 (0.034)	0.0011 J (0.0082)
Benzo(g,h,i)perylene	190000	180	0.13 (0.038)	0.023 (0.0078)	0.08 J (0.12)	0.22 (0.043)	0.0093 J (0.037)	0.063 (0.038)	0.0012 J (0.0079)	4.6 (0.095)	0.02 (0.0083)	U (0.0082)	0.0032 J (0.0079)	0.17 (0.034)	0.00086 J (0.0082)
Chrysene	760	230	0.25 (0.038)	0.013 (0.0078)	0.086 J (0.12)	0.19 (0.043)	0.043 (0.037)	0.085 (0.038)	0.0011 J (0.0079)	5.3 (0.095)	0.015 (0.0083)	U (0.0082)	0.0035 J (0.0079)	0.32 (0.034)	0.0016 J (0.0082)
Fluorene	130000	3800	0.042 (0.038)	0.0068 J (0.0078)	U (0.12)	0.027 J (0.043)	0.4 (0.037)	0.054 (0.038)	0.0013 J (0.0079)	0.23 (0.095)	0.001 J (0.0083)	U (0.0082)	U (0.0079)	0.054 (0.034)	0.0048 J (0.0082)
Naphthalene	66	25	0.037 J (0.038)	0.0066 J (0.0078)	0.029 J (0.12)	0.21 (0.043)	0.11 (0.037)	0.14 (0.038)	U (0.0079)	0.26 (0.095)	0.011 (0.0083)	U (0.0082)	U (0.0079)	0.026 J (0.034)	U (0.0082)
Phenanthrene	190000	10000	0.18 (0.038)	0.015 (0.0078)	0.074 J (0.12)	0.1 (0.043)	0.62 (0.037)	0.15 (0.038)	0.0025 J (0.0079)	4.1 (0.095)	0.018 (0.0083)	U (0.0082)	0.0022 J (0.0079)	0.59 (0.034)	0.00094 J (0.0082)
Pyrene	96000	2200	0.44 (0.038)	0.02 (0.0078)	0.11 J (0.12)	0.24 (0.043)	0.046 (0.037)	0.12 (0.038)	0.0027 J (0.0079)	7.6 (0.095)	0.017 (0.0083)	0.00061 J (0.0082)	0.0053 J (0.0079)	0.62 (0.034)	0.002 J (0.0082)
Metals															
Lead	1000	450	8.18 (2.23)	38.3 (2.25)	234 (2.33)	183 (2.59)	6.41 (2.23)	48.6 (2.23)	6.18 (2.3)	1060 (2.73)	26.7 (2.41)	4.65 (2.44)	12 (2.34)	626 (2.04)	20.2 (2.4)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.3
Underlying Soil Analytical Results
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	101-S23-U-b	101-S24-U-c	101-S25-U-d	101-S26-U-d	101-S28-U-a	101-S30-U-b	101-T24-U-d	101-T26-U-b	101-T28-U-d	101-T29-U-a	101-T30-U-c	101-T31-U-d	101-T32-U-c	
Field Sample ID	Direct Contact	Groundwater	101-S23-U	101-S24-U	101-S25-U	101-S26-U	101-S28-U	101-S30-U	101-T24-U	101-T26-U	101-T28-U	101-T29-U	101-T30-U	101-T31-U	101-T32-U	
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	21 - 23	16.3 - 18.3	13.7 - 15.7	12-Oct	7.09 - 9.09	8.27 - 10.3	8.05 - 10.1	16.3 - 18.3	7.77 - 9.77	13.4 - 15.4	8.18 - 10.2	7.92 - 9.92	16.9 - 18.9	
Sample Date	(mg/kg)	(mg/kg)	2/9/2021	2/5/2021	2/5/2021	2/8/2021	2/4/2021	1/27/2021	2/10/2021	2/4/2021	2/3/2021	2/3/2021	2/3/2021	1/28/2021	1/29/2021	
VOC																
Benzene	280	0.5	0.021 J (0.033)	0.00024 J (0.00046)	0.00014 J (0.00042)	0.016 J (0.028)	0.026 J (0.028)	0.098 (0.036)	0.014 J (0.027)	0.11 (0.029)	0.019 J (0.029)	0.00046 J (0.00057)	U (0.025)	0.12 (0.076)	0.00024 J (0.00048)	
Cumene	10000	2500	0.059 J (0.066)	0.00054 J (0.00092)	0.054 (0.00083)	1 (0.057)	1.8 (0.055)	0.18 (0.071)	0.79 (0.054)	0.81 (0.057)	0.43 (0.058)	U (0.0011)	0.99 (0.05)	0.17 (0.15)	0.00035 J (0.00096)	
1,2-Dibromoethane	3.7	0.005	U (0.033)	U (0.00046)	U (0.00042)	U (0.028)	U (0.028)	U (0.036)	U (0.027)	U (0.029)	U (0.029)	U (0.00057)	U (0.025)	U (0.076)	U (0.00048)	
1,2-Dichloroethane	85	0.5	U (0.066)	U (0.00092)	U (0.00083)	U (0.057)	U (0.055)	U (0.071)	U (0.054)	U (0.057)	U (0.058)	U (0.0011)	U (0.05)	U (0.15)	U (0.00096)	
Ethyl Benzene	880	70	0.012 J (0.066)	U (0.00092)	0.00025 J (0.00083)	0.014 J (0.057)	0.046 J (0.055)	0.08 (0.071)	U (0.054)	0.091 (0.057)	0.016 J (0.058)	U (0.0011)	0.016 J (0.05)	0.094 J (0.15)	U (0.00096)	
Methyl tert-butyl ether	8500	2	U (0.13)	U (0.0018)	U (0.0017)	U (0.11)	U (0.11)	U (0.14)	U (0.11)	U (0.11)	U (0.12)	U (0.0023)	U (0.099)	U (0.3)	U (0.0019)	
Toluene	10000	100	U (0.066)	U (0.00092)	0.00072 J (0.00083)	U (0.057)	0.099 (0.055)	0.081 (0.071)	U (0.054)	0.082 (0.057)	U (0.058)	U (0.0011)	U (0.05)	0.084 J (0.15)	U (0.00096)	
1,2,4-Trimethylbenzene	4700	300	0.022 J (0.13)	U (0.0018)	0.0033 (0.0017)	0.042 J (0.11)	0.3 (0.11)	0.043 J (0.14)	U (0.11)	0.081 J (0.11)	0.023 J (0.12)	U (0.0023)	0.024 J (0.099)	0.11 J (0.3)	0.00039 J (0.0019)	
1,3,5-Trimethylbenzene	4700	93	U (0.13)	U (0.0018)	0.0026 (0.0017)	0.023 J (0.11)	0.079 J (0.11)	0.041 J (0.14)	U (0.11)	0.025 J (0.11)	0.013 J (0.12)	U (0.0023)	0.013 J (0.099)	0.038 J (0.3)	U (0.0019)	
Xylenes (total)	7900	1000	U (0.13)	U (0.0018)	0.00463 J (0.0017)	0.083 J (0.11)	0.35 J (0.11)	0.214 J (0.14)	U (0.11)	0.197 J (0.11)	0.093 J (0.12)	U (0.0023)	0.049 J (0.099)	0.227 J (0.3)	0.00133 J (0.0019)	
PAHs																
Anthracene	190000	350	0.062 (0.037)	0.027 J (0.037)	0.14 (0.037)	0.27 (0.038)	0.091 (0.037)	0.18 (0.04)	0.34 (0.038)	0.0041 J (0.0078)	0.3 (0.039)	0.062 (0.037)	0.056 (0.042)	1.4 (0.075)	U (0.015)	
Benzo(a)anthracene	130	340	0.1 (0.037)	0.077 (0.037)	0.22 (0.037)	0.73 (0.038)	0.32 (0.037)	0.39 (0.04)	0.2 (0.038)	0.012 (0.0078)	0.62 (0.039)	0.39 (0.037)	0.31 (0.042)	2 (0.075)	0.068 (0.015)	
Benzo(a)pyrene	91	46	0.074 (0.037)	0.056 (0.037)	0.14 (0.037)	0.46 (0.038)	0.26 (0.037)	0.26 (0.04)	0.13 (0.038)	0.011 (0.0078)	0.51 (0.039)	0.36 (0.037)	0.31 (0.042)	1.3 (0.075)	0.052 (0.015)	
Benzo(b)fluoranthene	76	170	0.084 (0.037)	0.07 (0.037)	0.15 (0.037)	0.46 (0.038)	0.23 (0.037)	0.29 (0.04)	0.15 (0.038)	0.012 (0.0078)	0.6 (0.039)	0.38 (0.037)	0.34 (0.042)	1 (0.075)	0.067 (0.015)	
Benzo(g,h,i)perylene	190000	180	0.068 (0.037)	0.052 (0.037)	0.22 (0.037)	0.29 (0.038)	0.23 (0.037)	0.23 (0.04)	0.098 (0.038)	0.0064 J (0.0078)	0.37 (0.039)	0.39 (0.037)	0.38 (0.042)	1.1 (0.075)	0.045 (0.015)	
Chrysene	760	230	0.1 (0.037)	0.072 (0.037)	0.25 (0.037)	1 (0.038)	0.23 (0.037)	0.37 (0.04)	0.34 (0.038)	0.011 (0.0078)	0.52 (0.039)	0.35 (0.037)	0.25 (0.042)	1.5 (0.075)	0.05 (0.015)	
Fluorene	130000	3800	0.2 (0.037)	0.027 J (0.037)	0.28 (0.037)	0.37 (0.038)	0.13 (0.037)	0.24 (0.04)	1.5 (0.038)	0.0026 J (0.0078)	0.069 (0.039)	0.027 J (0.037)	0.023 J (0.042)	1.2 (0.075)	U (0.015)	
Naphthalene	66	25	0.05 (0.037)	0.056 (0.037)	0.14 (0.037)	0.22 (0.038)	0.026 J (0.037)	0.19 (0.04)	0.29 (0.038)	U (0.0078)	0.22 (0.039)	0.13 (0.037)	0.073 (0.042)	1 (0.075)	0.054 (0.015)	
Phenanthrene	190000	10000	0.22 (0.037)	0.057 (0.037)	0.57 (0.037)	0.76 (0.038)	0.31 (0.037)	0.28 (0.04)	1.2 (0.038)	0.005 J (0.0078)	0.45 (0.039)	0.25 (0.037)	0.14 (0.042)	2.4 (0.075)	U (0.015)	
Pyrene	96000	2200	0.19 (0.037)	0.13 (0.037)	0.34 (0.037)	1 (0.038)	0.36 (0.037)	0.68 (0.04)	0.58 (0.038)	0.023 (0.0078)	0.79 (0.039)	0.35 (0.037)	0.28 (0.042)	4.9 (0.075)	0.099 (0.015)	
Metals																
Lead	1000	450	39 (2.13)	116 (2.21)	156 (2.22)	88.8 (2.2)	53.4 (2.18)	1230 (2.35)	56.7 (2.3)	37.7 (2.31)	293 (2.27)	163 (2.2)	168 (2.41)	108 (2.2)	59.9 (2.24)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.3
Underlying Soil Analytical Results
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	101-T33-U-c	101-T34-U-a	101-T38-U-b	101-U21-U-b	101-U30-U-a	101-U32-U-c	101-U33-U-b	101-U34-U-b	101-U35-U-b	101-U37-U-b	101-V24-U-d	101-V27-U-a	101-V30-U-b
Field Sample ID	Direct Contact Numeric	Groundwater Numeric	101-T33-U	101-T34-U	101-T38-U	101-U21-U	101-U30-U	101-U32-U	101-U33-U	101-U34-U	101-U35-U	101-U37-U	101-V24-U	101-V27-U	101-V30-U
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	10.4 - 12.4	10.5 - 12.5	0.63 - 2.63	5.38 - 7.38	6.68 - 8.68	6.31 - 8.31	13 - 15	13 - 15	8.4 - 10.4	6.36 - 8.36	2.39 - 4.39	2.39 - 4.39	2.09 - 4.09
Sample Date	(mg/kg)	(mg/kg)	1/29/2021	1/28/2021	1/26/2021	2/8/2021	1/29/2021	1/28/2021	1/28/2021	1/27/2021	1/28/2021	1/26/2021	2/8/2021	1/27/2021	1/27/2021
VOC															
Benzene	280	0.5	0.00059 (0.00043)	U (0.025)	U (0.0011)	0.0012 (0.00051)	0.00027 J (0.00058)	0.00043 J (0.00045)	U (0.026)	0.044 J (0.058)	U (0.2)	0.0018 (0.00072)	0.68 (0.065)	0.00087 (0.00055)	1.7 (0.047)
Cumene	10000	2500	0.00052 J (0.00086)	0.23 (0.05)	U (0.0022)	0.053 (0.001)	0.01 (0.0012)	0.00077 J (0.00089)	6.1 (0.051)	1.3 (0.12)	3.2 (0.4)	0.02 (0.0014)	12 (0.13)	0.00077 J (0.0011)	0.82 (0.094)
1,2-Dibromoethane	3.7	0.005	U (0.00043)	U (0.025)	U (0.0011)	U (0.00051)	U (0.00058)	U (0.00045)	U (0.026)	U (0.058)	U (0.2)	U (0.00072)	0.15 (0.065)	U (0.00055)	U (0.047)
1,2-Dichloroethane	85	0.5	U (0.00086)	U (0.05)	U (0.0022)	U (0.001)	U (0.0012)	U (0.00089)	U (0.051)	U (0.12)	U (0.4)	U (0.0014)	U (0.13)	U (0.0011)	U (0.094)
Ethyl Benzene	880	70	0.00019 J (0.00086)	0.014 J (0.05)	U (0.0022)	0.00077 J (0.001)	U (0.0012)	0.0003 J (0.00089)	0.02 J (0.051)	0.039 J (0.12)	0.092 J (0.4)	0.0012 J (0.0014)	0.17 (0.13)	0.00086 J (0.0011)	0.28 (0.094)
Methyl tert-butyl ether	8500	2	U (0.0017)	U (0.1)	U (0.0045)	U (0.002)	U (0.0023)	U (0.0018)	U (0.1)	U (0.23)	U (0.81)	U (0.0029)	U (0.26)	U (0.0022)	U (0.19)
Toluene	10000	100	U (0.00086)	U (0.05)	U (0.0022)	0.0011 (0.001)	U (0.0012)	U (0.00089)	0.048 J (0.051)	U (0.12)	U (0.4)	0.0021 (0.0014)	0.52 (0.13)	0.00086 J (0.0011)	1.3 (0.094)
1,2,4-Trimethylbenzene	4700	300	U (0.0017)	U (0.1)	U (0.0045)	0.01 (0.002)	0.00049 J (0.0023)	0.00038 J (0.0018)	0.18 (0.1)	U (0.23)	U (0.81)	0.1 (0.0029)	72 (2.6)	0.0015 J (0.0022)	9.8 (0.19)
1,3,5-Trimethylbenzene	4700	93	U (0.0017)	U (0.1)	U (0.0045)	0.0016 J (0.002)	U (0.0023)	U (0.0018)	0.072 J (0.1)	U (0.23)	U (0.81)	0.052 (0.0029)	18 (0.26)	0.00049 J (0.0022)	1.9 (0.19)
Xylenes (total)	7900	1000	U (0.0017)	U (0.1)	U (0.0045)	0.0073 J (0.002)	0.00161 J (0.0023)	0.00122 J (0.0018)	0.175 J (0.1)	U (0.23)	U (0.81)	0.0339 J (0.0029)	9.4 J (0.26)	0.00372 J (0.0022)	3.5 J (0.19)
PAHs															
Anthracene	190000	350	19 (0.37)	0.067 (0.038)	U (0.0078)	0.073 (0.04)	0.078 (0.008)	0.16 (0.04)	0.54 (0.035)	0.18 (0.037)	0.53 (0.073)	0.31 (0.038)	0.28 (0.076)	0.031 (0.015)	0.89 J (0.93)
Benzo(a)anthracene	130	340	1.5 (0.37)	0.12 (0.038)	0.015 (0.0078)	0.17 (0.04)	0.2 (0.008)	0.45 (0.04)	0.34 (0.035)	0.37 (0.037)	0.25 (0.073)	0.66 (0.038)	1.5 (0.076)	0.14 (0.015)	1.5 (0.93)
Benzo(a)pyrene	91	46	1.5 (0.37)	0.059 (0.038)	0.013 (0.0078)	0.071 (0.04)	0.11 (0.008)	0.35 (0.04)	0.11 (0.035)	0.32 (0.037)	0.1 (0.073)	0.6 (0.038)	1.2 (0.076)	0.11 (0.015)	1.1 (0.93)
Benzo(b)fluoranthene	76	170	1.2 (0.37)	0.057 (0.038)	0.02 (0.0078)	0.062 (0.04)	0.12 (0.008)	0.44 (0.04)	0.14 (0.035)	0.34 (0.037)	0.083 (0.073)	0.43 (0.038)	0.97 (0.076)	0.12 (0.015)	0.69 J (0.93)
Benzo(g,h,i)perylene	190000	180	1.3 (0.37)	0.083 (0.038)	0.013 (0.0078)	0.071 (0.04)	0.082 (0.008)	0.2 (0.04)	0.079 (0.035)	0.31 (0.037)	0.059 J (0.073)	0.44 (0.038)	0.62 (0.076)	0.059 (0.015)	1 (0.93)
Chrysene	760	230	2.2 (0.37)	0.12 (0.038)	0.011 (0.0078)	0.1 (0.04)	0.15 (0.008)	0.43 (0.04)	0.75 (0.035)	0.4 (0.037)	0.34 (0.073)	0.92 (0.038)	3.2 (0.076)	0.19 (0.015)	2.4 (0.93)
Fluorene	130000	3800	2.2 (0.37)	0.27 (0.038)	U (0.0078)	0.21 (0.04)	0.12 (0.008)	0.1 (0.04)	1.8 (0.035)	0.33 (0.037)	2.4 (0.073)	0.22 (0.038)	0.76 (0.076)	0.045 (0.015)	2.4 (0.93)
Naphthalene	66	25	0.59 (0.37)	U (0.038)	0.0062 J (0.0078)	0.021 J (0.04)	0.11 (0.008)	0.15 (0.04)	0.81 (0.035)	0.11 (0.037)	0.48 (0.073)	0.19 (0.038)	0.37 (0.076)	0.045 (0.015)	5.3 (0.93)
Phenanthrene	190000	10000	2.3 (0.37)	0.26 (0.038)	0.0043 J (0.0078)	0.54 (0.04)	0.28 (0.008)	0.34 (0.04)	5.3 (0.18)	0.78 (0.037)	6.2 (0.073)	0.64 (0.038)	1.9 (0.076)	0.15 (0.015)	6.6 (0.93)
Pyrene	96000	2200	2.4 (0.37)	0.14 (0.038)	0.011 (0.0078)	0.14 (0.04)	0.24 (0.008)	0.75 (0.04)	1 (0.035)	0.69 (0.037)	0.58 (0.073)	1.1 (0.038)	2.7 (0.076)	0.2 (0.015)	3.3 (0.93)
Metals															
Lead	1000	450	90.9 (2.16)	10 (2.22)	21 (2.24)	34.5 (2.31)	51.3 (2.27)	230 (2.39)	158 (2.08)	78 (2.14)	63.4 (2.2)	13.6 (2.22)	171 (2.26)	107 (2.17)	503 (2.69)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.3
Underlying Soil Analytical Results
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	101-V33-U-c	101-V35-U-b	101-X43-U-d	102-D04-U-c	102-E08-U-b	102-E11-U-b	102-E13-U-b	102-F13-U-d	102-F16-U-d	102-F18-U-a	102-F20-U-a	102-G23-U-b	102-G25-U-b
Field Sample ID	Direct Contact Numeric	Groundwater Numeric	101-V33-U	101-V35-U	101-X43-U	102-D04-U	102-E08-U	102-E11-U	102-E13-U	102-F13-U	102-F16-U	102-F18-U	102-F20-U	102-G23-U	102-G25-U
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	0.82 - 2.82	6.56 - 8.56	5.33 - 7.33	1.33 - 3.33	3.08 - 5.08	3.01 - 5.01	3.07 - 5.07	3.07 - 5.07	1.06 - 3.06	2.73 - 4.73	3.22 - 5.22	3.79 - 5.79	2.39 - 4.39
Sample Date	(mg/kg)	(mg/kg)	1/27/2021	1/26/2021	1/26/2021	2/12/2021	2/12/2021	2/12/2021	2/12/2021	2/12/2021	2/11/2021	2/11/2021	2/11/2021	2/11/2021	2/11/2021
VOC															
Benzene	280	0.5	0.0017 (0.00068)	U (0.13)	U (0.00048)	0.0022 (0.0006)	0.01 (0.00056)	U (0.034)	0.97 (0.036)	0.52 (0.048)	0.5 (0.061)	0.13 (0.036)	U (0.042)	U (0.00035)	0.42 (0.045)
Cumene	10000	2500	0.014 (0.0014)	3.8 (0.26)	U (0.00097)	U (0.0012)	0.0076 (0.0011)	6.7 (0.068)	0.98 (0.072)	4.2 (0.095)	2.6 (0.12)	0.45 (0.073)	0.037 J (0.083)	0.0049 (0.0007)	0.48 (0.09)
1,2-Dibromoethane	3.7	0.005	U (0.00068)	U (0.13)	U (0.00048)	U (0.0006)	U (0.00056)	U (0.034)	0.028 J (0.036)	0.041 J (0.048)	U (0.061)	U (0.036)	U (0.042)	U (0.00035)	U (0.045)
1,2-Dichloroethane	85	0.5	U (0.0014)	U (0.26)	U (0.00097)	U (0.0012)	U (0.0011)	U (0.068)	U (0.072)	U (0.095)	U (0.12)	U (0.073)	U (0.083)	U (0.0007)	U (0.09)
Ethyl Benzene	880	70	U (0.0014)	U (0.26)	U (0.00097)	0.00019 J (0.0012)	0.0005 J (0.0011)	0.015 J (0.068)	1.1 (0.072)	0.12 (0.095)	0.15 (0.12)	0.11 (0.073)	0.016 J (0.083)	0.00022 J (0.0007)	0.14 (0.09)
Methyl tert-butyl ether	8500	2	U (0.0027)	U (0.51)	U (0.0019)	U (0.0024)	U (0.0022)	U (0.14)	U (0.14)	U (0.19)	U (0.24)	U (0.14)	U (0.17)	U (0.0014)	U (0.18)
Toluene	10000	100	U (0.0014)	U (0.26)	U (0.00097)	0.0036 (0.0012)	U (0.0011)	U (0.068)	1.7 (0.072)	0.18 (0.095)	0.22 (0.12)	0.071 J (0.073)	U (0.083)	U (0.0007)	0.31 (0.09)
1,2,4-Trimethylbenzene	4700	300	0.0042 (0.0027)	U (0.51)	U (0.0019)	U (0.0024)	0.00058 J (0.0022)	0.083 J (0.14)	2.6 (0.14)	0.07 J (0.19)	0.33 (0.24)	0.21 (0.14)	0.046 J (0.17)	U (0.0014)	0.11 J (0.18)
1,3,5-Trimethylbenzene	4700	93	0.00086 J (0.0027)	U (0.51)	U (0.0019)	U (0.0024)	0.00025 J (0.0022)	0.026 J (0.14)	0.41 (0.14)	0.025 J (0.19)	0.076 J (0.24)	0.061 J (0.14)	0.02 J (0.17)	U (0.0014)	0.019 J (0.18)
Xylenes (total)	7900	1000	0.0094 J (0.0027)	U (0.51)	U (0.0019)	U (0.0024)	0.00226 J (0.0022)	0.153 J (0.14)	3.07 J (0.14)	0.28 J (0.19)	0.65 J (0.24)	0.331 J (0.14)	U (0.17)	0.00208 J (0.0014)	0.418 J (0.18)
PAHs															
Anthracene	190000	350	1.3 (0.078)	0.26 (0.037)	0.0011 J (0.0075)	0.53 J (0.81)	0.12 (0.081)	0.39 (0.038)	3.7 (0.16)	0.62 (0.086)	0.53 (0.16)	1.5 (0.08)	0.044 (0.04)	0.75 (0.041)	2.7 (0.2)
Benzo(a)anthracene	130	340	1.3 (0.078)	0.2 (0.037)	0.028 (0.0075)	23 (0.81)	0.27 (0.081)	0.17 (0.038)	8.1 (0.16)	0.52 (0.086)	2.3 (0.16)	2.5 (0.08)	0.17 (0.04)	0.49 (0.041)	2 (0.2)
Benzo(a)pyrene	91	46	0.88 (0.078)	0.052 (0.037)	0.005 J (0.0075)	45 (0.81)	0.3 (0.081)	0.09 (0.038)	13 (0.16)	0.44 (0.086)	1.8 (0.16)	2.2 (0.08)	0.12 (0.04)	0.22 (0.041)	1.3 (0.2)
Benzo(b)fluoranthene	76	170	0.93 (0.078)	0.051 (0.037)	0.0059 J (0.0075)	25 (0.81)	0.36 (0.081)	0.099 (0.038)	12 (0.16)	0.38 (0.086)	2.4 (0.16)	2 (0.08)	0.11 (0.04)	0.19 (0.041)	0.79 (0.2)
Benzo(g,h,i)perylene	190000	180	0.46 (0.078)	0.043 (0.037)	0.009 (0.0075)	40 (0.81)	0.36 (0.081)	0.055 (0.038)	8.2 (0.16)	0.47 (0.086)	1.4 (0.16)	1.2 (0.08)	0.13 (0.04)	0.098 (0.041)	1.1 (0.2)
Chrysene	760	230	1.9 (0.078)	0.22 (0.037)	0.014 (0.0075)	19 (0.81)	0.34 (0.081)	0.25 (0.038)	7.4 (0.16)	0.97 (0.086)	5.5 (0.16)	2.6 (0.08)	0.18 (0.04)	0.45 (0.041)	3.8 (0.2)
Fluorene	130000	3800	2.9 (0.078)	0.84 (0.037)	U (0.0075)	0.17 J (0.81)	0.25 (0.081)	1.2 (0.038)	3.6 (0.16)	1 (0.086)	0.47 (0.16)	3.6 (0.08)	0.051 (0.04)	0.42 (0.041)	4.9 (0.2)
Naphthalene	66	25	2.9 (0.078)	0.21 (0.037)	0.0021 J (0.0075)	0.46 J (0.81)	0.21 (0.081)	0.17 (0.038)	1.4 (0.16)	1.5 (0.086)	0.88 (0.16)	3.6 (0.08)	0.1 (0.04)	0.036 J (0.041)	0.99 (0.2)
Phenanthrene	190000	10000	3.2 (0.078)	1.8 (0.037)	0.0033 J (0.0075)	1.4 (0.81)	0.42 (0.081)	2.4 (0.038)	12 (0.16)	1.4 (0.086)	1.9 (0.16)	7.8 (0.08)	0.32 (0.04)	0.11 (0.041)	1.3 (0.2)
Pyrene	96000	2200	2.8 (0.078)	0.46 (0.037)	0.0056 J (0.0075)	5.3 (0.81)	0.5 (0.081)	0.84 (0.038)	12 (0.16)	4.2 (0.086)	4.2 (0.16)	4.8 (0.08)	0.28 (0.04)	1.9 (0.041)	8.6 (0.2)
Metals															
Lead	1000	450	238 (2.33)	55.8 (2.17)	1670 (2.22)	28.5 (2.37)	115 (2.32)	12.3 (2.23)	16 (2.39)	157 (2.5)	148 (2.35)	33.3 (2.35)	418 (2.35)	42.6 (2.39)	14.6 (2.35)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.3
Underlying Soil Analytical Results
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	102-G27-U-a	102-G29-U-c	103-A10-U-c	103-C10-U-b	103-E08-U-d	103-F07-U-d	103-F11-U-b	103-G07-U-d	103-G11-U-d	103-H01-U-b	103-H05-U-c	103-I05-U-b	104-A25-U-c	
Field Sample ID	Direct Contact Numeric	Groundwater Numeric	102-G27-U	102-G29-U	103-A10-U	103-C10-U	103-E08-U	103-F07-U	103-F11-U	103-G07-U	103-G11-U	103-H01-U	103-H05-U	103-I05-U	104-A25-U	
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	2.84 - 4.84	1.34 - 3.34	17.6 - 19.6	1.07 - 3.07	5.2 - 7.2	4.58 - 6.58	3.93 - 5.93	3.58 - 5.58	3.93 - 5.93	2.78 - 4.78	2.61 - 4.61	3.01 - 5.01	2.88 - 4.88	
Sample Date	(mg/kg)	(mg/kg)	2/11/2021	2/11/2021	2/17/2021	2/17/2021	2/12/2021	2/15/2021	2/12/2021	2/15/2021	2/15/2021	2/15/2021	2/15/2021	2/15/2021	2/25/2021	
VOC																
Benzene	280	0.5	0.55 (0.039)	0.011 (0.00059)	U (0.028)	U (0.00057)	U (0.00043)	U (0.028)	U (0.026)	0.081 (0.00051)	0.00014 J (0.00041)	0.00057 J (0.00068)	0.08 (0.031)	0.001 (0.00072)	0.029 J (0.03)	
Cumene	10000	2500	0.4 (0.078)	0.0026 (0.0012)	1.6 (0.055)	U (0.0011)	0.00056 J (0.00086)	0.047 J (0.056)	0.9 (0.052)	0.0076 (0.001)	0.0031 (0.00082)	0.00062 J (0.0014)	0.042 J (0.061)	0.051 (0.0014)	2.6 (0.06)	
1,2-Dibromoethane	3.7	0.005	U (0.039)	U (0.00059)	U (0.028)	U (0.00057)	0.0014 (0.00043)	U (0.028)	U (0.026)	U (0.00051)	U (0.00041)	U (0.00068)	U (0.031)	U (0.00072)	U (0.03)	
1,2-Dichloroethane	85	0.5	U (0.078)	U (0.0012)	U (0.055)	U (0.0011)	U (0.00086)	U (0.056)	U (0.052)	U (0.001)	U (0.00082)	U (0.0014)	U (0.061)	U (0.0014)	U (0.06)	
Ethyl Benzene	880	70	1 (0.078)	0.00081 J (0.0012)	U (0.055)	U (0.0011)	U (0.00086)	0.0084 J (0.056)	U (0.052)	0.046 (0.001)	0.00029 J (0.00082)	0.00068 J (0.0014)	0.05 J (0.061)	0.001 J (0.0014)	0.019 J (0.06)	
Methyl tert-butyl ether	8500	2	U (0.16)	U (0.0023)	U (0.11)	U (0.0023)	U (0.0017)	U (0.11)	U (0.1)	U (0.002)	U (0.0016)	U (0.0027)	U (0.12)	U (0.0029)	U (0.12)	
Toluene	10000	100	0.69 (0.078)	0.0057 (0.0012)	U (0.055)	U (0.0011)	0.00047 J (0.00086)	U (0.056)	U (0.052)	0.0047 (0.001)	U (0.00082)	0.00082 J (0.0014)	0.062 (0.061)	0.0013 J (0.0014)	0.034 J (0.06)	
1,2,4-Trimethylbenzene	4700	300	8.2 (0.16)	0.018 (0.0023)	U (0.11)	U (0.0023)	U (0.0017)	0.022 J (0.11)	0.062 J (0.1)	0.0051 (0.002)	0.0013 J (0.0016)	0.0037 (0.0027)	0.072 J (0.12)	0.0034 (0.0029)	0.14 (0.12)	
1,3,5-Trimethylbenzene	4700	93	6 (0.16)	0.00033 J (0.0023)	U (0.11)	U (0.0023)	0.00069 J (0.0017)	0.016 J (0.11)	0.039 J (0.1)	U (0.002)	0.0004 J (0.0016)	0.0014 J (0.0027)	0.02 J (0.12)	U (0.0029)	0.019 J (0.12)	
Xylenes (total)	7900	1000	2.6 J (0.16)	0.0076 J (0.0023)	U (0.11)	U (0.0023)	0.00415 J (0.0017)	0.073 J (0.11)	0.088 J (0.1)	0.0074 J (0.002)	0.00137 J (0.0016)	0.0041 J (0.0027)	0.173 J (0.12)	0.005 J (0.0029)	0.118 J (0.12)	
PAHs																
Anthracene	190000	350	0.049 (0.038)	0.076 (0.042)	0.073 (0.036)	U (0.0076)	1.5 (0.075)	0.052 (0.039)	0.81 (0.18)	0.23 (0.082)	0.29 (0.036)	0.066 J (0.081)	0.62 (0.076)	0.58 (0.077)	0.86 (0.078)	
Benzo(a)anthracene	130	340	0.26 (0.038)	0.42 (0.042)	0.07 (0.036)	U (0.0076)	0.57 (0.075)	0.15 (0.039)	0.4 (0.18)	1.7 (0.082)	0.48 (0.036)	0.32 (0.081)	2.1 (0.076)	1.2 (0.077)	1.8 (0.078)	
Benzo(a)pyrene	91	46	0.23 (0.038)	0.47 (0.042)	0.031 J (0.036)	U (0.0076)	0.21 (0.075)	0.1 (0.039)	0.16 J (0.18)	2.1 (0.082)	0.36 (0.036)	0.32 (0.081)	2.5 (0.076)	0.95 (0.077)	1.6 (0.078)	
Benzo(b)fluoranthene	76	170	0.25 (0.038)	0.38 (0.042)	0.03 J (0.036)	U (0.0076)	0.28 (0.075)	0.088 (0.039)	0.23 (0.18)	2.3 (0.082)	0.38 (0.036)	0.41 (0.081)	3.3 (0.076)	0.96 (0.077)	1.3 (0.078)	
Benzo(g,h,i)perylene	190000	180	0.2 (0.038)	0.72 (0.042)	0.026 J (0.036)	U (0.0076)	0.1 (0.075)	0.074 (0.039)	0.13 J (0.18)	1.2 (0.082)	0.25 (0.036)	0.43 (0.081)	1.7 (0.076)	0.84 (0.077)	1.2 (0.078)	
Chrysene	760	230	0.26 (0.038)	0.38 (0.042)	0.11 (0.036)	U (0.0076)	2.1 (0.075)	0.15 (0.039)	1.8 (0.18)	1.7 (0.082)	0.64 (0.036)	0.53 (0.081)	2.2 (0.076)	1.4 (0.077)	3.1 (0.078)	
Fluorene	130000	3800	0.025 J (0.038)	0.013 J (0.042)	0.22 (0.036)	U (0.0076)	4.9 (0.075)	0.068 (0.039)	2 (0.18)	0.18 (0.082)	0.53 (0.036)	0.04 J (0.081)	0.4 (0.076)	0.79 (0.077)	0.94 (0.078)	
Naphthalene	66	25	0.14 (0.038)	0.12 (0.042)	0.055 (0.036)	U (0.0076)	0.048 J (0.075)	0.063 (0.039)	0.095 J (0.18)	0.41 (0.082)	0.24 (0.036)	0.18 (0.081)	0.9 (0.076)	0.66 (0.077)	0.17 (0.078)	
Phenanthrene	190000	10000	0.33 (0.038)	0.39 (0.042)	0.3 (0.036)	U (0.0076)	1.4 (0.075)	0.15 (0.039)	1.6 (0.18)	0.84 (0.082)	1.4 (0.036)	0.24 (0.081)	2.1 (0.076)	2.7 (0.077)	3.7 (0.078)	
Pyrene	96000	2200	0.33 (0.038)	0.39 (0.042)	0.2 (0.036)	0.004 J (0.0076)	1.7 (0.075)	0.33 (0.039)	1.4 (0.18)	1.8 (0.082)	0.84 (0.036)	0.39 (0.081)	2.6 (0.076)	1.9 (0.077)	2.3 (0.078)	
Metals																
Lead	1000	450	123 (2.19)	315 (2.51)	6.63 (2.1)	6.19 (2.19)	4.49 (2.2)	53.2 (2.27)	8.3 (2.14)	161 (2.39)	27.4 (2.15)	421 (2.38)	267 (2.29)	204 (2.33)	16.4 (2.3)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.3
Underlying Soil Analytical Results
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	104-A28-U-d	104-C24-U-b	104-C26-U-a	104-C28-U-a	104-D22-U-b	104-D24-U-a	104-D26-U-c	104-E20-U-d	104-E22-U-c	104-E24-U-a	104-F18-U-c	104-F20-U-d	104-F22-U-d
Field Sample ID	Direct Contact Numeric	Groundwater Numeric	104-A28-U	104-C24-U	104-C26-U	104-C28-U	104-D22-U	104-D24-U	104-D26-U	104-E20-U	104-E22-U	104-E24-U	104-F18-U	104-F20-U	104-F22-U
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	5.71 - 7.71	2.59 - 4.59	3.08 - 5.08	5.07 - 7.07	2.56 - 4.56	1.71 - 3.71	3.08 - 5.08	5.46 - 7.46	2.13 - 4.13	1.47 - 3.47	2.86 - 4.86	2.46 - 4.46	1.01 - 3.01
Sample Date	(mg/kg)	(mg/kg)	2/25/2021	2/25/2021	2/25/2021	2/25/2021	3/2/2021	2/25/2021	2/25/2021	2/26/2021	2/26/2021	2/26/2021	3/1/2021	2/26/2021	2/26/2021
VOC															
Benzene	280	0.5	U (0.0005)	0.008 (0.00069)	U (0.00062)	U (0.042)	U (0.00051)	14 (0.041)	U (0.067)	0.028 J (0.046)	U (0.00065)	0.002 (0.00056)	0.097 (0.033)	0.5 (0.038)	0.00045 J (0.00089)
Cumene	10000	2500	0.25 (0.001)	0.0045 (0.0014)	0.00058 J (0.0012)	0.049 J (0.084)	U (0.001)	0.27 (0.082)	0.32 (0.13)	2.4 (0.093)	U (0.0013)	0.00033 J (0.0017)	8.8 (0.067)	8.6 (0.076)	0.00033 J (0.0018)
1,2-Dibromoethane	3.7	0.005	0.00083 (0.00052)	U (0.00069)	U (0.00062)	U (0.042)	U (0.00051)	U (0.041)	U (0.067)	U (0.046)	U (0.00065)	U (0.00056)	U (0.033)	U (0.038)	U (0.00089)
1,2-Dichloroethane	85	0.5	U (0.001)	U (0.0014)	U (0.0012)	U (0.084)	U (0.001)	U (0.082)	U (0.13)	U (0.093)	U (0.0013)	U (0.0011)	U (0.067)	U (0.076)	U (0.0018)
Ethyl Benzene	880	70	U (0.001)	0.0012 J (0.0014)	U (0.0012)	0.018 J (0.084)	U (0.001)	0.054 J (0.082)	U (0.13)	0.038 J (0.093)	U (0.0013)	0.00047 J (0.0017)	0.1 (0.067)	0.22 (0.076)	U (0.0018)
Methyl tert-butyl ether	8500	2	U (0.002)	U (0.0028)	U (0.0025)	U (0.17)	U (0.002)	U (0.16)	U (0.27)	U (0.18)	U (0.0026)	U (0.0022)	U (0.13)	U (0.15)	U (0.0036)
Toluene	10000	100	0.0022 (0.001)	0.0031 (0.0014)	0.0018 (0.0012)	U (0.084)	U (0.001)	4.7 (0.082)	U (0.13)	U (0.093)	U (0.0013)	0.0028 (0.0017)	0.084 (0.067)	0.14 (0.076)	U (0.0018)
1,2,4-Trimethylbenzene	4700	300	0.016 (0.002)	0.0057 (0.0028)	0.0046 (0.0025)	0.05 J (0.17)	U (0.002)	0.11 J (0.16)	U (0.27)	0.08 J (0.18)	U (0.0026)	0.00077 J (0.0034)	0.14 (0.13)	0.33 (0.15)	U (0.0036)
1,3,5-Trimethylbenzene	4700	93	0.0018 J (0.002)	0.0049 (0.0028)	0.0013 J (0.0025)	0.016 J (0.17)	U (0.002)	0.04 J (0.16)	0.026 J (0.27)	0.023 J (0.18)	U (0.0026)	0.00054 J (0.0034)	0.024 J (0.13)	0.12 J (0.15)	U (0.0036)
Xylenes (total)	7900	1000	0.0264 J (0.002)	0.0154 J (0.0028)	0.0039 J (0.0025)	0.206 J (0.17)	U (0.002)	0.27 J (0.16)	U (0.27)	0.406 J (0.18)	U (0.0026)	0.0032 J (0.0034)	0.335 J (0.13)	0.74 J (0.15)	U (0.0036)
PAHs															
Anthracene	190000	350	0.039 (0.0078)	0.85 (0.076)	0.6 (0.04)	6.1 (0.92)	U (0.007)	0.53 (0.25)	0.68 (0.44)	1.9 (0.16)	0.08 J (0.081)	0.12 (0.037)	0.74 (0.076)	0.14 (0.073)	0.0063 J (0.0079)
Benzo(a)anthracene	130	340	0.11 (0.0078)	5.3 (0.076)	1 (0.04)	38 (0.92)	0.00088 J (0.007)	4.1 (0.25)	5.6 (0.44)	0.95 (0.16)	0.24 (0.081)	0.41 (0.037)	0.67 (0.076)	0.54 (0.073)	0.082 (0.0079)
Benzo(a)pyrene	91	46	0.028 (0.0078)	6.2 (0.076)	1.4 (0.04)	59 (0.92)	U (0.007)	8.4 (0.25)	19 (0.44)	0.78 (0.16)	0.36 (0.081)	0.73 (0.037)	0.5 (0.076)	1 (0.073)	0.18 (0.0079)
Benzo(b)fluoranthene	76	170	0.036 (0.0078)	6.6 (0.076)	0.86 (0.04)	61 (0.92)	0.00074 J (0.007)	6.3 (0.25)	18 (0.44)	0.49 (0.16)	0.36 (0.081)	0.58 (0.037)	0.43 (0.076)	0.56 (0.073)	0.1 (0.0079)
Benzo(g,h,i)perylene	190000	180	0.01 (0.0078)	4.9 (0.076)	2 (0.04)	37 (0.92)	0.00081 J (0.007)	11 (0.25)	26 (0.44)	0.75 (0.16)	0.66 (0.081)	1.4 (0.037)	0.45 (0.076)	1.1 (0.073)	0.34 (0.0079)
Chrysene	760	230	0.17 (0.0078)	4.6 (0.076)	2.3 (0.04)	32 (0.92)	0.00098 J (0.007)	3.6 (0.25)	5.7 (0.44)	1.8 (0.16)	0.36 (0.081)	0.47 (0.037)	0.69 (0.076)	0.79 (0.073)	0.11 (0.0079)
Fluorene	130000	3800	0.07 (0.0078)	0.39 (0.076)	0.29 (0.04)	1.7 (0.92)	U (0.007)	0.71 (0.25)	0.81 (0.44)	2.7 (0.16)	0.011 J (0.081)	0.02 J (0.037)	1 (0.076)	0.24 (0.073)	0.0018 J (0.0079)
Naphthalene	66	25	0.003 J (0.0078)	0.41 (0.076)	0.54 (0.04)	2.4 (0.92)	U (0.007)	5.1 (0.25)	3.4 (0.44)	0.65 (0.16)	0.14 (0.081)	0.098 (0.037)	1.1 (0.076)	0.085 (0.073)	0.013 (0.0079)
Phenanthrene	190000	10000	0.074 (0.0078)	2.3 (0.076)	0.76 (0.04)	18 (0.92)	0.0011 J (0.007)	2.3 (0.25)	2.4 (0.44)	8.7 (0.16)	0.18 (0.081)	0.43 (0.037)	2.9 (0.076)	0.62 (0.073)	0.027 (0.0079)
Pyrene	96000	2200	0.12 (0.0078)	4.9 (0.076)	1.4 (0.04)	30 (0.92)	0.0018 J (0.007)	3.5 (0.25)	4.8 (0.44)	3.8 (0.16)	0.27 (0.081)	0.5 (0.037)	1.5 (0.076)	1.2 (0.073)	0.033 (0.0079)
Metals															
Lead	1000	450	7.26 (2.3)	1540 (2.26)	41.8 (2.33)	34.9 (2.74)	1.89 J (2.06)	660 (2.99)	166 (2.5)	8.33 (2.29)	175 (2.38)	6.81 (2.11)	69.9 (2.22)	17.7 (2.14)	101 (2.29)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
PAHs -- Polycyclic Aromatic Hydrocarbons.
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mg/kg -- Milligram per Kilogram.

Table 3.3
Underlying Soil Analytical Results
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	104-G15-U-a	104-G18-U-c	104-G20-U-b	104-H15-U-a	104-H16-U-b	104-H17-U-a	104-H19-U-a	104-I12-U-a	104-I14-U-a	104-I17-U-b	104-J10-U-a	104-J11-U-b	104-J12-U-a	
Field Sample ID	Direct Contact Numeric	Groundwater Numeric	104-G15-U	104-G18-U	104-G20-U	104-H15-U	104-H16-U	104-H17-U	104-H19-U	104-I12-U	104-I14-U	104-I17-U	104-J10-U	104-J11-U	104-J12-U	
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	12.9 - 14.9	5.41 - 7.41	1.56 - 3.56	6.26 - 8.26	3.9 - 5.9	5.6 - 7.6	1.18 - 3.18	7.58 - 9.58	10.7 - 12.7	3.94 - 5.94	7.56 - 9.56	7.58 - 9.58	7.58 - 9.58	
Sample Date	(mg/kg)	(mg/kg)	3/2/2021	3/1/2021	2/26/2021	3/2/2021	3/2/2021	3/2/2021	3/1/2021	3/4/2021	3/3/2021	3/1/2021	3/3/2021	3/4/2021	3/4/2021	
VOC																
Benzene	280	0.5	0.00033 J (0.00049)	U (0.00084)	U (0.00045)	U (0.00051)	U (0.0012)	0.084 (0.026)	0.00064 J (0.00085)	0.086 (0.049)	U (0.0005)	U (0.031)	U (0.0007)	0.00025 J (0.00052)	U (0.00045)	
Cumene	10000	2500	0.8 (0.064)	0.00054 J (0.0017)	U (0.0009)	U (0.001)	U (0.0024)	0.58 (0.052)	0.02 (0.0017)	2.5 (0.098)	0.0024 (0.00099)	0.0086 J (0.062)	0.00068 J (0.0014)	0.016 (0.001)	0.0012 (0.0009)	
1,2-Dibromoethane	3.7	0.005	U (0.00049)	U (0.00084)	U (0.00045)	U (0.00051)	U (0.0012)	U (0.026)	U (0.00085)	U (0.049)	U (0.0005)	U (0.031)	U (0.0007)	U (0.00052)	U (0.00045)	
1,2-Dichloroethane	85	0.5	U (0.00098)	U (0.0017)	U (0.0009)	U (0.001)	U (0.0024)	U (0.052)	U (0.0017)	U (0.098)	U (0.00099)	U (0.062)	U (0.0014)	U (0.001)	U (0.0009)	
Ethyl Benzene	880	70	0.00032 J (0.00098)	0.00024 J (0.0017)	U (0.0009)	U (0.001)	U (0.0024)	0.46 (0.052)	U (0.0017)	0.15 (0.098)	U (0.00099)	U (0.062)	0.00028 J (0.0014)	0.0046 (0.001)	U (0.0009)	
Methyl tert-butyl ether	8500	2	U (0.002)	U (0.0033)	U (0.0018)	U (0.002)	U (0.0049)	U (0.1)	U (0.0034)	U (0.2)	U (0.002)	U (0.12)	U (0.0028)	U (0.0021)	U (0.0018)	
Toluene	10000	100	0.00058 J (0.00098)	U (0.0017)	U (0.0009)	U (0.001)	U (0.0024)	0.032 J (0.052)	U (0.0017)	0.11 (0.098)	U (0.00099)	U (0.062)	U (0.0014)	0.005 (0.001)	U (0.0009)	
1,2,4-Trimethylbenzene	4700	300	0.056 J (0.13)	U (0.0033)	U (0.0018)	U (0.002)	U (0.0049)	0.16 (0.1)	U (0.0034)	0.23 (0.2)	U (0.002)	U (0.12)	0.00054 J (0.0028)	U (0.0021)	U (0.0018)	
1,3,5-Trimethylbenzene	4700	93	0.001 J (0.002)	U (0.0033)	U (0.0018)	U (0.002)	U (0.0049)	0.21 (0.1)	0.00045 J (0.0034)	0.18 J (0.2)	U (0.002)	U (0.12)	0.00032 J (0.0028)	0.0019 J (0.0021)	0.00069 J (0.0018)	
Xylenes (total)	7900	1000	0.0079 J (0.002)	U (0.0033)	U (0.0018)	U (0.002)	U (0.0049)	0.17 J (0.1)	U (0.0034)	0.45 J (0.2)	0.00131 J (0.002)	U (0.12)	0.00186 J (0.0028)	0.01264 J (0.0021)	0.00156 J (0.0018)	
PAHs																
Anthracene	190000	350	0.13 (0.014)	0.8 (0.083)	0.21 (0.035)	0.0012 J (0.0088)	0.012 J (0.037)	0.064 (0.038)	1.4 (0.076)	60 (8)	0.4 (0.037)	0.036 (0.016)	0.42 J (0.65)	0.51 (0.2)	0.44 (0.04)	
Benzo(a)anthracene	130	340	0.1 (0.014)	1.3 (0.083)	0.95 (0.035)	0.032 (0.0088)	0.088 (0.037)	0.088 (0.038)	3.4 (0.076)	140 (8)	0.91 (0.037)	0.068 (0.016)	0.51 J (0.65)	0.66 (0.2)	0.35 (0.04)	
Benzo(a)pyrene	91	46	0.091 (0.014)	0.98 (0.083)	0.84 (0.035)	0.048 (0.0088)	0.16 (0.037)	0.11 (0.038)	3.6 (0.076)	98 (8)	0.64 (0.037)	0.048 (0.016)	0.35 J (0.65)	0.55 (0.2)	0.28 (0.04)	
Benzo(b)fluoranthene	76	170	0.059 (0.014)	1.7 (0.083)	1 (0.035)	0.054 (0.0088)	0.15 (0.037)	0.066 (0.038)	4.1 (0.076)	120 (8)	0.57 (0.037)	0.047 (0.016)	0.39 J (0.65)	0.42 (0.2)	0.31 (0.04)	
Benzo(g,h,i)perylene	190000	180	0.42 (0.014)	0.73 (0.083)	0.43 (0.035)	0.081 (0.0088)	0.28 (0.037)	0.19 (0.038)	2.3 (0.076)	42 (8)	0.36 (0.037)	0.033 (0.016)	0.24 J (0.65)	0.46 (0.2)	0.19 (0.04)	
Chrysene	760	230	0.11 (0.014)	1.2 (0.083)	0.77 (0.035)	0.033 (0.0088)	0.12 (0.037)	0.12 (0.038)	3.1 (0.076)	120 (8)	0.85 (0.037)	0.09 (0.016)	1.2 (0.65)	1.3 (0.2)	0.86 (0.04)	
Fluorene	130000	3800	0.3 (0.014)	0.22 (0.083)	0.06 (0.035)	U (0.0088)	U (0.037)	0.047 (0.038)	0.4 (0.076)	32 (8)	0.52 (0.037)	0.0087 J (0.016)	1.7 (0.65)	0.97 (0.2)	0.1 (0.04)	
Naphthalene	66	25	0.78 (0.014)	0.62 (0.083)	0.028 J (0.035)	U (0.0088)	0.23 (0.037)	0.025 J (0.038)	0.26 (0.076)	4.7 J (8)	U (0.037)	0.014 J (0.016)	0.91 (0.65)	0.32 (0.2)	0.33 (0.04)	
Phenanthrene	190000	10000	1.2 (0.014)	0.69 (0.083)	0.79 (0.035)	0.0043 J (0.0088)	0.11 (0.037)	0.22 (0.038)	2.8 (0.076)	240 (8)	1.5 (0.037)	0.048 (0.016)	4.2 (0.65)	2 (0.2)	1.2 (0.04)	
Pyrene	96000	2200	0.17 (0.014)	2.8 (0.083)	1.3 (0.035)	0.025 (0.0088)	0.075 (0.037)	0.28 (0.038)	5.8 (0.076)	220 (8)	1.2 (0.037)	0.14 (0.016)	1.4 (0.65)	1.6 (0.2)	1.2 (0.04)	
Metals																
Lead	1000	450	3.69 (2.06)	73.7 (2.47)	41.7 (2.09)	158 (2.61)	69.9 (2.13)	129 (11.4)	43.5 (2.21)	5.3 (2.36)	29.7 (2.18)	11.7 (2.34)	53.5 (2.43)	58.4 (2.45)	77.6 (2.32)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
PAHs -- Polycyclic Aromatic Hydrocarbons.
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mg/kg -- Milligram per Kilogram.

Table 3.3
Underlying Soil Analytical Results
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	104-J13-U-d	104-J18-U-d	104-J19-U-d	104-K07-U-d	104-K09-U-c	104-K10-U-a	104-K11-U-c	104-K12-U-d	104-K13-U-b	104-K14-U-a	104-K15-U-c	104-K18-U-b	104-L05-U-d	
Field Sample ID	Direct Contact Numeric	Groundwater Numeric	104-J13-U	104-J18-U	104-J19-U	104-K07-U	104-K09-U	104-K10-U	104-K11-U	104-K12-U	104-K13-U	104-K14-U	104-K15-U	104-K18-U	104-L05-U	
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	10.7 - 12.7	4.91 - 6.91	2.84 - 4.84	8.75 - 10.8	9.72 - 11.7	9.58 - 11.6	9.35 - 11.4	7.66 - 9.66	2.57 - 4.57	2.53 - 4.53	2.53 - 4.53	2.45 - 4.45	9.98 - 12	
Sample Date	(mg/kg)	(mg/kg)	3/3/2021	3/8/2021	3/8/2021	3/9/2021	3/4/2021	3/4/2021	3/3/2021	3/3/2021	3/3/2021	3/3/2021	3/3/2021	3/8/2021	3/5/2021	
VOC																
Benzene	280	0.5	0.0061 (0.0063)	U (0.0046)	U (0.0005)	0.0007 J (0.0013)	U (0.00063)	0.032 (0.03)	0.052 J (0.056)	0.00078 J (0.001)	0.00025 J (0.00061)	0.052 J (0.078)	U (0.0012)	0.45 (0.038)	U (0.031)	
Cumene	10000	2500	0.17 (0.0013)	U (0.00092)	0.054 (0.001)	0.0042 (0.0026)	U (0.0013)	0.13 (0.06)	1.6 (0.11)	0.38 (0.0021)	U (0.0012)	2 (0.16)	U (0.0024)	0.42 (0.075)	1.5 (0.063)	
1,2-Dibromoethane	3.7	0.005	U (0.00063)	U (0.00046)	U (0.0005)	U (0.0013)	U (0.00063)	U (0.03)	U (0.056)	U (0.001)	U (0.00061)	U (0.078)	U (0.0012)	U (0.00072)	U (0.031)	
1,2-Dichloroethane	85	0.5	U (0.0013)	U (0.00092)	U (0.001)	U (0.0026)	U (0.0013)	U (0.06)	U (0.11)	U (0.0021)	U (0.0012)	U (0.16)	U (0.0024)	U (0.0014)	U (0.063)	
Ethyl Benzene	880	70	0.0087 (0.0013)	U (0.00092)	0.00034 J (0.001)	0.0014 J (0.0026)	U (0.0013)	0.078 (0.06)	0.3 (0.11)	U (0.0021)	U (0.0012)	0.12 J (0.16)	U (0.0024)	0.28 (0.075)	0.022 J (0.063)	
Methyl tert-butyl ether	8500	2	U (0.0025)	U (0.0018)	U (0.002)	U (0.0052)	U (0.0025)	U (0.12)	U (0.22)	U (0.0042)	U (0.0024)	U (0.31)	U (0.0048)	U (0.0029)	U (0.12)	
Toluene	10000	100	0.014 (0.0013)	U (0.00092)	U (0.001)	U (0.0026)	U (0.0013)	U (0.06)	0.07 J (0.11)	0.005 (0.0021)	U (0.0012)	0.29 (0.16)	U (0.0024)	1 (0.075)	U (0.063)	
1,2,4-Trimethylbenzene	4700	300	0.096 (0.0025)	U (0.0018)	U (0.002)	0.0046 J (0.0052)	0.00043 J (0.0025)	0.039 J (0.12)	0.14 J (0.22)	0.036 (0.0042)	U (0.0024)	14 (0.31)	U (0.0048)	1.2 (0.15)	0.057 J (0.12)	
1,3,5-Trimethylbenzene	4700	93	0.041 (0.0025)	U (0.0018)	0.00023 J (0.002)	0.00095 J (0.0052)	U (0.0025)	0.012 J (0.12)	0.05 J (0.22)	0.018 (0.0042)	U (0.0024)	3.4 (0.31)	U (0.0048)	0.48 (0.15)	U (0.12)	
Xylenes (total)	7900	1000	0.086 J (0.0025)	U (0.0018)	0.00143 J (0.002)	0.0073 J (0.0052)	U (0.0025)	0.075 J (0.12)	0.35 J (0.22)	0.0197 J (0.0042)	U (0.0024)	2.07 J (0.31)	U (0.0048)	2.45 J (0.15)	0.156 J (0.12)	
PAHs																
Anthracene	190000	350	3.4 (0.22)	U (0.008)	0.91 (0.079)	0.09 J (0.17)	0.86 (0.29)	5.4 (0.41)	0.32 (0.038)	U (0.11)	4.7 (0.43)	1.4 (0.16)	0.052 (0.04)	4.9 (0.85)	12 (1.6)	
Benzo(a)anthracene	130	340	4.8 (0.22)	0.0018 J (0.008)	3.6 (0.079)	0.16 J (0.17)	1.7 (0.29)	10 (0.41)	0.48 (0.038)	6.7 (0.11)	15 (0.43)	1 (0.16)	0.16 (0.04)	23 (0.85)	2.3 (1.6)	
Benzo(a)pyrene	91	46	5.1 (0.22)	0.0012 J (0.008)	3 (0.079)	0.089 J (0.17)	1 (0.29)	13 (0.41)	U (0.038)	6.8 (0.11)	14 (0.43)	0.74 (0.16)	0.14 (0.04)	27 (0.85)	1.7 (1.6)	
Benzo(b)fluoranthene	76	170	2.2 (0.22)	0.0012 J (0.008)	3.7 (0.079)	0.091 J (0.17)	0.96 (0.29)	13 (0.41)	U (0.038)	3.8 (0.11)	17 (0.43)	0.81 (0.16)	0.1 (0.04)	31 (0.85)	1.5 J (1.6)	
Benzo(g,h,i)perylene	190000	180	2.7 (0.22)	0.00076 J (0.008)	1.4 (0.079)	0.071 J (0.17)	0.58 (0.29)	7.1 (0.41)	U (0.038)	5 (0.11)	9.5 (0.43)	0.59 (0.16)	0.17 (0.04)	17 (0.85)	1.3 J (1.6)	
Chrysene	760	230	6.8 (0.22)	0.0015 J (0.008)	2.9 (0.079)	0.22 (0.17)	2.4 (0.29)	11 (0.41)	1.5 (0.038)	8.2 (0.11)	13 (0.43)	2.2 (0.16)	0.2 (0.04)	23 (0.85)	1.9 (1.6)	
Fluorene	130000	3800	13 (0.22)	U (0.008)	0.69 (0.079)	0.13 J (0.17)	0.86 (0.29)	5.2 (0.41)	0.79 (0.038)	U (0.11)	1.4 (0.43)	5.6 (0.16)	U (0.04)	3.8 (0.85)	37 (1.6)	
Naphthalene	66	25	0.75 (0.22)	U (0.008)	0.46 (0.079)	0.056 J (0.17)	0.16 J (0.29)	4.4 (0.41)	U (0.038)	U (0.11)	0.89 (0.43)	2.8 (0.16)	0.036 J (0.04)	10 (0.85)	1.7 (1.6)	
Phenanthrene	190000	10000	8.6 (0.22)	0.0018 J (0.008)	2.2 (0.079)	0.57 (0.17)	0.87 (0.29)	23 (0.41)	2.4 (0.038)	U (0.11)	14 (0.43)	9.8 (0.16)	0.48 (0.04)	16 (0.85)	110 (1.6)	
Pyrene	96000	2200	7.3 (0.22)	0.0031 J (0.008)	4.7 (0.079)	0.33 (0.17)	3.4 (0.29)	17 (0.41)	0.77 (0.038)	7.3 (0.11)	21 (0.43)	2.8 (0.16)	0.59 (0.04)	41 (0.85)	4.5 (1.6)	
Metals																
Lead	1000	450	107 (2.54)	8.41 (2.4)	18.2 (2.35)	5.46 (2.54)	60.1 (3.46)	35.6 (2.44)	116 (2.27)	17.2 (2.36)	57.1 (2.6)	57.7 (2.46)	47.8 (2.37)	132 (2.59)	52.3 (2.33)	

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.3
Underlying Soil Analytical Results
Innovation Campus
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Location	Non-Residential Soil	Non-Residential Soil to	104-L07-U-d	104-L08-U-b	104-L09-U-a	104-L10-U-c	104-L11-U-d	104-L12-U-b	104-L16-U-c	104-M05-U-b	104-M06-U-c	104-M07-U-a	104-M09-U-d	104-N21-U-a	104-O22-U-b
Field Sample ID	Direct Contact Numeric	Groundwater Numeric	104-L07-U	104-L08-U	104-L09-U	104-L10-U	104-L11-U	104-L12-U	104-L16-U	104-M05-U	104-M06-U	104-M07-U	104-M09-U	104-N21-U	104-O22-U
Sampled Zone (ft bgs)	Value (0-2 ft bgs)	Value	9.62 - 11.6	9.49 - 11.5	2.57 - 4.57	2.85 - 4.85	3.2 - 5.2	2.63 - 4.63	2.14 - 4.14	2.59 - 4.59	3.06 - 5.06	9.62 - 11.6	3.2 - 5.2	4.14 - 6.14	4.14 - 6.14
Sample Date	(mg/kg)	(mg/kg)	3/5/2021	3/8/2021	3/4/2021	3/3/2021	3/5/2021	3/3/2021	3/9/2021	3/5/2021	3/5/2021	3/5/2021	3/3/2021	3/9/2021	3/9/2021
VOC															
Benzene	280	0.5	0.024 J (0.052)	0.00043 J (0.00064)	U (0.0005)	U (0.00086)	0.0004 J (0.00056)	0.86 (0.027)	0.0074 (0.00062)	10 (0.045)	U (0.00053)	0.00017 J (0.00051)	0.00099 (0.00059)	U (0.028)	0.00042 J (0.00066)
Cumene	10000	2500	0.15 (0.1)	U (0.0013)	0.00036 J (0.001)	0.0019 (0.0017)	0.0044 (0.0011)	0.12 (0.054)	0.13 (0.0012)	0.055 J (0.091)	0.0031 (0.0011)	0.012 (0.001)	0.002 (0.0012)	1.9 (0.056)	U (0.0013)
1,2-Dibromoethane	3.7	0.005	U (0.052)	U (0.00064)	U (0.0005)	0.0022 (0.00086)	U (0.00056)	U (0.027)	U (0.00062)	U (0.045)	U (0.00053)	U (0.00051)	U (0.00059)	U (0.028)	U (0.00066)
1,2-Dichloroethane	85	0.5	U (0.1)	U (0.0013)	U (0.001)	U (0.0017)	U (0.0011)	U (0.054)	U (0.0012)	U (0.091)	U (0.0011)	U (0.001)	U (0.0012)	U (0.056)	U (0.0013)
Ethyl Benzene	880	70	0.14 (0.1)	U (0.0013)	0.00042 J (0.001)	0.0018 (0.0017)	0.00085 J (0.0011)	0.083 (0.054)	0.024 (0.0012)	0.031 J (0.091)	0.00026 J (0.0011)	0.0028 (0.001)	0.00052 J (0.0012)	U (0.056)	0.00019 J (0.0013)
Methyl tert-butyl ether	8500	2	U (0.21)	U (0.0026)	U (0.002)	U (0.0034)	U (0.0022)	U (0.11)	U (0.0025)	U (0.18)	U (0.0021)	U (0.002)	U (0.0024)	U (0.11)	U (0.0026)
Toluene	10000	100	U (0.1)	U (0.0013)	U (0.001)	0.00096 J (0.0017)	U (0.0011)	0.47 (0.054)	0.0061 (0.0012)	U (0.091)	U (0.0011)	0.0025 (0.001)	U (0.0012)	U (0.056)	U (0.0013)
1,2,4-Trimethylbenzene	4700	300	0.12 J (0.21)	U (0.0026)	0.00062 J (0.002)	U (0.0034)	0.0034 (0.0022)	0.098 J (0.11)	0.011 (0.0025)	0.11 J (0.18)	0.0006 J (0.0021)	0.0024 (0.002)	0.00072 J (0.0024)	0.039 J (0.11)	U (0.0026)
1,3,5-Trimethylbenzene	4700	93	0.024 J (0.21)	U (0.0026)	0.0002 J (0.002)	0.0016 J (0.0034)	0.0024 (0.0022)	0.039 J (0.11)	0.0017 J (0.0025)	0.059 J (0.18)	0.00041 J (0.0021)	0.00076 J (0.002)	0.00044 J (0.0024)	U (0.11)	U (0.0026)
Xylenes (total)	7900	1000	0.471 J (0.21)	U (0.0026)	0.00194 J (0.002)	0.0052 J (0.0034)	0.0062 J (0.0022)	0.35 J (0.11)	0.0317 J (0.0025)	0.127 J (0.18)	0.0023 J (0.0021)	0.00239 J (0.002)	0.0023 J (0.0024)	0.128 J (0.11)	0.00187 J (0.0026)
PAHs															
Anthracene	190000	350	1.3 (0.1)	0.12 (0.073)	0.3 (0.038)	0.55 (0.037)	4.5 (0.19)	1.4 (0.15)	0.62 (0.037)	0.027 J (0.04)	1.6 (0.16)	0.46 (0.039)	2.3 (0.14)	0.034 (0.0088)	0.0091 J (0.032)
Benzo(a)anthracene	130	340	5.8 (0.1)	0.41 (0.073)	1.9 (0.038)	1.6 (0.037)	7.6 (0.19)	5.1 (0.15)	1.7 (0.037)	0.062 (0.04)	7.5 (0.16)	0.98 (0.039)	1.9 (0.14)	0.036 (0.0088)	0.044 (0.032)
Benzo(a)pyrene	91	46	7.7 (0.1)	0.39 (0.073)	2.3 (0.038)	2.1 (0.037)	4.6 (0.19)	5.8 (0.15)	1.4 (0.037)	0.13 (0.04)	5.8 (0.16)	0.91 (0.039)	1.1 (0.14)	0.011 (0.0088)	0.032 (0.032)
Benzo(b)fluoranthene	76	170	7.6 (0.1)	0.43 (0.073)	1.8 (0.038)	2.2 (0.037)	5.5 (0.19)	6 (0.15)	1.9 (0.037)	0.15 (0.04)	6.8 (0.16)	0.99 (0.039)	1.4 (0.14)	0.016 (0.0088)	0.043 (0.032)
Benzo(g,h,i)perylene	190000	180	5.4 (0.1)	0.37 (0.073)	1.3 (0.038)	1.5 (0.037)	2 (0.19)	4 (0.15)	0.94 (0.037)	0.15 (0.04)	3.4 (0.16)	0.46 (0.039)	0.62 (0.14)	0.0054 J (0.0088)	U (0.032)
Chrysene	760	230	4.7 (0.1)	0.52 (0.073)	2.5 (0.038)	1.5 (0.037)	4.4 (0.19)	5.7 (0.15)	1.5 (0.037)	0.063 (0.04)	5 (0.16)	1 (0.039)	1.5 (0.14)	0.083 (0.0088)	0.37 (0.032)
Fluorene	130000	3800	0.35 (0.1)	0.09 (0.073)	0.17 (0.038)	0.43 (0.037)	4.4 (0.19)	1.2 (0.15)	0.64 (0.037)	0.011 J (0.04)	0.64 (0.16)	0.23 (0.039)	0.15 (0.14)	0.094 (0.0088)	0.014 J (0.032)
Naphthalene	66	25	0.83 (0.1)	0.13 (0.073)	0.098 (0.038)	1.3 (0.037)	1.4 (0.19)	1.4 (0.15)	3.7 (0.037)	0.044 (0.04)	1.1 (0.16)	0.083 (0.039)	0.28 (0.14)	0.012 (0.0088)	0.0061 J (0.032)
Phenanthrene	190000	10000	1.7 (0.1)	0.37 (0.073)	1.1 (0.038)	0.84 (0.037)	9.1 (0.19)	3.6 (0.15)	2.8 (0.037)	0.048 (0.04)	5.8 (0.16)	0.29 (0.039)	0.5 (0.14)	0.32 (0.0088)	0.009 J (0.032)
Pyrene	96000	2200	6.1 (0.1)	0.66 (0.073)	2.8 (0.038)	1.5 (0.037)	8.6 (0.19)	8 (0.15)	2.4 (0.037)	0.091 (0.04)	9.8 (0.16)	1.7 (0.039)	7.7 (0.14)	0.054 (0.0088)	0.081 (0.032)
Metals															
Lead	1000	450	772 (2.94)	708 (2.21)	43.2 (2.26)	71.1 (2.2)	70.6 (2.16)	51.4 (2.21)	150 (2.18)	1130 (11.6)	89.4 (2.28)	55.8 (2.3)	3.12 (2.04)	8.93 (2.62)	7.84 (2.32)

- Notes:**
- Concentrations are presented in mg/kg.
 - Yellow shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs).
 - Blue shading indicates that the concentration exceeds the Non-Residential Soil to Groundwater Numeric Value.
 - Orange shading indicates that the concentration exceeds the Non-Residential Soil Direct Contact Numeric Value (0-2 ft bgs) and the Non-Residential Soil to Groundwater Numeric Value.
 - Underlining indicates that the concentration exceeds the Site-specific standard of 2,520 mg/kg for lead.
 - Sampled zone is the depth interval of soil relative to the existing conditions (i.e., pre-development) ground surface.
 - A "U" flag indicates the constituent was not detected above the method detection limit. The detection limit is provided in parentheses. A "J" flag indicates the reported concentration is less than the reporting limit and the reported value is estimated.

Abbreviations:
VOC -- Volatile Organic Compounds.
PAHs -- Polycyclic Aromatic Hydrocarbons.
ft bgs -- Feet Below Ground Surface.
mg/kg -- Milligram per Kilogram.

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Benzene	LS-A-A01	Life Sciences	1	U (0.24)	0.12	280	0.5
VOC	Benzene	LS-A-A02	Life Sciences	2	U (0.3)	0.075	280	0.5
VOC	Benzene	LS-A-A03	Life Sciences	1	U (0.00071)	0.00036	280	0.5
VOC	Benzene	LS-A-A04	Life Sciences	3	U (0.28)	0.093	280	0.5
VOC	Benzene	LS-A-B02	Life Sciences	14	0.00039 - 0.0018	0.00041	280	0.5
VOC	Benzene	LS-A-B03	Life Sciences	4	U (0.059) - 0.121	0.031	280	0.5
VOC	Benzene	LS-A-C01	Life Sciences	28	0.00025 - 0.00305	0.0057	280	0.5
VOC	Benzene	LS-A-C02	Life Sciences	12	U (0.3) - 0.00134	0.023	280	0.5
VOC	Benzene	LS-A-C04	Life Sciences	3	U (0.21)	0.039	280	0.5
VOC	Benzene	LS-A-D01	Life Sciences	5	0.0942 - 0.74	0.29	280	0.5
VOC	Benzene	LS-A-D02	Life Sciences	1	U (0.23)	0.12	280	0.5
VOC	Benzene	LS-A-D03	Life Sciences	3	U (0.26)	0.044	280	0.5
VOC	Benzene	LS-A-D04	Life Sciences	2	0.00155 - 0.00229	0.0019	280	0.5
VOC	Benzene	LS-A-D05	Life Sciences	6	U (0.27) - 0.00488	0.046	280	0.5
VOC	Benzene	LS-A-D06	Life Sciences	4	U (0.0265) - 0.00694	0.0069	280	0.5
VOC	Benzene	LS-A-D07	Life Sciences	2	0.00208 - 0.00208	0.035	280	0.5
VOC	Benzene	LS-A-E01	Life Sciences	3	0.0378 - 0.0378	0.54	280	0.5
VOC	Benzene	LS-A-E03	Life Sciences	1	U (0.23)	0.12	280	0.5
VOC	Benzene	LS-A-E04	Life Sciences	2	1.86 - 1.86	0.94	280	0.5
VOC	Benzene	LS-A-E05	Life Sciences	1	U (0.22)	0.11	280	0.5
VOC	Benzene	LS-A-E07	Life Sciences	7	U (0.59)	0.12	280	0.5
VOC	Benzene	LS-A-E08	Life Sciences	6	U (0.22)	0.060	280	0.5
VOC	Benzene	LS-A-F01	Life Sciences	3	U (0.633) - 1.25	0.52	280	0.5
VOC	Benzene	LS-A-F02	Life Sciences	3	3.1 - 3.1	1.1	280	0.5
VOC	Benzene	LS-A-F03	Life Sciences	1	U (0.19)	0.10	280	0.5
VOC	Benzene	LS-A-F04	Life Sciences	12	U (0.37) - 0.00204	0.044	280	0.5
VOC	Benzene	LS-A-F05	Life Sciences	1	U (0.32)	0.16	280	0.5
VOC	Benzene	LS-A-G01	Life Sciences	3	0.24 - 0.531	0.77	280	0.5
VOC	Benzene	LS-A-G02	Life Sciences	2	U (0.734)	0.23	280	0.5
VOC	Benzene	LS-A-G03	Life Sciences	3	0.21 - 0.21	0.13	280	0.5
VOC	Benzene	LS-A-G07	Life Sciences	3	U (0.24) - 0.00271	0.041	280	0.5
VOC	Benzene	LS-A-G08	Life Sciences	2	U (0.00125) - 0.00453	0.0026	280	0.5
VOC	Benzene	LS-A-H03	Life Sciences	2	U (0.00118)	0.00059	280	0.5
VOC	Benzene	LS-A-H04	Life Sciences	2	U (0.0207) - 0.028	0.019	280	0.5
VOC	Benzene	LS-A-H06	Life Sciences	1	U (0.19)	0.10	280	0.5
VOC	Benzene	LS-A-H07	Life Sciences	2	U (0.0184) - 0.363	0.19	280	0.5
VOC	Benzene	LS-A-I01	Life Sciences	6	0.00146 - 0.00295	0.070	280	0.5
VOC	Benzene	LS-A-I02	Life Sciences	1	U (0.18)	0.090	280	0.5
VOC	Benzene	LS-A-I03	Life Sciences	3	U (0.22)	0.060	280	0.5
VOC	Benzene	LS-B-B01	Life Sciences	1	U (0.00087)	0.00044	280	0.5
VOC	Benzene	LS-B-C01	Life Sciences	3	0.0257 - 0.0257	0.054	280	0.5
VOC	Benzene	LS-B-E01	Life Sciences	4	3.1 - 9.93	3.3	280	0.5
VOC	Benzene	LS-B-G02	Life Sciences	1	0.0284 - 0.0284	0.028	280	0.5
VOC	Benzene	LS-B-H02	Life Sciences	3	0.0174 - 1.9	0.68	280	0.5
VOC	Benzene	LS-E-B01	Life Sciences	98	U (1.34) - 20.3	0.55	280	0.5
VOC	Benzene	LS-E-G01	Life Sciences	4	U (0.23) - 0.0094	0.060	280	0.5
VOC	Benzene	201-A01	Phase 1A	7	0.0025 - 56.8	10.1	280	0.5
VOC	Benzene	201-A02	Phase 1A	14	0.011 - 140	15.0	280	0.5
VOC	Benzene	201-A03	Phase 1A	7	0.00049 - 200	52.0	280	0.5
VOC	Benzene	201-A04	Phase 1A	32	0.00031 - 340	41.8	280	0.5
VOC	Benzene	201-A05	Phase 1A	9	5.2 - 29	8.8	280	0.5
VOC	Benzene	201-A06	Phase 1A	10	U (0.22) - 1.4	0.37	280	0.5
VOC	Benzene	201-A07	Phase 1A	12	0.1 - 130	32.1	280	0.5
VOC	Benzene	201-A08	Phase 1A	7	0.00029 - 23	4.6	280	0.5
VOC	Benzene	201-A09	Phase 1A	8	0.37 - 76	23.9	280	0.5
VOC	Benzene	201-A10	Phase 1A	8	U (0.047) - 0.8	0.11	280	0.5
VOC	Benzene	201-A11	Phase 1A	8	0.00018 - 11	1.5	280	0.5
VOC	Benzene	201-A12	Phase 1A	16	0.00054 - 7.2	0.74	280	0.5
VOC	Benzene	201-A13	Phase 1A	19	0.0002 - 73	11.3	280	0.5
VOC	Benzene	201-A14	Phase 1A	21	U (0.27) - 1.4	0.19	280	0.5
VOC	Benzene	201-A15	Phase 1A	8	U (0.21) - 0.1	0.052	280	0.5
VOC	Benzene	201-B01	Phase 1A	4	0.032 - 2.6	0.84	280	0.5
VOC	Benzene	201-B02	Phase 1A	10	0.00074 - 35	7.9	280	0.5
VOC	Benzene	201-B03	Phase 1A	1	0.1 - 0.1	0.10	280	0.5
VOC	Benzene	201-B04	Phase 1A	11	0.0014 - 1.1	0.17	280	0.5
VOC	Benzene	201-B05	Phase 1A	3	0.021 - 0.32	0.14	280	0.5
VOC	Benzene	201-B06	Phase 1A	1	U (0.064)	0.032	280	0.5
VOC	Benzene	201-B07	Phase 1A	21	U (0.29) - 0.047	0.039	280	0.5
VOC	Benzene	201-B08	Phase 1A	10	U (0.036) - 0.14	0.029	280	0.5
VOC	Benzene	201-B09	Phase 1A	10	0.00019 - 1.7	0.20	280	0.5
VOC	Benzene	201-B10	Phase 1A	8	0.0049 - 0.014	0.058	280	0.5
VOC	Benzene	201-B11	Phase 1A	33	U (0.11) - 5	0.28	280	0.5
VOC	Benzene	201-B12	Phase 1A	18	0.00033 - 0.78	0.10	280	0.5
VOC	Benzene	201-C01	Phase 1A	15	0.00018 - 4.1	0.74	280	0.5
VOC	Benzene	201-C02	Phase 1A	2	0.0007 - 0.023	0.012	280	0.5
VOC	Benzene	201-C04	Phase 1A	14	U (0.27) - 2.1	0.29	280	0.5
VOC	Benzene	201-C05	Phase 1A	3	0.054 - 0.054	0.14	280	0.5
VOC	Benzene	201-C06	Phase 1A	14	U (0.065) - 1.4	0.33	280	0.5
VOC	Benzene	201-C07	Phase 1A	11	U (0.64) - 1.4	0.40	280	0.5
VOC	Benzene	201-C08	Phase 1A	20	0.00028 - 0.96	0.15	280	0.5
VOC	Benzene	201-C09	Phase 1A	7	U (0.023)	0.0019	280	0.5
VOC	Benzene	201-C10	Phase 1A	4	U (0.225) - 0.323	0.082	280	0.5
VOC	Benzene	201-C11	Phase 1A	1	0.197 - 0.197	0.20	280	0.5

Table 3.4
Evergreen and PESRM Sampling Results Summary
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Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Benzene	201-D01	Phase 1A	4	U (0.0061)	0.0023	280	0.5
VOC	Benzene	201-D05	Phase 1A	8	0.00028 - 5.8	1.2	280	0.5
VOC	Benzene	201-D08	Phase 1A	1	U (0.00057)	0.00029	280	0.5
VOC	Benzene	201-D12	Phase 1A	3	U (0.00057) - 0.0005	0.00041	280	0.5
VOC	Benzene	201-E01	Phase 1A	74	U (5) - 230	5.1	280	0.5
VOC	Benzene	201-E02	Phase 1A	1	U (0.00051)	0.00026	280	0.5
VOC	Benzene	201-E03	Phase 1A	3	U (0.0045) - 0.0024	0.0021	280	0.5
VOC	Benzene	201-E04	Phase 1A	5	U (1) - 0.66	0.23	280	0.5
VOC	Benzene	201-E05	Phase 1A	28	0.0015 - 320	16.9	280	0.5
VOC	Benzene	201-F01	Phase 1A	51	U (0.35) - 0.93	0.048	280	0.5
VOC	Benzene	201-F02	Phase 1A	8	0.0031 - 1.8	0.26	280	0.5
VOC	Benzene	201-F03	Phase 1A	38	0.0002 - 15	0.77	280	0.5
VOC	Benzene	201-F04	Phase 1A	24	U (0.37) - 1.1	0.11	280	0.5
VOC	Benzene	202-A03	Phase 1A	8	U (0.095) - 0.00032	0.0093	280	0.5
VOC	Benzene	202-A04	Phase 1A	4	0.053 - 0.053	0.13	280	0.5
VOC	Benzene	202-A05	Phase 1A	4	U (0.00055)	0.00027	280	0.5
VOC	Benzene	202-A06	Phase 1A	4	0.00037 - 0.00037	0.00027	280	0.5
VOC	Benzene	202-A07	Phase 1A	3	U (0.00057)	0.00026	280	0.5
VOC	Benzene	202-A08	Phase 1A	3	0.00026 - 0.0003	0.00029	280	0.5
VOC	Benzene	202-A09	Phase 1A	6	U (0.00056) - 0.00041	0.00028	280	0.5
VOC	Benzene	202-B01	Phase 1A	2	U (0.0012) - 0.0094	0.0049	280	0.5
VOC	Benzene	202-B02	Phase 1A	18	U (0.31) - 0.17	0.060	280	0.5
VOC	Benzene	202-B03	Phase 1A	15	U (0.052)	0.0037	280	0.5
VOC	Benzene	202-B04	Phase 1A	3	U (0.00053)	0.00024	280	0.5
VOC	Benzene	202-B05	Phase 1A	4	U (0.028)	0.013	280	0.5
VOC	Benzene	202-B09	Phase 1A	9	U (0.032) - 0.00045	0.0020	280	0.5
VOC	Benzene	202-C04	Phase 1A	15	U (0.31) - 0.0046	0.028	280	0.5
VOC	Benzene	202-C05	Phase 1A	20	U (0.33) - 2.9	0.29	280	0.5
VOC	Benzene	202-C06	Phase 1A	4	U (0.027) - 0.011	0.0063	280	0.5
VOC	Benzene	202-C07	Phase 1A	8	U (0.32) - 0.018	0.049	280	0.5
VOC	Benzene	202-C08	Phase 1A	4	0.14 - 0.42	0.20	280	0.5
VOC	Benzene	202-C10	Phase 1A	1	U (0.005)	0.0025	280	0.5
VOC	Benzene	202-D05	Phase 1A	5	U (0.26) - 36	7.2	280	0.5
VOC	Benzene	202-D06	Phase 1A	11	U (0.029) - 8	1.2	280	0.5
VOC	Benzene	202-E06	Phase 1A	2	0.0003 - 0.0003	0.00035	280	0.5
VOC	Benzene	202-E08	Phase 1A	13	0.00036 - 7.1	0.56	280	0.5
VOC	Benzene	202-E09	Phase 1A	16	U (0.095) - 2.6	0.30	280	0.5
VOC	Benzene	202-E10	Phase 1A	6	U (0.11) - 0.0003	0.019	280	0.5
VOC	Benzene	202-E11	Phase 1A	2	U (0.1) - 0.11	0.080	280	0.5
VOC	Benzene	202-E12	Phase 1A	4	U (0.092)	0.016	280	0.5
VOC	Benzene	202-E13	Phase 1A	2	0.11 - 0.16	0.14	280	0.5
VOC	Benzene	202-E15	Phase 1A	2	0.065 - 0.19	0.13	280	0.5
VOC	Benzene	202-F01	Phase 1A	7	0.13 - 20	3.0	280	0.5
VOC	Benzene	202-F04	Phase 1A	11	U (0.034) - 0.14	0.018	280	0.5
VOC	Benzene	202-F05	Phase 1A	2	U (0.03)	0.0076	280	0.5
VOC	Benzene	202-F06	Phase 1A	2	0.055 - 0.055	0.050	280	0.5
VOC	Benzene	202-F07	Phase 1A	17	0.00052 - 1.8	0.32	280	0.5
VOC	Benzene	202-F08	Phase 1A	5	U (0.028) - 0.001	0.0058	280	0.5
VOC	Benzene	202-F10	Phase 1A	2	U (0.027) - 0.01	0.0052	280	0.5
VOC	Benzene	202-F13	Phase 1A	1	0.0009 - 0.0009	0.00090	280	0.5
VOC	Benzene	202-F14	Phase 1A	2	U (0.0011)	0.00050	280	0.5
VOC	Benzene	202-F16	Phase 1A	4	U (0.096)	0.017	280	0.5
VOC	Benzene	202-F17	Phase 1A	8	U (0.0011)	0.00035	280	0.5
VOC	Benzene	202-G01	Phase 1A	8	U (0.00058)	0.00025	280	0.5
VOC	Benzene	202-G02	Phase 1A	14	U (0.034)	0.0024	280	0.5
VOC	Benzene	202-G03	Phase 1A	9	U (0.00077)	0.00026	280	0.5
VOC	Benzene	202-G04	Phase 1A	3	U (0.031) - 2.6	0.89	280	0.5
VOC	Benzene	202-G05	Phase 1A	6	U (0.096) - 0.55	0.18	280	0.5
VOC	Benzene	202-G07	Phase 1A	16	U (0.038) - 0.00025	0.0015	280	0.5
VOC	Benzene	202-H01	Phase 1A	2	U (0.21) - 4.7	2.4	280	0.5
VOC	Benzene	202-H03	Phase 1A	11	U (1.7) - 22	3.4	280	0.5
VOC	Benzene	202-H05	Phase 1A	8	U (0.31) - 4.7	1.5	280	0.5
VOC	Benzene	202-H06	Phase 1A	2	U (0.0013)	0.00058	280	0.5
VOC	Benzene	202-H07	Phase 1A	2	U (0.0011)	0.00053	280	0.5
VOC	Benzene	202-H08	Phase 1A	3	U (0.00097)	0.00036	280	0.5
VOC	Benzene	202-H09	Phase 1A	4	U (0.0039)	0.00072	280	0.5
VOC	Benzene	202-H11	Phase 1A	10	U (0.036) - 0.068	0.0086	280	0.5
VOC	Benzene	202-I01	Phase 1A	2	U (0.00053)	0.00025	280	0.5
VOC	Benzene	202-I04	Phase 1A	4	U (0.00089)	0.00036	280	0.5
VOC	Benzene	202-J01	Phase 1A	6	U (0.03) - 0.013	0.0024	280	0.5
VOC	Benzene	202-J02	Phase 1A	5	U (0.031) - 0.098	0.020	280	0.5
VOC	Benzene	202-J03	Phase 1A	11	0.0027 - 2.1	0.55	280	0.5
VOC	Benzene	202-J04	Phase 1A	8	0.00031 - 4.6	1.5	280	0.5
VOC	Benzene	202-J05	Phase 1A	6	U (0.0021)	0.0010	280	0.5
VOC	Benzene	202-J07	Phase 1A	8	0.00094 - 8.2	1.6	280	0.5
VOC	Benzene	202-J08	Phase 1A	1	U (0.002)	0.0010	280	0.5
VOC	Benzene	202-J09	Phase 1A	2	0.14 - 0.14	0.30	280	0.5
VOC	Benzene	301-AA01	Phase 1A	1	0.0032 - 0.0032	0.0032	280	0.5
VOC	Benzene	301-AA06	Phase 1A	11	U (0.17)	0.013	280	0.5
VOC	Benzene	301-AA07	Phase 1A	4	U (0.0012) - 0.116	0.029	280	0.5
VOC	Benzene	301-AA08	Phase 1A	3	U (0.28)	0.086	280	0.5
VOC	Benzene	301-AA09	Phase 1A	3	U (0.48)	0.17	280	0.5
VOC	Benzene	301-AB04	Phase 1A	3	U (0.09)	0.015	280	0.5

Table 3.4
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Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Benzene	301-AB06	Phase 1A	2	U (0.00096)	0.00047	280	0.5
VOC	Benzene	301-AB07	Phase 1A	1	0.052 - 0.052	0.052	280	0.5
VOC	Benzene	301-AB09	Phase 1A	2	0.0074 - 0.0074	0.0049	280	0.5
VOC	Benzene	301-AC04	Phase 1A	25	U (0.39) - 2.4	0.14	280	0.5
VOC	Benzene	301-AC07	Phase 1A	10	0.00022 - 0.26	0.048	280	0.5
VOC	Benzene	301-AC08	Phase 1A	7	0.0005 - 0.56	0.088	280	0.5
VOC	Benzene	301-AC09	Phase 1A	6	U (0.001) - 0.002	0.00054	280	0.5
VOC	Benzene	301-B01	Phase 1A	1	0.0012 - 0.0012	0.0012	280	0.5
VOC	Benzene	301-C01	Phase 1A	3	0.14 - 37	12.5	280	0.5
VOC	Benzene	301-C02	Phase 1A	9	0.016 - 6.6	0.92	280	0.5
VOC	Benzene	301-D01	Phase 1A	32	0.00072 - 69	10.4	280	0.5
VOC	Benzene	301-E02	Phase 1A	32	0.0015 - 74	8.1	280	0.5
VOC	Benzene	301-E03	Phase 1A	5	U (0.31) - 0.06	0.021	280	0.5
VOC	Benzene	301-F02	Phase 1A	8	U (0.52) - 18	2.9	280	0.5
VOC	Benzene	301-G01	Phase 1A	2	U (0.24) - 1.8	0.91	280	0.5
VOC	Benzene	301-G02	Phase 1A	3	0.014 - 0.51	0.24	280	0.5
VOC	Benzene	301-G03	Phase 1A	1	1.1 - 1.1	1.1	280	0.5
VOC	Benzene	301-H01	Phase 1A	20	0.0004 - 46	6.4	280	0.5
VOC	Benzene	301-H02	Phase 1A	4	0.003 - 0.055	0.018	280	0.5
VOC	Benzene	301-H03	Phase 1A	2	0.047 - 3.6	1.8	280	0.5
VOC	Benzene	301-I01	Phase 1A	9	U (0.27) - 18	2.0	280	0.5
VOC	Benzene	301-I02	Phase 1A	1	U (0.032)	0.016	280	0.5
VOC	Benzene	301-J01	Phase 1A	4	0.004 - 0.31	0.091	280	0.5
VOC	Benzene	301-J02	Phase 1A	8	U (0.15) - 2.5	0.81	280	0.5
VOC	Benzene	301-K01	Phase 1A	9	0.016 - 0.39	0.095	280	0.5
VOC	Benzene	301-K02	Phase 1A	3	0.54 - 0.89	0.71	280	0.5
VOC	Benzene	301-L02	Phase 1A	8	0.0011 - 180	24.7	280	0.5
VOC	Benzene	301-L03	Phase 1A	5	U (0.065) - 0.43	0.10	280	0.5
VOC	Benzene	301-M02	Phase 1A	5	U (0.055) - 0.59	0.13	280	0.5
VOC	Benzene	301-M03	Phase 1A	3	U (0.056) - 0.12	0.050	280	0.5
VOC	Benzene	301-N02	Phase 1A	3	U (0.22) - 0.22	0.12	280	0.5
VOC	Benzene	301-P02	Phase 1A	2	5.14 - 11.7	8.4	280	0.5
VOC	Benzene	301-Q04	Phase 1A	6	0.00046 - 0.023	0.026	280	0.5
VOC	Benzene	301-R02	Phase 1A	6	U (0.26)	0.024	280	0.5
VOC	Benzene	301-S02	Phase 1A	4	U (0.0054)	0.0025	280	0.5
VOC	Benzene	301-S03	Phase 1A	1	0.25 - 0.25	0.25	280	0.5
VOC	Benzene	301-T04	Phase 1A	2	U (0.3)	0.076	280	0.5
VOC	Benzene	301-V04	Phase 1A	30	U (1.3) - 2.6	0.15	280	0.5
VOC	Benzene	301-W03	Phase 1A	4	U (0.27)	0.098	280	0.5
VOC	Benzene	301-X03	Phase 1A	3	U (0.25)	0.079	280	0.5
VOC	Benzene	301-Y03	Phase 1A	2	0.0033 - 7.15	3.6	280	0.5
VOC	Benzene	301-Y04	Phase 1A	3	U (0.28)	0.092	280	0.5
VOC	Benzene	301-Y05	Phase 1A	6	U (1.2) - 0.042	0.14	280	0.5
VOC	Benzene	302-AD08	Phase 1A	2	U (0.0006)	0.00029	280	0.5
VOC	Benzene	302-AD09	Phase 1A	3	U (0.0011) - 0.00041	0.00047	280	0.5
VOC	Benzene	302-AD10	Phase 1A	4	0.0002 - 8.5	3.4	280	0.5
VOC	Benzene	302-AE09	Phase 1A	4	U (0.00047)	0.00023	280	0.5
VOC	Benzene	302-AF06	Phase 1A	9	U (0.15) - 4.4	0.49	280	0.5
VOC	Benzene	302-AG07	Phase 1A	14	U (0.029) - 0.0067	0.0074	280	0.5
VOC	Benzene	302-AJ09	Phase 1A	13	0.027 - 0.34	0.12	280	0.5
VOC	Benzene	302-AK06	Phase 1A	3	U (0.27)	0.093	280	0.5
VOC	Benzene	302-AL06	Phase 1A	13	0.087 - 0.14	0.11	280	0.5
VOC	Benzene	302-AN02	Phase 1A	2	0.0023 - 0.0023	0.0014	280	0.5
VOC	Benzene	302-AO03	Phase 1A	2	U (0.00127)	0.00060	280	0.5
VOC	Benzene	302-AQ02	Phase 1A	9	U (0.12) - 0.16	0.039	280	0.5
VOC	Benzene	302-AR02	Phase 1A	4	U (0.00063)	0.00027	280	0.5
VOC	Benzene	302-AS03	Phase 1A	13	U (0.11)	0.0067	280	0.5
VOC	Benzene	302-AV01	Phase 1A	12	U (0.64) - 30	2.7	280	0.5
VOC	Benzene	302-AV03	Phase 1A	6	U (0.028) - 0.0011	0.0027	280	0.5
VOC	Benzene	302-AW01	Phase 1A	12	U (4.9) - 84	11.5	280	0.5
VOC	Benzene	302-AW03	Phase 1A	2	U (0.00048)	0.00023	280	0.5
VOC	Benzene	302-AX01	Phase 1A	13	U (1.1) - 60	5.4	280	0.5
VOC	Benzene	302-AX05	Phase 1A	2	U (0.00125)	0.00060	280	0.5
VOC	Benzene	302-AZ05	Phase 1A	4	U (0.005)	0.00086	280	0.5
VOC	Benzene	302-BA05	Phase 1A	2	0.00142 - 0.896	0.45	280	0.5
VOC	Benzene	302-BB06	Phase 1A	5	U (0.03)	0.0061	280	0.5
VOC	Benzene	302-BC05	Phase 1A	19	U (0.034) - 0.0237	0.0027	280	0.5
VOC	Benzene	302-BE04	Phase 1A	2	U (0.006)	0.0028	280	0.5
VOC	Benzene	303-AY01	Phase 1A	6	0.00037 - 0.0008	0.00080	280	0.5
VOC	Benzene	303-AZ01	Phase 1A	5	0.0009 - 1.4	0.63	280	0.5
VOC	Benzene	303-BA01	Phase 1A	8	0.00025 - 0.0047	0.0011	280	0.5
VOC	Benzene	303-BA02	Phase 1A	14	U (1.1) - 1.2	0.25	280	0.5
VOC	Benzene	303-BB01	Phase 1A	2	U (0.005)	0.0023	280	0.5
VOC	Benzene	303-BB02	Phase 1A	5	U (0.64) - 0.079	0.016	280	0.5
VOC	Benzene	303-BC01	Phase 1A	4	U (0.00055)	0.00026	280	0.5
VOC	Benzene	303-BD04	Phase 1A	13	U (1.5) - 8.6	1.1	280	0.5
VOC	Benzene	303-BE03	Phase 1A	39	U (0.47) - 3.3	0.52	280	0.5
VOC	Benzene	303-BF05	Phase 1A	20	U (0.66) - 5.2	0.44	280	0.5
VOC	Benzene	303-BG04	Phase 1A	28	U (2.1) - 12	0.85	280	0.5
VOC	Benzene	303-BH02	Phase 1A	25	U (0.11) - 7.9	0.44	280	0.5
VOC	Benzene	303-BI03	Phase 1A	6	U (0.00093) - 0.0057	0.0013	280	0.5
VOC	Benzene	303-BJ01	Phase 1A	3	U (0.068) - 0.0004	0.016	280	0.5
VOC	Benzene	303-BJ02	Phase 1A	3	U (0.0013)	0.00051	280	0.5

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Benzene	303-BK03	Phase 1A	7	U (0.38) - 0.11	0.049	280	0.5
VOC	Benzene	303-BL02	Phase 1A	13	0.00024 - 28	2.2	280	0.5
VOC	Benzene	303-BM02	Phase 1A	1	U (0.00084)	0.00042	280	0.5
VOC	Benzene	303-BN02	Phase 1A	15	U (0.25) - 0.534	0.070	280	0.5
VOC	Benzene	303-BN03	Phase 1A	14	0.00028 - 0.136	0.041	280	0.5
VOC	Benzene	303-BO02	Phase 1A	36	0.001 - 5900	221.4	280	0.5
VOC	Benzene	303-BP02	Phase 1A	61	0.00076 - 7800	569.2	280	0.5
VOC	Benzene	303-BQ01	Phase 1A	5	U (0.42) - 4.5	1.2	280	0.5
VOC	Benzene	303-BQ02	Phase 1A	25	0.003 - 12000	843.7	280	0.5
VOC	Benzene	303-BR02	Phase 1A	8	0.00056 - 2.3	0.38	280	0.5
VOC	Benzene	303-BT01	Phase 1A	13	0.00007 - 0.071	0.12	280	0.5
VOC	Benzene	303-BW01	Phase 1A	2	0.121 - 0.121	0.15	280	0.5
VOC	Benzene	301-AA02	Phase 1B	2	U (0.00051)	0.00025	280	0.5
VOC	Benzene	301-AA05	Phase 1B	11	U (0.1) - 0.052	0.014	280	0.5
VOC	Benzene	301-AB05	Phase 1B	6	U (0.22) - 0.00065	0.019	280	0.5
VOC	Benzene	301-AC03	Phase 1B	2	U (0.005) - 0.024	0.012	280	0.5
VOC	Benzene	301-T01	Phase 1B	5	0.19 - 1.32	0.36	280	0.5
VOC	Benzene	301-T02	Phase 1B	7	0.053 - 0.197	0.063	280	0.5
VOC	Benzene	301-U01	Phase 1B	2	0.0177 - 0.16	0.089	280	0.5
VOC	Benzene	301-U03	Phase 1B	1	U (0.005)	0.0025	280	0.5
VOC	Benzene	301-V01	Phase 1B	7	0.0421 - 4.29	0.66	280	0.5
VOC	Benzene	301-V02	Phase 1B	20	U (0.4) - 0.00031	0.022	280	0.5
VOC	Benzene	301-W01	Phase 1B	24	U (0.28) - 0.248	0.021	280	0.5
VOC	Benzene	301-X01	Phase 1B	11	U (0.4) - 0.27	0.034	280	0.5
VOC	Benzene	301-Y01	Phase 1B	10	U (0.051) - 0.395	0.043	280	0.5
VOC	Benzene	301-Y02	Phase 1B	4	U (0.014) - 0.023	0.010	280	0.5
VOC	Benzene	301-Z01	Phase 1B	6	U (0.00057)	0.00025	280	0.5
VOC	Benzene	301-Z02	Phase 1B	2	U (0.005)	0.0013	280	0.5
VOC	Benzene	301-Z03	Phase 1B	5	U (0.21) - 0.0309	0.027	280	0.5
VOC	Benzene	302-AD06	Phase 1B	12	U (0.1) - 0.017	0.0058	280	0.5
VOC	Benzene	302-AD07	Phase 1B	2	U (0.00064)	0.00027	280	0.5
VOC	Benzene	302-AE03	Phase 1B	4	U (0.026) - 0.15	0.053	280	0.5
VOC	Benzene	302-AE04	Phase 1B	8	0.0026 - 0.024	0.0057	280	0.5
VOC	Benzene	302-AE05	Phase 1B	20	0.0002 - 0.023	0.0022	280	0.5
VOC	Benzene	302-AE07	Phase 1B	3	U (0.095) - 0.00054	0.016	280	0.5
VOC	Benzene	302-AE08	Phase 1B	3	U (0.00052) - 0.00058	0.00036	280	0.5
VOC	Benzene	302-AF03	Phase 1B	2	0.27 - 0.27	0.44	280	0.5
VOC	Benzene	302-AF04	Phase 1B	22	U (0.061) - 0.081	0.014	280	0.5
VOC	Benzene	302-AF05	Phase 1B	2	U (0.025)	0.0065	280	0.5
VOC	Benzene	302-AF09	Phase 1B	5	U (0.1) - 4.4	0.88	280	0.5
VOC	Benzene	302-AG04	Phase 1B	9	U (0.069)	0.013	280	0.5
VOC	Benzene	302-AG06	Phase 1B	5	U (0.21) - 0.241	0.086	280	0.5
VOC	Benzene	302-AG08	Phase 1B	6	0.031 - 2.4	0.49	280	0.5
VOC	Benzene	302-AH04	Phase 1B	8	U (0.034)	0.016	280	0.5
VOC	Benzene	302-AH05	Phase 1B	11	0.0023 - 0.31	0.059	280	0.5
VOC	Benzene	302-AH06	Phase 1B	4	U (0.0013) - 0.00122	0.00079	280	0.5
VOC	Benzene	302-AH07	Phase 1B	21	U (0.031) - 0.082	0.011	280	0.5
VOC	Benzene	302-AH08	Phase 1B	13	U (0.03) - 0.067	0.020	280	0.5
VOC	Benzene	302-AI05	Phase 1B	12	U (0.056) - 0.011	0.0060	280	0.5
VOC	Benzene	302-AI06	Phase 1B	19	0.0003 - 0.0269	0.0037	280	0.5
VOC	Benzene	302-AI07	Phase 1B	10	0.0013 - 0.0626	0.033	280	0.5
VOC	Benzene	302-AI08	Phase 1B	2	U (0.099)	0.026	280	0.5
VOC	Benzene	302-AI09	Phase 1B	3	0.00024 - 0.00024	0.00030	280	0.5
VOC	Benzene	302-AJ05	Phase 1B	2	U (0.00061)	0.00029	280	0.5
VOC	Benzene	302-AJ06	Phase 1B	5	U (0.00088) - 0.0016	0.00056	280	0.5
VOC	Benzene	302-AK05	Phase 1B	5	U (0.029) - 0.00315	0.0090	280	0.5
VOC	Benzene	302-AK07	Phase 1B	13	U (0.202) - 5	0.44	280	0.5
VOC	Benzene	302-AL03	Phase 1B	2	U (0.25) - 1.05	0.53	280	0.5
VOC	Benzene	302-AL05	Phase 1B	13	U (0.25) - 0.065	0.043	280	0.5
VOC	Benzene	302-AL08	Phase 1B	2	U (0.0009)	0.00038	280	0.5
VOC	Benzene	302-AN01	Phase 1B	2	U (0.0012)	0.00055	280	0.5
VOC	Benzene	302-AN03	Phase 1B	1	0.018 - 0.018	0.018	280	0.5
VOC	Benzene	302-AO02	Phase 1B	7	0.004 - 4.6	1.1	280	0.5
VOC	Benzene	302-AO05	Phase 1B	1	0.03 - 0.03	0.030	280	0.5
VOC	Benzene	302-AP02	Phase 1B	2	0.00043 - 0.00043	0.00037	280	0.5
VOC	Benzene	302-AP03	Phase 1B	23	U (0.083) - 0.127	0.011	280	0.5
VOC	Benzene	302-AP04	Phase 1B	3	0.0114 - 0.042	0.018	280	0.5
VOC	Benzene	302-AP05	Phase 1B	2	U (0.00068)	0.00033	280	0.5
VOC	Benzene	302-AQ01	Phase 1B	2	U (0.006) - 0.027	0.015	280	0.5
VOC	Benzene	302-AQ04	Phase 1B	2	U (0.00088)	0.00043	280	0.5
VOC	Benzene	302-AR01	Phase 1B	2	U (0.006)	0.0028	280	0.5
VOC	Benzene	302-AR04	Phase 1B	3	U (0.0011)	0.00050	280	0.5
VOC	Benzene	302-AS04	Phase 1B	2	0.00973 - 0.00973	0.0052	280	0.5
VOC	Benzene	302-AT01	Phase 1B	2	0.0055 - 0.0333	0.019	280	0.5
VOC	Benzene	302-AT02	Phase 1B	2	0.00056 - 0.157	0.079	280	0.5
VOC	Benzene	302-AT03	Phase 1B	4	U (0.11)	0.014	280	0.5
VOC	Benzene	302-AU01	Phase 1B	2	U (0.001)	0.00047	280	0.5
VOC	Benzene	302-AU02	Phase 1B	8	U (0.028) - 0.017	0.0041	280	0.5
VOC	Benzene	302-AU03	Phase 1B	2	U (0.00049)	0.00023	280	0.5
VOC	Benzene	302-AV02	Phase 1B	4	U (0.027) - 0.016	0.0042	280	0.5
VOC	Benzene	302-AV04	Phase 1B	2	U (0.00126)	0.00062	280	0.5
VOC	Benzene	302-AW02	Phase 1B	2	U (0.28) - 0.031	0.016	280	0.5
VOC	Benzene	302-AX02	Phase 1B	3	U (0.11)	0.019	280	0.5

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Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Benzene	302-AY02	Phase 1B	19	0.008 - 28	2.4	280	0.5
VOC	Benzene	302-AY03	Phase 1B	2	U (0.0013)	0.00058	280	0.5
VOC	Benzene	302-AY05	Phase 1B	2	U (0.00124)	0.00060	280	0.5
VOC	Benzene	302-AZ02	Phase 1B	10	U (4.6) - 66	10.2	280	0.5
VOC	Benzene	302-AZ03	Phase 1B	1	0.034 - 0.034	0.034	280	0.5
VOC	Benzene	302-BA03	Phase 1B	1	U (0.005)	0.0025	280	0.5
VOC	Benzene	302-BB07	Phase 1B	45	U (8) - 360	17.6	280	0.5
VOC	Benzene	302-BB08	Phase 1B	1	U (0.005)	0.0025	280	0.5
VOC	Benzene	302-BC06	Phase 1B	1	U (0.006)	0.0030	280	0.5
VOC	Benzene	301-L01	Phase 1C	7	U (0.32) - 0.34	0.11	280	0.5
VOC	Benzene	301-T03	Phase 1C	2	U (0.0072)	0.0032	280	0.5
VOC	Benzene	302-AD02	Phase 1C	2	U (0.004)	0.0011	280	0.5
VOC	Benzene	302-AE01	Phase 1C	1	U (0.006)	0.0030	280	0.5
VOC	Benzene	302-AE02	Phase 1C	2	0.003 - 0.009	0.0060	280	0.5
VOC	Benzene	302-AF01	Phase 1C	1	U (0.005)	0.0025	280	0.5
VOC	Benzene	302-AF02	Phase 1C	4	U (0.007)	0.0028	280	0.5
VOC	Benzene	302-AG02	Phase 1C	2	U (1.7)	0.43	280	0.5
VOC	Benzene	302-AH01	Phase 1C	2	U (0.005)	0.0015	280	0.5
VOC	Benzene	302-AH03	Phase 1C	2	U (0.032)	0.016	280	0.5
VOC	Benzene	302-AI01	Phase 1C	2	0.0024 - 0.0024	0.0013	280	0.5
VOC	Benzene	302-AI03	Phase 1C	1	0.22 - 0.22	0.22	280	0.5
VOC	Benzene	302-AI04	Phase 1C	2	U (0.03)	0.015	280	0.5
VOC	Benzene	302-AJ04	Phase 1C	1	U (0.025)	0.013	280	0.5
VOC	Benzene	302-AL01	Phase 1C	11	0.0119 - 1300	155.2	280	0.5
VOC	Cumene	LS-A-A01	Life Sciences	1	U (0.24)	0.12	10000	2500
VOC	Cumene	LS-A-A02	Life Sciences	2	U (0.3)	0.075	10000	2500
VOC	Cumene	LS-A-A03	Life Sciences	1	U (0.0028)	0.0014	10000	2500
VOC	Cumene	LS-A-A04	Life Sciences	3	U (0.28)	0.094	10000	2500
VOC	Cumene	LS-A-B02	Life Sciences	14	U (0.0061) - 0.0017	0.00075	10000	2500
VOC	Cumene	LS-A-B03	Life Sciences	4	U (0.29) - 1.04	0.26	10000	2500
VOC	Cumene	LS-A-C01	Life Sciences	28	U (0.394) - 0.00027	0.019	10000	2500
VOC	Cumene	LS-A-C02	Life Sciences	12	U (3) - 0.575	0.19	10000	2500
VOC	Cumene	LS-A-C04	Life Sciences	3	U (0.246)	0.078	10000	2500
VOC	Cumene	LS-A-D01	Life Sciences	5	U (0.274) - 0.36	0.16	10000	2500
VOC	Cumene	LS-A-D02	Life Sciences	1	U (0.23)	0.12	10000	2500
VOC	Cumene	LS-A-D03	Life Sciences	3	U (0.26)	0.048	10000	2500
VOC	Cumene	LS-A-D04	Life Sciences	2	U (0.0122)	0.0058	10000	2500
VOC	Cumene	LS-A-D05	Life Sciences	6	1.79 - 1.79	0.34	10000	2500
VOC	Cumene	LS-A-D06	Life Sciences	2	U (0.265)	0.069	10000	2500
VOC	Cumene	LS-A-D07	Life Sciences	2	U (1.37) - 1.74	0.87	10000	2500
VOC	Cumene	LS-A-E01	Life Sciences	3	U (3.1)	0.66	10000	2500
VOC	Cumene	LS-A-E03	Life Sciences	1	U (0.23)	0.12	10000	2500
VOC	Cumene	LS-A-E04	Life Sciences	2	0.655 - 2.9	1.8	10000	2500
VOC	Cumene	LS-A-E05	Life Sciences	1	0.47 - 0.47	0.47	10000	2500
VOC	Cumene	LS-A-E07	Life Sciences	7	4 - 19	7.1	10000	2500
VOC	Cumene	LS-A-E08	Life Sciences	6	2.3 - 13	4.4	10000	2500
VOC	Cumene	LS-A-F01	Life Sciences	3	U (6.33)	1.1	10000	2500
VOC	Cumene	LS-A-F02	Life Sciences	3	2.1 - 2.1	0.78	10000	2500
VOC	Cumene	LS-A-F03	Life Sciences	1	U (0.19)	0.10	10000	2500
VOC	Cumene	LS-A-F04	Life Sciences	12	U (0.37)	0.047	10000	2500
VOC	Cumene	LS-A-F05	Life Sciences	1	U (0.32)	0.16	10000	2500
VOC	Cumene	LS-A-G01	Life Sciences	3	U (3.1)	0.96	10000	2500
VOC	Cumene	LS-A-G02	Life Sciences	2	U (7.34)	2.3	10000	2500
VOC	Cumene	LS-A-G03	Life Sciences	3	U (1.94) - 1.4	0.79	10000	2500
VOC	Cumene	LS-A-G07	Life Sciences	3	U (0.24)	0.044	10000	2500
VOC	Cumene	LS-A-G08	Life Sciences	2	0.043 - 0.043	0.025	10000	2500
VOC	Cumene	LS-A-H03	Life Sciences	2	U (0.0118)	0.0059	10000	2500
VOC	Cumene	LS-A-H04	Life Sciences	2	U (0.207)	0.055	10000	2500
VOC	Cumene	LS-A-H06	Life Sciences	1	U (0.19)	0.095	10000	2500
VOC	Cumene	LS-A-H07	Life Sciences	2	0.99 - 1.23	1.1	10000	2500
VOC	Cumene	LS-A-I01	Life Sciences	6	0.0171 - 2.61	0.49	10000	2500
VOC	Cumene	LS-A-I02	Life Sciences	1	U (0.18)	0.090	10000	2500
VOC	Cumene	LS-A-I03	Life Sciences	3	U (1.41)	0.27	10000	2500
VOC	Cumene	LS-B-B01	Life Sciences	1	U (0.0017)	0.00085	10000	2500
VOC	Cumene	LS-B-C01	Life Sciences	3	U (0.25)	0.11	10000	2500
VOC	Cumene	LS-B-E01	Life Sciences	4	1.5 - 7.7	3.9	10000	2500
VOC	Cumene	LS-B-G02	Life Sciences	1	U (0.0138)	0.0069	10000	2500
VOC	Cumene	LS-B-H02	Life Sciences	3	U (2.36) - 7.57	2.6	10000	2500
VOC	Cumene	LS-E-B01	Life Sciences	94	U (13.4) - 92	1.5	10000	2500
VOC	Cumene	LS-E-G01	Life Sciences	4	U (0.23) - 0.0265	0.066	10000	2500
VOC	Cumene	201-A01	Phase 1A	7	0.0019 - 13.5	3.5	10000	2500
VOC	Cumene	201-A02	Phase 1A	14	0.0025 - 96	9.8	10000	2500
VOC	Cumene	201-A03	Phase 1A	7	0.00026 - 34	10.1	10000	2500
VOC	Cumene	201-A04	Phase 1A	31	0.00011 - 99	11.9	10000	2500
VOC	Cumene	201-A05	Phase 1A	9	0.81 - 17	4.5	10000	2500
VOC	Cumene	201-A06	Phase 1A	10	U (0.24) - 7.6	1.1	10000	2500
VOC	Cumene	201-A07	Phase 1A	12	0.028 - 26	8.3	10000	2500
VOC	Cumene	201-A08	Phase 1A	7	0.00022 - 5.9	1.3	10000	2500
VOC	Cumene	201-A09	Phase 1A	8	0.067 - 30	9.7	10000	2500
VOC	Cumene	201-A10	Phase 1A	8	0.00018 - 1.4	0.19	10000	2500
VOC	Cumene	201-A11	Phase 1A	8	0.0005 - 12	1.7	10000	2500
VOC	Cumene	201-A12	Phase 1A	16	U (2.4) - 9.7	0.82	10000	2500
VOC	Cumene	201-A13	Phase 1A	17	0.0031 - 16	3.6	10000	2500

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VOC	Cumene	201-A14	Phase 1A	21	0.0011 - 8.6	1.2	10000	2500
VOC	Cumene	201-A15	Phase 1A	8	0.00033 - 12	3.2	10000	2500
VOC	Cumene	201-B01	Phase 1A	4	0.03 - 2	0.87	10000	2500
VOC	Cumene	201-B02	Phase 1A	10	0.58 - 21	8.0	10000	2500
VOC	Cumene	201-B03	Phase 1A	1	11 - 11	11.0	10000	2500
VOC	Cumene	201-B04	Phase 1A	11	U (0.61) - 15	1.8	10000	2500
VOC	Cumene	201-B05	Phase 1A	3	0.013 - 2.3	1.1	10000	2500
VOC	Cumene	201-B06	Phase 1A	1	3.5 - 3.5	3.5	10000	2500
VOC	Cumene	201-B07	Phase 1A	21	U (0.34) - 4.9	0.77	10000	2500
VOC	Cumene	201-B08	Phase 1A	10	0.00071 - 0.86	0.11	10000	2500
VOC	Cumene	201-B09	Phase 1A	10	0.0084 - 6	1.1	10000	2500
VOC	Cumene	201-B10	Phase 1A	8	U (0.3) - 0.29	0.092	10000	2500
VOC	Cumene	201-B11	Phase 1A	31	0.00022 - 9	0.74	10000	2500
VOC	Cumene	201-B12	Phase 1A	18	0.001 - 3.24	0.87	10000	2500
VOC	Cumene	201-C01	Phase 1A	15	0.00033 - 12	3.5	10000	2500
VOC	Cumene	201-C02	Phase 1A	2	0.021 - 0.046	0.034	10000	2500
VOC	Cumene	201-C04	Phase 1A	14	0.005 - 7.3	2.1	10000	2500
VOC	Cumene	201-C05	Phase 1A	3	U (0.47) - 6.9	2.4	10000	2500
VOC	Cumene	201-C06	Phase 1A	14	0.00038 - 20	2.0	10000	2500
VOC	Cumene	201-C07	Phase 1A	11	0.0025 - 19	6.0	10000	2500
VOC	Cumene	201-C08	Phase 1A	20	0.0032 - 26	3.9	10000	2500
VOC	Cumene	201-C09	Phase 1A	7	U (0.047) - 0.36	0.052	10000	2500
VOC	Cumene	201-C10	Phase 1A	4	U (0.225) - 4.25	1.1	10000	2500
VOC	Cumene	201-C11	Phase 1A	1	2.99 - 2.99	3.0	10000	2500
VOC	Cumene	201-D01	Phase 1A	4	U (0.0061) - 0.112	0.033	10000	2500
VOC	Cumene	201-D05	Phase 1A	8	U (3.5) - 17.6	3.7	10000	2500
VOC	Cumene	201-D08	Phase 1A	1	U (0.0023)	0.0012	10000	2500
VOC	Cumene	201-D12	Phase 1A	3	U (0.0011) - 0.0044	0.0021	10000	2500
VOC	Cumene	201-E01	Phase 1A	74	U (0.6) - 27	2.4	10000	2500
VOC	Cumene	201-E02	Phase 1A	1	U (0.001)	0.00050	10000	2500
VOC	Cumene	201-E03	Phase 1A	3	U (0.0045) - 0.039	0.014	10000	2500
VOC	Cumene	201-E04	Phase 1A	5	U (1) - 4.4	1.5	10000	2500
VOC	Cumene	201-E05	Phase 1A	26	0.00014 - 2.1	0.30	10000	2500
VOC	Cumene	201-F01	Phase 1A	51	U (0.61) - 4.4	0.39	10000	2500
VOC	Cumene	201-F02	Phase 1A	7	U (0.22) - 1.9	0.29	10000	2500
VOC	Cumene	201-F03	Phase 1A	31	U (3.3) - 25	4.1	10000	2500
VOC	Cumene	201-F04	Phase 1A	20	U (0.74) - 12	1.7	10000	2500
VOC	Cumene	202-A03	Phase 1A	8	0.0001 - 6.4	0.96	10000	2500
VOC	Cumene	202-A04	Phase 1A	4	0.035 - 0.36	0.19	10000	2500
VOC	Cumene	202-A05	Phase 1A	4	U (0.0011)	0.00054	10000	2500
VOC	Cumene	202-A06	Phase 1A	4	U (0.001)	0.00046	10000	2500
VOC	Cumene	202-A07	Phase 1A	3	U (0.0011)	0.00050	10000	2500
VOC	Cumene	202-A08	Phase 1A	3	0.00018 - 0.0002	0.00033	10000	2500
VOC	Cumene	202-A09	Phase 1A	6	U (0.0011) - 0.00021	0.00043	10000	2500
VOC	Cumene	202-B01	Phase 1A	2	U (0.0024) - 0.0022	0.0015	10000	2500
VOC	Cumene	202-B02	Phase 1A	18	0.00021 - 1.7	0.28	10000	2500
VOC	Cumene	202-B03	Phase 1A	15	U (0.1) - 0.26	0.019	10000	2500
VOC	Cumene	202-B04	Phase 1A	3	0.0032 - 0.0032	0.0014	10000	2500
VOC	Cumene	202-B05	Phase 1A	4	U (0.056)	0.025	10000	2500
VOC	Cumene	202-B09	Phase 1A	9	0.00019 - 0.82	0.092	10000	2500
VOC	Cumene	202-C04	Phase 1A	15	U (0.31) - 0.0082	0.029	10000	2500
VOC	Cumene	202-C05	Phase 1A	20	U (0.33) - 2.5	0.45	10000	2500
VOC	Cumene	202-C06	Phase 1A	4	U (0.054) - 0.084	0.028	10000	2500
VOC	Cumene	202-C07	Phase 1A	8	U (0.81) - 5.8	1.2	10000	2500
VOC	Cumene	202-C08	Phase 1A	4	0.27 - 0.49	0.28	10000	2500
VOC	Cumene	202-C10	Phase 1A	1	U (0.005)	0.0025	10000	2500
VOC	Cumene	202-D05	Phase 1A	5	0.031 - 13	2.9	10000	2500
VOC	Cumene	202-D06	Phase 1A	11	U (0.057) - 4.6	0.88	10000	2500
VOC	Cumene	202-E06	Phase 1A	2	0.00072 - 0.00072	0.00076	10000	2500
VOC	Cumene	202-E08	Phase 1A	13	0.0044 - 3	0.24	10000	2500
VOC	Cumene	202-E09	Phase 1A	16	U (0.095) - 3.6	0.42	10000	2500
VOC	Cumene	202-E10	Phase 1A	6	U (0.11) - 0.25	0.073	10000	2500
VOC	Cumene	202-E11	Phase 1A	2	0.35 - 1.2	0.78	10000	2500
VOC	Cumene	202-E12	Phase 1A	4	U (0.092)	0.020	10000	2500
VOC	Cumene	202-E13	Phase 1A	2	1.1 - 2.9	2.0	10000	2500
VOC	Cumene	202-E15	Phase 1A	2	0.48 - 1.1	0.79	10000	2500
VOC	Cumene	202-F01	Phase 1A	7	0.41 - 8.9	4.2	10000	2500
VOC	Cumene	202-F04	Phase 1A	11	0.00014 - 1.1	0.19	10000	2500
VOC	Cumene	202-F05	Phase 1A	2	U (0.059)	0.015	10000	2500
VOC	Cumene	202-F06	Phase 1A	2	U (0.089)	0.037	10000	2500
VOC	Cumene	202-F07	Phase 1A	17	0.0066 - 4.6	0.80	10000	2500
VOC	Cumene	202-F08	Phase 1A	5	U (0.057) - 0.0011	0.012	10000	2500
VOC	Cumene	202-F10	Phase 1A	2	U (0.054) - 0.06	0.030	10000	2500
VOC	Cumene	202-F13	Phase 1A	1	U (0.006)	0.0030	10000	2500
VOC	Cumene	202-F14	Phase 1A	2	U (0.0057)	0.0025	10000	2500
VOC	Cumene	202-F16	Phase 1A	4	U (0.096) - 0.49	0.14	10000	2500
VOC	Cumene	202-F17	Phase 1A	8	U (0.0021)	0.00070	10000	2500
VOC	Cumene	202-G01	Phase 1A	8	U (0.0012)	0.00049	10000	2500
VOC	Cumene	202-G02	Phase 1A	14	U (0.067) - 2	0.15	10000	2500
VOC	Cumene	202-G03	Phase 1A	9	U (0.0038)	0.00065	10000	2500
VOC	Cumene	202-G04	Phase 1A	3	U (0.061) - 5.4	1.8	10000	2500
VOC	Cumene	202-G05	Phase 1A	6	U (0.096) - 1.7	0.57	10000	2500
VOC	Cumene	202-G07	Phase 1A	16	0.00012 - 0.015	0.0020	10000	2500

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Cumene	202-H01	Phase 1A	2	U (0.21) - 2.3	1.2	10000	2500
VOC	Cumene	202-H03	Phase 1A	11	0.0033 - 14	5.8	10000	2500
VOC	Cumene	202-H05	Phase 1A	8	U (0.31) - 12	5.4	10000	2500
VOC	Cumene	202-H06	Phase 1A	2	U (0.0063)	0.0029	10000	2500
VOC	Cumene	202-H07	Phase 1A	2	U (0.0056)	0.0027	10000	2500
VOC	Cumene	202-H08	Phase 1A	3	U (0.0019)	0.00072	10000	2500
VOC	Cumene	202-H09	Phase 1A	4	0.0012 - 0.021	0.0067	10000	2500
VOC	Cumene	202-H11	Phase 1A	10	U (0.071) - 1	0.13	10000	2500
VOC	Cumene	202-I01	Phase 1A	2	U (0.001)	0.00048	10000	2500
VOC	Cumene	202-I04	Phase 1A	4	U (0.0018)	0.00073	10000	2500
VOC	Cumene	202-J01	Phase 1A	6	U (0.061) - 1.4	0.23	10000	2500
VOC	Cumene	202-J02	Phase 1A	5	U (0.062) - 1.6	0.32	10000	2500
VOC	Cumene	202-J03	Phase 1A	9	0.62 - 6	3.0	10000	2500
VOC	Cumene	202-J04	Phase 1A	8	0.0062 - 9.6	3.8	10000	2500
VOC	Cumene	202-J05	Phase 1A	6	U (0.0052)	0.0025	10000	2500
VOC	Cumene	202-J07	Phase 1A	4	U (0.54) - 0.718	0.18	10000	2500
VOC	Cumene	202-J08	Phase 1A	1	U (0.0049)	0.0025	10000	2500
VOC	Cumene	202-J09	Phase 1A	2	0.0098 - 0.0098	0.23	10000	2500
VOC	Cumene	301-AA01	Phase 1A	1	U (0.0027)	0.0014	10000	2500
VOC	Cumene	301-AA06	Phase 1A	11	U (0.33) - 12	1.9	10000	2500
VOC	Cumene	301-AA07	Phase 1A	4	0.0016 - 0.108	0.028	10000	2500
VOC	Cumene	301-AA08	Phase 1A	3	U (0.28)	0.086	10000	2500
VOC	Cumene	301-AA09	Phase 1A	3	0.82 - 0.82	0.40	10000	2500
VOC	Cumene	301-AB04	Phase 1A	3	0.0013 - 0.062	0.021	10000	2500
VOC	Cumene	301-AB06	Phase 1A	2	0.016 - 0.016	0.0085	10000	2500
VOC	Cumene	301-AB07	Phase 1A	1	U (0.005)	0.0025	10000	2500
VOC	Cumene	301-AB09	Phase 1A	2	0.112 - 0.112	0.057	10000	2500
VOC	Cumene	301-AC04	Phase 1A	25	U (0.39) - 0.49	0.066	10000	2500
VOC	Cumene	301-AC07	Phase 1A	10	0.00035 - 0.0063	0.0015	10000	2500
VOC	Cumene	301-AC08	Phase 1A	7	U (0.25) - 3.2	0.46	10000	2500
VOC	Cumene	301-AC09	Phase 1A	6	U (0.0011) - 0.007	0.0016	10000	2500
VOC	Cumene	301-B01	Phase 1A	1	U (0.0058)	0.0029	10000	2500
VOC	Cumene	301-C01	Phase 1A	3	0.069 - 29	10.7	10000	2500
VOC	Cumene	301-C02	Phase 1A	9	0.028 - 2.4	0.56	10000	2500
VOC	Cumene	301-D01	Phase 1A	32	0.00036 - 61	8.8	10000	2500
VOC	Cumene	301-E02	Phase 1A	32	0.0016 - 41	5.0	10000	2500
VOC	Cumene	301-E03	Phase 1A	5	0.00024 - 4.6	1.2	10000	2500
VOC	Cumene	301-F02	Phase 1A	7	U (0.3) - 2.6	1.3	10000	2500
VOC	Cumene	301-G01	Phase 1A	2	0.19 - 19	9.6	10000	2500
VOC	Cumene	301-G02	Phase 1A	3	0.002 - 2.2	0.97	10000	2500
VOC	Cumene	301-G03	Phase 1A	1	10 - 10	10.0	10000	2500
VOC	Cumene	301-H01	Phase 1A	20	0.003 - 13	2.4	10000	2500
VOC	Cumene	301-H02	Phase 1A	3	0.003 - 0.02	0.0087	10000	2500
VOC	Cumene	301-H03	Phase 1A	2	1.1 - 6.8	4.0	10000	2500
VOC	Cumene	301-I01	Phase 1A	9	U (0.54) - 8.5	1.4	10000	2500
VOC	Cumene	301-I02	Phase 1A	1	1.3 - 1.3	1.3	10000	2500
VOC	Cumene	301-J01	Phase 1A	4	U (0.12) - 2.3	0.86	10000	2500
VOC	Cumene	301-J02	Phase 1A	7	U (0.14) - 1.2	0.56	10000	2500
VOC	Cumene	301-K01	Phase 1A	9	0.013 - 2.8	0.87	10000	2500
VOC	Cumene	301-K02	Phase 1A	3	0.24 - 4.8	1.8	10000	2500
VOC	Cumene	301-L02	Phase 1A	8	0.00014 - 20	3.1	10000	2500
VOC	Cumene	301-L03	Phase 1A	5	0.0002 - 12	3.1	10000	2500
VOC	Cumene	301-M02	Phase 1A	5	0.0014 - 1.4	0.51	10000	2500
VOC	Cumene	301-M03	Phase 1A	3	0.0032 - 4	1.3	10000	2500
VOC	Cumene	301-N02	Phase 1A	3	1.1 - 1.1	0.40	10000	2500
VOC	Cumene	301-P02	Phase 1A	2	1.26 - 1.52	1.4	10000	2500
VOC	Cumene	301-Q04	Phase 1A	6	U (0.234) - 1.07	0.18	10000	2500
VOC	Cumene	301-R02	Phase 1A	6	U (0.26)	0.024	10000	2500
VOC	Cumene	301-S02	Phase 1A	4	U (0.0054)	0.0025	10000	2500
VOC	Cumene	301-S03	Phase 1A	1	U (0.025)	0.013	10000	2500
VOC	Cumene	301-T04	Phase 1A	2	U (0.3)	0.076	10000	2500
VOC	Cumene	301-V04	Phase 1A	30	U (1.3) - 3.8	0.36	10000	2500
VOC	Cumene	301-W03	Phase 1A	4	U (0.27) - 1.4	0.44	10000	2500
VOC	Cumene	301-X03	Phase 1A	3	U (0.25)	0.079	10000	2500
VOC	Cumene	301-Y03	Phase 1A	2	U (0.6) - 2.84	1.4	10000	2500
VOC	Cumene	301-Y04	Phase 1A	3	U (0.28) - 0.82	0.32	10000	2500
VOC	Cumene	301-Y05	Phase 1A	6	0.002 - 5.2	2.1	10000	2500
VOC	Cumene	302-AD08	Phase 1A	2	U (0.0012)	0.00058	10000	2500
VOC	Cumene	302-AD09	Phase 1A	3	U (0.0056)	0.0026	10000	2500
VOC	Cumene	302-AD10	Phase 1A	4	U (0.12) - 4.8	1.8	10000	2500
VOC	Cumene	302-AE09	Phase 1A	4	U (0.00095)	0.00046	10000	2500
VOC	Cumene	302-AF06	Phase 1A	9	15 - 15	1.7	10000	2500
VOC	Cumene	302-AG07	Phase 1A	14	U (0.057) - 1.4	0.11	10000	2500
VOC	Cumene	302-AJ09	Phase 1A	2	U (0.054)	0.027	10000	2500
VOC	Cumene	302-AK06	Phase 1A	1	U (0.057)	0.029	10000	2500
VOC	Cumene	302-AL06	Phase 1A	2	U (0.052)	0.025	10000	2500
VOC	Cumene	302-AN02	Phase 1A	2	U (0.012)	0.0057	10000	2500
VOC	Cumene	302-AO03	Phase 1A	2	U (0.0127)	0.0060	10000	2500
VOC	Cumene	302-AQ02	Phase 1A	9	U (0.25) - 3.2	0.86	10000	2500
VOC	Cumene	302-AR02	Phase 1A	4	U (0.0013)	0.00053	10000	2500
VOC	Cumene	302-AS03	Phase 1A	13	U (0.53) - 0.95	0.12	10000	2500
VOC	Cumene	302-AV01	Phase 1A	6	U (0.008) - 0.0017	0.0022	10000	2500
VOC	Cumene	302-AV03	Phase 1A	6	0.00019 - 1.4	0.23	10000	2500

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Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Cumene	302-AW01	Phase 1A	9	U (1.9) - 0.28	0.20	10000	2500
VOC	Cumene	302-AW03	Phase 1A	2	U (0.00096)	0.00046	10000	2500
VOC	Cumene	302-AX01	Phase 1A	6	U (1.5) - 0.00019	0.25	10000	2500
VOC	Cumene	302-AX05	Phase 1A	2	U (0.0125)	0.0060	10000	2500
VOC	Cumene	302-AZ05	Phase 1A	3	U (0.005) - 0.00013	0.0011	10000	2500
VOC	Cumene	302-BA05	Phase 1A	2	0.0137 - 5.19	2.6	10000	2500
VOC	Cumene	302-BB06	Phase 1A	5	U (0.06) - 0.16	0.038	10000	2500
VOC	Cumene	302-BC05	Phase 1A	19	U (0.067) - 0.38	0.023	10000	2500
VOC	Cumene	302-BE04	Phase 1A	2	U (0.006)	0.0028	10000	2500
VOC	Cumene	303-AY01	Phase 1A	6	U (0.005)	0.0015	10000	2500
VOC	Cumene	303-AZ01	Phase 1A	5	U (5.2) - 12	5.5	10000	2500
VOC	Cumene	303-BA01	Phase 1A	8	U (0.0021) - 0.05	0.0069	10000	2500
VOC	Cumene	303-BA02	Phase 1A	10	U (0.49) - 7.6	0.81	10000	2500
VOC	Cumene	303-BB01	Phase 1A	2	U (0.005)	0.0023	10000	2500
VOC	Cumene	303-BB02	Phase 1A	5	U (0.64)	0.065	10000	2500
VOC	Cumene	303-BC01	Phase 1A	4	U (0.0022)	0.0010	10000	2500
VOC	Cumene	303-BD04	Phase 1A	9	U (0.26) - 11	2.5	10000	2500
VOC	Cumene	303-BE03	Phase 1A	35	U (0.26) - 4.3	0.45	10000	2500
VOC	Cumene	303-BF05	Phase 1A	16	U (1.1) - 22	2.4	10000	2500
VOC	Cumene	303-BG04	Phase 1A	27	U (4.3) - 930	36.9	10000	2500
VOC	Cumene	303-BH02	Phase 1A	21	U (0.21) - 12	0.81	10000	2500
VOC	Cumene	303-BI03	Phase 1A	6	0.00045 - 0.015	0.0032	10000	2500
VOC	Cumene	303-BJ01	Phase 1A	3	U (0.14) - 2.1	0.72	10000	2500
VOC	Cumene	303-BJ02	Phase 1A	3	U (0.0065)	0.0025	10000	2500
VOC	Cumene	303-BK03	Phase 1A	7	0.00028 - 18	4.3	10000	2500
VOC	Cumene	303-BL02	Phase 1A	13	0.00049 - 0.8	0.077	10000	2500
VOC	Cumene	303-BM02	Phase 1A	1	U (0.0034)	0.0017	10000	2500
VOC	Cumene	303-BN02	Phase 1A	15	U (7.4) - 556	54.2	10000	2500
VOC	Cumene	303-BN03	Phase 1A	14	U (0.34) - 7.21	0.80	10000	2500
VOC	Cumene	303-BO02	Phase 1A	18	0.0043 - 700	64.1	10000	2500
VOC	Cumene	303-BP02	Phase 1A	57	0.00034 - 15000	2791.9	10000	2500
VOC	Cumene	303-BQ01	Phase 1A	5	0.003 - 10	2.6	10000	2500
VOC	Cumene	303-BQ02	Phase 1A	25	0.0082 - 7600	619.2	10000	2500
VOC	Cumene	303-BR02	Phase 1A	8	0.00026 - 2.7	0.57	10000	2500
VOC	Cumene	303-BT01	Phase 1A	13	U (2.9) - 70	7.7	10000	2500
VOC	Cumene	303-BW01	Phase 1A	2	0.382 - 2.2	1.3	10000	2500
VOC	Cumene	301-AA02	Phase 1B	2	0.0016 - 0.0016	0.0013	10000	2500
VOC	Cumene	301-AA05	Phase 1B	11	0.00086 - 0.52	0.11	10000	2500
VOC	Cumene	301-AB05	Phase 1B	6	U (1.1) - 3.93	0.66	10000	2500
VOC	Cumene	301-AC03	Phase 1B	2	U (0.005)	0.0024	10000	2500
VOC	Cumene	301-T01	Phase 1B	5	2 - 2	0.49	10000	2500
VOC	Cumene	301-T02	Phase 1B	7	0.051 - 3.6	0.61	10000	2500
VOC	Cumene	301-U01	Phase 1B	2	0.00028 - 0.00028	0.073	10000	2500
VOC	Cumene	301-U03	Phase 1B	1	U (0.005)	0.0025	10000	2500
VOC	Cumene	301-V01	Phase 1B	7	U (0.51) - 3.59	0.76	10000	2500
VOC	Cumene	301-V02	Phase 1B	20	0.00069 - 10	0.81	10000	2500
VOC	Cumene	301-W01	Phase 1B	24	U (0.69) - 3	0.16	10000	2500
VOC	Cumene	301-X01	Phase 1B	11	0.0021 - 1.29	0.17	10000	2500
VOC	Cumene	301-Y01	Phase 1B	10	U (0.21) - 1.28	0.14	10000	2500
VOC	Cumene	301-Y02	Phase 1B	4	U (0.029)	0.013	10000	2500
VOC	Cumene	301-Z01	Phase 1B	6	0.0047 - 0.0061	0.0025	10000	2500
VOC	Cumene	301-Z02	Phase 1B	2	U (0.005)	0.0017	10000	2500
VOC	Cumene	301-Z03	Phase 1B	5	0.00057 - 25	5.8	10000	2500
VOC	Cumene	302-AD06	Phase 1B	12	0.00012 - 1.29	0.13	10000	2500
VOC	Cumene	302-AD07	Phase 1B	2	U (0.0013)	0.00055	10000	2500
VOC	Cumene	302-AE03	Phase 1B	4	0.066 - 0.61	0.24	10000	2500
VOC	Cumene	302-AE04	Phase 1B	8	U (0.075) - 0.068	0.011	10000	2500
VOC	Cumene	302-AE05	Phase 1B	20	0.00015 - 0.0092	0.0014	10000	2500
VOC	Cumene	302-AE07	Phase 1B	3	0.0135 - 0.431	0.15	10000	2500
VOC	Cumene	302-AE08	Phase 1B	3	U (0.001)	0.00049	10000	2500
VOC	Cumene	302-AF03	Phase 1B	2	1.9 - 5.3	3.6	10000	2500
VOC	Cumene	302-AF04	Phase 1B	22	U (0.24) - 0.81	0.064	10000	2500
VOC	Cumene	302-AF05	Phase 1B	2	U (0.1) - 6.02	3.0	10000	2500
VOC	Cumene	302-AF09	Phase 1B	5	U (0.51) - 3.29	0.66	10000	2500
VOC	Cumene	302-AG04	Phase 1B	9	U (0.28) - 1.76	0.28	10000	2500
VOC	Cumene	302-AG06	Phase 1B	5	U (1) - 2.36	0.63	10000	2500
VOC	Cumene	302-AG08	Phase 1B	6	0.34 - 4.2	0.78	10000	2500
VOC	Cumene	302-AH04	Phase 1B	8	0.086 - 0.96	0.22	10000	2500
VOC	Cumene	302-AH05	Phase 1B	11	0.00014 - 2.4	0.67	10000	2500
VOC	Cumene	302-AH06	Phase 1B	4	U (0.0126)	0.0046	10000	2500
VOC	Cumene	302-AH07	Phase 1B	21	U (0.063) - 0.11	0.016	10000	2500
VOC	Cumene	302-AH08	Phase 1B	13	U (0.061) - 0.073	0.032	10000	2500
VOC	Cumene	302-AI05	Phase 1B	12	0.00016 - 0.72	0.079	10000	2500
VOC	Cumene	302-AI06	Phase 1B	19	U (0.2) - 8.26	0.48	10000	2500
VOC	Cumene	302-AI07	Phase 1B	10	U (1.22) - 5.65	0.66	10000	2500
VOC	Cumene	302-AI08	Phase 1B	2	0.129 - 0.129	0.066	10000	2500
VOC	Cumene	302-AI09	Phase 1B	3	U (0.0044)	0.0018	10000	2500
VOC	Cumene	302-AJ05	Phase 1B	2	U (0.0012)	0.00058	10000	2500
VOC	Cumene	302-AJ06	Phase 1B	5	U (0.0018) - 0.0014	0.00076	10000	2500
VOC	Cumene	302-AK05	Phase 1B	5	0.18 - 0.18	0.049	10000	2500
VOC	Cumene	302-AK07	Phase 1B	13	0.063 - 7.88	1.2	10000	2500
VOC	Cumene	302-AL03	Phase 1B	2	U (0.99) - 5.6	2.8	10000	2500
VOC	Cumene	302-AL05	Phase 1B	11	U (0.13)	0.041	10000	2500

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Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Cumene	302-AL08	Phase 1B	2	U (0.0045)	0.0019	10000	2500
VOC	Cumene	302-AN01	Phase 1B	2	U (0.0061)	0.0028	10000	2500
VOC	Cumene	302-AN03	Phase 1B	1	U (0.004)	0.0020	10000	2500
VOC	Cumene	302-AO05	Phase 1B	1	U (0.005)	0.0025	10000	2500
VOC	Cumene	302-AP02	Phase 1B	2	U (0.0025) - 0.0764	0.039	10000	2500
VOC	Cumene	302-AP03	Phase 1B	23	0.013 - 0.143	0.015	10000	2500
VOC	Cumene	302-AP04	Phase 1B	3	U (0.005) - 0.088	0.031	10000	2500
VOC	Cumene	302-AP05	Phase 1B	2	U (0.0027)	0.0013	10000	2500
VOC	Cumene	302-AQ01	Phase 1B	2	U (0.006)	0.0030	10000	2500
VOC	Cumene	302-AQ04	Phase 1B	2	U (0.0044)	0.0022	10000	2500
VOC	Cumene	302-AR01	Phase 1B	2	U (0.006)	0.0028	10000	2500
VOC	Cumene	302-AR04	Phase 1B	3	U (0.0055)	0.0025	10000	2500
VOC	Cumene	302-AS04	Phase 1B	2	U (0.0127)	0.0062	10000	2500
VOC	Cumene	302-AT02	Phase 1B	2	U (1.1) - 0.211	0.11	10000	2500
VOC	Cumene	302-AT03	Phase 1B	4	0.393 - 0.393	0.10	10000	2500
VOC	Cumene	302-AU01	Phase 1B	2	U (0.0052)	0.0024	10000	2500
VOC	Cumene	302-AU02	Phase 1B	8	U (0.055) - 0.04	0.0057	10000	2500
VOC	Cumene	302-AU03	Phase 1B	2	U (0.00097)	0.00046	10000	2500
VOC	Cumene	302-AV02	Phase 1B	4	U (0.054) - 0.42	0.11	10000	2500
VOC	Cumene	302-AV04	Phase 1B	2	U (0.0126)	0.0062	10000	2500
VOC	Cumene	302-AW02	Phase 1B	2	U (0.28)	0.070	10000	2500
VOC	Cumene	302-AX02	Phase 1B	3	U (0.53)	0.090	10000	2500
VOC	Cumene	302-AY02	Phase 1B	12	2.1 - 66	7.0	10000	2500
VOC	Cumene	302-AY03	Phase 1B	2	U (0.0064)	0.0029	10000	2500
VOC	Cumene	302-AY05	Phase 1B	2	U (0.0124)	0.0060	10000	2500
VOC	Cumene	302-AZ02	Phase 1B	3	U (4.6) - 6.5	2.2	10000	2500
VOC	Cumene	302-AZ03	Phase 1B	1	U (0.31)	0.16	10000	2500
VOC	Cumene	302-BB07	Phase 1B	17	U (0.59) - 10	1.7	10000	2500
VOC	Cumene	302-BB08	Phase 1B	1	U (0.005)	0.0025	10000	2500
VOC	Cumene	302-BC06	Phase 1B	1	U (0.006)	0.0030	10000	2500
VOC	Cumene	301-L01	Phase 1C	7	0.861 - 4.7	1.1	10000	2500
VOC	Cumene	301-T03	Phase 1C	2	U (0.0072)	0.0032	10000	2500
VOC	Cumene	302-AD02	Phase 1C	2	U (0.004)	0.0016	10000	2500
VOC	Cumene	302-AE01	Phase 1C	1	U (0.006)	0.0030	10000	2500
VOC	Cumene	302-AE02	Phase 1C	2	U (0.007)	0.0028	10000	2500
VOC	Cumene	302-AF01	Phase 1C	1	U (0.005)	0.0025	10000	2500
VOC	Cumene	302-AF02	Phase 1C	4	U (0.007)	0.0028	10000	2500
VOC	Cumene	302-AG02	Phase 1C	2	16 - 16	8.0	10000	2500
VOC	Cumene	302-AH01	Phase 1C	2	U (0.005)	0.0025	10000	2500
VOC	Cumene	302-AH03	Phase 1C	2	U (0.064)	0.031	10000	2500
VOC	Cumene	302-AI01	Phase 1C	2	U (0.0023)	0.0011	10000	2500
VOC	Cumene	302-AI03	Phase 1C	1	3.5 - 3.5	3.5	10000	2500
VOC	Cumene	302-AI04	Phase 1C	2	U (0.061)	0.029	10000	2500
VOC	Cumene	302-AJ04	Phase 1C	1	U (0.051)	0.026	10000	2500
VOC	Cumene	302-AL01	Phase 1C	2	U (0.43)	0.11	10000	2500
VOC	1,2-Dibromoethane	LS-A-A01	Life Sciences	1	U (0.24)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-A02	Life Sciences	2	U (0.3)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-A03	Life Sciences	1	U (0.0014)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-A04	Life Sciences	3	U (0.28)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-B02	Life Sciences	14	U (0.0028)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-B03	Life Sciences	4	U (0.0027)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-C01	Life Sciences	28	U (0.22)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-C02	Life Sciences	12	U (0.3)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-C04	Life Sciences	3	U (0.21)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-D01	Life Sciences	5	U (0.24)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-D02	Life Sciences	1	U (0.23)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-D03	Life Sciences	3	U (0.26)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-D04	Life Sciences	2	U (0.00122)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-D05	Life Sciences	6	U (0.27)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-D06	Life Sciences	2	U (0.0265)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-D07	Life Sciences	2	U (0.137)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-E01	Life Sciences	3	U (3.1)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-E03	Life Sciences	1	U (0.23)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-E04	Life Sciences	2	U (0.158)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-E05	Life Sciences	1	U (0.22)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-E07	Life Sciences	1	U (0.24)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-E08	Life Sciences	1	U (0.17)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-F01	Life Sciences	3	U (0.633)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-F02	Life Sciences	3	U (0.26)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-F03	Life Sciences	1	U (0.19)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-F04	Life Sciences	12	U (0.37)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-F05	Life Sciences	1	U (0.32)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-G01	Life Sciences	3	U (3.1)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-G02	Life Sciences	2	U (0.734)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-G03	Life Sciences	3	U (0.38)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-G07	Life Sciences	3	U (0.24)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-G08	Life Sciences	2	U (0.00125)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-H03	Life Sciences	2	U (0.00118)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-H04	Life Sciences	2	U (0.0207)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-H06	Life Sciences	1	U (0.19)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-H07	Life Sciences	2	U (0.0184)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-I01	Life Sciences	6	U (0.38)		3.7	0.005
VOC	1,2-Dibromoethane	LS-A-I02	Life Sciences	1	U (0.18)		3.7	0.005

Table 3.4
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Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	1,2-Dibromoethane	LS-A-I03	Life Sciences	3	U (0.22)		3.7	0.005
VOC	1,2-Dibromoethane	LS-B-B01	Life Sciences	1	U (0.00087)		3.7	0.005
VOC	1,2-Dibromoethane	LS-B-C01	Life Sciences	3	U (0.25)		3.7	0.005
VOC	1,2-Dibromoethane	LS-B-E01	Life Sciences	4	U (0.27)		3.7	0.005
VOC	1,2-Dibromoethane	LS-B-G02	Life Sciences	1	U (0.00138)		3.7	0.005
VOC	1,2-Dibromoethane	LS-B-H02	Life Sciences	3	U (0.29)		3.7	0.005
VOC	1,2-Dibromoethane	LS-E-B01	Life Sciences	77	U (1.34)		3.7	0.005
VOC	1,2-Dibromoethane	LS-E-G01	Life Sciences	4	U (0.23)		3.7	0.005
VOC	1,2-Dibromoethane	201-A01	Phase 1A	7	U (1.6)		3.7	0.005
VOC	1,2-Dibromoethane	201-A02	Phase 1A	14	U (12)		3.7	0.005
VOC	1,2-Dibromoethane	201-A03	Phase 1A	7	U (1.6)		3.7	0.005
VOC	1,2-Dibromoethane	201-A04	Phase 1A	31	U (5.1)		3.7	0.005
VOC	1,2-Dibromoethane	201-A05	Phase 1A	9	U (0.58)		3.7	0.005
VOC	1,2-Dibromoethane	201-A06	Phase 1A	10	U (0.13)		3.7	0.005
VOC	1,2-Dibromoethane	201-A07	Phase 1A	12	U (0.69)		3.7	0.005
VOC	1,2-Dibromoethane	201-A08	Phase 1A	7	U (0.16)		3.7	0.005
VOC	1,2-Dibromoethane	201-A09	Phase 1A	8	U (0.91)		3.7	0.005
VOC	1,2-Dibromoethane	201-A10	Phase 1A	8	U (0.047)		3.7	0.005
VOC	1,2-Dibromoethane	201-A11	Phase 1A	8	U (1.7)		3.7	0.005
VOC	1,2-Dibromoethane	201-A12	Phase 1A	16	U (0.14)		3.7	0.005
VOC	1,2-Dibromoethane	201-A13	Phase 1A	17	U (0.78)		3.7	0.005
VOC	1,2-Dibromoethane	201-A14	Phase 1A	15	U (0.16)		3.7	0.005
VOC	1,2-Dibromoethane	201-B01	Phase 1A	4	U (0.043)		3.7	0.005
VOC	1,2-Dibromoethane	201-B02	Phase 1A	10	U (0.84)		3.7	0.005
VOC	1,2-Dibromoethane	201-B03	Phase 1A	1	U (0.036)		3.7	0.005
VOC	1,2-Dibromoethane	201-B04	Phase 1A	11	U (0.3)		3.7	0.005
VOC	1,2-Dibromoethane	201-B05	Phase 1A	3	U (0.038)		3.7	0.005
VOC	1,2-Dibromoethane	201-B07	Phase 1A	7	U (0.29)		3.7	0.005
VOC	1,2-Dibromoethane	201-B08	Phase 1A	10	U (0.062)		3.7	0.005
VOC	1,2-Dibromoethane	201-B09	Phase 1A	10	U (0.28)		3.7	0.005
VOC	1,2-Dibromoethane	201-B10	Phase 1A	8	U (0.3)		3.7	0.005
VOC	1,2-Dibromoethane	201-B11	Phase 1A	5	U (0.039)		3.7	0.005
VOC	1,2-Dibromoethane	201-B12	Phase 1A	4	U (0.003)		3.7	0.005
VOC	1,2-Dibromoethane	201-C01	Phase 1A	15	U (0.74)		3.7	0.005
VOC	1,2-Dibromoethane	201-C02	Phase 1A	2	U (0.00054)		3.7	0.005
VOC	1,2-Dibromoethane	201-C04	Phase 1A	13	U (0.16)		3.7	0.005
VOC	1,2-Dibromoethane	201-C05	Phase 1A	3	U (0.28)		3.7	0.005
VOC	1,2-Dibromoethane	201-C06	Phase 1A	14	U (0.065)		3.7	0.005
VOC	1,2-Dibromoethane	201-C07	Phase 1A	10	U (0.38)		3.7	0.005
VOC	1,2-Dibromoethane	201-C08	Phase 1A	17	U (1.5)		3.7	0.005
VOC	1,2-Dibromoethane	201-C09	Phase 1A	7	U (0.023)		3.7	0.005
VOC	1,2-Dibromoethane	201-C10	Phase 1A	4	U (0.18)		3.7	0.005
VOC	1,2-Dibromoethane	201-C11	Phase 1A	1	U (0.0034)		3.7	0.005
VOC	1,2-Dibromoethane	201-D01	Phase 1A	4	U (0.0061)		3.7	0.005
VOC	1,2-Dibromoethane	201-D05	Phase 1A	8	U (2.1)		3.7	0.005
VOC	1,2-Dibromoethane	201-D08	Phase 1A	1	U (0.0028)		3.7	0.005
VOC	1,2-Dibromoethane	201-D12	Phase 1A	3	U (0.00057)		3.7	0.005
VOC	1,2-Dibromoethane	201-E01	Phase 1A	39	U (0.52)		3.7	0.005
VOC	1,2-Dibromoethane	201-E02	Phase 1A	1	U (0.00051)		3.7	0.005
VOC	1,2-Dibromoethane	201-E03	Phase 1A	3	U (0.003)		3.7	0.005
VOC	1,2-Dibromoethane	201-E04	Phase 1A	3	U (0.00079)		3.7	0.005
VOC	1,2-Dibromoethane	201-E05	Phase 1A	26	U (0.14)		3.7	0.005
VOC	1,2-Dibromoethane	201-F01	Phase 1A	42	U (0.35)		3.7	0.005
VOC	1,2-Dibromoethane	201-F02	Phase 1A	7	U (0.13)		3.7	0.005
VOC	1,2-Dibromoethane	201-F03	Phase 1A	31	U (0.2)		3.7	0.005
VOC	1,2-Dibromoethane	201-F04	Phase 1A	20	U (0.37)		3.7	0.005
VOC	1,2-Dibromoethane	202-A03	Phase 1A	8	U (0.095)		3.7	0.005
VOC	1,2-Dibromoethane	202-A05	Phase 1A	4	U (0.00055)		3.7	0.005
VOC	1,2-Dibromoethane	202-A06	Phase 1A	4	U (0.0005)		3.7	0.005
VOC	1,2-Dibromoethane	202-A07	Phase 1A	3	U (0.00057)		3.7	0.005
VOC	1,2-Dibromoethane	202-A08	Phase 1A	3	U (0.00062)		3.7	0.005
VOC	1,2-Dibromoethane	202-A09	Phase 1A	6	U (0.00056)		3.7	0.005
VOC	1,2-Dibromoethane	202-B01	Phase 1A	2	U (0.0012)		3.7	0.005
VOC	1,2-Dibromoethane	202-B03	Phase 1A	15	U (0.052)		3.7	0.005
VOC	1,2-Dibromoethane	202-B04	Phase 1A	3	U (0.00053)		3.7	0.005
VOC	1,2-Dibromoethane	202-B09	Phase 1A	9	U (0.032)		3.7	0.005
VOC	1,2-Dibromoethane	202-C04	Phase 1A	7	U (0.0011)		3.7	0.005
VOC	1,2-Dibromoethane	202-C06	Phase 1A	1	U (0.00048)		3.7	0.005
VOC	1,2-Dibromoethane	202-C07	Phase 1A	1	U (0.00088)		3.7	0.005
VOC	1,2-Dibromoethane	202-C10	Phase 1A	1	U (0.005)		3.7	0.005
VOC	1,2-Dibromoethane	202-D05	Phase 1A	3	U (0.11)		3.7	0.005
VOC	1,2-Dibromoethane	202-D06	Phase 1A	3	U (0.00088)		3.7	0.005
VOC	1,2-Dibromoethane	202-E06	Phase 1A	2	U (0.0008)		3.7	0.005
VOC	1,2-Dibromoethane	202-E08	Phase 1A	11	U (0.027)		3.7	0.005
VOC	1,2-Dibromoethane	202-E09	Phase 1A	13	U (0.034)		3.7	0.005
VOC	1,2-Dibromoethane	202-E10	Phase 1A	4	U (0.00053)		3.7	0.005
VOC	1,2-Dibromoethane	202-E12	Phase 1A	2	U (0.00056)		3.7	0.005
VOC	1,2-Dibromoethane	202-F04	Phase 1A	6	U (0.034)		3.7	0.005
VOC	1,2-Dibromoethane	202-F05	Phase 1A	1	U (0.00055)		3.7	0.005
VOC	1,2-Dibromoethane	202-F07	Phase 1A	9	U (0.15)		3.7	0.005
VOC	1,2-Dibromoethane	202-F08	Phase 1A	3	U (0.00056)		3.7	0.005
VOC	1,2-Dibromoethane	202-F10	Phase 1A	2	U (0.027)		3.7	0.005
VOC	1,2-Dibromoethane	202-F13	Phase 1A	1	U (0.00056)		3.7	0.005

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VOC	1,2-Dibromoethane	202-F14	Phase 1A	2	U (0.0011)		3.7	0.005
VOC	1,2-Dibromoethane	202-F16	Phase 1A	2	U (0.005)		3.7	0.005
VOC	1,2-Dibromoethane	202-F17	Phase 1A	8	U (0.0011)		3.7	0.005
VOC	1,2-Dibromoethane	202-G01	Phase 1A	8	U (0.00058)		3.7	0.005
VOC	1,2-Dibromoethane	202-G02	Phase 1A	13	U (0.034)		3.7	0.005
VOC	1,2-Dibromoethane	202-G03	Phase 1A	9	U (0.00077)		3.7	0.005
VOC	1,2-Dibromoethane	202-G04	Phase 1A	1	U (0.0012)		3.7	0.005
VOC	1,2-Dibromoethane	202-G05	Phase 1A	1	U (0.0009)		3.7	0.005
VOC	1,2-Dibromoethane	202-G07	Phase 1A	16	U (0.038)		3.7	0.005
VOC	1,2-Dibromoethane	202-H03	Phase 1A	6	U (0.59)		3.7	0.005
VOC	1,2-Dibromoethane	202-H05	Phase 1A	1	U (0.0011)		3.7	0.005
VOC	1,2-Dibromoethane	202-H06	Phase 1A	2	U (0.0013)		3.7	0.005
VOC	1,2-Dibromoethane	202-H07	Phase 1A	2	U (0.0011)		3.7	0.005
VOC	1,2-Dibromoethane	202-H08	Phase 1A	3	U (0.00097)		3.7	0.005
VOC	1,2-Dibromoethane	202-H11	Phase 1A	10	U (0.036)		3.7	0.005
VOC	1,2-Dibromoethane	202-I01	Phase 1A	2	U (0.00053)		3.7	0.005
VOC	1,2-Dibromoethane	202-I04	Phase 1A	4	U (0.00089)		3.7	0.005
VOC	1,2-Dibromoethane	202-J03	Phase 1A	7	U (0.599)		3.7	0.005
VOC	1,2-Dibromoethane	202-J04	Phase 1A	8	U (0.084)		3.7	0.005
VOC	1,2-Dibromoethane	202-J07	Phase 1A	2	U (0.11)		3.7	0.005
VOC	1,2-Dibromoethane	202-J09	Phase 1A	2	U (0.91)		3.7	0.005
VOC	1,2-Dibromoethane	301-AA01	Phase 1A	1	U (0.0014)		3.7	0.005
VOC	1,2-Dibromoethane	301-AA06	Phase 1A	11	U (0.17)		3.7	0.005
VOC	1,2-Dibromoethane	301-AA07	Phase 1A	4	U (0.0012)		3.7	0.005
VOC	1,2-Dibromoethane	301-AA08	Phase 1A	3	U (0.28)		3.7	0.005
VOC	1,2-Dibromoethane	301-AA09	Phase 1A	3	U (0.48)		3.7	0.005
VOC	1,2-Dibromoethane	301-AB04	Phase 1A	3	U (0.09)		3.7	0.005
VOC	1,2-Dibromoethane	301-AB06	Phase 1A	2	U (0.00096)		3.7	0.005
VOC	1,2-Dibromoethane	301-AB07	Phase 1A	1	U (0.005)		3.7	0.005
VOC	1,2-Dibromoethane	301-AB09	Phase 1A	2	U (0.0059)		3.7	0.005
VOC	1,2-Dibromoethane	301-AC04	Phase 1A	25	U (0.39)		3.7	0.005
VOC	1,2-Dibromoethane	301-AC07	Phase 1A	10	U (0.00069)		3.7	0.005
VOC	1,2-Dibromoethane	301-AC08	Phase 1A	7	U (0.12)		3.7	0.005
VOC	1,2-Dibromoethane	301-AC09	Phase 1A	6	U (0.001)		3.7	0.005
VOC	1,2-Dibromoethane	301-B01	Phase 1A	1	U (0.0058)		3.7	0.005
VOC	1,2-Dibromoethane	301-C01	Phase 1A	3	U (3.6)		3.7	0.005
VOC	1,2-Dibromoethane	301-C02	Phase 1A	9	U (0.33)		3.7	0.005
VOC	1,2-Dibromoethane	301-D01	Phase 1A	26	U (3.8)		3.7	0.005
VOC	1,2-Dibromoethane	301-E02	Phase 1A	25	U (1.7)		3.7	0.005
VOC	1,2-Dibromoethane	301-E03	Phase 1A	4	U (0.31)		3.7	0.005
VOC	1,2-Dibromoethane	301-F02	Phase 1A	1	U (0.052)		3.7	0.005
VOC	1,2-Dibromoethane	301-G01	Phase 1A	2	U (0.24)		3.7	0.005
VOC	1,2-Dibromoethane	301-G02	Phase 1A	3	U (0.18)		3.7	0.005
VOC	1,2-Dibromoethane	301-G03	Phase 1A	1	U (0.16)		3.7	0.005
VOC	1,2-Dibromoethane	301-H01	Phase 1A	16	U (0.16)		3.7	0.005
VOC	1,2-Dibromoethane	301-H02	Phase 1A	3	U (0.001)		3.7	0.005
VOC	1,2-Dibromoethane	301-H03	Phase 1A	2	U (0.24)		3.7	0.005
VOC	1,2-Dibromoethane	301-I01	Phase 1A	7	U (0.27)		3.7	0.005
VOC	1,2-Dibromoethane	301-I02	Phase 1A	1	U (0.032)		3.7	0.005
VOC	1,2-Dibromoethane	301-J01	Phase 1A	4	U (0.06)		3.7	0.005
VOC	1,2-Dibromoethane	301-J02	Phase 1A	7	U (0.07)		3.7	0.005
VOC	1,2-Dibromoethane	301-K01	Phase 1A	9	U (0.15)		3.7	0.005
VOC	1,2-Dibromoethane	301-K02	Phase 1A	3	U (0.061)		3.7	0.005
VOC	1,2-Dibromoethane	301-L02	Phase 1A	8	U (1.5)		3.7	0.005
VOC	1,2-Dibromoethane	301-L03	Phase 1A	5	U (0.065)		3.7	0.005
VOC	1,2-Dibromoethane	301-M02	Phase 1A	5	U (0.055)		3.7	0.005
VOC	1,2-Dibromoethane	301-M03	Phase 1A	3	U (0.056)		3.7	0.005
VOC	1,2-Dibromoethane	301-N02	Phase 1A	3	U (0.13)		3.7	0.005
VOC	1,2-Dibromoethane	301-P02	Phase 1A	2	U (0.13)		3.7	0.005
VOC	1,2-Dibromoethane	301-Q04	Phase 1A	6	U (0.234)		3.7	0.005
VOC	1,2-Dibromoethane	301-R02	Phase 1A	6	U (0.26)		3.7	0.005
VOC	1,2-Dibromoethane	301-S02	Phase 1A	4	U (0.0054)		3.7	0.005
VOC	1,2-Dibromoethane	301-T04	Phase 1A	2	U (0.3)		3.7	0.005
VOC	1,2-Dibromoethane	301-V04	Phase 1A	29	U (0.48)		3.7	0.005
VOC	1,2-Dibromoethane	301-W03	Phase 1A	4	U (0.27)		3.7	0.005
VOC	1,2-Dibromoethane	301-X03	Phase 1A	3	U (0.25)		3.7	0.005
VOC	1,2-Dibromoethane	301-Y03	Phase 1A	2	U (0.12)		3.7	0.005
VOC	1,2-Dibromoethane	301-Y04	Phase 1A	3	U (0.28)		3.7	0.005
VOC	1,2-Dibromoethane	301-Y05	Phase 1A	6	U (0.11)		3.7	0.005
VOC	1,2-Dibromoethane	302-AD08	Phase 1A	2	U (0.0006)		3.7	0.005
VOC	1,2-Dibromoethane	302-AD09	Phase 1A	3	U (0.0011)		3.7	0.005
VOC	1,2-Dibromoethane	302-AD10	Phase 1A	4	U (0.061)		3.7	0.005
VOC	1,2-Dibromoethane	302-AE09	Phase 1A	4	U (0.00047)		3.7	0.005
VOC	1,2-Dibromoethane	302-AF06	Phase 1A	8	U (0.15)		3.7	0.005
VOC	1,2-Dibromoethane	302-AG07	Phase 1A	7	U (0.00067)		3.7	0.005
VOC	1,2-Dibromoethane	302-AN02	Phase 1A	2	U (0.0012)		3.7	0.005
VOC	1,2-Dibromoethane	302-AO03	Phase 1A	2	U (0.00127)		3.7	0.005
VOC	1,2-Dibromoethane	302-AQ02	Phase 1A	7	U (0.12)		3.7	0.005
VOC	1,2-Dibromoethane	302-AR02	Phase 1A	4	U (0.00063)		3.7	0.005
VOC	1,2-Dibromoethane	302-AS03	Phase 1A	13	U (0.058)		3.7	0.005
VOC	1,2-Dibromoethane	302-AV01	Phase 1A	6	U (0.008)		3.7	0.005
VOC	1,2-Dibromoethane	302-AV03	Phase 1A	6	U (0.028)		3.7	0.005
VOC	1,2-Dibromoethane	302-AW01	Phase 1A	9	U (1.9)		3.7	0.005

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	1,2-Dibromoethane	302-AW03	Phase 1A	2	U (0.00048)		3.7	0.005
VOC	1,2-Dibromoethane	302-AX01	Phase 1A	6	U (1.5)		3.7	0.005
VOC	1,2-Dibromoethane	302-AX05	Phase 1A	2	U (0.00125)		3.7	0.005
VOC	1,2-Dibromoethane	302-AZ05	Phase 1A	1	U (0.005)		3.7	0.005
VOC	1,2-Dibromoethane	302-BA05	Phase 1A	2	U (0.214)		3.7	0.005
VOC	1,2-Dibromoethane	302-BC05	Phase 1A	7	U (0.0029)		3.7	0.005
VOC	1,2-Dibromoethane	302-BE04	Phase 1A	2	U (0.006)		3.7	0.005
VOC	1,2-Dibromoethane	303-AY01	Phase 1A	6	U (0.005)		3.7	0.005
VOC	1,2-Dibromoethane	303-AZ01	Phase 1A	5	U (5.2)		3.7	0.005
VOC	1,2-Dibromoethane	303-BA01	Phase 1A	8	U (0.001)		3.7	0.005
VOC	1,2-Dibromoethane	303-BA02	Phase 1A	8	U (0.49)		3.7	0.005
VOC	1,2-Dibromoethane	303-BB01	Phase 1A	2	U (0.005)		3.7	0.005
VOC	1,2-Dibromoethane	303-BB02	Phase 1A	5	U (0.64)		3.7	0.005
VOC	1,2-Dibromoethane	303-BC01	Phase 1A	4	U (0.0011)		3.7	0.005
VOC	1,2-Dibromoethane	303-BD04	Phase 1A	7	U (1.3)		3.7	0.005
VOC	1,2-Dibromoethane	303-BE03	Phase 1A	10	U (0.054)		3.7	0.005
VOC	1,2-Dibromoethane	303-BF05	Phase 1A	16	U (1.7)		3.7	0.005
VOC	1,2-Dibromoethane	303-BG04	Phase 1A	27	U (2.1)		3.7	0.005
VOC	1,2-Dibromoethane	303-BH02	Phase 1A	21	U (0.11)		3.7	0.005
VOC	1,2-Dibromoethane	303-BI03	Phase 1A	6	U (0.00093)		3.7	0.005
VOC	1,2-Dibromoethane	303-BJ01	Phase 1A	3	U (0.068)		3.7	0.005
VOC	1,2-Dibromoethane	303-BJ02	Phase 1A	3	U (0.0013)		3.7	0.005
VOC	1,2-Dibromoethane	303-BK03	Phase 1A	7	U (0.38)		3.7	0.005
VOC	1,2-Dibromoethane	303-BL02	Phase 1A	10	U (0.047)		3.7	0.005
VOC	1,2-Dibromoethane	303-BM02	Phase 1A	1	U (0.0017)		3.7	0.005
VOC	1,2-Dibromoethane	303-BN02	Phase 1A	15	U (0.25)		3.7	0.005
VOC	1,2-Dibromoethane	303-BN03	Phase 1A	14	U (0.34)		3.7	0.005
VOC	1,2-Dibromoethane	303-BO02	Phase 1A	10	U (5.3)		3.7	0.005
VOC	1,2-Dibromoethane	303-BP02	Phase 1A	30	U (97)		3.7	0.005
VOC	1,2-Dibromoethane	303-BQ01	Phase 1A	5	U (0.42)		3.7	0.005
VOC	1,2-Dibromoethane	303-BQ02	Phase 1A	15	U (4.5)		3.7	0.005
VOC	1,2-Dibromoethane	303-BR02	Phase 1A	8	U (0.41)		3.7	0.005
VOC	1,2-Dibromoethane	303-BT01	Phase 1A	13	U (0.036)		3.7	0.005
VOC	1,2-Dibromoethane	303-BW01	Phase 1A	2	U (0.37)		3.7	0.005
VOC	1,2-Dibromoethane	301-AA02	Phase 1B	2	U (0.001)		3.7	0.005
VOC	1,2-Dibromoethane	301-AA05	Phase 1B	11	U (0.1)		3.7	0.005
VOC	1,2-Dibromoethane	301-AB05	Phase 1B	6	U (0.22)		3.7	0.005
VOC	1,2-Dibromoethane	301-AC03	Phase 1B	2	U (0.005)		3.7	0.005
VOC	1,2-Dibromoethane	301-T01	Phase 1B	5	U (0.59)		3.7	0.005
VOC	1,2-Dibromoethane	301-T02	Phase 1B	2	U (0.6)		3.7	0.005
VOC	1,2-Dibromoethane	301-U01	Phase 1B	2	U (0.29)		3.7	0.005
VOC	1,2-Dibromoethane	301-U03	Phase 1B	1	U (0.005)		3.7	0.005
VOC	1,2-Dibromoethane	301-V01	Phase 1B	7	U (0.1)		3.7	0.005
VOC	1,2-Dibromoethane	301-V02	Phase 1B	20	U (0.4)		3.7	0.005
VOC	1,2-Dibromoethane	301-W01	Phase 1B	24	U (0.28)		3.7	0.005
VOC	1,2-Dibromoethane	301-X01	Phase 1B	9	U (0.4)		3.7	0.005
VOC	1,2-Dibromoethane	301-Y01	Phase 1B	5	U (0.1)		3.7	0.005
VOC	1,2-Dibromoethane	301-Z01	Phase 1B	6	U (0.0011)		3.7	0.005
VOC	1,2-Dibromoethane	301-Z02	Phase 1B	2	U (0.005)		3.7	0.005
VOC	1,2-Dibromoethane	301-Z03	Phase 1B	5	U (0.21)		3.7	0.005
VOC	1,2-Dibromoethane	302-AD06	Phase 1B	12	U (0.029)		3.7	0.005
VOC	1,2-Dibromoethane	302-AD07	Phase 1B	2	U (0.00064)		3.7	0.005
VOC	1,2-Dibromoethane	302-AE04	Phase 1B	8	U (0.037)		3.7	0.005
VOC	1,2-Dibromoethane	302-AE05	Phase 1B	20	U (0.0014)		3.7	0.005
VOC	1,2-Dibromoethane	302-AE07	Phase 1B	3	U (0.095)		3.7	0.005
VOC	1,2-Dibromoethane	302-AE08	Phase 1B	3	U (0.00052)		3.7	0.005
VOC	1,2-Dibromoethane	302-AF03	Phase 1B	2	U (0.012)		3.7	0.005
VOC	1,2-Dibromoethane	302-AF04	Phase 1B	11	U (0.031)		3.7	0.005
VOC	1,2-Dibromoethane	302-AF05	Phase 1B	2	U (0.0032)		3.7	0.005
VOC	1,2-Dibromoethane	302-AF09	Phase 1B	5	U (0.1)		3.7	0.005
VOC	1,2-Dibromoethane	302-AG04	Phase 1B	3	U (0.0034)		3.7	0.005
VOC	1,2-Dibromoethane	302-AG06	Phase 1B	5	U (0.21)		3.7	0.005
VOC	1,2-Dibromoethane	302-AH04	Phase 1B	8	U (0.067)		3.7	0.005
VOC	1,2-Dibromoethane	302-AH05	Phase 1B	2	U (0.0029)		3.7	0.005
VOC	1,2-Dibromoethane	302-AH06	Phase 1B	4	U (0.003)		3.7	0.005
VOC	1,2-Dibromoethane	302-AH07	Phase 1B	12	U (0.005)		3.7	0.005
VOC	1,2-Dibromoethane	302-AI05	Phase 1B	3	U (0.063)		3.7	0.005
VOC	1,2-Dibromoethane	302-AI06	Phase 1B	9	U (0.0032)		3.7	0.005
VOC	1,2-Dibromoethane	302-AI07	Phase 1B	8	U (0.122)		3.7	0.005
VOC	1,2-Dibromoethane	302-AI08	Phase 1B	2	U (0.099)		3.7	0.005
VOC	1,2-Dibromoethane	302-AI09	Phase 1B	3	U (0.00089)		3.7	0.005
VOC	1,2-Dibromoethane	302-AK05	Phase 1B	2	U (0.00118)		3.7	0.005
VOC	1,2-Dibromoethane	302-AK07	Phase 1B	2	U (0.202)		3.7	0.005
VOC	1,2-Dibromoethane	302-AL03	Phase 1B	2	U (0.0029)		3.7	0.005
VOC	1,2-Dibromoethane	302-AL08	Phase 1B	2	U (0.0009)		3.7	0.005
VOC	1,2-Dibromoethane	302-AN01	Phase 1B	2	U (0.0028)		3.7	0.005
VOC	1,2-Dibromoethane	302-AN03	Phase 1B	1	U (0.00056)		3.7	0.005
VOC	1,2-Dibromoethane	302-AO05	Phase 1B	1	U (0.00052)		3.7	0.005
VOC	1,2-Dibromoethane	302-AP02	Phase 1B	2	U (0.0031)		3.7	0.005
VOC	1,2-Dibromoethane	302-AP03	Phase 1B	17	U (0.083)		3.7	0.005
VOC	1,2-Dibromoethane	302-AP04	Phase 1B	2	U (0.0011)		3.7	0.005
VOC	1,2-Dibromoethane	302-AP05	Phase 1B	1	U (0.0013)		3.7	0.005
VOC	1,2-Dibromoethane	302-AQ01	Phase 1B	2	U (0.006)		3.7	0.005

Table 3.4

Evergreen and PESRM Sampling Results Summary

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	1,2-Dibromoethane	302-AQ04	Phase 1B	2	U (0.00088)		3.7	0.005
VOC	1,2-Dibromoethane	302-AR01	Phase 1B	2	U (0.006)		3.7	0.005
VOC	1,2-Dibromoethane	302-AR04	Phase 1B	3	U (0.0011)		3.7	0.005
VOC	1,2-Dibromoethane	302-AS04	Phase 1B	2	U (0.00127)		3.7	0.005
VOC	1,2-Dibromoethane	302-AT02	Phase 1B	2	U (0.0038)		3.7	0.005
VOC	1,2-Dibromoethane	302-AT03	Phase 1B	4	U (0.11)		3.7	0.005
VOC	1,2-Dibromoethane	302-AU01	Phase 1B	2	U (0.001)		3.7	0.005
VOC	1,2-Dibromoethane	302-AU02	Phase 1B	8	U (0.028)		3.7	0.005
VOC	1,2-Dibromoethane	302-AU03	Phase 1B	2	U (0.00049)		3.7	0.005
VOC	1,2-Dibromoethane	302-AV02	Phase 1B	4	U (0.027)		3.7	0.005
VOC	1,2-Dibromoethane	302-AV04	Phase 1B	2	U (0.00126)		3.7	0.005
VOC	1,2-Dibromoethane	302-AW02	Phase 1B	2	U (0.28)		3.7	0.005
VOC	1,2-Dibromoethane	302-AX02	Phase 1B	3	U (0.11)		3.7	0.005
VOC	1,2-Dibromoethane	302-AY02	Phase 1B	12	U (17)		3.7	0.005
VOC	1,2-Dibromoethane	302-AY03	Phase 1B	2	U (0.0032)		3.7	0.005
VOC	1,2-Dibromoethane	302-AY05	Phase 1B	2	U (0.00124)		3.7	0.005
VOC	1,2-Dibromoethane	302-AZ02	Phase 1B	3	U (4.6)		3.7	0.005
VOC	1,2-Dibromoethane	302-AZ03	Phase 1B	1	U (0.31)		3.7	0.005
VOC	1,2-Dibromoethane	302-BB07	Phase 1B	5	U (0.0437)		3.7	0.005
VOC	1,2-Dibromoethane	302-BB08	Phase 1B	1	U (0.005)		3.7	0.005
VOC	1,2-Dibromoethane	302-BC06	Phase 1B	1	U (0.006)		3.7	0.005
VOC	1,2-Dibromoethane	301-L01	Phase 1C	7	U (0.32)		3.7	0.005
VOC	1,2-Dibromoethane	301-T03	Phase 1C	2	U (0.0072)		3.7	0.005
VOC	1,2-Dibromoethane	302-AD02	Phase 1C	2	U (0.004)		3.7	0.005
VOC	1,2-Dibromoethane	302-AE01	Phase 1C	1	U (0.00058)		3.7	0.005
VOC	1,2-Dibromoethane	302-AE02	Phase 1C	2	U (0.00058)		3.7	0.005
VOC	1,2-Dibromoethane	302-AF01	Phase 1C	1	U (0.00059)		3.7	0.005
VOC	1,2-Dibromoethane	302-AF02	Phase 1C	4	U (0.00062)		3.7	0.005
VOC	1,2-Dibromoethane	302-AG02	Phase 1C	2	U (0.012)		3.7	0.005
VOC	1,2-Dibromoethane	302-AH01	Phase 1C	2	U (0.005)		3.7	0.005
VOC	1,2-Dibromoethane	302-AH03	Phase 1C	2	U (0.064)		3.7	0.005
VOC	1,2-Dibromoethane	302-AI01	Phase 1C	2	U (0.003)		3.7	0.005
VOC	1,2-Dibromoethane	302-AI03	Phase 1C	1	U (0.059)		3.7	0.005
VOC	1,2-Dibromoethane	302-AI04	Phase 1C	2	U (0.061)		3.7	0.005
VOC	1,2-Dibromoethane	302-AJ04	Phase 1C	1	U (0.051)		3.7	0.005
VOC	1,2-Dibromoethane	302-AL01	Phase 1C	2	U (0.0029)		3.7	0.005
VOC	1,2-Dichloroethane	LS-A-A01	Life Sciences	1	U (0.24)		85	0.5
VOC	1,2-Dichloroethane	LS-A-A02	Life Sciences	2	U (0.3)		85	0.5
VOC	1,2-Dichloroethane	LS-A-A03	Life Sciences	1	U (0.0014)		85	0.5
VOC	1,2-Dichloroethane	LS-A-A04	Life Sciences	3	U (0.28)		85	0.5
VOC	1,2-Dichloroethane	LS-A-B02	Life Sciences	14	U (0.0012)		85	0.5
VOC	1,2-Dichloroethane	LS-A-B03	Life Sciences	4	U (0.059)		85	0.5
VOC	1,2-Dichloroethane	LS-A-C01	Life Sciences	28	U (0.22)		85	0.5
VOC	1,2-Dichloroethane	LS-A-C02	Life Sciences	12	U (0.3)		85	0.5
VOC	1,2-Dichloroethane	LS-A-C04	Life Sciences	3	U (0.21)		85	0.5
VOC	1,2-Dichloroethane	LS-A-D01	Life Sciences	5	U (0.24)		85	0.5
VOC	1,2-Dichloroethane	LS-A-D02	Life Sciences	1	U (0.23)		85	0.5
VOC	1,2-Dichloroethane	LS-A-D03	Life Sciences	3	U (0.26)		85	0.5
VOC	1,2-Dichloroethane	LS-A-D04	Life Sciences	2	U (0.00122)		85	0.5
VOC	1,2-Dichloroethane	LS-A-D05	Life Sciences	6	U (0.27)		85	0.5
VOC	1,2-Dichloroethane	LS-A-D06	Life Sciences	2	U (0.0265)		85	0.5
VOC	1,2-Dichloroethane	LS-A-D07	Life Sciences	2	U (0.137)		85	0.5
VOC	1,2-Dichloroethane	LS-A-E01	Life Sciences	3	U (3.1)		85	0.5
VOC	1,2-Dichloroethane	LS-A-E03	Life Sciences	1	U (0.23)		85	0.5
VOC	1,2-Dichloroethane	LS-A-E04	Life Sciences	2	U (0.158)		85	0.5
VOC	1,2-Dichloroethane	LS-A-E05	Life Sciences	1	U (0.22)		85	0.5
VOC	1,2-Dichloroethane	LS-A-E07	Life Sciences	1	U (0.24)		85	0.5
VOC	1,2-Dichloroethane	LS-A-E08	Life Sciences	1	U (0.17)		85	0.5
VOC	1,2-Dichloroethane	LS-A-F01	Life Sciences	3	U (0.633)		85	0.5
VOC	1,2-Dichloroethane	LS-A-F02	Life Sciences	3	U (0.26)		85	0.5
VOC	1,2-Dichloroethane	LS-A-F03	Life Sciences	1	U (0.19)		85	0.5
VOC	1,2-Dichloroethane	LS-A-F04	Life Sciences	12	U (0.37)		85	0.5
VOC	1,2-Dichloroethane	LS-A-F05	Life Sciences	1	U (0.32)		85	0.5
VOC	1,2-Dichloroethane	LS-A-G01	Life Sciences	3	U (3.1)		85	0.5
VOC	1,2-Dichloroethane	LS-A-G02	Life Sciences	2	U (0.734)		85	0.5
VOC	1,2-Dichloroethane	LS-A-G03	Life Sciences	3	U (0.38)		85	0.5
VOC	1,2-Dichloroethane	LS-A-G07	Life Sciences	3	U (0.24)		85	0.5
VOC	1,2-Dichloroethane	LS-A-G08	Life Sciences	2	U (0.00125)		85	0.5
VOC	1,2-Dichloroethane	LS-A-H03	Life Sciences	2	U (0.00118)		85	0.5
VOC	1,2-Dichloroethane	LS-A-H04	Life Sciences	2	U (0.0207)		85	0.5
VOC	1,2-Dichloroethane	LS-A-H06	Life Sciences	1	U (0.19)		85	0.5
VOC	1,2-Dichloroethane	LS-A-H07	Life Sciences	2	U (0.0184)		85	0.5
VOC	1,2-Dichloroethane	LS-A-I01	Life Sciences	6	U (0.38)		85	0.5
VOC	1,2-Dichloroethane	LS-A-I02	Life Sciences	1	U (0.18)		85	0.5
VOC	1,2-Dichloroethane	LS-A-I03	Life Sciences	3	U (0.22)		85	0.5
VOC	1,2-Dichloroethane	LS-B-B01	Life Sciences	1	U (0.0017)		85	0.5
VOC	1,2-Dichloroethane	LS-B-C01	Life Sciences	3	U (0.25)		85	0.5
VOC	1,2-Dichloroethane	LS-B-E01	Life Sciences	4	U (0.27)		85	0.5
VOC	1,2-Dichloroethane	LS-B-G02	Life Sciences	1	U (0.00138)		85	0.5
VOC	1,2-Dichloroethane	LS-B-H02	Life Sciences	3	U (0.29)		85	0.5
VOC	1,2-Dichloroethane	LS-E-B01	Life Sciences	77	U (1.34)		85	0.5
VOC	1,2-Dichloroethane	LS-E-G01	Life Sciences	4	U (0.23)		85	0.5
VOC	1,2-Dichloroethane	201-A01	Phase 1A	7	U (2.6)		85	0.5

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	1,2-Dichloroethane	201-A02	Phase 1A	14	U (25)		85	0.5
VOC	1,2-Dichloroethane	201-A03	Phase 1A	7	U (3.2)		85	0.5
VOC	1,2-Dichloroethane	201-A04	Phase 1A	29	U (10)		85	0.5
VOC	1,2-Dichloroethane	201-A05	Phase 1A	9	U (1.2)		85	0.5
VOC	1,2-Dichloroethane	201-A06	Phase 1A	10	U (0.24)		85	0.5
VOC	1,2-Dichloroethane	201-A07	Phase 1A	9	U (1.2)		85	0.5
VOC	1,2-Dichloroethane	201-A08	Phase 1A	7	U (0.32) - 0.00025	0.00025	85	0.5
VOC	1,2-Dichloroethane	201-A09	Phase 1A	7	U (1.8)		85	0.5
VOC	1,2-Dichloroethane	201-A10	Phase 1A	8	U (0.094)		85	0.5
VOC	1,2-Dichloroethane	201-A11	Phase 1A	6	U (0.13)		85	0.5
VOC	1,2-Dichloroethane	201-A12	Phase 1A	16	U (0.24) - 0.064	0.064	85	0.5
VOC	1,2-Dichloroethane	201-A13	Phase 1A	14	U (1.6) - 0.078	0.078	85	0.5
VOC	1,2-Dichloroethane	201-A14	Phase 1A	15	U (0.27)		85	0.5
VOC	1,2-Dichloroethane	201-B01	Phase 1A	4	U (0.086)		85	0.5
VOC	1,2-Dichloroethane	201-B02	Phase 1A	8	U (1.7)		85	0.5
VOC	1,2-Dichloroethane	201-B03	Phase 1A	1	U (0.072)		85	0.5
VOC	1,2-Dichloroethane	201-B04	Phase 1A	9	U (0.3)		85	0.5
VOC	1,2-Dichloroethane	201-B05	Phase 1A	3	U (0.076)		85	0.5
VOC	1,2-Dichloroethane	201-B07	Phase 1A	7	U (0.29)		85	0.5
VOC	1,2-Dichloroethane	201-B08	Phase 1A	10	U (0.064)		85	0.5
VOC	1,2-Dichloroethane	201-B09	Phase 1A	10	U (0.56)		85	0.5
VOC	1,2-Dichloroethane	201-B10	Phase 1A	8	U (0.3)		85	0.5
VOC	1,2-Dichloroethane	201-B11	Phase 1A	4	U (0.11)		85	0.5
VOC	1,2-Dichloroethane	201-B12	Phase 1A	3	U (0.11)		85	0.5
VOC	1,2-Dichloroethane	201-C01	Phase 1A	15	U (1.5)		85	0.5
VOC	1,2-Dichloroethane	201-C02	Phase 1A	2	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	201-C04	Phase 1A	11	U (0.27)		85	0.5
VOC	1,2-Dichloroethane	201-C05	Phase 1A	3	U (0.47)		85	0.5
VOC	1,2-Dichloroethane	201-C06	Phase 1A	12	U (0.1)		85	0.5
VOC	1,2-Dichloroethane	201-C07	Phase 1A	10	U (0.64)		85	0.5
VOC	1,2-Dichloroethane	201-C08	Phase 1A	11	U (3)		85	0.5
VOC	1,2-Dichloroethane	201-C09	Phase 1A	7	U (0.047)		85	0.5
VOC	1,2-Dichloroethane	201-C10	Phase 1A	4	U (0.225)		85	0.5
VOC	1,2-Dichloroethane	201-C11	Phase 1A	1	U (0.092)		85	0.5
VOC	1,2-Dichloroethane	201-D01	Phase 1A	4	U (0.0061)		85	0.5
VOC	1,2-Dichloroethane	201-D05	Phase 1A	8	U (3.5)		85	0.5
VOC	1,2-Dichloroethane	201-D08	Phase 1A	1	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	201-D12	Phase 1A	3	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	201-E01	Phase 1A	34	U (0.45)		85	0.5
VOC	1,2-Dichloroethane	201-E02	Phase 1A	1	U (0.001)		85	0.5
VOC	1,2-Dichloroethane	201-E03	Phase 1A	3	U (0.0045)		85	0.5
VOC	1,2-Dichloroethane	201-E04	Phase 1A	3	U (0.00095)		85	0.5
VOC	1,2-Dichloroethane	201-E05	Phase 1A	22	U (1.3)		85	0.5
VOC	1,2-Dichloroethane	201-F01	Phase 1A	42	U (0.35)		85	0.5
VOC	1,2-Dichloroethane	201-F02	Phase 1A	5	U (0.22)		85	0.5
VOC	1,2-Dichloroethane	201-F03	Phase 1A	23	U (3.3)		85	0.5
VOC	1,2-Dichloroethane	201-F04	Phase 1A	20	U (0.74)		85	0.5
VOC	1,2-Dichloroethane	202-A03	Phase 1A	8	U (0.19)		85	0.5
VOC	1,2-Dichloroethane	202-A05	Phase 1A	4	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	202-A06	Phase 1A	4	U (0.001)		85	0.5
VOC	1,2-Dichloroethane	202-A07	Phase 1A	3	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	202-A08	Phase 1A	3	U (0.0012)		85	0.5
VOC	1,2-Dichloroethane	202-A09	Phase 1A	6	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	202-B01	Phase 1A	2	U (0.0024)		85	0.5
VOC	1,2-Dichloroethane	202-B03	Phase 1A	15	U (0.1)		85	0.5
VOC	1,2-Dichloroethane	202-B04	Phase 1A	3	U (0.001)		85	0.5
VOC	1,2-Dichloroethane	202-B09	Phase 1A	9	U (0.064)		85	0.5
VOC	1,2-Dichloroethane	202-C04	Phase 1A	7	U (0.0022)		85	0.5
VOC	1,2-Dichloroethane	202-C06	Phase 1A	1	U (0.00096)		85	0.5
VOC	1,2-Dichloroethane	202-C07	Phase 1A	1	U (0.00088)		85	0.5
VOC	1,2-Dichloroethane	202-C10	Phase 1A	1	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	202-D05	Phase 1A	3	U (0.11)		85	0.5
VOC	1,2-Dichloroethane	202-D06	Phase 1A	3	U (0.00088)		85	0.5
VOC	1,2-Dichloroethane	202-E06	Phase 1A	2	U (0.0016)		85	0.5
VOC	1,2-Dichloroethane	202-E08	Phase 1A	11	U (0.054)		85	0.5
VOC	1,2-Dichloroethane	202-E09	Phase 1A	13	U (0.068)		85	0.5
VOC	1,2-Dichloroethane	202-E10	Phase 1A	4	U (0.001)		85	0.5
VOC	1,2-Dichloroethane	202-E12	Phase 1A	2	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	202-F04	Phase 1A	6	U (0.067)		85	0.5
VOC	1,2-Dichloroethane	202-F05	Phase 1A	1	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	202-F07	Phase 1A	9	U (0.25)		85	0.5
VOC	1,2-Dichloroethane	202-F08	Phase 1A	3	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	202-F10	Phase 1A	2	U (0.054)		85	0.5
VOC	1,2-Dichloroethane	202-F13	Phase 1A	1	U (0.006)		85	0.5
VOC	1,2-Dichloroethane	202-F14	Phase 1A	2	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	202-F16	Phase 1A	2	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	202-F17	Phase 1A	8	U (0.0021)		85	0.5
VOC	1,2-Dichloroethane	202-G01	Phase 1A	8	U (0.0012)		85	0.5
VOC	1,2-Dichloroethane	202-G02	Phase 1A	13	U (0.067)		85	0.5
VOC	1,2-Dichloroethane	202-G03	Phase 1A	9	U (0.0012)		85	0.5
VOC	1,2-Dichloroethane	202-G04	Phase 1A	1	U (0.0012)		85	0.5
VOC	1,2-Dichloroethane	202-G05	Phase 1A	1	U (0.0009)		85	0.5
VOC	1,2-Dichloroethane	202-G07	Phase 1A	16	U (0.075)		85	0.5

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	1,2-Dichloroethane	202-H03	Phase 1A	6	U (0.59)		85	0.5
VOC	1,2-Dichloroethane	202-H05	Phase 1A	1	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	202-H06	Phase 1A	2	U (0.0013)		85	0.5
VOC	1,2-Dichloroethane	202-H07	Phase 1A	2	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	202-H08	Phase 1A	3	U (0.0019)		85	0.5
VOC	1,2-Dichloroethane	202-H11	Phase 1A	10	U (0.071)		85	0.5
VOC	1,2-Dichloroethane	202-I01	Phase 1A	2	U (0.001)		85	0.5
VOC	1,2-Dichloroethane	202-I04	Phase 1A	4	U (0.0018)		85	0.5
VOC	1,2-Dichloroethane	202-J03	Phase 1A	7	U (0.78)		85	0.5
VOC	1,2-Dichloroethane	202-J04	Phase 1A	8	U (0.17)		85	0.5
VOC	1,2-Dichloroethane	202-J07	Phase 1A	2	U (0.11)		85	0.5
VOC	1,2-Dichloroethane	202-J09	Phase 1A	2	U (0.91)		85	0.5
VOC	1,2-Dichloroethane	301-AA01	Phase 1A	1	U (0.0014)		85	0.5
VOC	1,2-Dichloroethane	301-AA06	Phase 1A	11	U (0.33)		85	0.5
VOC	1,2-Dichloroethane	301-AA07	Phase 1A	4	U (0.0012)		85	0.5
VOC	1,2-Dichloroethane	301-AA08	Phase 1A	3	U (0.28)		85	0.5
VOC	1,2-Dichloroethane	301-AA09	Phase 1A	3	U (0.48)		85	0.5
VOC	1,2-Dichloroethane	301-AB04	Phase 1A	3	U (0.09)		85	0.5
VOC	1,2-Dichloroethane	301-AB06	Phase 1A	2	U (0.0019)		85	0.5
VOC	1,2-Dichloroethane	301-AB07	Phase 1A	1	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	301-AB09	Phase 1A	2	U (0.0059)		85	0.5
VOC	1,2-Dichloroethane	301-AC04	Phase 1A	25	U (0.39)		85	0.5
VOC	1,2-Dichloroethane	301-AC07	Phase 1A	10	U (0.0014)		85	0.5
VOC	1,2-Dichloroethane	301-AC08	Phase 1A	7	U (0.25)		85	0.5
VOC	1,2-Dichloroethane	301-AC09	Phase 1A	6	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	301-B01	Phase 1A	1	U (0.0058)		85	0.5
VOC	1,2-Dichloroethane	301-C01	Phase 1A	3	U (3.6)		85	0.5
VOC	1,2-Dichloroethane	301-C02	Phase 1A	7	U (0.33) - 0.001	0.0010	85	0.5
VOC	1,2-Dichloroethane	301-D01	Phase 1A	23	U (7.6)		85	0.5
VOC	1,2-Dichloroethane	301-E02	Phase 1A	22	U (3.4)		85	0.5
VOC	1,2-Dichloroethane	301-E03	Phase 1A	4	U (0.31)		85	0.5
VOC	1,2-Dichloroethane	301-G01	Phase 1A	2	U (0.47)		85	0.5
VOC	1,2-Dichloroethane	301-G02	Phase 1A	3	U (0.18)		85	0.5
VOC	1,2-Dichloroethane	301-G03	Phase 1A	1	U (0.16)		85	0.5
VOC	1,2-Dichloroethane	301-H01	Phase 1A	13	U (0.32)		85	0.5
VOC	1,2-Dichloroethane	301-H02	Phase 1A	3	U (0.001)		85	0.5
VOC	1,2-Dichloroethane	301-H03	Phase 1A	2	U (0.24)		85	0.5
VOC	1,2-Dichloroethane	301-I01	Phase 1A	7	U (0.54)		85	0.5
VOC	1,2-Dichloroethane	301-I02	Phase 1A	1	U (0.064)		85	0.5
VOC	1,2-Dichloroethane	301-J01	Phase 1A	4	U (0.12)		85	0.5
VOC	1,2-Dichloroethane	301-J02	Phase 1A	6	U (0.14)		85	0.5
VOC	1,2-Dichloroethane	301-K01	Phase 1A	9	U (0.3)		85	0.5
VOC	1,2-Dichloroethane	301-K02	Phase 1A	3	U (0.12)		85	0.5
VOC	1,2-Dichloroethane	301-L02	Phase 1A	5	U (0.15)		85	0.5
VOC	1,2-Dichloroethane	301-L03	Phase 1A	5	U (0.13)		85	0.5
VOC	1,2-Dichloroethane	301-M02	Phase 1A	4	U (0.11)		85	0.5
VOC	1,2-Dichloroethane	301-M03	Phase 1A	3	U (0.11)		85	0.5
VOC	1,2-Dichloroethane	301-N02	Phase 1A	3	U (0.22)		85	0.5
VOC	1,2-Dichloroethane	301-P02	Phase 1A	2	U (0.13)		85	0.5
VOC	1,2-Dichloroethane	301-Q04	Phase 1A	6	U (0.234)		85	0.5
VOC	1,2-Dichloroethane	301-R02	Phase 1A	6	U (0.26)		85	0.5
VOC	1,2-Dichloroethane	301-S02	Phase 1A	4	U (0.0054)		85	0.5
VOC	1,2-Dichloroethane	301-T04	Phase 1A	2	U (0.3)		85	0.5
VOC	1,2-Dichloroethane	301-V04	Phase 1A	29	U (1.3)		85	0.5
VOC	1,2-Dichloroethane	301-W03	Phase 1A	4	U (0.27)		85	0.5
VOC	1,2-Dichloroethane	301-X03	Phase 1A	3	U (0.25)		85	0.5
VOC	1,2-Dichloroethane	301-Y03	Phase 1A	2	U (0.12)		85	0.5
VOC	1,2-Dichloroethane	301-Y04	Phase 1A	3	U (0.28)		85	0.5
VOC	1,2-Dichloroethane	301-Y05	Phase 1A	6	U (1.2)		85	0.5
VOC	1,2-Dichloroethane	302-AD08	Phase 1A	2	U (0.0012)		85	0.5
VOC	1,2-Dichloroethane	302-AD09	Phase 1A	3	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	302-AD10	Phase 1A	4	U (0.12)		85	0.5
VOC	1,2-Dichloroethane	302-AE09	Phase 1A	4	U (0.00095)		85	0.5
VOC	1,2-Dichloroethane	302-AF06	Phase 1A	8	U (0.3)		85	0.5
VOC	1,2-Dichloroethane	302-AG07	Phase 1A	7	U (0.0013)		85	0.5
VOC	1,2-Dichloroethane	302-AN02	Phase 1A	2	U (0.0012)		85	0.5
VOC	1,2-Dichloroethane	302-AO03	Phase 1A	2	U (0.00127)		85	0.5
VOC	1,2-Dichloroethane	302-AQ02	Phase 1A	7	U (0.25)		85	0.5
VOC	1,2-Dichloroethane	302-AR02	Phase 1A	4	U (0.0013)		85	0.5
VOC	1,2-Dichloroethane	302-AS03	Phase 1A	13	U (0.11)		85	0.5
VOC	1,2-Dichloroethane	302-AV01	Phase 1A	10	U (0.41)		85	0.5
VOC	1,2-Dichloroethane	302-AV03	Phase 1A	6	U (0.056)		85	0.5
VOC	1,2-Dichloroethane	302-AW01	Phase 1A	9	U (0.96)		85	0.5
VOC	1,2-Dichloroethane	302-AW03	Phase 1A	2	U (0.00096)		85	0.5
VOC	1,2-Dichloroethane	302-AX01	Phase 1A	12	U (4.4)		85	0.5
VOC	1,2-Dichloroethane	302-AX05	Phase 1A	2	U (0.00125)		85	0.5
VOC	1,2-Dichloroethane	302-AZ05	Phase 1A	1	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	302-BA05	Phase 1A	2	U (0.214)		85	0.5
VOC	1,2-Dichloroethane	302-BC05	Phase 1A	7	U (0.00125)		85	0.5
VOC	1,2-Dichloroethane	302-BE04	Phase 1A	2	U (0.006)		85	0.5
VOC	1,2-Dichloroethane	303-AY01	Phase 1A	6	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	303-AZ01	Phase 1A	5	U (5.2)		85	0.5
VOC	1,2-Dichloroethane	303-BA01	Phase 1A	8	U (0.0019)		85	0.5

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	1,2-Dichloroethane	303-BA02	Phase 1A	8	U (0.49)		85	0.5
VOC	1,2-Dichloroethane	303-BB01	Phase 1A	2	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	303-BB02	Phase 1A	5	U (0.64)		85	0.5
VOC	1,2-Dichloroethane	303-BC01	Phase 1A	4	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	303-BD04	Phase 1A	7	U (0.66)		85	0.5
VOC	1,2-Dichloroethane	303-BE03	Phase 1A	10	U (0.11)		85	0.5
VOC	1,2-Dichloroethane	303-BF05	Phase 1A	16	U (1.1)		85	0.5
VOC	1,2-Dichloroethane	303-BG04	Phase 1A	27	U (4.3)		85	0.5
VOC	1,2-Dichloroethane	303-BH02	Phase 1A	21	U (0.21) - 0.037	0.037	85	0.5
VOC	1,2-Dichloroethane	303-BI03	Phase 1A	6	U (0.0019)		85	0.5
VOC	1,2-Dichloroethane	303-BJ01	Phase 1A	3	U (0.14)		85	0.5
VOC	1,2-Dichloroethane	303-BJ02	Phase 1A	3	U (0.0013)		85	0.5
VOC	1,2-Dichloroethane	303-BK03	Phase 1A	7	U (0.77)		85	0.5
VOC	1,2-Dichloroethane	303-BL02	Phase 1A	10	U (0.094)		85	0.5
VOC	1,2-Dichloroethane	303-BM02	Phase 1A	1	U (0.0017)		85	0.5
VOC	1,2-Dichloroethane	303-BN02	Phase 1A	15	U (0.25)		85	0.5
VOC	1,2-Dichloroethane	303-BN03	Phase 1A	14	U (0.34)		85	0.5
VOC	1,2-Dichloroethane	303-BO02	Phase 1A	10	U (5.3)		85	0.5
VOC	1,2-Dichloroethane	303-BP02	Phase 1A	30	U (97)		85	0.5
VOC	1,2-Dichloroethane	303-BQ01	Phase 1A	5	U (0.42)		85	0.5
VOC	1,2-Dichloroethane	303-BQ02	Phase 1A	15	U (4.5)		85	0.5
VOC	1,2-Dichloroethane	303-BR02	Phase 1A	8	U (0.41)		85	0.5
VOC	1,2-Dichloroethane	303-BT01	Phase 1A	13	U (2.9)		85	0.5
VOC	1,2-Dichloroethane	303-BW01	Phase 1A	2	U (0.37)		85	0.5
VOC	1,2-Dichloroethane	301-AA02	Phase 1B	2	U (0.001)		85	0.5
VOC	1,2-Dichloroethane	301-AA05	Phase 1B	11	U (0.1)		85	0.5
VOC	1,2-Dichloroethane	301-AB05	Phase 1B	6	U (0.22)		85	0.5
VOC	1,2-Dichloroethane	301-AC03	Phase 1B	2	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	301-T01	Phase 1B	5	U (0.59)		85	0.5
VOC	1,2-Dichloroethane	301-T02	Phase 1B	2	U (0.6)		85	0.5
VOC	1,2-Dichloroethane	301-U01	Phase 1B	2	U (0.29)		85	0.5
VOC	1,2-Dichloroethane	301-U03	Phase 1B	1	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	301-V01	Phase 1B	7	U (0.1)		85	0.5
VOC	1,2-Dichloroethane	301-V02	Phase 1B	19	U (0.4)		85	0.5
VOC	1,2-Dichloroethane	301-W01	Phase 1B	24	U (0.28)		85	0.5
VOC	1,2-Dichloroethane	301-X01	Phase 1B	9	U (0.4)		85	0.5
VOC	1,2-Dichloroethane	301-Y01	Phase 1B	5	U (0.1)		85	0.5
VOC	1,2-Dichloroethane	301-Z01	Phase 1B	6	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	301-Z02	Phase 1B	2	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	301-Z03	Phase 1B	5	U (0.21)		85	0.5
VOC	1,2-Dichloroethane	302-AD06	Phase 1B	12	U (0.1)		85	0.5
VOC	1,2-Dichloroethane	302-AD07	Phase 1B	2	U (0.0013)		85	0.5
VOC	1,2-Dichloroethane	302-AE04	Phase 1B	8	U (0.075)		85	0.5
VOC	1,2-Dichloroethane	302-AE05	Phase 1B	20	U (0.0027)		85	0.5
VOC	1,2-Dichloroethane	302-AE07	Phase 1B	3	U (0.095)		85	0.5
VOC	1,2-Dichloroethane	302-AE08	Phase 1B	3	U (0.001)		85	0.5
VOC	1,2-Dichloroethane	302-AF03	Phase 1B	2	U (1.2)		85	0.5
VOC	1,2-Dichloroethane	302-AF04	Phase 1B	11	U (0.12)		85	0.5
VOC	1,2-Dichloroethane	302-AF05	Phase 1B	2	U (0.051)		85	0.5
VOC	1,2-Dichloroethane	302-AF09	Phase 1B	5	U (0.1)		85	0.5
VOC	1,2-Dichloroethane	302-AG04	Phase 1B	3	U (0.14)		85	0.5
VOC	1,2-Dichloroethane	302-AG06	Phase 1B	5	U (0.21)		85	0.5
VOC	1,2-Dichloroethane	302-AH04	Phase 1B	8	U (0.067)		85	0.5
VOC	1,2-Dichloroethane	302-AH05	Phase 1B	2	U (0.11)		85	0.5
VOC	1,2-Dichloroethane	302-AH06	Phase 1B	4	U (0.0013)		85	0.5
VOC	1,2-Dichloroethane	302-AH07	Phase 1B	12	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	302-AI05	Phase 1B	3	U (0.11)		85	0.5
VOC	1,2-Dichloroethane	302-AI06	Phase 1B	9	U (0.1)		85	0.5
VOC	1,2-Dichloroethane	302-AI07	Phase 1B	8	U (0.51)		85	0.5
VOC	1,2-Dichloroethane	302-AI08	Phase 1B	2	U (0.099)		85	0.5
VOC	1,2-Dichloroethane	302-AI09	Phase 1B	3	U (0.00089)		85	0.5
VOC	1,2-Dichloroethane	302-AK05	Phase 1B	2	U (0.00118)		85	0.5
VOC	1,2-Dichloroethane	302-AK07	Phase 1B	2	U (0.202)		85	0.5
VOC	1,2-Dichloroethane	302-AL03	Phase 1B	2	U (0.5)		85	0.5
VOC	1,2-Dichloroethane	302-AL08	Phase 1B	2	U (0.0009)		85	0.5
VOC	1,2-Dichloroethane	302-AN01	Phase 1B	2	U (0.0012)		85	0.5
VOC	1,2-Dichloroethane	302-AN03	Phase 1B	1	U (0.004)		85	0.5
VOC	1,2-Dichloroethane	302-AO05	Phase 1B	1	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	302-AP02	Phase 1B	2	U (0.0013)		85	0.5
VOC	1,2-Dichloroethane	302-AP03	Phase 1B	17	U (0.083)		85	0.5
VOC	1,2-Dichloroethane	302-AP04	Phase 1B	3	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	302-AP05	Phase 1B	2	U (0.0014)		85	0.5
VOC	1,2-Dichloroethane	302-AQ01	Phase 1B	2	U (0.006)		85	0.5
VOC	1,2-Dichloroethane	302-AQ04	Phase 1B	2	U (0.00088)		85	0.5
VOC	1,2-Dichloroethane	302-AR01	Phase 1B	2	U (0.006)		85	0.5
VOC	1,2-Dichloroethane	302-AR04	Phase 1B	3	U (0.0011)		85	0.5
VOC	1,2-Dichloroethane	302-AS04	Phase 1B	2	U (0.00127)		85	0.5
VOC	1,2-Dichloroethane	302-AT02	Phase 1B	2	U (0.23)		85	0.5
VOC	1,2-Dichloroethane	302-AT03	Phase 1B	4	U (0.11)		85	0.5
VOC	1,2-Dichloroethane	302-AU01	Phase 1B	2	U (0.001)		85	0.5
VOC	1,2-Dichloroethane	302-AU02	Phase 1B	8	U (0.055)		85	0.5
VOC	1,2-Dichloroethane	302-AU03	Phase 1B	2	U (0.00097)		85	0.5
VOC	1,2-Dichloroethane	302-AV02	Phase 1B	4	U (0.054)		85	0.5

Table 3.4
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Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	1,2-Dichloroethane	302-AV04	Phase 1B	2	U (0.00126)		85	0.5
VOC	1,2-Dichloroethane	302-AW02	Phase 1B	2	U (0.28)		85	0.5
VOC	1,2-Dichloroethane	302-AX02	Phase 1B	3	U (0.11)		85	0.5
VOC	1,2-Dichloroethane	302-AY02	Phase 1B	14	U (8.3)		85	0.5
VOC	1,2-Dichloroethane	302-AY03	Phase 1B	2	U (0.0013)		85	0.5
VOC	1,2-Dichloroethane	302-AY05	Phase 1B	2	U (0.00124)		85	0.5
VOC	1,2-Dichloroethane	302-AZ02	Phase 1B	8	U (6.2)		85	0.5
VOC	1,2-Dichloroethane	302-AZ03	Phase 1B	1	U (0.31)		85	0.5
VOC	1,2-Dichloroethane	302-BA03	Phase 1B	1	U (0.003)		85	0.5
VOC	1,2-Dichloroethane	302-BB07	Phase 1B	5	U (0.06)		85	0.5
VOC	1,2-Dichloroethane	302-BB08	Phase 1B	1	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	302-BC06	Phase 1B	1	U (0.006)		85	0.5
VOC	1,2-Dichloroethane	301-L01	Phase 1C	7	U (0.32)		85	0.5
VOC	1,2-Dichloroethane	301-T03	Phase 1C	2	U (0.0072)		85	0.5
VOC	1,2-Dichloroethane	302-AD02	Phase 1C	2	U (0.004)		85	0.5
VOC	1,2-Dichloroethane	302-AE01	Phase 1C	1	U (0.006)		85	0.5
VOC	1,2-Dichloroethane	302-AE02	Phase 1C	2	U (0.007)		85	0.5
VOC	1,2-Dichloroethane	302-AF01	Phase 1C	1	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	302-AF02	Phase 1C	4	U (0.007)		85	0.5
VOC	1,2-Dichloroethane	302-AG02	Phase 1C	2	U (1.7)		85	0.5
VOC	1,2-Dichloroethane	302-AH01	Phase 1C	2	U (0.005)		85	0.5
VOC	1,2-Dichloroethane	302-AH03	Phase 1C	2	U (0.064)		85	0.5
VOC	1,2-Dichloroethane	302-AI01	Phase 1C	2	U (0.0012)		85	0.5
VOC	1,2-Dichloroethane	302-AI03	Phase 1C	1	U (0.059)		85	0.5
VOC	1,2-Dichloroethane	302-AI04	Phase 1C	2	U (0.061)		85	0.5
VOC	1,2-Dichloroethane	302-AJ04	Phase 1C	1	U (0.051)		85	0.5
VOC	1,2-Dichloroethane	302-AL01	Phase 1C	2	U (0.21)		85	0.5
VOC	Ethyl Benzene	LS-A-A01	Life Sciences	1	U (0.24)	0.12	880	70
VOC	Ethyl Benzene	LS-A-A02	Life Sciences	2	U (0.3)	0.075	880	70
VOC	Ethyl Benzene	LS-A-A03	Life Sciences	1	U (0.0014)	0.00070	880	70
VOC	Ethyl Benzene	LS-A-A04	Life Sciences	3	U (0.28)	0.093	880	70
VOC	Ethyl Benzene	LS-A-B02	Life Sciences	14	0.00025 - 0.00052	0.00047	880	70
VOC	Ethyl Benzene	LS-A-B03	Life Sciences	4	1.21 - 1.21	0.30	880	70
VOC	Ethyl Benzene	LS-A-C01	Life Sciences	28	U (0.22) - 0.0006	0.0057	880	70
VOC	Ethyl Benzene	LS-A-C02	Life Sciences	12	U (0.3) - 0.114	0.032	880	70
VOC	Ethyl Benzene	LS-A-C04	Life Sciences	3	U (0.21)	0.039	880	70
VOC	Ethyl Benzene	LS-A-D01	Life Sciences	5	0.0482 - 1.6	0.39	880	70
VOC	Ethyl Benzene	LS-A-D02	Life Sciences	1	U (0.23)	0.12	880	70
VOC	Ethyl Benzene	LS-A-D03	Life Sciences	3	U (0.26)	0.044	880	70
VOC	Ethyl Benzene	LS-A-D04	Life Sciences	2	U (0.00122)	0.00058	880	70
VOC	Ethyl Benzene	LS-A-D05	Life Sciences	6	0.0397 - 0.0397	0.049	880	70
VOC	Ethyl Benzene	LS-A-D06	Life Sciences	2	U (0.0265)	0.0069	880	70
VOC	Ethyl Benzene	LS-A-D07	Life Sciences	2	0.375 - 0.375	0.19	880	70
VOC	Ethyl Benzene	LS-A-E01	Life Sciences	3	U (3.1)	0.53	880	70
VOC	Ethyl Benzene	LS-A-E03	Life Sciences	1	U (0.23)	0.12	880	70
VOC	Ethyl Benzene	LS-A-E04	Life Sciences	2	0.0445 - 0.355	0.20	880	70
VOC	Ethyl Benzene	LS-A-E05	Life Sciences	1	U (0.22)	0.11	880	70
VOC	Ethyl Benzene	LS-A-E07	Life Sciences	7	U (1.8)	0.27	880	70
VOC	Ethyl Benzene	LS-A-E08	Life Sciences	6	U (0.77)	0.15	880	70
VOC	Ethyl Benzene	LS-A-F01	Life Sciences	3	U (0.633)	0.15	880	70
VOC	Ethyl Benzene	LS-A-F02	Life Sciences	3	6.6 - 6.6	2.3	880	70
VOC	Ethyl Benzene	LS-A-F03	Life Sciences	1	U (0.19)	0.10	880	70
VOC	Ethyl Benzene	LS-A-F04	Life Sciences	12	U (0.37)	0.044	880	70
VOC	Ethyl Benzene	LS-A-F05	Life Sciences	1	U (0.32)	0.16	880	70
VOC	Ethyl Benzene	LS-A-G01	Life Sciences	3	U (3.1)	0.56	880	70
VOC	Ethyl Benzene	LS-A-G02	Life Sciences	2	U (0.734)	0.23	880	70
VOC	Ethyl Benzene	LS-A-G03	Life Sciences	3	0.652 - 0.652	0.28	880	70
VOC	Ethyl Benzene	LS-A-G07	Life Sciences	3	U (0.24)	0.040	880	70
VOC	Ethyl Benzene	LS-A-G08	Life Sciences	2	0.0124 - 0.0124	0.0065	880	70
VOC	Ethyl Benzene	LS-A-H03	Life Sciences	2	U (0.00118)	0.00059	880	70
VOC	Ethyl Benzene	LS-A-H04	Life Sciences	2	U (0.0207)	0.0055	880	70
VOC	Ethyl Benzene	LS-A-H06	Life Sciences	1	U (0.19)	0.10	880	70
VOC	Ethyl Benzene	LS-A-H07	Life Sciences	2	U (0.0184) - 0.403	0.21	880	70
VOC	Ethyl Benzene	LS-A-I01	Life Sciences	6	U (0.38)	0.069	880	70
VOC	Ethyl Benzene	LS-A-I02	Life Sciences	1	U (0.18)	0.090	880	70
VOC	Ethyl Benzene	LS-A-I03	Life Sciences	3	U (0.22)	0.060	880	70
VOC	Ethyl Benzene	LS-B-B01	Life Sciences	1	U (0.0017)	0.00085	880	70
VOC	Ethyl Benzene	LS-B-C01	Life Sciences	3	U (0.25)	0.049	880	70
VOC	Ethyl Benzene	LS-B-E01	Life Sciences	4	U (0.27) - 1.74	0.68	880	70
VOC	Ethyl Benzene	LS-B-G02	Life Sciences	1	U (0.00138)	0.00069	880	70
VOC	Ethyl Benzene	LS-B-H02	Life Sciences	3	U (0.29) - 0.34	0.15	880	70
VOC	Ethyl Benzene	LS-E-B01	Life Sciences	77	U (1.34) - 2.3	0.13	880	70
VOC	Ethyl Benzene	LS-E-G01	Life Sciences	4	U (0.23)	0.058	880	70
VOC	Ethyl Benzene	201-A01	Phase 1A	7	0.008 - 52.3	16.7	880	70
VOC	Ethyl Benzene	201-A02	Phase 1A	14	0.02 - 1900	179.4	880	70
VOC	Ethyl Benzene	201-A03	Phase 1A	7	0.0011 - 480	131.6	880	70
VOC	Ethyl Benzene	201-A04	Phase 1A	55	0.00025 - 1300	162.0	880	70
VOC	Ethyl Benzene	201-A05	Phase 1A	9	0.012 - 190	39.3	880	70
VOC	Ethyl Benzene	201-A06	Phase 1A	10	U (0.24) - 6.9	1.3	880	70
VOC	Ethyl Benzene	201-A07	Phase 1A	12	0.52 - 260	82.9	880	70
VOC	Ethyl Benzene	201-A08	Phase 1A	7	0.032 - 82	14.6	880	70
VOC	Ethyl Benzene	201-A09	Phase 1A	8	0.21 - 290	99.2	880	70
VOC	Ethyl Benzene	201-A10	Phase 1A	8	U (0.094) - 15	1.9	880	70

Table 3.4
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Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Ethyl Benzene	201-A11	Phase 1A	8	0.00052 - 94	12.6	880	70
VOC	Ethyl Benzene	201-A12	Phase 1A	16	0.00043 - 38	3.1	880	70
VOC	Ethyl Benzene	201-A13	Phase 1A	18	0.0051 - 180	28.6	880	70
VOC	Ethyl Benzene	201-A14	Phase 1A	21	0.00032 - 0.33	0.083	880	70
VOC	Ethyl Benzene	201-A15	Phase 1A	8	0.12 - 0.15	0.085	880	70
VOC	Ethyl Benzene	201-B01	Phase 1A	4	0.03 - 19	5.0	880	70
VOC	Ethyl Benzene	201-B02	Phase 1A	10	0.00021 - 260	44.7	880	70
VOC	Ethyl Benzene	201-B03	Phase 1A	1	0.6 - 0.6	0.60	880	70
VOC	Ethyl Benzene	201-B04	Phase 1A	11	0.00057 - 8.9	1.2	880	70
VOC	Ethyl Benzene	201-B05	Phase 1A	3	0.038 - 0.16	0.080	880	70
VOC	Ethyl Benzene	201-B06	Phase 1A	1	U (0.13)	0.065	880	70
VOC	Ethyl Benzene	201-B07	Phase 1A	21	U (0.34) - 10	0.58	880	70
VOC	Ethyl Benzene	201-B08	Phase 1A	10	U (0.072) - 2	0.24	880	70
VOC	Ethyl Benzene	201-B09	Phase 1A	10	0.00015 - 0.56	0.14	880	70
VOC	Ethyl Benzene	201-B10	Phase 1A	8	0.0053 - 0.37	0.12	880	70
VOC	Ethyl Benzene	201-B11	Phase 1A	33	U (0.64) - 38	1.7	880	70
VOC	Ethyl Benzene	201-B12	Phase 1A	18	0.00016 - 1.2	0.23	880	70
VOC	Ethyl Benzene	201-C01	Phase 1A	15	0.00033 - 17	3.5	880	70
VOC	Ethyl Benzene	201-C02	Phase 1A	2	0.0025 - 0.027	0.015	880	70
VOC	Ethyl Benzene	201-C04	Phase 1A	14	0.0085 - 15	1.6	880	70
VOC	Ethyl Benzene	201-C05	Phase 1A	3	0.0079 - 0.0079	0.13	880	70
VOC	Ethyl Benzene	201-C06	Phase 1A	14	U (0.13) - 1.2	0.19	880	70
VOC	Ethyl Benzene	201-C07	Phase 1A	11	0.075 - 112	28.5	880	70
VOC	Ethyl Benzene	201-C08	Phase 1A	20	0.00036 - 230	24.7	880	70
VOC	Ethyl Benzene	201-C09	Phase 1A	7	U (0.047) - 0.042	0.0065	880	70
VOC	Ethyl Benzene	201-C10	Phase 1A	4	U (0.225) - 7.13	1.8	880	70
VOC	Ethyl Benzene	201-C11	Phase 1A	1	2.84 - 2.84	2.8	880	70
VOC	Ethyl Benzene	201-D01	Phase 1A	4	U (0.0061)	0.0023	880	70
VOC	Ethyl Benzene	201-D05	Phase 1A	8	U (3.5) - 8	2.0	880	70
VOC	Ethyl Benzene	201-D08	Phase 1A	1	U (0.0011)	0.00055	880	70
VOC	Ethyl Benzene	201-D12	Phase 1A	3	U (0.0011)	0.00050	880	70
VOC	Ethyl Benzene	201-E01	Phase 1A	74	U (0.52) - 140	5.3	880	70
VOC	Ethyl Benzene	201-E02	Phase 1A	1	U (0.001)	0.00050	880	70
VOC	Ethyl Benzene	201-E03	Phase 1A	3	0.0028 - 0.0028	0.0021	880	70
VOC	Ethyl Benzene	201-E04	Phase 1A	5	0.00014 - 40	10.8	880	70
VOC	Ethyl Benzene	201-E05	Phase 1A	26	U (1.3) - 9.1	0.81	880	70
VOC	Ethyl Benzene	201-F01	Phase 1A	51	U (0.56) - 3.6	0.12	880	70
VOC	Ethyl Benzene	201-F02	Phase 1A	7	U (0.22) - 0.0045	0.022	880	70
VOC	Ethyl Benzene	201-F03	Phase 1A	34	U (12) - 130	4.9	880	70
VOC	Ethyl Benzene	201-F04	Phase 1A	20	U (0.74) - 0.43	0.073	880	70
VOC	Ethyl Benzene	202-A03	Phase 1A	8	0.017 - 17	2.1	880	70
VOC	Ethyl Benzene	202-A04	Phase 1A	4	0.024 - 0.085	0.085	880	70
VOC	Ethyl Benzene	202-A05	Phase 1A	4	U (0.0011)	0.00054	880	70
VOC	Ethyl Benzene	202-A06	Phase 1A	4	U (0.001)	0.00046	880	70
VOC	Ethyl Benzene	202-A07	Phase 1A	3	U (0.0011)	0.00050	880	70
VOC	Ethyl Benzene	202-A08	Phase 1A	3	U (0.0012)	0.00052	880	70
VOC	Ethyl Benzene	202-A09	Phase 1A	6	U (0.0011)	0.00049	880	70
VOC	Ethyl Benzene	202-B01	Phase 1A	2	U (0.0024) - 0.0012	0.0010	880	70
VOC	Ethyl Benzene	202-B02	Phase 1A	18	U (0.31) - 1	0.099	880	70
VOC	Ethyl Benzene	202-B03	Phase 1A	15	U (0.1) - 0.067	0.0084	880	70
VOC	Ethyl Benzene	202-B04	Phase 1A	3	U (0.001)	0.00047	880	70
VOC	Ethyl Benzene	202-B05	Phase 1A	4	U (0.056)	0.025	880	70
VOC	Ethyl Benzene	202-B09	Phase 1A	9	U (0.064) - 0.00034	0.0040	880	70
VOC	Ethyl Benzene	202-C04	Phase 1A	15	U (0.31) - 0.001	0.028	880	70
VOC	Ethyl Benzene	202-C05	Phase 1A	20	U (0.33) - 1.8	0.17	880	70
VOC	Ethyl Benzene	202-C06	Phase 1A	4	U (0.054) - 0.023	0.013	880	70
VOC	Ethyl Benzene	202-C07	Phase 1A	8	U (0.5) - 0.3	0.10	880	70
VOC	Ethyl Benzene	202-C08	Phase 1A	4	0.66 - 1.3	0.74	880	70
VOC	Ethyl Benzene	202-C10	Phase 1A	1	U (0.005)	0.0025	880	70
VOC	Ethyl Benzene	202-D05	Phase 1A	5	U (0.52) - 41	8.2	880	70
VOC	Ethyl Benzene	202-D06	Phase 1A	11	U (0.057) - 13	2.2	880	70
VOC	Ethyl Benzene	202-E06	Phase 1A	2	0.00023 - 0.00023	0.00052	880	70
VOC	Ethyl Benzene	202-E08	Phase 1A	13	0.0024 - 9.4	0.74	880	70
VOC	Ethyl Benzene	202-E09	Phase 1A	16	U (0.095) - 8.8	0.98	880	70
VOC	Ethyl Benzene	202-E10	Phase 1A	6	U (0.11) - 0.34	0.066	880	70
VOC	Ethyl Benzene	202-E11	Phase 1A	2	0.51 - 2.2	1.4	880	70
VOC	Ethyl Benzene	202-E12	Phase 1A	4	U (0.092)	0.020	880	70
VOC	Ethyl Benzene	202-E13	Phase 1A	2	1.8 - 2.4	2.1	880	70
VOC	Ethyl Benzene	202-E15	Phase 1A	2	0.44 - 1.7	1.1	880	70
VOC	Ethyl Benzene	202-F01	Phase 1A	7	0.084 - 46	7.0	880	70
VOC	Ethyl Benzene	202-F04	Phase 1A	11	U (0.067) - 1.6	0.16	880	70
VOC	Ethyl Benzene	202-F05	Phase 1A	2	U (0.059)	0.015	880	70
VOC	Ethyl Benzene	202-F06	Phase 1A	2	U (0.089)	0.037	880	70
VOC	Ethyl Benzene	202-F07	Phase 1A	17	0.0024 - 16	1.1	880	70
VOC	Ethyl Benzene	202-F08	Phase 1A	5	U (0.057) - 0.00046	0.012	880	70
VOC	Ethyl Benzene	202-F10	Phase 1A	2	U (0.054) - 0.017	0.0088	880	70
VOC	Ethyl Benzene	202-F13	Phase 1A	1	U (0.006)	0.0030	880	70
VOC	Ethyl Benzene	202-F14	Phase 1A	2	U (0.0011)	0.00050	880	70
VOC	Ethyl Benzene	202-F16	Phase 1A	4	U (0.096) - 0.74	0.20	880	70
VOC	Ethyl Benzene	202-F17	Phase 1A	8	U (0.0021)	0.00070	880	70
VOC	Ethyl Benzene	202-G01	Phase 1A	8	U (0.0012)	0.00049	880	70
VOC	Ethyl Benzene	202-G02	Phase 1A	14	U (0.067) - 0.016	0.0036	880	70
VOC	Ethyl Benzene	202-G03	Phase 1A	9	U (0.0012)	0.00048	880	70

Table 3.4

Evergreen and PESRM Sampling Results Summary

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Ethyl Benzene	202-G04	Phase 1A	3	U (0.061) - 13	4.3	880	70
VOC	Ethyl Benzene	202-G05	Phase 1A	6	U (0.096) - 3.4	1.2	880	70
VOC	Ethyl Benzene	202-G07	Phase 1A	16	0.00014 - 0.0032	0.0030	880	70
VOC	Ethyl Benzene	202-H01	Phase 1A	2	U (0.21) - 9.3	4.7	880	70
VOC	Ethyl Benzene	202-H03	Phase 1A	11	U (1.7) - 73	19.6	880	70
VOC	Ethyl Benzene	202-H05	Phase 1A	8	U (3.1) - 44	15.8	880	70
VOC	Ethyl Benzene	202-H06	Phase 1A	2	U (0.0013)	0.00058	880	70
VOC	Ethyl Benzene	202-H07	Phase 1A	2	U (0.0011)	0.00053	880	70
VOC	Ethyl Benzene	202-H08	Phase 1A	3	U (0.0019)	0.00072	880	70
VOC	Ethyl Benzene	202-H09	Phase 1A	4	0.0011 - 0.018	0.0064	880	70
VOC	Ethyl Benzene	202-H11	Phase 1A	10	U (0.071) - 0.73	0.13	880	70
VOC	Ethyl Benzene	202-I01	Phase 1A	2	U (0.001)	0.00048	880	70
VOC	Ethyl Benzene	202-I04	Phase 1A	4	U (0.0018)	0.00073	880	70
VOC	Ethyl Benzene	202-J01	Phase 1A	6	U (0.061) - 0.018	0.0035	880	70
VOC	Ethyl Benzene	202-J02	Phase 1A	5	U (0.062) - 3.6	0.72	880	70
VOC	Ethyl Benzene	202-J03	Phase 1A	9	0.1 - 25	8.1	880	70
VOC	Ethyl Benzene	202-J04	Phase 1A	8	0.00014 - 42	15.7	880	70
VOC	Ethyl Benzene	202-J05	Phase 1A	6	0.0022 - 0.0048	0.0018	880	70
VOC	Ethyl Benzene	202-J07	Phase 1A	4	U (0.11) - 2.12	0.53	880	70
VOC	Ethyl Benzene	202-J08	Phase 1A	1	0.0025 - 0.0025	0.0025	880	70
VOC	Ethyl Benzene	202-J09	Phase 1A	2	U (0.91) - 0.12	0.29	880	70
VOC	Ethyl Benzene	301-AA01	Phase 1A	1	0.00061 - 0.00061	0.00061	880	70
VOC	Ethyl Benzene	301-AA06	Phase 1A	11	U (0.33) - 0.25	0.046	880	70
VOC	Ethyl Benzene	301-AA07	Phase 1A	4	U (0.27) - 9.36	2.3	880	70
VOC	Ethyl Benzene	301-AA08	Phase 1A	3	U (0.28)	0.086	880	70
VOC	Ethyl Benzene	301-AA09	Phase 1A	3	U (0.48)	0.17	880	70
VOC	Ethyl Benzene	301-AB04	Phase 1A	3	U (0.09)	0.015	880	70
VOC	Ethyl Benzene	301-AB06	Phase 1A	2	0.0062 - 0.0062	0.0036	880	70
VOC	Ethyl Benzene	301-AB07	Phase 1A	1	U (0.005)	0.0025	880	70
VOC	Ethyl Benzene	301-AB09	Phase 1A	2	U (0.0059)	0.0026	880	70
VOC	Ethyl Benzene	301-AC04	Phase 1A	25	U (0.39) - 0.16	0.038	880	70
VOC	Ethyl Benzene	301-AC07	Phase 1A	10	U (0.0014) - 0.024	0.0048	880	70
VOC	Ethyl Benzene	301-AC08	Phase 1A	7	0.00025 - 1.2	0.17	880	70
VOC	Ethyl Benzene	301-AC09	Phase 1A	6	U (0.0011)	0.00050	880	70
VOC	Ethyl Benzene	301-B01	Phase 1A	1	U (0.0058)	0.0029	880	70
VOC	Ethyl Benzene	301-C01	Phase 1A	3	0.07 - 38	13.0	880	70
VOC	Ethyl Benzene	301-C02	Phase 1A	9	0.0078 - 0.56	0.17	880	70
VOC	Ethyl Benzene	301-D01	Phase 1A	32	0.0052 - 250	39.2	880	70
VOC	Ethyl Benzene	301-E02	Phase 1A	32	U (3.4) - 700	40.7	880	70
VOC	Ethyl Benzene	301-E03	Phase 1A	5	U (0.31) - 0.13	0.036	880	70
VOC	Ethyl Benzene	301-F02	Phase 1A	8	U (0.3) - 28	4.2	880	70
VOC	Ethyl Benzene	301-G01	Phase 1A	2	U (0.47) - 1.7	0.87	880	70
VOC	Ethyl Benzene	301-G02	Phase 1A	3	1.9 - 4.1	2.0	880	70
VOC	Ethyl Benzene	301-G03	Phase 1A	1	2.5 - 2.5	2.5	880	70
VOC	Ethyl Benzene	301-H01	Phase 1A	20	0.00019 - 91	14.7	880	70
VOC	Ethyl Benzene	301-H02	Phase 1A	4	U (0.0052) - 0.007	0.0030	880	70
VOC	Ethyl Benzene	301-H03	Phase 1A	2	4.4 - 4.4	2.2	880	70
VOC	Ethyl Benzene	301-I01	Phase 1A	9	U (0.54) - 7.2	0.93	880	70
VOC	Ethyl Benzene	301-I02	Phase 1A	1	U (0.064)	0.032	880	70
VOC	Ethyl Benzene	301-J01	Phase 1A	4	0.00068 - 4.1	1.0	880	70
VOC	Ethyl Benzene	301-J02	Phase 1A	8	U (0.14) - 20	5.4	880	70
VOC	Ethyl Benzene	301-K01	Phase 1A	9	0.011 - 0.24	0.073	880	70
VOC	Ethyl Benzene	301-K02	Phase 1A	3	0.037 - 2	0.71	880	70
VOC	Ethyl Benzene	301-L02	Phase 1A	8	0.069 - 160	22.6	880	70
VOC	Ethyl Benzene	301-L03	Phase 1A	5	0.0002 - 1.3	0.30	880	70
VOC	Ethyl Benzene	301-M02	Phase 1A	5	0.00042 - 0.83	0.17	880	70
VOC	Ethyl Benzene	301-M03	Phase 1A	3	0.0078 - 0.24	0.086	880	70
VOC	Ethyl Benzene	301-N02	Phase 1A	3	U (0.22)	0.071	880	70
VOC	Ethyl Benzene	301-P02	Phase 1A	2	1.59 - 2.3	1.9	880	70
VOC	Ethyl Benzene	301-Q04	Phase 1A	6	U (0.234)	0.025	880	70
VOC	Ethyl Benzene	301-R02	Phase 1A	6	U (0.26)	0.024	880	70
VOC	Ethyl Benzene	301-S02	Phase 1A	4	U (0.0054)	0.0025	880	70
VOC	Ethyl Benzene	301-S03	Phase 1A	1	0.034 - 0.034	0.034	880	70
VOC	Ethyl Benzene	301-T04	Phase 1A	2	U (0.3)	0.076	880	70
VOC	Ethyl Benzene	301-V04	Phase 1A	30	U (1.3) - 14	0.71	880	70
VOC	Ethyl Benzene	301-W03	Phase 1A	4	U (0.27)	0.10	880	70
VOC	Ethyl Benzene	301-X03	Phase 1A	3	U (0.25)	0.079	880	70
VOC	Ethyl Benzene	301-Y03	Phase 1A	2	0.0012 - 14.7	7.4	880	70
VOC	Ethyl Benzene	301-Y04	Phase 1A	3	U (0.28)	0.092	880	70
VOC	Ethyl Benzene	301-Y05	Phase 1A	6	0.11 - 8.4	2.6	880	70
VOC	Ethyl Benzene	302-AD08	Phase 1A	2	U (0.0012)	0.00058	880	70
VOC	Ethyl Benzene	302-AD09	Phase 1A	3	U (0.0011)	0.00052	880	70
VOC	Ethyl Benzene	302-AD10	Phase 1A	4	0.00024 - 26	11.5	880	70
VOC	Ethyl Benzene	302-AE09	Phase 1A	4	U (0.00095)	0.00046	880	70
VOC	Ethyl Benzene	302-AF06	Phase 1A	9	U (0.3) - 66	7.3	880	70
VOC	Ethyl Benzene	302-AG07	Phase 1A	14	U (0.057) - 0.00071	0.013	880	70
VOC	Ethyl Benzene	302-AJ09	Phase 1A	2	U (0.054)	0.027	880	70
VOC	Ethyl Benzene	302-AK06	Phase 1A	1	U (0.057)	0.029	880	70
VOC	Ethyl Benzene	302-AL06	Phase 1A	2	U (0.052)	0.025	880	70
VOC	Ethyl Benzene	302-AN02	Phase 1A	2	U (0.0012)	0.00057	880	70
VOC	Ethyl Benzene	302-AO03	Phase 1A	2	U (0.00127)	0.00060	880	70
VOC	Ethyl Benzene	302-AQ02	Phase 1A	9	U (0.25) - 5.4	0.67	880	70
VOC	Ethyl Benzene	302-AR02	Phase 1A	4	U (0.0013)	0.00053	880	70

Table 3.4

Evergreen and PESRM Sampling Results Summary

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Ethyl Benzene	302-AS03	Phase 1A	13	U (0.11)	0.0069	880	70
VOC	Ethyl Benzene	302-AV01	Phase 1A	12	0.00029 - 27	2.5	880	70
VOC	Ethyl Benzene	302-AV03	Phase 1A	6	U (0.056) - 0.72	0.12	880	70
VOC	Ethyl Benzene	302-AW01	Phase 1A	12	U (6) - 4.1	0.98	880	70
VOC	Ethyl Benzene	302-AW03	Phase 1A	2	U (0.00096)	0.00046	880	70
VOC	Ethyl Benzene	302-AX01	Phase 1A	14	U (1.2) - 47	3.7	880	70
VOC	Ethyl Benzene	302-AX05	Phase 1A	2	U (0.00125)	0.00060	880	70
VOC	Ethyl Benzene	302-AZ05	Phase 1A	3	U (0.005)	0.0013	880	70
VOC	Ethyl Benzene	302-BA05	Phase 1A	2	0.0224 - 11.2	5.6	880	70
VOC	Ethyl Benzene	302-BB06	Phase 1A	5	U (0.06) - 0.016	0.0094	880	70
VOC	Ethyl Benzene	302-BC05	Phase 1A	19	U (0.067) - 0.12	0.0082	880	70
VOC	Ethyl Benzene	302-BE04	Phase 1A	2	U (0.006)	0.0028	880	70
VOC	Ethyl Benzene	303-AY01	Phase 1A	6	U (0.005) - 0.00021	0.0014	880	70
VOC	Ethyl Benzene	303-AZ01	Phase 1A	5	U (5.2) - 2	0.98	880	70
VOC	Ethyl Benzene	303-BA01	Phase 1A	8	U (0.0019) - 0.00036	0.00055	880	70
VOC	Ethyl Benzene	303-BA02	Phase 1A	11	U (0.49) - 2.5	0.35	880	70
VOC	Ethyl Benzene	303-BB01	Phase 1A	2	U (0.005)	0.0023	880	70
VOC	Ethyl Benzene	303-BB02	Phase 1A	5	0.00076 - 0.00076	0.065	880	70
VOC	Ethyl Benzene	303-BC01	Phase 1A	4	U (0.0011) - 0.00057	0.00052	880	70
VOC	Ethyl Benzene	303-BD04	Phase 1A	13	U (0.26) - 12	1.9	880	70
VOC	Ethyl Benzene	303-BE03	Phase 1A	36	0.0006 - 4.1	0.35	880	70
VOC	Ethyl Benzene	303-BF05	Phase 1A	20	U (1.1) - 7.8	0.58	880	70
VOC	Ethyl Benzene	303-BG04	Phase 1A	28	U (4.3) - 89	5.7	880	70
VOC	Ethyl Benzene	303-BH02	Phase 1A	25	0.0003 - 23	1.2	880	70
VOC	Ethyl Benzene	303-BI03	Phase 1A	6	U (0.0019) - 0.00035	0.00062	880	70
VOC	Ethyl Benzene	303-BJ01	Phase 1A	3	0.0012 - 0.046	0.023	880	70
VOC	Ethyl Benzene	303-BJ02	Phase 1A	3	U (0.0013)	0.00051	880	70
VOC	Ethyl Benzene	303-BK03	Phase 1A	7	0.087 - 0.23	0.073	880	70
VOC	Ethyl Benzene	303-BL02	Phase 1A	13	0.0004 - 0.34	0.029	880	70
VOC	Ethyl Benzene	303-BM02	Phase 1A	1	0.00094 - 0.00094	0.00094	880	70
VOC	Ethyl Benzene	303-BN02	Phase 1A	15	U (0.25) - 0.12	0.029	880	70
VOC	Ethyl Benzene	303-BN03	Phase 1A	14	U (0.34) - 0.395	0.070	880	70
VOC	Ethyl Benzene	303-BO02	Phase 1A	18	0.00061 - 0.136	0.23	880	70
VOC	Ethyl Benzene	303-BP02	Phase 1A	43	0.00019 - 120	15.7	880	70
VOC	Ethyl Benzene	303-BQ01	Phase 1A	5	U (0.42) - 0.81	0.28	880	70
VOC	Ethyl Benzene	303-BQ02	Phase 1A	25	0.0021 - 120	19.7	880	70
VOC	Ethyl Benzene	303-BR02	Phase 1A	8	0.0258 - 0.3	0.10	880	70
VOC	Ethyl Benzene	303-BT01	Phase 1A	13	U (2.9) - 0.72	0.072	880	70
VOC	Ethyl Benzene	303-BW01	Phase 1A	2	0.0679 - 0.0679	0.13	880	70
VOC	Ethyl Benzene	301-AA02	Phase 1B	2	U (0.001)	0.00049	880	70
VOC	Ethyl Benzene	301-AA05	Phase 1B	11	0.00032 - 0.062	0.017	880	70
VOC	Ethyl Benzene	301-AB05	Phase 1B	6	U (0.22) - 0.564	0.095	880	70
VOC	Ethyl Benzene	301-AC03	Phase 1B	2	U (0.005)	0.0015	880	70
VOC	Ethyl Benzene	301-T01	Phase 1B	5	2.41 - 2.41	0.57	880	70
VOC	Ethyl Benzene	301-T02	Phase 1B	7	0.051 - 0.34	0.13	880	70
VOC	Ethyl Benzene	301-U01	Phase 1B	2	0.00055 - 0.092	0.046	880	70
VOC	Ethyl Benzene	301-U03	Phase 1B	1	U (0.005)	0.0025	880	70
VOC	Ethyl Benzene	301-V01	Phase 1B	7	0.0026 - 1.34	0.27	880	70
VOC	Ethyl Benzene	301-V02	Phase 1B	20	U (0.4) - 0.04	0.031	880	70
VOC	Ethyl Benzene	301-W01	Phase 1B	24	U (0.28) - 1.56	0.079	880	70
VOC	Ethyl Benzene	301-X01	Phase 1B	11	U (0.4)	0.036	880	70
VOC	Ethyl Benzene	301-Y01	Phase 1B	10	0.00057 - 2.65	0.27	880	70
VOC	Ethyl Benzene	301-Y02	Phase 1B	4	U (0.029)	0.013	880	70
VOC	Ethyl Benzene	301-Z01	Phase 1B	6	U (0.0011) - 0.00097	0.00059	880	70
VOC	Ethyl Benzene	301-Z02	Phase 1B	2	U (0.005)	0.0013	880	70
VOC	Ethyl Benzene	301-Z03	Phase 1B	5	U (0.21) - 1.91	0.40	880	70
VOC	Ethyl Benzene	302-AD06	Phase 1B	12	U (0.1) - 0.13	0.015	880	70
VOC	Ethyl Benzene	302-AD07	Phase 1B	2	U (0.0013)	0.00055	880	70
VOC	Ethyl Benzene	302-AE03	Phase 1B	4	0.22 - 1.3	0.50	880	70
VOC	Ethyl Benzene	302-AE04	Phase 1B	8	0.00054 - 0.098	0.017	880	70
VOC	Ethyl Benzene	302-AE05	Phase 1B	20	0.00019 - 0.016	0.0018	880	70
VOC	Ethyl Benzene	302-AE07	Phase 1B	3	U (0.095) - 0.00081	0.016	880	70
VOC	Ethyl Benzene	302-AE08	Phase 1B	3	U (0.001) - 0.00014	0.00038	880	70
VOC	Ethyl Benzene	302-AF03	Phase 1B	2	4.5 - 4.5	2.6	880	70
VOC	Ethyl Benzene	302-AF04	Phase 1B	22	U (0.12) - 1.9	0.12	880	70
VOC	Ethyl Benzene	302-AF05	Phase 1B	2	21.5 - 21.5	10.8	880	70
VOC	Ethyl Benzene	302-AF09	Phase 1B	5	U (0.1) - 1.25	0.25	880	70
VOC	Ethyl Benzene	302-AG04	Phase 1B	9	U (0.14) - 0.813	0.16	880	70
VOC	Ethyl Benzene	302-AG06	Phase 1B	5	U (0.21) - 1.43	0.31	880	70
VOC	Ethyl Benzene	302-AG08	Phase 1B	6	0.22 - 8.3	1.5	880	70
VOC	Ethyl Benzene	302-AH04	Phase 1B	8	U (0.067) - 0.62	0.17	880	70
VOC	Ethyl Benzene	302-AH05	Phase 1B	11	0.00035 - 3.6	0.49	880	70
VOC	Ethyl Benzene	302-AH06	Phase 1B	4	U (0.0013)	0.00062	880	70
VOC	Ethyl Benzene	302-AH07	Phase 1B	21	U (0.063)	0.012	880	70
VOC	Ethyl Benzene	302-AH08	Phase 1B	13	U (0.061)	0.028	880	70
VOC	Ethyl Benzene	302-AI05	Phase 1B	12	U (0.11) - 0.57	0.057	880	70
VOC	Ethyl Benzene	302-AI06	Phase 1B	19	U (0.1) - 0.214	0.014	880	70
VOC	Ethyl Benzene	302-AI07	Phase 1B	10	U (0.51) - 0.00835	0.041	880	70
VOC	Ethyl Benzene	302-AI08	Phase 1B	2	0.186 - 0.186	0.094	880	70
VOC	Ethyl Benzene	302-AI09	Phase 1B	3	U (0.00089)	0.00037	880	70
VOC	Ethyl Benzene	302-AJ05	Phase 1B	2	U (0.0012)	0.00058	880	70
VOC	Ethyl Benzene	302-AJ06	Phase 1B	5	U (0.0018) - 0.001	0.00067	880	70
VOC	Ethyl Benzene	302-AK05	Phase 1B	5	U (0.058)	0.017	880	70

Table 3.4

Evergreen and PESRM Sampling Results Summary

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Ethyl Benzene	302-AK07	Phase 1B	13	U (0.202) - 1.8	0.22	880	70
VOC	Ethyl Benzene	302-AL03	Phase 1B	2	U (0.5) - 0.612	0.31	880	70
VOC	Ethyl Benzene	302-AL05	Phase 1B	11	U (0.13) - 0.068	0.042	880	70
VOC	Ethyl Benzene	302-AL08	Phase 1B	2	U (0.0009)	0.00038	880	70
VOC	Ethyl Benzene	302-AN01	Phase 1B	2	U (0.0012)	0.00055	880	70
VOC	Ethyl Benzene	302-AN03	Phase 1B	1	U (0.004)	0.0020	880	70
VOC	Ethyl Benzene	302-AO02	Phase 1B	7	0.011 - 19	3.8	880	70
VOC	Ethyl Benzene	302-AO05	Phase 1B	1	0.0009 - 0.0009	0.00090	880	70
VOC	Ethyl Benzene	302-AP02	Phase 1B	2	U (0.0013)	0.00063	880	70
VOC	Ethyl Benzene	302-AP03	Phase 1B	23	0.0028 - 0.581	0.035	880	70
VOC	Ethyl Benzene	302-AP04	Phase 1B	3	0.001 - 0.207	0.070	880	70
VOC	Ethyl Benzene	302-AP05	Phase 1B	2	U (0.0014)	0.00068	880	70
VOC	Ethyl Benzene	302-AQ01	Phase 1B	2	U (0.006)	0.0030	880	70
VOC	Ethyl Benzene	302-AQ04	Phase 1B	2	U (0.00088)	0.00043	880	70
VOC	Ethyl Benzene	302-AR01	Phase 1B	2	U (0.006)	0.0028	880	70
VOC	Ethyl Benzene	302-AR04	Phase 1B	3	U (0.0011)	0.00050	880	70
VOC	Ethyl Benzene	302-AS04	Phase 1B	2	U (0.00127)	0.00062	880	70
VOC	Ethyl Benzene	302-AT01	Phase 1B	2	0.0256 - 0.0263	0.026	880	70
VOC	Ethyl Benzene	302-AT02	Phase 1B	2	0.14 - 0.14	0.070	880	70
VOC	Ethyl Benzene	302-AT03	Phase 1B	4	U (0.11)	0.014	880	70
VOC	Ethyl Benzene	302-AU01	Phase 1B	2	U (0.001)	0.00047	880	70
VOC	Ethyl Benzene	302-AU02	Phase 1B	8	U (0.055)	0.0041	880	70
VOC	Ethyl Benzene	302-AU03	Phase 1B	2	U (0.00097)	0.00046	880	70
VOC	Ethyl Benzene	302-AV02	Phase 1B	4	U (0.054) - 1.7	0.43	880	70
VOC	Ethyl Benzene	302-AV04	Phase 1B	2	U (0.00126)	0.00062	880	70
VOC	Ethyl Benzene	302-AW02	Phase 1B	2	U (0.28)	0.070	880	70
VOC	Ethyl Benzene	302-AX02	Phase 1B	3	U (0.11)	0.019	880	70
VOC	Ethyl Benzene	302-AY02	Phase 1B	20	0.014 - 75	10.9	880	70
VOC	Ethyl Benzene	302-AY03	Phase 1B	2	U (0.0013)	0.00058	880	70
VOC	Ethyl Benzene	302-AY05	Phase 1B	2	U (0.00124)	0.00060	880	70
VOC	Ethyl Benzene	302-AZ02	Phase 1B	11	U (4.9) - 30	4.9	880	70
VOC	Ethyl Benzene	302-AZ03	Phase 1B	1	U (0.31)	0.16	880	70
VOC	Ethyl Benzene	302-BA03	Phase 1B	1	U (0.009)	0.0045	880	70
VOC	Ethyl Benzene	302-BB07	Phase 1B	17	0.00039 - 50	7.8	880	70
VOC	Ethyl Benzene	302-BB08	Phase 1B	1	U (0.005)	0.0025	880	70
VOC	Ethyl Benzene	302-BC06	Phase 1B	1	U (0.006)	0.0030	880	70
VOC	Ethyl Benzene	301-L01	Phase 1C	7	U (0.32)	0.076	880	70
VOC	Ethyl Benzene	301-T03	Phase 1C	2	U (0.0072)	0.0032	880	70
VOC	Ethyl Benzene	302-AD02	Phase 1C	2	U (0.004)	0.0011	880	70
VOC	Ethyl Benzene	302-AE01	Phase 1C	1	U (0.006)	0.0030	880	70
VOC	Ethyl Benzene	302-AE02	Phase 1C	2	U (0.007)	0.0028	880	70
VOC	Ethyl Benzene	302-AF01	Phase 1C	1	U (0.005)	0.0025	880	70
VOC	Ethyl Benzene	302-AF02	Phase 1C	4	U (0.007)	0.0028	880	70
VOC	Ethyl Benzene	302-AG02	Phase 1C	2	U (1.7)	0.43	880	70
VOC	Ethyl Benzene	302-AH01	Phase 1C	2	U (0.005)	0.0015	880	70
VOC	Ethyl Benzene	302-AH03	Phase 1C	2	U (0.064)	0.031	880	70
VOC	Ethyl Benzene	302-AI01	Phase 1C	2	U (0.0012) - 0.00055	0.00058	880	70
VOC	Ethyl Benzene	302-AI03	Phase 1C	1	7.5 - 7.5	7.5	880	70
VOC	Ethyl Benzene	302-AI04	Phase 1C	2	U (0.061)	0.029	880	70
VOC	Ethyl Benzene	302-AJ04	Phase 1C	1	U (0.051)	0.026	880	70
VOC	Ethyl Benzene	302-AL01	Phase 1C	11	0.0434 - 0.0434	0.61	880	70
VOC	Methyl tert-butyl ether	LS-A-A01	Life Sciences	1	U (0.24)	0.12	8500	2
VOC	Methyl tert-butyl ether	LS-A-A02	Life Sciences	2	U (0.3)	0.075	8500	2
VOC	Methyl tert-butyl ether	LS-A-A03	Life Sciences	1	U (0.0014)	0.00070	8500	2
VOC	Methyl tert-butyl ether	LS-A-A04	Life Sciences	3	U (0.28)	0.093	8500	2
VOC	Methyl tert-butyl ether	LS-A-B02	Life Sciences	14	U (0.0024)	0.00091	8500	2
VOC	Methyl tert-butyl ether	LS-A-B03	Life Sciences	4	U (0.059)	0.0078	8500	2
VOC	Methyl tert-butyl ether	LS-A-C01	Life Sciences	28	U (0.22) - 0.0881	0.010	8500	2
VOC	Methyl tert-butyl ether	LS-A-C02	Life Sciences	12	U (0.3)	0.023	8500	2
VOC	Methyl tert-butyl ether	LS-A-C04	Life Sciences	3	U (0.21)	0.039	8500	2
VOC	Methyl tert-butyl ether	LS-A-D01	Life Sciences	5	U (0.24)	0.073	8500	2
VOC	Methyl tert-butyl ether	LS-A-D02	Life Sciences	1	U (0.23)	0.12	8500	2
VOC	Methyl tert-butyl ether	LS-A-D03	Life Sciences	3	U (0.26)	0.044	8500	2
VOC	Methyl tert-butyl ether	LS-A-D04	Life Sciences	2	U (0.00122)	0.00058	8500	2
VOC	Methyl tert-butyl ether	LS-A-D05	Life Sciences	6	U (0.27)	0.045	8500	2
VOC	Methyl tert-butyl ether	LS-A-D06	Life Sciences	2	U (0.0265)	0.0069	8500	2
VOC	Methyl tert-butyl ether	LS-A-D07	Life Sciences	2	U (0.137)	0.035	8500	2
VOC	Methyl tert-butyl ether	LS-A-E01	Life Sciences	3	U (3.1)	0.53	8500	2
VOC	Methyl tert-butyl ether	LS-A-E03	Life Sciences	1	U (0.23)	0.12	8500	2
VOC	Methyl tert-butyl ether	LS-A-E04	Life Sciences	2	U (0.158)	0.045	8500	2
VOC	Methyl tert-butyl ether	LS-A-E05	Life Sciences	1	U (0.22)	0.11	8500	2
VOC	Methyl tert-butyl ether	LS-A-E07	Life Sciences	1	U (0.24)	0.12	8500	2
VOC	Methyl tert-butyl ether	LS-A-E08	Life Sciences	1	U (0.17)	0.085	8500	2
VOC	Methyl tert-butyl ether	LS-A-F01	Life Sciences	3	U (0.633)	0.15	8500	2
VOC	Methyl tert-butyl ether	LS-A-F02	Life Sciences	3	U (0.26)	0.13	8500	2
VOC	Methyl tert-butyl ether	LS-A-F03	Life Sciences	1	U (0.19)	0.10	8500	2
VOC	Methyl tert-butyl ether	LS-A-F04	Life Sciences	12	U (0.37)	0.044	8500	2
VOC	Methyl tert-butyl ether	LS-A-F05	Life Sciences	1	U (0.32)	0.16	8500	2
VOC	Methyl tert-butyl ether	LS-A-G01	Life Sciences	3	U (3.1)	0.56	8500	2
VOC	Methyl tert-butyl ether	LS-A-G02	Life Sciences	2	U (0.734)	0.23	8500	2
VOC	Methyl tert-butyl ether	LS-A-G03	Life Sciences	3	U (0.38) - 0.441	0.21	8500	2
VOC	Methyl tert-butyl ether	LS-A-G07	Life Sciences	3	U (0.24)	0.040	8500	2
VOC	Methyl tert-butyl ether	LS-A-G08	Life Sciences	2	U (0.00125)	0.00061	8500	2

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Methyl tert-butyl ether	LS-A-H03	Life Sciences	2	U (0.00118)	0.00059	8500	2
VOC	Methyl tert-butyl ether	LS-A-H04	Life Sciences	2	U (0.0207)	0.0055	8500	2
VOC	Methyl tert-butyl ether	LS-A-H06	Life Sciences	1	U (0.19)	0.10	8500	2
VOC	Methyl tert-butyl ether	LS-A-H07	Life Sciences	2	U (0.0184)	0.0089	8500	2
VOC	Methyl tert-butyl ether	LS-A-I01	Life Sciences	6	U (0.38)	0.069	8500	2
VOC	Methyl tert-butyl ether	LS-A-I02	Life Sciences	1	U (0.18)	0.090	8500	2
VOC	Methyl tert-butyl ether	LS-A-I03	Life Sciences	3	U (0.22)	0.060	8500	2
VOC	Methyl tert-butyl ether	LS-B-B01	Life Sciences	1	U (0.0035)	0.0018	8500	2
VOC	Methyl tert-butyl ether	LS-B-C01	Life Sciences	3	U (0.25)	0.049	8500	2
VOC	Methyl tert-butyl ether	LS-B-E01	Life Sciences	4	U (0.27)	0.12	8500	2
VOC	Methyl tert-butyl ether	LS-B-G02	Life Sciences	1	U (0.00138)	0.00069	8500	2
VOC	Methyl tert-butyl ether	LS-B-H02	Life Sciences	3	U (0.29)	0.088	8500	2
VOC	Methyl tert-butyl ether	LS-E-B01	Life Sciences	94	U (1.34)	0.030	8500	2
VOC	Methyl tert-butyl ether	LS-E-G01	Life Sciences	4	U (0.23)	0.058	8500	2
VOC	Methyl tert-butyl ether	201-A01	Phase 1A	7	0.0005 - 67.5	10.8	8500	2
VOC	Methyl tert-butyl ether	201-A02	Phase 1A	14	0.00037 - 6.8	2.6	8500	2
VOC	Methyl tert-butyl ether	201-A03	Phase 1A	7	0.00064 - 16	6.2	8500	2
VOC	Methyl tert-butyl ether	201-A04	Phase 1A	31	U (20) - 21	3.1	8500	2
VOC	Methyl tert-butyl ether	201-A05	Phase 1A	9	0.37 - 3	0.64	8500	2
VOC	Methyl tert-butyl ether	201-A06	Phase 1A	10	U (0.47) - 0.76	0.12	8500	2
VOC	Methyl tert-butyl ether	201-A07	Phase 1A	12	0.015 - 22	3.4	8500	2
VOC	Methyl tert-butyl ether	201-A08	Phase 1A	7	0.014 - 0.02	0.059	8500	2
VOC	Methyl tert-butyl ether	201-A09	Phase 1A	8	U (3.6) - 12	2.0	8500	2
VOC	Methyl tert-butyl ether	201-A10	Phase 1A	8	U (0.19) - 0.012	0.023	8500	2
VOC	Methyl tert-butyl ether	201-A11	Phase 1A	8	U (7) - 0.0018	0.46	8500	2
VOC	Methyl tert-butyl ether	201-A12	Phase 1A	16	0.00044 - 0.11	0.044	8500	2
VOC	Methyl tert-butyl ether	201-A13	Phase 1A	17	U (3.1) - 1	0.23	8500	2
VOC	Methyl tert-butyl ether	201-A14	Phase 1A	21	U (0.27) - 0.0047	0.060	8500	2
VOC	Methyl tert-butyl ether	201-A15	Phase 1A	8	U (0.84) - 0.019	0.12	8500	2
VOC	Methyl tert-butyl ether	201-B01	Phase 1A	4	U (0.17) - 0.066	0.070	8500	2
VOC	Methyl tert-butyl ether	201-B02	Phase 1A	10	U (3.4) - 0.59	0.44	8500	2
VOC	Methyl tert-butyl ether	201-B03	Phase 1A	1	U (0.14)	0.070	8500	2
VOC	Methyl tert-butyl ether	201-B04	Phase 1A	11	0.0004 - 0.42	0.14	8500	2
VOC	Methyl tert-butyl ether	201-B05	Phase 1A	3	U (0.15)	0.067	8500	2
VOC	Methyl tert-butyl ether	201-B06	Phase 1A	1	U (0.26)	0.13	8500	2
VOC	Methyl tert-butyl ether	201-B07	Phase 1A	14	U (0.67)	0.11	8500	2
VOC	Methyl tert-butyl ether	201-B08	Phase 1A	10	U (0.13) - 0.0088	0.012	8500	2
VOC	Methyl tert-butyl ether	201-B09	Phase 1A	10	U (1.1) - 0.92	0.13	8500	2
VOC	Methyl tert-butyl ether	201-B11	Phase 1A	31	0.00024 - 0.03	0.025	8500	2
VOC	Methyl tert-butyl ether	201-B12	Phase 1A	18	0.00026 - 0.0088	0.058	8500	2
VOC	Methyl tert-butyl ether	201-C01	Phase 1A	15	U (3) - 0.048	0.19	8500	2
VOC	Methyl tert-butyl ether	201-C02	Phase 1A	2	U (0.0022)	0.0011	8500	2
VOC	Methyl tert-butyl ether	201-C04	Phase 1A	14	U (0.52)	0.064	8500	2
VOC	Methyl tert-butyl ether	201-C05	Phase 1A	3	0.0042 - 0.0042	0.12	8500	2
VOC	Methyl tert-butyl ether	201-C06	Phase 1A	14	U (0.26)	0.038	8500	2
VOC	Methyl tert-butyl ether	201-C07	Phase 1A	11	U (0.79)	0.17	8500	2
VOC	Methyl tert-butyl ether	201-C08	Phase 1A	19	0.0083 - 0.019	0.27	8500	2
VOC	Methyl tert-butyl ether	201-C09	Phase 1A	7	U (0.093)	0.0076	8500	2
VOC	Methyl tert-butyl ether	201-C10	Phase 1A	4	U (0.225)	0.029	8500	2
VOC	Methyl tert-butyl ether	201-C11	Phase 1A	1	U (0.092)	0.046	8500	2
VOC	Methyl tert-butyl ether	201-D01	Phase 1A	4	U (0.0061)	0.0023	8500	2
VOC	Methyl tert-butyl ether	201-D05	Phase 1A	8	U (3.5)	0.24	8500	2
VOC	Methyl tert-butyl ether	201-D08	Phase 1A	1	U (0.0011)	0.00055	8500	2
VOC	Methyl tert-butyl ether	201-D12	Phase 1A	3	U (0.0023)	0.0010	8500	2
VOC	Methyl tert-butyl ether	201-E01	Phase 1A	65	U (0.91) - 0.21	0.071	8500	2
VOC	Methyl tert-butyl ether	201-E02	Phase 1A	1	U (0.002)	0.0010	8500	2
VOC	Methyl tert-butyl ether	201-E03	Phase 1A	3	U (0.0045)	0.0019	8500	2
VOC	Methyl tert-butyl ether	201-E04	Phase 1A	3	U (0.0019)	0.00073	8500	2
VOC	Methyl tert-butyl ether	201-E05	Phase 1A	26	U (1.3) - 0.00032	0.080	8500	2
VOC	Methyl tert-butyl ether	201-F01	Phase 1A	51	U (0.45)	0.037	8500	2
VOC	Methyl tert-butyl ether	201-F02	Phase 1A	7	U (0.22)	0.027	8500	2
VOC	Methyl tert-butyl ether	201-F03	Phase 1A	31	U (3.3)	0.15	8500	2
VOC	Methyl tert-butyl ether	201-F04	Phase 1A	20	U (1.5)	0.11	8500	2
VOC	Methyl tert-butyl ether	202-A03	Phase 1A	8	U (0.38) - 0.0016	0.037	8500	2
VOC	Methyl tert-butyl ether	202-A05	Phase 1A	4	U (0.0022)	0.0011	8500	2
VOC	Methyl tert-butyl ether	202-A06	Phase 1A	4	U (0.002)	0.00091	8500	2
VOC	Methyl tert-butyl ether	202-A07	Phase 1A	3	U (0.0023)	0.0010	8500	2
VOC	Methyl tert-butyl ether	202-A08	Phase 1A	3	0.00032 - 0.0042	0.0019	8500	2
VOC	Methyl tert-butyl ether	202-A09	Phase 1A	6	0.00048 - 0.002	0.0014	8500	2
VOC	Methyl tert-butyl ether	202-B01	Phase 1A	2	U (0.0049)	0.0020	8500	2
VOC	Methyl tert-butyl ether	202-B03	Phase 1A	15	U (0.21) - 0.0012	0.015	8500	2
VOC	Methyl tert-butyl ether	202-B04	Phase 1A	3	U (0.0021)	0.0010	8500	2
VOC	Methyl tert-butyl ether	202-B09	Phase 1A	9	U (0.13) - 0.0051	0.0087	8500	2
VOC	Methyl tert-butyl ether	202-C04	Phase 1A	7	U (0.0043)	0.0014	8500	2
VOC	Methyl tert-butyl ether	202-C06	Phase 1A	1	0.00054 - 0.00054	0.00054	8500	2
VOC	Methyl tert-butyl ether	202-C07	Phase 1A	1	U (0.00088)	0.00044	8500	2
VOC	Methyl tert-butyl ether	202-C10	Phase 1A	1	U (0.005)	0.0025	8500	2
VOC	Methyl tert-butyl ether	202-D05	Phase 1A	3	U (0.11)	0.035	8500	2
VOC	Methyl tert-butyl ether	202-D06	Phase 1A	3	U (0.00088)	0.00044	8500	2
VOC	Methyl tert-butyl ether	202-E06	Phase 1A	2	U (0.0032)	0.0013	8500	2
VOC	Methyl tert-butyl ether	202-E08	Phase 1A	11	0.00054 - 0.00054	0.0059	8500	2
VOC	Methyl tert-butyl ether	202-E09	Phase 1A	13	U (0.14)	0.016	8500	2
VOC	Methyl tert-butyl ether	202-E10	Phase 1A	4	U (0.0021) - 0.0003	0.00081	8500	2

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Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Methyl tert-butyl ether	202-E12	Phase 1A	2	U (0.0022)	0.0010	8500	2
VOC	Methyl tert-butyl ether	202-F04	Phase 1A	7	U (0.13) - 0.00074	0.010	8500	2
VOC	Methyl tert-butyl ether	202-F05	Phase 1A	1	U (0.0022)	0.0011	8500	2
VOC	Methyl tert-butyl ether	202-F07	Phase 1A	9	U (0.51)	0.066	8500	2
VOC	Methyl tert-butyl ether	202-F08	Phase 1A	3	U (0.005)	0.0016	8500	2
VOC	Methyl tert-butyl ether	202-F10	Phase 1A	2	U (0.11)	0.028	8500	2
VOC	Methyl tert-butyl ether	202-F13	Phase 1A	1	U (0.006)	0.0030	8500	2
VOC	Methyl tert-butyl ether	202-F14	Phase 1A	2	U (0.0011)	0.00050	8500	2
VOC	Methyl tert-butyl ether	202-F16	Phase 1A	2	U (0.005)	0.0015	8500	2
VOC	Methyl tert-butyl ether	202-F17	Phase 1A	8	U (0.0043)	0.0014	8500	2
VOC	Methyl tert-butyl ether	202-G01	Phase 1A	8	U (0.0023)	0.0010	8500	2
VOC	Methyl tert-butyl ether	202-G02	Phase 1A	13	U (0.13)	0.0059	8500	2
VOC	Methyl tert-butyl ether	202-G03	Phase 1A	9	U (0.0024)	0.00092	8500	2
VOC	Methyl tert-butyl ether	202-G04	Phase 1A	1	U (0.0012)	0.00060	8500	2
VOC	Methyl tert-butyl ether	202-G05	Phase 1A	1	U (0.0009)	0.00045	8500	2
VOC	Methyl tert-butyl ether	202-G07	Phase 1A	16	U (0.15)	0.0058	8500	2
VOC	Methyl tert-butyl ether	202-H03	Phase 1A	6	U (0.59)	0.11	8500	2
VOC	Methyl tert-butyl ether	202-H05	Phase 1A	1	U (0.0011)	0.00055	8500	2
VOC	Methyl tert-butyl ether	202-H06	Phase 1A	2	U (0.0013)	0.00058	8500	2
VOC	Methyl tert-butyl ether	202-H07	Phase 1A	2	U (0.0011)	0.00053	8500	2
VOC	Methyl tert-butyl ether	202-H08	Phase 1A	3	0.00032 - 0.0012	0.00084	8500	2
VOC	Methyl tert-butyl ether	202-H09	Phase 1A	4	U (0.016)	0.0029	8500	2
VOC	Methyl tert-butyl ether	202-H11	Phase 1A	10	U (0.14) - 0.013	0.015	8500	2
VOC	Methyl tert-butyl ether	202-I01	Phase 1A	2	U (0.0021)	0.0010	8500	2
VOC	Methyl tert-butyl ether	202-I04	Phase 1A	4	0.016 - 0.02	0.0098	8500	2
VOC	Methyl tert-butyl ether	202-J01	Phase 1A	6	U (0.12)	0.011	8500	2
VOC	Methyl tert-butyl ether	202-J02	Phase 1A	5	U (0.12)	0.013	8500	2
VOC	Methyl tert-butyl ether	202-J03	Phase 1A	9	U (1.6)	0.25	8500	2
VOC	Methyl tert-butyl ether	202-J04	Phase 1A	8	U (0.34)	0.089	8500	2
VOC	Methyl tert-butyl ether	202-J07	Phase 1A	2	U (0.11)	0.029	8500	2
VOC	Methyl tert-butyl ether	202-J09	Phase 1A	2	U (0.91)	0.23	8500	2
VOC	Methyl tert-butyl ether	301-AA01	Phase 1A	1	U (0.0014)	0.00070	8500	2
VOC	Methyl tert-butyl ether	301-AA06	Phase 1A	11	U (0.67)	0.052	8500	2
VOC	Methyl tert-butyl ether	301-AA07	Phase 1A	4	U (0.0022) - 0.0061	0.0027	8500	2
VOC	Methyl tert-butyl ether	301-AA08	Phase 1A	3	U (0.28)	0.086	8500	2
VOC	Methyl tert-butyl ether	301-AA09	Phase 1A	3	U (0.48)	0.17	8500	2
VOC	Methyl tert-butyl ether	301-AB04	Phase 1A	3	U (0.09)	0.015	8500	2
VOC	Methyl tert-butyl ether	301-AB06	Phase 1A	2	U (0.0038)	0.0019	8500	2
VOC	Methyl tert-butyl ether	301-AB07	Phase 1A	1	U (0.005)	0.0025	8500	2
VOC	Methyl tert-butyl ether	301-AB09	Phase 1A	2	U (0.0059)	0.0026	8500	2
VOC	Methyl tert-butyl ether	301-AC04	Phase 1A	25	U (0.39)	0.045	8500	2
VOC	Methyl tert-butyl ether	301-AC07	Phase 1A	10	U (0.0028)	0.0011	8500	2
VOC	Methyl tert-butyl ether	301-AC08	Phase 1A	7	U (0.5)	0.037	8500	2
VOC	Methyl tert-butyl ether	301-AC09	Phase 1A	6	U (0.0022)	0.00093	8500	2
VOC	Methyl tert-butyl ether	301-B01	Phase 1A	1	U (0.0058)	0.0029	8500	2
VOC	Methyl tert-butyl ether	301-C01	Phase 1A	3	0.62 - 0.62	0.85	8500	2
VOC	Methyl tert-butyl ether	301-C02	Phase 1A	9	0.017 - 2.9	0.40	8500	2
VOC	Methyl tert-butyl ether	301-D01	Phase 1A	32	0.016 - 120	7.5	8500	2
VOC	Methyl tert-butyl ether	301-E02	Phase 1A	32	U (6.9) - 1.8	0.43	8500	2
VOC	Methyl tert-butyl ether	301-E03	Phase 1A	5	U (0.31) - 0.09	0.060	8500	2
VOC	Methyl tert-butyl ether	301-F02	Phase 1A	8	U (0.6) - 0.12	0.087	8500	2
VOC	Methyl tert-butyl ether	301-G01	Phase 1A	2	U (0.95) - 0.4	0.23	8500	2
VOC	Methyl tert-butyl ether	301-G02	Phase 1A	3	0.0007 - 0.37	0.13	8500	2
VOC	Methyl tert-butyl ether	301-G03	Phase 1A	1	U (0.079)	0.040	8500	2
VOC	Methyl tert-butyl ether	301-H01	Phase 1A	20	U (0.63) - 2.6	0.29	8500	2
VOC	Methyl tert-butyl ether	301-H02	Phase 1A	3	0.0009 - 0.004	0.0020	8500	2
VOC	Methyl tert-butyl ether	301-H03	Phase 1A	2	U (0.12)	0.038	8500	2
VOC	Methyl tert-butyl ether	301-I01	Phase 1A	9	U (1.1) - 0.00041	0.085	8500	2
VOC	Methyl tert-butyl ether	301-I02	Phase 1A	1	U (0.13)	0.065	8500	2
VOC	Methyl tert-butyl ether	301-J01	Phase 1A	4	U (0.24)	0.060	8500	2
VOC	Methyl tert-butyl ether	301-J02	Phase 1A	7	U (0.28) - 0.082	0.074	8500	2
VOC	Methyl tert-butyl ether	301-K01	Phase 1A	9	U (0.6) - 0.0013	0.10	8500	2
VOC	Methyl tert-butyl ether	301-K02	Phase 1A	3	U (0.24)	0.082	8500	2
VOC	Methyl tert-butyl ether	301-L02	Phase 1A	8	U (6) - 0.00058	0.43	8500	2
VOC	Methyl tert-butyl ether	301-L03	Phase 1A	5	U (0.26)	0.073	8500	2
VOC	Methyl tert-butyl ether	301-M02	Phase 1A	5	U (0.22) - 0.031	0.031	8500	2
VOC	Methyl tert-butyl ether	301-M03	Phase 1A	3	U (0.22)	0.037	8500	2
VOC	Methyl tert-butyl ether	301-N02	Phase 1A	3	U (0.22) - 0.0076	0.073	8500	2
VOC	Methyl tert-butyl ether	301-P02	Phase 1A	2	U (0.13)	0.063	8500	2
VOC	Methyl tert-butyl ether	301-Q04	Phase 1A	6	0.00085 - 0.0011	0.029	8500	2
VOC	Methyl tert-butyl ether	301-R02	Phase 1A	6	U (0.26)	0.024	8500	2
VOC	Methyl tert-butyl ether	301-S02	Phase 1A	4	U (0.0054)	0.0025	8500	2
VOC	Methyl tert-butyl ether	301-T04	Phase 1A	2	U (0.3)	0.076	8500	2
VOC	Methyl tert-butyl ether	301-V04	Phase 1A	30	U (1.3) - 0.0065	0.074	8500	2
VOC	Methyl tert-butyl ether	301-W03	Phase 1A	4	U (0.27)	0.098	8500	2
VOC	Methyl tert-butyl ether	301-X03	Phase 1A	3	U (0.25)	0.079	8500	2
VOC	Methyl tert-butyl ether	301-Y03	Phase 1A	2	0.492 - 0.492	0.25	8500	2
VOC	Methyl tert-butyl ether	301-Y04	Phase 1A	3	U (0.28)	0.092	8500	2
VOC	Methyl tert-butyl ether	301-Y05	Phase 1A	6	U (1.2)	0.20	8500	2
VOC	Methyl tert-butyl ether	302-AD08	Phase 1A	2	U (0.0024)	0.0011	8500	2
VOC	Methyl tert-butyl ether	302-AD09	Phase 1A	3	U (0.0011)	0.00052	8500	2
VOC	Methyl tert-butyl ether	302-AD10	Phase 1A	4	U (0.24)	0.061	8500	2
VOC	Methyl tert-butyl ether	302-AE09	Phase 1A	4	U (0.0019)	0.00091	8500	2

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Methyl tert-butyl ether	302-AF06	Phase 1A	9	U (0.61)	0.035	8500	2
VOC	Methyl tert-butyl ether	302-AG07	Phase 1A	7	U (0.0027) - 0.00047	0.00091	8500	2
VOC	Methyl tert-butyl ether	302-AN02	Phase 1A	2	U (0.0012)	0.00057	8500	2
VOC	Methyl tert-butyl ether	302-AO03	Phase 1A	2	U (0.00127)	0.00060	8500	2
VOC	Methyl tert-butyl ether	302-AQ02	Phase 1A	9	U (0.5) - 0.0035	0.091	8500	2
VOC	Methyl tert-butyl ether	302-AR02	Phase 1A	4	U (0.0025)	0.0011	8500	2
VOC	Methyl tert-butyl ether	302-AS03	Phase 1A	13	U (0.11)	0.0072	8500	2
VOC	Methyl tert-butyl ether	302-AV01	Phase 1A	6	U (0.008) - 0.0009	0.0015	8500	2
VOC	Methyl tert-butyl ether	302-AV03	Phase 1A	6	U (0.11)	0.010	8500	2
VOC	Methyl tert-butyl ether	302-AW01	Phase 1A	8	U (0.49)	0.100	8500	2
VOC	Methyl tert-butyl ether	302-AW03	Phase 1A	2	U (0.0019)	0.00090	8500	2
VOC	Methyl tert-butyl ether	302-AX01	Phase 1A	4	U (0.006)	0.0017	8500	2
VOC	Methyl tert-butyl ether	302-AX05	Phase 1A	2	U (0.00125)	0.00060	8500	2
VOC	Methyl tert-butyl ether	302-AZ05	Phase 1A	3	U (0.005)	0.0017	8500	2
VOC	Methyl tert-butyl ether	302-BA05	Phase 1A	2	U (0.214)	0.054	8500	2
VOC	Methyl tert-butyl ether	302-BB06	Phase 1A	5	U (0.12)	0.025	8500	2
VOC	Methyl tert-butyl ether	302-BC05	Phase 1A	19	U (0.13)	0.0048	8500	2
VOC	Methyl tert-butyl ether	302-BE04	Phase 1A	2	U (0.006)	0.0028	8500	2
VOC	Methyl tert-butyl ether	303-AY01	Phase 1A	6	U (0.005)	0.0019	8500	2
VOC	Methyl tert-butyl ether	303-AZ01	Phase 1A	5	U (5.2)	1.4	8500	2
VOC	Methyl tert-butyl ether	303-BA01	Phase 1A	8	U (0.0038)	0.0012	8500	2
VOC	Methyl tert-butyl ether	303-BA02	Phase 1A	7	U (0.49) - 0.017	0.066	8500	2
VOC	Methyl tert-butyl ether	303-BB01	Phase 1A	2	U (0.005)	0.0023	8500	2
VOC	Methyl tert-butyl ether	303-BB02	Phase 1A	5	U (0.64)	0.065	8500	2
VOC	Methyl tert-butyl ether	303-BC01	Phase 1A	4	U (0.0011)	0.00050	8500	2
VOC	Methyl tert-butyl ether	303-BD04	Phase 1A	6	U (0.25)	0.022	8500	2
VOC	Methyl tert-butyl ether	303-BE03	Phase 1A	10	U (0.22)	0.017	8500	2
VOC	Methyl tert-butyl ether	303-BF05	Phase 1A	13	U (2.2) - 0.00075	0.14	8500	2
VOC	Methyl tert-butyl ether	303-BG04	Phase 1A	27	U (8.5) - 0.0029	0.22	8500	2
VOC	Methyl tert-butyl ether	303-BH02	Phase 1A	20	U (0.42) - 0.0089	0.042	8500	2
VOC	Methyl tert-butyl ether	303-BI03	Phase 1A	6	U (0.0037)	0.0016	8500	2
VOC	Methyl tert-butyl ether	303-BJ01	Phase 1A	3	U (0.27)	0.062	8500	2
VOC	Methyl tert-butyl ether	303-BJ02	Phase 1A	3	0.00071 - 0.00071	0.00053	8500	2
VOC	Methyl tert-butyl ether	303-BK03	Phase 1A	7	U (1.5)	0.20	8500	2
VOC	Methyl tert-butyl ether	303-BL02	Phase 1A	13	U (0.19)	0.015	8500	2
VOC	Methyl tert-butyl ether	303-BM02	Phase 1A	1	U (0.0017)	0.00085	8500	2
VOC	Methyl tert-butyl ether	303-BN02	Phase 1A	15	U (0.25)	0.021	8500	2
VOC	Methyl tert-butyl ether	303-BN03	Phase 1A	14	U (0.34)	0.019	8500	2
VOC	Methyl tert-butyl ether	303-BO02	Phase 1A	18	U (5.3)	0.30	8500	2
VOC	Methyl tert-butyl ether	303-BP02	Phase 1A	43	U (97)	4.3	8500	2
VOC	Methyl tert-butyl ether	303-BQ01	Phase 1A	5	U (0.42) - 0.00054	0.11	8500	2
VOC	Methyl tert-butyl ether	303-BQ02	Phase 1A	25	U (22)	1.1	8500	2
VOC	Methyl tert-butyl ether	303-BR02	Phase 1A	8	U (0.41)	0.085	8500	2
VOC	Methyl tert-butyl ether	303-BT01	Phase 1A	13	U (2.9)	0.12	8500	2
VOC	Methyl tert-butyl ether	303-BW01	Phase 1A	2	U (0.37)	0.11	8500	2
VOC	Methyl tert-butyl ether	301-AA02	Phase 1B	2	U (0.001)	0.00049	8500	2
VOC	Methyl tert-butyl ether	301-AA05	Phase 1B	11	U (0.1)	0.013	8500	2
VOC	Methyl tert-butyl ether	301-AB05	Phase 1B	6	U (0.22)	0.019	8500	2
VOC	Methyl tert-butyl ether	301-AC03	Phase 1B	2	U (0.005)	0.0015	8500	2
VOC	Methyl tert-butyl ether	301-T01	Phase 1B	5	U (0.59)	0.10	8500	2
VOC	Methyl tert-butyl ether	301-T02	Phase 1B	2	U (0.6)	0.17	8500	2
VOC	Methyl tert-butyl ether	301-U01	Phase 1B	2	U (0.29)	0.073	8500	2
VOC	Methyl tert-butyl ether	301-U03	Phase 1B	1	U (0.005)	0.0025	8500	2
VOC	Methyl tert-butyl ether	301-V01	Phase 1B	7	U (0.1)	0.026	8500	2
VOC	Methyl tert-butyl ether	301-V02	Phase 1B	20	U (0.54)	0.054	8500	2
VOC	Methyl tert-butyl ether	301-W01	Phase 1B	24	U (0.29)	0.020	8500	2
VOC	Methyl tert-butyl ether	301-X01	Phase 1B	9	U (0.5)	0.056	8500	2
VOC	Methyl tert-butyl ether	301-Y01	Phase 1B	5	U (0.1)	0.010	8500	2
VOC	Methyl tert-butyl ether	301-Z01	Phase 1B	6	U (0.0011)	0.00050	8500	2
VOC	Methyl tert-butyl ether	301-Z02	Phase 1B	2	U (0.005)	0.0013	8500	2
VOC	Methyl tert-butyl ether	301-Z03	Phase 1B	5	U (0.21)	0.031	8500	2
VOC	Methyl tert-butyl ether	302-AD06	Phase 1B	12	U (0.11)	0.0095	8500	2
VOC	Methyl tert-butyl ether	302-AD07	Phase 1B	2	U (0.0025)	0.0011	8500	2
VOC	Methyl tert-butyl ether	302-AE04	Phase 1B	8	U (0.15)	0.019	8500	2
VOC	Methyl tert-butyl ether	302-AE05	Phase 1B	20	U (0.0055)	0.0012	8500	2
VOC	Methyl tert-butyl ether	302-AE07	Phase 1B	3	U (0.095)	0.016	8500	2
VOC	Methyl tert-butyl ether	302-AE08	Phase 1B	3	U (0.0021)	0.0010	8500	2
VOC	Methyl tert-butyl ether	302-AF04	Phase 1B	11	U (0.12)	0.012	8500	2
VOC	Methyl tert-butyl ether	302-AF05	Phase 1B	2	U (0.051)	0.013	8500	2
VOC	Methyl tert-butyl ether	302-AF09	Phase 1B	5	U (0.1)	0.010	8500	2
VOC	Methyl tert-butyl ether	302-AG04	Phase 1B	3	U (0.14)	0.024	8500	2
VOC	Methyl tert-butyl ether	302-AG06	Phase 1B	5	U (0.21)	0.031	8500	2
VOC	Methyl tert-butyl ether	302-AH04	Phase 1B	8	U (0.034)	0.016	8500	2
VOC	Methyl tert-butyl ether	302-AH05	Phase 1B	11	U (0.12)	0.026	8500	2
VOC	Methyl tert-butyl ether	302-AH06	Phase 1B	4	U (0.0013) - 0.0177	0.0051	8500	2
VOC	Methyl tert-butyl ether	302-AH07	Phase 1B	12	U (0.005) - 0.014	0.0020	8500	2
VOC	Methyl tert-butyl ether	302-AI05	Phase 1B	12	U (0.12) - 0.00057	0.016	8500	2
VOC	Methyl tert-butyl ether	302-AI06	Phase 1B	19	0.00024 - 0.0067	0.0037	8500	2
VOC	Methyl tert-butyl ether	302-AI07	Phase 1B	8	0.0017 - 0.205	0.071	8500	2
VOC	Methyl tert-butyl ether	302-AI08	Phase 1B	2	U (0.099)	0.026	8500	2
VOC	Methyl tert-butyl ether	302-AI09	Phase 1B	3	U (0.00089)	0.00037	8500	2
VOC	Methyl tert-butyl ether	302-AJ05	Phase 1B	2	U (0.0024)	0.0012	8500	2
VOC	Methyl tert-butyl ether	302-AJ06	Phase 1B	5	U (0.0035) - 0.00043	0.0011	8500	2

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Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Methyl tert-butyl ether	302-AK05	Phase 1B	2	U (0.00118)	0.00058	8500	2
VOC	Methyl tert-butyl ether	302-AK07	Phase 1B	2	U (0.202)	0.051	8500	2
VOC	Methyl tert-butyl ether	302-AL03	Phase 1B	2	U (0.5)	0.13	8500	2
VOC	Methyl tert-butyl ether	302-AL08	Phase 1B	2	U (0.0009)	0.00038	8500	2
VOC	Methyl tert-butyl ether	302-AN01	Phase 1B	2	U (0.0012)	0.00055	8500	2
VOC	Methyl tert-butyl ether	302-AN03	Phase 1B	1	U (0.004)	0.0020	8500	2
VOC	Methyl tert-butyl ether	302-AO05	Phase 1B	1	U (0.005)	0.0025	8500	2
VOC	Methyl tert-butyl ether	302-AP02	Phase 1B	2	U (0.0013)	0.00063	8500	2
VOC	Methyl tert-butyl ether	302-AP03	Phase 1B	17	U (0.083)	0.0033	8500	2
VOC	Methyl tert-butyl ether	302-AP04	Phase 1B	3	U (0.005)	0.0012	8500	2
VOC	Methyl tert-butyl ether	302-AP05	Phase 1B	2	U (0.0014)	0.00068	8500	2
VOC	Methyl tert-butyl ether	302-AQ01	Phase 1B	2	U (0.006)	0.0030	8500	2
VOC	Methyl tert-butyl ether	302-AQ04	Phase 1B	2	U (0.00088)	0.00043	8500	2
VOC	Methyl tert-butyl ether	302-AR01	Phase 1B	2	U (0.006)	0.0028	8500	2
VOC	Methyl tert-butyl ether	302-AR04	Phase 1B	3	U (0.0011)	0.00050	8500	2
VOC	Methyl tert-butyl ether	302-AS04	Phase 1B	2	U (0.00127)	0.00062	8500	2
VOC	Methyl tert-butyl ether	302-AT02	Phase 1B	2	U (0.23)	0.058	8500	2
VOC	Methyl tert-butyl ether	302-AT03	Phase 1B	4	U (0.11)	0.014	8500	2
VOC	Methyl tert-butyl ether	302-AU01	Phase 1B	2	U (0.001)	0.00047	8500	2
VOC	Methyl tert-butyl ether	302-AU02	Phase 1B	8	U (0.11)	0.0080	8500	2
VOC	Methyl tert-butyl ether	302-AU03	Phase 1B	2	U (0.0019)	0.00090	8500	2
VOC	Methyl tert-butyl ether	302-AV02	Phase 1B	4	U (0.11)	0.014	8500	2
VOC	Methyl tert-butyl ether	302-AV04	Phase 1B	2	U (0.00126)	0.00062	8500	2
VOC	Methyl tert-butyl ether	302-AW02	Phase 1B	2	U (0.28)	0.071	8500	2
VOC	Methyl tert-butyl ether	302-AX02	Phase 1B	3	U (0.11)	0.019	8500	2
VOC	Methyl tert-butyl ether	302-AY02	Phase 1B	11	U (2.3)	0.29	8500	2
VOC	Methyl tert-butyl ether	302-AY03	Phase 1B	2	U (0.0013)	0.00058	8500	2
VOC	Methyl tert-butyl ether	302-AY05	Phase 1B	2	U (0.00124)	0.00060	8500	2
VOC	Methyl tert-butyl ether	302-AZ02	Phase 1B	3	U (4.6)	0.77	8500	2
VOC	Methyl tert-butyl ether	302-AZ03	Phase 1B	1	U (0.31)	0.16	8500	2
VOC	Methyl tert-butyl ether	302-BB07	Phase 1B	17	U (1.2) - 0.00083	0.097	8500	2
VOC	Methyl tert-butyl ether	302-BB08	Phase 1B	1	U (0.005)	0.0025	8500	2
VOC	Methyl tert-butyl ether	302-BC06	Phase 1B	1	U (0.006)	0.0030	8500	2
VOC	Methyl tert-butyl ether	301-L01	Phase 1C	7	U (0.32)	0.076	8500	2
VOC	Methyl tert-butyl ether	301-T03	Phase 1C	2	U (0.0072)	0.0032	8500	2
VOC	Methyl tert-butyl ether	302-AD02	Phase 1C	2	U (0.004)	0.0011	8500	2
VOC	Methyl tert-butyl ether	302-AH01	Phase 1C	2	U (0.005)	0.0015	8500	2
VOC	Methyl tert-butyl ether	302-AH03	Phase 1C	2	U (0.032)	0.016	8500	2
VOC	Methyl tert-butyl ether	302-AI01	Phase 1C	2	U (0.0012)	0.00058	8500	2
VOC	Methyl tert-butyl ether	302-AI03	Phase 1C	1	U (0.029)	0.015	8500	2
VOC	Methyl tert-butyl ether	302-AI04	Phase 1C	2	U (0.03)	0.015	8500	2
VOC	Methyl tert-butyl ether	302-AJ04	Phase 1C	1	U (0.025)	0.013	8500	2
VOC	Methyl tert-butyl ether	302-AL01	Phase 1C	2	U (0.21)	0.053	8500	2
VOC	Toluene	LS-A-A01	Life Sciences	1	U (0.24)	0.12	10000	100
VOC	Toluene	LS-A-A02	Life Sciences	2	U (0.3)	0.075	10000	100
VOC	Toluene	LS-A-A03	Life Sciences	1	U (0.0014)	0.00070	10000	100
VOC	Toluene	LS-A-A04	Life Sciences	3	U (0.28)	0.093	10000	100
VOC	Toluene	LS-A-B02	Life Sciences	14	U (0.0012) - 0.00066	0.00050	10000	100
VOC	Toluene	LS-A-B03	Life Sciences	4	0.342 - 0.342	0.087	10000	100
VOC	Toluene	LS-A-C01	Life Sciences	28	U (0.22)	0.011	10000	100
VOC	Toluene	LS-A-C02	Life Sciences	12	U (1.5)	0.083	10000	100
VOC	Toluene	LS-A-C04	Life Sciences	3	U (0.21)	0.056	10000	100
VOC	Toluene	LS-A-D01	Life Sciences	5	0.176 - 0.42	0.21	10000	100
VOC	Toluene	LS-A-D02	Life Sciences	1	U (0.23)	0.12	10000	100
VOC	Toluene	LS-A-D03	Life Sciences	3	U (0.26)	0.045	10000	100
VOC	Toluene	LS-A-D04	Life Sciences	2	U (0.00608)	0.0029	10000	100
VOC	Toluene	LS-A-D05	Life Sciences	6	U (0.27)	0.057	10000	100
VOC	Toluene	LS-A-D06	Life Sciences	4	U (0.132)	0.019	10000	100
VOC	Toluene	LS-A-D07	Life Sciences	2	U (0.685)	0.17	10000	100
VOC	Toluene	LS-A-E01	Life Sciences	3	U (3.1)	0.59	10000	100
VOC	Toluene	LS-A-E03	Life Sciences	1	U (0.23)	0.12	10000	100
VOC	Toluene	LS-A-E04	Life Sciences	2	1.17 - 1.17	0.61	10000	100
VOC	Toluene	LS-A-E05	Life Sciences	1	U (0.22)	0.11	10000	100
VOC	Toluene	LS-A-E07	Life Sciences	7	U (1.2)	0.20	10000	100
VOC	Toluene	LS-A-E08	Life Sciences	6	U (0.51)	0.10	10000	100
VOC	Toluene	LS-A-F01	Life Sciences	3	U (3.17)	0.57	10000	100
VOC	Toluene	LS-A-F02	Life Sciences	3	4.2 - 4.2	1.5	10000	100
VOC	Toluene	LS-A-F03	Life Sciences	1	U (0.19)	0.10	10000	100
VOC	Toluene	LS-A-F04	Life Sciences	12	U (0.37)	0.045	10000	100
VOC	Toluene	LS-A-F05	Life Sciences	1	U (0.32)	0.16	10000	100
VOC	Toluene	LS-A-G01	Life Sciences	3	U (3.1)	0.74	10000	100
VOC	Toluene	LS-A-G02	Life Sciences	2	U (3.67)	1.2	10000	100
VOC	Toluene	LS-A-G03	Life Sciences	3	U (0.969)	0.23	10000	100
VOC	Toluene	LS-A-G07	Life Sciences	3	U (0.24)	0.042	10000	100
VOC	Toluene	LS-A-G08	Life Sciences	2	0.0169 - 0.0169	0.010	10000	100
VOC	Toluene	LS-A-H03	Life Sciences	2	U (0.00591)	0.0030	10000	100
VOC	Toluene	LS-A-H04	Life Sciences	2	0.00661 - 0.00661	0.029	10000	100
VOC	Toluene	LS-A-H06	Life Sciences	1	U (0.19)	0.10	10000	100
VOC	Toluene	LS-A-H07	Life Sciences	2	0.122 - 0.122	0.082	10000	100
VOC	Toluene	LS-A-I01	Life Sciences	6	U (0.946)	0.13	10000	100
VOC	Toluene	LS-A-I02	Life Sciences	1	U (0.18)	0.090	10000	100
VOC	Toluene	LS-A-I03	Life Sciences	3	U (0.707)	0.16	10000	100
VOC	Toluene	LS-B-B01	Life Sciences	1	U (0.0017)	0.00085	10000	100

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Toluene	LS-B-C01	Life Sciences	3	U (0.25)	0.077	10000	100
VOC	Toluene	LS-B-E01	Life Sciences	4	U (1.13) - 2.03	0.84	10000	100
VOC	Toluene	LS-B-G02	Life Sciences	1	U (0.00691)	0.0035	10000	100
VOC	Toluene	LS-B-H02	Life Sciences	3	U (1.18)	0.25	10000	100
VOC	Toluene	LS-E-B01	Life Sciences	94	0.00085 - 1500	16.3	10000	100
VOC	Toluene	LS-E-G01	Life Sciences	4	U (0.23)	0.059	10000	100
VOC	Toluene	201-A01	Phase 1A	7	0.026 - 110	18.6	10000	100
VOC	Toluene	201-A02	Phase 1A	14	0.0063 - 7700	705.5	10000	100
VOC	Toluene	201-A03	Phase 1A	7	0.0011 - 1900	360.9	10000	100
VOC	Toluene	201-A04	Phase 1A	32	0.0015 - 2700	256.0	10000	100
VOC	Toluene	201-A05	Phase 1A	9	0.67 - 200	52.4	10000	100
VOC	Toluene	201-A06	Phase 1A	10	U (0.24) - 0.37	0.073	10000	100
VOC	Toluene	201-A07	Phase 1A	12	0.088 - 540	69.1	10000	100
VOC	Toluene	201-A08	Phase 1A	7	0.14 - 22	3.2	10000	100
VOC	Toluene	201-A09	Phase 1A	8	0.012 - 150	27.9	10000	100
VOC	Toluene	201-A10	Phase 1A	8	U (0.47) - 65	8.1	10000	100
VOC	Toluene	201-A11	Phase 1A	8	U (3.5) - 9.8	2.1	10000	100
VOC	Toluene	201-A12	Phase 1A	16	0.0008 - 3.9	0.62	10000	100
VOC	Toluene	201-A13	Phase 1A	18	0.0069 - 510	69.6	10000	100
VOC	Toluene	201-A14	Phase 1A	21	U (0.27) - 0.68	0.12	10000	100
VOC	Toluene	201-A15	Phase 1A	8	U (0.42) - 0.047	0.070	10000	100
VOC	Toluene	201-B01	Phase 1A	4	U (0.86) - 42	10.5	10000	100
VOC	Toluene	201-B02	Phase 1A	10	0.052 - 180	18.3	10000	100
VOC	Toluene	201-B03	Phase 1A	1	0.19 - 0.19	0.19	10000	100
VOC	Toluene	201-B04	Phase 1A	11	0.0027 - 3.3	0.37	10000	100
VOC	Toluene	201-B05	Phase 1A	3	0.056 - 0.27	0.14	10000	100
VOC	Toluene	201-B06	Phase 1A	1	U (0.13)	0.065	10000	100
VOC	Toluene	201-B07	Phase 1A	21	0.001 - 0.041	0.055	10000	100
VOC	Toluene	201-B08	Phase 1A	10	U (0.072) - 0.11	0.027	10000	100
VOC	Toluene	201-B09	Phase 1A	10	0.00078 - 2	0.25	10000	100
VOC	Toluene	201-B10	Phase 1A	8	0.0027 - 0.39	0.10	10000	100
VOC	Toluene	201-B11	Phase 1A	33	U (0.13) - 0.53	0.038	10000	100
VOC	Toluene	201-B12	Phase 1A	18	U (0.14) - 0.257	0.071	10000	100
VOC	Toluene	201-C01	Phase 1A	15	0.00056 - 7.5	1.5	10000	100
VOC	Toluene	201-C02	Phase 1A	2	0.0027 - 0.03	0.016	10000	100
VOC	Toluene	201-C04	Phase 1A	14	0.0051 - 3	0.42	10000	100
VOC	Toluene	201-C05	Phase 1A	3	U (0.47)	0.12	10000	100
VOC	Toluene	201-C06	Phase 1A	14	U (0.13) - 1.3	0.23	10000	100
VOC	Toluene	201-C07	Phase 1A	11	0.14 - 32.7	3.7	10000	100
VOC	Toluene	201-C08	Phase 1A	20	0.00061 - 250	16.1	10000	100
VOC	Toluene	201-C09	Phase 1A	7	U (0.047)	0.0038	10000	100
VOC	Toluene	201-C10	Phase 1A	4	0.00018 - 0.388	0.098	10000	100
VOC	Toluene	201-C11	Phase 1A	1	1.92 - 1.92	1.9	10000	100
VOC	Toluene	201-D01	Phase 1A	4	U (0.0061)	0.0023	10000	100
VOC	Toluene	201-D05	Phase 1A	8	0.0006 - 5.7	1.1	10000	100
VOC	Toluene	201-D08	Phase 1A	1	U (0.0011)	0.00055	10000	100
VOC	Toluene	201-D12	Phase 1A	3	U (0.0011)	0.00050	10000	100
VOC	Toluene	201-E01	Phase 1A	69	U (25) - 550	9.0	10000	100
VOC	Toluene	201-E02	Phase 1A	1	U (0.001)	0.00050	10000	100
VOC	Toluene	201-E03	Phase 1A	3	U (0.0045)	0.0019	10000	100
VOC	Toluene	201-E04	Phase 1A	5	0.00075 - 37	9.3	10000	100
VOC	Toluene	201-E05	Phase 1A	22	0.00055 - 100	4.7	10000	100
VOC	Toluene	201-F01	Phase 1A	51	U (0.56) - 0.52	0.079	10000	100
VOC	Toluene	201-F02	Phase 1A	5	U (0.22) - 0.016	0.033	10000	100
VOC	Toluene	201-F03	Phase 1A	23	U (3.3) - 5.2	0.57	10000	100
VOC	Toluene	201-F04	Phase 1A	20	U (0.74) - 0.52	0.089	10000	100
VOC	Toluene	202-A03	Phase 1A	8	U (0.19) - 0.00079	0.019	10000	100
VOC	Toluene	202-A04	Phase 1A	4	0.14 - 0.14	0.16	10000	100
VOC	Toluene	202-A05	Phase 1A	4	U (0.0011)	0.00054	10000	100
VOC	Toluene	202-A06	Phase 1A	4	U (0.001)	0.00046	10000	100
VOC	Toluene	202-A07	Phase 1A	3	U (0.0011)	0.00050	10000	100
VOC	Toluene	202-A08	Phase 1A	3	U (0.0012)	0.00052	10000	100
VOC	Toluene	202-A09	Phase 1A	6	U (0.0011)	0.00049	10000	100
VOC	Toluene	202-B01	Phase 1A	2	U (0.0024) - 0.0015	0.0011	10000	100
VOC	Toluene	202-B02	Phase 1A	18	U (0.31) - 1.8	0.15	10000	100
VOC	Toluene	202-B03	Phase 1A	15	U (0.1)	0.0073	10000	100
VOC	Toluene	202-B04	Phase 1A	3	U (0.001)	0.00047	10000	100
VOC	Toluene	202-B05	Phase 1A	4	U (0.056)	0.025	10000	100
VOC	Toluene	202-B09	Phase 1A	9	U (0.064)	0.0040	10000	100
VOC	Toluene	202-C04	Phase 1A	15	U (0.31) - 0.0047	0.028	10000	100
VOC	Toluene	202-C05	Phase 1A	20	U (0.33) - 3.4	0.30	10000	100
VOC	Toluene	202-C06	Phase 1A	4	0.0024 - 0.032	0.015	10000	100
VOC	Toluene	202-C07	Phase 1A	8	U (0.32) - 1.7	0.31	10000	100
VOC	Toluene	202-C08	Phase 1A	4	0.034 - 2.7	1.6	10000	100
VOC	Toluene	202-C10	Phase 1A	1	U (0.005)	0.0025	10000	100
VOC	Toluene	202-D05	Phase 1A	5	U (0.52) - 140	28.0	10000	100
VOC	Toluene	202-D06	Phase 1A	11	U (0.26) - 29	6.4	10000	100
VOC	Toluene	202-E06	Phase 1A	2	0.001 - 0.001	0.00090	10000	100
VOC	Toluene	202-E08	Phase 1A	13	U (0.11) - 15	1.2	10000	100
VOC	Toluene	202-E09	Phase 1A	16	U (0.095) - 13	1.4	10000	100
VOC	Toluene	202-E10	Phase 1A	6	U (0.11) - 0.1	0.026	10000	100
VOC	Toluene	202-E11	Phase 1A	2	0.23 - 0.85	0.54	10000	100
VOC	Toluene	202-E12	Phase 1A	4	U (0.092)	0.020	10000	100

Table 3.4
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Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Toluene	202-E13	Phase 1A	2	3.3 - 3.4	3.4	10000	100
VOC	Toluene	202-E15	Phase 1A	2	0.61 - 3.4	2.0	10000	100
VOC	Toluene	202-F01	Phase 1A	7	0.1 - 1.5	0.31	10000	100
VOC	Toluene	202-F04	Phase 1A	10	U (0.067) - 0.087	0.020	10000	100
VOC	Toluene	202-F05	Phase 1A	2	U (0.059)	0.015	10000	100
VOC	Toluene	202-F06	Phase 1A	2	U (0.089)	0.037	10000	100
VOC	Toluene	202-F07	Phase 1A	17	0.039 - 0.182	0.068	10000	100
VOC	Toluene	202-F08	Phase 1A	5	U (0.057)	0.012	10000	100
VOC	Toluene	202-F10	Phase 1A	2	U (0.054)	0.014	10000	100
VOC	Toluene	202-F13	Phase 1A	1	U (0.006)	0.0030	10000	100
VOC	Toluene	202-F14	Phase 1A	2	U (0.0011)	0.00050	10000	100
VOC	Toluene	202-F16	Phase 1A	4	U (0.096) - 0.12	0.043	10000	100
VOC	Toluene	202-F17	Phase 1A	8	U (0.0021)	0.00070	10000	100
VOC	Toluene	202-G01	Phase 1A	8	U (0.0012)	0.00049	10000	100
VOC	Toluene	202-G02	Phase 1A	14	U (0.067)	0.0049	10000	100
VOC	Toluene	202-G03	Phase 1A	9	U (0.0012)	0.00048	10000	100
VOC	Toluene	202-G04	Phase 1A	3	U (0.61) - 26	8.7	10000	100
VOC	Toluene	202-G05	Phase 1A	6	U (0.096) - 3.3	1.0	10000	100
VOC	Toluene	202-G07	Phase 1A	16	U (0.075) - 0.0012	0.0029	10000	100
VOC	Toluene	202-H01	Phase 1A	2	U (0.21) - 2.7	1.4	10000	100
VOC	Toluene	202-H03	Phase 1A	11	U (1.7) - 94	14.6	10000	100
VOC	Toluene	202-H05	Phase 1A	8	U (0.31) - 5.2	0.94	10000	100
VOC	Toluene	202-H06	Phase 1A	2	U (0.0013)	0.00058	10000	100
VOC	Toluene	202-H07	Phase 1A	2	U (0.0011)	0.00053	10000	100
VOC	Toluene	202-H08	Phase 1A	3	U (0.0019)	0.00072	10000	100
VOC	Toluene	202-H09	Phase 1A	4	U (0.0078)	0.0014	10000	100
VOC	Toluene	202-H11	Phase 1A	10	U (0.071) - 0.051	0.0087	10000	100
VOC	Toluene	202-I01	Phase 1A	2	U (0.001)	0.00048	10000	100
VOC	Toluene	202-I04	Phase 1A	4	U (0.0018)	0.00073	10000	100
VOC	Toluene	202-J01	Phase 1A	6	U (0.061)	0.0056	10000	100
VOC	Toluene	202-J02	Phase 1A	5	U (0.062) - 0.25	0.051	10000	100
VOC	Toluene	202-J03	Phase 1A	9	U (0.78) - 6.6	2.0	10000	100
VOC	Toluene	202-J04	Phase 1A	8	0.00067 - 7.9	3.5	10000	100
VOC	Toluene	202-J05	Phase 1A	6	0.0027 - 0.0081	0.0035	10000	100
VOC	Toluene	202-J07	Phase 1A	4	0.0027 - 0.339	0.086	10000	100
VOC	Toluene	202-J08	Phase 1A	1	0.0054 - 0.0054	0.0054	10000	100
VOC	Toluene	202-J09	Phase 1A	2	0.1 - 0.16	0.13	10000	100
VOC	Toluene	301-AA01	Phase 1A	1	0.0053 - 0.0053	0.0053	10000	100
VOC	Toluene	301-AA06	Phase 1A	11	U (0.33)	0.026	10000	100
VOC	Toluene	301-AA07	Phase 1A	4	U (0.0012)	0.00047	10000	100
VOC	Toluene	301-AA08	Phase 1A	3	U (0.28)	0.086	10000	100
VOC	Toluene	301-AA09	Phase 1A	3	U (0.48)	0.17	10000	100
VOC	Toluene	301-AB04	Phase 1A	3	U (0.09)	0.015	10000	100
VOC	Toluene	301-AB06	Phase 1A	2	U (0.0019)	0.00093	10000	100
VOC	Toluene	301-AB07	Phase 1A	1	U (0.005)	0.0025	10000	100
VOC	Toluene	301-AB09	Phase 1A	2	0.0043 - 0.0043	0.0033	10000	100
VOC	Toluene	301-AC04	Phase 1A	25	U (0.39) - 0.19	0.053	10000	100
VOC	Toluene	301-AC07	Phase 1A	10	U (0.0014) - 0.0078	0.0017	10000	100
VOC	Toluene	301-AC08	Phase 1A	7	0.00064 - 0.0011	0.018	10000	100
VOC	Toluene	301-AC09	Phase 1A	6	U (0.0011)	0.00050	10000	100
VOC	Toluene	301-B01	Phase 1A	1	U (0.0058)	0.0029	10000	100
VOC	Toluene	301-C01	Phase 1A	3	0.0088 - 0.55	0.21	10000	100
VOC	Toluene	301-C02	Phase 1A	9	0.0047 - 0.094	0.091	10000	100
VOC	Toluene	301-D01	Phase 1A	32	0.0012 - 370	40.8	10000	100
VOC	Toluene	301-E02	Phase 1A	32	0.0021 - 2000	91.5	10000	100
VOC	Toluene	301-E03	Phase 1A	5	U (0.31) - 0.076	0.029	10000	100
VOC	Toluene	301-F02	Phase 1A	8	U (1) - 110	18.1	10000	100
VOC	Toluene	301-G01	Phase 1A	2	U (0.47) - 4	2.0	10000	100
VOC	Toluene	301-G02	Phase 1A	3	0.007 - 0.46	0.18	10000	100
VOC	Toluene	301-G03	Phase 1A	1	0.25 - 0.25	0.25	10000	100
VOC	Toluene	301-H01	Phase 1A	20	0.00083 - 180	17.0	10000	100
VOC	Toluene	301-H02	Phase 1A	4	0.002 - 0.024	0.0091	10000	100
VOC	Toluene	301-H03	Phase 1A	2	0.59 - 0.59	0.31	10000	100
VOC	Toluene	301-I01	Phase 1A	9	U (0.54) - 1.7	0.23	10000	100
VOC	Toluene	301-I02	Phase 1A	1	0.043 - 0.043	0.043	10000	100
VOC	Toluene	301-J01	Phase 1A	4	0.0013 - 0.12	0.053	10000	100
VOC	Toluene	301-J02	Phase 1A	8	U (0.31) - 42	6.6	10000	100
VOC	Toluene	301-K01	Phase 1A	9	0.0039 - 0.18	0.067	10000	100
VOC	Toluene	301-K02	Phase 1A	3	0.05 - 0.085	0.070	10000	100
VOC	Toluene	301-L02	Phase 1A	8	0.036 - 4.7	1.3	10000	100
VOC	Toluene	301-L03	Phase 1A	5	U (0.13) - 0.1	0.045	10000	100
VOC	Toluene	301-M02	Phase 1A	5	U (0.11) - 0.17	0.046	10000	100
VOC	Toluene	301-M03	Phase 1A	3	U (0.11) - 0.0094	0.023	10000	100
VOC	Toluene	301-N02	Phase 1A	3	U (0.22)	0.071	10000	100
VOC	Toluene	301-P02	Phase 1A	2	1.86 - 4.18	3.0	10000	100
VOC	Toluene	301-Q04	Phase 1A	6	U (0.234) - 0.0031	0.025	10000	100
VOC	Toluene	301-R02	Phase 1A	6	U (0.26)	0.024	10000	100
VOC	Toluene	301-S02	Phase 1A	4	U (0.0054)	0.0025	10000	100
VOC	Toluene	301-S03	Phase 1A	1	0.34 - 0.34	0.34	10000	100
VOC	Toluene	301-T04	Phase 1A	2	U (0.3)	0.076	10000	100
VOC	Toluene	301-V04	Phase 1A	30	U (1.3) - 0.49	0.068	10000	100
VOC	Toluene	301-W03	Phase 1A	4	U (0.27)	0.10	10000	100
VOC	Toluene	301-X03	Phase 1A	3	U (0.25)	0.079	10000	100

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Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Toluene	301-Y03	Phase 1A	2	U (0.12)	0.030	10000	100
VOC	Toluene	301-Y04	Phase 1A	3	U (0.28)	0.092	10000	100
VOC	Toluene	301-Y05	Phase 1A	6	0.00059 - 0.27	0.11	10000	100
VOC	Toluene	302-AD08	Phase 1A	2	U (0.0012)	0.00058	10000	100
VOC	Toluene	302-AD09	Phase 1A	3	U (0.0011)	0.00052	10000	100
VOC	Toluene	302-AD10	Phase 1A	4	1.9 - 4.2	1.5	10000	100
VOC	Toluene	302-AE09	Phase 1A	4	U (0.00095)	0.00046	10000	100
VOC	Toluene	302-AF06	Phase 1A	8	0.3 - 0.3	0.038	10000	100
VOC	Toluene	302-AG07	Phase 1A	14	U (0.057) - 0.002	0.013	10000	100
VOC	Toluene	302-AJ09	Phase 1A	2	U (0.054)	0.027	10000	100
VOC	Toluene	302-AK06	Phase 1A	1	U (0.057)	0.029	10000	100
VOC	Toluene	302-AL06	Phase 1A	2	U (0.052)	0.025	10000	100
VOC	Toluene	302-AN02	Phase 1A	2	U (0.00601)	0.0028	10000	100
VOC	Toluene	302-AO03	Phase 1A	2	U (0.00634)	0.0030	10000	100
VOC	Toluene	302-AQ02	Phase 1A	7	U (0.25) - 0.00073	0.050	10000	100
VOC	Toluene	302-AR02	Phase 1A	4	U (0.0013)	0.00053	10000	100
VOC	Toluene	302-AS03	Phase 1A	13	U (0.11)	0.0069	10000	100
VOC	Toluene	302-AV01	Phase 1A	12	0.003 - 41	3.7	10000	100
VOC	Toluene	302-AV03	Phase 1A	6	U (0.056) - 0.0057	0.0059	10000	100
VOC	Toluene	302-AW01	Phase 1A	12	U (6) - 6.2	1.7	10000	100
VOC	Toluene	302-AW03	Phase 1A	2	U (0.00096)	0.00046	10000	100
VOC	Toluene	302-AX01	Phase 1A	14	U (1) - 55	4.5	10000	100
VOC	Toluene	302-AX05	Phase 1A	2	U (0.00627)	0.0030	10000	100
VOC	Toluene	302-AZ05	Phase 1A	3	U (0.005)	0.0013	10000	100
VOC	Toluene	302-BA05	Phase 1A	2	U (1.07)	0.27	10000	100
VOC	Toluene	302-BB06	Phase 1A	5	U (0.06)	0.012	10000	100
VOC	Toluene	302-BC05	Phase 1A	19	U (0.067) - 0.014	0.0037	10000	100
VOC	Toluene	302-BE04	Phase 1A	2	U (0.006)	0.0028	10000	100
VOC	Toluene	303-AY01	Phase 1A	6	0.002 - 0.002	0.0014	10000	100
VOC	Toluene	303-AZ01	Phase 1A	5	0.002 - 1.2	0.98	10000	100
VOC	Toluene	303-BA01	Phase 1A	8	0.00089 - 0.0019	0.0010	10000	100
VOC	Toluene	303-BA02	Phase 1A	11	U (1.1) - 2.6	0.73	10000	100
VOC	Toluene	303-BB01	Phase 1A	2	U (0.005)	0.0023	10000	100
VOC	Toluene	303-BB02	Phase 1A	5	0.0016 - 0.81	0.16	10000	100
VOC	Toluene	303-BC01	Phase 1A	4	U (0.0011) - 0.0021	0.00090	10000	100
VOC	Toluene	303-BD04	Phase 1A	13	U (1.5) - 4.3	0.85	10000	100
VOC	Toluene	303-BE03	Phase 1A	36	0.071 - 4	0.68	10000	100
VOC	Toluene	303-BF05	Phase 1A	20	0.0008 - 9.1	0.85	10000	100
VOC	Toluene	303-BG04	Phase 1A	28	0.00096 - 17	1.7	10000	100
VOC	Toluene	303-BH02	Phase 1A	25	0.00086 - 6.9	0.85	10000	100
VOC	Toluene	303-BI03	Phase 1A	6	U (0.0019)	0.00081	10000	100
VOC	Toluene	303-BJ01	Phase 1A	3	U (0.14) - 0.089	0.038	10000	100
VOC	Toluene	303-BJ02	Phase 1A	3	U (0.0013)	0.00051	10000	100
VOC	Toluene	303-BK03	Phase 1A	7	U (0.77) - 0.34	0.13	10000	100
VOC	Toluene	303-BL02	Phase 1A	13	0.0008 - 6.8	0.53	10000	100
VOC	Toluene	303-BM02	Phase 1A	1	0.0014 - 0.0014	0.0014	10000	100
VOC	Toluene	303-BN02	Phase 1A	15	U (0.25) - 0.29	0.046	10000	100
VOC	Toluene	303-BN03	Phase 1A	14	0.003 - 0.2	0.047	10000	100
VOC	Toluene	303-BO02	Phase 1A	18	0.00064 - 3.9	0.36	10000	100
VOC	Toluene	303-BP02	Phase 1A	43	0.00074 - 6100	586.8	10000	100
VOC	Toluene	303-BQ01	Phase 1A	5	0.0004 - 1.2	0.37	10000	100
VOC	Toluene	303-BQ02	Phase 1A	25	0.0033 - 6200	469.6	10000	100
VOC	Toluene	303-BR02	Phase 1A	8	0.006 - 1.7	0.37	10000	100
VOC	Toluene	303-BT01	Phase 1A	13	U (2.9) - 1.7	0.15	10000	100
VOC	Toluene	303-BW01	Phase 1A	2	0.094 - 0.094	0.14	10000	100
VOC	Toluene	301-AA02	Phase 1B	2	U (0.001)	0.00049	10000	100
VOC	Toluene	301-AA05	Phase 1B	11	U (0.1) - 0.077	0.016	10000	100
VOC	Toluene	301-AB05	Phase 1B	6	U (0.22) - 0.00088	0.019	10000	100
VOC	Toluene	301-AC03	Phase 1B	2	U (0.005)	0.0015	10000	100
VOC	Toluene	301-T01	Phase 1B	5	0.133 - 0.133	0.12	10000	100
VOC	Toluene	301-T02	Phase 1B	7	0.096 - 0.33	0.14	10000	100
VOC	Toluene	301-U01	Phase 1B	2	U (0.29) - 0.14	0.070	10000	100
VOC	Toluene	301-U03	Phase 1B	1	U (0.005)	0.0025	10000	100
VOC	Toluene	301-V01	Phase 1B	7	0.0479 - 1.02	0.21	10000	100
VOC	Toluene	301-V02	Phase 1B	19	U (0.4)	0.034	10000	100
VOC	Toluene	301-W01	Phase 1B	24	U (0.28) - 0.931	0.053	10000	100
VOC	Toluene	301-X01	Phase 1B	11	U (0.4) - 0.54	0.067	10000	100
VOC	Toluene	301-Y01	Phase 1B	10	U (0.1) - 0.0714	0.014	10000	100
VOC	Toluene	301-Y02	Phase 1B	4	U (0.029) - 0.039	0.019	10000	100
VOC	Toluene	301-Z01	Phase 1B	6	U (0.0011)	0.00050	10000	100
VOC	Toluene	301-Z02	Phase 1B	2	U (0.005)	0.0013	10000	100
VOC	Toluene	301-Z03	Phase 1B	5	U (0.21)	0.031	10000	100
VOC	Toluene	302-AD06	Phase 1B	12	U (0.1)	0.0069	10000	100
VOC	Toluene	302-AD07	Phase 1B	2	U (0.0013)	0.00055	10000	100
VOC	Toluene	302-AE03	Phase 1B	4	U (0.053) - 0.56	0.23	10000	100
VOC	Toluene	302-AE04	Phase 1B	8	U (0.075) - 0.06	0.014	10000	100
VOC	Toluene	302-AE05	Phase 1B	20	U (0.0027) - 0.0026	0.00072	10000	100
VOC	Toluene	302-AE07	Phase 1B	3	U (0.095) - 0.00067	0.016	10000	100
VOC	Toluene	302-AE08	Phase 1B	3	U (0.001)	0.00049	10000	100
VOC	Toluene	302-AF03	Phase 1B	2	1.5 - 1.5	1.1	10000	100
VOC	Toluene	302-AF04	Phase 1B	22	U (0.12) - 0.39	0.035	10000	100
VOC	Toluene	302-AF05	Phase 1B	2	U (0.051)	0.013	10000	100
VOC	Toluene	302-AF09	Phase 1B	5	U (0.1) - 0.165	0.033	10000	100

Table 3.4

Evergreen and PESRM Sampling Results Summary

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Toluene	302-AG04	Phase 1B	9	U (0.14)	0.027	10000	100
VOC	Toluene	302-AG06	Phase 1B	5	U (0.21)	0.032	10000	100
VOC	Toluene	302-AG08	Phase 1B	6	U (0.19) - 0.52	0.13	10000	100
VOC	Toluene	302-AH04	Phase 1B	8	U (0.067)	0.031	10000	100
VOC	Toluene	302-AH05	Phase 1B	11	U (0.11)	0.016	10000	100
VOC	Toluene	302-AH06	Phase 1B	4	U (0.00629)	0.0018	10000	100
VOC	Toluene	302-AH07	Phase 1B	21	U (0.063)	0.012	10000	100
VOC	Toluene	302-AH08	Phase 1B	13	U (0.061)	0.028	10000	100
VOC	Toluene	302-AI05	Phase 1B	12	U (0.11)	0.012	10000	100
VOC	Toluene	302-AI06	Phase 1B	19	U (0.1) - 0.0025	0.0033	10000	100
VOC	Toluene	302-AI07	Phase 1B	10	U (0.611) - 0.00035	0.075	10000	100
VOC	Toluene	302-AI08	Phase 1B	2	U (0.099)	0.026	10000	100
VOC	Toluene	302-AI09	Phase 1B	3	U (0.00089)	0.00037	10000	100
VOC	Toluene	302-AJ05	Phase 1B	2	U (0.0012)	0.00058	10000	100
VOC	Toluene	302-AJ06	Phase 1B	5	U (0.0018)	0.00065	10000	100
VOC	Toluene	302-AK05	Phase 1B	5	U (0.058)	0.018	10000	100
VOC	Toluene	302-AK07	Phase 1B	13	U (1.01) - 0.28	0.094	10000	100
VOC	Toluene	302-AL03	Phase 1B	2	U (0.5)	0.13	10000	100
VOC	Toluene	302-AL05	Phase 1B	11	U (0.13)	0.041	10000	100
VOC	Toluene	302-AL08	Phase 1B	2	U (0.0009)	0.00038	10000	100
VOC	Toluene	302-AN01	Phase 1B	2	U (0.0012)	0.00055	10000	100
VOC	Toluene	302-AN03	Phase 1B	1	0.009 - 0.009	0.0090	10000	100
VOC	Toluene	302-AO02	Phase 1B	7	U (2.1) - 0.001	0.27	10000	100
VOC	Toluene	302-AO05	Phase 1B	1	0.011 - 0.011	0.011	10000	100
VOC	Toluene	302-AP02	Phase 1B	2	0.0027 - 0.0027	0.0017	10000	100
VOC	Toluene	302-AP03	Phase 1B	23	0.0472 - 0.702	0.040	10000	100
VOC	Toluene	302-AP04	Phase 1B	3	0.018 - 0.0234	0.014	10000	100
VOC	Toluene	302-AP05	Phase 1B	2	U (0.0014)	0.00068	10000	100
VOC	Toluene	302-AQ01	Phase 1B	2	U (0.006)	0.0030	10000	100
VOC	Toluene	302-AQ04	Phase 1B	2	U (0.00088)	0.00043	10000	100
VOC	Toluene	302-AR01	Phase 1B	2	U (0.006)	0.0028	10000	100
VOC	Toluene	302-AR04	Phase 1B	3	U (0.0011)	0.00050	10000	100
VOC	Toluene	302-AS04	Phase 1B	2	U (0.00635)	0.0031	10000	100
VOC	Toluene	302-AT02	Phase 1B	2	0.612 - 0.612	0.31	10000	100
VOC	Toluene	302-AT03	Phase 1B	4	U (0.11)	0.014	10000	100
VOC	Toluene	302-AU01	Phase 1B	2	U (0.001)	0.00047	10000	100
VOC	Toluene	302-AU02	Phase 1B	8	U (0.055)	0.0041	10000	100
VOC	Toluene	302-AU03	Phase 1B	2	U (0.00097)	0.00046	10000	100
VOC	Toluene	302-AV02	Phase 1B	4	U (0.054) - 0.12	0.030	10000	100
VOC	Toluene	302-AV04	Phase 1B	2	U (0.00628)	0.0031	10000	100
VOC	Toluene	302-AW02	Phase 1B	2	U (0.28)	0.070	10000	100
VOC	Toluene	302-AX02	Phase 1B	3	U (0.11)	0.019	10000	100
VOC	Toluene	302-AY02	Phase 1B	20	0.0011 - 130	12.2	10000	100
VOC	Toluene	302-AY03	Phase 1B	2	U (0.0013)	0.00058	10000	100
VOC	Toluene	302-AY05	Phase 1B	2	U (0.00618)	0.0030	10000	100
VOC	Toluene	302-AZ02	Phase 1B	11	U (13) - 4.5	1.9	10000	100
VOC	Toluene	302-AZ03	Phase 1B	1	U (0.31)	0.16	10000	100
VOC	Toluene	302-BA03	Phase 1B	1	U (0.007)	0.0035	10000	100
VOC	Toluene	302-BB07	Phase 1B	17	U (0.59) - 2	0.38	10000	100
VOC	Toluene	302-BB08	Phase 1B	1	U (0.005)	0.0025	10000	100
VOC	Toluene	302-BC06	Phase 1B	1	U (0.006)	0.0030	10000	100
VOC	Toluene	301-L01	Phase 1C	7	U (0.32)	0.076	10000	100
VOC	Toluene	301-T03	Phase 1C	2	U (0.0072)	0.0032	10000	100
VOC	Toluene	302-AD02	Phase 1C	2	U (0.004)	0.0011	10000	100
VOC	Toluene	302-AE01	Phase 1C	1	U (0.006)	0.0030	10000	100
VOC	Toluene	302-AE02	Phase 1C	2	0.001 - 0.003	0.0020	10000	100
VOC	Toluene	302-AF01	Phase 1C	1	U (0.005)	0.0025	10000	100
VOC	Toluene	302-AF02	Phase 1C	4	U (0.007)	0.0028	10000	100
VOC	Toluene	302-AG02	Phase 1C	2	U (1.7)	0.43	10000	100
VOC	Toluene	302-AH01	Phase 1C	2	U (0.005)	0.0015	10000	100
VOC	Toluene	302-AH03	Phase 1C	2	U (0.064)	0.031	10000	100
VOC	Toluene	302-AI01	Phase 1C	2	0.0013 - 0.0013	0.0010	10000	100
VOC	Toluene	302-AI03	Phase 1C	1	0.081 - 0.081	0.081	10000	100
VOC	Toluene	302-AI04	Phase 1C	2	U (0.061)	0.029	10000	100
VOC	Toluene	302-AJ04	Phase 1C	1	U (0.051)	0.026	10000	100
VOC	Toluene	302-AL01	Phase 1C	11	0.001 - 790	95.1	10000	100
VOC	1,2,4-Trimethylbenzene	LS-A-A02	Life Sciences	1	U (0.0018)	0.00090	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-A03	Life Sciences	1	U (0.0028)	0.0014	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-A04	Life Sciences	1	U (0.0019)	0.0010	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-B02	Life Sciences	14	0.00021 - 0.00021	0.0011	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-B03	Life Sciences	4	3.67 - 3.67	0.92	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-C01	Life Sciences	27	U (0.0394) - 0.0022	0.0024	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-C02	Life Sciences	11	U (0.3) - 0.24	0.037	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-C04	Life Sciences	2	U (0.0246) - 0.0454	0.023	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-D01	Life Sciences	2	0.163 - 0.179	0.17	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-D03	Life Sciences	2	U (0.00131)	0.00064	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-D04	Life Sciences	2	U (0.00122)	0.00058	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-D05	Life Sciences	4	U (0.0301) - 0.59	0.15	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-D06	Life Sciences	2	U (0.0265)	0.0069	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-D07	Life Sciences	2	U (0.137)	0.035	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-E01	Life Sciences	2	U (0.0836)	0.021	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-E04	Life Sciences	2	2.01 - 51.8	26.9	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-F01	Life Sciences	2	U (0.633)	0.16	4700	300

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	1,2,4-Trimethylbenzene	LS-A-F04	Life Sciences	8	U (0.00151)	0.00061	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-G01	Life Sciences	2	0.13 - 0.13	0.10	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-G02	Life Sciences	2	U (0.734)	0.23	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-G03	Life Sciences	2	3.52 - 3.52	1.8	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-G07	Life Sciences	2	U (0.0013)	0.00063	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-G08	Life Sciences	2	U (0.00125) - 0.0205	0.011	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-H03	Life Sciences	2	U (0.00118)	0.00059	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-H04	Life Sciences	2	U (0.0207)	0.0055	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-H07	Life Sciences	2	0.0896 - 0.0896	0.049	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-I01	Life Sciences	4	U (0.189)	0.024	4700	300
VOC	1,2,4-Trimethylbenzene	LS-A-I03	Life Sciences	2	U (0.141)	0.036	4700	300
VOC	1,2,4-Trimethylbenzene	LS-B-B01	Life Sciences	1	U (0.0035)	0.0018	4700	300
VOC	1,2,4-Trimethylbenzene	LS-B-C01	Life Sciences	2	U (0.0216)	0.010	4700	300
VOC	1,2,4-Trimethylbenzene	LS-B-E01	Life Sciences	2	1.47 - 58.7	30.1	4700	300
VOC	1,2,4-Trimethylbenzene	LS-B-G02	Life Sciences	1	U (0.00138)	0.00069	4700	300
VOC	1,2,4-Trimethylbenzene	LS-B-H02	Life Sciences	2	U (0.236)	0.059	4700	300
VOC	1,2,4-Trimethylbenzene	LS-E-B01	Life Sciences	93	U (2.1) - 94	2.1	4700	300
VOC	1,2,4-Trimethylbenzene	LS-E-G01	Life Sciences	2	U (0.00126)	0.00060	4700	300
VOC	1,2,4-Trimethylbenzene	201-A01	Phase 1A	7	0.0075 - 149	44.6	4700	300
VOC	1,2,4-Trimethylbenzene	201-A02	Phase 1A	14	0.0011 - 3200	301.0	4700	300
VOC	1,2,4-Trimethylbenzene	201-A03	Phase 1A	7	0.0058 - 1000	295.0	4700	300
VOC	1,2,4-Trimethylbenzene	201-A04	Phase 1A	31	0.0016 - 2700	298.3	4700	300
VOC	1,2,4-Trimethylbenzene	201-A05	Phase 1A	9	1.7 - 540	107.9	4700	300
VOC	1,2,4-Trimethylbenzene	201-A06	Phase 1A	10	0.0028 - 70	7.5	4700	300
VOC	1,2,4-Trimethylbenzene	201-A07	Phase 1A	12	0.44 - 580	176.4	4700	300
VOC	1,2,4-Trimethylbenzene	201-A08	Phase 1A	7	0.00033 - 190	29.0	4700	300
VOC	1,2,4-Trimethylbenzene	201-A09	Phase 1A	8	0.0071 - 680	200.2	4700	300
VOC	1,2,4-Trimethylbenzene	201-A10	Phase 1A	8	U (0.94) - 32	4.1	4700	300
VOC	1,2,4-Trimethylbenzene	201-A11	Phase 1A	8	1.1 - 300	39.4	4700	300
VOC	1,2,4-Trimethylbenzene	201-A12	Phase 1A	16	0.00078 - 256	19.9	4700	300
VOC	1,2,4-Trimethylbenzene	201-A13	Phase 1A	17	0.0041 - 390	58.0	4700	300
VOC	1,2,4-Trimethylbenzene	201-A14	Phase 1A	21	U (0.64) - 10.6	0.68	4700	300
VOC	1,2,4-Trimethylbenzene	201-A15	Phase 1A	8	0.00043 - 0.55	0.14	4700	300
VOC	1,2,4-Trimethylbenzene	201-B01	Phase 1A	4	U (1.7) - 37	9.3	4700	300
VOC	1,2,4-Trimethylbenzene	201-B02	Phase 1A	10	0.00041 - 670	143.8	4700	300
VOC	1,2,4-Trimethylbenzene	201-B03	Phase 1A	1	1.2 - 1.2	1.2	4700	300
VOC	1,2,4-Trimethylbenzene	201-B04	Phase 1A	11	U (1.2) - 150	19.8	4700	300
VOC	1,2,4-Trimethylbenzene	201-B05	Phase 1A	3	U (0.15) - 0.21	0.11	4700	300
VOC	1,2,4-Trimethylbenzene	201-B06	Phase 1A	1	23 - 23	23.0	4700	300
VOC	1,2,4-Trimethylbenzene	201-B07	Phase 1A	14	0.028 - 120	16.4	4700	300
VOC	1,2,4-Trimethylbenzene	201-B08	Phase 1A	10	U (0.14) - 1.7	0.29	4700	300
VOC	1,2,4-Trimethylbenzene	201-B09	Phase 1A	10	0.0035 - 0.47	0.18	4700	300
VOC	1,2,4-Trimethylbenzene	201-B11	Phase 1A	31	U (1.3) - 51	1.8	4700	300
VOC	1,2,4-Trimethylbenzene	201-B12	Phase 1A	18	0.00089 - 8.77	1.4	4700	300
VOC	1,2,4-Trimethylbenzene	201-C01	Phase 1A	15	0.00065 - 470	75.4	4700	300
VOC	1,2,4-Trimethylbenzene	201-C02	Phase 1A	2	0.046 - 0.11	0.078	4700	300
VOC	1,2,4-Trimethylbenzene	201-C04	Phase 1A	14	0.047 - 130	32.9	4700	300
VOC	1,2,4-Trimethylbenzene	201-C05	Phase 1A	3	U (0.47)	0.12	4700	300
VOC	1,2,4-Trimethylbenzene	201-C06	Phase 1A	14	U (0.26) - 13	2.0	4700	300
VOC	1,2,4-Trimethylbenzene	201-C07	Phase 1A	11	0.00034 - 903	215.4	4700	300
VOC	1,2,4-Trimethylbenzene	201-C08	Phase 1A	20	0.0007 - 1000	103.3	4700	300
VOC	1,2,4-Trimethylbenzene	201-C09	Phase 1A	7	U (0.093) - 12	1.7	4700	300
VOC	1,2,4-Trimethylbenzene	201-C10	Phase 1A	3	U (4.5) - 52.1	17.4	4700	300
VOC	1,2,4-Trimethylbenzene	201-C11	Phase 1A	1	33 - 33	33.0	4700	300
VOC	1,2,4-Trimethylbenzene	201-D01	Phase 1A	3	U (0.0061)	0.0026	4700	300
VOC	1,2,4-Trimethylbenzene	201-D05	Phase 1A	8	U (3.6) - 39.2	8.8	4700	300
VOC	1,2,4-Trimethylbenzene	201-D08	Phase 1A	1	U (0.0023)	0.0012	4700	300
VOC	1,2,4-Trimethylbenzene	201-D12	Phase 1A	3	U (0.0023) - 0.00086	0.00073	4700	300
VOC	1,2,4-Trimethylbenzene	201-E01	Phase 1A	51	U (1.2) - 580	22.8	4700	300
VOC	1,2,4-Trimethylbenzene	201-E02	Phase 1A	1	U (0.002)	0.0010	4700	300
VOC	1,2,4-Trimethylbenzene	201-E03	Phase 1A	2	0.11 - 0.11	0.056	4700	300
VOC	1,2,4-Trimethylbenzene	201-E04	Phase 1A	5	0.00053 - 350	132.0	4700	300
VOC	1,2,4-Trimethylbenzene	201-E05	Phase 1A	26	U (1.3) - 7.8	0.77	4700	300
VOC	1,2,4-Trimethylbenzene	201-F01	Phase 1A	48	U (0.61) - 50	1.2	4700	300
VOC	1,2,4-Trimethylbenzene	201-F02	Phase 1A	7	U (0.22) - 0.0012	0.027	4700	300
VOC	1,2,4-Trimethylbenzene	201-F03	Phase 1A	34	U (24) - 320	13.0	4700	300
VOC	1,2,4-Trimethylbenzene	201-F04	Phase 1A	20	U (1.5) - 66	3.5	4700	300
VOC	1,2,4-Trimethylbenzene	202-A03	Phase 1A	8	0.0077 - 64	8.0	4700	300
VOC	1,2,4-Trimethylbenzene	202-A04	Phase 1A	4	0.19 - 0.76	0.35	4700	300
VOC	1,2,4-Trimethylbenzene	202-A05	Phase 1A	4	U (0.0022)	0.0011	4700	300
VOC	1,2,4-Trimethylbenzene	202-A06	Phase 1A	4	U (0.002)	0.00091	4700	300
VOC	1,2,4-Trimethylbenzene	202-A07	Phase 1A	3	U (0.0023)	0.0010	4700	300
VOC	1,2,4-Trimethylbenzene	202-A08	Phase 1A	3	U (0.0025) - 0.00034	0.00088	4700	300
VOC	1,2,4-Trimethylbenzene	202-A09	Phase 1A	6	U (0.0023) - 0.00041	0.00087	4700	300
VOC	1,2,4-Trimethylbenzene	202-B01	Phase 1A	2	U (0.0049) - 0.0013	0.0014	4700	300
VOC	1,2,4-Trimethylbenzene	202-B02	Phase 1A	16	U (0.31) - 6.5	0.45	4700	300
VOC	1,2,4-Trimethylbenzene	202-B03	Phase 1A	15	U (0.21) - 9.4	0.73	4700	300
VOC	1,2,4-Trimethylbenzene	202-B04	Phase 1A	3	U (0.13)	0.022	4700	300
VOC	1,2,4-Trimethylbenzene	202-B09	Phase 1A	9	U (0.13) - 0.04	0.0064	4700	300
VOC	1,2,4-Trimethylbenzene	202-C04	Phase 1A	7	U (0.0043) - 0.0031	0.0017	4700	300
VOC	1,2,4-Trimethylbenzene	202-C05	Phase 1A	20	U (0.33) - 11	1.2	4700	300
VOC	1,2,4-Trimethylbenzene	202-C06	Phase 1A	1	U (0.0019)	0.0010	4700	300
VOC	1,2,4-Trimethylbenzene	202-C07	Phase 1A	1	U (0.0044)	0.0022	4700	300

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	1,2,4-Trimethylbenzene	202-D05	Phase 1A	3	6.95 - 13.6	6.9	4700	300
VOC	1,2,4-Trimethylbenzene	202-D06	Phase 1A	3	U (0.0044) - 0.0437	0.016	4700	300
VOC	1,2,4-Trimethylbenzene	202-E06	Phase 1A	2	0.0024 - 0.0024	0.0020	4700	300
VOC	1,2,4-Trimethylbenzene	202-E08	Phase 1A	11	0.033 - 12	1.1	4700	300
VOC	1,2,4-Trimethylbenzene	202-E09	Phase 1A	13	U (0.14) - 14	2.2	4700	300
VOC	1,2,4-Trimethylbenzene	202-E10	Phase 1A	4	U (0.0021) - 0.015	0.0059	4700	300
VOC	1,2,4-Trimethylbenzene	202-E12	Phase 1A	2	U (0.0022)	0.0010	4700	300
VOC	1,2,4-Trimethylbenzene	202-F04	Phase 1A	7	U (0.13) - 2.2	0.32	4700	300
VOC	1,2,4-Trimethylbenzene	202-F05	Phase 1A	1	U (0.0022)	0.0011	4700	300
VOC	1,2,4-Trimethylbenzene	202-F07	Phase 1A	9	0.00081 - 35	5.3	4700	300
VOC	1,2,4-Trimethylbenzene	202-F08	Phase 1A	3	0.0013 - 0.0013	0.0017	4700	300
VOC	1,2,4-Trimethylbenzene	202-F10	Phase 1A	2	U (0.11) - 0.058	0.030	4700	300
VOC	1,2,4-Trimethylbenzene	202-F13	Phase 1A	1	U (0.006)	0.0030	4700	300
VOC	1,2,4-Trimethylbenzene	202-F14	Phase 1A	2	U (0.0057)	0.0025	4700	300
VOC	1,2,4-Trimethylbenzene	202-F16	Phase 1A	1	U (0.0045)	0.0023	4700	300
VOC	1,2,4-Trimethylbenzene	202-F17	Phase 1A	8	U (0.0043)	0.0014	4700	300
VOC	1,2,4-Trimethylbenzene	202-G01	Phase 1A	8	U (0.0023)	0.0010	4700	300
VOC	1,2,4-Trimethylbenzene	202-G02	Phase 1A	13	U (0.13) - 0.054	0.0051	4700	300
VOC	1,2,4-Trimethylbenzene	202-G03	Phase 1A	9	U (0.0038)	0.0011	4700	300
VOC	1,2,4-Trimethylbenzene	202-G04	Phase 1A	1	U (0.0058)	0.0029	4700	300
VOC	1,2,4-Trimethylbenzene	202-G05	Phase 1A	1	U (0.0045)	0.0023	4700	300
VOC	1,2,4-Trimethylbenzene	202-G07	Phase 1A	16	U (0.15) - 0.17	0.021	4700	300
VOC	1,2,4-Trimethylbenzene	202-H03	Phase 1A	6	U (5.5) - 75.4	17.6	4700	300
VOC	1,2,4-Trimethylbenzene	202-H05	Phase 1A	1	U (0.0055)	0.0028	4700	300
VOC	1,2,4-Trimethylbenzene	202-H06	Phase 1A	2	U (0.0063)	0.0029	4700	300
VOC	1,2,4-Trimethylbenzene	202-H07	Phase 1A	2	U (0.0056)	0.0027	4700	300
VOC	1,2,4-Trimethylbenzene	202-H08	Phase 1A	3	U (0.0039)	0.0015	4700	300
VOC	1,2,4-Trimethylbenzene	202-H09	Phase 1A	4	0.0025 - 0.2	0.053	4700	300
VOC	1,2,4-Trimethylbenzene	202-H11	Phase 1A	10	U (0.14) - 15	2.7	4700	300
VOC	1,2,4-Trimethylbenzene	202-I01	Phase 1A	2	U (0.0021)	0.0010	4700	300
VOC	1,2,4-Trimethylbenzene	202-I04	Phase 1A	4	U (0.0036) - 0.00061	0.0011	4700	300
VOC	1,2,4-Trimethylbenzene	202-J01	Phase 1A	6	U (0.12) - 0.16	0.028	4700	300
VOC	1,2,4-Trimethylbenzene	202-J02	Phase 1A	5	U (0.12) - 15	3.0	4700	300
VOC	1,2,4-Trimethylbenzene	202-J03	Phase 1A	9	6 - 170	65.1	4700	300
VOC	1,2,4-Trimethylbenzene	202-J04	Phase 1A	8	0.0013 - 99	44.6	4700	300
VOC	1,2,4-Trimethylbenzene	202-J07	Phase 1A	1	2.56 - 2.56	2.6	4700	300
VOC	1,2,4-Trimethylbenzene	202-J09	Phase 1A	2	0.044 - 0.044	0.25	4700	300
VOC	1,2,4-Trimethylbenzene	301-AA01	Phase 1A	1	U (0.0027)	0.0014	4700	300
VOC	1,2,4-Trimethylbenzene	301-AA06	Phase 1A	11	U (0.67) - 3.6	0.37	4700	300
VOC	1,2,4-Trimethylbenzene	301-AA07	Phase 1A	4	0.0013 - 26.8	6.7	4700	300
VOC	1,2,4-Trimethylbenzene	301-AA08	Phase 1A	3	U (0.28) - 0.58	0.23	4700	300
VOC	1,2,4-Trimethylbenzene	301-AA09	Phase 1A	3	U (0.48)	0.17	4700	300
VOC	1,2,4-Trimethylbenzene	301-AB04	Phase 1A	3	0.022 - 2.1	0.71	4700	300
VOC	1,2,4-Trimethylbenzene	301-AB06	Phase 1A	2	0.08 - 0.08	0.041	4700	300
VOC	1,2,4-Trimethylbenzene	301-AB07	Phase 1A	1	0.045 - 0.045	0.045	4700	300
VOC	1,2,4-Trimethylbenzene	301-AB09	Phase 1A	2	U (0.0059) - 0.0095	0.0059	4700	300
VOC	1,2,4-Trimethylbenzene	301-AC04	Phase 1A	25	U (0.39) - 6	0.30	4700	300
VOC	1,2,4-Trimethylbenzene	301-AC07	Phase 1A	10	0.0016 - 0.036	0.0060	4700	300
VOC	1,2,4-Trimethylbenzene	301-AC08	Phase 1A	7	U (0.5) - 2	0.29	4700	300
VOC	1,2,4-Trimethylbenzene	301-AC09	Phase 1A	6	U (0.0022) - 0.00033	0.00090	4700	300
VOC	1,2,4-Trimethylbenzene	301-B01	Phase 1A	1	U (0.0058)	0.0029	4700	300
VOC	1,2,4-Trimethylbenzene	301-C01	Phase 1A	3	0.063 - 660	220.2	4700	300
VOC	1,2,4-Trimethylbenzene	301-C02	Phase 1A	8	0.00092 - 6.9	1.1	4700	300
VOC	1,2,4-Trimethylbenzene	301-D01	Phase 1A	31	0.00052 - 530	88.4	4700	300
VOC	1,2,4-Trimethylbenzene	301-E02	Phase 1A	32	0.0023 - 870	71.7	4700	300
VOC	1,2,4-Trimethylbenzene	301-E03	Phase 1A	5	U (0.31) - 0.05	0.040	4700	300
VOC	1,2,4-Trimethylbenzene	301-F02	Phase 1A	7	U (2.1) - 53	7.8	4700	300
VOC	1,2,4-Trimethylbenzene	301-G01	Phase 1A	2	0.022 - 2	1.0	4700	300
VOC	1,2,4-Trimethylbenzene	301-G02	Phase 1A	3	0.005 - 28	14.0	4700	300
VOC	1,2,4-Trimethylbenzene	301-G03	Phase 1A	1	14 - 14	14.0	4700	300
VOC	1,2,4-Trimethylbenzene	301-H01	Phase 1A	20	0.0018 - 180	30.5	4700	300
VOC	1,2,4-Trimethylbenzene	301-H02	Phase 1A	3	0.002 - 0.006	0.0028	4700	300
VOC	1,2,4-Trimethylbenzene	301-H03	Phase 1A	2	0.14 - 87	43.6	4700	300
VOC	1,2,4-Trimethylbenzene	301-I01	Phase 1A	9	U (1.1) - 62	10.5	4700	300
VOC	1,2,4-Trimethylbenzene	301-I02	Phase 1A	1	0.049 - 0.049	0.049	4700	300
VOC	1,2,4-Trimethylbenzene	301-J01	Phase 1A	4	U (0.24) - 8.8	2.2	4700	300
VOC	1,2,4-Trimethylbenzene	301-J02	Phase 1A	7	U (0.61) - 50	17.0	4700	300
VOC	1,2,4-Trimethylbenzene	301-K01	Phase 1A	9	0.05 - 3.3	0.47	4700	300
VOC	1,2,4-Trimethylbenzene	301-K02	Phase 1A	3	U (0.24) - 0.3	0.16	4700	300
VOC	1,2,4-Trimethylbenzene	301-L02	Phase 1A	8	0.086 - 340	48.6	4700	300
VOC	1,2,4-Trimethylbenzene	301-L03	Phase 1A	5	0.0003 - 2.6	0.76	4700	300
VOC	1,2,4-Trimethylbenzene	301-M02	Phase 1A	5	U (0.22) - 0.3	0.089	4700	300
VOC	1,2,4-Trimethylbenzene	301-M03	Phase 1A	3	0.032 - 0.17	0.092	4700	300
VOC	1,2,4-Trimethylbenzene	301-N02	Phase 1A	3	U (0.22)	0.071	4700	300
VOC	1,2,4-Trimethylbenzene	301-P02	Phase 1A	2	2.29 - 2.64	2.5	4700	300
VOC	1,2,4-Trimethylbenzene	301-Q04	Phase 1A	5	U (0.234) - 0.588	0.13	4700	300
VOC	1,2,4-Trimethylbenzene	301-R02	Phase 1A	6	U (0.26)	0.024	4700	300
VOC	1,2,4-Trimethylbenzene	301-S02	Phase 1A	4	U (0.0054)	0.0025	4700	300
VOC	1,2,4-Trimethylbenzene	301-T04	Phase 1A	2	U (0.3)	0.076	4700	300
VOC	1,2,4-Trimethylbenzene	301-V04	Phase 1A	29	U (1.3) - 56	2.4	4700	300
VOC	1,2,4-Trimethylbenzene	301-W03	Phase 1A	4	U (0.27) - 0.15	0.13	4700	300
VOC	1,2,4-Trimethylbenzene	301-X03	Phase 1A	3	U (0.25)	0.079	4700	300
VOC	1,2,4-Trimethylbenzene	301-Y03	Phase 1A	2	U (0.6)	0.15	4700	300

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	1,2,4-Trimethylbenzene	301-Y04	Phase 1A	3	U (0.28)	0.092	4700	300
VOC	1,2,4-Trimethylbenzene	301-Y05	Phase 1A	6	0.047 - 19	7.9	4700	300
VOC	1,2,4-Trimethylbenzene	302-AD08	Phase 1A	2	U (0.0024)	0.0011	4700	300
VOC	1,2,4-Trimethylbenzene	302-AD09	Phase 1A	3	U (0.0056)	0.0026	4700	300
VOC	1,2,4-Trimethylbenzene	302-AD10	Phase 1A	4	2 - 7.1	2.3	4700	300
VOC	1,2,4-Trimethylbenzene	302-AE09	Phase 1A	4	U (0.0019)	0.00091	4700	300
VOC	1,2,4-Trimethylbenzene	302-AF06	Phase 1A	9	U (1.2) - 92	10.2	4700	300
VOC	1,2,4-Trimethylbenzene	302-AG07	Phase 1A	7	U (0.0027) - 0.0018	0.0012	4700	300
VOC	1,2,4-Trimethylbenzene	302-AN02	Phase 1A	2	U (0.0012)	0.00057	4700	300
VOC	1,2,4-Trimethylbenzene	302-AO03	Phase 1A	2	U (0.00127)	0.00060	4700	300
VOC	1,2,4-Trimethylbenzene	302-AQ02	Phase 1A	9	U (0.5) - 5.1	1.2	4700	300
VOC	1,2,4-Trimethylbenzene	302-AR02	Phase 1A	4	U (0.0025)	0.0011	4700	300
VOC	1,2,4-Trimethylbenzene	302-AS03	Phase 1A	13	U (0.53) - 0.0887	0.010	4700	300
VOC	1,2,4-Trimethylbenzene	302-AV01	Phase 1A	6	U (0.008) - 0.0057	0.0029	4700	300
VOC	1,2,4-Trimethylbenzene	302-AV03	Phase 1A	6	U (0.22) - 15	2.5	4700	300
VOC	1,2,4-Trimethylbenzene	302-AW01	Phase 1A	8	U (0.49) - 0.83	0.19	4700	300
VOC	1,2,4-Trimethylbenzene	302-AW03	Phase 1A	2	U (0.0019)	0.00090	4700	300
VOC	1,2,4-Trimethylbenzene	302-AX01	Phase 1A	4	U (0.006) - 0.0014	0.0020	4700	300
VOC	1,2,4-Trimethylbenzene	302-AX05	Phase 1A	2	U (0.00125)	0.00060	4700	300
VOC	1,2,4-Trimethylbenzene	302-AZ05	Phase 1A	2	U (0.0027)	0.0013	4700	300
VOC	1,2,4-Trimethylbenzene	302-BA05	Phase 1A	2	0.0973 - 33.9	17.0	4700	300
VOC	1,2,4-Trimethylbenzene	302-BB06	Phase 1A	5	U (0.12) - 0.78	0.20	4700	300
VOC	1,2,4-Trimethylbenzene	302-BC05	Phase 1A	19	U (0.13) - 4.4	0.30	4700	300
VOC	1,2,4-Trimethylbenzene	302-BE04	Phase 1A	1	U (0.006)	0.0030	4700	300
VOC	1,2,4-Trimethylbenzene	303-AY01	Phase 1A	6	U (0.005) - 0.0012	0.0017	4700	300
VOC	1,2,4-Trimethylbenzene	303-AZ01	Phase 1A	5	U (5.2) - 1.2	0.66	4700	300
VOC	1,2,4-Trimethylbenzene	303-BA01	Phase 1A	8	U (0.0038) - 0.0033	0.0015	4700	300
VOC	1,2,4-Trimethylbenzene	303-BA02	Phase 1A	7	U (0.49) - 7.3	1.2	4700	300
VOC	1,2,4-Trimethylbenzene	303-BB01	Phase 1A	2	U (0.005)	0.0023	4700	300
VOC	1,2,4-Trimethylbenzene	303-BB02	Phase 1A	5	U (0.64) - 0.00091	0.065	4700	300
VOC	1,2,4-Trimethylbenzene	303-BC01	Phase 1A	4	U (0.0022) - 0.00068	0.00093	4700	300
VOC	1,2,4-Trimethylbenzene	303-BD04	Phase 1A	6	U (0.25) - 5.2	0.87	4700	300
VOC	1,2,4-Trimethylbenzene	303-BE03	Phase 1A	25	U (0.22) - 4.6	0.23	4700	300
VOC	1,2,4-Trimethylbenzene	303-BF05	Phase 1A	13	U (2.2) - 20	1.6	4700	300
VOC	1,2,4-Trimethylbenzene	303-BG04	Phase 1A	27	U (17) - 1800	76.3	4700	300
VOC	1,2,4-Trimethylbenzene	303-BH02	Phase 1A	20	0.00051 - 80	4.8	4700	300
VOC	1,2,4-Trimethylbenzene	303-BI03	Phase 1A	6	0.00081 - 0.0032	0.0018	4700	300
VOC	1,2,4-Trimethylbenzene	303-BJ01	Phase 1A	3	0.0017 - 0.22	0.12	4700	300
VOC	1,2,4-Trimethylbenzene	303-BJ02	Phase 1A	3	U (0.0065)	0.0025	4700	300
VOC	1,2,4-Trimethylbenzene	303-BK03	Phase 1A	7	0.009 - 2.7	0.74	4700	300
VOC	1,2,4-Trimethylbenzene	303-BL02	Phase 1A	13	0.00085 - 0.78	0.074	4700	300
VOC	1,2,4-Trimethylbenzene	303-BM02	Phase 1A	1	0.0039 - 0.0039	0.0039	4700	300
VOC	1,2,4-Trimethylbenzene	303-BN02	Phase 1A	15	U (0.25) - 16	1.1	4700	300
VOC	1,2,4-Trimethylbenzene	303-BN03	Phase 1A	14	U (0.34) - 0.481	0.071	4700	300
VOC	1,2,4-Trimethylbenzene	303-BO02	Phase 1A	17	0.00067 - 10	0.80	4700	300
VOC	1,2,4-Trimethylbenzene	303-BP02	Phase 1A	40	0.00039 - 79	11.7	4700	300
VOC	1,2,4-Trimethylbenzene	303-BQ01	Phase 1A	4	U (0.66) - 1	0.40	4700	300
VOC	1,2,4-Trimethylbenzene	303-BQ02	Phase 1A	16	0.0079 - 330	32.9	4700	300
VOC	1,2,4-Trimethylbenzene	303-BR02	Phase 1A	5	0.0555 - 0.135	0.10	4700	300
VOC	1,2,4-Trimethylbenzene	303-BT01	Phase 1A	13	U (2.9) - 19	1.5	4700	300
VOC	1,2,4-Trimethylbenzene	303-BW01	Phase 1A	1	0.0245 - 0.0245	0.025	4700	300
VOC	1,2,4-Trimethylbenzene	301-AA02	Phase 1B	2	U (0.002) - 0.0025	0.0018	4700	300
VOC	1,2,4-Trimethylbenzene	301-AA05	Phase 1B	11	0.0011 - 4	0.48	4700	300
VOC	1,2,4-Trimethylbenzene	301-AB05	Phase 1B	6	U (1.1) - 0.00096	0.093	4700	300
VOC	1,2,4-Trimethylbenzene	301-AC03	Phase 1B	2	U (0.005)	0.0024	4700	300
VOC	1,2,4-Trimethylbenzene	301-T01	Phase 1B	5	1.79 - 1.79	0.45	4700	300
VOC	1,2,4-Trimethylbenzene	301-T02	Phase 1B	2	0.198 - 0.67	0.43	4700	300
VOC	1,2,4-Trimethylbenzene	301-U01	Phase 1B	2	U (0.29) - 0.19	0.096	4700	300
VOC	1,2,4-Trimethylbenzene	301-U03	Phase 1B	1	U (0.005)	0.0025	4700	300
VOC	1,2,4-Trimethylbenzene	301-V01	Phase 1B	7	0.0015 - 0.7	0.17	4700	300
VOC	1,2,4-Trimethylbenzene	301-V02	Phase 1B	20	U (0.54) - 0.0015	0.054	4700	300
VOC	1,2,4-Trimethylbenzene	301-W01	Phase 1B	24	U (0.69) - 7.3	0.36	4700	300
VOC	1,2,4-Trimethylbenzene	301-X01	Phase 1B	9	0.003 - 3.3	0.41	4700	300
VOC	1,2,4-Trimethylbenzene	301-Y01	Phase 1B	5	0.0027 - 9.94	2.0	4700	300
VOC	1,2,4-Trimethylbenzene	301-Z01	Phase 1B	6	U (0.0023) - 0.0017	0.0012	4700	300
VOC	1,2,4-Trimethylbenzene	301-Z02	Phase 1B	2	U (0.005)	0.0017	4700	300
VOC	1,2,4-Trimethylbenzene	301-Z03	Phase 1B	5	0.00093 - 0.0895	0.13	4700	300
VOC	1,2,4-Trimethylbenzene	302-AD06	Phase 1B	12	U (0.5) - 3	0.27	4700	300
VOC	1,2,4-Trimethylbenzene	302-AD07	Phase 1B	2	U (0.0025)	0.0011	4700	300
VOC	1,2,4-Trimethylbenzene	302-AE04	Phase 1B	8	U (0.15) - 0.12	0.022	4700	300
VOC	1,2,4-Trimethylbenzene	302-AE05	Phase 1B	20	0.0014 - 0.072	0.0058	4700	300
VOC	1,2,4-Trimethylbenzene	302-AE07	Phase 1B	3	U (0.47) - 0.00059	0.079	4700	300
VOC	1,2,4-Trimethylbenzene	302-AE08	Phase 1B	3	U (0.0021) - 0.00096	0.0010	4700	300
VOC	1,2,4-Trimethylbenzene	302-AF03	Phase 1B	2	0.85 - 19	9.9	4700	300
VOC	1,2,4-Trimethylbenzene	302-AF04	Phase 1B	11	0.0057 - 0.68	0.083	4700	300
VOC	1,2,4-Trimethylbenzene	302-AF05	Phase 1B	2	U (2) - 49.3	24.7	4700	300
VOC	1,2,4-Trimethylbenzene	302-AF09	Phase 1B	5	U (0.51) - 0.445	0.090	4700	300
VOC	1,2,4-Trimethylbenzene	302-AG04	Phase 1B	3	4.49 - 4.49	1.5	4700	300
VOC	1,2,4-Trimethylbenzene	302-AG06	Phase 1B	5	U (1) - 4.3	0.91	4700	300
VOC	1,2,4-Trimethylbenzene	302-AH05	Phase 1B	11	0.00047 - 20.5	2.7	4700	300
VOC	1,2,4-Trimethylbenzene	302-AH06	Phase 1B	4	U (0.0064)	0.0019	4700	300
VOC	1,2,4-Trimethylbenzene	302-AH07	Phase 1B	11	U (0.0046)	0.0012	4700	300
VOC	1,2,4-Trimethylbenzene	302-AI05	Phase 1B	11	U (0.22) - 9.4	0.87	4700	300

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Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	1,2,4-Trimethylbenzene	302-AI06	Phase 1B	19	0.00032 - 0.044	0.0095	4700	300
VOC	1,2,4-Trimethylbenzene	302-AI07	Phase 1B	8	U (1) - 0.327	0.11	4700	300
VOC	1,2,4-Trimethylbenzene	302-AI08	Phase 1B	1	0.362 - 0.362	0.36	4700	300
VOC	1,2,4-Trimethylbenzene	302-AI09	Phase 1B	3	U (0.0044)	0.0018	4700	300
VOC	1,2,4-Trimethylbenzene	302-AJ05	Phase 1B	2	U (0.0024)	0.0012	4700	300
VOC	1,2,4-Trimethylbenzene	302-AJ06	Phase 1B	5	U (0.0035) - 0.0079	0.0025	4700	300
VOC	1,2,4-Trimethylbenzene	302-AK05	Phase 1B	2	U (0.00118)	0.00058	4700	300
VOC	1,2,4-Trimethylbenzene	302-AK07	Phase 1B	2	U (0.202)	0.051	4700	300
VOC	1,2,4-Trimethylbenzene	302-AL03	Phase 1B	2	63.6 - 63.6	31.8	4700	300
VOC	1,2,4-Trimethylbenzene	302-AL08	Phase 1B	2	U (0.0045)	0.0019	4700	300
VOC	1,2,4-Trimethylbenzene	302-AN01	Phase 1B	2	U (0.0061)	0.0028	4700	300
VOC	1,2,4-Trimethylbenzene	302-AN03	Phase 1B	1	U (0.004)	0.0020	4700	300
VOC	1,2,4-Trimethylbenzene	302-AO05	Phase 1B	1	U (0.005)	0.0025	4700	300
VOC	1,2,4-Trimethylbenzene	302-AP02	Phase 1B	2	0.0082 - 0.0082	0.0047	4700	300
VOC	1,2,4-Trimethylbenzene	302-AP03	Phase 1B	16	0.02 - 1.15	0.083	4700	300
VOC	1,2,4-Trimethylbenzene	302-AP04	Phase 1B	3	0.001 - 1.17	0.39	4700	300
VOC	1,2,4-Trimethylbenzene	302-AP05	Phase 1B	2	U (0.0027)	0.0013	4700	300
VOC	1,2,4-Trimethylbenzene	302-AQ01	Phase 1B	2	U (0.006)	0.0030	4700	300
VOC	1,2,4-Trimethylbenzene	302-AQ04	Phase 1B	2	U (0.0044)	0.0022	4700	300
VOC	1,2,4-Trimethylbenzene	302-AR01	Phase 1B	2	U (0.006)	0.0028	4700	300
VOC	1,2,4-Trimethylbenzene	302-AR04	Phase 1B	3	U (0.0055)	0.0025	4700	300
VOC	1,2,4-Trimethylbenzene	302-AS04	Phase 1B	2	U (0.00127)	0.00062	4700	300
VOC	1,2,4-Trimethylbenzene	302-AT02	Phase 1B	2	2.8 - 2.8	1.4	4700	300
VOC	1,2,4-Trimethylbenzene	302-AT03	Phase 1B	4	U (0.57)	0.073	4700	300
VOC	1,2,4-Trimethylbenzene	302-AU01	Phase 1B	2	U (0.0052)	0.0024	4700	300
VOC	1,2,4-Trimethylbenzene	302-AU02	Phase 1B	8	U (0.11)	0.0080	4700	300
VOC	1,2,4-Trimethylbenzene	302-AU03	Phase 1B	2	U (0.0019)	0.00090	4700	300
VOC	1,2,4-Trimethylbenzene	302-AV02	Phase 1B	4	U (0.54) - 25	6.3	4700	300
VOC	1,2,4-Trimethylbenzene	302-AV04	Phase 1B	2	U (0.00126)	0.00062	4700	300
VOC	1,2,4-Trimethylbenzene	302-AW02	Phase 1B	2	U (0.28)	0.071	4700	300
VOC	1,2,4-Trimethylbenzene	302-AX02	Phase 1B	3	U (0.53) - 0.0004	0.089	4700	300
VOC	1,2,4-Trimethylbenzene	302-AY02	Phase 1B	11	0.00067 - 280	25.8	4700	300
VOC	1,2,4-Trimethylbenzene	302-AY03	Phase 1B	2	U (0.0064) - 0.00068	0.0016	4700	300
VOC	1,2,4-Trimethylbenzene	302-AY05	Phase 1B	2	U (0.00124)	0.00060	4700	300
VOC	1,2,4-Trimethylbenzene	302-AZ02	Phase 1B	3	U (4.6) - 16	5.3	4700	300
VOC	1,2,4-Trimethylbenzene	302-AZ03	Phase 1B	1	0.079 - 0.079	0.079	4700	300
VOC	1,2,4-Trimethylbenzene	302-BB07	Phase 1B	17	0.00034 - 85	17.5	4700	300
VOC	1,2,4-Trimethylbenzene	301-L01	Phase 1C	7	U (0.32)	0.086	4700	300
VOC	1,2,4-Trimethylbenzene	301-T03	Phase 1C	2	0.011 - 0.011	0.0069	4700	300
VOC	1,2,4-Trimethylbenzene	302-AD02	Phase 1C	2	U (0.004)	0.0016	4700	300
VOC	1,2,4-Trimethylbenzene	302-AE01	Phase 1C	1	U (0.006)	0.0030	4700	300
VOC	1,2,4-Trimethylbenzene	302-AE02	Phase 1C	2	U (0.007)	0.0028	4700	300
VOC	1,2,4-Trimethylbenzene	302-AF01	Phase 1C	1	U (0.005)	0.0025	4700	300
VOC	1,2,4-Trimethylbenzene	302-AF02	Phase 1C	4	U (0.007)	0.0028	4700	300
VOC	1,2,4-Trimethylbenzene	302-AG02	Phase 1C	2	U (1.7)	0.43	4700	300
VOC	1,2,4-Trimethylbenzene	302-AH01	Phase 1C	2	U (0.005)	0.0025	4700	300
VOC	1,2,4-Trimethylbenzene	302-AI01	Phase 1C	2	U (0.0023)	0.0011	4700	300
VOC	1,2,4-Trimethylbenzene	302-AL01	Phase 1C	2	U (0.43)	0.11	4700	300
VOC	1,3,5-Trimethylbenzene	LS-A-A02	Life Sciences	1	U (0.0018)	0.00090	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-A03	Life Sciences	1	U (0.0028)	0.0014	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-A04	Life Sciences	1	U (0.0019)	0.0010	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-B02	Life Sciences	14	U (0.0061)	0.0012	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-B03	Life Sciences	4	U (0.29) - 8.36	2.1	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-C01	Life Sciences	27	U (0.0394) - 0.0024	0.0024	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-C02	Life Sciences	11	U (0.3) - 0.0549	0.021	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-C04	Life Sciences	2	U (0.0246) - 0.0358	0.018	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-D01	Life Sciences	2	U (0.0274) - 0.0382	0.026	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-D03	Life Sciences	2	U (0.00131)	0.00064	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-D04	Life Sciences	2	U (0.00122)	0.00058	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-D05	Life Sciences	4	U (0.0301) - 0.473	0.12	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-D06	Life Sciences	2	U (0.0265)	0.0069	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-D07	Life Sciences	2	U (0.137)	0.035	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-E01	Life Sciences	2	U (0.0836)	0.021	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-E04	Life Sciences	2	0.0962 - 10.8	5.4	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-F01	Life Sciences	2	U (0.633)	0.16	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-F04	Life Sciences	8	U (0.00151)	0.00061	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-G01	Life Sciences	2	U (0.141)	0.066	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-G02	Life Sciences	2	U (0.734)	0.23	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-G03	Life Sciences	2	U (0.194) - 1.75	0.88	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-G07	Life Sciences	2	U (0.0013)	0.00063	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-G08	Life Sciences	2	0.00604 - 0.00604	0.0033	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-H03	Life Sciences	2	U (0.00118)	0.00059	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-H04	Life Sciences	2	U (0.0207)	0.0055	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-H07	Life Sciences	2	U (0.0184)	0.0089	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-I01	Life Sciences	4	U (0.189)	0.024	4700	93
VOC	1,3,5-Trimethylbenzene	LS-A-I03	Life Sciences	2	U (0.141)	0.036	4700	93
VOC	1,3,5-Trimethylbenzene	LS-B-B01	Life Sciences	1	0.00045 - 0.00045	0.00045	4700	93
VOC	1,3,5-Trimethylbenzene	LS-B-C01	Life Sciences	2	U (0.0216)	0.010	4700	93
VOC	1,3,5-Trimethylbenzene	LS-B-E01	Life Sciences	2	0.949 - 19.3	10.1	4700	93
VOC	1,3,5-Trimethylbenzene	LS-B-G02	Life Sciences	1	U (0.00138)	0.00069	4700	93
VOC	1,3,5-Trimethylbenzene	LS-B-H02	Life Sciences	2	U (0.236)	0.059	4700	93
VOC	1,3,5-Trimethylbenzene	LS-E-B01	Life Sciences	93	U (1.4) - 40	0.90	4700	93
VOC	1,3,5-Trimethylbenzene	LS-E-G01	Life Sciences	2	U (0.00126)	0.00060	4700	93

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VOC	1,3,5-Trimethylbenzene	201-A01	Phase 1A	7	0.0024 - 47.8	14.1	4700	93
VOC	1,3,5-Trimethylbenzene	201-A02	Phase 1A	14	0.00026 - 1000	95.0	4700	93
VOC	1,3,5-Trimethylbenzene	201-A03	Phase 1A	7	0.0026 - 340	99.2	4700	93
VOC	1,3,5-Trimethylbenzene	201-A04	Phase 1A	31	0.00046 - 790	97.7	4700	93
VOC	1,3,5-Trimethylbenzene	201-A05	Phase 1A	9	0.52 - 110	26.9	4700	93
VOC	1,3,5-Trimethylbenzene	201-A06	Phase 1A	10	U (0.47) - 7.7	0.86	4700	93
VOC	1,3,5-Trimethylbenzene	201-A07	Phase 1A	12	0.16 - 200	59.0	4700	93
VOC	1,3,5-Trimethylbenzene	201-A08	Phase 1A	7	0.28 - 66	10.1	4700	93
VOC	1,3,5-Trimethylbenzene	201-A09	Phase 1A	8	0.019 - 260	76.2	4700	93
VOC	1,3,5-Trimethylbenzene	201-A10	Phase 1A	8	U (0.19) - 10	1.3	4700	93
VOC	1,3,5-Trimethylbenzene	201-A11	Phase 1A	8	0.00028 - 93	12.2	4700	93
VOC	1,3,5-Trimethylbenzene	201-A12	Phase 1A	16	0.00088 - 94.8	7.2	4700	93
VOC	1,3,5-Trimethylbenzene	201-A13	Phase 1A	17	0.0024 - 98	17.3	4700	93
VOC	1,3,5-Trimethylbenzene	201-A14	Phase 1A	21	U (0.64) - 0.5	0.087	4700	93
VOC	1,3,5-Trimethylbenzene	201-A15	Phase 1A	8	U (0.84)	0.14	4700	93
VOC	1,3,5-Trimethylbenzene	201-B01	Phase 1A	4	U (0.17) - 13	3.3	4700	93
VOC	1,3,5-Trimethylbenzene	201-B02	Phase 1A	10	0.15 - 260	47.4	4700	93
VOC	1,3,5-Trimethylbenzene	201-B03	Phase 1A	1	0.27 - 0.27	0.27	4700	93
VOC	1,3,5-Trimethylbenzene	201-B04	Phase 1A	11	U (1.2) - 13	2.8	4700	93
VOC	1,3,5-Trimethylbenzene	201-B05	Phase 1A	3	0.019 - 0.046	0.030	4700	93
VOC	1,3,5-Trimethylbenzene	201-B06	Phase 1A	1	0.49 - 0.49	0.49	4700	93
VOC	1,3,5-Trimethylbenzene	201-B07	Phase 1A	14	0.0009 - 37	5.5	4700	93
VOC	1,3,5-Trimethylbenzene	201-B08	Phase 1A	10	U (0.14) - 1.7	0.30	4700	93
VOC	1,3,5-Trimethylbenzene	201-B09	Phase 1A	10	0.001 - 0.27	0.13	4700	93
VOC	1,3,5-Trimethylbenzene	201-B11	Phase 1A	31	U (0.57) - 19	0.79	4700	93
VOC	1,3,5-Trimethylbenzene	201-B12	Phase 1A	18	0.00021 - 3.35	0.43	4700	93
VOC	1,3,5-Trimethylbenzene	201-C01	Phase 1A	15	0.0038 - 110	19.8	4700	93
VOC	1,3,5-Trimethylbenzene	201-C02	Phase 1A	2	0.019 - 0.037	0.028	4700	93
VOC	1,3,5-Trimethylbenzene	201-C04	Phase 1A	14	0.016 - 29	4.8	4700	93
VOC	1,3,5-Trimethylbenzene	201-C05	Phase 1A	3	U (0.47)	0.12	4700	93
VOC	1,3,5-Trimethylbenzene	201-C06	Phase 1A	14	U (0.26) - 4.2	0.73	4700	93
VOC	1,3,5-Trimethylbenzene	201-C07	Phase 1A	11	0.069 - 359	89.3	4700	93
VOC	1,3,5-Trimethylbenzene	201-C08	Phase 1A	20	0.0079 - 310	34.5	4700	93
VOC	1,3,5-Trimethylbenzene	201-C09	Phase 1A	7	U (0.093) - 3	0.43	4700	93
VOC	1,3,5-Trimethylbenzene	201-C10	Phase 1A	3	U (0.225) - 12.1	4.0	4700	93
VOC	1,3,5-Trimethylbenzene	201-C11	Phase 1A	1	17.1 - 17.1	17.1	4700	93
VOC	1,3,5-Trimethylbenzene	201-D01	Phase 1A	3	U (0.0061)	0.0026	4700	93
VOC	1,3,5-Trimethylbenzene	201-D05	Phase 1A	8	10.8 - 14.6	3.2	4700	93
VOC	1,3,5-Trimethylbenzene	201-D08	Phase 1A	1	U (0.0023)	0.0012	4700	93
VOC	1,3,5-Trimethylbenzene	201-D12	Phase 1A	3	U (0.0023) - 0.0003	0.00073	4700	93
VOC	1,3,5-Trimethylbenzene	201-E01	Phase 1A	51	U (0.91) - 220	8.8	4700	93
VOC	1,3,5-Trimethylbenzene	201-E02	Phase 1A	1	U (0.002)	0.0010	4700	93
VOC	1,3,5-Trimethylbenzene	201-E03	Phase 1A	2	U (0.0045) - 0.094	0.048	4700	93
VOC	1,3,5-Trimethylbenzene	201-E04	Phase 1A	5	0.00039 - 95	35.6	4700	93
VOC	1,3,5-Trimethylbenzene	201-E05	Phase 1A	26	U (1.3) - 2.8	0.30	4700	93
VOC	1,3,5-Trimethylbenzene	201-F01	Phase 1A	48	U (0.61) - 16	0.49	4700	93
VOC	1,3,5-Trimethylbenzene	201-F02	Phase 1A	7	0.0007 - 0.11	0.027	4700	93
VOC	1,3,5-Trimethylbenzene	201-F03	Phase 1A	34	U (24) - 100	4.0	4700	93
VOC	1,3,5-Trimethylbenzene	201-F04	Phase 1A	20	U (1.5) - 0.91	0.15	4700	93
VOC	1,3,5-Trimethylbenzene	202-A03	Phase 1A	8	0.005 - 18	2.3	4700	93
VOC	1,3,5-Trimethylbenzene	202-A04	Phase 1A	4	0.067 - 0.36	0.18	4700	93
VOC	1,3,5-Trimethylbenzene	202-A05	Phase 1A	4	U (0.0022)	0.0011	4700	93
VOC	1,3,5-Trimethylbenzene	202-A06	Phase 1A	4	U (0.002)	0.00091	4700	93
VOC	1,3,5-Trimethylbenzene	202-A07	Phase 1A	3	U (0.0023)	0.0010	4700	93
VOC	1,3,5-Trimethylbenzene	202-A08	Phase 1A	3	U (0.0025) - 0.00084	0.0010	4700	93
VOC	1,3,5-Trimethylbenzene	202-A09	Phase 1A	6	U (0.0023) - 0.00025	0.00084	4700	93
VOC	1,3,5-Trimethylbenzene	202-B01	Phase 1A	2	U (0.0049) - 0.00054	0.0010	4700	93
VOC	1,3,5-Trimethylbenzene	202-B02	Phase 1A	16	U (0.31) - 2.4	0.19	4700	93
VOC	1,3,5-Trimethylbenzene	202-B03	Phase 1A	15	U (0.21) - 3.6	0.29	4700	93
VOC	1,3,5-Trimethylbenzene	202-B04	Phase 1A	3	0.091 - 0.091	0.031	4700	93
VOC	1,3,5-Trimethylbenzene	202-B09	Phase 1A	9	U (0.13) - 0.0032	0.0084	4700	93
VOC	1,3,5-Trimethylbenzene	202-C04	Phase 1A	7	U (0.0043) - 0.0013	0.0013	4700	93
VOC	1,3,5-Trimethylbenzene	202-C05	Phase 1A	20	U (0.33) - 3.9	0.47	4700	93
VOC	1,3,5-Trimethylbenzene	202-C06	Phase 1A	1	U (0.0019)	0.0010	4700	93
VOC	1,3,5-Trimethylbenzene	202-C07	Phase 1A	1	U (0.0044)	0.0022	4700	93
VOC	1,3,5-Trimethylbenzene	202-D05	Phase 1A	3	U (0.55)	0.18	4700	93
VOC	1,3,5-Trimethylbenzene	202-D06	Phase 1A	3	U (0.0044) - 0.0169	0.0071	4700	93
VOC	1,3,5-Trimethylbenzene	202-E06	Phase 1A	2	0.00088 - 0.00088	0.0012	4700	93
VOC	1,3,5-Trimethylbenzene	202-E08	Phase 1A	11	0.01 - 3.8	0.35	4700	93
VOC	1,3,5-Trimethylbenzene	202-E09	Phase 1A	13	U (0.14) - 4.5	0.68	4700	93
VOC	1,3,5-Trimethylbenzene	202-E10	Phase 1A	4	U (0.0021) - 0.0045	0.0027	4700	93
VOC	1,3,5-Trimethylbenzene	202-E12	Phase 1A	2	U (0.0022)	0.0010	4700	93
VOC	1,3,5-Trimethylbenzene	202-F04	Phase 1A	7	0.00026 - 1	0.14	4700	93
VOC	1,3,5-Trimethylbenzene	202-F05	Phase 1A	1	U (0.0022)	0.0011	4700	93
VOC	1,3,5-Trimethylbenzene	202-F07	Phase 1A	9	0.00047 - 4	0.79	4700	93
VOC	1,3,5-Trimethylbenzene	202-F08	Phase 1A	3	0.00028 - 0.00028	0.0013	4700	93
VOC	1,3,5-Trimethylbenzene	202-F10	Phase 1A	2	U (0.11) - 0.011	0.0061	4700	93
VOC	1,3,5-Trimethylbenzene	202-F13	Phase 1A	1	U (0.006)	0.0030	4700	93
VOC	1,3,5-Trimethylbenzene	202-F14	Phase 1A	2	U (0.0057)	0.0025	4700	93
VOC	1,3,5-Trimethylbenzene	202-F16	Phase 1A	1	U (0.0045)	0.0023	4700	93
VOC	1,3,5-Trimethylbenzene	202-F17	Phase 1A	8	U (0.0043)	0.0014	4700	93
VOC	1,3,5-Trimethylbenzene	202-G01	Phase 1A	8	U (0.0023)	0.0010	4700	93
VOC	1,3,5-Trimethylbenzene	202-G02	Phase 1A	13	U (0.13)	0.0059	4700	93

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VOC	1,3,5-Trimethylbenzene	202-G03	Phase 1A	9	U (0.0038)	0.0011	4700	93
VOC	1,3,5-Trimethylbenzene	202-G04	Phase 1A	1	U (0.0058)	0.0029	4700	93
VOC	1,3,5-Trimethylbenzene	202-G05	Phase 1A	1	U (0.0045)	0.0023	4700	93
VOC	1,3,5-Trimethylbenzene	202-G07	Phase 1A	16	U (0.15) - 0.14	0.020	4700	93
VOC	1,3,5-Trimethylbenzene	202-H03	Phase 1A	6	U (2.9) - 27.3	6.6	4700	93
VOC	1,3,5-Trimethylbenzene	202-H05	Phase 1A	1	U (0.0055)	0.0028	4700	93
VOC	1,3,5-Trimethylbenzene	202-H06	Phase 1A	2	U (0.0063)	0.0029	4700	93
VOC	1,3,5-Trimethylbenzene	202-H07	Phase 1A	2	U (0.0056)	0.0027	4700	93
VOC	1,3,5-Trimethylbenzene	202-H08	Phase 1A	3	U (0.0039)	0.0015	4700	93
VOC	1,3,5-Trimethylbenzene	202-H09	Phase 1A	4	0.0022 - 0.2	0.053	4700	93
VOC	1,3,5-Trimethylbenzene	202-H11	Phase 1A	10	U (0.14) - 4.8	0.92	4700	93
VOC	1,3,5-Trimethylbenzene	202-I01	Phase 1A	2	U (0.0021)	0.0010	4700	93
VOC	1,3,5-Trimethylbenzene	202-I04	Phase 1A	4	U (0.0036) - 0.00089	0.0012	4700	93
VOC	1,3,5-Trimethylbenzene	202-J01	Phase 1A	6	U (0.12) - 0.016	0.0036	4700	93
VOC	1,3,5-Trimethylbenzene	202-J02	Phase 1A	5	U (0.12) - 1.1	0.23	4700	93
VOC	1,3,5-Trimethylbenzene	202-J03	Phase 1A	9	4.9 - 49	20.3	4700	93
VOC	1,3,5-Trimethylbenzene	202-J04	Phase 1A	8	0.00029 - 27	13.0	4700	93
VOC	1,3,5-Trimethylbenzene	202-J07	Phase 1A	1	2.88 - 2.88	2.9	4700	93
VOC	1,3,5-Trimethylbenzene	202-J09	Phase 1A	2	0.017 - 0.017	0.24	4700	93
VOC	1,3,5-Trimethylbenzene	301-AA01	Phase 1A	1	U (0.0027)	0.0014	4700	93
VOC	1,3,5-Trimethylbenzene	301-AA06	Phase 1A	11	U (0.67) - 1	0.14	4700	93
VOC	1,3,5-Trimethylbenzene	301-AA07	Phase 1A	4	U (1.4) - 9.72	2.4	4700	93
VOC	1,3,5-Trimethylbenzene	301-AA08	Phase 1A	3	U (0.28)	0.086	4700	93
VOC	1,3,5-Trimethylbenzene	301-AA09	Phase 1A	3	U (0.48)	0.17	4700	93
VOC	1,3,5-Trimethylbenzene	301-AB04	Phase 1A	3	0.0044 - 0.15	0.052	4700	93
VOC	1,3,5-Trimethylbenzene	301-AB06	Phase 1A	2	0.035 - 0.035	0.018	4700	93
VOC	1,3,5-Trimethylbenzene	301-AB07	Phase 1A	1	0.039 - 0.039	0.039	4700	93
VOC	1,3,5-Trimethylbenzene	301-AB09	Phase 1A	2	U (0.0059) - 0.0059	0.0041	4700	93
VOC	1,3,5-Trimethylbenzene	301-AC04	Phase 1A	25	U (0.39) - 1.7	0.11	4700	93
VOC	1,3,5-Trimethylbenzene	301-AC07	Phase 1A	10	0.00037 - 0.011	0.0025	4700	93
VOC	1,3,5-Trimethylbenzene	301-AC08	Phase 1A	7	U (0.5) - 4	0.57	4700	93
VOC	1,3,5-Trimethylbenzene	301-AC09	Phase 1A	6	U (0.0022)	0.00093	4700	93
VOC	1,3,5-Trimethylbenzene	301-B01	Phase 1A	1	U (0.0058)	0.0029	4700	93
VOC	1,3,5-Trimethylbenzene	301-C01	Phase 1A	3	0.013 - 95	32.7	4700	93
VOC	1,3,5-Trimethylbenzene	301-C02	Phase 1A	8	0.00058 - 2.4	0.42	4700	93
VOC	1,3,5-Trimethylbenzene	301-D01	Phase 1A	32	0.00047 - 200	32.0	4700	93
VOC	1,3,5-Trimethylbenzene	301-E02	Phase 1A	32	0.00036 - 400	27.7	4700	93
VOC	1,3,5-Trimethylbenzene	301-E03	Phase 1A	5	U (0.31) - 0.086	0.028	4700	93
VOC	1,3,5-Trimethylbenzene	301-F02	Phase 1A	7	U (0.6) - 17	2.6	4700	93
VOC	1,3,5-Trimethylbenzene	301-G01	Phase 1A	2	U (0.95) - 0.76	0.41	4700	93
VOC	1,3,5-Trimethylbenzene	301-G02	Phase 1A	3	2.4 - 2.5	1.6	4700	93
VOC	1,3,5-Trimethylbenzene	301-G03	Phase 1A	1	30 - 30	30.0	4700	93
VOC	1,3,5-Trimethylbenzene	301-H01	Phase 1A	20	0.00029 - 53	9.2	4700	93
VOC	1,3,5-Trimethylbenzene	301-H02	Phase 1A	3	U (0.001) - 0.001	0.00067	4700	93
VOC	1,3,5-Trimethylbenzene	301-H03	Phase 1A	2	0.11 - 25	12.6	4700	93
VOC	1,3,5-Trimethylbenzene	301-I01	Phase 1A	9	U (1.1) - 2.4	0.58	4700	93
VOC	1,3,5-Trimethylbenzene	301-I02	Phase 1A	1	0.014 - 0.014	0.014	4700	93
VOC	1,3,5-Trimethylbenzene	301-J01	Phase 1A	4	U (0.24) - 1.1	0.32	4700	93
VOC	1,3,5-Trimethylbenzene	301-J02	Phase 1A	7	U (0.28) - 15	5.5	4700	93
VOC	1,3,5-Trimethylbenzene	301-K01	Phase 1A	9	0.0074 - 2.6	0.36	4700	93
VOC	1,3,5-Trimethylbenzene	301-K02	Phase 1A	3	U (0.24) - 0.03	0.072	4700	93
VOC	1,3,5-Trimethylbenzene	301-L02	Phase 1A	8	0.03 - 100	15.0	4700	93
VOC	1,3,5-Trimethylbenzene	301-L03	Phase 1A	5	U (0.26) - 0.23	0.13	4700	93
VOC	1,3,5-Trimethylbenzene	301-M02	Phase 1A	5	U (0.22) - 0.04	0.031	4700	93
VOC	1,3,5-Trimethylbenzene	301-M03	Phase 1A	3	U (0.22) - 0.023	0.048	4700	93
VOC	1,3,5-Trimethylbenzene	301-N02	Phase 1A	3	U (0.22)	0.071	4700	93
VOC	1,3,5-Trimethylbenzene	301-P02	Phase 1A	2	U (0.63) - 1.86	1.1	4700	93
VOC	1,3,5-Trimethylbenzene	301-Q04	Phase 1A	5	U (0.234) - 0.25	0.061	4700	93
VOC	1,3,5-Trimethylbenzene	301-R02	Phase 1A	6	U (0.26)	0.024	4700	93
VOC	1,3,5-Trimethylbenzene	301-S02	Phase 1A	4	U (0.0054)	0.0025	4700	93
VOC	1,3,5-Trimethylbenzene	301-T04	Phase 1A	2	U (0.3)	0.076	4700	93
VOC	1,3,5-Trimethylbenzene	301-V04	Phase 1A	29	U (1.3) - 17	0.83	4700	93
VOC	1,3,5-Trimethylbenzene	301-W03	Phase 1A	4	U (0.27)	0.10	4700	93
VOC	1,3,5-Trimethylbenzene	301-X03	Phase 1A	3	U (0.25)	0.079	4700	93
VOC	1,3,5-Trimethylbenzene	301-Y03	Phase 1A	2	U (0.6)	0.15	4700	93
VOC	1,3,5-Trimethylbenzene	301-Y04	Phase 1A	3	U (0.28)	0.092	4700	93
VOC	1,3,5-Trimethylbenzene	301-Y05	Phase 1A	6	0.022 - 4.5	1.2	4700	93
VOC	1,3,5-Trimethylbenzene	302-AD08	Phase 1A	2	U (0.0024)	0.0011	4700	93
VOC	1,3,5-Trimethylbenzene	302-AD09	Phase 1A	3	U (0.0056)	0.0026	4700	93
VOC	1,3,5-Trimethylbenzene	302-AD10	Phase 1A	4	3.4 - 3.8	1.8	4700	93
VOC	1,3,5-Trimethylbenzene	302-AE09	Phase 1A	4	U (0.0019)	0.00091	4700	93
VOC	1,3,5-Trimethylbenzene	302-AF06	Phase 1A	9	U (0.61) - 33	3.7	4700	93
VOC	1,3,5-Trimethylbenzene	302-AG07	Phase 1A	7	U (0.0027) - 0.0011	0.0011	4700	93
VOC	1,3,5-Trimethylbenzene	302-AN02	Phase 1A	2	U (0.0012)	0.00057	4700	93
VOC	1,3,5-Trimethylbenzene	302-AO03	Phase 1A	2	U (0.00127)	0.00060	4700	93
VOC	1,3,5-Trimethylbenzene	302-AQ02	Phase 1A	9	U (0.5) - 3.2	0.74	4700	93
VOC	1,3,5-Trimethylbenzene	302-AR02	Phase 1A	4	U (0.0025)	0.0011	4700	93
VOC	1,3,5-Trimethylbenzene	302-AS03	Phase 1A	13	U (0.53)	0.033	4700	93
VOC	1,3,5-Trimethylbenzene	302-AV01	Phase 1A	6	U (0.008) - 0.0014	0.0021	4700	93
VOC	1,3,5-Trimethylbenzene	302-AV03	Phase 1A	6	U (0.11) - 5.2	0.88	4700	93
VOC	1,3,5-Trimethylbenzene	302-AW01	Phase 1A	8	U (0.49) - 0.34	0.12	4700	93
VOC	1,3,5-Trimethylbenzene	302-AW03	Phase 1A	2	U (0.0019)	0.00090	4700	93
VOC	1,3,5-Trimethylbenzene	302-AX01	Phase 1A	4	U (0.006) - 0.00052	0.0016	4700	93

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	1,3,5-Trimethylbenzene	302-AX05	Phase 1A	2	U (0.00125)	0.00060	4700	93
VOC	1,3,5-Trimethylbenzene	302-AZ05	Phase 1A	2	U (0.0027)	0.0013	4700	93
VOC	1,3,5-Trimethylbenzene	302-BA05	Phase 1A	2	0.0312 - 10.5	5.3	4700	93
VOC	1,3,5-Trimethylbenzene	302-BB06	Phase 1A	5	U (0.12) - 0.39	0.086	4700	93
VOC	1,3,5-Trimethylbenzene	302-BC05	Phase 1A	19	U (0.13) - 1.9	0.13	4700	93
VOC	1,3,5-Trimethylbenzene	302-BE04	Phase 1A	1	U (0.006)	0.0030	4700	93
VOC	1,3,5-Trimethylbenzene	303-AY01	Phase 1A	6	U (0.005) - 0.00045	0.0016	4700	93
VOC	1,3,5-Trimethylbenzene	303-AZ01	Phase 1A	5	U (5.2)	1.4	4700	93
VOC	1,3,5-Trimethylbenzene	303-BA01	Phase 1A	8	U (0.0038) - 0.0011	0.0011	4700	93
VOC	1,3,5-Trimethylbenzene	303-BA02	Phase 1A	7	U (0.49) - 0.45	0.094	4700	93
VOC	1,3,5-Trimethylbenzene	303-BB01	Phase 1A	2	U (0.005)	0.0023	4700	93
VOC	1,3,5-Trimethylbenzene	303-BB02	Phase 1A	5	U (0.64)	0.065	4700	93
VOC	1,3,5-Trimethylbenzene	303-BC01	Phase 1A	4	U (0.0022) - 0.00061	0.00092	4700	93
VOC	1,3,5-Trimethylbenzene	303-BD04	Phase 1A	6	U (0.25) - 0.37	0.064	4700	93
VOC	1,3,5-Trimethylbenzene	303-BE03	Phase 1A	25	U (0.22) - 2.1	0.11	4700	93
VOC	1,3,5-Trimethylbenzene	303-BF05	Phase 1A	13	U (2.2) - 110	8.5	4700	93
VOC	1,3,5-Trimethylbenzene	303-BG04	Phase 1A	27	U (8.5) - 610	28.9	4700	93
VOC	1,3,5-Trimethylbenzene	303-BH02	Phase 1A	20	0.00031 - 80	4.8	4700	93
VOC	1,3,5-Trimethylbenzene	303-BI03	Phase 1A	6	0.001 - 0.002	0.0015	4700	93
VOC	1,3,5-Trimethylbenzene	303-BJ01	Phase 1A	3	0.0004 - 0.06	0.065	4700	93
VOC	1,3,5-Trimethylbenzene	303-BJ02	Phase 1A	3	U (0.0065)	0.0025	4700	93
VOC	1,3,5-Trimethylbenzene	303-BK03	Phase 1A	7	0.0025 - 0.41	0.10	4700	93
VOC	1,3,5-Trimethylbenzene	303-BL02	Phase 1A	13	0.00056 - 0.025	0.011	4700	93
VOC	1,3,5-Trimethylbenzene	303-BM02	Phase 1A	1	0.0096 - 0.0096	0.010	4700	93
VOC	1,3,5-Trimethylbenzene	303-BN02	Phase 1A	15	U (0.25) - 3.8	0.27	4700	93
VOC	1,3,5-Trimethylbenzene	303-BN03	Phase 1A	14	U (0.34) - 0.155	0.035	4700	93
VOC	1,3,5-Trimethylbenzene	303-BO02	Phase 1A	17	0.00028 - 9.3	0.73	4700	93
VOC	1,3,5-Trimethylbenzene	303-BP02	Phase 1A	40	0.0018 - 35	7.1	4700	93
VOC	1,3,5-Trimethylbenzene	303-BQ01	Phase 1A	4	U (0.66) - 0.48	0.23	4700	93
VOC	1,3,5-Trimethylbenzene	303-BQ02	Phase 1A	16	0.0049 - 140	14.2	4700	93
VOC	1,3,5-Trimethylbenzene	303-BR02	Phase 1A	5	0.0469 - 0.0469	0.12	4700	93
VOC	1,3,5-Trimethylbenzene	303-BT01	Phase 1A	13	U (2.9) - 15	1.2	4700	93
VOC	1,3,5-Trimethylbenzene	303-BW01	Phase 1A	1	U (0.32)	0.16	4700	93
VOC	1,3,5-Trimethylbenzene	301-AA02	Phase 1B	2	U (0.002) - 0.00065	0.00083	4700	93
VOC	1,3,5-Trimethylbenzene	301-AA05	Phase 1B	11	0.00068 - 0.84	0.12	4700	93
VOC	1,3,5-Trimethylbenzene	301-AB05	Phase 1B	6	U (1.1)	0.093	4700	93
VOC	1,3,5-Trimethylbenzene	301-AC03	Phase 1B	2	U (0.005)	0.0024	4700	93
VOC	1,3,5-Trimethylbenzene	301-T01	Phase 1B	5	0.371 - 0.371	0.17	4700	93
VOC	1,3,5-Trimethylbenzene	301-T02	Phase 1B	2	0.0244 - 0.0244	0.16	4700	93
VOC	1,3,5-Trimethylbenzene	301-U01	Phase 1B	2	U (0.29) - 0.063	0.033	4700	93
VOC	1,3,5-Trimethylbenzene	301-U03	Phase 1B	1	U (0.005)	0.0025	4700	93
VOC	1,3,5-Trimethylbenzene	301-V01	Phase 1B	7	0.00057 - 0.0946	0.080	4700	93
VOC	1,3,5-Trimethylbenzene	301-V02	Phase 1B	20	U (0.54) - 0.023	0.050	4700	93
VOC	1,3,5-Trimethylbenzene	301-W01	Phase 1B	24	U (0.69)	0.043	4700	93
VOC	1,3,5-Trimethylbenzene	301-X01	Phase 1B	9	U (0.5) - 0.35	0.074	4700	93
VOC	1,3,5-Trimethylbenzene	301-Y01	Phase 1B	5	U (0.21) - 2.39	0.48	4700	93
VOC	1,3,5-Trimethylbenzene	301-Z01	Phase 1B	6	U (0.0023) - 0.00055	0.0010	4700	93
VOC	1,3,5-Trimethylbenzene	301-Z02	Phase 1B	2	U (0.005)	0.0017	4700	93
VOC	1,3,5-Trimethylbenzene	301-Z03	Phase 1B	5	0.00056 - 0.0272	0.12	4700	93
VOC	1,3,5-Trimethylbenzene	302-AD06	Phase 1B	12	U (0.5) - 1.2	0.12	4700	93
VOC	1,3,5-Trimethylbenzene	302-AD07	Phase 1B	2	U (0.0025)	0.0011	4700	93
VOC	1,3,5-Trimethylbenzene	302-AE04	Phase 1B	8	U (0.15) - 0.029	0.0066	4700	93
VOC	1,3,5-Trimethylbenzene	302-AE05	Phase 1B	20	0.00047 - 0.04	0.0036	4700	93
VOC	1,3,5-Trimethylbenzene	302-AE07	Phase 1B	3	U (0.47) - 0.00027	0.079	4700	93
VOC	1,3,5-Trimethylbenzene	302-AE08	Phase 1B	3	U (0.0021) - 0.00038	0.00081	4700	93
VOC	1,3,5-Trimethylbenzene	302-AF03	Phase 1B	2	0.29 - 6.1	3.2	4700	93
VOC	1,3,5-Trimethylbenzene	302-AF04	Phase 1B	11	0.002 - 0.26	0.028	4700	93
VOC	1,3,5-Trimethylbenzene	302-AF05	Phase 1B	2	15.4 - 15.4	7.7	4700	93
VOC	1,3,5-Trimethylbenzene	302-AF09	Phase 1B	5	U (0.51) - 0.8	0.16	4700	93
VOC	1,3,5-Trimethylbenzene	302-AG04	Phase 1B	3	U (0.28) - 0.935	0.31	4700	93
VOC	1,3,5-Trimethylbenzene	302-AG06	Phase 1B	5	U (1) - 1.88	0.43	4700	93
VOC	1,3,5-Trimethylbenzene	302-AH05	Phase 1B	11	U (0.22) - 7.72	0.96	4700	93
VOC	1,3,5-Trimethylbenzene	302-AH06	Phase 1B	4	U (0.0064)	0.0019	4700	93
VOC	1,3,5-Trimethylbenzene	302-AH07	Phase 1B	11	U (0.0046)	0.0012	4700	93
VOC	1,3,5-Trimethylbenzene	302-AI05	Phase 1B	11	U (0.22) - 2.8	0.27	4700	93
VOC	1,3,5-Trimethylbenzene	302-AI06	Phase 1B	19	U (0.2) - 0.25	0.015	4700	93
VOC	1,3,5-Trimethylbenzene	302-AI07	Phase 1B	8	0.0551 - 0.0551	0.078	4700	93
VOC	1,3,5-Trimethylbenzene	302-AI08	Phase 1B	1	0.147 - 0.147	0.15	4700	93
VOC	1,3,5-Trimethylbenzene	302-AI09	Phase 1B	3	U (0.0044)	0.0018	4700	93
VOC	1,3,5-Trimethylbenzene	302-AJ05	Phase 1B	2	U (0.0024)	0.0012	4700	93
VOC	1,3,5-Trimethylbenzene	302-AJ06	Phase 1B	5	U (0.0035) - 0.0068	0.0023	4700	93
VOC	1,3,5-Trimethylbenzene	302-AK05	Phase 1B	2	U (0.00118)	0.00058	4700	93
VOC	1,3,5-Trimethylbenzene	302-AK07	Phase 1B	2	U (0.202)	0.051	4700	93
VOC	1,3,5-Trimethylbenzene	302-AL03	Phase 1B	2	10.5 - 10.5	5.3	4700	93
VOC	1,3,5-Trimethylbenzene	302-AL08	Phase 1B	2	U (0.0045)	0.0019	4700	93
VOC	1,3,5-Trimethylbenzene	302-AN01	Phase 1B	2	U (0.0061)	0.0028	4700	93
VOC	1,3,5-Trimethylbenzene	302-AN03	Phase 1B	1	U (0.004)	0.0020	4700	93
VOC	1,3,5-Trimethylbenzene	302-AO05	Phase 1B	1	U (0.005)	0.0025	4700	93
VOC	1,3,5-Trimethylbenzene	302-AP02	Phase 1B	2	U (0.0025)	0.0013	4700	93
VOC	1,3,5-Trimethylbenzene	302-AP03	Phase 1B	16	0.054 - 0.189	0.022	4700	93
VOC	1,3,5-Trimethylbenzene	302-AP04	Phase 1B	3	U (0.24) - 0.434	0.15	4700	93
VOC	1,3,5-Trimethylbenzene	302-AP05	Phase 1B	2	U (0.0027)	0.0013	4700	93
VOC	1,3,5-Trimethylbenzene	302-AQ01	Phase 1B	2	U (0.006)	0.0030	4700	93

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	1,3,5-Trimethylbenzene	302-AQ04	Phase 1B	2	U (0.0044)	0.0022	4700	93
VOC	1,3,5-Trimethylbenzene	302-AR01	Phase 1B	2	U (0.006)	0.0028	4700	93
VOC	1,3,5-Trimethylbenzene	302-AR04	Phase 1B	3	U (0.0055)	0.0025	4700	93
VOC	1,3,5-Trimethylbenzene	302-AS04	Phase 1B	2	U (0.00127)	0.00062	4700	93
VOC	1,3,5-Trimethylbenzene	302-AT02	Phase 1B	2	U (1.1) - 0.497	0.25	4700	93
VOC	1,3,5-Trimethylbenzene	302-AT03	Phase 1B	4	U (0.57)	0.073	4700	93
VOC	1,3,5-Trimethylbenzene	302-AU01	Phase 1B	2	U (0.0052)	0.0024	4700	93
VOC	1,3,5-Trimethylbenzene	302-AU02	Phase 1B	8	U (0.11)	0.0080	4700	93
VOC	1,3,5-Trimethylbenzene	302-AU03	Phase 1B	2	U (0.0019)	0.00090	4700	93
VOC	1,3,5-Trimethylbenzene	302-AV02	Phase 1B	4	U (0.11) - 8.5	2.1	4700	93
VOC	1,3,5-Trimethylbenzene	302-AV04	Phase 1B	2	U (0.00126)	0.00062	4700	93
VOC	1,3,5-Trimethylbenzene	302-AW02	Phase 1B	2	U (0.28)	0.071	4700	93
VOC	1,3,5-Trimethylbenzene	302-AX02	Phase 1B	3	U (0.53)	0.090	4700	93
VOC	1,3,5-Trimethylbenzene	302-AY02	Phase 1B	11	0.369 - 130	12.1	4700	93
VOC	1,3,5-Trimethylbenzene	302-AY03	Phase 1B	2	U (0.0064)	0.0029	4700	93
VOC	1,3,5-Trimethylbenzene	302-AY05	Phase 1B	2	U (0.00124)	0.00060	4700	93
VOC	1,3,5-Trimethylbenzene	302-AZ02	Phase 1B	3	U (4.6) - 8	2.7	4700	93
VOC	1,3,5-Trimethylbenzene	302-AZ03	Phase 1B	1	U (0.31)	0.16	4700	93
VOC	1,3,5-Trimethylbenzene	302-BB07	Phase 1B	17	U (1.2) - 32	5.0	4700	93
VOC	1,3,5-Trimethylbenzene	301-L01	Phase 1C	7	U (0.32)	0.086	4700	93
VOC	1,3,5-Trimethylbenzene	301-T03	Phase 1C	2	U (0.0072)	0.0032	4700	93
VOC	1,3,5-Trimethylbenzene	302-AD02	Phase 1C	2	U (0.004)	0.0016	4700	93
VOC	1,3,5-Trimethylbenzene	302-AE01	Phase 1C	1	U (0.006)	0.0030	4700	93
VOC	1,3,5-Trimethylbenzene	302-AE02	Phase 1C	2	U (0.007)	0.0028	4700	93
VOC	1,3,5-Trimethylbenzene	302-AF01	Phase 1C	1	U (0.005)	0.0025	4700	93
VOC	1,3,5-Trimethylbenzene	302-AF02	Phase 1C	4	U (0.007)	0.0028	4700	93
VOC	1,3,5-Trimethylbenzene	302-AG02	Phase 1C	2	U (1.7)	0.43	4700	93
VOC	1,3,5-Trimethylbenzene	302-AH01	Phase 1C	2	U (0.005)	0.0025	4700	93
VOC	1,3,5-Trimethylbenzene	302-AI01	Phase 1C	2	U (0.0023)	0.0011	4700	93
VOC	1,3,5-Trimethylbenzene	302-AL01	Phase 1C	2	U (0.43)	0.11	4700	93
VOC	Xylenes (total)	LS-A-A01	Life Sciences	1	U (0.24)	0.12	7900	1000
VOC	Xylenes (total)	LS-A-A02	Life Sciences	2	U (0.3)	0.075	7900	1000
VOC	Xylenes (total)	LS-A-A03	Life Sciences	1	U (0.0014)	0.00070	7900	1000
VOC	Xylenes (total)	LS-A-A04	Life Sciences	3	U (0.28)	0.093	7900	1000
VOC	Xylenes (total)	LS-A-B02	Life Sciences	14	0.00022 - 0.00022	0.00089	7900	1000
VOC	Xylenes (total)	LS-A-B03	Life Sciences	4	U (0.059) - 6.12	1.5	7900	1000
VOC	Xylenes (total)	LS-A-C01	Life Sciences	28	U (0.22) - 0.0048	0.0092	7900	1000
VOC	Xylenes (total)	LS-A-C02	Life Sciences	12	U (0.9) - 0.451	0.088	7900	1000
VOC	Xylenes (total)	LS-A-C04	Life Sciences	3	U (0.21)	0.048	7900	1000
VOC	Xylenes (total)	LS-A-D01	Life Sciences	5	0.346 - 2.7	0.73	7900	1000
VOC	Xylenes (total)	LS-A-D02	Life Sciences	1	U (0.23)	0.12	7900	1000
VOC	Xylenes (total)	LS-A-D03	Life Sciences	3	U (0.26)	0.045	7900	1000
VOC	Xylenes (total)	LS-A-D04	Life Sciences	2	U (0.00365)	0.0017	7900	1000
VOC	Xylenes (total)	LS-A-D05	Life Sciences	6	U (0.27) - 0.88	0.28	7900	1000
VOC	Xylenes (total)	LS-A-D06	Life Sciences	2	U (0.0794)	0.021	7900	1000
VOC	Xylenes (total)	LS-A-D07	Life Sciences	2	1.32 - 1.32	0.66	7900	1000
VOC	Xylenes (total)	LS-A-E01	Life Sciences	3	U (3.1)	0.56	7900	1000
VOC	Xylenes (total)	LS-A-E03	Life Sciences	1	U (0.23)	0.12	7900	1000
VOC	Xylenes (total)	LS-A-E04	Life Sciences	2	0.11 - 6.54	3.3	7900	1000
VOC	Xylenes (total)	LS-A-E05	Life Sciences	1	U (0.22)	0.11	7900	1000
VOC	Xylenes (total)	LS-A-E07	Life Sciences	7	U (7)	1.7	7900	1000
VOC	Xylenes (total)	LS-A-E08	Life Sciences	6	U (4.5) - 0.24	0.84	7900	1000
VOC	Xylenes (total)	LS-A-F01	Life Sciences	3	U (1.9)	0.36	7900	1000
VOC	Xylenes (total)	LS-A-F02	Life Sciences	3	34 - 34	11.4	7900	1000
VOC	Xylenes (total)	LS-A-F03	Life Sciences	1	U (0.19)	0.10	7900	1000
VOC	Xylenes (total)	LS-A-F04	Life Sciences	12	U (0.37)	0.045	7900	1000
VOC	Xylenes (total)	LS-A-F05	Life Sciences	1	U (0.32)	0.16	7900	1000
VOC	Xylenes (total)	LS-A-G01	Life Sciences	3	U (3.1)	0.65	7900	1000
VOC	Xylenes (total)	LS-A-G02	Life Sciences	2	U (2.2)	0.70	7900	1000
VOC	Xylenes (total)	LS-A-G03	Life Sciences	3	U (0.581) - 4.91	1.8	7900	1000
VOC	Xylenes (total)	LS-A-G07	Life Sciences	3	U (0.24)	0.041	7900	1000
VOC	Xylenes (total)	LS-A-G08	Life Sciences	2	U (0.00375) - 0.067	0.034	7900	1000
VOC	Xylenes (total)	LS-A-H03	Life Sciences	2	U (0.00354)	0.0018	7900	1000
VOC	Xylenes (total)	LS-A-H04	Life Sciences	2	U (0.0621)	0.016	7900	1000
VOC	Xylenes (total)	LS-A-H06	Life Sciences	1	U (0.19)	0.10	7900	1000
VOC	Xylenes (total)	LS-A-H07	Life Sciences	2	0.0635 - 0.315	0.19	7900	1000
VOC	Xylenes (total)	LS-A-I01	Life Sciences	6	U (0.567)	0.10	7900	1000
VOC	Xylenes (total)	LS-A-I02	Life Sciences	1	0.2 - 0.2	0.20	7900	1000
VOC	Xylenes (total)	LS-A-I03	Life Sciences	3	U (0.424)	0.11	7900	1000
VOC	Xylenes (total)	LS-B-B01	Life Sciences	1	U (0.0035)	0.0018	7900	1000
VOC	Xylenes (total)	LS-B-C01	Life Sciences	3	U (0.25)	0.063	7900	1000
VOC	Xylenes (total)	LS-B-E01	Life Sciences	4	5.8 - 23.6	7.5	7900	1000
VOC	Xylenes (total)	LS-B-G02	Life Sciences	1	U (0.00415)	0.0021	7900	1000
VOC	Xylenes (total)	LS-B-H02	Life Sciences	3	U (0.707) - 0.61	0.32	7900	1000
VOC	Xylenes (total)	LS-E-B01	Life Sciences	94	U (4.02) - 24.1	0.85	7900	1000
VOC	Xylenes (total)	LS-E-G01	Life Sciences	4	U (0.23) - 0.042	0.068	7900	1000
VOC	Xylenes (total)	201-A01	Phase 1A	7	0.039 - 231	65.9	7900	1000
VOC	Xylenes (total)	201-A02	Phase 1A	14	0.064 - 12600	1209.3	7900	1000
VOC	Xylenes (total)	201-A03	Phase 1A	7	0.0125 - 2870	825.7	7900	1000
VOC	Xylenes (total)	201-A04	Phase 1A	55	0.00114 - 8000	1353.3	7900	1000
VOC	Xylenes (total)	201-A05	Phase 1A	9	0.072 - 405.1	178.8	7900	1000
VOC	Xylenes (total)	201-A06	Phase 1A	10	0.0031 - 5.39	0.79	7900	1000
VOC	Xylenes (total)	201-A07	Phase 1A	12	0.924 - 1420	422.2	7900	1000

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Xylenes (total)	201-A08	Phase 1A	7	3.89 - 383	59.3	7900	1000
VOC	Xylenes (total)	201-A09	Phase 1A	8	0.0455 - 1550	450.6	7900	1000
VOC	Xylenes (total)	201-A10	Phase 1A	8	U (0.94) - 85	10.7	7900	1000
VOC	Xylenes (total)	201-A11	Phase 1A	8	0.00098 - 386	50.7	7900	1000
VOC	Xylenes (total)	201-A12	Phase 1A	16	0.0012 - 146	15.2	7900	1000
VOC	Xylenes (total)	201-A13	Phase 1A	18	0.0196 - 920	140.8	7900	1000
VOC	Xylenes (total)	201-A14	Phase 1A	15	0.002 - 1.42	0.34	7900	1000
VOC	Xylenes (total)	201-B01	Phase 1A	4	U (1.7) - 110	27.6	7900	1000
VOC	Xylenes (total)	201-B02	Phase 1A	10	0.26 - 1080	210.8	7900	1000
VOC	Xylenes (total)	201-B03	Phase 1A	1	1.18 - 1.18	1.2	7900	1000
VOC	Xylenes (total)	201-B04	Phase 1A	11	U (1.2) - 55	5.4	7900	1000
VOC	Xylenes (total)	201-B05	Phase 1A	3	0.117 - 0.69	0.43	7900	1000
VOC	Xylenes (total)	201-B07	Phase 1A	7	0.0028 - 16	2.5	7900	1000
VOC	Xylenes (total)	201-B08	Phase 1A	10	U (0.14) - 1.576	0.21	7900	1000
VOC	Xylenes (total)	201-B09	Phase 1A	10	0.00432 - 1.26	0.26	7900	1000
VOC	Xylenes (total)	201-B10	Phase 1A	8	0.0031 - 3.2	0.64	7900	1000
VOC	Xylenes (total)	201-B11	Phase 1A	7	U (0.16) - 0.966	0.17	7900	1000
VOC	Xylenes (total)	201-B12	Phase 1A	4	0.00435 - 3.89	1.8	7900	1000
VOC	Xylenes (total)	201-C01	Phase 1A	15	0.00296 - 133	22.4	7900	1000
VOC	Xylenes (total)	201-C02	Phase 1A	2	0.0312 - 0.125	0.078	7900	1000
VOC	Xylenes (total)	201-C04	Phase 1A	13	0.032 - 9.6	1.8	7900	1000
VOC	Xylenes (total)	201-C05	Phase 1A	3	0.011 - 0.011	0.37	7900	1000
VOC	Xylenes (total)	201-C06	Phase 1A	14	0.00129 - 17.4	2.4	7900	1000
VOC	Xylenes (total)	201-C07	Phase 1A	10	0.26 - 631	234.7	7900	1000
VOC	Xylenes (total)	201-C08	Phase 1A	17	0.00225 - 1640	213.9	7900	1000
VOC	Xylenes (total)	201-C09	Phase 1A	7	U (0.093) - 0.166	0.025	7900	1000
VOC	Xylenes (total)	201-C10	Phase 1A	4	0.00031 - 8.37	2.1	7900	1000
VOC	Xylenes (total)	201-C11	Phase 1A	1	47.6 - 47.6	47.6	7900	1000
VOC	Xylenes (total)	201-D01	Phase 1A	4	U (0.0184)	0.0063	7900	1000
VOC	Xylenes (total)	201-D05	Phase 1A	8	U (10.5) - 31.9	6.8	7900	1000
VOC	Xylenes (total)	201-D08	Phase 1A	1	U (0.0011)	0.00055	7900	1000
VOC	Xylenes (total)	201-D12	Phase 1A	3	U (0.0023)	0.0010	7900	1000
VOC	Xylenes (total)	201-E01	Phase 1A	74	U (5) - 440	21.1	7900	1000
VOC	Xylenes (total)	201-E02	Phase 1A	1	U (0.002)	0.0010	7900	1000
VOC	Xylenes (total)	201-E03	Phase 1A	3	U (0.013) - 0.0044	0.0040	7900	1000
VOC	Xylenes (total)	201-E04	Phase 1A	5	0.002 - 350	112.0	7900	1000
VOC	Xylenes (total)	201-E05	Phase 1A	26	U (1.3) - 17.7	1.4	7900	1000
VOC	Xylenes (total)	201-F01	Phase 1A	51	U (0.72) - 20	0.59	7900	1000
VOC	Xylenes (total)	201-F02	Phase 1A	7	U (0.67) - 0.0038	0.061	7900	1000
VOC	Xylenes (total)	201-F03	Phase 1A	31	U (24) - 534	18.0	7900	1000
VOC	Xylenes (total)	201-F04	Phase 1A	20	U (1.5) - 0.53	0.17	7900	1000
VOC	Xylenes (total)	202-A03	Phase 1A	8	0.0025 - 39.2	4.9	7900	1000
VOC	Xylenes (total)	202-A04	Phase 1A	4	0.2 - 0.8	0.41	7900	1000
VOC	Xylenes (total)	202-A05	Phase 1A	4	U (0.0022)	0.0011	7900	1000
VOC	Xylenes (total)	202-A06	Phase 1A	4	U (0.002)	0.00091	7900	1000
VOC	Xylenes (total)	202-A07	Phase 1A	3	U (0.0023)	0.0010	7900	1000
VOC	Xylenes (total)	202-A08	Phase 1A	3	U (0.0025)	0.0011	7900	1000
VOC	Xylenes (total)	202-A09	Phase 1A	6	U (0.0023) - 0.00125	0.0010	7900	1000
VOC	Xylenes (total)	202-B01	Phase 1A	2	U (0.0049) - 0.0047	0.0031	7900	1000
VOC	Xylenes (total)	202-B02	Phase 1A	16	U (0.61) - 8.9	0.63	7900	1000
VOC	Xylenes (total)	202-B03	Phase 1A	15	U (0.21) - 0.456	0.040	7900	1000
VOC	Xylenes (total)	202-B04	Phase 1A	3	0.055 - 0.055	0.019	7900	1000
VOC	Xylenes (total)	202-B09	Phase 1A	9	U (0.13) - 0.109	0.013	7900	1000
VOC	Xylenes (total)	202-C04	Phase 1A	7	U (0.0043) - 0.0032	0.0019	7900	1000
VOC	Xylenes (total)	202-C05	Phase 1A	20	U (0.65) - 17	1.2	7900	1000
VOC	Xylenes (total)	202-C06	Phase 1A	1	U (0.0019)	0.0010	7900	1000
VOC	Xylenes (total)	202-C07	Phase 1A	1	U (0.00088)	0.00044	7900	1000
VOC	Xylenes (total)	202-C10	Phase 1A	1	U (0.005)	0.0025	7900	1000
VOC	Xylenes (total)	202-D05	Phase 1A	3	U (0.11)	0.035	7900	1000
VOC	Xylenes (total)	202-D06	Phase 1A	3	U (0.00088) - 0.0109	0.0039	7900	1000
VOC	Xylenes (total)	202-E06	Phase 1A	2	0.0048 - 0.0048	0.0032	7900	1000
VOC	Xylenes (total)	202-E08	Phase 1A	13	0.0275 - 41	3.2	7900	1000
VOC	Xylenes (total)	202-E09	Phase 1A	16	U (0.14) - 47	6.0	7900	1000
VOC	Xylenes (total)	202-E10	Phase 1A	6	U (0.11) - 3.1	0.68	7900	1000
VOC	Xylenes (total)	202-E11	Phase 1A	2	7.3 - 17	12.2	7900	1000
VOC	Xylenes (total)	202-E12	Phase 1A	4	U (0.092) - 0.81	0.21	7900	1000
VOC	Xylenes (total)	202-E13	Phase 1A	2	22 - 66	44.0	7900	1000
VOC	Xylenes (total)	202-E15	Phase 1A	2	18 - 21	19.5	7900	1000
VOC	Xylenes (total)	202-F04	Phase 1A	7	0.00133 - 0.562	0.082	7900	1000
VOC	Xylenes (total)	202-F05	Phase 1A	1	U (0.0022)	0.0011	7900	1000
VOC	Xylenes (total)	202-F06	Phase 1A	2	U (0.089)	0.037	7900	1000
VOC	Xylenes (total)	202-F07	Phase 1A	9	0.394 - 38.038	4.8	7900	1000
VOC	Xylenes (total)	202-F08	Phase 1A	3	0.00093 - 0.00093	0.0015	7900	1000
VOC	Xylenes (total)	202-F10	Phase 1A	2	U (0.11) - 0.083	0.042	7900	1000
VOC	Xylenes (total)	202-F13	Phase 1A	1	U (0.006)	0.0030	7900	1000
VOC	Xylenes (total)	202-F14	Phase 1A	2	U (0.0011)	0.00050	7900	1000
VOC	Xylenes (total)	202-F16	Phase 1A	4	U (0.096) - 6.4	1.6	7900	1000
VOC	Xylenes (total)	202-F17	Phase 1A	8	U (0.0043)	0.0014	7900	1000
VOC	Xylenes (total)	202-G01	Phase 1A	8	U (0.0023)	0.0010	7900	1000
VOC	Xylenes (total)	202-G02	Phase 1A	14	U (0.13) - 0.101	0.010	7900	1000
VOC	Xylenes (total)	202-G03	Phase 1A	9	U (0.0024)	0.00092	7900	1000
VOC	Xylenes (total)	202-G04	Phase 1A	3	U (0.61) - 97	33.8	7900	1000
VOC	Xylenes (total)	202-G05	Phase 1A	6	U (0.096) - 27	10.0	7900	1000

Table 3.4

Evergreen and PESRM Sampling Results Summary

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Xylenes (total)	202-G07	Phase 1A	16	U (0.15) - 0.025	0.0074	7900	1000
VOC	Xylenes (total)	202-H03	Phase 1A	6	U (0.59) - 65.6	14.1	7900	1000
VOC	Xylenes (total)	202-H05	Phase 1A	1	U (0.0011)	0.00055	7900	1000
VOC	Xylenes (total)	202-H06	Phase 1A	2	U (0.0013)	0.00058	7900	1000
VOC	Xylenes (total)	202-H07	Phase 1A	2	U (0.0011)	0.00053	7900	1000
VOC	Xylenes (total)	202-H08	Phase 1A	3	U (0.0039)	0.0015	7900	1000
VOC	Xylenes (total)	202-H11	Phase 1A	10	U (0.14) - 29.4	3.0	7900	1000
VOC	Xylenes (total)	202-I01	Phase 1A	2	U (0.0021)	0.0010	7900	1000
VOC	Xylenes (total)	202-I04	Phase 1A	4	U (0.0036)	0.0014	7900	1000
VOC	Xylenes (total)	202-J03	Phase 1A	7	9 - 165	61.8	7900	1000
VOC	Xylenes (total)	202-J04	Phase 1A	8	0.001045 - 182	71.2	7900	1000
VOC	Xylenes (total)	202-J07	Phase 1A	2	U (0.11) - 3.76	1.9	7900	1000
VOC	Xylenes (total)	202-J09	Phase 1A	2	U (1.8) - 0.38	0.64	7900	1000
VOC	Xylenes (total)	301-AA01	Phase 1A	1	0.0033 - 0.0033	0.0033	7900	1000
VOC	Xylenes (total)	301-AA06	Phase 1A	11	U (0.67) - 0.88	0.13	7900	1000
VOC	Xylenes (total)	301-AA07	Phase 1A	4	U (0.27) - 17.6	4.4	7900	1000
VOC	Xylenes (total)	301-AA08	Phase 1A	3	U (0.57)	0.17	7900	1000
VOC	Xylenes (total)	301-AA09	Phase 1A	3	U (0.95)	0.34	7900	1000
VOC	Xylenes (total)	301-AB04	Phase 1A	3	0.0013 - 0.099	0.034	7900	1000
VOC	Xylenes (total)	301-AB06	Phase 1A	2	0.00976 - 0.00976	0.0058	7900	1000
VOC	Xylenes (total)	301-AB07	Phase 1A	1	0.044 - 0.044	0.044	7900	1000
VOC	Xylenes (total)	301-AB09	Phase 1A	2	0.0078 - 0.0078	0.0074	7900	1000
VOC	Xylenes (total)	301-AC04	Phase 1A	25	U (0.78) - 0.62	0.12	7900	1000
VOC	Xylenes (total)	301-AC07	Phase 1A	10	U (0.0028) - 0.0886	0.019	7900	1000
VOC	Xylenes (total)	301-AC08	Phase 1A	7	U (0.5) - 1.65	0.24	7900	1000
VOC	Xylenes (total)	301-AC09	Phase 1A	6	U (0.0022)	0.0010	7900	1000
VOC	Xylenes (total)	301-B01	Phase 1A	1	U (0.012)	0.0060	7900	1000
VOC	Xylenes (total)	301-C01	Phase 1A	3	0.1 - 49	16.6	7900	1000
VOC	Xylenes (total)	301-C02	Phase 1A	9	0.0058 - 0.48	0.23	7900	1000
VOC	Xylenes (total)	301-D01	Phase 1A	32	0.00315 - 1400	206.0	7900	1000
VOC	Xylenes (total)	301-E02	Phase 1A	29	0.00149 - 3290	219.2	7900	1000
VOC	Xylenes (total)	301-E03	Phase 1A	4	0.0015 - 0.27	0.10	7900	1000
VOC	Xylenes (total)	301-F02	Phase 1A	2	0.0308 - 180	90.0	7900	1000
VOC	Xylenes (total)	301-G01	Phase 1A	2	U (0.95) - 5.17	2.6	7900	1000
VOC	Xylenes (total)	301-G02	Phase 1A	3	0.013 - 13	5.3	7900	1000
VOC	Xylenes (total)	301-G03	Phase 1A	1	2.3 - 2.3	2.3	7900	1000
VOC	Xylenes (total)	301-H01	Phase 1A	20	0.00168 - 410	60.5	7900	1000
VOC	Xylenes (total)	301-H02	Phase 1A	4	0.005 - 0.028	0.010	7900	1000
VOC	Xylenes (total)	301-H03	Phase 1A	2	0.26 - 47	23.6	7900	1000
VOC	Xylenes (total)	301-I01	Phase 1A	9	U (1.1) - 11.2	2.6	7900	1000
VOC	Xylenes (total)	301-I02	Phase 1A	1	0.62 - 0.62	0.62	7900	1000
VOC	Xylenes (total)	301-J01	Phase 1A	4	U (0.24) - 3.49	0.95	7900	1000
VOC	Xylenes (total)	301-J02	Phase 1A	8	U (0.61) - 111	25.8	7900	1000
VOC	Xylenes (total)	301-K01	Phase 1A	9	0.03 - 0.676	0.18	7900	1000
VOC	Xylenes (total)	301-K02	Phase 1A	3	0.079 - 0.344	0.24	7900	1000
VOC	Xylenes (total)	301-L02	Phase 1A	8	0.163 - 485.7	72.4	7900	1000
VOC	Xylenes (total)	301-L03	Phase 1A	5	0.0011 - 1.647	0.49	7900	1000
VOC	Xylenes (total)	301-M02	Phase 1A	5	0.0032 - 1.054	0.25	7900	1000
VOC	Xylenes (total)	301-M03	Phase 1A	3	0.0168 - 0.21	0.085	7900	1000
VOC	Xylenes (total)	301-N02	Phase 1A	3	0.6 - 0.6	0.31	7900	1000
VOC	Xylenes (total)	301-P02	Phase 1A	2	3.05 - 4.17	3.6	7900	1000
VOC	Xylenes (total)	301-Q04	Phase 1A	6	U (0.703)	0.069	7900	1000
VOC	Xylenes (total)	301-R02	Phase 1A	6	U (0.53)	0.048	7900	1000
VOC	Xylenes (total)	301-S02	Phase 1A	4	U (0.011)	0.0050	7900	1000
VOC	Xylenes (total)	301-S03	Phase 1A	1	0.41 - 0.41	0.41	7900	1000
VOC	Xylenes (total)	301-T04	Phase 1A	2	U (0.59)	0.15	7900	1000
VOC	Xylenes (total)	301-V04	Phase 1A	30	U (1.3) - 11	0.74	7900	1000
VOC	Xylenes (total)	301-W03	Phase 1A	4	U (0.53)	0.20	7900	1000
VOC	Xylenes (total)	301-X03	Phase 1A	3	U (0.5)	0.16	7900	1000
VOC	Xylenes (total)	301-Y03	Phase 1A	2	U (0.12)	0.030	7900	1000
VOC	Xylenes (total)	301-Y04	Phase 1A	3	U (0.56)	0.18	7900	1000
VOC	Xylenes (total)	301-Y05	Phase 1A	6	0.037 - 14	2.7	7900	1000
VOC	Xylenes (total)	302-AD08	Phase 1A	2	U (0.0024)	0.0011	7900	1000
VOC	Xylenes (total)	302-AD09	Phase 1A	3	U (0.0011)	0.00052	7900	1000
VOC	Xylenes (total)	302-AD10	Phase 1A	4	14.5 - 51	16.4	7900	1000
VOC	Xylenes (total)	302-AE09	Phase 1A	4	U (0.0019)	0.00091	7900	1000
VOC	Xylenes (total)	302-AF06	Phase 1A	9	0.02255 - 197	21.9	7900	1000
VOC	Xylenes (total)	302-AG07	Phase 1A	7	U (0.0027) - 0.0049	0.0017	7900	1000
VOC	Xylenes (total)	302-AN02	Phase 1A	2	U (0.00361)	0.0017	7900	1000
VOC	Xylenes (total)	302-AO03	Phase 1A	2	U (0.0038)	0.0018	7900	1000
VOC	Xylenes (total)	302-AQ02	Phase 1A	9	U (0.5) - 2.53	0.37	7900	1000
VOC	Xylenes (total)	302-AR02	Phase 1A	4	U (0.0025)	0.0011	7900	1000
VOC	Xylenes (total)	302-AS03	Phase 1A	13	U (0.11)	0.0072	7900	1000
VOC	Xylenes (total)	302-AV01	Phase 1A	8	U (0.008) - 140	18.9	7900	1000
VOC	Xylenes (total)	302-AV03	Phase 1A	6	U (0.11) - 2.28	0.40	7900	1000
VOC	Xylenes (total)	302-AW01	Phase 1A	12	U (6) - 35	3.5	7900	1000
VOC	Xylenes (total)	302-AW03	Phase 1A	2	U (0.0019)	0.00090	7900	1000
VOC	Xylenes (total)	302-AX01	Phase 1A	14	U (0.85) - 330	25.6	7900	1000
VOC	Xylenes (total)	302-AX05	Phase 1A	2	U (0.00376)	0.0018	7900	1000
VOC	Xylenes (total)	302-AZ05	Phase 1A	1	U (0.005)	0.0025	7900	1000
VOC	Xylenes (total)	302-BA05	Phase 1A	2	0.0229 - 13.1	6.6	7900	1000
VOC	Xylenes (total)	302-BC05	Phase 1A	7	U (0.00375) - 0.16	0.038	7900	1000
VOC	Xylenes (total)	302-BE04	Phase 1A	2	U (0.012)	0.0043	7900	1000

Table 3.4

Evergreen and PESRM Sampling Results Summary

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Xylenes (total)	303-AY01	Phase 1A	6	U (0.005) - 0.00184	0.0020	7900	1000
VOC	Xylenes (total)	303-AZ01	Phase 1A	5	U (5.2) - 3.8	1.8	7900	1000
VOC	Xylenes (total)	303-BA01	Phase 1A	8	U (0.0038) - 0.0069	0.0021	7900	1000
VOC	Xylenes (total)	303-BA02	Phase 1A	9	U (0.49) - 6.3	1.3	7900	1000
VOC	Xylenes (total)	303-BB01	Phase 1A	2	U (0.005)	0.0023	7900	1000
VOC	Xylenes (total)	303-BB02	Phase 1A	5	U (0.64) - 0.22	0.045	7900	1000
VOC	Xylenes (total)	303-BC01	Phase 1A	4	U (0.0011) - 0.0025	0.0010	7900	1000
VOC	Xylenes (total)	303-BD04	Phase 1A	11	U (0.25) - 14	3.3	7900	1000
VOC	Xylenes (total)	303-BE03	Phase 1A	26	0.00329 - 2.5	0.23	7900	1000
VOC	Xylenes (total)	303-BF05	Phase 1A	20	U (2.2) - 21	1.7	7900	1000
VOC	Xylenes (total)	303-BG04	Phase 1A	28	U (8.5) - 94.5	6.8	7900	1000
VOC	Xylenes (total)	303-BH02	Phase 1A	25	0.00165 - 39	3.2	7900	1000
VOC	Xylenes (total)	303-BI03	Phase 1A	6	0.00214 - 0.0059	0.0026	7900	1000
VOC	Xylenes (total)	303-BJ01	Phase 1A	3	0.0132 - 0.246	0.13	7900	1000
VOC	Xylenes (total)	303-BJ02	Phase 1A	3	U (0.0013)	0.00051	7900	1000
VOC	Xylenes (total)	303-BK03	Phase 1A	7	0.0048 - 1.16	0.39	7900	1000
VOC	Xylenes (total)	303-BL02	Phase 1A	13	0.00184 - 1.075	0.096	7900	1000
VOC	Xylenes (total)	303-BM02	Phase 1A	1	0.0075 - 0.0075	0.0075	7900	1000
VOC	Xylenes (total)	303-BN02	Phase 1A	15	U (0.25) - 1.26	0.10	7900	1000
VOC	Xylenes (total)	303-BN03	Phase 1A	14	0.002 - 1.3	0.18	7900	1000
VOC	Xylenes (total)	303-BO02	Phase 1A	18	0.00255 - 3.3	0.41	7900	1000
VOC	Xylenes (total)	303-BP02	Phase 1A	43	0.00097 - 525	61.1	7900	1000
VOC	Xylenes (total)	303-BQ01	Phase 1A	5	0.0965 - 1.5	0.48	7900	1000
VOC	Xylenes (total)	303-BQ02	Phase 1A	25	0.008 - 560	93.9	7900	1000
VOC	Xylenes (total)	303-BR02	Phase 1A	8	0.00037 - 1.1	0.27	7900	1000
VOC	Xylenes (total)	303-BT01	Phase 1A	13	U (2.9) - 16	1.3	7900	1000
VOC	Xylenes (total)	303-BW01	Phase 1A	2	0.276 - 0.276	0.23	7900	1000
VOC	Xylenes (total)	301-AA02	Phase 1B	2	U (0.001) - 0.0024	0.0015	7900	1000
VOC	Xylenes (total)	301-AA05	Phase 1B	11	0.00067 - 0.29	0.051	7900	1000
VOC	Xylenes (total)	301-AB05	Phase 1B	6	U (0.22) - 0.00146	0.019	7900	1000
VOC	Xylenes (total)	301-AC03	Phase 1B	2	U (0.005)	0.0015	7900	1000
VOC	Xylenes (total)	301-T01	Phase 1B	5	U (0.59) - 0.661	0.21	7900	1000
VOC	Xylenes (total)	301-T02	Phase 1B	2	0.301 - 0.52	0.41	7900	1000
VOC	Xylenes (total)	301-U01	Phase 1B	2	0.00031 - 0.36	0.18	7900	1000
VOC	Xylenes (total)	301-U03	Phase 1B	1	U (0.005)	0.0025	7900	1000
VOC	Xylenes (total)	301-V01	Phase 1B	7	0.0214 - 3.3	0.66	7900	1000
VOC	Xylenes (total)	301-V02	Phase 1B	20	U (1.2) - 0.48	0.11	7900	1000
VOC	Xylenes (total)	301-W01	Phase 1B	24	U (0.85) - 2.78	0.15	7900	1000
VOC	Xylenes (total)	301-X01	Phase 1B	9	0.0013 - 0.5	0.13	7900	1000
VOC	Xylenes (total)	301-Y01	Phase 1B	5	U (0.1) - 21.3	4.3	7900	1000
VOC	Xylenes (total)	301-Z01	Phase 1B	6	0.00095 - 0.0016	0.00077	7900	1000
VOC	Xylenes (total)	301-Z02	Phase 1B	2	U (0.005)	0.0013	7900	1000
VOC	Xylenes (total)	301-Z03	Phase 1B	5	U (0.21) - 0.0686	0.035	7900	1000
VOC	Xylenes (total)	302-AD06	Phase 1B	12	0.00072 - 0.82	0.074	7900	1000
VOC	Xylenes (total)	302-AD07	Phase 1B	2	U (0.0025)	0.0011	7900	1000
VOC	Xylenes (total)	302-AE04	Phase 1B	8	0.0019 - 0.275	0.057	7900	1000
VOC	Xylenes (total)	302-AE05	Phase 1B	20	U (0.0055) - 0.0589	0.0067	7900	1000
VOC	Xylenes (total)	302-AE07	Phase 1B	3	U (0.095) - 0.005	0.018	7900	1000
VOC	Xylenes (total)	302-AE08	Phase 1B	3	U (0.0021) - 0.001075	0.0010	7900	1000
VOC	Xylenes (total)	302-AF03	Phase 1B	2	0.25 - 22	11.1	7900	1000
VOC	Xylenes (total)	302-AF04	Phase 1B	11	U (0.12) - 0.1165	0.017	7900	1000
VOC	Xylenes (total)	302-AF05	Phase 1B	2	56 - 56	28.0	7900	1000
VOC	Xylenes (total)	302-AF09	Phase 1B	5	U (0.1) - 0.617	0.12	7900	1000
VOC	Xylenes (total)	302-AG04	Phase 1B	3	0.894 - 0.894	0.30	7900	1000
VOC	Xylenes (total)	302-AG06	Phase 1B	5	U (0.21) - 2.25	0.50	7900	1000
VOC	Xylenes (total)	302-AH04	Phase 1B	8	U (0.067) - 3	0.55	7900	1000
VOC	Xylenes (total)	302-AH05	Phase 1B	2	0.00074 - 11.6	5.8	7900	1000
VOC	Xylenes (total)	302-AH06	Phase 1B	4	U (0.00377)	0.0012	7900	1000
VOC	Xylenes (total)	302-AH07	Phase 1B	12	U (0.005) - 0.007	0.0017	7900	1000
VOC	Xylenes (total)	302-AI05	Phase 1B	3	U (0.11)	0.029	7900	1000
VOC	Xylenes (total)	302-AI06	Phase 1B	9	U (0.1) - 0.0306	0.0059	7900	1000
VOC	Xylenes (total)	302-AI07	Phase 1B	8	U (0.51) - 0.0007	0.066	7900	1000
VOC	Xylenes (total)	302-AI08	Phase 1B	2	0.339 - 0.339	0.17	7900	1000
VOC	Xylenes (total)	302-AI09	Phase 1B	3	U (0.00089)	0.00037	7900	1000
VOC	Xylenes (total)	302-AK05	Phase 1B	2	U (0.00355)	0.0017	7900	1000
VOC	Xylenes (total)	302-AK07	Phase 1B	2	U (0.605)	0.15	7900	1000
VOC	Xylenes (total)	302-AL03	Phase 1B	2	0.712 - 0.712	0.36	7900	1000
VOC	Xylenes (total)	302-AL05	Phase 1B	5	U (0.13) - 0.09	0.066	7900	1000
VOC	Xylenes (total)	302-AL08	Phase 1B	2	U (0.0009)	0.00038	7900	1000
VOC	Xylenes (total)	302-AN01	Phase 1B	2	U (0.0012)	0.00055	7900	1000
VOC	Xylenes (total)	302-AN03	Phase 1B	1	0.003 - 0.003	0.0030	7900	1000
VOC	Xylenes (total)	302-AO02	Phase 1B	7	0.026 - 50	8.9	7900	1000
VOC	Xylenes (total)	302-AO05	Phase 1B	1	0.005 - 0.005	0.0050	7900	1000
VOC	Xylenes (total)	302-AP02	Phase 1B	2	U (0.0013)	0.00063	7900	1000
VOC	Xylenes (total)	302-AP03	Phase 1B	23	0.0009 - 2.42	0.12	7900	1000
VOC	Xylenes (total)	302-AP04	Phase 1B	3	0.007 - 0.418	0.14	7900	1000
VOC	Xylenes (total)	302-AP05	Phase 1B	2	U (0.0014)	0.00068	7900	1000
VOC	Xylenes (total)	302-AQ01	Phase 1B	2	U (0.006)	0.0030	7900	1000
VOC	Xylenes (total)	302-AQ04	Phase 1B	2	U (0.00088)	0.00043	7900	1000
VOC	Xylenes (total)	302-AR01	Phase 1B	2	U (0.006)	0.0028	7900	1000
VOC	Xylenes (total)	302-AR04	Phase 1B	3	U (0.0011)	0.00050	7900	1000
VOC	Xylenes (total)	302-AS04	Phase 1B	2	U (0.00381)	0.0019	7900	1000
VOC	Xylenes (total)	302-AT01	Phase 1B	2	0.0314 - 0.0808	0.056	7900	1000

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Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
VOC	Xylenes (total)	302-AT02	Phase 1B	2	U (0.23) - 1.32	0.66	7900	1000
VOC	Xylenes (total)	302-AT03	Phase 1B	4	U (0.11)	0.014	7900	1000
VOC	Xylenes (total)	302-AU01	Phase 1B	2	U (0.001)	0.00047	7900	1000
VOC	Xylenes (total)	302-AU02	Phase 1B	8	U (0.11) - 0.01	0.0089	7900	1000
VOC	Xylenes (total)	302-AU03	Phase 1B	2	U (0.0019)	0.00090	7900	1000
VOC	Xylenes (total)	302-AV02	Phase 1B	4	U (0.11) - 8.7	2.2	7900	1000
VOC	Xylenes (total)	302-AV04	Phase 1B	2	U (0.00377)	0.0018	7900	1000
VOC	Xylenes (total)	302-AW02	Phase 1B	2	U (0.28)	0.071	7900	1000
VOC	Xylenes (total)	302-AX02	Phase 1B	3	U (0.11)	0.019	7900	1000
VOC	Xylenes (total)	302-AY02	Phase 1B	20	0.0012 - 500	54.9	7900	1000
VOC	Xylenes (total)	302-AY03	Phase 1B	2	U (0.0013)	0.00058	7900	1000
VOC	Xylenes (total)	302-AY05	Phase 1B	2	U (0.00371)	0.0018	7900	1000
VOC	Xylenes (total)	302-AZ02	Phase 1B	11	U (4.6) - 110	15.7	7900	1000
VOC	Xylenes (total)	302-AZ03	Phase 1B	1	0.12 - 0.12	0.12	7900	1000
VOC	Xylenes (total)	302-BA03	Phase 1B	1	U (0.006)	0.0030	7900	1000
VOC	Xylenes (total)	302-BB07	Phase 1B	5	U (0.131) - 24.85	7.3	7900	1000
VOC	Xylenes (total)	302-BB08	Phase 1B	1	U (0.005)	0.0025	7900	1000
VOC	Xylenes (total)	302-BC06	Phase 1B	1	U (0.006)	0.0030	7900	1000
VOC	Xylenes (total)	301-L01	Phase 1C	7	U (0.64)	0.15	7900	1000
VOC	Xylenes (total)	301-T03	Phase 1C	2	U (0.014)	0.0063	7900	1000
VOC	Xylenes (total)	302-AD02	Phase 1C	2	U (0.004)	0.0011	7900	1000
VOC	Xylenes (total)	302-AE01	Phase 1C	1	U (0.006)	0.0030	7900	1000
VOC	Xylenes (total)	302-AE02	Phase 1C	2	0.002 - 0.002	0.0020	7900	1000
VOC	Xylenes (total)	302-AF01	Phase 1C	1	U (0.005)	0.0025	7900	1000
VOC	Xylenes (total)	302-AF02	Phase 1C	4	U (0.007)	0.0028	7900	1000
VOC	Xylenes (total)	302-AG02	Phase 1C	2	U (1.7)	0.43	7900	1000
VOC	Xylenes (total)	302-AH01	Phase 1C	2	U (0.005)	0.0015	7900	1000
VOC	Xylenes (total)	302-AH03	Phase 1C	2	U (0.064)	0.031	7900	1000
VOC	Xylenes (total)	302-AI01	Phase 1C	2	0.0034 - 0.0034	0.0020	7900	1000
VOC	Xylenes (total)	302-AI03	Phase 1C	1	19 - 19	19.0	7900	1000
VOC	Xylenes (total)	302-AI04	Phase 1C	2	U (0.061)	0.029	7900	1000
VOC	Xylenes (total)	302-AJ04	Phase 1C	1	U (0.051)	0.026	7900	1000
VOC	Xylenes (total)	302-AL01	Phase 1C	11	U (8.8) - 0.127	0.62	7900	1000
SVOC	Anthracene	LS-A-A01	Life Sciences	1	8.1 - 8.1	8.1	190000	350
SVOC	Anthracene	LS-A-A02	Life Sciences	2	U (0.17) - 0.35	0.19	190000	350
SVOC	Anthracene	LS-A-A03	Life Sciences	1	0.5 - 0.5	0.50	190000	350
SVOC	Anthracene	LS-A-A04	Life Sciences	3	0.32 - 1.7	0.97	190000	350
SVOC	Anthracene	LS-A-B02	Life Sciences	14	0.0472 - 1.5	0.37	190000	350
SVOC	Anthracene	LS-A-B03	Life Sciences	4	0.0502 - 0.0665	0.060	190000	350
SVOC	Anthracene	LS-A-C01	Life Sciences	28	U (19) - 180	9.1	190000	350
SVOC	Anthracene	LS-A-C02	Life Sciences	12	U (19) - 1.2	1.3	190000	350
SVOC	Anthracene	LS-A-C04	Life Sciences	3	U (0.2) - 0.24	0.11	190000	350
SVOC	Anthracene	LS-A-D01	Life Sciences	5	U (1.99)	0.49	190000	350
SVOC	Anthracene	LS-A-D02	Life Sciences	1	U (1.9)	0.95	190000	350
SVOC	Anthracene	LS-A-D03	Life Sciences	3	U (0.95)	0.17	190000	350
SVOC	Anthracene	LS-A-D04	Life Sciences	2	U (1.84)	0.48	190000	350
SVOC	Anthracene	LS-A-D05	Life Sciences	6	U (1)	0.24	190000	350
SVOC	Anthracene	LS-A-D06	Life Sciences	2	U (0.364)	0.14	190000	350
SVOC	Anthracene	LS-A-D07	Life Sciences	2	U (3.68)	0.97	190000	350
SVOC	Anthracene	LS-A-E01	Life Sciences	3	U (1.84) - 0.535	0.64	190000	350
SVOC	Anthracene	LS-A-E03	Life Sciences	1	0.35 - 0.35	0.35	190000	350
SVOC	Anthracene	LS-A-E04	Life Sciences	2	U (4.46) - 4.51	2.3	190000	350
SVOC	Anthracene	LS-A-E05	Life Sciences	1	U (0.94)	0.47	190000	350
SVOC	Anthracene	LS-A-E07	Life Sciences	1	U (0.2)	0.10	190000	350
SVOC	Anthracene	LS-A-E08	Life Sciences	1	U (0.98)	0.49	190000	350
SVOC	Anthracene	LS-A-F01	Life Sciences	3	U (7.96)	2.1	190000	350
SVOC	Anthracene	LS-A-F02	Life Sciences	3	11 - 11	4.6	190000	350
SVOC	Anthracene	LS-A-F03	Life Sciences	1	U (0.98)	0.49	190000	350
SVOC	Anthracene	LS-A-F04	Life Sciences	12	U (0.94) - 0.0401	0.11	190000	350
SVOC	Anthracene	LS-A-F05	Life Sciences	1	11 - 11	11.0	190000	350
SVOC	Anthracene	LS-A-G01	Life Sciences	3	U (1) - 1.1	0.52	190000	350
SVOC	Anthracene	LS-A-G02	Life Sciences	2	U (0.391) - 0.249	0.22	190000	350
SVOC	Anthracene	LS-A-G03	Life Sciences	3	U (4.6)	0.92	190000	350
SVOC	Anthracene	LS-A-G07	Life Sciences	3	U (4.28) - 5	3.2	190000	350
SVOC	Anthracene	LS-A-G08	Life Sciences	2	U (2.06)	1.0	190000	350
SVOC	Anthracene	LS-A-H03	Life Sciences	2	U (0.195)	0.058	190000	350
SVOC	Anthracene	LS-A-H04	Life Sciences	2	U (2.02)	0.55	190000	350
SVOC	Anthracene	LS-A-H06	Life Sciences	1	U (0.94)	0.47	190000	350
SVOC	Anthracene	LS-A-H07	Life Sciences	2	U (1.92) - 0.125	0.54	190000	350
SVOC	Anthracene	LS-A-I01	Life Sciences	6	U (8.23) - 0.235	2.5	190000	350
SVOC	Anthracene	LS-A-I02	Life Sciences	1	U (5)	2.5	190000	350
SVOC	Anthracene	LS-A-I03	Life Sciences	3	2.35 - 2.35	0.95	190000	350
SVOC	Anthracene	LS-B-B01	Life Sciences	1	0.0089 - 0.0089	0.0089	190000	350
SVOC	Anthracene	LS-B-C01	Life Sciences	3	U (0.19)	0.044	190000	350
SVOC	Anthracene	LS-B-E01	Life Sciences	4	U (2.32) - 1.5	0.83	190000	350
SVOC	Anthracene	LS-B-G02	Life Sciences	1	U (2.28)	1.1	190000	350
SVOC	Anthracene	LS-B-H02	Life Sciences	3	U (1)	0.21	190000	350
SVOC	Anthracene	LS-E-B01	Life Sciences	81	0.001 - 74	5.1	190000	350
SVOC	Anthracene	LS-E-G01	Life Sciences	4	U (0.97)	0.44	190000	350
SVOC	Anthracene	201-A01	Phase 1A	7	U (0.12) - 0.38	0.12	190000	350
SVOC	Anthracene	201-A02	Phase 1A	14	0.097 - 0.48	0.14	190000	350
SVOC	Anthracene	201-A03	Phase 1A	7	0.039 - 0.072	0.056	190000	350
SVOC	Anthracene	201-A04	Phase 1A	29	U (2.6) - 0.64	0.18	190000	350

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SVOC	Anthracene	201-A05	Phase 1A	9	U (0.41) - 0.083	0.046	190000	350
SVOC	Anthracene	201-A06	Phase 1A	7	0.01 - 0.086	0.059	190000	350
SVOC	Anthracene	201-A07	Phase 1A	9	0.002 - 0.047	0.036	190000	350
SVOC	Anthracene	201-A08	Phase 1A	7	U (0.038) - 0.043	0.010	190000	350
SVOC	Anthracene	201-A09	Phase 1A	7	0.0014 - 0.2	0.035	190000	350
SVOC	Anthracene	201-A10	Phase 1A	3	U (0.039) - 0.11	0.039	190000	350
SVOC	Anthracene	201-A11	Phase 1A	4	U (0.12) - 0.02	0.022	190000	350
SVOC	Anthracene	201-A12	Phase 1A	6	0.015 - 0.41	0.10	190000	350
SVOC	Anthracene	201-A13	Phase 1A	4	0.02 - 0.057	0.029	190000	350
SVOC	Anthracene	201-A14	Phase 1A	9	0.0062 - 0.82	0.24	190000	350
SVOC	Anthracene	201-B02	Phase 1A	2	0.15 - 0.15	0.13	190000	350
SVOC	Anthracene	201-B04	Phase 1A	3	U (0.063)	0.015	190000	350
SVOC	Anthracene	201-B05	Phase 1A	3	0.06 - 0.61	0.38	190000	350
SVOC	Anthracene	201-B08	Phase 1A	4	U (0.066)	0.013	190000	350
SVOC	Anthracene	201-C01	Phase 1A	14	U (1.2) - 0.47	0.16	190000	350
SVOC	Anthracene	201-C04	Phase 1A	11	0.031 - 0.37	0.26	190000	350
SVOC	Anthracene	201-C05	Phase 1A	3	0.0041 - 8.8	3.0	190000	350
SVOC	Anthracene	201-C07	Phase 1A	8	0.1 - 0.87	0.45	190000	350
SVOC	Anthracene	201-C08	Phase 1A	11	0.034 - 2.7	0.29	190000	350
SVOC	Anthracene	201-C09	Phase 1A	7	U (0.11)	0.051	190000	350
SVOC	Anthracene	201-C10	Phase 1A	3	U (0.4) - 0.467	0.36	190000	350
SVOC	Anthracene	201-D01	Phase 1A	4	U (0.42) - 0.362	0.24	190000	350
SVOC	Anthracene	201-D05	Phase 1A	4	0.0051 - 5.8	2.0	190000	350
SVOC	Anthracene	201-D12	Phase 1A	3	U (0.12)	0.057	190000	350
SVOC	Anthracene	201-E01	Phase 1A	43	0.0015 - 0.36	0.057	190000	350
SVOC	Anthracene	201-E02	Phase 1A	1	U (0.12)	0.060	190000	350
SVOC	Anthracene	201-E03	Phase 1A	3	0.023 - 0.079	0.097	190000	350
SVOC	Anthracene	201-E04	Phase 1A	3	U (0.59) - 0.4	0.25	190000	350
SVOC	Anthracene	201-E05	Phase 1A	22	U (0.33) - 0.081	0.042	190000	350
SVOC	Anthracene	201-F01	Phase 1A	36	0.11 - 3	0.18	190000	350
SVOC	Anthracene	201-F02	Phase 1A	4	0.0049 - 3.6	1.1	190000	350
SVOC	Anthracene	201-F03	Phase 1A	25	0.0077 - 0.4	0.071	190000	350
SVOC	Anthracene	201-F04	Phase 1A	21	0.007 - 0.072	0.069	190000	350
SVOC	Anthracene	202-A03	Phase 1A	8	0.024 - 0.076	0.040	190000	350
SVOC	Anthracene	202-A04	Phase 1A	4	U (0.41)	0.13	190000	350
SVOC	Anthracene	202-A05	Phase 1A	4	0.00075 - 0.00075	0.018	190000	350
SVOC	Anthracene	202-A06	Phase 1A	4	U (0.12)	0.055	190000	350
SVOC	Anthracene	202-A07	Phase 1A	3	U (0.12)	0.060	190000	350
SVOC	Anthracene	202-A08	Phase 1A	3	U (0.12)	0.060	190000	350
SVOC	Anthracene	202-A09	Phase 1A	6	U (0.12)	0.059	190000	350
SVOC	Anthracene	202-B01	Phase 1A	2	U (0.12)	0.060	190000	350
SVOC	Anthracene	202-B02	Phase 1A	8	U (0.4)	0.12	190000	350
SVOC	Anthracene	202-B03	Phase 1A	15	0.04 - 0.063	0.066	190000	350
SVOC	Anthracene	202-B04	Phase 1A	3	U (0.52) - 0.097	0.14	190000	350
SVOC	Anthracene	202-B05	Phase 1A	4	U (0.039)	0.019	190000	350
SVOC	Anthracene	202-B09	Phase 1A	9	U (0.59) - 0.74	0.21	190000	350
SVOC	Anthracene	202-C04	Phase 1A	15	U (3.7) - 0.16	0.27	190000	350
SVOC	Anthracene	202-C05	Phase 1A	10	U (0.2) - 0.33	0.12	190000	350
SVOC	Anthracene	202-C06	Phase 1A	4	0.019 - 0.057	0.039	190000	350
SVOC	Anthracene	202-C07	Phase 1A	8	U (0.39) - 0.89	0.24	190000	350
SVOC	Anthracene	202-C08	Phase 1A	4	U (0.2) - 0.22	0.11	190000	350
SVOC	Anthracene	202-C10	Phase 1A	1	U (0.38)	0.19	190000	350
SVOC	Anthracene	202-D05	Phase 1A	5	U (0.36) - 3.6	0.76	190000	350
SVOC	Anthracene	202-D06	Phase 1A	11	U (2) - 0.74	0.51	190000	350
SVOC	Anthracene	202-E06	Phase 1A	2	U (0.12)	0.055	190000	350
SVOC	Anthracene	202-E08	Phase 1A	13	U (0.38) - 0.035	0.068	190000	350
SVOC	Anthracene	202-E09	Phase 1A	16	U (0.41) - 0.2	0.082	190000	350
SVOC	Anthracene	202-E10	Phase 1A	6	U (0.45)	0.11	190000	350
SVOC	Anthracene	202-E11	Phase 1A	2	U (0.41)	0.16	190000	350
SVOC	Anthracene	202-E12	Phase 1A	4	U (0.42)	0.084	190000	350
SVOC	Anthracene	202-E13	Phase 1A	2	U (0.38)	0.15	190000	350
SVOC	Anthracene	202-E15	Phase 1A	2	U (0.38)	0.19	190000	350
SVOC	Anthracene	202-F01	Phase 1A	7	0.21 - 0.21	0.21	190000	350
SVOC	Anthracene	202-F04	Phase 1A	10	0.06 - 0.11	0.057	190000	350
SVOC	Anthracene	202-F05	Phase 1A	2	U (0.11)	0.038	190000	350
SVOC	Anthracene	202-F06	Phase 1A	2	U (0.43)	0.12	190000	350
SVOC	Anthracene	202-F07	Phase 1A	17	U (2.3) - 0.35	0.19	190000	350
SVOC	Anthracene	202-F08	Phase 1A	4	U (0.12)	0.040	190000	350
SVOC	Anthracene	202-F10	Phase 1A	2	U (0.12)	0.060	190000	350
SVOC	Anthracene	202-F14	Phase 1A	2	U (0.038)	0.019	190000	350
SVOC	Anthracene	202-F16	Phase 1A	4	U (0.4) - 0.45	0.18	190000	350
SVOC	Anthracene	202-F17	Phase 1A	8	U (0.11)	0.054	190000	350
SVOC	Anthracene	202-G01	Phase 1A	8	U (0.21)	0.060	190000	350
SVOC	Anthracene	202-G02	Phase 1A	14	U (2.4) - 3.7	0.32	190000	350
SVOC	Anthracene	202-G03	Phase 1A	9	U (0.11)	0.048	190000	350
SVOC	Anthracene	202-G04	Phase 1A	3	U (0.2)	0.083	190000	350
SVOC	Anthracene	202-G05	Phase 1A	6	U (0.41)	0.13	190000	350
SVOC	Anthracene	202-G07	Phase 1A	16	U (0.12) - 0.32	0.077	190000	350
SVOC	Anthracene	202-H03	Phase 1A	5	1.79 - 2.56	0.91	190000	350
SVOC	Anthracene	202-H05	Phase 1A	1	U (0.04)	0.020	190000	350
SVOC	Anthracene	202-H06	Phase 1A	2	U (0.04) - 0.0182	0.019	190000	350
SVOC	Anthracene	202-H07	Phase 1A	2	U (0.037)	0.018	190000	350
SVOC	Anthracene	202-H08	Phase 1A	3	U (0.12)	0.053	190000	350

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Anthracene	202-H11	Phase 1A	10	U (0.12) - 0.061	0.056	190000	350
SVOC	Anthracene	202-I01	Phase 1A	2	U (0.12)	0.058	190000	350
SVOC	Anthracene	202-I04	Phase 1A	4	U (0.11)	0.053	190000	350
SVOC	Anthracene	202-J03	Phase 1A	7	0.29 - 2.1	1.1	190000	350
SVOC	Anthracene	202-J04	Phase 1A	8	0.1 - 5.8	1.4	190000	350
SVOC	Anthracene	202-J05	Phase 1A	6	0.00085 - 0.025	0.013	190000	350
SVOC	Anthracene	202-J07	Phase 1A	4	0.016 - 0.068	0.075	190000	350
SVOC	Anthracene	202-J08	Phase 1A	1	0.23 - 0.23	0.23	190000	350
SVOC	Anthracene	202-J09	Phase 1A	2	0.69 - 0.69	0.35	190000	350
SVOC	Anthracene	301-AA01	Phase 1A	1	U (0.04)	0.020	190000	350
SVOC	Anthracene	301-AA06	Phase 1A	11	0.0017 - 0.24	0.094	190000	350
SVOC	Anthracene	301-AA07	Phase 1A	4	U (0.12) - 0.859	0.25	190000	350
SVOC	Anthracene	301-AA08	Phase 1A	3	U (0.02) - 0.062	0.027	190000	350
SVOC	Anthracene	301-AA09	Phase 1A	3	U (0.02) - 0.082	0.034	190000	350
SVOC	Anthracene	301-AB04	Phase 1A	3	U (0.37)	0.18	190000	350
SVOC	Anthracene	301-AB06	Phase 1A	2	U (0.11)	0.055	190000	350
SVOC	Anthracene	301-AB07	Phase 1A	1	U (0.2)	0.10	190000	350
SVOC	Anthracene	301-AB09	Phase 1A	2	U (0.876) - 8.19	4.1	190000	350
SVOC	Anthracene	301-AC04	Phase 1A	25	U (0.57) - 4	0.28	190000	350
SVOC	Anthracene	301-AC07	Phase 1A	10	U (0.56) - 0.5	0.13	190000	350
SVOC	Anthracene	301-AC08	Phase 1A	7	0.04 - 3	0.47	190000	350
SVOC	Anthracene	301-AC09	Phase 1A	6	U (0.39)	0.036	190000	350
SVOC	Anthracene	301-B01	Phase 1A	1	U (0.018)	0.0090	190000	350
SVOC	Anthracene	301-C01	Phase 1A	3	0.0091 - 6.4	2.1	190000	350
SVOC	Anthracene	301-C02	Phase 1A	7	U (0.39) - 0.031	0.045	190000	350
SVOC	Anthracene	301-D01	Phase 1A	13	0.059 - 0.73	0.14	190000	350
SVOC	Anthracene	301-E02	Phase 1A	14	U (0.35) - 0.11	0.049	190000	350
SVOC	Anthracene	301-E03	Phase 1A	4	U (0.021) - 0.47	0.15	190000	350
SVOC	Anthracene	301-G01	Phase 1A	2	0.0024 - 0.016	0.0092	190000	350
SVOC	Anthracene	301-G02	Phase 1A	3	0.046 - 0.18	0.092	190000	350
SVOC	Anthracene	301-G03	Phase 1A	1	0.11 - 0.11	0.11	190000	350
SVOC	Anthracene	301-H02	Phase 1A	3	0.059 - 0.11	0.056	190000	350
SVOC	Anthracene	301-H03	Phase 1A	2	U (0.03)	0.012	190000	350
SVOC	Anthracene	301-N02	Phase 1A	3	0.036 - 0.3	0.13	190000	350
SVOC	Anthracene	301-P02	Phase 1A	2	0.728 - 0.728	0.37	190000	350
SVOC	Anthracene	301-Q04	Phase 1A	6	U (0.4) - 0.349	0.17	190000	350
SVOC	Anthracene	301-R02	Phase 1A	6	U (0.087) - 0.026	0.023	190000	350
SVOC	Anthracene	301-S02	Phase 1A	4	U (0.088) - 0.024	0.021	190000	350
SVOC	Anthracene	301-S03	Phase 1A	1	U (0.036)	0.018	190000	350
SVOC	Anthracene	301-T04	Phase 1A	2	U (0.09)	0.027	190000	350
SVOC	Anthracene	301-V04	Phase 1A	29	U (0.17) - 0.056	0.040	190000	350
SVOC	Anthracene	301-W03	Phase 1A	4	U (0.017) - 0.019	0.0094	190000	350
SVOC	Anthracene	301-X03	Phase 1A	3	0.2 - 0.2	0.073	190000	350
SVOC	Anthracene	301-Y03	Phase 1A	2	U (0.04)	0.019	190000	350
SVOC	Anthracene	301-Y04	Phase 1A	3	U (0.02)	0.0092	190000	350
SVOC	Anthracene	301-Y05	Phase 1A	6	U (0.12) - 0.3	0.089	190000	350
SVOC	Anthracene	302-AD08	Phase 1A	2	U (0.1)	0.050	190000	350
SVOC	Anthracene	302-AD09	Phase 1A	3	U (0.1)	0.029	190000	350
SVOC	Anthracene	302-AD10	Phase 1A	4	0.05 - 0.49	0.24	190000	350
SVOC	Anthracene	302-AE09	Phase 1A	4	U (0.12)	0.046	190000	350
SVOC	Anthracene	302-AF06	Phase 1A	8	0.088 - 0.16	0.079	190000	350
SVOC	Anthracene	302-AG07	Phase 1A	14	U (0.12)	0.039	190000	350
SVOC	Anthracene	302-AJ09	Phase 1A	13	U (57) - 1.6	3.3	190000	350
SVOC	Anthracene	302-AK06	Phase 1A	3	0.19 - 1.3	0.57	190000	350
SVOC	Anthracene	302-AL06	Phase 1A	13	U (1.8) - 1.9	0.42	190000	350
SVOC	Anthracene	302-AN02	Phase 1A	2	U (0.198)	0.058	190000	350
SVOC	Anthracene	302-AO03	Phase 1A	2	U (0.0418)	0.020	190000	350
SVOC	Anthracene	302-AQ02	Phase 1A	7	U (1.1) - 1.7	0.29	190000	350
SVOC	Anthracene	302-AR02	Phase 1A	4	U (0.12)	0.055	190000	350
SVOC	Anthracene	302-AS03	Phase 1A	13	U (0.12) - 0.145	0.051	190000	350
SVOC	Anthracene	302-AV01	Phase 1A	10	0.0448 - 1.5	0.36	190000	350
SVOC	Anthracene	302-AV03	Phase 1A	6	U (0.12) - 0.77	0.18	190000	350
SVOC	Anthracene	302-AW01	Phase 1A	9	0.083 - 9.6	1.5	190000	350
SVOC	Anthracene	302-AW03	Phase 1A	2	U (0.12)	0.060	190000	350
SVOC	Anthracene	302-AX01	Phase 1A	12	U (5.2) - 23	2.6	190000	350
SVOC	Anthracene	302-AX05	Phase 1A	2	U (0.0414)	0.020	190000	350
SVOC	Anthracene	302-AZ05	Phase 1A	2	U (0.41)	0.13	190000	350
SVOC	Anthracene	302-BA05	Phase 1A	2	U (0.218) - 0.444	0.23	190000	350
SVOC	Anthracene	302-BC05	Phase 1A	7	U (0.039) - 0.11	0.027	190000	350
SVOC	Anthracene	302-BE04	Phase 1A	2	U (0.19)	0.053	190000	350
SVOC	Anthracene	303-AY01	Phase 1A	6	0.004 - 0.79	0.19	190000	350
SVOC	Anthracene	303-AZ01	Phase 1A	5	0.2 - 2.9	1.6	190000	350
SVOC	Anthracene	303-BA01	Phase 1A	8	U (0.43) - 0.54	0.24	190000	350
SVOC	Anthracene	303-BA02	Phase 1A	11	0.0677 - 1.1	1.8	190000	350
SVOC	Anthracene	303-BB01	Phase 1A	2	0.38 - 0.59	0.49	190000	350
SVOC	Anthracene	303-BB02	Phase 1A	5	2.4 - 33.3	8.8	190000	350
SVOC	Anthracene	303-BC01	Phase 1A	4	U (0.038) - 0.11	0.045	190000	350
SVOC	Anthracene	303-BD04	Phase 1A	9	0.13 - 1.2	0.86	190000	350
SVOC	Anthracene	303-BE03	Phase 1A	38	0.077 - 7.5	1.2	190000	350
SVOC	Anthracene	303-BF05	Phase 1A	16	0.23 - 4.3	0.88	190000	350
SVOC	Anthracene	303-BG04	Phase 1A	27	0.2 - 2.8	0.74	190000	350
SVOC	Anthracene	303-BH02	Phase 1A	21	0.085 - 16	1.4	190000	350
SVOC	Anthracene	303-BI03	Phase 1A	6	0.32 - 0.87	0.54	190000	350

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Anthracene	303-BJ01	Phase 1A	3	4 - 4.8	4.5	190000	350
SVOC	Anthracene	303-BJ02	Phase 1A	3	U (0.042) - 0.485	0.20	190000	350
SVOC	Anthracene	303-BK03	Phase 1A	7	0.098 - 0.96	0.80	190000	350
SVOC	Anthracene	303-BL02	Phase 1A	10	0.055 - 1.4	0.31	190000	350
SVOC	Anthracene	303-BM02	Phase 1A	1	4.55 - 4.55	4.6	190000	350
SVOC	Anthracene	303-BN02	Phase 1A	15	U (0.21) - 4.3	0.77	190000	350
SVOC	Anthracene	303-BN03	Phase 1A	14	0.0325 - 3.4	0.71	190000	350
SVOC	Anthracene	303-BO02	Phase 1A	10	0.004 - 3.4	0.54	190000	350
SVOC	Anthracene	303-BP02	Phase 1A	30	0.004 - 6.2	0.99	190000	350
SVOC	Anthracene	303-BQ01	Phase 1A	5	0.257 - 2.9	1.3	190000	350
SVOC	Anthracene	303-BQ02	Phase 1A	15	0.006 - 3.9	0.46	190000	350
SVOC	Anthracene	303-BR02	Phase 1A	8	0.142 - 10	1.7	190000	350
SVOC	Anthracene	303-BT01	Phase 1A	13	0.0059 - 0.9	0.11	190000	350
SVOC	Anthracene	303-BW01	Phase 1A	2	0.0217 - 0.0217	0.061	190000	350
SVOC	Anthracene	301-AA02	Phase 1B	2	U (0.039)	0.019	190000	350
SVOC	Anthracene	301-AA05	Phase 1B	11	U (2.1)	0.42	190000	350
SVOC	Anthracene	301-AB05	Phase 1B	6	U (0.4) - 0.047	0.067	190000	350
SVOC	Anthracene	301-AC03	Phase 1B	2	0.142 - 0.39	0.27	190000	350
SVOC	Anthracene	301-T01	Phase 1B	5	U (5.3) - 4.1	1.9	190000	350
SVOC	Anthracene	301-T02	Phase 1B	2	U (1.9) - 0.54	0.31	190000	350
SVOC	Anthracene	301-U01	Phase 1B	2	U (0.19) - 0.71	0.36	190000	350
SVOC	Anthracene	301-U03	Phase 1B	1	U (0.17)	0.085	190000	350
SVOC	Anthracene	301-V01	Phase 1B	7	U (0.041) - 0.293	0.078	190000	350
SVOC	Anthracene	301-V02	Phase 1B	19	0.055 - 1.1	0.16	190000	350
SVOC	Anthracene	301-W01	Phase 1B	24	U (0.13) - 0.72	0.069	190000	350
SVOC	Anthracene	301-X01	Phase 1B	11	0.0064 - 0.497	0.19	190000	350
SVOC	Anthracene	301-Y01	Phase 1B	10	0.129 - 0.763	0.13	190000	350
SVOC	Anthracene	301-Y02	Phase 1B	4	U (0.17) - 0.45	0.13	190000	350
SVOC	Anthracene	301-Z01	Phase 1B	6	U (0.039)	0.018	190000	350
SVOC	Anthracene	301-Z02	Phase 1B	2	U (0.18)	0.054	190000	350
SVOC	Anthracene	301-Z03	Phase 1B	5	U (0.41) - 1.33	0.39	190000	350
SVOC	Anthracene	302-AD06	Phase 1B	12	0.0158 - 0.061	0.051	190000	350
SVOC	Anthracene	302-AD07	Phase 1B	2	U (0.11)	0.053	190000	350
SVOC	Anthracene	302-AE03	Phase 1B	4	0.073 - 3.3	0.92	190000	350
SVOC	Anthracene	302-AE04	Phase 1B	8	U (0.56) - 0.76	0.14	190000	350
SVOC	Anthracene	302-AE05	Phase 1B	20	U (0.12) - 0.092	0.057	190000	350
SVOC	Anthracene	302-AE07	Phase 1B	3	U (0.11) - 0.209	0.10	190000	350
SVOC	Anthracene	302-AE08	Phase 1B	3	U (0.12)	0.040	190000	350
SVOC	Anthracene	302-AF04	Phase 1B	22	U (0.11) - 0.52	0.057	190000	350
SVOC	Anthracene	302-AF05	Phase 1B	2	0.0744 - 0.0768	0.076	190000	350
SVOC	Anthracene	302-AF09	Phase 1B	5	0.0934 - 0.0934	0.034	190000	350
SVOC	Anthracene	302-AG04	Phase 1B	9	U (0.11) - 1.4	0.27	190000	350
SVOC	Anthracene	302-AG06	Phase 1B	5	U (0.041)	0.019	190000	350
SVOC	Anthracene	302-AG08	Phase 1B	6	0.078 - 4	0.88	190000	350
SVOC	Anthracene	302-AH05	Phase 1B	11	0.0383 - 0.69	0.21	190000	350
SVOC	Anthracene	302-AH06	Phase 1B	4	0.0303 - 0.0303	0.022	190000	350
SVOC	Anthracene	302-AH07	Phase 1B	21	U (0.37) - 0.6	0.078	190000	350
SVOC	Anthracene	302-AH08	Phase 1B	13	U (0.041) - 0.48	0.11	190000	350
SVOC	Anthracene	302-AI05	Phase 1B	11	U (0.12) - 0.21	0.065	190000	350
SVOC	Anthracene	302-AI06	Phase 1B	19	0.0626 - 1.2	0.16	190000	350
SVOC	Anthracene	302-AI07	Phase 1B	10	U (0.375) - 0.156	0.090	190000	350
SVOC	Anthracene	302-AI08	Phase 1B	2	U (0.38)	0.11	190000	350
SVOC	Anthracene	302-AI09	Phase 1B	3	U (0.041) - 0.0977	0.045	190000	350
SVOC	Anthracene	302-AJ05	Phase 1B	2	U (0.12)	0.060	190000	350
SVOC	Anthracene	302-AJ06	Phase 1B	5	0.1 - 0.1	0.068	190000	350
SVOC	Anthracene	302-AK05	Phase 1B	5	U (0.2) - 0.11	0.060	190000	350
SVOC	Anthracene	302-AK07	Phase 1B	13	U (0.0426) - 2	0.38	190000	350
SVOC	Anthracene	302-AL03	Phase 1B	2	0.0191 - 0.873	0.45	190000	350
SVOC	Anthracene	302-AL05	Phase 1B	13	U (0.42) - 1.2	0.34	190000	350
SVOC	Anthracene	302-AL08	Phase 1B	2	U (0.041)	0.019	190000	350
SVOC	Anthracene	302-AN01	Phase 1B	2	U (0.035) - 0.0176	0.017	190000	350
SVOC	Anthracene	302-AP02	Phase 1B	2	0.156 - 0.156	0.089	190000	350
SVOC	Anthracene	302-AP03	Phase 1B	23	U (0.4) - 0.061	0.056	190000	350
SVOC	Anthracene	302-AP04	Phase 1B	2	0.0207 - 0.0207	0.020	190000	350
SVOC	Anthracene	302-AP05	Phase 1B	2	U (0.035)	0.017	190000	350
SVOC	Anthracene	302-AQ01	Phase 1B	2	0.081 - 0.85	0.47	190000	350
SVOC	Anthracene	302-AQ04	Phase 1B	2	U (0.11)	0.055	190000	350
SVOC	Anthracene	302-AR01	Phase 1B	2	0.12 - 2.7	1.4	190000	350
SVOC	Anthracene	302-AR04	Phase 1B	3	U (0.12)	0.050	190000	350
SVOC	Anthracene	302-AS04	Phase 1B	2	U (0.0419)	0.021	190000	350
SVOC	Anthracene	302-AT01	Phase 1B	2	U (0.23)	0.12	190000	350
SVOC	Anthracene	302-AT02	Phase 1B	2	0.121 - 0.121	0.25	190000	350
SVOC	Anthracene	302-AT03	Phase 1B	4	U (0.039) - 0.0676	0.031	190000	350
SVOC	Anthracene	302-AU01	Phase 1B	4	U (0.075) - 0.71	0.23	190000	350
SVOC	Anthracene	302-AU02	Phase 1B	8	U (4)	0.30	190000	350
SVOC	Anthracene	302-AU03	Phase 1B	2	U (0.12)	0.060	190000	350
SVOC	Anthracene	302-AV02	Phase 1B	4	U (0.59) - 1.1	0.32	190000	350
SVOC	Anthracene	302-AV04	Phase 1B	2	U (0.0415)	0.020	190000	350
SVOC	Anthracene	302-AW02	Phase 1B	2	U (1.9) - 2.1	1.1	190000	350
SVOC	Anthracene	302-AX02	Phase 1B	3	U (0.038)	0.018	190000	350
SVOC	Anthracene	302-AY02	Phase 1B	14	0.24 - 13.2	2.6	190000	350
SVOC	Anthracene	302-AY03	Phase 1B	2	0.0421 - 0.0486	0.045	190000	350
SVOC	Anthracene	302-AY05	Phase 1B	2	U (0.19)	0.058	190000	350

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Anthracene	302-AZ02	Phase 1B	8	0.204 - 2.6	2.6	190000	350
SVOC	Anthracene	302-AZ03	Phase 1B	1	U (2)	1.0	190000	350
SVOC	Anthracene	302-BA03	Phase 1B	3	U (0.075)	0.037	190000	350
SVOC	Anthracene	302-BB07	Phase 1B	5	0.059 - 0.131	0.069	190000	350
SVOC	Anthracene	302-BB08	Phase 1B	1	U (0.19)	0.095	190000	350
SVOC	Anthracene	302-BC06	Phase 1B	1	U (0.23)	0.12	190000	350
SVOC	Anthracene	301-L01	Phase 1C	7	0.17 - 0.42	0.15	190000	350
SVOC	Anthracene	301-T03	Phase 1C	2	0.23 - 0.23	0.14	190000	350
SVOC	Anthracene	302-AD02	Phase 1C	2	U (0.19)	0.057	190000	350
SVOC	Anthracene	302-AH01	Phase 1C	2	U (0.19)	0.057	190000	350
SVOC	Anthracene	302-AI01	Phase 1C	2	0.086 - 0.086	0.052	190000	350
SVOC	Anthracene	302-AL01	Phase 1C	2	U (0.037) - 0.0417	0.030	190000	350
SVOC	Benzo(a)anthracene	LS-A-A01	Life Sciences	1	16 - 16	16.0	130	340
SVOC	Benzo(a)anthracene	LS-A-A02	Life Sciences	2	0.0725 - 0.92	0.50	130	340
SVOC	Benzo(a)anthracene	LS-A-A03	Life Sciences	1	1.68 - 1.68	1.7	130	340
SVOC	Benzo(a)anthracene	LS-A-A04	Life Sciences	3	1.1 - 4.6	2.6	130	340
SVOC	Benzo(a)anthracene	LS-A-B02	Life Sciences	14	0.021 - 3.6	0.66	130	340
SVOC	Benzo(a)anthracene	LS-A-B03	Life Sciences	4	0.0241 - 0.301	0.11	130	340
SVOC	Benzo(a)anthracene	LS-A-C01	Life Sciences	31	U (19) - 220	13.0	130	340
SVOC	Benzo(a)anthracene	LS-A-C02	Life Sciences	12	U (19) - 11	2.8	130	340
SVOC	Benzo(a)anthracene	LS-A-C04	Life Sciences	3	0.038 - 0.038	0.053	130	340
SVOC	Benzo(a)anthracene	LS-A-D01	Life Sciences	5	0.505 - 2.65	0.92	130	340
SVOC	Benzo(a)anthracene	LS-A-D02	Life Sciences	1	2 - 2	2.0	130	340
SVOC	Benzo(a)anthracene	LS-A-D03	Life Sciences	3	U (0.95)	0.17	130	340
SVOC	Benzo(a)anthracene	LS-A-D04	Life Sciences	2	U (1.84)	0.48	130	340
SVOC	Benzo(a)anthracene	LS-A-D05	Life Sciences	6	0.216 - 0.962	0.42	130	340
SVOC	Benzo(a)anthracene	LS-A-D06	Life Sciences	2	U (0.364)	0.14	130	340
SVOC	Benzo(a)anthracene	LS-A-D07	Life Sciences	2	0.225 - 0.225	1.0	130	340
SVOC	Benzo(a)anthracene	LS-A-E01	Life Sciences	3	U (1.84)	0.53	130	340
SVOC	Benzo(a)anthracene	LS-A-E03	Life Sciences	1	0.74 - 0.74	0.74	130	340
SVOC	Benzo(a)anthracene	LS-A-E04	Life Sciences	2	U (22.3)	5.6	130	340
SVOC	Benzo(a)anthracene	LS-A-E05	Life Sciences	1	U (0.94)	0.47	130	340
SVOC	Benzo(a)anthracene	LS-A-E07	Life Sciences	1	0.34 - 0.34	0.34	130	340
SVOC	Benzo(a)anthracene	LS-A-E08	Life Sciences	1	U (0.98)	0.49	130	340
SVOC	Benzo(a)anthracene	LS-A-F01	Life Sciences	3	U (7.96)	2.1	130	340
SVOC	Benzo(a)anthracene	LS-A-F02	Life Sciences	3	U (9.7)	2.6	130	340
SVOC	Benzo(a)anthracene	LS-A-F03	Life Sciences	1	1.1 - 1.1	1.1	130	340
SVOC	Benzo(a)anthracene	LS-A-F04	Life Sciences	12	U (0.94) - 0.102	0.12	130	340
SVOC	Benzo(a)anthracene	LS-A-F05	Life Sciences	1	41 - 41	41.0	130	340
SVOC	Benzo(a)anthracene	LS-A-G01	Life Sciences	3	U (1) - 0.275	0.34	130	340
SVOC	Benzo(a)anthracene	LS-A-G02	Life Sciences	2	U (0.391)	0.15	130	340
SVOC	Benzo(a)anthracene	LS-A-G03	Life Sciences	3	U (4.6) - 2.97	1.8	130	340
SVOC	Benzo(a)anthracene	LS-A-G07	Life Sciences	3	17 - 24.8	14.0	130	340
SVOC	Benzo(a)anthracene	LS-A-G08	Life Sciences	2	2.28 - 3.17	2.7	130	340
SVOC	Benzo(a)anthracene	LS-A-H03	Life Sciences	2	0.0585 - 0.351	0.20	130	340
SVOC	Benzo(a)anthracene	LS-A-H04	Life Sciences	2	U (2.02) - 0.385	0.70	130	340
SVOC	Benzo(a)anthracene	LS-A-H06	Life Sciences	1	U (0.94)	0.47	130	340
SVOC	Benzo(a)anthracene	LS-A-H07	Life Sciences	2	U (1.92) - 0.119	0.54	130	340
SVOC	Benzo(a)anthracene	LS-A-I01	Life Sciences	6	U (8.23) - 0.222	2.5	130	340
SVOC	Benzo(a)anthracene	LS-A-I02	Life Sciences	1	U (5)	2.5	130	340
SVOC	Benzo(a)anthracene	LS-A-I03	Life Sciences	3	3.19 - 3.19	1.2	130	340
SVOC	Benzo(a)anthracene	LS-B-B01	Life Sciences	1	0.0028 - 0.0028	0.0028	130	340
SVOC	Benzo(a)anthracene	LS-B-C01	Life Sciences	3	U (0.19)	0.044	130	340
SVOC	Benzo(a)anthracene	LS-B-E01	Life Sciences	4	0.0791 - 0.0791	0.56	130	340
SVOC	Benzo(a)anthracene	LS-B-G02	Life Sciences	1	6.77 - 6.77	6.8	130	340
SVOC	Benzo(a)anthracene	LS-B-H02	Life Sciences	3	U (1) - 1.7	0.61	130	340
SVOC	Benzo(a)anthracene	LS-E-B01	Life Sciences	81	0.0051 - 130	10.9	130	340
SVOC	Benzo(a)anthracene	LS-E-G01	Life Sciences	4	1.09 - 2	0.99	130	340
SVOC	Benzo(a)anthracene	201-A01	Phase 1A	7	U (0.12) - 0.39	0.10	130	340
SVOC	Benzo(a)anthracene	201-A02	Phase 1A	14	U (0.13) - 1.3	0.32	130	340
SVOC	Benzo(a)anthracene	201-A03	Phase 1A	7	U (0.12) - 0.064	0.054	130	340
SVOC	Benzo(a)anthracene	201-A04	Phase 1A	29	0.024 - 1.74	0.34	130	340
SVOC	Benzo(a)anthracene	201-A05	Phase 1A	9	0.00082 - 0.077	0.038	130	340
SVOC	Benzo(a)anthracene	201-A06	Phase 1A	7	0.03 - 0.12	0.049	130	340
SVOC	Benzo(a)anthracene	201-A07	Phase 1A	9	0.0036 - 0.063	0.040	130	340
SVOC	Benzo(a)anthracene	201-A08	Phase 1A	7	U (0.038) - 0.17	0.042	130	340
SVOC	Benzo(a)anthracene	201-A09	Phase 1A	7	0.00085 - 0.25	0.048	130	340
SVOC	Benzo(a)anthracene	201-A10	Phase 1A	3	U (0.039) - 0.61	0.21	130	340
SVOC	Benzo(a)anthracene	201-A11	Phase 1A	4	U (0.12) - 0.0011	0.017	130	340
SVOC	Benzo(a)anthracene	201-A12	Phase 1A	6	0.0058 - 0.37	0.083	130	340
SVOC	Benzo(a)anthracene	201-A13	Phase 1A	4	0.026 - 0.24	0.093	130	340
SVOC	Benzo(a)anthracene	201-A14	Phase 1A	9	0.0033 - 1.6	0.30	130	340
SVOC	Benzo(a)anthracene	201-B02	Phase 1A	2	U (0.031) - 0.024	0.020	130	340
SVOC	Benzo(a)anthracene	201-B04	Phase 1A	3	U (0.0096) - 0.0014	0.0026	130	340
SVOC	Benzo(a)anthracene	201-B05	Phase 1A	3	0.048 - 0.21	0.15	130	340
SVOC	Benzo(a)anthracene	201-B08	Phase 1A	4	U (0.00041) - 0.011	0.0044	130	340
SVOC	Benzo(a)anthracene	201-C01	Phase 1A	14	U (1.2) - 0.15	0.10	130	340
SVOC	Benzo(a)anthracene	201-C04	Phase 1A	11	U (1.2) - 0.09	0.22	130	340
SVOC	Benzo(a)anthracene	201-C05	Phase 1A	3	0.0034 - 5.9	2.2	130	340
SVOC	Benzo(a)anthracene	201-C07	Phase 1A	8	0.046 - 2.6	0.72	130	340
SVOC	Benzo(a)anthracene	201-C08	Phase 1A	11	0.0097 - 4.7	0.47	130	340
SVOC	Benzo(a)anthracene	201-C09	Phase 1A	7	U (0.11)	0.051	130	340
SVOC	Benzo(a)anthracene	201-C10	Phase 1A	3	U (0.4) - 1.7	0.78	130	340

Table 3.4
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Soil Management Plan Addendum No. 6
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Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Benzo(a)anthracene	201-D01	Phase 1A	4	U (0.42) - 1.06	0.32	130	340
SVOC	Benzo(a)anthracene	201-D05	Phase 1A	4	0.0074 - 0.98	2.4	130	340
SVOC	Benzo(a)anthracene	201-D12	Phase 1A	3	0.023 - 0.023	0.044	130	340
SVOC	Benzo(a)anthracene	201-E01	Phase 1A	43	0.00088 - 0.12	0.039	130	340
SVOC	Benzo(a)anthracene	201-E02	Phase 1A	1	U (0.12)	0.060	130	340
SVOC	Benzo(a)anthracene	201-E03	Phase 1A	3	U (0.38)	0.077	130	340
SVOC	Benzo(a)anthracene	201-E04	Phase 1A	3	U (0.59) - 2	0.77	130	340
SVOC	Benzo(a)anthracene	201-E05	Phase 1A	22	U (0.33) - 0.15	0.046	130	340
SVOC	Benzo(a)anthracene	201-F01	Phase 1A	36	U (0.52) - 0.801	0.13	130	340
SVOC	Benzo(a)anthracene	201-F02	Phase 1A	4	U (0.04) - 0.039	0.020	130	340
SVOC	Benzo(a)anthracene	201-F03	Phase 1A	25	0.004 - 0.13	0.066	130	340
SVOC	Benzo(a)anthracene	201-F04	Phase 1A	21	U (0.36) - 0.079	0.024	130	340
SVOC	Benzo(a)anthracene	202-A03	Phase 1A	8	U (0.12) - 0.07	0.038	130	340
SVOC	Benzo(a)anthracene	202-A04	Phase 1A	4	U (0.41) - 0.49	0.20	130	340
SVOC	Benzo(a)anthracene	202-A05	Phase 1A	4	U (0.12) - 0.076	0.036	130	340
SVOC	Benzo(a)anthracene	202-A06	Phase 1A	4	U (0.12)	0.055	130	340
SVOC	Benzo(a)anthracene	202-A07	Phase 1A	3	U (0.12)	0.060	130	340
SVOC	Benzo(a)anthracene	202-A08	Phase 1A	3	U (0.12)	0.060	130	340
SVOC	Benzo(a)anthracene	202-A09	Phase 1A	6	U (0.12)	0.059	130	340
SVOC	Benzo(a)anthracene	202-B01	Phase 1A	2	0.077 - 0.17	0.12	130	340
SVOC	Benzo(a)anthracene	202-B02	Phase 1A	8	U (0.4)	0.12	130	340
SVOC	Benzo(a)anthracene	202-B03	Phase 1A	15	0.022 - 0.23	0.069	130	340
SVOC	Benzo(a)anthracene	202-B04	Phase 1A	3	U (0.52) - 0.04	0.12	130	340
SVOC	Benzo(a)anthracene	202-B05	Phase 1A	4	0.044 - 0.2	0.077	130	340
SVOC	Benzo(a)anthracene	202-B09	Phase 1A	9	U (0.59) - 0.13	0.12	130	340
SVOC	Benzo(a)anthracene	202-C04	Phase 1A	15	0.047 - 0.21	0.28	130	340
SVOC	Benzo(a)anthracene	202-C05	Phase 1A	10	0.045 - 0.55	0.17	130	340
SVOC	Benzo(a)anthracene	202-C06	Phase 1A	4	0.018 - 0.077	0.044	130	340
SVOC	Benzo(a)anthracene	202-C07	Phase 1A	8	U (0.39) - 0.078	0.075	130	340
SVOC	Benzo(a)anthracene	202-C08	Phase 1A	4	U (0.2) - 0.16	0.094	130	340
SVOC	Benzo(a)anthracene	202-C10	Phase 1A	1	U (0.38)	0.19	130	340
SVOC	Benzo(a)anthracene	202-D05	Phase 1A	5	U (0.36) - 0.063	0.085	130	340
SVOC	Benzo(a)anthracene	202-D06	Phase 1A	11	U (2) - 0.52	0.49	130	340
SVOC	Benzo(a)anthracene	202-E06	Phase 1A	2	0.053 - 0.053	0.052	130	340
SVOC	Benzo(a)anthracene	202-E08	Phase 1A	13	U (0.38) - 0.048	0.064	130	340
SVOC	Benzo(a)anthracene	202-E09	Phase 1A	16	0.022 - 0.49	0.099	130	340
SVOC	Benzo(a)anthracene	202-E10	Phase 1A	6	U (0.45) - 0.053	0.11	130	340
SVOC	Benzo(a)anthracene	202-E11	Phase 1A	2	U (0.41)	0.16	130	340
SVOC	Benzo(a)anthracene	202-E12	Phase 1A	4	U (0.42) - 0.076	0.098	130	340
SVOC	Benzo(a)anthracene	202-E13	Phase 1A	2	U (0.38) - 0.22	0.21	130	340
SVOC	Benzo(a)anthracene	202-E15	Phase 1A	2	U (0.38)	0.19	130	340
SVOC	Benzo(a)anthracene	202-F01	Phase 1A	7	U (0.43)	0.18	130	340
SVOC	Benzo(a)anthracene	202-F04	Phase 1A	10	0.025 - 0.071	0.045	130	340
SVOC	Benzo(a)anthracene	202-F05	Phase 1A	2	U (0.11)	0.038	130	340
SVOC	Benzo(a)anthracene	202-F06	Phase 1A	2	0.14 - 0.14	0.18	130	340
SVOC	Benzo(a)anthracene	202-F07	Phase 1A	17	0.029 - 4.5	0.43	130	340
SVOC	Benzo(a)anthracene	202-F08	Phase 1A	4	U (0.12)	0.040	130	340
SVOC	Benzo(a)anthracene	202-F10	Phase 1A	2	U (0.12)	0.060	130	340
SVOC	Benzo(a)anthracene	202-F14	Phase 1A	2	0.0231 - 0.0231	0.021	130	340
SVOC	Benzo(a)anthracene	202-F16	Phase 1A	4	U (0.4) - 0.76	0.26	130	340
SVOC	Benzo(a)anthracene	202-F17	Phase 1A	8	U (0.11)	0.054	130	340
SVOC	Benzo(a)anthracene	202-G01	Phase 1A	8	U (0.21) - 0.031	0.056	130	340
SVOC	Benzo(a)anthracene	202-G02	Phase 1A	14	U (2.4)	0.14	130	340
SVOC	Benzo(a)anthracene	202-G03	Phase 1A	9	U (0.11)	0.048	130	340
SVOC	Benzo(a)anthracene	202-G04	Phase 1A	3	U (0.2)	0.083	130	340
SVOC	Benzo(a)anthracene	202-G05	Phase 1A	6	U (0.41)	0.13	130	340
SVOC	Benzo(a)anthracene	202-G07	Phase 1A	16	U (0.12) - 0.022	0.053	130	340
SVOC	Benzo(a)anthracene	202-H03	Phase 1A	5	U (0.12)	0.059	130	340
SVOC	Benzo(a)anthracene	202-H05	Phase 1A	1	U (0.04)	0.020	130	340
SVOC	Benzo(a)anthracene	202-H06	Phase 1A	2	U (0.04) - 0.0559	0.038	130	340
SVOC	Benzo(a)anthracene	202-H07	Phase 1A	2	0.0292 - 0.0292	0.024	130	340
SVOC	Benzo(a)anthracene	202-H08	Phase 1A	3	U (0.12)	0.053	130	340
SVOC	Benzo(a)anthracene	202-H11	Phase 1A	10	U (0.12) - 0.069	0.051	130	340
SVOC	Benzo(a)anthracene	202-I01	Phase 1A	2	U (0.12)	0.058	130	340
SVOC	Benzo(a)anthracene	202-I04	Phase 1A	4	U (0.11)	0.053	130	340
SVOC	Benzo(a)anthracene	202-J03	Phase 1A	7	U (1.2)	0.43	130	340
SVOC	Benzo(a)anthracene	202-J04	Phase 1A	8	U (1.2) - 0.1	0.20	130	340
SVOC	Benzo(a)anthracene	202-J05	Phase 1A	6	0.0041 - 0.11	0.051	130	340
SVOC	Benzo(a)anthracene	202-J07	Phase 1A	4	0.083 - 0.24	0.13	130	340
SVOC	Benzo(a)anthracene	202-J08	Phase 1A	1	0.88 - 0.88	0.88	130	340
SVOC	Benzo(a)anthracene	202-J09	Phase 1A	2	1.1 - 1.1	0.55	130	340
SVOC	Benzo(a)anthracene	301-AA01	Phase 1A	1	0.0116 - 0.0116	0.012	130	340
SVOC	Benzo(a)anthracene	301-AA06	Phase 1A	11	0.0096 - 0.2	0.070	130	340
SVOC	Benzo(a)anthracene	301-AA07	Phase 1A	4	U (0.12) - 0.313	0.15	130	340
SVOC	Benzo(a)anthracene	301-AA08	Phase 1A	3	0.067 - 0.067	0.029	130	340
SVOC	Benzo(a)anthracene	301-AA09	Phase 1A	3	U (0.02) - 0.15	0.056	130	340
SVOC	Benzo(a)anthracene	301-AB04	Phase 1A	3	U (0.037)	0.018	130	340
SVOC	Benzo(a)anthracene	301-AB06	Phase 1A	2	U (0.11)	0.055	130	340
SVOC	Benzo(a)anthracene	301-AB07	Phase 1A	1	0.33 - 0.33	0.33	130	340
SVOC	Benzo(a)anthracene	301-AB09	Phase 1A	2	U (0.876) - 8.03	4.0	130	340
SVOC	Benzo(a)anthracene	301-AC04	Phase 1A	25	U (0.57) - 7.5	0.63	130	340
SVOC	Benzo(a)anthracene	301-AC07	Phase 1A	10	U (0.56) - 0.75	0.22	130	340
SVOC	Benzo(a)anthracene	301-AC08	Phase 1A	7	0.1 - 0.29	0.13	130	340

Table 3.4

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Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Benzo(a)anthracene	301-AC09	Phase 1A	6	0.00092 - 0.0024	0.0053	130	340
SVOC	Benzo(a)anthracene	301-B01	Phase 1A	1	U (0.018)	0.0090	130	340
SVOC	Benzo(a)anthracene	301-C01	Phase 1A	3	0.0052 - 2.7	0.91	130	340
SVOC	Benzo(a)anthracene	301-C02	Phase 1A	7	U (0.39) - 0.032	0.042	130	340
SVOC	Benzo(a)anthracene	301-D01	Phase 1A	13	U (1.2) - 2.1	0.28	130	340
SVOC	Benzo(a)anthracene	301-E02	Phase 1A	14	U (0.35) - 0.15	0.045	130	340
SVOC	Benzo(a)anthracene	301-E03	Phase 1A	4	U (0.021) - 0.081	0.034	130	340
SVOC	Benzo(a)anthracene	301-G01	Phase 1A	2	0.0043 - 0.01	0.0072	130	340
SVOC	Benzo(a)anthracene	301-G02	Phase 1A	3	0.038 - 0.63	0.27	130	340
SVOC	Benzo(a)anthracene	301-G03	Phase 1A	1	0.065 - 0.065	0.065	130	340
SVOC	Benzo(a)anthracene	301-H02	Phase 1A	3	0.0031 - 0.13	0.088	130	340
SVOC	Benzo(a)anthracene	301-H03	Phase 1A	2	0.0035 - 0.0046	0.0041	130	340
SVOC	Benzo(a)anthracene	301-N02	Phase 1A	3	0.0086 - 1.1	0.37	130	340
SVOC	Benzo(a)anthracene	301-P02	Phase 1A	2	0.0742 - 1.3	0.69	130	340
SVOC	Benzo(a)anthracene	301-Q04	Phase 1A	6	U (0.4) - 1.19	0.25	130	340
SVOC	Benzo(a)anthracene	301-R02	Phase 1A	6	U (0.087) - 0.23	0.057	130	340
SVOC	Benzo(a)anthracene	301-S02	Phase 1A	4	U (0.088)	0.018	130	340
SVOC	Benzo(a)anthracene	301-S03	Phase 1A	1	0.044 - 0.044	0.044	130	340
SVOC	Benzo(a)anthracene	301-T04	Phase 1A	2	U (0.09)	0.027	130	340
SVOC	Benzo(a)anthracene	301-V04	Phase 1A	29	U (0.12) - 0.14	0.041	130	340
SVOC	Benzo(a)anthracene	301-W03	Phase 1A	4	U (0.017) - 0.00098	0.0066	130	340
SVOC	Benzo(a)anthracene	301-X03	Phase 1A	3	U (0.018) - 0.057	0.025	130	340
SVOC	Benzo(a)anthracene	301-Y03	Phase 1A	2	U (0.04) - 0.0575	0.039	130	340
SVOC	Benzo(a)anthracene	301-Y04	Phase 1A	3	U (0.02) - 0.024	0.014	130	340
SVOC	Benzo(a)anthracene	301-Y05	Phase 1A	6	U (0.12) - 0.026	0.037	130	340
SVOC	Benzo(a)anthracene	302-AD08	Phase 1A	2	U (0.1)	0.050	130	340
SVOC	Benzo(a)anthracene	302-AD09	Phase 1A	3	U (0.1) - 0.0154	0.028	130	340
SVOC	Benzo(a)anthracene	302-AD10	Phase 1A	4	0.025 - 1.7	0.54	130	340
SVOC	Benzo(a)anthracene	302-AE09	Phase 1A	4	0.00094 - 0.00094	0.045	130	340
SVOC	Benzo(a)anthracene	302-AF06	Phase 1A	8	0.035 - 0.97	0.26	130	340
SVOC	Benzo(a)anthracene	302-AG07	Phase 1A	14	U (0.12) - 0.13	0.044	130	340
SVOC	Benzo(a)anthracene	302-AJ09	Phase 1A	13	U (57) - 3.9	3.8	130	340
SVOC	Benzo(a)anthracene	302-AK06	Phase 1A	3	U (0.42) - 2.7	1.4	130	340
SVOC	Benzo(a)anthracene	302-AL06	Phase 1A	13	0.73 - 5	1.3	130	340
SVOC	Benzo(a)anthracene	302-AN02	Phase 1A	2	U (0.198)	0.058	130	340
SVOC	Benzo(a)anthracene	302-AO03	Phase 1A	2	U (0.0418)	0.020	130	340
SVOC	Benzo(a)anthracene	302-AQ02	Phase 1A	7	U (1.1)	0.13	130	340
SVOC	Benzo(a)anthracene	302-AR02	Phase 1A	4	U (0.12) - 0.031	0.050	130	340
SVOC	Benzo(a)anthracene	302-AS03	Phase 1A	13	0.0424 - 0.0424	0.046	130	340
SVOC	Benzo(a)anthracene	302-AV01	Phase 1A	10	0.152 - 2	0.78	130	340
SVOC	Benzo(a)anthracene	302-AV03	Phase 1A	6	U (0.12) - 0.12	0.069	130	340
SVOC	Benzo(a)anthracene	302-AW01	Phase 1A	9	0.27 - 13	1.9	130	340
SVOC	Benzo(a)anthracene	302-AW03	Phase 1A	2	U (0.12)	0.060	130	340
SVOC	Benzo(a)anthracene	302-AX01	Phase 1A	12	0.0384 - 41	4.8	130	340
SVOC	Benzo(a)anthracene	302-AX05	Phase 1A	2	U (0.0414)	0.020	130	340
SVOC	Benzo(a)anthracene	302-AZ05	Phase 1A	2	U (0.41)	0.13	130	340
SVOC	Benzo(a)anthracene	302-BA05	Phase 1A	2	U (0.218)	0.064	130	340
SVOC	Benzo(a)anthracene	302-BC05	Phase 1A	7	U (0.039) - 0.0069	0.0065	130	340
SVOC	Benzo(a)anthracene	302-BE04	Phase 1A	2	U (0.19)	0.053	130	340
SVOC	Benzo(a)anthracene	303-AY01	Phase 1A	6	0.009 - 1.9	0.47	130	340
SVOC	Benzo(a)anthracene	303-AZ01	Phase 1A	5	0.46 - 2.6	1.5	130	340
SVOC	Benzo(a)anthracene	303-BA01	Phase 1A	8	0.0317 - 3.4	0.71	130	340
SVOC	Benzo(a)anthracene	303-BA02	Phase 1A	11	0.188 - 2.7	2.0	130	340
SVOC	Benzo(a)anthracene	303-BB01	Phase 1A	2	1.2 - 1.8	1.5	130	340
SVOC	Benzo(a)anthracene	303-BB02	Phase 1A	5	0.026 - 77.7	20.3	130	340
SVOC	Benzo(a)anthracene	303-BC01	Phase 1A	4	0.012 - 0.348	0.15	130	340
SVOC	Benzo(a)anthracene	303-BD04	Phase 1A	9	0.18 - 3.1	1.2	130	340
SVOC	Benzo(a)anthracene	303-BE03	Phase 1A	38	0.045 - 8.8	1.5	130	340
SVOC	Benzo(a)anthracene	303-BF05	Phase 1A	16	0.033 - 3.5	0.99	130	340
SVOC	Benzo(a)anthracene	303-BG04	Phase 1A	27	0.077 - 2.3	1.1	130	340
SVOC	Benzo(a)anthracene	303-BH02	Phase 1A	22	0.17 - 55	4.2	130	340
SVOC	Benzo(a)anthracene	303-BI03	Phase 1A	6	0.75 - 3.2	1.5	130	340
SVOC	Benzo(a)anthracene	303-BJ01	Phase 1A	3	7.8 - 11	9.5	130	340
SVOC	Benzo(a)anthracene	303-BJ02	Phase 1A	3	0.0614 - 0.992	0.44	130	340
SVOC	Benzo(a)anthracene	303-BK03	Phase 1A	7	0.26 - 2.9	1.2	130	340
SVOC	Benzo(a)anthracene	303-BL02	Phase 1A	10	0.029 - 0.88	0.44	130	340
SVOC	Benzo(a)anthracene	303-BM02	Phase 1A	1	9.01 - 9.01	9.0	130	340
SVOC	Benzo(a)anthracene	303-BN02	Phase 1A	15	0.054 - 12.6	1.6	130	340
SVOC	Benzo(a)anthracene	303-BN03	Phase 1A	14	0.032 - 3.3	0.82	130	340
SVOC	Benzo(a)anthracene	303-BO02	Phase 1A	10	0.008 - 2.3	0.69	130	340
SVOC	Benzo(a)anthracene	303-BP02	Phase 1A	30	0.014 - 9.6	1.4	130	340
SVOC	Benzo(a)anthracene	303-BQ01	Phase 1A	5	0.276 - 6.1	2.0	130	340
SVOC	Benzo(a)anthracene	303-BQ02	Phase 1A	15	0.004 - 1.05	0.31	130	340
SVOC	Benzo(a)anthracene	303-BR02	Phase 1A	8	0.233 - 5.3	1.3	130	340
SVOC	Benzo(a)anthracene	303-BT01	Phase 1A	13	0.016 - 0.41	0.10	130	340
SVOC	Benzo(a)anthracene	303-BW01	Phase 1A	2	0.0907 - 0.35	0.22	130	340
SVOC	Benzo(a)anthracene	301-AA02	Phase 1B	2	0.0398 - 0.0398	0.029	130	340
SVOC	Benzo(a)anthracene	301-AA05	Phase 1B	11	U (0.21)	0.042	130	340
SVOC	Benzo(a)anthracene	301-AB05	Phase 1B	6	U (0.19) - 0.202	0.071	130	340
SVOC	Benzo(a)anthracene	301-AC03	Phase 1B	2	0.609 - 0.86	0.73	130	340
SVOC	Benzo(a)anthracene	301-T01	Phase 1B	5	0.345 - 9.6	2.7	130	340
SVOC	Benzo(a)anthracene	301-T02	Phase 1B	2	0.125 - 2.1	1.1	130	340
SVOC	Benzo(a)anthracene	301-U01	Phase 1B	2	U (0.19) - 1.6	0.81	130	340

Table 3.4
Evergreen and PESRM Sampling Results Summary
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Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Benzo(a)anthracene	301-U03	Phase 1B	1	U (0.17)	0.085	130	340
SVOC	Benzo(a)anthracene	301-V01	Phase 1B	7	U (0.041) - 0.083	0.038	130	340
SVOC	Benzo(a)anthracene	301-V02	Phase 1B	19	U (1.6) - 17	1.0	130	340
SVOC	Benzo(a)anthracene	301-W01	Phase 1B	24	U (0.13) - 0.46	0.055	130	340
SVOC	Benzo(a)anthracene	301-X01	Phase 1B	11	U (0.18) - 0.733	0.19	130	340
SVOC	Benzo(a)anthracene	301-Y01	Phase 1B	10	0.0145 - 0.349	0.084	130	340
SVOC	Benzo(a)anthracene	301-Y02	Phase 1B	4	U (0.17) - 0.37	0.11	130	340
SVOC	Benzo(a)anthracene	301-Z01	Phase 1B	6	U (0.039) - 0.0246	0.019	130	340
SVOC	Benzo(a)anthracene	301-Z02	Phase 1B	2	U (0.18) - 0.32	0.17	130	340
SVOC	Benzo(a)anthracene	301-Z03	Phase 1B	5	U (0.18) - 0.241	0.11	130	340
SVOC	Benzo(a)anthracene	302-AD06	Phase 1B	12	U (0.14) - 0.24	0.11	130	340
SVOC	Benzo(a)anthracene	302-AD07	Phase 1B	2	0.12 - 0.12	0.085	130	340
SVOC	Benzo(a)anthracene	302-AE03	Phase 1B	4	U (0.18) - 0.57	0.16	130	340
SVOC	Benzo(a)anthracene	302-AE04	Phase 1B	8	U (0.56) - 0.16	0.061	130	340
SVOC	Benzo(a)anthracene	302-AE05	Phase 1B	20	0.03 - 0.44	0.085	130	340
SVOC	Benzo(a)anthracene	302-AE07	Phase 1B	3	0.468 - 0.468	0.19	130	340
SVOC	Benzo(a)anthracene	302-AE08	Phase 1B	3	0.0014 - 0.0014	0.039	130	340
SVOC	Benzo(a)anthracene	302-AF04	Phase 1B	22	U (0.11) - 0.029	0.033	130	340
SVOC	Benzo(a)anthracene	302-AF05	Phase 1B	2	0.02 - 0.242	0.13	130	340
SVOC	Benzo(a)anthracene	302-AF09	Phase 1B	5	U (0.04) - 0.0356	0.022	130	340
SVOC	Benzo(a)anthracene	302-AG04	Phase 1B	9	U (0.11) - 0.0368	0.026	130	340
SVOC	Benzo(a)anthracene	302-AG06	Phase 1B	5	U (0.041)	0.019	130	340
SVOC	Benzo(a)anthracene	302-AG08	Phase 1B	6	0.11 - 2.3	0.64	130	340
SVOC	Benzo(a)anthracene	302-AH05	Phase 1B	11	0.023 - 0.71	0.22	130	340
SVOC	Benzo(a)anthracene	302-AH06	Phase 1B	4	0.0807 - 0.0807	0.035	130	340
SVOC	Benzo(a)anthracene	302-AH07	Phase 1B	21	U (0.37) - 0.86	0.11	130	340
SVOC	Benzo(a)anthracene	302-AH08	Phase 1B	13	U (0.041) - 0.78	0.21	130	340
SVOC	Benzo(a)anthracene	302-AI05	Phase 1B	11	U (0.12) - 0.63	0.12	130	340
SVOC	Benzo(a)anthracene	302-AI06	Phase 1B	19	0.02 - 2.2	0.27	130	340
SVOC	Benzo(a)anthracene	302-AI07	Phase 1B	10	U (0.375) - 0.34	0.13	130	340
SVOC	Benzo(a)anthracene	302-AI08	Phase 1B	2	U (0.38)	0.11	130	340
SVOC	Benzo(a)anthracene	302-AI09	Phase 1B	3	0.223 - 0.223	0.087	130	340
SVOC	Benzo(a)anthracene	302-AJ05	Phase 1B	2	U (0.12) - 0.045	0.053	130	340
SVOC	Benzo(a)anthracene	302-AJ06	Phase 1B	5	0.082 - 0.28	0.11	130	340
SVOC	Benzo(a)anthracene	302-AK05	Phase 1B	5	0.11 - 0.59	0.17	130	340
SVOC	Benzo(a)anthracene	302-AK07	Phase 1B	13	U (0.0426) - 3.5	0.67	130	340
SVOC	Benzo(a)anthracene	302-AL03	Phase 1B	2	0.0804 - 0.0804	0.063	130	340
SVOC	Benzo(a)anthracene	302-AL05	Phase 1B	13	U (0.42) - 2.8	0.85	130	340
SVOC	Benzo(a)anthracene	302-AL08	Phase 1B	2	U (0.041)	0.019	130	340
SVOC	Benzo(a)anthracene	302-AN01	Phase 1B	2	U (0.035) - 0.0848	0.051	130	340
SVOC	Benzo(a)anthracene	302-AP02	Phase 1B	2	U (0.042) - 0.396	0.21	130	340
SVOC	Benzo(a)anthracene	302-AP03	Phase 1B	23	U (0.4) - 0.17	0.063	130	340
SVOC	Benzo(a)anthracene	302-AP04	Phase 1B	2	0.0748 - 0.0748	0.047	130	340
SVOC	Benzo(a)anthracene	302-AP05	Phase 1B	2	U (0.035)	0.017	130	340
SVOC	Benzo(a)anthracene	302-AQ01	Phase 1B	2	0.27 - 1.9	1.1	130	340
SVOC	Benzo(a)anthracene	302-AQ04	Phase 1B	2	U (0.11)	0.055	130	340
SVOC	Benzo(a)anthracene	302-AR01	Phase 1B	2	0.24 - 9.6	4.9	130	340
SVOC	Benzo(a)anthracene	302-AR04	Phase 1B	3	U (0.12)	0.050	130	340
SVOC	Benzo(a)anthracene	302-AS04	Phase 1B	2	U (0.0419)	0.021	130	340
SVOC	Benzo(a)anthracene	302-AT02	Phase 1B	2	U (0.77) - 0.131	0.26	130	340
SVOC	Benzo(a)anthracene	302-AT03	Phase 1B	4	U (0.039) - 0.0313	0.022	130	340
SVOC	Benzo(a)anthracene	302-AU01	Phase 1B	4	U (0.31) - 1.1	0.41	130	340
SVOC	Benzo(a)anthracene	302-AU02	Phase 1B	8	U (4)	0.30	130	340
SVOC	Benzo(a)anthracene	302-AU03	Phase 1B	2	U (0.12)	0.060	130	340
SVOC	Benzo(a)anthracene	302-AV02	Phase 1B	4	U (0.59)	0.12	130	340
SVOC	Benzo(a)anthracene	302-AV04	Phase 1B	2	U (0.0415)	0.020	130	340
SVOC	Benzo(a)anthracene	302-AW02	Phase 1B	2	U (1.9) - 2.6	1.3	130	340
SVOC	Benzo(a)anthracene	302-AX02	Phase 1B	3	U (0.038)	0.018	130	340
SVOC	Benzo(a)anthracene	302-AY02	Phase 1B	14	0.0454 - 11.4	4.1	130	340
SVOC	Benzo(a)anthracene	302-AY03	Phase 1B	2	0.0913 - 0.137	0.11	130	340
SVOC	Benzo(a)anthracene	302-AY05	Phase 1B	2	U (0.19)	0.058	130	340
SVOC	Benzo(a)anthracene	302-AZ02	Phase 1B	8	0.11 - 3.4	9.4	130	340
SVOC	Benzo(a)anthracene	302-AZ03	Phase 1B	1	0.62 - 0.62	0.62	130	340
SVOC	Benzo(a)anthracene	302-BA03	Phase 1B	3	U (0.31)	0.15	130	340
SVOC	Benzo(a)anthracene	302-BB07	Phase 1B	5	U (0.12) - 0.027	0.031	130	340
SVOC	Benzo(a)anthracene	302-BB08	Phase 1B	1	0.49 - 0.49	0.49	130	340
SVOC	Benzo(a)anthracene	302-BC06	Phase 1B	1	U (0.23)	0.12	130	340
SVOC	Benzo(a)anthracene	301-L01	Phase 1C	7	U (0.19) - 0.09	0.063	130	340
SVOC	Benzo(a)anthracene	301-T03	Phase 1C	2	0.34 - 0.34	0.19	130	340
SVOC	Benzo(a)anthracene	302-AD02	Phase 1C	2	U (0.19)	0.057	130	340
SVOC	Benzo(a)anthracene	302-AH01	Phase 1C	2	U (0.19) - 0.3	0.16	130	340
SVOC	Benzo(a)anthracene	302-AI01	Phase 1C	2	U (0.04) - 0.237	0.13	130	340
SVOC	Benzo(a)anthracene	302-AL01	Phase 1C	2	U (0.037) - 0.206	0.11	130	340
SVOC	Benzo(a)pyrene	LS-A-A01	Life Sciences	1	11 - 11	11.0	91	46
SVOC	Benzo(a)pyrene	LS-A-A02	Life Sciences	2	0.0695 - 0.9	0.48	91	46
SVOC	Benzo(a)pyrene	LS-A-A03	Life Sciences	1	2.04 - 2.04	2.0	91	46
SVOC	Benzo(a)pyrene	LS-A-A04	Life Sciences	3	0.92 - 3.6	2.1	91	46
SVOC	Benzo(a)pyrene	LS-A-B02	Life Sciences	14	0.1 - 3	0.61	91	46
SVOC	Benzo(a)pyrene	LS-A-B03	Life Sciences	4	U (0.211) - 0.305	0.11	91	46
SVOC	Benzo(a)pyrene	LS-A-C01	Life Sciences	35	U (19) - 110	7.7	91	46
SVOC	Benzo(a)pyrene	LS-A-C02	Life Sciences	14	U (19) - 13	2.7	91	46
SVOC	Benzo(a)pyrene	LS-A-C04	Life Sciences	3	U (0.2)	0.046	91	46
SVOC	Benzo(a)pyrene	LS-A-D01	Life Sciences	5	0.475 - 0.475	0.78	91	46

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SVOC	Benzo(a)pyrene	LS-A-D02	Life Sciences	1	5.4 - 5.4	5.4	91	46
SVOC	Benzo(a)pyrene	LS-A-D03	Life Sciences	3	U (0.95)	0.17	91	46
SVOC	Benzo(a)pyrene	LS-A-D04	Life Sciences	2	U (1.84)	0.48	91	46
SVOC	Benzo(a)pyrene	LS-A-D05	Life Sciences	6	0.251 - 0.822	0.37	91	46
SVOC	Benzo(a)pyrene	LS-A-D06	Life Sciences	2	U (0.202)	0.060	91	46
SVOC	Benzo(a)pyrene	LS-A-D07	Life Sciences	2	U (3.68)	0.97	91	46
SVOC	Benzo(a)pyrene	LS-A-E01	Life Sciences	3	U (1.84)	0.53	91	46
SVOC	Benzo(a)pyrene	LS-A-E03	Life Sciences	1	0.63 - 0.63	0.63	91	46
SVOC	Benzo(a)pyrene	LS-A-E04	Life Sciences	2	U (4.46)	1.1	91	46
SVOC	Benzo(a)pyrene	LS-A-E05	Life Sciences	1	U (0.94)	0.47	91	46
SVOC	Benzo(a)pyrene	LS-A-E07	Life Sciences	1	0.43 - 0.43	0.43	91	46
SVOC	Benzo(a)pyrene	LS-A-E08	Life Sciences	1	U (0.98)	0.49	91	46
SVOC	Benzo(a)pyrene	LS-A-F01	Life Sciences	3	U (7.96)	2.1	91	46
SVOC	Benzo(a)pyrene	LS-A-F02	Life Sciences	3	U (9.7)	2.6	91	46
SVOC	Benzo(a)pyrene	LS-A-F03	Life Sciences	1	1.3 - 1.3	1.3	91	46
SVOC	Benzo(a)pyrene	LS-A-F04	Life Sciences	12	U (0.94)	0.15	91	46
SVOC	Benzo(a)pyrene	LS-A-F05	Life Sciences	1	37 - 37	37.0	91	46
SVOC	Benzo(a)pyrene	LS-A-G01	Life Sciences	3	0.208 - 0.635	0.45	91	46
SVOC	Benzo(a)pyrene	LS-A-G02	Life Sciences	2	U (0.391)	0.15	91	46
SVOC	Benzo(a)pyrene	LS-A-G03	Life Sciences	3	3.42 - 3.42	1.9	91	46
SVOC	Benzo(a)pyrene	LS-A-G07	Life Sciences	6	2.54 - 34.8	9.6	91	46
SVOC	Benzo(a)pyrene	LS-A-G08	Life Sciences	2	2.8 - 4.32	3.6	91	46
SVOC	Benzo(a)pyrene	LS-A-H03	Life Sciences	2	0.431 - 0.431	0.23	91	46
SVOC	Benzo(a)pyrene	LS-A-H04	Life Sciences	2	U (2.02)	0.55	91	46
SVOC	Benzo(a)pyrene	LS-A-H06	Life Sciences	1	U (0.94)	0.47	91	46
SVOC	Benzo(a)pyrene	LS-A-H07	Life Sciences	2	0.0748 - 0.0748	0.52	91	46
SVOC	Benzo(a)pyrene	LS-A-I01	Life Sciences	6	U (8.23)	2.5	91	46
SVOC	Benzo(a)pyrene	LS-A-I02	Life Sciences	1	U (5)	2.5	91	46
SVOC	Benzo(a)pyrene	LS-A-I03	Life Sciences	3	U (0.94) - 2.18	0.89	91	46
SVOC	Benzo(a)pyrene	LS-B-B01	Life Sciences	1	0.0062 - 0.0062	0.0062	91	46
SVOC	Benzo(a)pyrene	LS-B-C01	Life Sciences	3	U (0.19) - 0.2	0.079	91	46
SVOC	Benzo(a)pyrene	LS-B-E01	Life Sciences	4	U (2.32) - 0.0573	0.55	91	46
SVOC	Benzo(a)pyrene	LS-B-G02	Life Sciences	1	9.07 - 9.07	9.1	91	46
SVOC	Benzo(a)pyrene	LS-B-H02	Life Sciences	3	U (1) - 6	2.0	91	46
SVOC	Benzo(a)pyrene	LS-E-B01	Life Sciences	107	0.0053 - 140	8.1	91	46
SVOC	Benzo(a)pyrene	LS-E-G01	Life Sciences	4	1.5 - 1.5	0.85	91	46
SVOC	Benzo(a)pyrene	201-A01	Phase 1A	7	U (0.16) - 0.39	0.11	91	46
SVOC	Benzo(a)pyrene	201-A02	Phase 1A	14	U (0.17) - 2.4	0.41	91	46
SVOC	Benzo(a)pyrene	201-A03	Phase 1A	7	U (0.16) - 0.046	0.072	91	46
SVOC	Benzo(a)pyrene	201-A04	Phase 1A	29	U (3.4) - 4.3	0.53	91	46
SVOC	Benzo(a)pyrene	201-A05	Phase 1A	9	U (0.41) - 0.072	0.064	91	46
SVOC	Benzo(a)pyrene	201-A06	Phase 1A	7	U (0.32) - 0.11	0.074	91	46
SVOC	Benzo(a)pyrene	201-A07	Phase 1A	9	U (0.39) - 0.018	0.059	91	46
SVOC	Benzo(a)pyrene	201-A08	Phase 1A	7	U (0.038) - 0.2	0.069	91	46
SVOC	Benzo(a)pyrene	201-A09	Phase 1A	7	U (2.1) - 0.0071	0.17	91	46
SVOC	Benzo(a)pyrene	201-A10	Phase 1A	3	U (0.039) - 0.82	0.28	91	46
SVOC	Benzo(a)pyrene	201-A11	Phase 1A	4	U (0.17)	0.024	91	46
SVOC	Benzo(a)pyrene	201-A12	Phase 1A	6	0.0041 - 0.3	0.071	91	46
SVOC	Benzo(a)pyrene	201-A13	Phase 1A	4	U (0.041) - 0.23	0.10	91	46
SVOC	Benzo(a)pyrene	201-A14	Phase 1A	9	0.0041 - 1.5	0.31	91	46
SVOC	Benzo(a)pyrene	201-B02	Phase 1A	2	0.0027 - 0.0067	0.0047	91	46
SVOC	Benzo(a)pyrene	201-B04	Phase 1A	3	0.00071 - 0.002	0.0013	91	46
SVOC	Benzo(a)pyrene	201-B05	Phase 1A	3	U (0.17) - 0.21	0.16	91	46
SVOC	Benzo(a)pyrene	201-B08	Phase 1A	4	0.00065 - 0.01	0.0045	91	46
SVOC	Benzo(a)pyrene	201-C01	Phase 1A	14	U (1.6) - 0.1	0.16	91	46
SVOC	Benzo(a)pyrene	201-C04	Phase 1A	11	U (1.6) - 0.023	0.27	91	46
SVOC	Benzo(a)pyrene	201-C05	Phase 1A	3	1.4 - 4	1.8	91	46
SVOC	Benzo(a)pyrene	201-C07	Phase 1A	8	0.046 - 4.2	1.0	91	46
SVOC	Benzo(a)pyrene	201-C08	Phase 1A	11	0.0016 - 2.9	0.33	91	46
SVOC	Benzo(a)pyrene	201-C09	Phase 1A	7	U (0.14)	0.070	91	46
SVOC	Benzo(a)pyrene	201-C10	Phase 1A	3	U (0.4) - 2.33	0.97	91	46
SVOC	Benzo(a)pyrene	201-D01	Phase 1A	4	U (0.42) - 1.02	0.31	91	46
SVOC	Benzo(a)pyrene	201-D05	Phase 1A	4	0.0056 - 0.75	2.3	91	46
SVOC	Benzo(a)pyrene	201-D12	Phase 1A	3	U (0.16)	0.075	91	46
SVOC	Benzo(a)pyrene	201-E01	Phase 1A	43	0.00081 - 0.17	0.047	91	46
SVOC	Benzo(a)pyrene	201-E02	Phase 1A	1	U (0.16)	0.080	91	46
SVOC	Benzo(a)pyrene	201-E03	Phase 1A	3	U (0.38)	0.077	91	46
SVOC	Benzo(a)pyrene	201-E04	Phase 1A	3	U (0.59) - 4.7	1.6	91	46
SVOC	Benzo(a)pyrene	201-E05	Phase 1A	22	U (0.33) - 0.14	0.048	91	46
SVOC	Benzo(a)pyrene	201-F01	Phase 1A	36	0.0368 - 0.921	0.14	91	46
SVOC	Benzo(a)pyrene	201-F02	Phase 1A	4	0.0031 - 0.0063	0.012	91	46
SVOC	Benzo(a)pyrene	201-F03	Phase 1A	25	U (0.19) - 0.19	0.059	91	46
SVOC	Benzo(a)pyrene	201-F04	Phase 1A	21	U (0.079) - 0.097	0.019	91	46
SVOC	Benzo(a)pyrene	202-A03	Phase 1A	8	U (0.16) - 0.036	0.040	91	46
SVOC	Benzo(a)pyrene	202-A04	Phase 1A	4	U (0.41)	0.13	91	46
SVOC	Benzo(a)pyrene	202-A05	Phase 1A	4	U (0.16) - 0.04	0.032	91	46
SVOC	Benzo(a)pyrene	202-A06	Phase 1A	4	U (0.15)	0.074	91	46
SVOC	Benzo(a)pyrene	202-A07	Phase 1A	3	U (0.16)	0.080	91	46
SVOC	Benzo(a)pyrene	202-A08	Phase 1A	3	U (0.16)	0.078	91	46
SVOC	Benzo(a)pyrene	202-A09	Phase 1A	6	U (0.16)	0.078	91	46
SVOC	Benzo(a)pyrene	202-B01	Phase 1A	2	0.071 - 0.15	0.11	91	46
SVOC	Benzo(a)pyrene	202-B02	Phase 1A	8	U (0.4)	0.12	91	46
SVOC	Benzo(a)pyrene	202-B03	Phase 1A	15	0.25 - 0.25	0.10	91	46

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Benzo(a)pyrene	202-B04	Phase 1A	3	U (0.7)	0.16	91	46
SVOC	Benzo(a)pyrene	202-B05	Phase 1A	4	U (0.039) - 0.06	0.039	91	46
SVOC	Benzo(a)pyrene	202-B09	Phase 1A	9	U (0.79)	0.18	91	46
SVOC	Benzo(a)pyrene	202-C04	Phase 1A	15	0.076 - 0.18	0.28	91	46
SVOC	Benzo(a)pyrene	202-C05	Phase 1A	10	0.045 - 0.36	0.16	91	46
SVOC	Benzo(a)pyrene	202-C06	Phase 1A	4	0.021 - 0.091	0.061	91	46
SVOC	Benzo(a)pyrene	202-C07	Phase 1A	8	U (0.39) - 0.049	0.086	91	46
SVOC	Benzo(a)pyrene	202-C08	Phase 1A	4	U (0.2) - 0.17	0.10	91	46
SVOC	Benzo(a)pyrene	202-C10	Phase 1A	1	U (0.38)	0.19	91	46
SVOC	Benzo(a)pyrene	202-D05	Phase 1A	5	U (0.36) - 0.099	0.092	91	46
SVOC	Benzo(a)pyrene	202-D06	Phase 1A	11	U (2) - 0.59	0.50	91	46
SVOC	Benzo(a)pyrene	202-E06	Phase 1A	2	0.055 - 0.055	0.063	91	46
SVOC	Benzo(a)pyrene	202-E08	Phase 1A	13	U (0.38) - 0.22	0.095	91	46
SVOC	Benzo(a)pyrene	202-E09	Phase 1A	16	U (0.41) - 0.36	0.11	91	46
SVOC	Benzo(a)pyrene	202-E10	Phase 1A	6	U (0.45)	0.13	91	46
SVOC	Benzo(a)pyrene	202-E11	Phase 1A	2	U (0.41)	0.16	91	46
SVOC	Benzo(a)pyrene	202-E12	Phase 1A	4	U (0.42) - 0.069	0.10	91	46
SVOC	Benzo(a)pyrene	202-E13	Phase 1A	2	U (0.38)	0.15	91	46
SVOC	Benzo(a)pyrene	202-E15	Phase 1A	2	U (0.38)	0.19	91	46
SVOC	Benzo(a)pyrene	202-F01	Phase 1A	7	U (0.43)	0.18	91	46
SVOC	Benzo(a)pyrene	202-F04	Phase 1A	10	U (0.16) - 0.065	0.051	91	46
SVOC	Benzo(a)pyrene	202-F05	Phase 1A	2	U (0.15)	0.048	91	46
SVOC	Benzo(a)pyrene	202-F06	Phase 1A	2	0.14 - 0.14	0.18	91	46
SVOC	Benzo(a)pyrene	202-F07	Phase 1A	17	0.058 - 7.2	0.60	91	46
SVOC	Benzo(a)pyrene	202-F08	Phase 1A	4	U (0.16)	0.050	91	46
SVOC	Benzo(a)pyrene	202-F10	Phase 1A	2	U (0.16)	0.080	91	46
SVOC	Benzo(a)pyrene	202-F14	Phase 1A	2	0.0243 - 0.0243	0.021	91	46
SVOC	Benzo(a)pyrene	202-F16	Phase 1A	4	U (0.4) - 0.46	0.19	91	46
SVOC	Benzo(a)pyrene	202-F17	Phase 1A	8	U (0.15)	0.074	91	46
SVOC	Benzo(a)pyrene	202-G01	Phase 1A	8	U (0.28) - 0.054	0.079	91	46
SVOC	Benzo(a)pyrene	202-G02	Phase 1A	14	U (3.2)	0.19	91	46
SVOC	Benzo(a)pyrene	202-G03	Phase 1A	9	U (0.15)	0.065	91	46
SVOC	Benzo(a)pyrene	202-G04	Phase 1A	3	U (0.2)	0.083	91	46
SVOC	Benzo(a)pyrene	202-G05	Phase 1A	6	U (0.41)	0.13	91	46
SVOC	Benzo(a)pyrene	202-G07	Phase 1A	16	U (0.16)	0.073	91	46
SVOC	Benzo(a)pyrene	202-H03	Phase 1A	5	U (0.12)	0.059	91	46
SVOC	Benzo(a)pyrene	202-H05	Phase 1A	1	U (0.04)	0.020	91	46
SVOC	Benzo(a)pyrene	202-H06	Phase 1A	2	0.0449 - 0.0449	0.032	91	46
SVOC	Benzo(a)pyrene	202-H07	Phase 1A	2	U (0.037)	0.018	91	46
SVOC	Benzo(a)pyrene	202-H08	Phase 1A	3	U (0.16)	0.073	91	46
SVOC	Benzo(a)pyrene	202-H11	Phase 1A	10	U (0.16) - 0.053	0.071	91	46
SVOC	Benzo(a)pyrene	202-I01	Phase 1A	2	U (0.16)	0.078	91	46
SVOC	Benzo(a)pyrene	202-I04	Phase 1A	4	U (0.15)	0.071	91	46
SVOC	Benzo(a)pyrene	202-J03	Phase 1A	7	U (1.6)	0.57	91	46
SVOC	Benzo(a)pyrene	202-J04	Phase 1A	8	U (1.6) - 0.11	0.26	91	46
SVOC	Benzo(a)pyrene	202-J05	Phase 1A	6	0.0061 - 0.16	0.061	91	46
SVOC	Benzo(a)pyrene	202-J07	Phase 1A	4	0.1 - 0.46	0.21	91	46
SVOC	Benzo(a)pyrene	202-J08	Phase 1A	1	0.8 - 0.8	0.80	91	46
SVOC	Benzo(a)pyrene	202-J09	Phase 1A	2	1.9 - 1.9	0.95	91	46
SVOC	Benzo(a)pyrene	301-AA01	Phase 1A	1	U (0.04)	0.020	91	46
SVOC	Benzo(a)pyrene	301-AA06	Phase 1A	11	0.0089 - 0.0089	0.13	91	46
SVOC	Benzo(a)pyrene	301-AA07	Phase 1A	4	U (0.16) - 0.208	0.10	91	46
SVOC	Benzo(a)pyrene	301-AA08	Phase 1A	3	0.069 - 0.069	0.030	91	46
SVOC	Benzo(a)pyrene	301-AA09	Phase 1A	3	U (0.02) - 0.2	0.073	91	46
SVOC	Benzo(a)pyrene	301-AB04	Phase 1A	3	U (0.037)	0.018	91	46
SVOC	Benzo(a)pyrene	301-AB06	Phase 1A	2	U (0.14)	0.070	91	46
SVOC	Benzo(a)pyrene	301-AB07	Phase 1A	1	0.24 - 0.24	0.24	91	46
SVOC	Benzo(a)pyrene	301-AB09	Phase 1A	2	U (0.876) - 8.85	4.4	91	46
SVOC	Benzo(a)pyrene	301-AC04	Phase 1A	25	U (0.76) - 7.1	0.63	91	46
SVOC	Benzo(a)pyrene	301-AC07	Phase 1A	10	U (0.75) - 0.78	0.22	91	46
SVOC	Benzo(a)pyrene	301-AC08	Phase 1A	7	0.1 - 0.25	0.21	91	46
SVOC	Benzo(a)pyrene	301-AC09	Phase 1A	6	0.0011 - 0.0011	0.0061	91	46
SVOC	Benzo(a)pyrene	301-B01	Phase 1A	1	U (0.018)	0.0090	91	46
SVOC	Benzo(a)pyrene	301-C01	Phase 1A	3	U (0.022) - 2.2	0.74	91	46
SVOC	Benzo(a)pyrene	301-C02	Phase 1A	7	U (0.39) - 0.017	0.037	91	46
SVOC	Benzo(a)pyrene	301-D01	Phase 1A	13	U (1.6) - 1.6	0.28	91	46
SVOC	Benzo(a)pyrene	301-E02	Phase 1A	14	U (0.46) - 0.28	0.062	91	46
SVOC	Benzo(a)pyrene	301-E03	Phase 1A	4	U (0.021) - 0.06	0.027	91	46
SVOC	Benzo(a)pyrene	301-G01	Phase 1A	2	0.0046 - 0.0064	0.0055	91	46
SVOC	Benzo(a)pyrene	301-G02	Phase 1A	3	0.032 - 0.74	0.33	91	46
SVOC	Benzo(a)pyrene	301-G03	Phase 1A	1	0.059 - 0.059	0.059	91	46
SVOC	Benzo(a)pyrene	301-H02	Phase 1A	3	0.0039 - 0.16	0.10	91	46
SVOC	Benzo(a)pyrene	301-H03	Phase 1A	2	0.0026 - 0.0029	0.0028	91	46
SVOC	Benzo(a)pyrene	301-N02	Phase 1A	3	0.0044 - 1.2	0.40	91	46
SVOC	Benzo(a)pyrene	301-P02	Phase 1A	2	0.0644 - 0.74	0.40	91	46
SVOC	Benzo(a)pyrene	301-Q04	Phase 1A	6	U (0.4) - 2.47	0.52	91	46
SVOC	Benzo(a)pyrene	301-R02	Phase 1A	6	U (0.087) - 0.35	0.077	91	46
SVOC	Benzo(a)pyrene	301-S02	Phase 1A	4	U (0.088)	0.018	91	46
SVOC	Benzo(a)pyrene	301-S03	Phase 1A	1	0.054 - 0.054	0.054	91	46
SVOC	Benzo(a)pyrene	301-T04	Phase 1A	2	U (0.09)	0.027	91	46
SVOC	Benzo(a)pyrene	301-V04	Phase 1A	29	U (0.16) - 0.17	0.052	91	46
SVOC	Benzo(a)pyrene	301-W03	Phase 1A	4	U (0.017) - 0.0014	0.0067	91	46
SVOC	Benzo(a)pyrene	301-X03	Phase 1A	3	U (0.018) - 0.054	0.024	91	46

Table 3.4
Evergreen and PESRM Sampling Results Summary
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Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Benzo(a)pyrene	301-Y03	Phase 1A	2	0.0759 - 0.0759	0.048	91	46
SVOC	Benzo(a)pyrene	301-Y04	Phase 1A	3	U (0.02) - 0.046	0.022	91	46
SVOC	Benzo(a)pyrene	301-Y05	Phase 1A	6	U (0.16) - 0.024	0.046	91	46
SVOC	Benzo(a)pyrene	302-AD08	Phase 1A	2	U (0.14)	0.068	91	46
SVOC	Benzo(a)pyrene	302-AD09	Phase 1A	3	0.0169 - 0.0169	0.029	91	46
SVOC	Benzo(a)pyrene	302-AD10	Phase 1A	4	U (0.8) - 1.6	0.55	91	46
SVOC	Benzo(a)pyrene	302-AE09	Phase 1A	4	U (0.16)	0.058	91	46
SVOC	Benzo(a)pyrene	302-AF06	Phase 1A	8	0.044 - 0.46	0.15	91	46
SVOC	Benzo(a)pyrene	302-AG07	Phase 1A	14	U (0.16) - 0.1	0.052	91	46
SVOC	Benzo(a)pyrene	302-AJ09	Phase 1A	13	U (57) - 3.3	3.7	91	46
SVOC	Benzo(a)pyrene	302-AK06	Phase 1A	3	1.4 - 2.3	1.3	91	46
SVOC	Benzo(a)pyrene	302-AL06	Phase 1A	13	0.8 - 4.8	1.2	91	46
SVOC	Benzo(a)pyrene	302-AN02	Phase 1A	2	U (0.198)	0.058	91	46
SVOC	Benzo(a)pyrene	302-AO03	Phase 1A	2	U (0.0418)	0.020	91	46
SVOC	Benzo(a)pyrene	302-AQ02	Phase 1A	7	U (1.5)	0.17	91	46
SVOC	Benzo(a)pyrene	302-AR02	Phase 1A	4	U (0.16)	0.074	91	46
SVOC	Benzo(a)pyrene	302-AS03	Phase 1A	13	U (0.16) - 0.0355	0.058	91	46
SVOC	Benzo(a)pyrene	302-AV01	Phase 1A	10	0.161 - 2	1.0	91	46
SVOC	Benzo(a)pyrene	302-AV03	Phase 1A	6	U (0.16)	0.079	91	46
SVOC	Benzo(a)pyrene	302-AW01	Phase 1A	9	U (2.1) - 12	1.9	91	46
SVOC	Benzo(a)pyrene	302-AW03	Phase 1A	2	U (0.16)	0.078	91	46
SVOC	Benzo(a)pyrene	302-AX01	Phase 1A	12	U (6.8) - 0.8	0.86	91	46
SVOC	Benzo(a)pyrene	302-AX05	Phase 1A	2	U (0.0414)	0.020	91	46
SVOC	Benzo(a)pyrene	302-AZ05	Phase 1A	2	U (0.41)	0.14	91	46
SVOC	Benzo(a)pyrene	302-BA05	Phase 1A	2	U (0.218)	0.064	91	46
SVOC	Benzo(a)pyrene	302-BC05	Phase 1A	7	U (0.039) - 0.0055	0.0066	91	46
SVOC	Benzo(a)pyrene	302-BE04	Phase 1A	2	U (0.19)	0.053	91	46
SVOC	Benzo(a)pyrene	303-AY01	Phase 1A	6	0.012 - 1.9	0.51	91	46
SVOC	Benzo(a)pyrene	303-AZ01	Phase 1A	5	0.38 - 2.5	1.6	91	46
SVOC	Benzo(a)pyrene	303-BA01	Phase 1A	8	0.0531 - 4.1	0.94	91	46
SVOC	Benzo(a)pyrene	303-BA02	Phase 1A	11	0.12 - 2.1	2.0	91	46
SVOC	Benzo(a)pyrene	303-BB01	Phase 1A	2	1.2 - 2	1.6	91	46
SVOC	Benzo(a)pyrene	303-BB02	Phase 1A	5	0.028 - 74.4	19.4	91	46
SVOC	Benzo(a)pyrene	303-BC01	Phase 1A	4	U (0.038) - 0.266	0.13	91	46
SVOC	Benzo(a)pyrene	303-BD04	Phase 1A	9	0.21 - 3.9	1.4	91	46
SVOC	Benzo(a)pyrene	303-BE03	Phase 1A	38	0.22 - 7.1	1.5	91	46
SVOC	Benzo(a)pyrene	303-BF05	Phase 1A	16	0.38 - 1.8	0.87	91	46
SVOC	Benzo(a)pyrene	303-BG04	Phase 1A	27	0.12 - 3.2	1.3	91	46
SVOC	Benzo(a)pyrene	303-BH02	Phase 1A	22	0.18 - 59	4.9	91	46
SVOC	Benzo(a)pyrene	303-BI03	Phase 1A	6	0.8 - 4.1	1.9	91	46
SVOC	Benzo(a)pyrene	303-BJ01	Phase 1A	3	7.4 - 8.7	7.9	91	46
SVOC	Benzo(a)pyrene	303-BJ02	Phase 1A	3	0.0757 - 1.33	0.55	91	46
SVOC	Benzo(a)pyrene	303-BK03	Phase 1A	7	0.3 - 3.1	1.4	91	46
SVOC	Benzo(a)pyrene	303-BL02	Phase 1A	13	0.067 - 1.2	0.52	91	46
SVOC	Benzo(a)pyrene	303-BM02	Phase 1A	1	7.71 - 7.71	7.7	91	46
SVOC	Benzo(a)pyrene	303-BN02	Phase 1A	15	0.0462 - 14	1.6	91	46
SVOC	Benzo(a)pyrene	303-BN03	Phase 1A	14	0.076 - 3.3	0.89	91	46
SVOC	Benzo(a)pyrene	303-BO02	Phase 1A	18	0.009 - 1.7	0.56	91	46
SVOC	Benzo(a)pyrene	303-BP02	Phase 1A	42	0.013 - 9.39	1.1	91	46
SVOC	Benzo(a)pyrene	303-BQ01	Phase 1A	5	0.246 - 6.2	2.0	91	46
SVOC	Benzo(a)pyrene	303-BQ02	Phase 1A	18	0.006 - 1.1	0.39	91	46
SVOC	Benzo(a)pyrene	303-BR02	Phase 1A	8	0.269 - 6	1.3	91	46
SVOC	Benzo(a)pyrene	303-BT01	Phase 1A	13	0.021 - 0.42	0.12	91	46
SVOC	Benzo(a)pyrene	303-BW01	Phase 1A	2	0.112 - 0.41	0.26	91	46
SVOC	Benzo(a)pyrene	301-AA02	Phase 1B	2	0.0379 - 0.0379	0.028	91	46
SVOC	Benzo(a)pyrene	301-AA05	Phase 1B	11	U (0.21) - 0.14	0.050	91	46
SVOC	Benzo(a)pyrene	301-AB05	Phase 1B	6	0.029 - 0.102	0.057	91	46
SVOC	Benzo(a)pyrene	301-AC03	Phase 1B	2	0.47 - 0.639	0.55	91	46
SVOC	Benzo(a)pyrene	301-T01	Phase 1B	5	0.257 - 6.3	2.3	91	46
SVOC	Benzo(a)pyrene	301-T02	Phase 1B	2	U (1.9) - 1.8	0.94	91	46
SVOC	Benzo(a)pyrene	301-U01	Phase 1B	2	U (0.19) - 1.3	0.66	91	46
SVOC	Benzo(a)pyrene	301-U03	Phase 1B	1	U (0.17)	0.085	91	46
SVOC	Benzo(a)pyrene	301-V01	Phase 1B	7	U (0.041) - 0.056	0.027	91	46
SVOC	Benzo(a)pyrene	301-V02	Phase 1B	20	0.00085 - 12	0.78	91	46
SVOC	Benzo(a)pyrene	301-W01	Phase 1B	24	0.0023 - 0.64	0.074	91	46
SVOC	Benzo(a)pyrene	301-X01	Phase 1B	11	U (0.18) - 0.77	0.21	91	46
SVOC	Benzo(a)pyrene	301-Y01	Phase 1B	10	U (0.36) - 0.281	0.078	91	46
SVOC	Benzo(a)pyrene	301-Y02	Phase 1B	4	U (0.17) - 0.52	0.15	91	46
SVOC	Benzo(a)pyrene	301-Z01	Phase 1B	6	U (0.039)	0.018	91	46
SVOC	Benzo(a)pyrene	301-Z02	Phase 1B	2	U (0.18) - 0.29	0.15	91	46
SVOC	Benzo(a)pyrene	301-Z03	Phase 1B	5	0.013 - 0.28	0.090	91	46
SVOC	Benzo(a)pyrene	302-AD06	Phase 1B	12	U (0.18) - 0.31	0.14	91	46
SVOC	Benzo(a)pyrene	302-AD07	Phase 1B	2	0.14 - 0.14	0.11	91	46
SVOC	Benzo(a)pyrene	302-AE03	Phase 1B	4	U (0.18)	0.036	91	46
SVOC	Benzo(a)pyrene	302-AE04	Phase 1B	8	U (0.74) - 0.0161	0.10	91	46
SVOC	Benzo(a)pyrene	302-AE05	Phase 1B	20	0.15 - 0.4	0.10	91	46
SVOC	Benzo(a)pyrene	302-AE07	Phase 1B	3	U (0.11) - 0.402	0.17	91	46
SVOC	Benzo(a)pyrene	302-AE08	Phase 1B	3	U (0.15)	0.051	91	46
SVOC	Benzo(a)pyrene	302-AF04	Phase 1B	22	U (0.15)	0.042	91	46
SVOC	Benzo(a)pyrene	302-AF05	Phase 1B	2	0.274 - 0.274	0.15	91	46
SVOC	Benzo(a)pyrene	302-AF09	Phase 1B	5	U (0.04)	0.019	91	46
SVOC	Benzo(a)pyrene	302-AG04	Phase 1B	9	U (0.15) - 0.039	0.028	91	46
SVOC	Benzo(a)pyrene	302-AG06	Phase 1B	5	U (0.041)	0.019	91	46

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Benzo(a)pyrene	302-AG08	Phase 1B	6	0.089 - 1.8	0.47	91	46
SVOC	Benzo(a)pyrene	302-AH05	Phase 1B	11	0.0438 - 0.66	0.24	91	46
SVOC	Benzo(a)pyrene	302-AH06	Phase 1B	4	0.0772 - 0.0772	0.034	91	46
SVOC	Benzo(a)pyrene	302-AH07	Phase 1B	21	U (0.37) - 0.51	0.10	91	46
SVOC	Benzo(a)pyrene	302-AH08	Phase 1B	13	U (0.041) - 0.69	0.20	91	46
SVOC	Benzo(a)pyrene	302-AI05	Phase 1B	11	0.0437 - 0.88	0.16	91	46
SVOC	Benzo(a)pyrene	302-AI06	Phase 1B	19	U (0.17) - 3.2	0.38	91	46
SVOC	Benzo(a)pyrene	302-AI07	Phase 1B	10	U (0.375) - 0.4	0.14	91	46
SVOC	Benzo(a)pyrene	302-AI08	Phase 1B	2	U (0.38)	0.11	91	46
SVOC	Benzo(a)pyrene	302-AI09	Phase 1B	3	0.194 - 0.194	0.077	91	46
SVOC	Benzo(a)pyrene	302-AJ05	Phase 1B	2	U (0.16) - 0.05	0.065	91	46
SVOC	Benzo(a)pyrene	302-AJ06	Phase 1B	5	0.089 - 0.3	0.13	91	46
SVOC	Benzo(a)pyrene	302-AK05	Phase 1B	5	0.052 - 0.65	0.18	91	46
SVOC	Benzo(a)pyrene	302-AK07	Phase 1B	13	U (0.0426) - 2.6	0.49	91	46
SVOC	Benzo(a)pyrene	302-AL03	Phase 1B	2	0.0939 - 0.0939	0.070	91	46
SVOC	Benzo(a)pyrene	302-AL05	Phase 1B	13	U (0.42) - 5	0.92	91	46
SVOC	Benzo(a)pyrene	302-AL08	Phase 1B	2	U (0.041)	0.019	91	46
SVOC	Benzo(a)pyrene	302-AN01	Phase 1B	2	0.0912 - 0.0912	0.054	91	46
SVOC	Benzo(a)pyrene	302-AP02	Phase 1B	2	U (0.042) - 0.45	0.24	91	46
SVOC	Benzo(a)pyrene	302-AP03	Phase 1B	23	U (0.4) - 0.18	0.072	91	46
SVOC	Benzo(a)pyrene	302-AP04	Phase 1B	2	U (0.039) - 0.0952	0.057	91	46
SVOC	Benzo(a)pyrene	302-AP05	Phase 1B	2	U (0.035)	0.017	91	46
SVOC	Benzo(a)pyrene	302-AQ01	Phase 1B	2	0.36 - 1.6	0.98	91	46
SVOC	Benzo(a)pyrene	302-AQ04	Phase 1B	2	U (0.11)	0.055	91	46
SVOC	Benzo(a)pyrene	302-AR01	Phase 1B	2	0.22 - 8.4	4.3	91	46
SVOC	Benzo(a)pyrene	302-AR04	Phase 1B	3	0.0442 - 0.0442	0.047	91	46
SVOC	Benzo(a)pyrene	302-AS04	Phase 1B	2	U (0.0419)	0.021	91	46
SVOC	Benzo(a)pyrene	302-AT01	Phase 1B	2	U (0.3)	0.15	91	46
SVOC	Benzo(a)pyrene	302-AT02	Phase 1B	2	0.174 - 0.174	0.28	91	46
SVOC	Benzo(a)pyrene	302-AT03	Phase 1B	4	U (0.039) - 0.0353	0.023	91	46
SVOC	Benzo(a)pyrene	302-AU01	Phase 1B	4	0.15 - 1.4	0.49	91	46
SVOC	Benzo(a)pyrene	302-AU02	Phase 1B	8	U (4)	0.32	91	46
SVOC	Benzo(a)pyrene	302-AU03	Phase 1B	2	U (0.16)	0.080	91	46
SVOC	Benzo(a)pyrene	302-AV02	Phase 1B	4	U (0.78)	0.16	91	46
SVOC	Benzo(a)pyrene	302-AV04	Phase 1B	2	U (0.0415)	0.020	91	46
SVOC	Benzo(a)pyrene	302-AW02	Phase 1B	2	U (1.9) - 1.4	0.74	91	46
SVOC	Benzo(a)pyrene	302-AX02	Phase 1B	3	U (0.038)	0.018	91	46
SVOC	Benzo(a)pyrene	302-AY02	Phase 1B	14	0.043 - 8.22	2.3	91	46
SVOC	Benzo(a)pyrene	302-AY03	Phase 1B	2	0.0839 - 0.11	0.10	91	46
SVOC	Benzo(a)pyrene	302-AY05	Phase 1B	2	U (0.19)	0.058	91	46
SVOC	Benzo(a)pyrene	302-AZ02	Phase 1B	8	0.695 - 3.8	3.5	91	46
SVOC	Benzo(a)pyrene	302-AZ03	Phase 1B	1	U (2)	1.0	91	46
SVOC	Benzo(a)pyrene	302-BA03	Phase 1B	3	U (0.099)	0.049	91	46
SVOC	Benzo(a)pyrene	302-BB07	Phase 1B	5	U (0.16) - 0.045	0.042	91	46
SVOC	Benzo(a)pyrene	302-BB08	Phase 1B	1	0.55 - 0.55	0.55	91	46
SVOC	Benzo(a)pyrene	302-BC06	Phase 1B	1	U (0.23)	0.12	91	46
SVOC	Benzo(a)pyrene	301-L01	Phase 1C	7	U (0.19) - 9.2	1.3	91	46
SVOC	Benzo(a)pyrene	301-T03	Phase 1C	2	U (0.09)	0.045	91	46
SVOC	Benzo(a)pyrene	302-AD02	Phase 1C	2	U (0.19)	0.057	91	46
SVOC	Benzo(a)pyrene	302-AH01	Phase 1C	2	U (0.19) - 0.22	0.12	91	46
SVOC	Benzo(a)pyrene	302-AI01	Phase 1C	2	U (0.04) - 0.274	0.15	91	46
SVOC	Benzo(a)pyrene	302-AL01	Phase 1C	2	U (0.037) - 0.238	0.13	91	46
SVOC	Benzo(b)fluoranthene	LS-A-A01	Life Sciences	1	12 - 12	12.0	76	170
SVOC	Benzo(b)fluoranthene	LS-A-A02	Life Sciences	2	0.0897 - 1.2	0.64	76	170
SVOC	Benzo(b)fluoranthene	LS-A-A03	Life Sciences	1	3.07 - 3.07	3.1	76	170
SVOC	Benzo(b)fluoranthene	LS-A-A04	Life Sciences	3	1.2 - 5.4	2.9	76	170
SVOC	Benzo(b)fluoranthene	LS-A-B02	Life Sciences	14	0.13 - 3.9	0.71	76	170
SVOC	Benzo(b)fluoranthene	LS-A-B03	Life Sciences	4	0.348 - 0.348	0.12	76	170
SVOC	Benzo(b)fluoranthene	LS-A-C01	Life Sciences	35	U (19) - 170	10.6	76	170
SVOC	Benzo(b)fluoranthene	LS-A-C02	Life Sciences	14	U (19) - 16	3.5	76	170
SVOC	Benzo(b)fluoranthene	LS-A-C04	Life Sciences	3	U (0.2)	0.046	76	170
SVOC	Benzo(b)fluoranthene	LS-A-D01	Life Sciences	5	0.667 - 0.667	0.82	76	170
SVOC	Benzo(b)fluoranthene	LS-A-D02	Life Sciences	1	3.3 - 3.3	3.3	76	170
SVOC	Benzo(b)fluoranthene	LS-A-D03	Life Sciences	3	U (0.95)	0.17	76	170
SVOC	Benzo(b)fluoranthene	LS-A-D04	Life Sciences	2	U (1.84)	0.48	76	170
SVOC	Benzo(b)fluoranthene	LS-A-D05	Life Sciences	6	0.288 - 0.434	0.35	76	170
SVOC	Benzo(b)fluoranthene	LS-A-D06	Life Sciences	2	U (0.202)	0.060	76	170
SVOC	Benzo(b)fluoranthene	LS-A-D07	Life Sciences	2	U (3.68)	0.97	76	170
SVOC	Benzo(b)fluoranthene	LS-A-E01	Life Sciences	3	U (1.84)	0.53	76	170
SVOC	Benzo(b)fluoranthene	LS-A-E03	Life Sciences	1	0.94 - 0.94	0.94	76	170
SVOC	Benzo(b)fluoranthene	LS-A-E04	Life Sciences	2	U (4.46)	1.1	76	170
SVOC	Benzo(b)fluoranthene	LS-A-E05	Life Sciences	1	U (0.94)	0.47	76	170
SVOC	Benzo(b)fluoranthene	LS-A-E07	Life Sciences	1	0.21 - 0.21	0.21	76	170
SVOC	Benzo(b)fluoranthene	LS-A-E08	Life Sciences	1	U (0.98)	0.49	76	170
SVOC	Benzo(b)fluoranthene	LS-A-F01	Life Sciences	3	U (7.96)	2.1	76	170
SVOC	Benzo(b)fluoranthene	LS-A-F02	Life Sciences	3	U (9.7)	2.6	76	170
SVOC	Benzo(b)fluoranthene	LS-A-F03	Life Sciences	1	1.1 - 1.1	1.1	76	170
SVOC	Benzo(b)fluoranthene	LS-A-F04	Life Sciences	12	U (0.94)	0.15	76	170
SVOC	Benzo(b)fluoranthene	LS-A-F05	Life Sciences	1	44 - 44	44.0	76	170
SVOC	Benzo(b)fluoranthene	LS-A-G01	Life Sciences	3	U (1) - 0.658	0.42	76	170
SVOC	Benzo(b)fluoranthene	LS-A-G02	Life Sciences	2	U (0.391)	0.15	76	170
SVOC	Benzo(b)fluoranthene	LS-A-G03	Life Sciences	3	U (4.6) - 3.04	1.8	76	170
SVOC	Benzo(b)fluoranthene	LS-A-G07	Life Sciences	3	0.287 - 50.1	22.8	76	170

Table 3.4
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Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Benzo(b)fluoranthene	LS-A-G08	Life Sciences	2	3.67 - 6.25	5.0	76	170
SVOC	Benzo(b)fluoranthene	LS-A-H03	Life Sciences	2	U (0.195) - 0.444	0.23	76	170
SVOC	Benzo(b)fluoranthene	LS-A-H04	Life Sciences	2	U (2.02)	0.55	76	170
SVOC	Benzo(b)fluoranthene	LS-A-H06	Life Sciences	1	U (0.94)	0.47	76	170
SVOC	Benzo(b)fluoranthene	LS-A-H07	Life Sciences	2	0.0913 - 0.0913	0.53	76	170
SVOC	Benzo(b)fluoranthene	LS-A-I01	Life Sciences	6	U (8.23)	2.5	76	170
SVOC	Benzo(b)fluoranthene	LS-A-I02	Life Sciences	1	U (5)	2.5	76	170
SVOC	Benzo(b)fluoranthene	LS-A-I03	Life Sciences	3	U (0.94) - 3.36	1.3	76	170
SVOC	Benzo(b)fluoranthene	LS-B-B01	Life Sciences	1	0.0073 - 0.0073	0.0073	76	170
SVOC	Benzo(b)fluoranthene	LS-B-C01	Life Sciences	3	U (0.19) - 0.32	0.12	76	170
SVOC	Benzo(b)fluoranthene	LS-B-E01	Life Sciences	4	0.0487 - 0.0487	0.55	76	170
SVOC	Benzo(b)fluoranthene	LS-B-G02	Life Sciences	1	14 - 14	14.0	76	170
SVOC	Benzo(b)fluoranthene	LS-B-H02	Life Sciences	3	U (1) - 3.3	1.1	76	170
SVOC	Benzo(b)fluoranthene	LS-E-B01	Life Sciences	99	0.0052 - 170	11.0	76	170
SVOC	Benzo(b)fluoranthene	LS-E-G01	Life Sciences	4	1.02 - 1.6	1.0	76	170
SVOC	Benzo(b)fluoranthene	201-A01	Phase 1A	7	U (0.12) - 0.57	0.13	76	170
SVOC	Benzo(b)fluoranthene	201-A02	Phase 1A	14	0.047 - 2.6	0.45	76	170
SVOC	Benzo(b)fluoranthene	201-A03	Phase 1A	7	U (0.12) - 0.063	0.054	76	170
SVOC	Benzo(b)fluoranthene	201-A04	Phase 1A	29	0.017 - 3.8	0.52	76	170
SVOC	Benzo(b)fluoranthene	201-A05	Phase 1A	9	U (0.41) - 0.087	0.058	76	170
SVOC	Benzo(b)fluoranthene	201-A06	Phase 1A	7	0.0032 - 0.24	0.084	76	170
SVOC	Benzo(b)fluoranthene	201-A07	Phase 1A	9	0.004 - 0.041	0.034	76	170
SVOC	Benzo(b)fluoranthene	201-A08	Phase 1A	7	U (0.038) - 0.28	0.089	76	170
SVOC	Benzo(b)fluoranthene	201-A09	Phase 1A	7	U (2.1) - 0.0095	0.17	76	170
SVOC	Benzo(b)fluoranthene	201-A10	Phase 1A	3	U (0.039) - 0.95	0.33	76	170
SVOC	Benzo(b)fluoranthene	201-A11	Phase 1A	4	U (0.12) - 0.00081	0.017	76	170
SVOC	Benzo(b)fluoranthene	201-A12	Phase 1A	6	0.0086 - 0.78	0.18	76	170
SVOC	Benzo(b)fluoranthene	201-A13	Phase 1A	4	U (0.041) - 0.39	0.19	76	170
SVOC	Benzo(b)fluoranthene	201-A14	Phase 1A	9	0.0025 - 2.3	0.47	76	170
SVOC	Benzo(b)fluoranthene	201-B02	Phase 1A	2	U (0.0064) - 0.007	0.0051	76	170
SVOC	Benzo(b)fluoranthene	201-B04	Phase 1A	3	U (0.00092) - 0.0036	0.0018	76	170
SVOC	Benzo(b)fluoranthene	201-B05	Phase 1A	3	0.19 - 0.22	0.16	76	170
SVOC	Benzo(b)fluoranthene	201-B08	Phase 1A	4	0.00057 - 0.0091	0.0050	76	170
SVOC	Benzo(b)fluoranthene	201-C01	Phase 1A	14	U (1.2) - 0.28	0.12	76	170
SVOC	Benzo(b)fluoranthene	201-C04	Phase 1A	11	U (1.2) - 0.055	0.21	76	170
SVOC	Benzo(b)fluoranthene	201-C05	Phase 1A	3	0.0044 - 6.1	2.9	76	170
SVOC	Benzo(b)fluoranthene	201-C07	Phase 1A	8	0.077 - 4.6	1.3	76	170
SVOC	Benzo(b)fluoranthene	201-C08	Phase 1A	11	0.0028 - 4.4	0.46	76	170
SVOC	Benzo(b)fluoranthene	201-C09	Phase 1A	7	U (0.11)	0.051	76	170
SVOC	Benzo(b)fluoranthene	201-C10	Phase 1A	3	U (0.4) - 2.32	0.99	76	170
SVOC	Benzo(b)fluoranthene	201-D01	Phase 1A	4	U (0.42) - 1.56	0.44	76	170
SVOC	Benzo(b)fluoranthene	201-D05	Phase 1A	4	0.0081 - 1	2.4	76	170
SVOC	Benzo(b)fluoranthene	201-D12	Phase 1A	3	U (0.12)	0.057	76	170
SVOC	Benzo(b)fluoranthene	201-E01	Phase 1A	43	U (0.19) - 0.21	0.047	76	170
SVOC	Benzo(b)fluoranthene	201-E02	Phase 1A	1	U (0.12)	0.060	76	170
SVOC	Benzo(b)fluoranthene	201-E03	Phase 1A	3	U (0.38)	0.077	76	170
SVOC	Benzo(b)fluoranthene	201-E04	Phase 1A	3	U (0.59) - 6.5	2.2	76	170
SVOC	Benzo(b)fluoranthene	201-E05	Phase 1A	22	0.0083 - 0.24	0.062	76	170
SVOC	Benzo(b)fluoranthene	201-F01	Phase 1A	36	0.0379 - 1.18	0.15	76	170
SVOC	Benzo(b)fluoranthene	201-F02	Phase 1A	4	0.0054 - 0.02	0.056	76	170
SVOC	Benzo(b)fluoranthene	201-F03	Phase 1A	25	0.007 - 0.23	0.080	76	170
SVOC	Benzo(b)fluoranthene	201-F04	Phase 1A	21	0.0009 - 0.15	0.028	76	170
SVOC	Benzo(b)fluoranthene	202-A03	Phase 1A	8	U (0.12) - 0.047	0.038	76	170
SVOC	Benzo(b)fluoranthene	202-A04	Phase 1A	4	0.064 - 0.57	0.21	76	170
SVOC	Benzo(b)fluoranthene	202-A05	Phase 1A	4	U (0.12) - 0.074	0.036	76	170
SVOC	Benzo(b)fluoranthene	202-A06	Phase 1A	4	U (0.12)	0.055	76	170
SVOC	Benzo(b)fluoranthene	202-A07	Phase 1A	3	U (0.12)	0.060	76	170
SVOC	Benzo(b)fluoranthene	202-A08	Phase 1A	3	U (0.12)	0.060	76	170
SVOC	Benzo(b)fluoranthene	202-A09	Phase 1A	6	U (0.12)	0.059	76	170
SVOC	Benzo(b)fluoranthene	202-B01	Phase 1A	2	0.089 - 0.19	0.14	76	170
SVOC	Benzo(b)fluoranthene	202-B02	Phase 1A	8	U (0.4)	0.12	76	170
SVOC	Benzo(b)fluoranthene	202-B03	Phase 1A	15	0.29 - 0.29	0.082	76	170
SVOC	Benzo(b)fluoranthene	202-B04	Phase 1A	3	U (0.52)	0.12	76	170
SVOC	Benzo(b)fluoranthene	202-B05	Phase 1A	4	U (0.039) - 0.057	0.034	76	170
SVOC	Benzo(b)fluoranthene	202-B09	Phase 1A	9	U (0.59)	0.13	76	170
SVOC	Benzo(b)fluoranthene	202-C04	Phase 1A	15	0.054 - 0.17	0.27	76	170
SVOC	Benzo(b)fluoranthene	202-C05	Phase 1A	10	0.063 - 0.47	0.21	76	170
SVOC	Benzo(b)fluoranthene	202-C06	Phase 1A	4	0.019 - 0.067	0.052	76	170
SVOC	Benzo(b)fluoranthene	202-C07	Phase 1A	8	U (0.39) - 0.047	0.10	76	170
SVOC	Benzo(b)fluoranthene	202-C08	Phase 1A	4	U (0.2) - 0.2	0.10	76	170
SVOC	Benzo(b)fluoranthene	202-C10	Phase 1A	1	U (0.38)	0.19	76	170
SVOC	Benzo(b)fluoranthene	202-D05	Phase 1A	5	U (0.36) - 0.88	0.23	76	170
SVOC	Benzo(b)fluoranthene	202-D06	Phase 1A	11	U (2) - 0.68	0.51	76	170
SVOC	Benzo(b)fluoranthene	202-E06	Phase 1A	2	0.077 - 0.077	0.064	76	170
SVOC	Benzo(b)fluoranthene	202-E08	Phase 1A	13	U (0.38) - 0.24	0.077	76	170
SVOC	Benzo(b)fluoranthene	202-E09	Phase 1A	16	U (0.41) - 0.46	0.10	76	170
SVOC	Benzo(b)fluoranthene	202-E10	Phase 1A	6	U (0.45) - 0.051	0.11	76	170
SVOC	Benzo(b)fluoranthene	202-E11	Phase 1A	2	U (0.41)	0.16	76	170
SVOC	Benzo(b)fluoranthene	202-E12	Phase 1A	4	U (0.42) - 0.075	0.10	76	170
SVOC	Benzo(b)fluoranthene	202-E13	Phase 1A	2	U (0.38)	0.15	76	170
SVOC	Benzo(b)fluoranthene	202-E15	Phase 1A	2	U (0.38)	0.19	76	170
SVOC	Benzo(b)fluoranthene	202-F01	Phase 1A	7	U (0.43)	0.18	76	170
SVOC	Benzo(b)fluoranthene	202-F04	Phase 1A	10	U (0.12) - 0.053	0.042	76	170

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Benzo(b)fluoranthene	202-F05	Phase 1A	2	U (0.11)	0.038	76	170
SVOC	Benzo(b)fluoranthene	202-F06	Phase 1A	2	0.15 - 0.15	0.18	76	170
SVOC	Benzo(b)fluoranthene	202-F07	Phase 1A	17	0.037 - 4.4	0.43	76	170
SVOC	Benzo(b)fluoranthene	202-F08	Phase 1A	4	U (0.12)	0.040	76	170
SVOC	Benzo(b)fluoranthene	202-F10	Phase 1A	2	U (0.12)	0.060	76	170
SVOC	Benzo(b)fluoranthene	202-F14	Phase 1A	2	0.0303 - 0.0303	0.024	76	170
SVOC	Benzo(b)fluoranthene	202-F16	Phase 1A	4	U (0.4) - 0.68	0.25	76	170
SVOC	Benzo(b)fluoranthene	202-F17	Phase 1A	8	U (0.11)	0.054	76	170
SVOC	Benzo(b)fluoranthene	202-G01	Phase 1A	8	U (0.21) - 0.075	0.062	76	170
SVOC	Benzo(b)fluoranthene	202-G02	Phase 1A	14	U (2.4)	0.14	76	170
SVOC	Benzo(b)fluoranthene	202-G03	Phase 1A	9	U (0.11)	0.048	76	170
SVOC	Benzo(b)fluoranthene	202-G04	Phase 1A	3	U (0.2)	0.083	76	170
SVOC	Benzo(b)fluoranthene	202-G05	Phase 1A	6	U (0.41)	0.13	76	170
SVOC	Benzo(b)fluoranthene	202-G07	Phase 1A	16	U (0.12) - 0.036	0.054	76	170
SVOC	Benzo(b)fluoranthene	202-H03	Phase 1A	5	U (0.12)	0.059	76	170
SVOC	Benzo(b)fluoranthene	202-H05	Phase 1A	1	U (0.04)	0.020	76	170
SVOC	Benzo(b)fluoranthene	202-H06	Phase 1A	2	0.0544 - 0.0544	0.037	76	170
SVOC	Benzo(b)fluoranthene	202-H07	Phase 1A	2	U (0.037)	0.018	76	170
SVOC	Benzo(b)fluoranthene	202-H08	Phase 1A	3	U (0.12)	0.053	76	170
SVOC	Benzo(b)fluoranthene	202-H11	Phase 1A	10	U (0.12) - 0.055	0.053	76	170
SVOC	Benzo(b)fluoranthene	202-I01	Phase 1A	2	U (0.12)	0.058	76	170
SVOC	Benzo(b)fluoranthene	202-I04	Phase 1A	4	U (0.11)	0.053	76	170
SVOC	Benzo(b)fluoranthene	202-J03	Phase 1A	7	U (1.2)	0.43	76	170
SVOC	Benzo(b)fluoranthene	202-J04	Phase 1A	8	U (1.2) - 0.13	0.21	76	170
SVOC	Benzo(b)fluoranthene	202-J05	Phase 1A	6	0.0048 - 0.13	0.054	76	170
SVOC	Benzo(b)fluoranthene	202-J07	Phase 1A	4	0.086 - 0.56	0.22	76	170
SVOC	Benzo(b)fluoranthene	202-J08	Phase 1A	1	0.71 - 0.71	0.71	76	170
SVOC	Benzo(b)fluoranthene	202-J09	Phase 1A	2	U (0.022) - 1.1	0.55	76	170
SVOC	Benzo(b)fluoranthene	301-AA01	Phase 1A	1	U (0.04)	0.020	76	170
SVOC	Benzo(b)fluoranthene	301-AA06	Phase 1A	11	0.02 - 0.02	0.10	76	170
SVOC	Benzo(b)fluoranthene	301-AA07	Phase 1A	4	U (0.12) - 0.234	0.11	76	170
SVOC	Benzo(b)fluoranthene	301-AA08	Phase 1A	3	0.02 - 0.072	0.034	76	170
SVOC	Benzo(b)fluoranthene	301-AA09	Phase 1A	3	U (0.02) - 0.19	0.070	76	170
SVOC	Benzo(b)fluoranthene	301-AB04	Phase 1A	3	U (0.037)	0.018	76	170
SVOC	Benzo(b)fluoranthene	301-AB06	Phase 1A	2	U (0.11)	0.055	76	170
SVOC	Benzo(b)fluoranthene	301-AB07	Phase 1A	1	0.31 - 0.31	0.31	76	170
SVOC	Benzo(b)fluoranthene	301-AB09	Phase 1A	2	U (0.876) - 11.4	5.7	76	170
SVOC	Benzo(b)fluoranthene	301-AC04	Phase 1A	25	U (0.57) - 9.6	0.80	76	170
SVOC	Benzo(b)fluoranthene	301-AC07	Phase 1A	10	U (0.56) - 0.98	0.26	76	170
SVOC	Benzo(b)fluoranthene	301-AC08	Phase 1A	7	0.11 - 0.28	0.19	76	170
SVOC	Benzo(b)fluoranthene	301-AC09	Phase 1A	6	0.0021 - 0.0021	0.0063	76	170
SVOC	Benzo(b)fluoranthene	301-B01	Phase 1A	1	U (0.018)	0.0090	76	170
SVOC	Benzo(b)fluoranthene	301-C01	Phase 1A	3	0.004 - 2.1	0.71	76	170
SVOC	Benzo(b)fluoranthene	301-C02	Phase 1A	7	U (0.39) - 0.028	0.039	76	170
SVOC	Benzo(b)fluoranthene	301-D01	Phase 1A	13	U (1.2) - 2.2	0.33	76	170
SVOC	Benzo(b)fluoranthene	301-E02	Phase 1A	14	U (0.35) - 0.24	0.056	76	170
SVOC	Benzo(b)fluoranthene	301-E03	Phase 1A	4	U (0.021) - 0.068	0.029	76	170
SVOC	Benzo(b)fluoranthene	301-G01	Phase 1A	2	0.0057 - 0.0096	0.0077	76	170
SVOC	Benzo(b)fluoranthene	301-G02	Phase 1A	3	0.027 - 0.63	0.28	76	170
SVOC	Benzo(b)fluoranthene	301-G03	Phase 1A	1	0.044 - 0.044	0.044	76	170
SVOC	Benzo(b)fluoranthene	301-H02	Phase 1A	3	0.0028 - 0.13	0.081	76	170
SVOC	Benzo(b)fluoranthene	301-H03	Phase 1A	2	0.0026 - 0.003	0.0028	76	170
SVOC	Benzo(b)fluoranthene	301-N02	Phase 1A	3	0.0077 - 2	0.67	76	170
SVOC	Benzo(b)fluoranthene	301-P02	Phase 1A	2	0.131 - 0.877	0.50	76	170
SVOC	Benzo(b)fluoranthene	301-Q04	Phase 1A	6	U (0.4) - 3.1	0.64	76	170
SVOC	Benzo(b)fluoranthene	301-R02	Phase 1A	6	U (0.087) - 0.34	0.076	76	170
SVOC	Benzo(b)fluoranthene	301-S02	Phase 1A	4	U (0.088)	0.018	76	170
SVOC	Benzo(b)fluoranthene	301-S03	Phase 1A	1	0.088 - 0.088	0.088	76	170
SVOC	Benzo(b)fluoranthene	301-T04	Phase 1A	2	U (0.09)	0.027	76	170
SVOC	Benzo(b)fluoranthene	301-V04	Phase 1A	29	U (0.12) - 0.21	0.044	76	170
SVOC	Benzo(b)fluoranthene	301-W03	Phase 1A	4	U (0.017) - 0.00088	0.0066	76	170
SVOC	Benzo(b)fluoranthene	301-X03	Phase 1A	3	U (0.018) - 0.057	0.025	76	170
SVOC	Benzo(b)fluoranthene	301-Y03	Phase 1A	2	0.0884 - 0.0884	0.054	76	170
SVOC	Benzo(b)fluoranthene	301-Y04	Phase 1A	3	0.043 - 0.043	0.021	76	170
SVOC	Benzo(b)fluoranthene	301-Y05	Phase 1A	6	U (0.12) - 0.023	0.036	76	170
SVOC	Benzo(b)fluoranthene	302-AD08	Phase 1A	2	U (0.1)	0.050	76	170
SVOC	Benzo(b)fluoranthene	302-AD09	Phase 1A	3	0.0177 - 0.0177	0.029	76	170
SVOC	Benzo(b)fluoranthene	302-AD10	Phase 1A	4	0.15 - 2.1	0.68	76	170
SVOC	Benzo(b)fluoranthene	302-AE09	Phase 1A	4	U (0.12)	0.046	76	170
SVOC	Benzo(b)fluoranthene	302-AF06	Phase 1A	8	0.061 - 0.57	0.17	76	170
SVOC	Benzo(b)fluoranthene	302-AG07	Phase 1A	14	U (0.12) - 0.1	0.041	76	170
SVOC	Benzo(b)fluoranthene	302-AJ09	Phase 1A	13	U (57) - 4.4	3.8	76	170
SVOC	Benzo(b)fluoranthene	302-AK06	Phase 1A	3	U (0.42) - 2	1.3	76	170
SVOC	Benzo(b)fluoranthene	302-AL06	Phase 1A	13	0.69 - 3.8	1.0	76	170
SVOC	Benzo(b)fluoranthene	302-AN02	Phase 1A	2	U (0.198)	0.058	76	170
SVOC	Benzo(b)fluoranthene	302-AO03	Phase 1A	2	U (0.0418)	0.020	76	170
SVOC	Benzo(b)fluoranthene	302-AQ02	Phase 1A	7	U (1.1)	0.13	76	170
SVOC	Benzo(b)fluoranthene	302-AR02	Phase 1A	4	U (0.12)	0.055	76	170
SVOC	Benzo(b)fluoranthene	302-AS03	Phase 1A	13	0.0491 - 0.0491	0.046	76	170
SVOC	Benzo(b)fluoranthene	302-AV01	Phase 1A	10	0.158 - 2.6	1.2	76	170
SVOC	Benzo(b)fluoranthene	302-AV03	Phase 1A	6	U (0.12)	0.059	76	170
SVOC	Benzo(b)fluoranthene	302-AW01	Phase 1A	8	U (1.6) - 14	2.5	76	170
SVOC	Benzo(b)fluoranthene	302-AW03	Phase 1A	2	U (0.12)	0.060	76	170

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Benzo(b)fluoranthene	302-AX01	Phase 1A	10	U (13) - 32	4.7	76	170
SVOC	Benzo(b)fluoranthene	302-AX05	Phase 1A	2	U (0.0414)	0.020	76	170
SVOC	Benzo(b)fluoranthene	302-AZ05	Phase 1A	2	U (0.41)	0.13	76	170
SVOC	Benzo(b)fluoranthene	302-BA05	Phase 1A	2	U (0.218)	0.064	76	170
SVOC	Benzo(b)fluoranthene	302-BC05	Phase 1A	7	U (0.039)	0.0068	76	170
SVOC	Benzo(b)fluoranthene	302-BE04	Phase 1A	2	U (0.19)	0.053	76	170
SVOC	Benzo(b)fluoranthene	303-AY01	Phase 1A	6	0.015 - 2	0.55	76	170
SVOC	Benzo(b)fluoranthene	303-AZ01	Phase 1A	5	0.8 - 3	2.0	76	170
SVOC	Benzo(b)fluoranthene	303-BA01	Phase 1A	8	0.109 - 4.8	1.0	76	170
SVOC	Benzo(b)fluoranthene	303-BA02	Phase 1A	10	0.184 - 2.7	2.5	76	170
SVOC	Benzo(b)fluoranthene	303-BB01	Phase 1A	2	1.4 - 2.6	2.0	76	170
SVOC	Benzo(b)fluoranthene	303-BB02	Phase 1A	5	0.032 - 91.7	23.8	76	170
SVOC	Benzo(b)fluoranthene	303-BC01	Phase 1A	4	0.0178 - 0.346	0.18	76	170
SVOC	Benzo(b)fluoranthene	303-BD04	Phase 1A	8	0.27 - 4.5	1.8	76	170
SVOC	Benzo(b)fluoranthene	303-BE03	Phase 1A	38	0.25 - 8.6	1.8	76	170
SVOC	Benzo(b)fluoranthene	303-BF05	Phase 1A	13	0.47 - 2.3	1.0	76	170
SVOC	Benzo(b)fluoranthene	303-BG04	Phase 1A	27	0.13 - 3.5	1.5	76	170
SVOC	Benzo(b)fluoranthene	303-BH02	Phase 1A	20	0.24 - 56	5.4	76	170
SVOC	Benzo(b)fluoranthene	303-BI03	Phase 1A	6	0.77 - 4.4	2.0	76	170
SVOC	Benzo(b)fluoranthene	303-BJ01	Phase 1A	3	3.6 - 3.9	3.7	76	170
SVOC	Benzo(b)fluoranthene	303-BJ02	Phase 1A	3	0.0894 - 1.2	0.52	76	170
SVOC	Benzo(b)fluoranthene	303-BK03	Phase 1A	7	0.36 - 3.4	1.4	76	170
SVOC	Benzo(b)fluoranthene	303-BL02	Phase 1A	10	0.035 - 1.1	0.56	76	170
SVOC	Benzo(b)fluoranthene	303-BM02	Phase 1A	1	9.32 - 9.32	9.3	76	170
SVOC	Benzo(b)fluoranthene	303-BN02	Phase 1A	15	0.0591 - 13.6	1.7	76	170
SVOC	Benzo(b)fluoranthene	303-BN03	Phase 1A	14	0.042 - 3.6	1.0	76	170
SVOC	Benzo(b)fluoranthene	303-BO02	Phase 1A	10	0.014 - 2.2	0.73	76	170
SVOC	Benzo(b)fluoranthene	303-BP02	Phase 1A	30	0.021 - 11.3	1.6	76	170
SVOC	Benzo(b)fluoranthene	303-BQ01	Phase 1A	5	0.376 - 8.7	2.7	76	170
SVOC	Benzo(b)fluoranthene	303-BQ02	Phase 1A	15	0.007 - 1.21	0.39	76	170
SVOC	Benzo(b)fluoranthene	303-BR02	Phase 1A	8	0.328 - 8.1	1.8	76	170
SVOC	Benzo(b)fluoranthene	303-BT01	Phase 1A	13	0.025 - 0.56	0.13	76	170
SVOC	Benzo(b)fluoranthene	303-BW01	Phase 1A	2	0.122 - 0.68	0.40	76	170
SVOC	Benzo(b)fluoranthene	301-AA02	Phase 1B	2	0.0442 - 0.0442	0.031	76	170
SVOC	Benzo(b)fluoranthene	301-AA05	Phase 1B	11	U (0.21) - 0.44	0.11	76	170
SVOC	Benzo(b)fluoranthene	301-AB05	Phase 1B	6	0.053 - 0.0918	0.056	76	170
SVOC	Benzo(b)fluoranthene	301-AC03	Phase 1B	2	0.58 - 0.718	0.65	76	170
SVOC	Benzo(b)fluoranthene	301-T01	Phase 1B	5	U (5.3) - 8.1	2.4	76	170
SVOC	Benzo(b)fluoranthene	301-T02	Phase 1B	2	U (1.9) - 1.3	0.69	76	170
SVOC	Benzo(b)fluoranthene	301-U01	Phase 1B	2	U (0.19) - 1.7	0.86	76	170
SVOC	Benzo(b)fluoranthene	301-U03	Phase 1B	1	U (0.17)	0.085	76	170
SVOC	Benzo(b)fluoranthene	301-V01	Phase 1B	7	U (0.041) - 0.0686	0.027	76	170
SVOC	Benzo(b)fluoranthene	301-V02	Phase 1B	19	0.0014 - 4.7	0.43	76	170
SVOC	Benzo(b)fluoranthene	301-W01	Phase 1B	24	U (0.13) - 0.49	0.064	76	170
SVOC	Benzo(b)fluoranthene	301-X01	Phase 1B	11	0.0011 - 0.897	0.23	76	170
SVOC	Benzo(b)fluoranthene	301-Y01	Phase 1B	10	0.0177 - 0.33	0.084	76	170
SVOC	Benzo(b)fluoranthene	301-Y02	Phase 1B	4	U (0.17) - 0.46	0.14	76	170
SVOC	Benzo(b)fluoranthene	301-Z01	Phase 1B	6	U (0.039) - 0.0192	0.019	76	170
SVOC	Benzo(b)fluoranthene	301-Z02	Phase 1B	2	U (0.18) - 0.34	0.18	76	170
SVOC	Benzo(b)fluoranthene	301-Z03	Phase 1B	5	0.017 - 0.2	0.077	76	170
SVOC	Benzo(b)fluoranthene	302-AD06	Phase 1B	12	0.0823 - 0.34	0.16	76	170
SVOC	Benzo(b)fluoranthene	302-AD07	Phase 1B	2	0.18 - 0.18	0.12	76	170
SVOC	Benzo(b)fluoranthene	302-AE03	Phase 1B	4	U (0.18) - 0.036	0.040	76	170
SVOC	Benzo(b)fluoranthene	302-AE04	Phase 1B	8	U (0.56) - 0.18	0.064	76	170
SVOC	Benzo(b)fluoranthene	302-AE05	Phase 1B	20	0.037 - 0.52	0.094	76	170
SVOC	Benzo(b)fluoranthene	302-AE07	Phase 1B	3	U (0.11) - 0.409	0.17	76	170
SVOC	Benzo(b)fluoranthene	302-AE08	Phase 1B	3	0.00078 - 0.00078	0.039	76	170
SVOC	Benzo(b)fluoranthene	302-AF04	Phase 1B	22	U (0.11) - 0.045	0.034	76	170
SVOC	Benzo(b)fluoranthene	302-AF05	Phase 1B	2	0.306 - 0.306	0.16	76	170
SVOC	Benzo(b)fluoranthene	302-AF09	Phase 1B	5	U (0.04)	0.019	76	170
SVOC	Benzo(b)fluoranthene	302-AG04	Phase 1B	9	U (0.11) - 0.048	0.027	76	170
SVOC	Benzo(b)fluoranthene	302-AG06	Phase 1B	5	U (0.041)	0.019	76	170
SVOC	Benzo(b)fluoranthene	302-AG08	Phase 1B	6	0.066 - 2.1	0.52	76	170
SVOC	Benzo(b)fluoranthene	302-AH05	Phase 1B	11	0.043 - 0.79	0.26	76	170
SVOC	Benzo(b)fluoranthene	302-AH06	Phase 1B	4	0.0964 - 0.0964	0.039	76	170
SVOC	Benzo(b)fluoranthene	302-AH07	Phase 1B	21	U (0.37) - 0.64	0.11	76	170
SVOC	Benzo(b)fluoranthene	302-AH08	Phase 1B	13	U (0.041) - 0.87	0.22	76	170
SVOC	Benzo(b)fluoranthene	302-AI05	Phase 1B	11	0.0462 - 0.87	0.16	76	170
SVOC	Benzo(b)fluoranthene	302-AI06	Phase 1B	19	0.035 - 2.9	0.36	76	170
SVOC	Benzo(b)fluoranthene	302-AI07	Phase 1B	10	U (0.375) - 0.62	0.17	76	170
SVOC	Benzo(b)fluoranthene	302-AI08	Phase 1B	2	U (0.38)	0.11	76	170
SVOC	Benzo(b)fluoranthene	302-AI09	Phase 1B	3	U (0.041) - 0.225	0.088	76	170
SVOC	Benzo(b)fluoranthene	302-AJ05	Phase 1B	2	U (0.12) - 0.056	0.058	76	170
SVOC	Benzo(b)fluoranthene	302-AJ06	Phase 1B	5	0.1 - 0.34	0.12	76	170
SVOC	Benzo(b)fluoranthene	302-AK05	Phase 1B	5	0.0446 - 1.2	0.31	76	170
SVOC	Benzo(b)fluoranthene	302-AK07	Phase 1B	13	U (0.0426) - 3.2	0.63	76	170
SVOC	Benzo(b)fluoranthene	302-AL03	Phase 1B	2	0.118 - 0.118	0.082	76	170
SVOC	Benzo(b)fluoranthene	302-AL05	Phase 1B	13	U (0.42) - 3.9	0.99	76	170
SVOC	Benzo(b)fluoranthene	302-AL08	Phase 1B	2	U (0.041)	0.019	76	170
SVOC	Benzo(b)fluoranthene	302-AN01	Phase 1B	2	0.0992 - 0.0992	0.058	76	170
SVOC	Benzo(b)fluoranthene	302-AP02	Phase 1B	2	U (0.042) - 0.598	0.31	76	170
SVOC	Benzo(b)fluoranthene	302-AP03	Phase 1B	23	U (0.4) - 0.189	0.068	76	170
SVOC	Benzo(b)fluoranthene	302-AP04	Phase 1B	2	0.106 - 0.106	0.063	76	170

Table 3.4
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Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Benzo(b)fluoranthene	302-AP05	Phase 1B	2	U (0.035)	0.017	76	170
SVOC	Benzo(b)fluoranthene	302-AQ01	Phase 1B	2	0.47 - 1.9	1.2	76	170
SVOC	Benzo(b)fluoranthene	302-AQ04	Phase 1B	2	0.13 - 0.13	0.093	76	170
SVOC	Benzo(b)fluoranthene	302-AR01	Phase 1B	2	0.32 - 11	5.7	76	170
SVOC	Benzo(b)fluoranthene	302-AR04	Phase 1B	3	0.15 - 0.15	0.082	76	170
SVOC	Benzo(b)fluoranthene	302-AS04	Phase 1B	2	U (0.0419)	0.021	76	170
SVOC	Benzo(b)fluoranthene	302-AT02	Phase 1B	2	0.218 - 13.8	7.0	76	170
SVOC	Benzo(b)fluoranthene	302-AT03	Phase 1B	4	U (0.039) - 0.0326	0.023	76	170
SVOC	Benzo(b)fluoranthene	302-AU01	Phase 1B	4	0.16 - 1.2	0.44	76	170
SVOC	Benzo(b)fluoranthene	302-AU02	Phase 1B	8	U (4)	0.30	76	170
SVOC	Benzo(b)fluoranthene	302-AU03	Phase 1B	2	U (0.12)	0.060	76	170
SVOC	Benzo(b)fluoranthene	302-AV02	Phase 1B	4	U (0.59)	0.12	76	170
SVOC	Benzo(b)fluoranthene	302-AV04	Phase 1B	2	U (0.0415)	0.020	76	170
SVOC	Benzo(b)fluoranthene	302-AW02	Phase 1B	2	U (1.9) - 2	1.0	76	170
SVOC	Benzo(b)fluoranthene	302-AX02	Phase 1B	3	U (0.038)	0.018	76	170
SVOC	Benzo(b)fluoranthene	302-AY02	Phase 1B	13	0.0646 - 8.6	3.4	76	170
SVOC	Benzo(b)fluoranthene	302-AY03	Phase 1B	2	0.102 - 0.126	0.11	76	170
SVOC	Benzo(b)fluoranthene	302-AY05	Phase 1B	2	U (0.19)	0.058	76	170
SVOC	Benzo(b)fluoranthene	302-AZ02	Phase 1B	8	0.593 - 5.5	6.3	76	170
SVOC	Benzo(b)fluoranthene	302-AZ03	Phase 1B	1	0.48 - 0.48	0.48	76	170
SVOC	Benzo(b)fluoranthene	302-BA03	Phase 1B	3	U (0.19)	0.095	76	170
SVOC	Benzo(b)fluoranthene	302-BB07	Phase 1B	5	U (0.12) - 0.046	0.035	76	170
SVOC	Benzo(b)fluoranthene	302-BB08	Phase 1B	1	0.7 - 0.7	0.70	76	170
SVOC	Benzo(b)fluoranthene	302-BC06	Phase 1B	1	U (0.23)	0.12	76	170
SVOC	Benzo(b)fluoranthene	301-L01	Phase 1C	7	0.043 - 4.3	0.65	76	170
SVOC	Benzo(b)fluoranthene	301-T03	Phase 1C	2	U (0.09)	0.045	76	170
SVOC	Benzo(b)fluoranthene	302-AD02	Phase 1C	2	U (0.19)	0.057	76	170
SVOC	Benzo(b)fluoranthene	302-AH01	Phase 1C	2	U (0.19) - 0.29	0.15	76	170
SVOC	Benzo(b)fluoranthene	302-AI01	Phase 1C	2	0.354 - 0.354	0.19	76	170
SVOC	Benzo(b)fluoranthene	302-AL01	Phase 1C	2	U (0.037) - 0.31	0.16	76	170
SVOC	Benzo(g,h,i)perylene	LS-A-A01	Life Sciences	1	6.9 - 6.9	6.9	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-A02	Life Sciences	2	0.0557 - 0.73	0.39	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-A03	Life Sciences	1	2.33 - 2.33	2.3	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-A04	Life Sciences	3	0.62 - 2.3	1.3	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-B02	Life Sciences	14	U (1.9) - 2	0.46	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-B03	Life Sciences	4	U (0.211) - 0.217	0.089	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-C01	Life Sciences	28	U (19) - 42	4.6	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-C02	Life Sciences	12	U (19) - 7.4	1.7	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-C04	Life Sciences	3	U (0.2)	0.046	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-D01	Life Sciences	5	U (3.98) - 0.148	0.72	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-D02	Life Sciences	1	20 - 20	20.0	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-D03	Life Sciences	3	U (0.95) - 1	0.35	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-D04	Life Sciences	2	U (1.84)	0.48	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-D05	Life Sciences	6	U (1)	0.24	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-D06	Life Sciences	2	U (0.202) - 0.217	0.12	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-D07	Life Sciences	2	U (3.68)	0.97	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-E01	Life Sciences	3	U (1.84)	0.53	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-E03	Life Sciences	1	0.42 - 0.42	0.42	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-E04	Life Sciences	2	U (4.46)	1.1	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-E05	Life Sciences	1	U (0.94)	0.47	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-E07	Life Sciences	1	0.33 - 0.33	0.33	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-E08	Life Sciences	1	U (0.98)	0.49	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-F01	Life Sciences	3	U (7.96)	2.1	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-F02	Life Sciences	3	U (9.7)	2.6	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-F03	Life Sciences	1	1.1 - 1.1	1.1	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-F04	Life Sciences	12	U (0.94)	0.15	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-F05	Life Sciences	1	21 - 21	21.0	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-G01	Life Sciences	3	0.503 - 1	0.54	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-G02	Life Sciences	2	U (0.391)	0.15	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-G03	Life Sciences	3	1.57 - 1.57	1.3	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-G07	Life Sciences	3	U (4.28) - 9.66	5.9	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-G08	Life Sciences	2	U (2.06)	1.0	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-H03	Life Sciences	2	U (0.195) - 0.305	0.16	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-H04	Life Sciences	2	U (2.02)	0.55	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-H06	Life Sciences	1	U (0.94)	0.47	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-H07	Life Sciences	2	U (1.92)	0.49	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-I01	Life Sciences	6	U (8.23)	2.5	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-I02	Life Sciences	1	U (5)	2.5	190000	180
SVOC	Benzo(g,h,i)perylene	LS-A-I03	Life Sciences	3	U (0.94)	0.28	190000	180
SVOC	Benzo(g,h,i)perylene	LS-B-B01	Life Sciences	1	0.0054 - 0.0054	0.0054	190000	180
SVOC	Benzo(g,h,i)perylene	LS-B-C01	Life Sciences	3	U (0.19)	0.044	190000	180
SVOC	Benzo(g,h,i)perylene	LS-B-E01	Life Sciences	4	U (2.32)	0.54	190000	180
SVOC	Benzo(g,h,i)perylene	LS-B-G02	Life Sciences	1	2.72 - 2.72	2.7	190000	180
SVOC	Benzo(g,h,i)perylene	LS-B-H02	Life Sciences	3	U (1) - 20	6.7	190000	180
SVOC	Benzo(g,h,i)perylene	LS-E-B01	Life Sciences	81	0.0038 - 84	5.7	190000	180
SVOC	Benzo(g,h,i)perylene	LS-E-G01	Life Sciences	4	U (2.08) - 1.7	0.90	190000	180
SVOC	Benzo(g,h,i)perylene	201-A01	Phase 1A	7	U (0.16) - 0.23	0.084	190000	180
SVOC	Benzo(g,h,i)perylene	201-A02	Phase 1A	14	0.023 - 2.1	0.33	190000	180
SVOC	Benzo(g,h,i)perylene	201-A03	Phase 1A	7	0.026 - 0.028	0.062	190000	180
SVOC	Benzo(g,h,i)perylene	201-A04	Phase 1A	29	U (3.4) - 4.8	0.48	190000	180
SVOC	Benzo(g,h,i)perylene	201-A05	Phase 1A	9	U (0.41) - 0.083	0.048	190000	180
SVOC	Benzo(g,h,i)perylene	201-A06	Phase 1A	7	U (0.32) - 0.052	0.066	190000	180
SVOC	Benzo(g,h,i)perylene	201-A07	Phase 1A	9	U (0.39) - 0.016	0.058	190000	180

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Benzo(g,h,i)perylene	201-A08	Phase 1A	7	U (0.038) - 0.22	0.058	190000	180
SVOC	Benzo(g,h,i)perylene	201-A09	Phase 1A	7	U (2.1) - 0.0072	0.17	190000	180
SVOC	Benzo(g,h,i)perylene	201-A10	Phase 1A	3	U (0.039) - 0.46	0.16	190000	180
SVOC	Benzo(g,h,i)perylene	201-A11	Phase 1A	4	U (0.17)	0.024	190000	180
SVOC	Benzo(g,h,i)perylene	201-A12	Phase 1A	6	0.0013 - 0.12	0.038	190000	180
SVOC	Benzo(g,h,i)perylene	201-A13	Phase 1A	4	U (0.041) - 0.13	0.065	190000	180
SVOC	Benzo(g,h,i)perylene	201-A14	Phase 1A	9	0.0019 - 0.59	0.15	190000	180
SVOC	Benzo(g,h,i)perylene	201-B02	Phase 1A	2	0.0031 - 0.011	0.0071	190000	180
SVOC	Benzo(g,h,i)perylene	201-B04	Phase 1A	3	U (0.0025) - 0.0035	0.0020	190000	180
SVOC	Benzo(g,h,i)perylene	201-B05	Phase 1A	3	0.088 - 0.12	0.10	190000	180
SVOC	Benzo(g,h,i)perylene	201-B08	Phase 1A	4	U (0.0025) - 0.03	0.014	190000	180
SVOC	Benzo(g,h,i)perylene	201-C01	Phase 1A	14	U (1.6) - 0.17	0.14	190000	180
SVOC	Benzo(g,h,i)perylene	201-C04	Phase 1A	11	U (1.6)	0.28	190000	180
SVOC	Benzo(g,h,i)perylene	201-C05	Phase 1A	3	0.4 - 1.3	0.57	190000	180
SVOC	Benzo(g,h,i)perylene	201-C07	Phase 1A	8	0.056 - 3.5	0.80	190000	180
SVOC	Benzo(g,h,i)perylene	201-C08	Phase 1A	11	0.16 - 1.8	0.22	190000	180
SVOC	Benzo(g,h,i)perylene	201-C09	Phase 1A	7	U (0.14)	0.070	190000	180
SVOC	Benzo(g,h,i)perylene	201-C10	Phase 1A	3	U (0.4) - 1.11	0.50	190000	180
SVOC	Benzo(g,h,i)perylene	201-D01	Phase 1A	4	U (0.42) - 0.317	0.13	190000	180
SVOC	Benzo(g,h,i)perylene	201-D05	Phase 1A	4	0.0031 - 0.0031	2.4	190000	180
SVOC	Benzo(g,h,i)perylene	201-D12	Phase 1A	3	U (0.16)	0.075	190000	180
SVOC	Benzo(g,h,i)perylene	201-E01	Phase 1A	43	0.00079 - 0.21	0.047	190000	180
SVOC	Benzo(g,h,i)perylene	201-E02	Phase 1A	1	U (0.16)	0.080	190000	180
SVOC	Benzo(g,h,i)perylene	201-E03	Phase 1A	3	U (0.38) - 0.076	0.090	190000	180
SVOC	Benzo(g,h,i)perylene	201-E04	Phase 1A	3	U (0.59) - 4.9	1.8	190000	180
SVOC	Benzo(g,h,i)perylene	201-E05	Phase 1A	22	0.0043 - 0.14	0.050	190000	180
SVOC	Benzo(g,h,i)perylene	201-F01	Phase 1A	36	0.0288 - 0.692	0.13	190000	180
SVOC	Benzo(g,h,i)perylene	201-F02	Phase 1A	4	U (0.4)	0.097	190000	180
SVOC	Benzo(g,h,i)perylene	201-F03	Phase 1A	25	U (0.36) - 0.19	0.076	190000	180
SVOC	Benzo(g,h,i)perylene	201-F04	Phase 1A	21	U (0.41) - 0.087	0.066	190000	180
SVOC	Benzo(g,h,i)perylene	202-A03	Phase 1A	8	U (0.16) - 0.035	0.038	190000	180
SVOC	Benzo(g,h,i)perylene	202-A04	Phase 1A	4	U (0.41) - 0.38	0.17	190000	180
SVOC	Benzo(g,h,i)perylene	202-A05	Phase 1A	4	U (0.16) - 0.038	0.032	190000	180
SVOC	Benzo(g,h,i)perylene	202-A06	Phase 1A	4	U (0.15)	0.074	190000	180
SVOC	Benzo(g,h,i)perylene	202-A07	Phase 1A	3	U (0.16)	0.080	190000	180
SVOC	Benzo(g,h,i)perylene	202-A08	Phase 1A	3	U (0.16)	0.078	190000	180
SVOC	Benzo(g,h,i)perylene	202-A09	Phase 1A	6	U (0.16)	0.078	190000	180
SVOC	Benzo(g,h,i)perylene	202-B01	Phase 1A	2	0.062 - 0.088	0.075	190000	180
SVOC	Benzo(g,h,i)perylene	202-B02	Phase 1A	8	U (0.4)	0.12	190000	180
SVOC	Benzo(g,h,i)perylene	202-B03	Phase 1A	15	0.14 - 0.14	0.095	190000	180
SVOC	Benzo(g,h,i)perylene	202-B04	Phase 1A	3	U (0.7)	0.16	190000	180
SVOC	Benzo(g,h,i)perylene	202-B05	Phase 1A	4	U (0.039) - 0.078	0.055	190000	180
SVOC	Benzo(g,h,i)perylene	202-B09	Phase 1A	9	U (0.79)	0.18	190000	180
SVOC	Benzo(g,h,i)perylene	202-C04	Phase 1A	15	0.043 - 0.19	0.28	190000	180
SVOC	Benzo(g,h,i)perylene	202-C05	Phase 1A	10	0.031 - 0.26	0.14	190000	180
SVOC	Benzo(g,h,i)perylene	202-C06	Phase 1A	4	0.053 - 0.12	0.065	190000	180
SVOC	Benzo(g,h,i)perylene	202-C07	Phase 1A	8	U (0.39)	0.10	190000	180
SVOC	Benzo(g,h,i)perylene	202-C08	Phase 1A	4	U (0.2) - 0.1	0.079	190000	180
SVOC	Benzo(g,h,i)perylene	202-C10	Phase 1A	1	U (0.38)	0.19	190000	180
SVOC	Benzo(g,h,i)perylene	202-D05	Phase 1A	5	U (0.36) - 0.1	0.092	190000	180
SVOC	Benzo(g,h,i)perylene	202-D06	Phase 1A	11	U (2)	0.47	190000	180
SVOC	Benzo(g,h,i)perylene	202-E06	Phase 1A	2	0.032 - 0.032	0.051	190000	180
SVOC	Benzo(g,h,i)perylene	202-E08	Phase 1A	13	U (0.38)	0.085	190000	180
SVOC	Benzo(g,h,i)perylene	202-E09	Phase 1A	16	U (0.41) - 0.26	0.10	190000	180
SVOC	Benzo(g,h,i)perylene	202-E10	Phase 1A	6	U (0.45)	0.13	190000	180
SVOC	Benzo(g,h,i)perylene	202-E11	Phase 1A	2	U (0.41)	0.16	190000	180
SVOC	Benzo(g,h,i)perylene	202-E12	Phase 1A	4	U (0.42) - 0.046	0.099	190000	180
SVOC	Benzo(g,h,i)perylene	202-E13	Phase 1A	2	U (0.38)	0.15	190000	180
SVOC	Benzo(g,h,i)perylene	202-E15	Phase 1A	2	U (0.38)	0.19	190000	180
SVOC	Benzo(g,h,i)perylene	202-F01	Phase 1A	7	U (0.43)	0.18	190000	180
SVOC	Benzo(g,h,i)perylene	202-F04	Phase 1A	10	U (0.16) - 0.064	0.049	190000	180
SVOC	Benzo(g,h,i)perylene	202-F05	Phase 1A	2	U (0.15)	0.048	190000	180
SVOC	Benzo(g,h,i)perylene	202-F06	Phase 1A	2	0.096 - 0.096	0.16	190000	180
SVOC	Benzo(g,h,i)perylene	202-F07	Phase 1A	17	0.039 - 5.2	0.46	190000	180
SVOC	Benzo(g,h,i)perylene	202-F08	Phase 1A	4	U (0.16)	0.050	190000	180
SVOC	Benzo(g,h,i)perylene	202-F10	Phase 1A	2	U (0.16)	0.080	190000	180
SVOC	Benzo(g,h,i)perylene	202-F14	Phase 1A	2	U (0.038) - 0.0274	0.023	190000	180
SVOC	Benzo(g,h,i)perylene	202-F16	Phase 1A	4	U (0.4) - 0.058	0.12	190000	180
SVOC	Benzo(g,h,i)perylene	202-F17	Phase 1A	8	U (0.15)	0.074	190000	180
SVOC	Benzo(g,h,i)perylene	202-G01	Phase 1A	8	U (0.28) - 0.048	0.078	190000	180
SVOC	Benzo(g,h,i)perylene	202-G02	Phase 1A	14	U (3.2)	0.19	190000	180
SVOC	Benzo(g,h,i)perylene	202-G03	Phase 1A	9	U (0.15)	0.065	190000	180
SVOC	Benzo(g,h,i)perylene	202-G04	Phase 1A	3	U (0.2)	0.083	190000	180
SVOC	Benzo(g,h,i)perylene	202-G05	Phase 1A	6	U (0.41)	0.13	190000	180
SVOC	Benzo(g,h,i)perylene	202-G07	Phase 1A	16	U (0.16) - 0.027	0.070	190000	180
SVOC	Benzo(g,h,i)perylene	202-H03	Phase 1A	5	U (0.12)	0.059	190000	180
SVOC	Benzo(g,h,i)perylene	202-H05	Phase 1A	1	U (0.04)	0.020	190000	180
SVOC	Benzo(g,h,i)perylene	202-H06	Phase 1A	2	U (0.04) - 0.0408	0.030	190000	180
SVOC	Benzo(g,h,i)perylene	202-H07	Phase 1A	2	U (0.037)	0.018	190000	180
SVOC	Benzo(g,h,i)perylene	202-H08	Phase 1A	3	U (0.16)	0.073	190000	180
SVOC	Benzo(g,h,i)perylene	202-H11	Phase 1A	10	U (0.16) - 0.041	0.066	190000	180
SVOC	Benzo(g,h,i)perylene	202-I01	Phase 1A	2	U (0.16)	0.078	190000	180
SVOC	Benzo(g,h,i)perylene	202-I04	Phase 1A	4	U (0.15)	0.071	190000	180

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Benzo(g,h,i)perylene	202-J03	Phase 1A	7	U (1.6)	0.57	190000	180
SVOC	Benzo(g,h,i)perylene	202-J04	Phase 1A	8	U (1.6) - 0.08	0.26	190000	180
SVOC	Benzo(g,h,i)perylene	202-J05	Phase 1A	6	0.011 - 0.28	0.099	190000	180
SVOC	Benzo(g,h,i)perylene	202-J07	Phase 1A	4	0.17 - 0.42	0.20	190000	180
SVOC	Benzo(g,h,i)perylene	202-J08	Phase 1A	1	1 - 1	1.0	190000	180
SVOC	Benzo(g,h,i)perylene	202-J09	Phase 1A	2	U (0.022) - 1.2	0.60	190000	180
SVOC	Benzo(g,h,i)perylene	301-AA01	Phase 1A	1	U (0.04)	0.020	190000	180
SVOC	Benzo(g,h,i)perylene	301-AA06	Phase 1A	11	0.0062 - 0.0062	0.13	190000	180
SVOC	Benzo(g,h,i)perylene	301-AA07	Phase 1A	4	U (0.16) - 0.138	0.063	190000	180
SVOC	Benzo(g,h,i)perylene	301-AA08	Phase 1A	3	0.068 - 0.068	0.029	190000	180
SVOC	Benzo(g,h,i)perylene	301-AA09	Phase 1A	3	0.17 - 0.17	0.063	190000	180
SVOC	Benzo(g,h,i)perylene	301-AB04	Phase 1A	3	U (0.37)	0.18	190000	180
SVOC	Benzo(g,h,i)perylene	301-AB06	Phase 1A	2	U (0.14)	0.070	190000	180
SVOC	Benzo(g,h,i)perylene	301-AB07	Phase 1A	1	U (0.2)	0.10	190000	180
SVOC	Benzo(g,h,i)perylene	301-AB09	Phase 1A	2	U (0.876) - 3.11	1.6	190000	180
SVOC	Benzo(g,h,i)perylene	301-AC04	Phase 1A	25	U (0.76) - 4.3	0.44	190000	180
SVOC	Benzo(g,h,i)perylene	301-AC07	Phase 1A	10	0.034 - 0.52	0.16	190000	180
SVOC	Benzo(g,h,i)perylene	301-AC08	Phase 1A	7	0.087 - 0.17	0.19	190000	180
SVOC	Benzo(g,h,i)perylene	301-AC09	Phase 1A	6	0.00093 - 0.00093	0.035	190000	180
SVOC	Benzo(g,h,i)perylene	301-B01	Phase 1A	1	U (0.018)	0.0090	190000	180
SVOC	Benzo(g,h,i)perylene	301-C01	Phase 1A	3	U (0.022) - 0.82	0.28	190000	180
SVOC	Benzo(g,h,i)perylene	301-C02	Phase 1A	7	U (0.39) - 0.013	0.037	190000	180
SVOC	Benzo(g,h,i)perylene	301-D01	Phase 1A	13	U (1.6) - 1	0.19	190000	180
SVOC	Benzo(g,h,i)perylene	301-E02	Phase 1A	14	0.0013 - 0.27	0.059	190000	180
SVOC	Benzo(g,h,i)perylene	301-E03	Phase 1A	4	U (0.021) - 0.028	0.016	190000	180
SVOC	Benzo(g,h,i)perylene	301-G01	Phase 1A	2	0.004 - 0.012	0.0080	190000	180
SVOC	Benzo(g,h,i)perylene	301-G02	Phase 1A	3	0.056 - 1.3	0.59	190000	180
SVOC	Benzo(g,h,i)perylene	301-G03	Phase 1A	1	0.1 - 0.1	0.10	190000	180
SVOC	Benzo(g,h,i)perylene	301-H02	Phase 1A	3	0.0057 - 0.28	0.17	190000	180
SVOC	Benzo(g,h,i)perylene	301-H03	Phase 1A	2	0.0046 - 0.0054	0.0050	190000	180
SVOC	Benzo(g,h,i)perylene	301-N02	Phase 1A	3	U (0.15) - 0.42	0.14	190000	180
SVOC	Benzo(g,h,i)perylene	301-P02	Phase 1A	2	0.12 - 0.414	0.27	190000	180
SVOC	Benzo(g,h,i)perylene	301-Q04	Phase 1A	6	U (0.4) - 2.45	0.52	190000	180
SVOC	Benzo(g,h,i)perylene	301-R02	Phase 1A	6	U (0.087) - 0.2	0.052	190000	180
SVOC	Benzo(g,h,i)perylene	301-S02	Phase 1A	4	U (0.088) - 0.11	0.034	190000	180
SVOC	Benzo(g,h,i)perylene	301-S03	Phase 1A	1	0.055 - 0.055	0.055	190000	180
SVOC	Benzo(g,h,i)perylene	301-T04	Phase 1A	2	U (0.09)	0.027	190000	180
SVOC	Benzo(g,h,i)perylene	301-V04	Phase 1A	29	0.0039 - 0.18	0.053	190000	180
SVOC	Benzo(g,h,i)perylene	301-W03	Phase 1A	4	U (0.017)	0.0067	190000	180
SVOC	Benzo(g,h,i)perylene	301-X03	Phase 1A	3	U (0.018) - 0.036	0.018	190000	180
SVOC	Benzo(g,h,i)perylene	301-Y03	Phase 1A	2	0.0807 - 0.0807	0.050	190000	180
SVOC	Benzo(g,h,i)perylene	301-Y04	Phase 1A	3	0.045 - 0.045	0.021	190000	180
SVOC	Benzo(g,h,i)perylene	301-Y05	Phase 1A	6	0.0041 - 0.023	0.045	190000	180
SVOC	Benzo(g,h,i)perylene	302-AD08	Phase 1A	2	U (0.14)	0.068	190000	180
SVOC	Benzo(g,h,i)perylene	302-AD09	Phase 1A	3	U (0.1) - 0.0212	0.030	190000	180
SVOC	Benzo(g,h,i)perylene	302-AD10	Phase 1A	4	U (0.8) - 1.1	0.39	190000	180
SVOC	Benzo(g,h,i)perylene	302-AE09	Phase 1A	4	U (0.16)	0.058	190000	180
SVOC	Benzo(g,h,i)perylene	302-AF06	Phase 1A	8	0.039 - 0.22	0.099	190000	180
SVOC	Benzo(g,h,i)perylene	302-AG07	Phase 1A	14	U (0.16)	0.048	190000	180
SVOC	Benzo(g,h,i)perylene	302-AJ09	Phase 1A	13	U (57) - 2	3.4	190000	180
SVOC	Benzo(g,h,i)perylene	302-AK06	Phase 1A	3	U (0.42) - 0.77	0.54	190000	180
SVOC	Benzo(g,h,i)perylene	302-AL06	Phase 1A	13	U (0.37) - 1.7	0.48	190000	180
SVOC	Benzo(g,h,i)perylene	302-AN02	Phase 1A	2	U (0.198)	0.058	190000	180
SVOC	Benzo(g,h,i)perylene	302-AO03	Phase 1A	2	U (0.0418)	0.020	190000	180
SVOC	Benzo(g,h,i)perylene	302-AQ02	Phase 1A	7	U (1.5)	0.17	190000	180
SVOC	Benzo(g,h,i)perylene	302-AR02	Phase 1A	4	U (0.16)	0.074	190000	180
SVOC	Benzo(g,h,i)perylene	302-AS03	Phase 1A	13	0.0343 - 0.0343	0.058	190000	180
SVOC	Benzo(g,h,i)perylene	302-AV01	Phase 1A	10	0.106 - 3.8	1.5	190000	180
SVOC	Benzo(g,h,i)perylene	302-AV03	Phase 1A	6	U (0.16)	0.079	190000	180
SVOC	Benzo(g,h,i)perylene	302-AW01	Phase 1A	8	U (2.1) - 5.9	1.1	190000	180
SVOC	Benzo(g,h,i)perylene	302-AW03	Phase 1A	2	U (0.16)	0.078	190000	180
SVOC	Benzo(g,h,i)perylene	302-AX01	Phase 1A	10	0.106 - 8.1	2.1	190000	180
SVOC	Benzo(g,h,i)perylene	302-AX05	Phase 1A	2	U (0.0414)	0.020	190000	180
SVOC	Benzo(g,h,i)perylene	302-AZ05	Phase 1A	2	U (0.41)	0.14	190000	180
SVOC	Benzo(g,h,i)perylene	302-BA05	Phase 1A	2	U (0.218)	0.064	190000	180
SVOC	Benzo(g,h,i)perylene	302-BC05	Phase 1A	7	U (0.039)	0.0068	190000	180
SVOC	Benzo(g,h,i)perylene	302-BE04	Phase 1A	2	U (0.19)	0.053	190000	180
SVOC	Benzo(g,h,i)perylene	303-AY01	Phase 1A	6	0.016 - 1	0.29	190000	180
SVOC	Benzo(g,h,i)perylene	303-AZ01	Phase 1A	5	0.43 - 2	1.4	190000	180
SVOC	Benzo(g,h,i)perylene	303-BA01	Phase 1A	8	0.0932 - 2.3	0.58	190000	180
SVOC	Benzo(g,h,i)perylene	303-BA02	Phase 1A	10	0.32 - 1.4	2.0	190000	180
SVOC	Benzo(g,h,i)perylene	303-BB01	Phase 1A	2	1 - 1.4	1.2	190000	180
SVOC	Benzo(g,h,i)perylene	303-BB02	Phase 1A	5	0.02 - 40.9	10.3	190000	180
SVOC	Benzo(g,h,i)perylene	303-BC01	Phase 1A	4	U (0.038) - 0.167	0.087	190000	180
SVOC	Benzo(g,h,i)perylene	303-BD04	Phase 1A	8	0.25 - 4.4	1.4	190000	180
SVOC	Benzo(g,h,i)perylene	303-BE03	Phase 1A	38	0.13 - 4.6	1.2	190000	180
SVOC	Benzo(g,h,i)perylene	303-BF05	Phase 1A	13	0.21 - 1.2	0.58	190000	180
SVOC	Benzo(g,h,i)perylene	303-BG04	Phase 1A	27	0.068 - 1.8	0.85	190000	180
SVOC	Benzo(g,h,i)perylene	303-BH02	Phase 1A	20	0.11 - 45	3.8	190000	180
SVOC	Benzo(g,h,i)perylene	303-BI03	Phase 1A	6	0.35 - 2.1	0.98	190000	180
SVOC	Benzo(g,h,i)perylene	303-BJ01	Phase 1A	3	2.4 - 2.7	2.5	190000	180
SVOC	Benzo(g,h,i)perylene	303-BJ02	Phase 1A	3	0.0597 - 1.27	0.48	190000	180
SVOC	Benzo(g,h,i)perylene	303-BK03	Phase 1A	7	0.2 - 1.6	1.1	190000	180

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Benzo(g,h,i)perylene	303-BL02	Phase 1A	10	0.028 - 0.58	0.32	190000	180
SVOC	Benzo(g,h,i)perylene	303-BM02	Phase 1A	1	5.43 - 5.43	5.4	190000	180
SVOC	Benzo(g,h,i)perylene	303-BN02	Phase 1A	15	0.0327 - 5.34	0.79	190000	180
SVOC	Benzo(g,h,i)perylene	303-BN03	Phase 1A	14	0.038 - 3.5	0.77	190000	180
SVOC	Benzo(g,h,i)perylene	303-BO02	Phase 1A	10	0.009 - 1.1	0.44	190000	180
SVOC	Benzo(g,h,i)perylene	303-BP02	Phase 1A	30	0.016 - 5.39	0.82	190000	180
SVOC	Benzo(g,h,i)perylene	303-BQ01	Phase 1A	5	0.304 - 4.5	1.4	190000	180
SVOC	Benzo(g,h,i)perylene	303-BQ02	Phase 1A	15	0.005 - 0.915	0.33	190000	180
SVOC	Benzo(g,h,i)perylene	303-BR02	Phase 1A	8	0.23 - 3.6	0.86	190000	180
SVOC	Benzo(g,h,i)perylene	303-BT01	Phase 1A	13	0.02 - 0.29	0.094	190000	180
SVOC	Benzo(g,h,i)perylene	303-BW01	Phase 1A	2	0.0816 - 0.27	0.18	190000	180
SVOC	Benzo(g,h,i)perylene	301-AA02	Phase 1B	2	0.0337 - 0.0337	0.026	190000	180
SVOC	Benzo(g,h,i)perylene	301-AA05	Phase 1B	11	U (2.1) - 0.14	0.15	190000	180
SVOC	Benzo(g,h,i)perylene	301-AB05	Phase 1B	6	0.026 - 0.088	0.054	190000	180
SVOC	Benzo(g,h,i)perylene	301-AC03	Phase 1B	2	0.28 - 0.404	0.34	190000	180
SVOC	Benzo(g,h,i)perylene	301-T01	Phase 1B	5	U (5.3) - 2.6	1.6	190000	180
SVOC	Benzo(g,h,i)perylene	301-T02	Phase 1B	2	0.177 - 1.4	0.79	190000	180
SVOC	Benzo(g,h,i)perylene	301-U01	Phase 1B	2	U (0.19) - 0.82	0.42	190000	180
SVOC	Benzo(g,h,i)perylene	301-U03	Phase 1B	1	U (0.17)	0.085	190000	180
SVOC	Benzo(g,h,i)perylene	301-V01	Phase 1B	7	U (0.041) - 0.0483	0.023	190000	180
SVOC	Benzo(g,h,i)perylene	301-V02	Phase 1B	19	0.0053 - 5	0.37	190000	180
SVOC	Benzo(g,h,i)perylene	301-W01	Phase 1B	24	U (0.17) - 0.84	0.089	190000	180
SVOC	Benzo(g,h,i)perylene	301-X01	Phase 1B	11	U (0.18) - 0.91	0.18	190000	180
SVOC	Benzo(g,h,i)perylene	301-Y01	Phase 1B	10	0.0238 - 0.297	0.081	190000	180
SVOC	Benzo(g,h,i)perylene	301-Y02	Phase 1B	4	U (0.17) - 0.4	0.11	190000	180
SVOC	Benzo(g,h,i)perylene	301-Z01	Phase 1B	6	U (0.039)	0.018	190000	180
SVOC	Benzo(g,h,i)perylene	301-Z02	Phase 1B	2	U (0.18)	0.054	190000	180
SVOC	Benzo(g,h,i)perylene	301-Z03	Phase 1B	5	U (0.41) - 0.39	0.15	190000	180
SVOC	Benzo(g,h,i)perylene	302-AD06	Phase 1B	12	0.056 - 0.32	0.11	190000	180
SVOC	Benzo(g,h,i)perylene	302-AD07	Phase 1B	2	0.098 - 0.098	0.084	190000	180
SVOC	Benzo(g,h,i)perylene	302-AE03	Phase 1B	4	U (0.18) - 0.19	0.061	190000	180
SVOC	Benzo(g,h,i)perylene	302-AE04	Phase 1B	8	U (0.74) - 0.12	0.067	190000	180
SVOC	Benzo(g,h,i)perylene	302-AE05	Phase 1B	20	0.025 - 0.18	0.081	190000	180
SVOC	Benzo(g,h,i)perylene	302-AE07	Phase 1B	3	0.346 - 0.346	0.15	190000	180
SVOC	Benzo(g,h,i)perylene	302-AE08	Phase 1B	3	U (0.15)	0.051	190000	180
SVOC	Benzo(g,h,i)perylene	302-AF04	Phase 1B	22	U (0.15) - 0.024	0.040	190000	180
SVOC	Benzo(g,h,i)perylene	302-AF05	Phase 1B	2	0.227 - 0.227	0.12	190000	180
SVOC	Benzo(g,h,i)perylene	302-AF09	Phase 1B	5	U (0.04)	0.019	190000	180
SVOC	Benzo(g,h,i)perylene	302-AG04	Phase 1B	9	U (0.15) - 0.0334	0.028	190000	180
SVOC	Benzo(g,h,i)perylene	302-AG06	Phase 1B	5	U (0.041)	0.019	190000	180
SVOC	Benzo(g,h,i)perylene	302-AG08	Phase 1B	6	U (0.042) - 1	0.28	190000	180
SVOC	Benzo(g,h,i)perylene	302-AH05	Phase 1B	11	0.0256 - 0.32	0.14	190000	180
SVOC	Benzo(g,h,i)perylene	302-AH06	Phase 1B	4	0.0785 - 0.0785	0.034	190000	180
SVOC	Benzo(g,h,i)perylene	302-AH07	Phase 1B	21	U (0.37) - 0.28	0.078	190000	180
SVOC	Benzo(g,h,i)perylene	302-AH08	Phase 1B	13	U (0.041) - 0.44	0.12	190000	180
SVOC	Benzo(g,h,i)perylene	302-AI05	Phase 1B	11	0.065 - 0.36	0.099	190000	180
SVOC	Benzo(g,h,i)perylene	302-AI06	Phase 1B	19	U (0.17) - 2.4	0.27	190000	180
SVOC	Benzo(g,h,i)perylene	302-AI07	Phase 1B	10	U (0.375) - 0.57	0.15	190000	180
SVOC	Benzo(g,h,i)perylene	302-AI08	Phase 1B	2	U (0.38)	0.11	190000	180
SVOC	Benzo(g,h,i)perylene	302-AI09	Phase 1B	3	0.12 - 0.12	0.053	190000	180
SVOC	Benzo(g,h,i)perylene	302-AJ05	Phase 1B	2	U (0.16) - 0.027	0.054	190000	180
SVOC	Benzo(g,h,i)perylene	302-AJ06	Phase 1B	5	0.048 - 0.16	0.090	190000	180
SVOC	Benzo(g,h,i)perylene	302-AK05	Phase 1B	5	0.051 - 0.72	0.18	190000	180
SVOC	Benzo(g,h,i)perylene	302-AK07	Phase 1B	13	U (0.0426) - 1.4	0.29	190000	180
SVOC	Benzo(g,h,i)perylene	302-AL03	Phase 1B	2	0.0622 - 0.0622	0.054	190000	180
SVOC	Benzo(g,h,i)perylene	302-AL05	Phase 1B	13	U (0.42) - 1.8	0.50	190000	180
SVOC	Benzo(g,h,i)perylene	302-AL08	Phase 1B	2	U (0.041)	0.019	190000	180
SVOC	Benzo(g,h,i)perylene	302-AN01	Phase 1B	2	0.0787 - 0.0787	0.048	190000	180
SVOC	Benzo(g,h,i)perylene	302-AP02	Phase 1B	2	0.404 - 0.404	0.21	190000	180
SVOC	Benzo(g,h,i)perylene	302-AP03	Phase 1B	23	U (0.4) - 0.091	0.067	190000	180
SVOC	Benzo(g,h,i)perylene	302-AP04	Phase 1B	2	0.0794 - 0.0794	0.049	190000	180
SVOC	Benzo(g,h,i)perylene	302-AP05	Phase 1B	2	U (0.035)	0.017	190000	180
SVOC	Benzo(g,h,i)perylene	302-AQ01	Phase 1B	2	0.41 - 1.1	0.76	190000	180
SVOC	Benzo(g,h,i)perylene	302-AQ04	Phase 1B	2	U (0.11)	0.055	190000	180
SVOC	Benzo(g,h,i)perylene	302-AR01	Phase 1B	2	0.21 - 4.9	2.6	190000	180
SVOC	Benzo(g,h,i)perylene	302-AR04	Phase 1B	3	U (0.12)	0.050	190000	180
SVOC	Benzo(g,h,i)perylene	302-AS04	Phase 1B	2	U (0.0419)	0.021	190000	180
SVOC	Benzo(g,h,i)perylene	302-AT02	Phase 1B	2	0.382 - 4.65	2.5	190000	180
SVOC	Benzo(g,h,i)perylene	302-AT03	Phase 1B	4	U (0.039) - 0.0655	0.031	190000	180
SVOC	Benzo(g,h,i)perylene	302-AU01	Phase 1B	4	U (0.16) - 2	0.60	190000	180
SVOC	Benzo(g,h,i)perylene	302-AU02	Phase 1B	8	U (4)	0.32	190000	180
SVOC	Benzo(g,h,i)perylene	302-AU03	Phase 1B	2	U (0.16)	0.080	190000	180
SVOC	Benzo(g,h,i)perylene	302-AV02	Phase 1B	4	U (0.78)	0.16	190000	180
SVOC	Benzo(g,h,i)perylene	302-AV04	Phase 1B	2	U (0.0415)	0.020	190000	180
SVOC	Benzo(g,h,i)perylene	302-AW02	Phase 1B	2	U (1.9) - 1.1	0.59	190000	180
SVOC	Benzo(g,h,i)perylene	302-AX02	Phase 1B	3	U (0.038)	0.018	190000	180
SVOC	Benzo(g,h,i)perylene	302-AY02	Phase 1B	13	0.0338 - 5.03	2.4	190000	180
SVOC	Benzo(g,h,i)perylene	302-AY03	Phase 1B	2	0.0586 - 0.073	0.066	190000	180
SVOC	Benzo(g,h,i)perylene	302-AY05	Phase 1B	2	U (0.19)	0.058	190000	180
SVOC	Benzo(g,h,i)perylene	302-AZ02	Phase 1B	8	0.56 - 3.4	5.3	190000	180
SVOC	Benzo(g,h,i)perylene	302-AZ03	Phase 1B	1	U (2)	1.0	190000	180
SVOC	Benzo(g,h,i)perylene	302-BA03	Phase 1B	3	U (0.16)	0.080	190000	180
SVOC	Benzo(g,h,i)perylene	302-BB07	Phase 1B	5	U (0.16) - 0.094	0.052	190000	180

Table 3.4
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Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Benzo(g,h,i)perylene	302-BB08	Phase 1B	1	0.43 - 0.43	0.43	190000	180
SVOC	Benzo(g,h,i)perylene	302-BC06	Phase 1B	1	U (0.23)	0.12	190000	180
SVOC	Benzo(g,h,i)perylene	301-L01	Phase 1C	7	0.02 - 5	0.74	190000	180
SVOC	Benzo(g,h,i)perylene	301-T03	Phase 1C	2	0.17 - 0.17	0.11	190000	180
SVOC	Benzo(g,h,i)perylene	302-AD02	Phase 1C	2	U (0.19)	0.057	190000	180
SVOC	Benzo(g,h,i)perylene	302-AH01	Phase 1C	2	U (0.19)	0.057	190000	180
SVOC	Benzo(g,h,i)perylene	302-AI01	Phase 1C	2	0.208 - 0.208	0.11	190000	180
SVOC	Benzo(g,h,i)perylene	302-AL01	Phase 1C	2	0.174 - 0.174	0.10	190000	180
SVOC	Chrysene	LS-A-A01	Life Sciences	1	13 - 13	13.0	760	230
SVOC	Chrysene	LS-A-A02	Life Sciences	2	0.0679 - 0.95	0.51	760	230
SVOC	Chrysene	LS-A-A03	Life Sciences	1	2.33 - 2.33	2.3	760	230
SVOC	Chrysene	LS-A-A04	Life Sciences	3	1.1 - 4.3	2.4	760	230
SVOC	Chrysene	LS-A-B02	Life Sciences	14	0.0479 - 3.3	0.64	760	230
SVOC	Chrysene	LS-A-B03	Life Sciences	4	0.0254 - 0.326	0.12	760	230
SVOC	Chrysene	LS-A-C01	Life Sciences	31	U (19) - 300	15.3	760	230
SVOC	Chrysene	LS-A-C02	Life Sciences	12	U (19) - 13	3.2	760	230
SVOC	Chrysene	LS-A-C04	Life Sciences	3	0.072 - 0.25	0.11	760	230
SVOC	Chrysene	LS-A-D01	Life Sciences	5	0.481 - 3.67	1.3	760	230
SVOC	Chrysene	LS-A-D02	Life Sciences	1	3.8 - 3.8	3.8	760	230
SVOC	Chrysene	LS-A-D03	Life Sciences	3	U (0.95)	0.17	760	230
SVOC	Chrysene	LS-A-D04	Life Sciences	2	U (1.84)	0.48	760	230
SVOC	Chrysene	LS-A-D05	Life Sciences	6	0.229 - 1.9	0.67	760	230
SVOC	Chrysene	LS-A-D06	Life Sciences	2	U (0.364)	0.14	760	230
SVOC	Chrysene	LS-A-D07	Life Sciences	2	U (3.68) - 0.371	1.1	760	230
SVOC	Chrysene	LS-A-E01	Life Sciences	3	U (1.84) - 0.486	0.63	760	230
SVOC	Chrysene	LS-A-E03	Life Sciences	1	0.68 - 0.68	0.68	760	230
SVOC	Chrysene	LS-A-E04	Life Sciences	2	U (22.3)	5.6	760	230
SVOC	Chrysene	LS-A-E05	Life Sciences	1	U (0.94)	0.47	760	230
SVOC	Chrysene	LS-A-E07	Life Sciences	1	0.65 - 0.65	0.65	760	230
SVOC	Chrysene	LS-A-E08	Life Sciences	1	U (0.98)	0.49	760	230
SVOC	Chrysene	LS-A-F01	Life Sciences	3	U (7.96)	2.1	760	230
SVOC	Chrysene	LS-A-F02	Life Sciences	3	13 - 13	5.3	760	230
SVOC	Chrysene	LS-A-F03	Life Sciences	1	2.7 - 2.7	2.7	760	230
SVOC	Chrysene	LS-A-F04	Life Sciences	12	U (0.94) - 0.25	0.13	760	230
SVOC	Chrysene	LS-A-F05	Life Sciences	1	35 - 35	35.0	760	230
SVOC	Chrysene	LS-A-G01	Life Sciences	3	0.51 - 1.4	0.87	760	230
SVOC	Chrysene	LS-A-G02	Life Sciences	2	U (0.391)	0.15	760	230
SVOC	Chrysene	LS-A-G03	Life Sciences	3	6.08 - 6.08	2.8	760	230
SVOC	Chrysene	LS-A-G07	Life Sciences	3	0.244 - 20.7	12.3	760	230
SVOC	Chrysene	LS-A-G08	Life Sciences	2	2.21 - 3.21	2.7	760	230
SVOC	Chrysene	LS-A-H03	Life Sciences	2	0.22 - 0.429	0.32	760	230
SVOC	Chrysene	LS-A-H04	Life Sciences	2	U (2.02) - 0.69	0.85	760	230
SVOC	Chrysene	LS-A-H06	Life Sciences	1	U (0.94)	0.47	760	230
SVOC	Chrysene	LS-A-H07	Life Sciences	2	U (1.92) - 0.178	0.57	760	230
SVOC	Chrysene	LS-A-I01	Life Sciences	6	0.471 - 0.471	2.5	760	230
SVOC	Chrysene	LS-A-I02	Life Sciences	1	U (5)	2.5	760	230
SVOC	Chrysene	LS-A-I03	Life Sciences	3	U (0.94) - 3.62	1.4	760	230
SVOC	Chrysene	LS-B-B01	Life Sciences	1	0.0024 - 0.0024	0.0024	760	230
SVOC	Chrysene	LS-B-C01	Life Sciences	3	U (0.19) - 0.27	0.10	760	230
SVOC	Chrysene	LS-B-E01	Life Sciences	4	0.19 - 2.67	1.6	760	230
SVOC	Chrysene	LS-B-G02	Life Sciences	1	7.15 - 7.15	7.2	760	230
SVOC	Chrysene	LS-B-H02	Life Sciences	3	U (1) - 1.9	0.67	760	230
SVOC	Chrysene	LS-E-B01	Life Sciences	81	0.0045 - 110	10.3	760	230
SVOC	Chrysene	LS-E-G01	Life Sciences	4	1 - 3.97	1.9	760	230
SVOC	Chrysene	201-A01	Phase 1A	7	U (0.12) - 0.4	0.11	760	230
SVOC	Chrysene	201-A02	Phase 1A	14	0.046 - 1.3	0.33	760	230
SVOC	Chrysene	201-A03	Phase 1A	7	U (0.12) - 0.065	0.054	760	230
SVOC	Chrysene	201-A04	Phase 1A	28	0.013 - 1.4	0.29	760	230
SVOC	Chrysene	201-A05	Phase 1A	9	0.0015 - 0.058	0.038	760	230
SVOC	Chrysene	201-A06	Phase 1A	7	0.0022 - 0.12	0.050	760	230
SVOC	Chrysene	201-A07	Phase 1A	9	0.0029 - 0.036	0.032	760	230
SVOC	Chrysene	201-A08	Phase 1A	7	U (0.038) - 0.14	0.037	760	230
SVOC	Chrysene	201-A09	Phase 1A	7	U (2.1) - 0.007	0.17	760	230
SVOC	Chrysene	201-A10	Phase 1A	3	U (0.039) - 0.53	0.18	760	230
SVOC	Chrysene	201-A11	Phase 1A	4	U (0.12) - 0.0011	0.016	760	230
SVOC	Chrysene	201-A12	Phase 1A	6	0.0078 - 0.42	0.11	760	230
SVOC	Chrysene	201-A13	Phase 1A	4	0.031 - 0.24	0.11	760	230
SVOC	Chrysene	201-A14	Phase 1A	9	0.0021 - 1.5	0.29	760	230
SVOC	Chrysene	201-B02	Phase 1A	2	0.18 - 0.27	0.23	760	230
SVOC	Chrysene	201-B04	Phase 1A	3	0.027 - 0.071	0.033	760	230
SVOC	Chrysene	201-B05	Phase 1A	3	0.042 - 0.23	0.15	760	230
SVOC	Chrysene	201-B08	Phase 1A	4	U (0.0037) - 0.02	0.011	760	230
SVOC	Chrysene	201-C01	Phase 1A	14	U (1.2) - 0.7	0.14	760	230
SVOC	Chrysene	201-C04	Phase 1A	10	U (1.2) - 0.19	0.25	760	230
SVOC	Chrysene	201-C05	Phase 1A	3	0.0073 - 11.6	4.2	760	230
SVOC	Chrysene	201-C07	Phase 1A	8	0.05 - 2.9	0.85	760	230
SVOC	Chrysene	201-C08	Phase 1A	11	0.016 - 9	0.88	760	230
SVOC	Chrysene	201-C09	Phase 1A	7	U (0.11)	0.051	760	230
SVOC	Chrysene	201-C10	Phase 1A	3	U (0.4) - 2.21	0.99	760	230
SVOC	Chrysene	201-D01	Phase 1A	4	U (0.42) - 1.18	0.35	760	230
SVOC	Chrysene	201-D05	Phase 1A	4	0.0064 - 2.2	2.7	760	230
SVOC	Chrysene	201-D12	Phase 1A	3	U (0.12)	0.057	760	230
SVOC	Chrysene	201-E01	Phase 1A	43	0.00079 - 0.34	0.052	760	230

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Chrysene	201-E02	Phase 1A	1	U (0.12)	0.060	760	230
SVOC	Chrysene	201-E03	Phase 1A	3	U (0.38)	0.077	760	230
SVOC	Chrysene	201-E04	Phase 1A	3	U (0.59) - 2.2	0.90	760	230
SVOC	Chrysene	201-E05	Phase 1A	22	0.0079 - 0.18	0.054	760	230
SVOC	Chrysene	201-F01	Phase 1A	36	0.019 - 0.956	0.18	760	230
SVOC	Chrysene	201-F02	Phase 1A	4	U (0.4) - 0.12	0.11	760	230
SVOC	Chrysene	201-F03	Phase 1A	25	U (0.36) - 0.18	0.076	760	230
SVOC	Chrysene	201-F04	Phase 1A	21	0.00065 - 0.096	0.068	760	230
SVOC	Chrysene	202-A03	Phase 1A	8	U (0.12) - 0.44	0.14	760	230
SVOC	Chrysene	202-A04	Phase 1A	4	U (0.41) - 1.3	0.40	760	230
SVOC	Chrysene	202-A05	Phase 1A	4	U (0.12) - 0.42	0.12	760	230
SVOC	Chrysene	202-A06	Phase 1A	4	U (0.12)	0.055	760	230
SVOC	Chrysene	202-A07	Phase 1A	3	U (0.12)	0.060	760	230
SVOC	Chrysene	202-A08	Phase 1A	3	U (0.12)	0.060	760	230
SVOC	Chrysene	202-A09	Phase 1A	6	U (0.12)	0.059	760	230
SVOC	Chrysene	202-B01	Phase 1A	2	0.08 - 0.16	0.12	760	230
SVOC	Chrysene	202-B02	Phase 1A	8	U (0.4)	0.12	760	230
SVOC	Chrysene	202-B03	Phase 1A	15	0.087 - 0.34	0.092	760	230
SVOC	Chrysene	202-B04	Phase 1A	3	0.2 - 0.22	0.16	760	230
SVOC	Chrysene	202-B05	Phase 1A	4	0.064 - 0.15	0.093	760	230
SVOC	Chrysene	202-B09	Phase 1A	9	0.027 - 0.43	0.16	760	230
SVOC	Chrysene	202-C04	Phase 1A	15	0.052 - 0.26	0.28	760	230
SVOC	Chrysene	202-C05	Phase 1A	10	0.068 - 0.93	0.34	760	230
SVOC	Chrysene	202-C06	Phase 1A	4	0.051 - 0.075	0.063	760	230
SVOC	Chrysene	202-C07	Phase 1A	8	U (0.74) - 0.087	0.13	760	230
SVOC	Chrysene	202-C08	Phase 1A	4	U (0.2) - 0.2	0.10	760	230
SVOC	Chrysene	202-C10	Phase 1A	1	U (0.38)	0.19	760	230
SVOC	Chrysene	202-D05	Phase 1A	5	U (0.36) - 2.1	0.47	760	230
SVOC	Chrysene	202-D06	Phase 1A	11	U (2) - 1	0.54	760	230
SVOC	Chrysene	202-E06	Phase 1A	2	0.048 - 0.048	0.049	760	230
SVOC	Chrysene	202-E08	Phase 1A	13	U (0.38) - 0.084	0.068	760	230
SVOC	Chrysene	202-E09	Phase 1A	16	0.021 - 0.55	0.11	760	230
SVOC	Chrysene	202-E10	Phase 1A	6	U (0.45) - 0.048	0.11	760	230
SVOC	Chrysene	202-E11	Phase 1A	2	U (0.41)	0.16	760	230
SVOC	Chrysene	202-E12	Phase 1A	4	U (0.42) - 0.077	0.10	760	230
SVOC	Chrysene	202-E13	Phase 1A	2	U (0.38) - 0.22	0.21	760	230
SVOC	Chrysene	202-E15	Phase 1A	2	U (0.38)	0.19	760	230
SVOC	Chrysene	202-F01	Phase 1A	7	U (0.43)	0.18	760	230
SVOC	Chrysene	202-F04	Phase 1A	10	0.028 - 0.16	0.067	760	230
SVOC	Chrysene	202-F05	Phase 1A	2	U (0.11)	0.038	760	230
SVOC	Chrysene	202-F06	Phase 1A	2	0.15 - 0.15	0.18	760	230
SVOC	Chrysene	202-F07	Phase 1A	17	0.034 - 4.4	0.47	760	230
SVOC	Chrysene	202-F08	Phase 1A	4	U (0.12)	0.040	760	230
SVOC	Chrysene	202-F10	Phase 1A	2	U (0.12)	0.060	760	230
SVOC	Chrysene	202-F14	Phase 1A	2	U (0.038) - 0.0263	0.022	760	230
SVOC	Chrysene	202-F16	Phase 1A	4	U (0.4) - 0.56	0.22	760	230
SVOC	Chrysene	202-F17	Phase 1A	8	U (0.11)	0.054	760	230
SVOC	Chrysene	202-G01	Phase 1A	8	U (0.21) - 0.036	0.057	760	230
SVOC	Chrysene	202-G02	Phase 1A	14	U (2.4)	0.14	760	230
SVOC	Chrysene	202-G03	Phase 1A	9	U (0.11)	0.048	760	230
SVOC	Chrysene	202-G04	Phase 1A	3	U (0.2)	0.083	760	230
SVOC	Chrysene	202-G05	Phase 1A	6	U (0.41)	0.13	760	230
SVOC	Chrysene	202-G07	Phase 1A	16	U (0.12) - 0.093	0.056	760	230
SVOC	Chrysene	202-H03	Phase 1A	5	U (0.12) - 0.0624	0.059	760	230
SVOC	Chrysene	202-H05	Phase 1A	1	U (0.04)	0.020	760	230
SVOC	Chrysene	202-H06	Phase 1A	2	0.0787 - 0.0787	0.049	760	230
SVOC	Chrysene	202-H07	Phase 1A	2	0.0338 - 0.0338	0.026	760	230
SVOC	Chrysene	202-H08	Phase 1A	3	U (0.12)	0.053	760	230
SVOC	Chrysene	202-H11	Phase 1A	10	U (0.12) - 0.15	0.067	760	230
SVOC	Chrysene	202-I01	Phase 1A	2	U (0.12)	0.058	760	230
SVOC	Chrysene	202-I04	Phase 1A	4	U (0.11)	0.053	760	230
SVOC	Chrysene	202-J03	Phase 1A	6	U (1.2)	0.49	760	230
SVOC	Chrysene	202-J04	Phase 1A	8	U (1.2) - 0.12	0.20	760	230
SVOC	Chrysene	202-J05	Phase 1A	6	0.0053 - 0.13	0.057	760	230
SVOC	Chrysene	202-J07	Phase 1A	4	0.089 - 0.23	0.13	760	230
SVOC	Chrysene	202-J08	Phase 1A	1	0.82 - 0.82	0.82	760	230
SVOC	Chrysene	202-J09	Phase 1A	2	U (0.022) - 1.4	0.70	760	230
SVOC	Chrysene	301-AA01	Phase 1A	1	0.014 - 0.014	0.014	760	230
SVOC	Chrysene	301-AA06	Phase 1A	11	0.014 - 0.34	0.091	760	230
SVOC	Chrysene	301-AA07	Phase 1A	4	U (0.12) - 0.369	0.16	760	230
SVOC	Chrysene	301-AA08	Phase 1A	3	0.036 - 0.08	0.042	760	230
SVOC	Chrysene	301-AA09	Phase 1A	3	0.054 - 0.19	0.084	760	230
SVOC	Chrysene	301-AB04	Phase 1A	3	U (0.37)	0.18	760	230
SVOC	Chrysene	301-AB06	Phase 1A	2	U (0.11)	0.055	760	230
SVOC	Chrysene	301-AB07	Phase 1A	1	0.36 - 0.36	0.36	760	230
SVOC	Chrysene	301-AB09	Phase 1A	2	12.2 - 12.2	6.1	760	230
SVOC	Chrysene	301-AC04	Phase 1A	25	U (0.57) - 7.5	0.66	760	230
SVOC	Chrysene	301-AC07	Phase 1A	10	U (0.56) - 1.6	0.34	760	230
SVOC	Chrysene	301-AC08	Phase 1A	7	0.02 - 0.57	0.18	760	230
SVOC	Chrysene	301-AC09	Phase 1A	6	0.0015 - 0.0015	0.035	760	230
SVOC	Chrysene	301-B01	Phase 1A	1	U (0.018)	0.0090	760	230
SVOC	Chrysene	301-C01	Phase 1A	3	0.0055 - 2.9	0.97	760	230
SVOC	Chrysene	301-C02	Phase 1A	7	U (0.39) - 0.044	0.046	760	230

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Chrysene	301-D01	Phase 1A	13	0.034 - 2.4	0.32	760	230
SVOC	Chrysene	301-E02	Phase 1A	14	0.0028 - 0.14	0.044	760	230
SVOC	Chrysene	301-E03	Phase 1A	4	0.04 - 0.087	0.037	760	230
SVOC	Chrysene	301-G01	Phase 1A	2	0.0034 - 0.013	0.0082	760	230
SVOC	Chrysene	301-G02	Phase 1A	3	0.067 - 0.88	0.40	760	230
SVOC	Chrysene	301-G03	Phase 1A	1	0.14 - 0.14	0.14	760	230
SVOC	Chrysene	301-H02	Phase 1A	3	0.0056 - 0.34	0.20	760	230
SVOC	Chrysene	301-H03	Phase 1A	2	0.018 - 0.018	0.018	760	230
SVOC	Chrysene	301-N02	Phase 1A	3	0.013 - 1.4	0.48	760	230
SVOC	Chrysene	301-P02	Phase 1A	2	0.172 - 1.27	0.72	760	230
SVOC	Chrysene	301-Q04	Phase 1A	6	U (0.4) - 1.5	0.37	760	230
SVOC	Chrysene	301-R02	Phase 1A	6	U (0.087) - 0.6	0.12	760	230
SVOC	Chrysene	301-S02	Phase 1A	4	U (0.088)	0.018	760	230
SVOC	Chrysene	301-S03	Phase 1A	1	0.062 - 0.062	0.062	760	230
SVOC	Chrysene	301-T04	Phase 1A	2	U (0.09) - 0.096	0.053	760	230
SVOC	Chrysene	301-V04	Phase 1A	29	U (0.12) - 0.17	0.044	760	230
SVOC	Chrysene	301-W03	Phase 1A	4	U (0.017)	0.0068	760	230
SVOC	Chrysene	301-X03	Phase 1A	3	0.076 - 0.076	0.031	760	230
SVOC	Chrysene	301-Y03	Phase 1A	2	U (0.04) - 0.0624	0.041	760	230
SVOC	Chrysene	301-Y04	Phase 1A	3	0.046 - 0.083	0.046	760	230
SVOC	Chrysene	301-Y05	Phase 1A	6	U (0.12) - 0.034	0.038	760	230
SVOC	Chrysene	302-AD08	Phase 1A	2	U (0.1)	0.050	760	230
SVOC	Chrysene	302-AD09	Phase 1A	3	0.0139 - 0.0139	0.028	760	230
SVOC	Chrysene	302-AD10	Phase 1A	4	0.073 - 1.7	0.61	760	230
SVOC	Chrysene	302-AE09	Phase 1A	4	U (0.12)	0.046	760	230
SVOC	Chrysene	302-AF06	Phase 1A	8	0.044 - 0.44	0.16	760	230
SVOC	Chrysene	302-AG07	Phase 1A	14	U (0.12) - 0.23	0.056	760	230
SVOC	Chrysene	302-AJ09	Phase 1A	13	U (57) - 3.7	3.8	760	230
SVOC	Chrysene	302-AK06	Phase 1A	3	1.1 - 2.4	1.2	760	230
SVOC	Chrysene	302-AL06	Phase 1A	13	0.73 - 4.4	1.2	760	230
SVOC	Chrysene	302-AN02	Phase 1A	2	U (0.198)	0.058	760	230
SVOC	Chrysene	302-AO03	Phase 1A	2	U (0.0418)	0.020	760	230
SVOC	Chrysene	302-AQ02	Phase 1A	7	U (1.1)	0.13	760	230
SVOC	Chrysene	302-AR02	Phase 1A	4	U (0.12) - 0.098	0.067	760	230
SVOC	Chrysene	302-AS03	Phase 1A	13	0.0655 - 0.0655	0.048	760	230
SVOC	Chrysene	302-AV01	Phase 1A	10	0.151 - 2.2	0.94	760	230
SVOC	Chrysene	302-AV03	Phase 1A	6	U (0.12) - 0.42	0.12	760	230
SVOC	Chrysene	302-AW01	Phase 1A	9	0.28 - 12	1.9	760	230
SVOC	Chrysene	302-AW03	Phase 1A	2	U (0.12)	0.060	760	230
SVOC	Chrysene	302-AX01	Phase 1A	12	0.0408 - 38	5.6	760	230
SVOC	Chrysene	302-AX05	Phase 1A	2	U (0.0414)	0.020	760	230
SVOC	Chrysene	302-AZ05	Phase 1A	2	U (0.41)	0.13	760	230
SVOC	Chrysene	302-BA05	Phase 1A	2	U (0.218)	0.064	760	230
SVOC	Chrysene	302-BC05	Phase 1A	7	U (0.039) - 0.0067	0.0067	760	230
SVOC	Chrysene	302-BE04	Phase 1A	2	U (0.19)	0.053	760	230
SVOC	Chrysene	303-AY01	Phase 1A	6	0.011 - 1.9	0.56	760	230
SVOC	Chrysene	303-AZ01	Phase 1A	5	0.54 - 3	1.8	760	230
SVOC	Chrysene	303-BA01	Phase 1A	8	0.0424 - 3.2	0.73	760	230
SVOC	Chrysene	303-BA02	Phase 1A	11	0.13 - 16	2.9	760	230
SVOC	Chrysene	303-BB01	Phase 1A	2	1.3 - 2	1.7	760	230
SVOC	Chrysene	303-BB02	Phase 1A	5	0.032 - 71.8	18.9	760	230
SVOC	Chrysene	303-BC01	Phase 1A	4	0.0134 - 0.344	0.15	760	230
SVOC	Chrysene	303-BD04	Phase 1A	9	0.27 - 5.5	1.6	760	230
SVOC	Chrysene	303-BE03	Phase 1A	38	0.037 - 11	1.7	760	230
SVOC	Chrysene	303-BF05	Phase 1A	16	0.032 - 4.2	1.2	760	230
SVOC	Chrysene	303-BG04	Phase 1A	27	0.081 - 3.5	1.2	760	230
SVOC	Chrysene	303-BH02	Phase 1A	22	0.1 - 60	4.5	760	230
SVOC	Chrysene	303-BI03	Phase 1A	6	0.79 - 3.3	1.6	760	230
SVOC	Chrysene	303-BJ01	Phase 1A	3	13 - 16	14.3	760	230
SVOC	Chrysene	303-BJ02	Phase 1A	3	0.0655 - 1.07	0.46	760	230
SVOC	Chrysene	303-BK03	Phase 1A	7	0.27 - 2.8	1.2	760	230
SVOC	Chrysene	303-BL02	Phase 1A	10	0.03 - 1	0.53	760	230
SVOC	Chrysene	303-BM02	Phase 1A	1	9.7 - 9.7	9.7	760	230
SVOC	Chrysene	303-BN02	Phase 1A	15	0.0553 - 11.8	1.7	760	230
SVOC	Chrysene	303-BN03	Phase 1A	14	0.038 - 3.7	0.92	760	230
SVOC	Chrysene	303-BO02	Phase 1A	10	0.01 - 4	1.1	760	230
SVOC	Chrysene	303-BP02	Phase 1A	30	0.018 - 10.5	1.7	760	230
SVOC	Chrysene	303-BQ01	Phase 1A	5	0.4 - 6.1	2.1	760	230
SVOC	Chrysene	303-BQ02	Phase 1A	15	0.005 - 2	0.45	760	230
SVOC	Chrysene	303-BR02	Phase 1A	8	0.29 - 4.8	1.3	760	230
SVOC	Chrysene	303-BT01	Phase 1A	13	0.014 - 0.88	0.14	760	230
SVOC	Chrysene	303-BW01	Phase 1A	2	0.0917 - 0.36	0.23	760	230
SVOC	Chrysene	301-AA02	Phase 1B	2	U (0.039) - 0.0413	0.030	760	230
SVOC	Chrysene	301-AA05	Phase 1B	11	U (2.1) - 1.9	0.50	760	230
SVOC	Chrysene	301-AB05	Phase 1B	6	0.064 - 0.464	0.15	760	230
SVOC	Chrysene	301-AC03	Phase 1B	2	0.674 - 0.86	0.77	760	230
SVOC	Chrysene	301-T01	Phase 1B	5	U (5.3) - 8.5	2.7	760	230
SVOC	Chrysene	301-T02	Phase 1B	2	0.269 - 6.9	3.6	760	230
SVOC	Chrysene	301-U01	Phase 1B	2	U (0.19) - 1.4	0.71	760	230
SVOC	Chrysene	301-U03	Phase 1B	1	U (0.17)	0.085	760	230
SVOC	Chrysene	301-V01	Phase 1B	7	U (0.041) - 0.518	0.13	760	230
SVOC	Chrysene	301-V02	Phase 1B	19	0.00092 - 20	1.5	760	230
SVOC	Chrysene	301-W01	Phase 1B	24	0.0032 - 0.78	0.10	760	230

Table 3.4

Evergreen and PESRM Sampling Results Summary

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Chrysene	301-X01	Phase 1B	11	0.0021 - 2	0.41	760	230
SVOC	Chrysene	301-Y01	Phase 1B	10	0.0132 - 0.41	0.11	760	230
SVOC	Chrysene	301-Y02	Phase 1B	4	U (0.17) - 2.1	0.58	760	230
SVOC	Chrysene	301-Z01	Phase 1B	6	U (0.039) - 0.0188	0.018	760	230
SVOC	Chrysene	301-Z02	Phase 1B	2	U (0.18) - 0.3	0.16	760	230
SVOC	Chrysene	301-Z03	Phase 1B	5	0.014 - 0.603	0.22	760	230
SVOC	Chrysene	302-AD06	Phase 1B	12	U (0.14) - 0.25	0.12	760	230
SVOC	Chrysene	302-AD07	Phase 1B	2	0.13 - 0.13	0.090	760	230
SVOC	Chrysene	302-AE03	Phase 1B	4	U (0.18) - 2.3	0.61	760	230
SVOC	Chrysene	302-AE04	Phase 1B	8	U (0.56) - 0.4	0.091	760	230
SVOC	Chrysene	302-AE05	Phase 1B	20	0.041 - 0.43	0.089	760	230
SVOC	Chrysene	302-AE07	Phase 1B	3	0.729 - 0.729	0.28	760	230
SVOC	Chrysene	302-AE08	Phase 1B	3	0.00066 - 0.00066	0.039	760	230
SVOC	Chrysene	302-AF04	Phase 1B	22	U (0.11) - 0.028	0.033	760	230
SVOC	Chrysene	302-AF05	Phase 1B	2	0.0197 - 0.301	0.16	760	230
SVOC	Chrysene	302-AF09	Phase 1B	5	U (0.04) - 0.0477	0.025	760	230
SVOC	Chrysene	302-AG04	Phase 1B	9	U (0.11) - 0.078	0.035	760	230
SVOC	Chrysene	302-AG06	Phase 1B	5	U (0.041)	0.019	760	230
SVOC	Chrysene	302-AG08	Phase 1B	6	0.15 - 1.9	0.63	760	230
SVOC	Chrysene	302-AH05	Phase 1B	11	0.036 - 0.76	0.23	760	230
SVOC	Chrysene	302-AH06	Phase 1B	4	0.088 - 0.088	0.036	760	230
SVOC	Chrysene	302-AH07	Phase 1B	21	U (0.37) - 0.77	0.11	760	230
SVOC	Chrysene	302-AH08	Phase 1B	13	U (0.041) - 0.74	0.20	760	230
SVOC	Chrysene	302-AI05	Phase 1B	11	U (0.12) - 0.57	0.11	760	230
SVOC	Chrysene	302-AI06	Phase 1B	19	U (0.13) - 2.2	0.32	760	230
SVOC	Chrysene	302-AI07	Phase 1B	10	U (0.375) - 0.47	0.15	760	230
SVOC	Chrysene	302-AI08	Phase 1B	2	U (0.38)	0.11	760	230
SVOC	Chrysene	302-AI09	Phase 1B	3	U (0.041) - 0.229	0.089	760	230
SVOC	Chrysene	302-AJ05	Phase 1B	2	U (0.12) - 0.045	0.053	760	230
SVOC	Chrysene	302-AJ06	Phase 1B	5	0.086 - 0.29	0.11	760	230
SVOC	Chrysene	302-AK05	Phase 1B	5	0.064 - 3.1	0.69	760	230
SVOC	Chrysene	302-AK07	Phase 1B	13	U (0.0426) - 4	0.77	760	230
SVOC	Chrysene	302-AL03	Phase 1B	2	0.0503 - 0.0799	0.065	760	230
SVOC	Chrysene	302-AL05	Phase 1B	13	U (0.42) - 2.8	0.86	760	230
SVOC	Chrysene	302-AL08	Phase 1B	2	U (0.041)	0.019	760	230
SVOC	Chrysene	302-AN01	Phase 1B	2	U (0.035) - 0.107	0.062	760	230
SVOC	Chrysene	302-AP02	Phase 1B	2	0.394 - 0.394	0.21	760	230
SVOC	Chrysene	302-AP03	Phase 1B	23	U (0.4) - 0.13	0.065	760	230
SVOC	Chrysene	302-AP04	Phase 1B	2	0.0966 - 0.0966	0.058	760	230
SVOC	Chrysene	302-AP05	Phase 1B	2	U (0.035)	0.017	760	230
SVOC	Chrysene	302-AQ01	Phase 1B	2	0.45 - 2.2	1.3	760	230
SVOC	Chrysene	302-AQ04	Phase 1B	2	U (0.11)	0.055	760	230
SVOC	Chrysene	302-AR01	Phase 1B	2	0.25 - 8.7	4.5	760	230
SVOC	Chrysene	302-AR04	Phase 1B	3	U (0.12)	0.050	760	230
SVOC	Chrysene	302-AS04	Phase 1B	2	U (0.0419)	0.021	760	230
SVOC	Chrysene	302-AT01	Phase 1B	2	U (0.3) - 0.766	0.46	760	230
SVOC	Chrysene	302-AT02	Phase 1B	2	0.194 - 54.8	27.5	760	230
SVOC	Chrysene	302-AT03	Phase 1B	4	U (0.039) - 0.039	0.024	760	230
SVOC	Chrysene	302-AU01	Phase 1B	4	0.19 - 1.4	0.50	760	230
SVOC	Chrysene	302-AU02	Phase 1B	8	U (4)	0.30	760	230
SVOC	Chrysene	302-AU03	Phase 1B	2	U (0.12)	0.060	760	230
SVOC	Chrysene	302-AV02	Phase 1B	4	U (0.59) - 0.2	0.094	760	230
SVOC	Chrysene	302-AV04	Phase 1B	2	U (0.0415)	0.020	760	230
SVOC	Chrysene	302-AW02	Phase 1B	2	U (1.9) - 2.4	1.2	760	230
SVOC	Chrysene	302-AX02	Phase 1B	3	U (0.038)	0.018	760	230
SVOC	Chrysene	302-AY02	Phase 1B	14	0.0657 - 27.4	4.7	760	230
SVOC	Chrysene	302-AY03	Phase 1B	2	0.105 - 0.136	0.12	760	230
SVOC	Chrysene	302-AY05	Phase 1B	2	U (0.19)	0.058	760	230
SVOC	Chrysene	302-AZ02	Phase 1B	8	0.687 - 4.4	3.7	760	230
SVOC	Chrysene	302-AZ03	Phase 1B	1	0.81 - 0.81	0.81	760	230
SVOC	Chrysene	302-BA03	Phase 1B	3	U (0.099)	0.049	760	230
SVOC	Chrysene	302-BB07	Phase 1B	5	U (0.12) - 0.072	0.040	760	230
SVOC	Chrysene	302-BB08	Phase 1B	1	0.49 - 0.49	0.49	760	230
SVOC	Chrysene	302-BC06	Phase 1B	1	U (0.23)	0.12	760	230
SVOC	Chrysene	301-L01	Phase 1C	7	U (0.19) - 17	2.5	760	230
SVOC	Chrysene	301-T03	Phase 1C	2	U (0.09)	0.045	760	230
SVOC	Chrysene	302-AD02	Phase 1C	2	U (0.19)	0.057	760	230
SVOC	Chrysene	302-AH01	Phase 1C	2	U (0.19) - 0.3	0.16	760	230
SVOC	Chrysene	302-AI01	Phase 1C	2	0.266 - 0.266	0.14	760	230
SVOC	Chrysene	302-AL01	Phase 1C	2	0.216 - 0.216	0.12	760	230
SVOC	Fluorene	LS-A-A01	Life Sciences	1	2 - 2	2.0	130000	3800
SVOC	Fluorene	LS-A-A02	Life Sciences	2	U (0.17)	0.053	130000	3800
SVOC	Fluorene	LS-A-A03	Life Sciences	1	0.185 - 0.185	0.19	130000	3800
SVOC	Fluorene	LS-A-A04	Life Sciences	3	0.226 - 0.72	0.35	130000	3800
SVOC	Fluorene	LS-A-B02	Life Sciences	14	0.073 - 0.51	0.19	130000	3800
SVOC	Fluorene	LS-A-B03	Life Sciences	4	U (0.211)	0.039	130000	3800
SVOC	Fluorene	LS-A-C01	Life Sciences	28	U (19) - 25	2.2	130000	3800
SVOC	Fluorene	LS-A-C02	Life Sciences	12	U (19) - 0.35	1.1	130000	3800
SVOC	Fluorene	LS-A-C04	Life Sciences	3	0.101 - 0.28	0.21	130000	3800
SVOC	Fluorene	LS-A-D01	Life Sciences	5	U (1.99) - 5.95	1.5	130000	3800
SVOC	Fluorene	LS-A-D02	Life Sciences	1	U (1.9)	0.95	130000	3800
SVOC	Fluorene	LS-A-D03	Life Sciences	3	U (0.95)	0.17	130000	3800
SVOC	Fluorene	LS-A-D04	Life Sciences	2	U (1.84)	0.48	130000	3800

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Fluorene	LS-A-D05	Life Sciences	6	U (1) - 1.1	0.34	130000	3800
SVOC	Fluorene	LS-A-D06	Life Sciences	2	0.117 - 0.117	0.11	130000	3800
SVOC	Fluorene	LS-A-D07	Life Sciences	2	U (3.68) - 0.733	1.3	130000	3800
SVOC	Fluorene	LS-A-E01	Life Sciences	3	U (1.84) - 0.406	0.60	130000	3800
SVOC	Fluorene	LS-A-E03	Life Sciences	1	U (0.19)	0.095	130000	3800
SVOC	Fluorene	LS-A-E04	Life Sciences	2	19 - 19	9.5	130000	3800
SVOC	Fluorene	LS-A-E05	Life Sciences	1	1.2 - 1.2	1.2	130000	3800
SVOC	Fluorene	LS-A-E07	Life Sciences	7	2.4 - 7.4	4.4	130000	3800
SVOC	Fluorene	LS-A-E08	Life Sciences	6	1.6 - 6.5	3.4	130000	3800
SVOC	Fluorene	LS-A-F01	Life Sciences	3	9.05 - 9.05	3.8	130000	3800
SVOC	Fluorene	LS-A-F02	Life Sciences	3	21 - 21	8.0	130000	3800
SVOC	Fluorene	LS-A-F03	Life Sciences	1	U (0.98)	0.49	130000	3800
SVOC	Fluorene	LS-A-F04	Life Sciences	12	U (0.94)	0.11	130000	3800
SVOC	Fluorene	LS-A-F05	Life Sciences	1	3.3 - 3.3	3.3	130000	3800
SVOC	Fluorene	LS-A-G01	Life Sciences	3	0.938 - 1.2	1.1	130000	3800
SVOC	Fluorene	LS-A-G02	Life Sciences	2	1.12 - 1.39	1.3	130000	3800
SVOC	Fluorene	LS-A-G03	Life Sciences	3	U (4.6) - 1.06	1.1	130000	3800
SVOC	Fluorene	LS-A-G07	Life Sciences	3	U (4.28)	0.93	130000	3800
SVOC	Fluorene	LS-A-G08	Life Sciences	2	U (2.06)	1.0	130000	3800
SVOC	Fluorene	LS-A-H03	Life Sciences	2	0.337 - 0.337	0.22	130000	3800
SVOC	Fluorene	LS-A-H04	Life Sciences	2	0.304 - 0.304	0.66	130000	3800
SVOC	Fluorene	LS-A-H06	Life Sciences	1	U (0.94)	0.47	130000	3800
SVOC	Fluorene	LS-A-H07	Life Sciences	2	0.166 - 0.166	0.56	130000	3800
SVOC	Fluorene	LS-A-I01	Life Sciences	6	U (8.23) - 1.09	2.6	130000	3800
SVOC	Fluorene	LS-A-I02	Life Sciences	1	U (5)	2.5	130000	3800
SVOC	Fluorene	LS-A-I03	Life Sciences	3	U (0.94) - 2.06	0.85	130000	3800
SVOC	Fluorene	LS-B-B01	Life Sciences	1	0.018 - 0.018	0.018	130000	3800
SVOC	Fluorene	LS-B-C01	Life Sciences	3	U (0.19)	0.044	130000	3800
SVOC	Fluorene	LS-B-E01	Life Sciences	4	0.338 - 5.82	2.3	130000	3800
SVOC	Fluorene	LS-B-G02	Life Sciences	1	U (2.28)	1.1	130000	3800
SVOC	Fluorene	LS-B-H02	Life Sciences	3	0.0496 - 0.0496	0.22	130000	3800
SVOC	Fluorene	LS-E-B01	Life Sciences	81	0.0011 - 53	3.4	130000	3800
SVOC	Fluorene	LS-E-G01	Life Sciences	4	U (0.97) - 0.896	0.56	130000	3800
SVOC	Fluorene	201-A01	Phase 1A	7	0.028 - 0.75	0.20	130000	3800
SVOC	Fluorene	201-A02	Phase 1A	14	0.021 - 1.5	0.27	130000	3800
SVOC	Fluorene	201-A03	Phase 1A	7	U (0.2) - 0.22	0.12	130000	3800
SVOC	Fluorene	201-A04	Phase 1A	29	U (4.2) - 2.3	0.27	130000	3800
SVOC	Fluorene	201-A05	Phase 1A	9	0.002 - 0.36	0.10	130000	3800
SVOC	Fluorene	201-A06	Phase 1A	7	0.0013 - 0.64	0.20	130000	3800
SVOC	Fluorene	201-A07	Phase 1A	9	0.0056 - 0.12	0.042	130000	3800
SVOC	Fluorene	201-A08	Phase 1A	7	0.0013 - 0.016	0.0070	130000	3800
SVOC	Fluorene	201-A09	Phase 1A	7	0.0056 - 0.72	0.12	130000	3800
SVOC	Fluorene	201-A10	Phase 1A	3	U (0.039) - 0.04	0.016	130000	3800
SVOC	Fluorene	201-A11	Phase 1A	4	0.0011 - 0.28	0.15	130000	3800
SVOC	Fluorene	201-A12	Phase 1A	6	0.01 - 0.66	0.22	130000	3800
SVOC	Fluorene	201-A13	Phase 1A	4	0.0053 - 0.066	0.023	130000	3800
SVOC	Fluorene	201-A14	Phase 1A	9	0.014 - 2.5	0.57	130000	3800
SVOC	Fluorene	201-B02	Phase 1A	2	0.14 - 0.26	0.20	130000	3800
SVOC	Fluorene	201-B04	Phase 1A	3	0.033 - 0.19	0.075	130000	3800
SVOC	Fluorene	201-B05	Phase 1A	3	0.024 - 2.1	1.3	130000	3800
SVOC	Fluorene	201-B08	Phase 1A	4	U (0.0041) - 0.096	0.044	130000	3800
SVOC	Fluorene	201-C01	Phase 1A	14	0.032 - 1.7	0.41	130000	3800
SVOC	Fluorene	201-C04	Phase 1A	11	0.043 - 1.8	0.93	130000	3800
SVOC	Fluorene	201-C05	Phase 1A	3	0.03 - 0.076	0.47	130000	3800
SVOC	Fluorene	201-C07	Phase 1A	8	0.17 - 2	1.1	130000	3800
SVOC	Fluorene	201-C08	Phase 1A	11	0.027 - 2.4	0.31	130000	3800
SVOC	Fluorene	201-C09	Phase 1A	7	U (0.18) - 0.019	0.077	130000	3800
SVOC	Fluorene	201-C10	Phase 1A	3	U (0.4) - 0.408	0.29	130000	3800
SVOC	Fluorene	201-D01	Phase 1A	4	U (0.42) - 0.609	0.34	130000	3800
SVOC	Fluorene	201-D05	Phase 1A	4	0.0054 - 5	2.4	130000	3800
SVOC	Fluorene	201-D12	Phase 1A	3	U (0.2)	0.093	130000	3800
SVOC	Fluorene	201-E01	Phase 1A	43	U (0.21) - 2.1	0.23	130000	3800
SVOC	Fluorene	201-E02	Phase 1A	1	U (0.21)	0.11	130000	3800
SVOC	Fluorene	201-E03	Phase 1A	3	U (0.38) - 0.25	0.16	130000	3800
SVOC	Fluorene	201-E04	Phase 1A	3	U (0.59) - 2.2	1.1	130000	3800
SVOC	Fluorene	201-E05	Phase 1A	22	0.0035 - 0.35	0.085	130000	3800
SVOC	Fluorene	201-F01	Phase 1A	36	0.068 - 7.8	0.42	130000	3800
SVOC	Fluorene	201-F02	Phase 1A	4	0.0034 - 12	3.2	130000	3800
SVOC	Fluorene	201-F03	Phase 1A	25	0.011 - 1.3	0.15	130000	3800
SVOC	Fluorene	201-F04	Phase 1A	21	U (0.41) - 2.6	0.32	130000	3800
SVOC	Fluorene	202-A03	Phase 1A	8	0.015 - 0.99	0.40	130000	3800
SVOC	Fluorene	202-A04	Phase 1A	4	0.1 - 2	0.61	130000	3800
SVOC	Fluorene	202-A05	Phase 1A	4	U (0.2) - 0.46	0.14	130000	3800
SVOC	Fluorene	202-A06	Phase 1A	4	U (0.19)	0.091	130000	3800
SVOC	Fluorene	202-A07	Phase 1A	3	U (0.2)	0.098	130000	3800
SVOC	Fluorene	202-A08	Phase 1A	3	U (0.21)	0.10	130000	3800
SVOC	Fluorene	202-A09	Phase 1A	6	U (0.2)	0.10	130000	3800
SVOC	Fluorene	202-B01	Phase 1A	2	U (0.21)	0.10	130000	3800
SVOC	Fluorene	202-B02	Phase 1A	8	0.079 - 0.64	0.30	130000	3800
SVOC	Fluorene	202-B03	Phase 1A	15	0.018 - 1.1	0.18	130000	3800
SVOC	Fluorene	202-B04	Phase 1A	3	0.19 - 0.51	0.26	130000	3800
SVOC	Fluorene	202-B05	Phase 1A	4	0.069 - 0.069	0.032	130000	3800
SVOC	Fluorene	202-B09	Phase 1A	9	U (0.99) - 1.2	0.30	130000	3800

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Fluorene	202-C04	Phase 1A	15	U (3.7) - 0.061	0.28	130000	3800
SVOC	Fluorene	202-C05	Phase 1A	10	0.0067 - 1	0.31	130000	3800
SVOC	Fluorene	202-C06	Phase 1A	4	0.0057 - 0.069	0.049	130000	3800
SVOC	Fluorene	202-C07	Phase 1A	8	U (0.43) - 1.8	0.39	130000	3800
SVOC	Fluorene	202-C08	Phase 1A	4	0.34 - 0.57	0.35	130000	3800
SVOC	Fluorene	202-C10	Phase 1A	1	U (0.38)	0.19	130000	3800
SVOC	Fluorene	202-D05	Phase 1A	5	U (0.36) - 12	2.4	130000	3800
SVOC	Fluorene	202-D06	Phase 1A	11	U (2) - 2.8	0.86	130000	3800
SVOC	Fluorene	202-E06	Phase 1A	2	U (0.2)	0.093	130000	3800
SVOC	Fluorene	202-E08	Phase 1A	13	U (0.38) - 0.31	0.12	130000	3800
SVOC	Fluorene	202-E09	Phase 1A	16	U (0.41) - 0.47	0.15	130000	3800
SVOC	Fluorene	202-E10	Phase 1A	6	U (0.45) - 0.35	0.18	130000	3800
SVOC	Fluorene	202-E11	Phase 1A	2	U (0.41) - 1.2	0.70	130000	3800
SVOC	Fluorene	202-E12	Phase 1A	4	U (0.42)	0.10	130000	3800
SVOC	Fluorene	202-E13	Phase 1A	2	U (0.38) - 1.2	0.70	130000	3800
SVOC	Fluorene	202-E15	Phase 1A	2	3.3 - 3.3	1.7	130000	3800
SVOC	Fluorene	202-F01	Phase 1A	7	0.38 - 2.2	0.75	130000	3800
SVOC	Fluorene	202-F04	Phase 1A	10	0.069 - 0.59	0.17	130000	3800
SVOC	Fluorene	202-F05	Phase 1A	2	U (0.18)	0.055	130000	3800
SVOC	Fluorene	202-F06	Phase 1A	2	U (0.43)	0.12	130000	3800
SVOC	Fluorene	202-F07	Phase 1A	17	0.13 - 10	0.93	130000	3800
SVOC	Fluorene	202-F08	Phase 1A	4	U (0.21)	0.061	130000	3800
SVOC	Fluorene	202-F10	Phase 1A	2	U (0.2)	0.10	130000	3800
SVOC	Fluorene	202-F14	Phase 1A	2	U (0.038)	0.019	130000	3800
SVOC	Fluorene	202-F16	Phase 1A	4	U (0.4) - 0.39	0.20	130000	3800
SVOC	Fluorene	202-F17	Phase 1A	8	U (0.19)	0.093	130000	3800
SVOC	Fluorene	202-G01	Phase 1A	8	U (0.35)	0.10	130000	3800
SVOC	Fluorene	202-G02	Phase 1A	14	U (4) - 14	1.1	130000	3800
SVOC	Fluorene	202-G03	Phase 1A	9	U (0.19)	0.080	130000	3800
SVOC	Fluorene	202-G04	Phase 1A	3	U (0.2) - 1.2	0.45	130000	3800
SVOC	Fluorene	202-G05	Phase 1A	6	U (0.41) - 0.49	0.18	130000	3800
SVOC	Fluorene	202-G07	Phase 1A	16	U (0.19) - 0.88	0.14	130000	3800
SVOC	Fluorene	202-H01	Phase 1A	2	U (0.39) - 0.42	0.30	130000	3800
SVOC	Fluorene	202-H03	Phase 1A	10	U (0.42) - 6.14	1.8	130000	3800
SVOC	Fluorene	202-H05	Phase 1A	8	U (0.43) - 4.2	0.68	130000	3800
SVOC	Fluorene	202-H06	Phase 1A	2	U (0.04)	0.019	130000	3800
SVOC	Fluorene	202-H07	Phase 1A	2	U (0.037)	0.018	130000	3800
SVOC	Fluorene	202-H08	Phase 1A	3	U (0.2)	0.090	130000	3800
SVOC	Fluorene	202-H11	Phase 1A	10	U (0.2) - 0.39	0.13	130000	3800
SVOC	Fluorene	202-I01	Phase 1A	2	U (0.2)	0.10	130000	3800
SVOC	Fluorene	202-I04	Phase 1A	4	U (0.19)	0.089	130000	3800
SVOC	Fluorene	202-J03	Phase 1A	7	0.75 - 8.63	3.4	130000	3800
SVOC	Fluorene	202-J04	Phase 1A	8	0.16 - 15	3.7	130000	3800
SVOC	Fluorene	202-J05	Phase 1A	6	U (0.023) - 0.021	0.0085	130000	3800
SVOC	Fluorene	202-J07	Phase 1A	4	0.012 - 0.221	0.12	130000	3800
SVOC	Fluorene	202-J08	Phase 1A	1	0.11 - 0.11	0.11	130000	3800
SVOC	Fluorene	202-J09	Phase 1A	2	U (0.022) - 0.3	0.15	130000	3800
SVOC	Fluorene	301-AA01	Phase 1A	1	U (0.04)	0.020	130000	3800
SVOC	Fluorene	301-AA06	Phase 1A	11	0.002 - 2.4	0.45	130000	3800
SVOC	Fluorene	301-AA07	Phase 1A	4	U (0.2) - 2.2	0.58	130000	3800
SVOC	Fluorene	301-AA08	Phase 1A	3	U (0.02) - 0.061	0.036	130000	3800
SVOC	Fluorene	301-AA09	Phase 1A	3	0.021 - 0.22	0.10	130000	3800
SVOC	Fluorene	301-AB04	Phase 1A	3	0.057 - 0.29	0.17	130000	3800
SVOC	Fluorene	301-AB06	Phase 1A	2	U (0.18)	0.090	130000	3800
SVOC	Fluorene	301-AB07	Phase 1A	1	U (0.2)	0.10	130000	3800
SVOC	Fluorene	301-AB09	Phase 1A	2	U (0.876) - 2.57	1.3	130000	3800
SVOC	Fluorene	301-AC04	Phase 1A	25	U (0.94) - 5.3	0.29	130000	3800
SVOC	Fluorene	301-AC07	Phase 1A	10	U (0.94) - 4	0.49	130000	3800
SVOC	Fluorene	301-AC08	Phase 1A	7	U (1.8) - 8.5	1.3	130000	3800
SVOC	Fluorene	301-AC09	Phase 1A	6	U (0.39)	0.036	130000	3800
SVOC	Fluorene	301-B01	Phase 1A	1	U (0.018)	0.0090	130000	3800
SVOC	Fluorene	301-C01	Phase 1A	3	0.011 - 8	2.7	130000	3800
SVOC	Fluorene	301-C02	Phase 1A	7	U (0.39) - 0.21	0.097	130000	3800
SVOC	Fluorene	301-D01	Phase 1A	13	0.06 - 0.74	0.15	130000	3800
SVOC	Fluorene	301-E02	Phase 1A	14	U (0.58) - 2	0.29	130000	3800
SVOC	Fluorene	301-E03	Phase 1A	4	0.26 - 1.4	0.42	130000	3800
SVOC	Fluorene	301-G01	Phase 1A	2	0.0078 - 0.093	0.050	130000	3800
SVOC	Fluorene	301-G02	Phase 1A	3	0.1 - 0.12	0.11	130000	3800
SVOC	Fluorene	301-G03	Phase 1A	1	0.45 - 0.45	0.45	130000	3800
SVOC	Fluorene	301-H02	Phase 1A	3	0.071 - 0.12	0.064	130000	3800
SVOC	Fluorene	301-H03	Phase 1A	2	0.022 - 0.049	0.036	130000	3800
SVOC	Fluorene	301-N02	Phase 1A	3	0.12 - 0.21	0.16	130000	3800
SVOC	Fluorene	301-P02	Phase 1A	2	0.215 - 7.97	4.1	130000	3800
SVOC	Fluorene	301-Q04	Phase 1A	6	U (0.4) - 0.156	0.16	130000	3800
SVOC	Fluorene	301-R02	Phase 1A	6	U (0.087) - 0.073	0.031	130000	3800
SVOC	Fluorene	301-S02	Phase 1A	4	U (0.088) - 0.024	0.021	130000	3800
SVOC	Fluorene	301-S03	Phase 1A	1	U (0.036)	0.018	130000	3800
SVOC	Fluorene	301-T04	Phase 1A	2	U (0.09)	0.027	130000	3800
SVOC	Fluorene	301-V04	Phase 1A	29	U (0.2) - 0.51	0.090	130000	3800
SVOC	Fluorene	301-W03	Phase 1A	4	U (0.017) - 0.009	0.0086	130000	3800
SVOC	Fluorene	301-X03	Phase 1A	3	U (0.018) - 0.52	0.18	130000	3800
SVOC	Fluorene	301-Y03	Phase 1A	2	U (0.04)	0.019	130000	3800
SVOC	Fluorene	301-Y04	Phase 1A	3	0.018 - 0.22	0.082	130000	3800

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Fluorene	301-Y05	Phase 1A	6	0.014 - 0.68	0.18	130000	3800
SVOC	Fluorene	302-AD08	Phase 1A	2	U (0.17)	0.085	130000	3800
SVOC	Fluorene	302-AD09	Phase 1A	3	U (0.1)	0.029	130000	3800
SVOC	Fluorene	302-AD10	Phase 1A	4	0.19 - 2.1	0.80	130000	3800
SVOC	Fluorene	302-AE09	Phase 1A	4	U (0.2)	0.073	130000	3800
SVOC	Fluorene	302-AF06	Phase 1A	8	0.036 - 1.9	0.31	130000	3800
SVOC	Fluorene	302-AG07	Phase 1A	14	U (0.19) - 1	0.13	130000	3800
SVOC	Fluorene	302-AJ09	Phase 1A	13	0.39 - 17	4.6	130000	3800
SVOC	Fluorene	302-AK06	Phase 1A	3	0.11 - 0.5	0.27	130000	3800
SVOC	Fluorene	302-AL06	Phase 1A	13	U (1.8) - 0.4	0.26	130000	3800
SVOC	Fluorene	302-AN02	Phase 1A	2	U (0.198)	0.058	130000	3800
SVOC	Fluorene	302-AO03	Phase 1A	2	U (0.0418)	0.020	130000	3800
SVOC	Fluorene	302-AQ02	Phase 1A	7	U (1.9) - 5.3	0.85	130000	3800
SVOC	Fluorene	302-AR02	Phase 1A	4	U (0.19) - 0.083	0.091	130000	3800
SVOC	Fluorene	302-AS03	Phase 1A	13	U (0.2) - 1.23	0.20	130000	3800
SVOC	Fluorene	302-AV01	Phase 1A	10	0.085 - 1.5	0.28	130000	3800
SVOC	Fluorene	302-AV03	Phase 1A	6	U (0.2) - 2.7	0.52	130000	3800
SVOC	Fluorene	302-AW01	Phase 1A	8	0.08 - 8.2	1.3	130000	3800
SVOC	Fluorene	302-AW03	Phase 1A	2	U (0.2)	0.098	130000	3800
SVOC	Fluorene	302-AX01	Phase 1A	10	U (0.26) - 58	12.1	130000	3800
SVOC	Fluorene	302-AX05	Phase 1A	2	U (0.0414)	0.020	130000	3800
SVOC	Fluorene	302-AZ05	Phase 1A	2	U (0.41)	0.15	130000	3800
SVOC	Fluorene	302-BA05	Phase 1A	2	0.203 - 2.37	1.3	130000	3800
SVOC	Fluorene	302-BC05	Phase 1A	7	U (0.039) - 0.095	0.022	130000	3800
SVOC	Fluorene	302-BE04	Phase 1A	2	U (0.19)	0.053	130000	3800
SVOC	Fluorene	303-AY01	Phase 1A	6	0.043 - 0.52	0.12	130000	3800
SVOC	Fluorene	303-AZ01	Phase 1A	5	0.063 - 2.2	1.2	130000	3800
SVOC	Fluorene	303-BA01	Phase 1A	8	U (0.71) - 0.3	0.16	130000	3800
SVOC	Fluorene	303-BA02	Phase 1A	10	U (16) - 400	52.2	130000	3800
SVOC	Fluorene	303-BB01	Phase 1A	2	0.26 - 0.26	0.18	130000	3800
SVOC	Fluorene	303-BB02	Phase 1A	5	2 - 13.3	3.9	130000	3800
SVOC	Fluorene	303-BC01	Phase 1A	4	U (0.038) - 0.0199	0.018	130000	3800
SVOC	Fluorene	303-BD04	Phase 1A	8	U (5.6) - 3.7	1.0	130000	3800
SVOC	Fluorene	303-BE03	Phase 1A	38	0.046 - 7.3	0.94	130000	3800
SVOC	Fluorene	303-BF05	Phase 1A	13	0.12 - 3.9	0.90	130000	3800
SVOC	Fluorene	303-BG04	Phase 1A	27	0.11 - 3	0.61	130000	3800
SVOC	Fluorene	303-BH02	Phase 1A	20	0.05 - 18	1.3	130000	3800
SVOC	Fluorene	303-BI03	Phase 1A	6	0.17 - 0.64	0.39	130000	3800
SVOC	Fluorene	303-BJ01	Phase 1A	3	4.8 - 8.1	6.0	130000	3800
SVOC	Fluorene	303-BJ02	Phase 1A	3	0.0334 - 0.202	0.085	130000	3800
SVOC	Fluorene	303-BK03	Phase 1A	7	0.11 - 1.4	0.45	130000	3800
SVOC	Fluorene	303-BL02	Phase 1A	10	0.024 - 2.7	0.48	130000	3800
SVOC	Fluorene	303-BM02	Phase 1A	1	2.23 - 2.23	2.2	130000	3800
SVOC	Fluorene	303-BN02	Phase 1A	15	U (0.42) - 66	4.8	130000	3800
SVOC	Fluorene	303-BN03	Phase 1A	14	0.0176 - 6.3	1.1	130000	3800
SVOC	Fluorene	303-BO02	Phase 1A	10	0.009 - 6.3	0.98	130000	3800
SVOC	Fluorene	303-BP02	Phase 1A	30	0.008 - 34.6	2.1	130000	3800
SVOC	Fluorene	303-BQ01	Phase 1A	5	0.229 - 8.4	4.3	130000	3800
SVOC	Fluorene	303-BQ02	Phase 1A	15	0.01 - 63	4.6	130000	3800
SVOC	Fluorene	303-BR02	Phase 1A	8	0.054 - 120	15.4	130000	3800
SVOC	Fluorene	303-BT01	Phase 1A	13	U (0.2) - 2	0.20	130000	3800
SVOC	Fluorene	303-BW01	Phase 1A	2	0.0199 - 0.0199	0.060	130000	3800
SVOC	Fluorene	301-AA02	Phase 1B	2	U (0.039)	0.019	130000	3800
SVOC	Fluorene	301-AA05	Phase 1B	11	0.03 - 1.5	0.62	130000	3800
SVOC	Fluorene	301-AB05	Phase 1B	6	0.12 - 2.08	0.44	130000	3800
SVOC	Fluorene	301-AC03	Phase 1B	2	0.0548 - 0.0548	0.075	130000	3800
SVOC	Fluorene	301-T01	Phase 1B	5	U (5.3) - 0.221	1.2	130000	3800
SVOC	Fluorene	301-T02	Phase 1B	7	0.18 - 13	2.8	130000	3800
SVOC	Fluorene	301-U01	Phase 1B	2	U (0.19) - 0.39	0.20	130000	3800
SVOC	Fluorene	301-U03	Phase 1B	1	U (0.17)	0.085	130000	3800
SVOC	Fluorene	301-V01	Phase 1B	7	U (0.041) - 0.828	0.24	130000	3800
SVOC	Fluorene	301-V02	Phase 1B	19	0.0011 - 3.5	0.48	130000	3800
SVOC	Fluorene	301-W01	Phase 1B	24	U (0.21) - 2.1	0.17	130000	3800
SVOC	Fluorene	301-X01	Phase 1B	11	U (0.2) - 1.3	0.41	130000	3800
SVOC	Fluorene	301-Y01	Phase 1B	10	0.0483 - 1.39	0.18	130000	3800
SVOC	Fluorene	301-Y02	Phase 1B	4	U (0.17) - 2.4	0.63	130000	3800
SVOC	Fluorene	301-Z01	Phase 1B	6	U (0.039) - 0.021	0.019	130000	3800
SVOC	Fluorene	301-Z02	Phase 1B	2	U (0.18)	0.054	130000	3800
SVOC	Fluorene	301-Z03	Phase 1B	5	U (0.41) - 6.31	1.8	130000	3800
SVOC	Fluorene	302-AD06	Phase 1B	12	U (0.23) - 0.045	0.056	130000	3800
SVOC	Fluorene	302-AD07	Phase 1B	2	U (0.18)	0.088	130000	3800
SVOC	Fluorene	302-AE03	Phase 1B	4	0.035 - 7.7	2.1	130000	3800
SVOC	Fluorene	302-AE04	Phase 1B	8	U (0.93) - 0.061	0.12	130000	3800
SVOC	Fluorene	302-AE05	Phase 1B	20	0.023 - 0.072	0.082	130000	3800
SVOC	Fluorene	302-AE07	Phase 1B	3	U (0.11) - 0.394	0.17	130000	3800
SVOC	Fluorene	302-AE08	Phase 1B	3	U (0.19)	0.063	130000	3800
SVOC	Fluorene	302-AF04	Phase 1B	22	0.0359 - 2.9	0.35	130000	3800
SVOC	Fluorene	302-AF05	Phase 1B	2	0.0275 - 0.25	0.14	130000	3800
SVOC	Fluorene	302-AF09	Phase 1B	5	U (0.04) - 0.402	0.096	130000	3800
SVOC	Fluorene	302-AG04	Phase 1B	9	U (0.18) - 2.7	0.58	130000	3800
SVOC	Fluorene	302-AG06	Phase 1B	5	U (0.041) - 0.0934	0.034	130000	3800
SVOC	Fluorene	302-AG08	Phase 1B	6	0.067 - 2.2	0.63	130000	3800
SVOC	Fluorene	302-AH05	Phase 1B	11	0.05 - 3.37	0.77	130000	3800

Table 3.4
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Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Fluorene	302-AH06	Phase 1B	4	U (0.0415)	0.019	130000	3800
SVOC	Fluorene	302-AH07	Phase 1B	21	U (0.37) - 0.39	0.094	130000	3800
SVOC	Fluorene	302-AH08	Phase 1B	13	U (0.041) - 1.2	0.13	130000	3800
SVOC	Fluorene	302-AI05	Phase 1B	11	U (0.2) - 0.55	0.11	130000	3800
SVOC	Fluorene	302-AI06	Phase 1B	19	U (0.21) - 1.18	0.18	130000	3800
SVOC	Fluorene	302-AI07	Phase 1B	10	U (0.375) - 0.536	0.13	130000	3800
SVOC	Fluorene	302-AI08	Phase 1B	2	U (0.38)	0.11	130000	3800
SVOC	Fluorene	302-AI09	Phase 1B	3	U (0.041) - 0.043	0.027	130000	3800
SVOC	Fluorene	302-AJ05	Phase 1B	2	U (0.2)	0.10	130000	3800
SVOC	Fluorene	302-AJ06	Phase 1B	5	0.045 - 0.045	0.088	130000	3800
SVOC	Fluorene	302-AK05	Phase 1B	5	0.19 - 0.59	0.17	130000	3800
SVOC	Fluorene	302-AK07	Phase 1B	13	0.09 - 4.2	0.64	130000	3800
SVOC	Fluorene	302-AL03	Phase 1B	2	U (0.092) - 3.37	1.7	130000	3800
SVOC	Fluorene	302-AL05	Phase 1B	13	U (0.42) - 0.6	0.26	130000	3800
SVOC	Fluorene	302-AL08	Phase 1B	2	U (0.041)	0.019	130000	3800
SVOC	Fluorene	302-AN01	Phase 1B	2	U (0.035)	0.017	130000	3800
SVOC	Fluorene	302-AP02	Phase 1B	2	0.0347 - 0.29	0.16	130000	3800
SVOC	Fluorene	302-AP03	Phase 1B	23	0.181 - 0.181	0.079	130000	3800
SVOC	Fluorene	302-AP04	Phase 1B	2	U (0.039) - 0.231	0.13	130000	3800
SVOC	Fluorene	302-AP05	Phase 1B	2	U (0.035)	0.017	130000	3800
SVOC	Fluorene	302-AQ01	Phase 1B	2	0.18 - 0.18	0.10	130000	3800
SVOC	Fluorene	302-AQ04	Phase 1B	2	U (0.11)	0.055	130000	3800
SVOC	Fluorene	302-AR01	Phase 1B	2	0.045 - 0.045	0.50	130000	3800
SVOC	Fluorene	302-AR04	Phase 1B	3	U (0.12)	0.050	130000	3800
SVOC	Fluorene	302-AS04	Phase 1B	2	U (0.0419) - 0.103	0.062	130000	3800
SVOC	Fluorene	302-AT01	Phase 1B	2	U (0.23)	0.12	130000	3800
SVOC	Fluorene	302-AT02	Phase 1B	2	0.0294 - 0.0294	0.21	130000	3800
SVOC	Fluorene	302-AT03	Phase 1B	4	U (0.039) - 0.831	0.22	130000	3800
SVOC	Fluorene	302-AU01	Phase 1B	4	U (0.075) - 0.45	0.14	130000	3800
SVOC	Fluorene	302-AU02	Phase 1B	8	U (4) - 0.052	0.33	130000	3800
SVOC	Fluorene	302-AU03	Phase 1B	2	U (0.19)	0.095	130000	3800
SVOC	Fluorene	302-AV02	Phase 1B	4	U (0.98) - 4.9	1.3	130000	3800
SVOC	Fluorene	302-AV04	Phase 1B	2	U (0.0415)	0.020	130000	3800
SVOC	Fluorene	302-AW02	Phase 1B	2	U (1.9)	0.53	130000	3800
SVOC	Fluorene	302-AX02	Phase 1B	3	U (0.038)	0.018	130000	3800
SVOC	Fluorene	302-AY02	Phase 1B	13	0.21 - 360	48.8	130000	3800
SVOC	Fluorene	302-AY03	Phase 1B	2	U (0.041) - 0.031	0.025	130000	3800
SVOC	Fluorene	302-AY05	Phase 1B	2	U (0.19)	0.058	130000	3800
SVOC	Fluorene	302-AZ02	Phase 1B	8	0.0573 - 30	8.1	130000	3800
SVOC	Fluorene	302-AZ03	Phase 1B	1	U (2)	1.0	130000	3800
SVOC	Fluorene	302-BA03	Phase 1B	3	U (0.075)	0.037	130000	3800
SVOC	Fluorene	302-BB07	Phase 1B	5	0.027 - 0.205	0.12	130000	3800
SVOC	Fluorene	302-BB08	Phase 1B	1	U (0.19)	0.095	130000	3800
SVOC	Fluorene	302-BC06	Phase 1B	1	U (0.23)	0.12	130000	3800
SVOC	Fluorene	301-L01	Phase 1C	7	U (0.19) - 2.1	0.61	130000	3800
SVOC	Fluorene	301-T03	Phase 1C	2	0.16 - 0.16	0.10	130000	3800
SVOC	Fluorene	302-AD02	Phase 1C	2	U (0.19)	0.057	130000	3800
SVOC	Fluorene	302-AH01	Phase 1C	2	U (0.19)	0.057	130000	3800
SVOC	Fluorene	302-AI01	Phase 1C	2	U (0.04) - 0.0406	0.029	130000	3800
SVOC	Fluorene	302-AL01	Phase 1C	2	U (0.037)	0.018	130000	3800
SVOC	Naphthalene	LS-A-A01	Life Sciences	1	U (0.92)	0.46	66	25
SVOC	Naphthalene	LS-A-A02	Life Sciences	2	0.0176 - 0.0176	0.051	66	25
SVOC	Naphthalene	LS-A-A03	Life Sciences	1	2.7 - 2.7	2.7	66	25
SVOC	Naphthalene	LS-A-A04	Life Sciences	3	0.36 - 0.381	0.28	66	25
SVOC	Naphthalene	LS-A-B02	Life Sciences	14	U (1.9) - 0.0618	0.23	66	25
SVOC	Naphthalene	LS-A-B03	Life Sciences	4	U (0.33) - 3.32	0.87	66	25
SVOC	Naphthalene	LS-A-C01	Life Sciences	28	U (19) - 4.4	0.58	66	25
SVOC	Naphthalene	LS-A-C02	Life Sciences	12	0.026 - 0.186	1.1	66	25
SVOC	Naphthalene	LS-A-C04	Life Sciences	3	U (0.2)	0.046	66	25
SVOC	Naphthalene	LS-A-D01	Life Sciences	5	0.0498 - 0.0498	0.50	66	25
SVOC	Naphthalene	LS-A-D02	Life Sciences	1	U (1.9)	0.95	66	25
SVOC	Naphthalene	LS-A-D03	Life Sciences	3	U (0.95)	0.17	66	25
SVOC	Naphthalene	LS-A-D04	Life Sciences	2	U (1.84)	0.48	66	25
SVOC	Naphthalene	LS-A-D05	Life Sciences	6	U (1) - 0.241	0.27	66	25
SVOC	Naphthalene	LS-A-D06	Life Sciences	2	U (0.202)	0.060	66	25
SVOC	Naphthalene	LS-A-D07	Life Sciences	2	U (3.68)	0.97	66	25
SVOC	Naphthalene	LS-A-E01	Life Sciences	3	U (1.84)	0.53	66	25
SVOC	Naphthalene	LS-A-E03	Life Sciences	1	U (0.19)	0.095	66	25
SVOC	Naphthalene	LS-A-E04	Life Sciences	2	0.0927 - 16.9	8.5	66	25
SVOC	Naphthalene	LS-A-E05	Life Sciences	1	U (0.94)	0.47	66	25
SVOC	Naphthalene	LS-A-E07	Life Sciences	7	16 - 48	22.2	66	25
SVOC	Naphthalene	LS-A-E08	Life Sciences	6	1.4 - 40	17.5	66	25
SVOC	Naphthalene	LS-A-F01	Life Sciences	3	U (7.96)	2.1	66	25
SVOC	Naphthalene	LS-A-F02	Life Sciences	3	18 - 18	7.0	66	25
SVOC	Naphthalene	LS-A-F03	Life Sciences	1	U (0.98)	0.49	66	25
SVOC	Naphthalene	LS-A-F04	Life Sciences	12	U (0.94)	0.11	66	25
SVOC	Naphthalene	LS-A-F05	Life Sciences	1	4.7 - 4.7	4.7	66	25
SVOC	Naphthalene	LS-A-G01	Life Sciences	3	U (1) - 0.319	0.35	66	25
SVOC	Naphthalene	LS-A-G02	Life Sciences	2	U (0.391)	0.15	66	25
SVOC	Naphthalene	LS-A-G03	Life Sciences	3	4.72 - 4.72	2.3	66	25
SVOC	Naphthalene	LS-A-G07	Life Sciences	3	U (4.28)	0.93	66	25
SVOC	Naphthalene	LS-A-G08	Life Sciences	2	U (2.06)	1.0	66	25
SVOC	Naphthalene	LS-A-H03	Life Sciences	2	U (0.195)	0.058	66	25

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SVOC	Naphthalene	LS-A-H04	Life Sciences	2	U (2.02)	0.55	66	25
SVOC	Naphthalene	LS-A-H06	Life Sciences	1	U (0.94)	0.47	66	25
SVOC	Naphthalene	LS-A-H07	Life Sciences	2	U (1.92)	0.49	66	25
SVOC	Naphthalene	LS-A-I01	Life Sciences	6	U (8.23) - 2.75	2.9	66	25
SVOC	Naphthalene	LS-A-I02	Life Sciences	1	U (5)	2.5	66	25
SVOC	Naphthalene	LS-A-I03	Life Sciences	3	2.88 - 2.88	1.1	66	25
SVOC	Naphthalene	LS-B-B01	Life Sciences	1	0.026 - 0.026	0.026	66	25
SVOC	Naphthalene	LS-B-C01	Life Sciences	3	U (0.19)	0.044	66	25
SVOC	Naphthalene	LS-B-E01	Life Sciences	4	U (2.32) - 11.1	3.6	66	25
SVOC	Naphthalene	LS-B-G02	Life Sciences	1	U (2.28)	1.1	66	25
SVOC	Naphthalene	LS-B-H02	Life Sciences	3	U (1) - 2.2	0.77	66	25
SVOC	Naphthalene	LS-E-B01	Life Sciences	109	0.0017 - 160	4.0	66	25
SVOC	Naphthalene	LS-E-G01	Life Sciences	4	U (0.97)	0.44	66	25
SVOC	Naphthalene	201-A01	Phase 1A	7	U (0.42) - 31.5	6.1	66	25
SVOC	Naphthalene	201-A02	Phase 1A	14	0.064 - 130	18.6	66	25
SVOC	Naphthalene	201-A03	Phase 1A	7	0.18 - 30	7.2	66	25
SVOC	Naphthalene	201-A04	Phase 1A	32	0.033 - 88	16.7	66	25
SVOC	Naphthalene	201-A05	Phase 1A	10	0.012 - 41	7.7	66	25
SVOC	Naphthalene	201-A06	Phase 1A	10	0.0015 - 21	2.2	66	25
SVOC	Naphthalene	201-A07	Phase 1A	11	0.44 - 79	14.6	66	25
SVOC	Naphthalene	201-A08	Phase 1A	7	0.0027 - 0.38	0.12	66	25
SVOC	Naphthalene	201-A09	Phase 1A	8	0.02 - 79	12.0	66	25
SVOC	Naphthalene	201-A10	Phase 1A	8	U (0.37) - 1.8	0.30	66	25
SVOC	Naphthalene	201-A11	Phase 1A	8	0.0018 - 52	7.1	66	25
SVOC	Naphthalene	201-A12	Phase 1A	16	0.00093 - 32.8	2.9	66	25
SVOC	Naphthalene	201-A13	Phase 1A	17	0.0011 - 40	7.4	66	25
SVOC	Naphthalene	201-A14	Phase 1A	21	0.0085 - 4.9	0.65	66	25
SVOC	Naphthalene	201-A15	Phase 1A	8	U (1.7) - 0.95	0.41	66	25
SVOC	Naphthalene	201-B01	Phase 1A	4	0.045 - 0.62	0.30	66	25
SVOC	Naphthalene	201-B02	Phase 1A	11	0.00083 - 87	15.2	66	25
SVOC	Naphthalene	201-B03	Phase 1A	1	0.62 - 0.62	0.62	66	25
SVOC	Naphthalene	201-B04	Phase 1A	11	0.00085 - 36	5.2	66	25
SVOC	Naphthalene	201-B05	Phase 1A	3	0.053 - 0.23	0.15	66	25
SVOC	Naphthalene	201-B06	Phase 1A	1	1 - 1	1.0	66	25
SVOC	Naphthalene	201-B07	Phase 1A	21	0.0029 - 14	2.0	66	25
SVOC	Naphthalene	201-B08	Phase 1A	10	0.0033 - 0.096	0.033	66	25
SVOC	Naphthalene	201-B09	Phase 1A	10	U (0.99) - 2.1	0.30	66	25
SVOC	Naphthalene	201-B10	Phase 1A	8	0.004 - 0.78	0.21	66	25
SVOC	Naphthalene	201-B11	Phase 1A	32	U (1.3) - 14	0.65	66	25
SVOC	Naphthalene	201-B12	Phase 1A	18	0.0012 - 2.1	0.53	66	25
SVOC	Naphthalene	201-C01	Phase 1A	15	0.068 - 9.9	2.1	66	25
SVOC	Naphthalene	201-C02	Phase 1A	2	0.0028 - 0.035	0.019	66	25
SVOC	Naphthalene	201-C04	Phase 1A	15	U (1.9) - 74	7.9	66	25
SVOC	Naphthalene	201-C05	Phase 1A	3	U (2.6) - 0.21	0.52	66	25
SVOC	Naphthalene	201-C06	Phase 1A	14	U (3.7) - 2.4	0.53	66	25
SVOC	Naphthalene	201-C07	Phase 1A	11	0.5 - 140	29.5	66	25
SVOC	Naphthalene	201-C08	Phase 1A	20	0.14 - 12	2.4	66	25
SVOC	Naphthalene	201-C09	Phase 1A	7	U (0.18) - 1.4	0.27	66	25
SVOC	Naphthalene	201-C10	Phase 1A	4	U (0.4) - 2.86	0.91	66	25
SVOC	Naphthalene	201-C11	Phase 1A	1	27.8 - 27.8	27.8	66	25
SVOC	Naphthalene	201-D01	Phase 1A	4	U (0.42) - 0.476	0.35	66	25
SVOC	Naphthalene	201-D05	Phase 1A	8	0.0026 - 69.2	11.1	66	25
SVOC	Naphthalene	201-D08	Phase 1A	1	U (0.0057)	0.0029	66	25
SVOC	Naphthalene	201-D12	Phase 1A	3	U (0.2)	0.093	66	25
SVOC	Naphthalene	201-E01	Phase 1A	74	U (0.52) - 90	2.3	66	25
SVOC	Naphthalene	201-E02	Phase 1A	1	U (0.21)	0.11	66	25
SVOC	Naphthalene	201-E03	Phase 1A	3	0.044 - 0.089	0.11	66	25
SVOC	Naphthalene	201-E04	Phase 1A	5	0.0032 - 210	72.0	66	25
SVOC	Naphthalene	201-E05	Phase 1A	22	0.0086 - 1.4	0.26	66	25
SVOC	Naphthalene	201-F01	Phase 1A	51	U (0.9) - 18	0.51	66	25
SVOC	Naphthalene	201-F02	Phase 1A	8	U (0.42) - 16.8	2.3	66	25
SVOC	Naphthalene	201-F03	Phase 1A	32	0.0013 - 13	0.84	66	25
SVOC	Naphthalene	201-F04	Phase 1A	21	0.0067 - 0.92	0.18	66	25
SVOC	Naphthalene	202-A03	Phase 1A	8	0.0094 - 4.2	0.78	66	25
SVOC	Naphthalene	202-A04	Phase 1A	4	U (0.4)	0.16	66	25
SVOC	Naphthalene	202-A05	Phase 1A	4	U (0.2) - 0.062	0.043	66	25
SVOC	Naphthalene	202-A06	Phase 1A	4	U (0.19)	0.091	66	25
SVOC	Naphthalene	202-A07	Phase 1A	3	U (0.2)	0.098	66	25
SVOC	Naphthalene	202-A08	Phase 1A	3	U (0.21)	0.10	66	25
SVOC	Naphthalene	202-A09	Phase 1A	6	U (0.2)	0.10	66	25
SVOC	Naphthalene	202-B01	Phase 1A	2	0.039 - 0.063	0.051	66	25
SVOC	Naphthalene	202-B02	Phase 1A	8	U (0.31) - 0.88	0.22	66	25
SVOC	Naphthalene	202-B03	Phase 1A	15	0.048 - 4.4	0.41	66	25
SVOC	Naphthalene	202-B04	Phase 1A	3	0.26 - 1.2	0.52	66	25
SVOC	Naphthalene	202-B05	Phase 1A	4	U (0.056)	0.025	66	25
SVOC	Naphthalene	202-B09	Phase 1A	9	U (0.99) - 3	0.54	66	25
SVOC	Naphthalene	202-C04	Phase 1A	15	U (1) - 0.23	0.11	66	25
SVOC	Naphthalene	202-C05	Phase 1A	10	U (0.33) - 3	0.57	66	25
SVOC	Naphthalene	202-C06	Phase 1A	4	U (1.2)	0.18	66	25
SVOC	Naphthalene	202-C07	Phase 1A	8	U (1.6) - 31	9.1	66	25
SVOC	Naphthalene	202-C08	Phase 1A	4	1.1 - 2.1	1.3	66	25
SVOC	Naphthalene	202-C10	Phase 1A	1	U (0.38)	0.19	66	25
SVOC	Naphthalene	202-D05	Phase 1A	5	U (0.52) - 52	11.1	66	25

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Naphthalene	202-D06	Phase 1A	11	U (0.26) - 22	4.4	66	25
SVOC	Naphthalene	202-E06	Phase 1A	2	U (0.2)	0.093	66	25
SVOC	Naphthalene	202-E08	Phase 1A	13	0.05 - 2.1	0.24	66	25
SVOC	Naphthalene	202-E09	Phase 1A	16	U (0.21) - 3.2	0.41	66	25
SVOC	Naphthalene	202-E10	Phase 1A	6	U (0.21) - 0.74	0.22	66	25
SVOC	Naphthalene	202-E11	Phase 1A	2	1.2 - 6.5	3.9	66	25
SVOC	Naphthalene	202-E12	Phase 1A	4	U (0.18) - 0.19	0.099	66	25
SVOC	Naphthalene	202-E13	Phase 1A	2	4.3 - 11	7.7	66	25
SVOC	Naphthalene	202-E15	Phase 1A	2	4.1 - 4.6	4.4	66	25
SVOC	Naphthalene	202-F01	Phase 1A	7	0.28 - 4.9	1.1	66	25
SVOC	Naphthalene	202-F04	Phase 1A	11	U (0.2) - 0.26	0.085	66	25
SVOC	Naphthalene	202-F05	Phase 1A	2	U (0.18)	0.060	66	25
SVOC	Naphthalene	202-F06	Phase 1A	2	U (0.089)	0.037	66	25
SVOC	Naphthalene	202-F07	Phase 1A	17	0.026 - 1.7	0.30	66	25
SVOC	Naphthalene	202-F08	Phase 1A	4	U (0.21)	0.065	66	25
SVOC	Naphthalene	202-F10	Phase 1A	2	U (0.2)	0.10	66	25
SVOC	Naphthalene	202-F14	Phase 1A	2	U (0.038)	0.019	66	25
SVOC	Naphthalene	202-F16	Phase 1A	4	U (0.4) - 2.7	0.74	66	25
SVOC	Naphthalene	202-F17	Phase 1A	8	U (0.19)	0.093	66	25
SVOC	Naphthalene	202-G01	Phase 1A	8	U (0.35)	0.10	66	25
SVOC	Naphthalene	202-G02	Phase 1A	14	U (4)	0.23	66	25
SVOC	Naphthalene	202-G03	Phase 1A	9	U (0.19)	0.080	66	25
SVOC	Naphthalene	202-G04	Phase 1A	3	U (0.12) - 15	5.1	66	25
SVOC	Naphthalene	202-G05	Phase 1A	6	U (0.096) - 5.6	2.1	66	25
SVOC	Naphthalene	202-G07	Phase 1A	16	U (0.19) - 0.14	0.085	66	25
SVOC	Naphthalene	202-H01	Phase 1A	2	0.17 - 3.8	2.0	66	25
SVOC	Naphthalene	202-H03	Phase 1A	10	1.18 - 49	15.7	66	25
SVOC	Naphthalene	202-H05	Phase 1A	8	U (1.9) - 29	12.0	66	25
SVOC	Naphthalene	202-H06	Phase 1A	2	U (0.04)	0.019	66	25
SVOC	Naphthalene	202-H07	Phase 1A	2	U (0.037)	0.018	66	25
SVOC	Naphthalene	202-H08	Phase 1A	3	U (0.2)	0.090	66	25
SVOC	Naphthalene	202-H09	Phase 1A	4	0.18 - 0.18	0.13	66	25
SVOC	Naphthalene	202-H11	Phase 1A	10	U (0.2) - 2.7	0.37	66	25
SVOC	Naphthalene	202-I01	Phase 1A	2	U (0.2)	0.095	66	25
SVOC	Naphthalene	202-I04	Phase 1A	4	U (0.19) - 0.025	0.071	66	25
SVOC	Naphthalene	202-J01	Phase 1A	6	U (0.2) - 0.13	0.10	66	25
SVOC	Naphthalene	202-J02	Phase 1A	5	U (0.22) - 0.2	0.12	66	25
SVOC	Naphthalene	202-J03	Phase 1A	9	0.39 - 42.5	9.5	66	25
SVOC	Naphthalene	202-J04	Phase 1A	8	0.049 - 25	7.4	66	25
SVOC	Naphthalene	202-J05	Phase 1A	6	0.015 - 0.015	0.0066	66	25
SVOC	Naphthalene	202-J07	Phase 1A	4	U (0.39) - 0.362	0.14	66	25
SVOC	Naphthalene	202-J08	Phase 1A	1	0.016 - 0.016	0.016	66	25
SVOC	Naphthalene	202-J09	Phase 1A	2	2.5 - 2.5	1.3	66	25
SVOC	Naphthalene	301-AA01	Phase 1A	1	U (0.0068)	0.0034	66	25
SVOC	Naphthalene	301-AA06	Phase 1A	11	0.0074 - 0.45	0.15	66	25
SVOC	Naphthalene	301-AA07	Phase 1A	4	U (0.2) - 4.42	1.1	66	25
SVOC	Naphthalene	301-AA08	Phase 1A	3	0.86 - 0.86	0.33	66	25
SVOC	Naphthalene	301-AA09	Phase 1A	3	U (0.48)	0.17	66	25
SVOC	Naphthalene	301-AB04	Phase 1A	3	U (0.37)	0.18	66	25
SVOC	Naphthalene	301-AB06	Phase 1A	2	U (0.18)	0.090	66	25
SVOC	Naphthalene	301-AB07	Phase 1A	1	U (0.2)	0.10	66	25
SVOC	Naphthalene	301-AB09	Phase 1A	2	3.57 - 3.57	1.8	66	25
SVOC	Naphthalene	301-AC04	Phase 1A	31	U (0.87) - 5.3	0.45	66	25
SVOC	Naphthalene	301-AC07	Phase 1A	10	0.027 - 1.2	0.15	66	25
SVOC	Naphthalene	301-AC08	Phase 1A	7	0.024 - 14	2.2	66	25
SVOC	Naphthalene	301-AC09	Phase 1A	6	U (0.39)	0.036	66	25
SVOC	Naphthalene	301-B01	Phase 1A	1	U (0.018)	0.0090	66	25
SVOC	Naphthalene	301-C01	Phase 1A	3	1.2 - 22	9.0	66	25
SVOC	Naphthalene	301-C02	Phase 1A	9	U (0.39) - 5.8	0.87	66	25
SVOC	Naphthalene	301-D01	Phase 1A	35	0.036 - 170	14.6	66	25
SVOC	Naphthalene	301-E02	Phase 1A	32	U (4.9) - 53	7.5	66	25
SVOC	Naphthalene	301-E03	Phase 1A	5	0.0024 - 0.087	0.024	66	25
SVOC	Naphthalene	301-F02	Phase 1A	8	U (1.2) - 6.4	1.1	66	25
SVOC	Naphthalene	301-G01	Phase 1A	2	0.043 - 0.62	0.33	66	25
SVOC	Naphthalene	301-G02	Phase 1A	3	1.5 - 2.2	1.2	66	25
SVOC	Naphthalene	301-G03	Phase 1A	1	0.54 - 0.54	0.54	66	25
SVOC	Naphthalene	301-H01	Phase 1A	19	0.0007 - 15	2.7	66	25
SVOC	Naphthalene	301-H02	Phase 1A	3	0.006 - 0.006	0.0023	66	25
SVOC	Naphthalene	301-H03	Phase 1A	2	0.17 - 9	4.6	66	25
SVOC	Naphthalene	301-I01	Phase 1A	9	U (2.2) - 8	1.7	66	25
SVOC	Naphthalene	301-I02	Phase 1A	1	0.98 - 0.98	0.98	66	25
SVOC	Naphthalene	301-J01	Phase 1A	4	U (0.48) - 1.7	0.49	66	25
SVOC	Naphthalene	301-J02	Phase 1A	8	U (0.56) - 8.1	3.5	66	25
SVOC	Naphthalene	301-K01	Phase 1A	9	0.032 - 1.3	0.34	66	25
SVOC	Naphthalene	301-K02	Phase 1A	3	0.062 - 6.9	2.6	66	25
SVOC	Naphthalene	301-L02	Phase 1A	8	0.00062 - 120	16.4	66	25
SVOC	Naphthalene	301-L03	Phase 1A	5	0.00053 - 1.9	1.1	66	25
SVOC	Naphthalene	301-M02	Phase 1A	5	0.0024 - 0.79	0.29	66	25
SVOC	Naphthalene	301-M03	Phase 1A	3	0.016 - 0.5	0.18	66	25
SVOC	Naphthalene	301-N02	Phase 1A	3	0.11 - 0.42	0.25	66	25
SVOC	Naphthalene	301-P02	Phase 1A	2	0.917 - 1.92	1.4	66	25
SVOC	Naphthalene	301-Q04	Phase 1A	6	U (0.4) - 1.5	0.51	66	25
SVOC	Naphthalene	301-R02	Phase 1A	6	U (0.26)	0.024	66	25

Table 3.4

Evergreen and PESRM Sampling Results Summary

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Naphthalene	301-S02	Phase 1A	4	U (0.0054)	0.0025	66	25
SVOC	Naphthalene	301-S03	Phase 1A	1	0.054 - 0.054	0.054	66	25
SVOC	Naphthalene	301-T04	Phase 1A	2	U (0.3)	0.076	66	25
SVOC	Naphthalene	301-V04	Phase 1A	30	U (1.3) - 6.6	0.32	66	25
SVOC	Naphthalene	301-W03	Phase 1A	4	U (0.27)	0.10	66	25
SVOC	Naphthalene	301-X03	Phase 1A	3	U (0.25)	0.079	66	25
SVOC	Naphthalene	301-Y03	Phase 1A	2	U (0.04) - 0.805	0.41	66	25
SVOC	Naphthalene	301-Y04	Phase 1A	3	U (0.28)	0.092	66	25
SVOC	Naphthalene	301-Y05	Phase 1A	6	0.01 - 0.81	0.28	66	25
SVOC	Naphthalene	302-AD08	Phase 1A	2	U (0.17)	0.085	66	25
SVOC	Naphthalene	302-AD09	Phase 1A	3	U (0.1)	0.029	66	25
SVOC	Naphthalene	302-AD10	Phase 1A	4	0.044 - 2.5	0.78	66	25
SVOC	Naphthalene	302-AE09	Phase 1A	4	U (0.2)	0.073	66	25
SVOC	Naphthalene	302-AF06	Phase 1A	9	0.091 - 9.3	1.1	66	25
SVOC	Naphthalene	302-AG07	Phase 1A	14	U (0.19) - 0.067	0.058	66	25
SVOC	Naphthalene	302-AJ09	Phase 1A	13	U (0.26) - 40	5.9	66	25
SVOC	Naphthalene	302-AK06	Phase 1A	3	0.13 - 0.13	0.096	66	25
SVOC	Naphthalene	302-AL06	Phase 1A	13	0.055 - 3.7	0.65	66	25
SVOC	Naphthalene	302-AN02	Phase 1A	2	U (0.198)	0.058	66	25
SVOC	Naphthalene	302-AO03	Phase 1A	2	U (0.0418)	0.020	66	25
SVOC	Naphthalene	302-AQ02	Phase 1A	9	U (1.9) - 7.5	1.9	66	25
SVOC	Naphthalene	302-AR02	Phase 1A	4	U (0.19)	0.093	66	25
SVOC	Naphthalene	302-AS03	Phase 1A	13	U (0.2) - 0.295	0.085	66	25
SVOC	Naphthalene	302-AV01	Phase 1A	8	U (0.27) - 67	10.1	66	25
SVOC	Naphthalene	302-AV03	Phase 1A	6	U (0.2) - 6.6	1.2	66	25
SVOC	Naphthalene	302-AW01	Phase 1A	12	U (2.6) - 11	2.9	66	25
SVOC	Naphthalene	302-AW03	Phase 1A	2	U (0.2)	0.098	66	25
SVOC	Naphthalene	302-AX01	Phase 1A	8	U (0.24) - 5.2	2.7	66	25
SVOC	Naphthalene	302-AX05	Phase 1A	2	U (0.0414)	0.020	66	25
SVOC	Naphthalene	302-AZ05	Phase 1A	4	U (0.41)	0.13	66	25
SVOC	Naphthalene	302-BA05	Phase 1A	2	0.278 - 6.15	3.2	66	25
SVOC	Naphthalene	302-BB06	Phase 1A	5	U (0.2) - 0.15	0.12	66	25
SVOC	Naphthalene	302-BC05	Phase 1A	19	U (0.27) - 1.9	0.14	66	25
SVOC	Naphthalene	302-BE04	Phase 1A	2	U (0.19)	0.053	66	25
SVOC	Naphthalene	303-AY01	Phase 1A	6	0.009 - 4.9	1.3	66	25
SVOC	Naphthalene	303-AZ01	Phase 1A	5	1.1 - 80	40.8	66	25
SVOC	Naphthalene	303-BA01	Phase 1A	8	U (0.14) - 3.8	1.7	66	25
SVOC	Naphthalene	303-BA02	Phase 1A	12	U (15) - 10	2.9	66	25
SVOC	Naphthalene	303-BB01	Phase 1A	2	0.47 - 0.54	0.51	66	25
SVOC	Naphthalene	303-BB02	Phase 1A	5	0.162 - 11	2.3	66	25
SVOC	Naphthalene	303-BC01	Phase 1A	4	U (0.0055) - 0.0043	0.0030	66	25
SVOC	Naphthalene	303-BD04	Phase 1A	13	U (1.2) - 14	2.7	66	25
SVOC	Naphthalene	303-BE03	Phase 1A	39	0.03 - 20	1.6	66	25
SVOC	Naphthalene	303-BF05	Phase 1A	20	0.054 - 22	3.2	66	25
SVOC	Naphthalene	303-BG04	Phase 1A	28	0.21 - 52	6.5	66	25
SVOC	Naphthalene	303-BH02	Phase 1A	25	0.27 - 14	3.6	66	25
SVOC	Naphthalene	303-BI03	Phase 1A	6	0.38 - 3.3	2.0	66	25
SVOC	Naphthalene	303-BJ01	Phase 1A	3	0.94 - 1.3	0.90	66	25
SVOC	Naphthalene	303-BJ02	Phase 1A	3	0.524 - 0.524	0.19	66	25
SVOC	Naphthalene	303-BK03	Phase 1A	7	0.14 - 2	1.5	66	25
SVOC	Naphthalene	303-BL02	Phase 1A	13	0.081 - 6.3	1.2	66	25
SVOC	Naphthalene	303-BM02	Phase 1A	1	0.0136 - 0.0136	0.014	66	25
SVOC	Naphthalene	303-BN02	Phase 1A	15	U (0.21) - 1.9	0.37	66	25
SVOC	Naphthalene	303-BN03	Phase 1A	14	0.025 - 18	3.0	66	25
SVOC	Naphthalene	303-BO02	Phase 1A	18	0.01 - 7.8	0.94	66	25
SVOC	Naphthalene	303-BP02	Phase 1A	43	0.0018 - 7.5	1.4	66	25
SVOC	Naphthalene	303-BQ01	Phase 1A	5	U (0.66) - 4.8	1.7	66	25
SVOC	Naphthalene	303-BQ02	Phase 1A	25	0.0051 - 52	4.6	66	25
SVOC	Naphthalene	303-BR02	Phase 1A	8	0.0757 - 2.4	0.63	66	25
SVOC	Naphthalene	303-BT01	Phase 1A	13	U (2.9) - 3.4	0.31	66	25
SVOC	Naphthalene	303-BW01	Phase 1A	2	0.0387 - 0.0387	0.069	66	25
SVOC	Naphthalene	301-AA02	Phase 1B	2	0.0026 - 0.0026	0.0026	66	25
SVOC	Naphthalene	301-AA05	Phase 1B	11	U (2.1) - 3.4	0.49	66	25
SVOC	Naphthalene	301-AB05	Phase 1B	6	U (0.4) - 0.48	0.13	66	25
SVOC	Naphthalene	301-AC03	Phase 1B	2	U (0.19)	0.056	66	25
SVOC	Naphthalene	301-T01	Phase 1B	5	U (5.3) - 2.3	1.1	66	25
SVOC	Naphthalene	301-T02	Phase 1B	7	U (1.9) - 4.7	1.5	66	25
SVOC	Naphthalene	301-U01	Phase 1B	2	U (0.19) - 0.33	0.17	66	25
SVOC	Naphthalene	301-U03	Phase 1B	1	U (0.17)	0.085	66	25
SVOC	Naphthalene	301-V01	Phase 1B	7	U (0.46)	0.044	66	25
SVOC	Naphthalene	301-V02	Phase 1B	20	0.0063 - 1.1	0.19	66	25
SVOC	Naphthalene	301-W01	Phase 1B	24	U (0.51) - 0.72	0.094	66	25
SVOC	Naphthalene	301-X01	Phase 1B	11	U (0.42) - 0.62	0.15	66	25
SVOC	Naphthalene	301-Y01	Phase 1B	10	0.0035 - 9.1	0.92	66	25
SVOC	Naphthalene	301-Y02	Phase 1B	4	U (0.029) - 0.77	0.20	66	25
SVOC	Naphthalene	301-Z01	Phase 1B	6	U (0.0057)	0.0025	66	25
SVOC	Naphthalene	301-Z02	Phase 1B	2	U (0.18)	0.054	66	25
SVOC	Naphthalene	301-Z03	Phase 1B	5	U (0.41) - 0.12	0.089	66	25
SVOC	Naphthalene	302-AD06	Phase 1B	12	U (0.046) - 0.19	0.053	66	25
SVOC	Naphthalene	302-AD07	Phase 1B	2	U (0.18)	0.088	66	25
SVOC	Naphthalene	302-AE03	Phase 1B	4	U (0.053) - 4.6	2.2	66	25
SVOC	Naphthalene	302-AE04	Phase 1B	8	U (0.93) - 0.16	0.075	66	25
SVOC	Naphthalene	302-AE05	Phase 1B	20	0.045 - 0.09	0.086	66	25

Table 3.4

Evergreen and PESRM Sampling Results Summary

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Naphthalene	302-AE07	Phase 1B	3	U (0.11)	0.041	66	25
SVOC	Naphthalene	302-AE08	Phase 1B	3	U (0.19)	0.063	66	25
SVOC	Naphthalene	302-AF03	Phase 1B	2	0.34 - 3.7	2.0	66	25
SVOC	Naphthalene	302-AF04	Phase 1B	22	U (0.19) - 7	0.42	66	25
SVOC	Naphthalene	302-AF05	Phase 1B	2	0.0209 - 5.8	2.9	66	25
SVOC	Naphthalene	302-AF09	Phase 1B	5	U (0.04) - 2.04	0.42	66	25
SVOC	Naphthalene	302-AG04	Phase 1B	9	0.06 - 1.5	0.36	66	25
SVOC	Naphthalene	302-AG06	Phase 1B	5	U (0.041)	0.019	66	25
SVOC	Naphthalene	302-AG08	Phase 1B	6	0.13 - 12	2.2	66	25
SVOC	Naphthalene	302-AH04	Phase 1B	8	0.063 - 12	2.5	66	25
SVOC	Naphthalene	302-AH05	Phase 1B	11	0.032 - 8.1	1.2	66	25
SVOC	Naphthalene	302-AH06	Phase 1B	4	U (0.0415)	0.019	66	25
SVOC	Naphthalene	302-AH07	Phase 1B	21	U (0.37)	0.066	66	25
SVOC	Naphthalene	302-AH08	Phase 1B	13	U (0.061)	0.028	66	25
SVOC	Naphthalene	302-AI05	Phase 1B	12	U (0.2) - 0.94	0.15	66	25
SVOC	Naphthalene	302-AI06	Phase 1B	19	U (0.21) - 2.6	0.24	66	25
SVOC	Naphthalene	302-AI07	Phase 1B	10	U (0.375) - 0.0651	0.074	66	25
SVOC	Naphthalene	302-AI08	Phase 1B	2	U (0.38)	0.11	66	25
SVOC	Naphthalene	302-AI09	Phase 1B	3	U (0.041) - 0.0194	0.019	66	25
SVOC	Naphthalene	302-AJ05	Phase 1B	2	U (0.2) - 0.039	0.070	66	25
SVOC	Naphthalene	302-AJ06	Phase 1B	5	0.17 - 0.17	0.11	66	25
SVOC	Naphthalene	302-AK05	Phase 1B	5	0.074 - 1.2	0.32	66	25
SVOC	Naphthalene	302-AK07	Phase 1B	13	U (0.059) - 2.3	0.37	66	25
SVOC	Naphthalene	302-AL03	Phase 1B	2	U (0.37) - 8.94	4.5	66	25
SVOC	Naphthalene	302-AL05	Phase 1B	13	U (0.25) - 3.4	0.35	66	25
SVOC	Naphthalene	302-AL08	Phase 1B	2	U (0.041)	0.019	66	25
SVOC	Naphthalene	302-AN01	Phase 1B	2	U (0.035)	0.017	66	25
SVOC	Naphthalene	302-AP02	Phase 1B	2	0.166 - 0.166	0.094	66	25
SVOC	Naphthalene	302-AP03	Phase 1B	23	U (0.4) - 0.063	0.077	66	25
SVOC	Naphthalene	302-AP04	Phase 1B	2	0.0317 - 2.44	1.2	66	25
SVOC	Naphthalene	302-AP05	Phase 1B	2	U (0.035)	0.017	66	25
SVOC	Naphthalene	302-AQ01	Phase 1B	2	0.13 - 0.19	0.16	66	25
SVOC	Naphthalene	302-AQ04	Phase 1B	2	U (0.11)	0.055	66	25
SVOC	Naphthalene	302-AR01	Phase 1B	2	0.11 - 0.11	0.53	66	25
SVOC	Naphthalene	302-AR04	Phase 1B	3	U (0.12)	0.050	66	25
SVOC	Naphthalene	302-AS04	Phase 1B	2	U (0.0419)	0.021	66	25
SVOC	Naphthalene	302-AT02	Phase 1B	2	0.0643 - 11.9	6.0	66	25
SVOC	Naphthalene	302-AT03	Phase 1B	4	U (0.039)	0.019	66	25
SVOC	Naphthalene	302-AU01	Phase 1B	2	U (0.0052)	0.0024	66	25
SVOC	Naphthalene	302-AU02	Phase 1B	8	U (4)	0.34	66	25
SVOC	Naphthalene	302-AU03	Phase 1B	2	U (0.19)	0.10	66	25
SVOC	Naphthalene	302-AV02	Phase 1B	4	U (0.98) - 3.4	0.92	66	25
SVOC	Naphthalene	302-AV04	Phase 1B	2	U (0.0415)	0.020	66	25
SVOC	Naphthalene	302-AW02	Phase 1B	2	U (1.9)	0.53	66	25
SVOC	Naphthalene	302-AX02	Phase 1B	3	U (0.038)	0.018	66	25
SVOC	Naphthalene	302-AY02	Phase 1B	22	0.2 - 118	16.2	66	25
SVOC	Naphthalene	302-AY03	Phase 1B	2	U (0.041) - 0.0214	0.020	66	25
SVOC	Naphthalene	302-AY05	Phase 1B	2	U (0.19)	0.058	66	25
SVOC	Naphthalene	302-AZ02	Phase 1B	6	U (2.1) - 21	4.5	66	25
SVOC	Naphthalene	302-AZ03	Phase 1B	1	U (2)	1.0	66	25
SVOC	Naphthalene	302-BB07	Phase 1B	22	0.019 - 48	5.1	66	25
SVOC	Naphthalene	302-BB08	Phase 1B	1	U (0.19)	0.095	66	25
SVOC	Naphthalene	302-BC06	Phase 1B	1	U (0.23)	0.12	66	25
SVOC	Naphthalene	301-L01	Phase 1C	7	U (0.32) - 0.39	0.13	66	25
SVOC	Naphthalene	301-T03	Phase 1C	2	0.037 - 0.037	0.020	66	25
SVOC	Naphthalene	302-AD02	Phase 1C	2	U (0.19)	0.057	66	25
SVOC	Naphthalene	302-AE01	Phase 1C	1	U (0.006)	0.0030	66	25
SVOC	Naphthalene	302-AE02	Phase 1C	2	U (0.007)	0.0028	66	25
SVOC	Naphthalene	302-AF01	Phase 1C	1	U (0.005)	0.0025	66	25
SVOC	Naphthalene	302-AF02	Phase 1C	4	U (0.007)	0.0028	66	25
SVOC	Naphthalene	302-AG02	Phase 1C	2	0.52 - 0.52	0.26	66	25
SVOC	Naphthalene	302-AH01	Phase 1C	2	U (0.19)	0.057	66	25
SVOC	Naphthalene	302-AH03	Phase 1C	2	U (0.064)	0.031	66	25
SVOC	Naphthalene	302-AI01	Phase 1C	2	0.0551 - 0.0551	0.037	66	25
SVOC	Naphthalene	302-AI03	Phase 1C	1	12 - 12	12.0	66	25
SVOC	Naphthalene	302-AI04	Phase 1C	2	U (0.061)	0.029	66	25
SVOC	Naphthalene	302-AJ04	Phase 1C	1	U (0.051)	0.026	66	25
SVOC	Naphthalene	302-AL01	Phase 1C	2	U (0.037) - 0.052	0.035	66	25
SVOC	Phenanthrene	LS-A-A01	Life Sciences	1	26 - 26	26.0	190000	10000
SVOC	Phenanthrene	LS-A-A02	Life Sciences	2	0.0739 - 1.4	0.74	190000	10000
SVOC	Phenanthrene	LS-A-A03	Life Sciences	1	3.09 - 3.09	3.1	190000	10000
SVOC	Phenanthrene	LS-A-A04	Life Sciences	3	1.5 - 7.2	3.8	190000	10000
SVOC	Phenanthrene	LS-A-B02	Life Sciences	14	0.1 - 4.67	0.98	190000	10000
SVOC	Phenanthrene	LS-A-B03	Life Sciences	4	0.186 - 0.219	0.13	190000	10000
SVOC	Phenanthrene	LS-A-C01	Life Sciences	28	U (19) - 380	21.4	190000	10000
SVOC	Phenanthrene	LS-A-C02	Life Sciences	12	0.0678 - 8.5	2.1	190000	10000
SVOC	Phenanthrene	LS-A-C04	Life Sciences	3	0.211 - 0.834	0.53	190000	10000
SVOC	Phenanthrene	LS-A-D01	Life Sciences	5	0.0797 - 1.5	0.71	190000	10000
SVOC	Phenanthrene	LS-A-D02	Life Sciences	1	2.1 - 2.1	2.1	190000	10000
SVOC	Phenanthrene	LS-A-D03	Life Sciences	3	U (0.95)	0.17	190000	10000
SVOC	Phenanthrene	LS-A-D04	Life Sciences	2	U (1.84) - 3.32	1.7	190000	10000
SVOC	Phenanthrene	LS-A-D05	Life Sciences	6	U (1) - 2.9	0.95	190000	10000
SVOC	Phenanthrene	LS-A-D06	Life Sciences	2	0.226 - 0.226	0.20	190000	10000

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Phenanthrene	LS-A-D07	Life Sciences	2	1.59 - 1.59	1.7	190000	10000
SVOC	Phenanthrene	LS-A-E01	Life Sciences	3	1.16 - 1.16	0.85	190000	10000
SVOC	Phenanthrene	LS-A-E03	Life Sciences	1	1.4 - 1.4	1.4	190000	10000
SVOC	Phenanthrene	LS-A-E04	Life Sciences	2	0.0787 - 54.3	27.2	190000	10000
SVOC	Phenanthrene	LS-A-E05	Life Sciences	1	3.7 - 3.7	3.7	190000	10000
SVOC	Phenanthrene	LS-A-E07	Life Sciences	7	4.7 - 18	11.5	190000	10000
SVOC	Phenanthrene	LS-A-E08	Life Sciences	6	4.8 - 26	11.8	190000	10000
SVOC	Phenanthrene	LS-A-F01	Life Sciences	3	U (7.96) - 22.2	8.2	190000	10000
SVOC	Phenanthrene	LS-A-F02	Life Sciences	3	9.7 - 58	22.7	190000	10000
SVOC	Phenanthrene	LS-A-F03	Life Sciences	1	U (0.98)	0.49	190000	10000
SVOC	Phenanthrene	LS-A-F04	Life Sciences	12	U (0.94) - 0.33	0.14	190000	10000
SVOC	Phenanthrene	LS-A-F05	Life Sciences	1	48 - 48	48.0	190000	10000
SVOC	Phenanthrene	LS-A-G01	Life Sciences	3	1.1 - 2.76	1.8	190000	10000
SVOC	Phenanthrene	LS-A-G02	Life Sciences	2	2.08 - 3.3	2.7	190000	10000
SVOC	Phenanthrene	LS-A-G03	Life Sciences	3	4.81 - 5.9	3.6	190000	10000
SVOC	Phenanthrene	LS-A-G07	Life Sciences	3	0.246 - 16	9.5	190000	10000
SVOC	Phenanthrene	LS-A-G08	Life Sciences	2	U (2.06)	1.0	190000	10000
SVOC	Phenanthrene	LS-A-H03	Life Sciences	2	0.26 - 0.932	0.60	190000	10000
SVOC	Phenanthrene	LS-A-H04	Life Sciences	2	U (2.02) - 0.928	0.97	190000	10000
SVOC	Phenanthrene	LS-A-H06	Life Sciences	1	1.2 - 1.2	1.2	190000	10000
SVOC	Phenanthrene	LS-A-H07	Life Sciences	2	0.417 - 2.04	1.2	190000	10000
SVOC	Phenanthrene	LS-A-I01	Life Sciences	6	1.49 - 1.49	2.7	190000	10000
SVOC	Phenanthrene	LS-A-I02	Life Sciences	1	U (5)	2.5	190000	10000
SVOC	Phenanthrene	LS-A-I03	Life Sciences	3	7.1 - 7.1	2.5	190000	10000
SVOC	Phenanthrene	LS-B-B01	Life Sciences	1	0.045 - 0.045	0.045	190000	10000
SVOC	Phenanthrene	LS-B-C01	Life Sciences	3	U (0.19) - 0.31	0.12	190000	10000
SVOC	Phenanthrene	LS-B-E01	Life Sciences	4	0.96 - 15.9	6.5	190000	10000
SVOC	Phenanthrene	LS-B-G02	Life Sciences	1	4.74 - 4.74	4.7	190000	10000
SVOC	Phenanthrene	LS-B-H02	Life Sciences	3	0.162 - 1.9	0.72	190000	10000
SVOC	Phenanthrene	LS-E-B01	Life Sciences	81	0.0049 - 320	19.4	190000	10000
SVOC	Phenanthrene	LS-E-G01	Life Sciences	4	0.862 - 1.6	1.1	190000	10000
SVOC	Phenanthrene	201-A01	Phase 1A	7	U (0.12) - 2	0.45	190000	10000
SVOC	Phenanthrene	201-A02	Phase 1A	14	U (0.13) - 2.4	0.63	190000	10000
SVOC	Phenanthrene	201-A03	Phase 1A	7	U (0.12) - 0.38	0.15	190000	10000
SVOC	Phenanthrene	201-A04	Phase 1A	29	0.024 - 6.1	0.75	190000	10000
SVOC	Phenanthrene	201-A05	Phase 1A	9	0.0022 - 0.49	0.17	190000	10000
SVOC	Phenanthrene	201-A06	Phase 1A	7	0.05 - 0.92	0.28	190000	10000
SVOC	Phenanthrene	201-A07	Phase 1A	9	0.011 - 0.24	0.077	190000	10000
SVOC	Phenanthrene	201-A08	Phase 1A	7	0.0018 - 0.19	0.036	190000	10000
SVOC	Phenanthrene	201-A09	Phase 1A	7	0.0011 - 1.2	0.19	190000	10000
SVOC	Phenanthrene	201-A10	Phase 1A	3	U (0.039) - 0.36	0.13	190000	10000
SVOC	Phenanthrene	201-A11	Phase 1A	4	0.0024 - 0.32	0.19	190000	10000
SVOC	Phenanthrene	201-A12	Phase 1A	6	0.055 - 1.7	0.52	190000	10000
SVOC	Phenanthrene	201-A13	Phase 1A	4	0.0067 - 0.23	0.11	190000	10000
SVOC	Phenanthrene	201-A14	Phase 1A	9	0.026 - 3	0.89	190000	10000
SVOC	Phenanthrene	201-B02	Phase 1A	2	0.6 - 0.65	0.63	190000	10000
SVOC	Phenanthrene	201-B04	Phase 1A	3	U (0.025) - 0.19	0.069	190000	10000
SVOC	Phenanthrene	201-B05	Phase 1A	3	0.24 - 4.7	3.1	190000	10000
SVOC	Phenanthrene	201-B08	Phase 1A	4	U (0.066) - 0.03	0.018	190000	10000
SVOC	Phenanthrene	201-C01	Phase 1A	14	0.044 - 5	0.88	190000	10000
SVOC	Phenanthrene	201-C04	Phase 1A	11	0.12 - 3.5	1.3	190000	10000
SVOC	Phenanthrene	201-C05	Phase 1A	3	0.04 - 1.7	0.82	190000	10000
SVOC	Phenanthrene	201-C07	Phase 1A	8	0.25 - 2.9	1.5	190000	10000
SVOC	Phenanthrene	201-C08	Phase 1A	11	0.0042 - 12	1.2	190000	10000
SVOC	Phenanthrene	201-C09	Phase 1A	7	U (0.11) - 0.025	0.047	190000	10000
SVOC	Phenanthrene	201-C10	Phase 1A	3	U (0.4) - 1.94	1.1	190000	10000
SVOC	Phenanthrene	201-D01	Phase 1A	4	U (0.42) - 1.25	0.69	190000	10000
SVOC	Phenanthrene	201-D05	Phase 1A	4	0.017 - 19.1	7.1	190000	10000
SVOC	Phenanthrene	201-D12	Phase 1A	3	U (0.12)	0.057	190000	10000
SVOC	Phenanthrene	201-E01	Phase 1A	43	0.0016 - 3	0.30	190000	10000
SVOC	Phenanthrene	201-E02	Phase 1A	1	U (0.12)	0.060	190000	10000
SVOC	Phenanthrene	201-E03	Phase 1A	3	0.04 - 0.24	0.16	190000	10000
SVOC	Phenanthrene	201-E04	Phase 1A	3	U (0.59) - 1.8	0.97	190000	10000
SVOC	Phenanthrene	201-E05	Phase 1A	22	0.0093 - 0.62	0.12	190000	10000
SVOC	Phenanthrene	201-F01	Phase 1A	36	0.0205 - 23	1.0	190000	10000
SVOC	Phenanthrene	201-F02	Phase 1A	4	0.0088 - 31	8.2	190000	10000
SVOC	Phenanthrene	201-F03	Phase 1A	25	0.013 - 4	0.31	190000	10000
SVOC	Phenanthrene	201-F04	Phase 1A	21	U (0.41) - 5.4	0.60	190000	10000
SVOC	Phenanthrene	202-A03	Phase 1A	8	0.079 - 2.3	0.91	190000	10000
SVOC	Phenanthrene	202-A04	Phase 1A	4	0.1 - 2.9	0.96	190000	10000
SVOC	Phenanthrene	202-A05	Phase 1A	4	0.0014 - 1.2	0.32	190000	10000
SVOC	Phenanthrene	202-A06	Phase 1A	4	U (0.12)	0.055	190000	10000
SVOC	Phenanthrene	202-A07	Phase 1A	3	U (0.12) - 0.028	0.049	190000	10000
SVOC	Phenanthrene	202-A08	Phase 1A	3	U (0.12)	0.060	190000	10000
SVOC	Phenanthrene	202-A09	Phase 1A	6	U (0.12)	0.059	190000	10000
SVOC	Phenanthrene	202-B01	Phase 1A	2	0.092 - 0.11	0.10	190000	10000
SVOC	Phenanthrene	202-B02	Phase 1A	8	0.32 - 1.3	0.58	190000	10000
SVOC	Phenanthrene	202-B03	Phase 1A	15	0.21 - 1.9	0.27	190000	10000
SVOC	Phenanthrene	202-B04	Phase 1A	3	0.16 - 1	0.40	190000	10000
SVOC	Phenanthrene	202-B05	Phase 1A	4	0.058 - 0.13	0.057	190000	10000
SVOC	Phenanthrene	202-B09	Phase 1A	9	U (0.59) - 3.7	0.58	190000	10000
SVOC	Phenanthrene	202-C04	Phase 1A	15	U (3.7) - 0.77	0.32	190000	10000
SVOC	Phenanthrene	202-C05	Phase 1A	10	0.071 - 1.8	0.71	190000	10000

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SVOC	Phenanthrene	202-C06	Phase 1A	4	0.096 - 0.25	0.11	190000	10000
SVOC	Phenanthrene	202-C07	Phase 1A	8	U (0.39) - 4.2	0.87	190000	10000
SVOC	Phenanthrene	202-C08	Phase 1A	4	0.59 - 1.2	0.67	190000	10000
SVOC	Phenanthrene	202-C10	Phase 1A	1	U (0.38)	0.19	190000	10000
SVOC	Phenanthrene	202-D05	Phase 1A	5	0.16 - 28	5.8	190000	10000
SVOC	Phenanthrene	202-D06	Phase 1A	11	U (2) - 5.9	1.9	190000	10000
SVOC	Phenanthrene	202-E06	Phase 1A	2	U (0.12)	0.055	190000	10000
SVOC	Phenanthrene	202-E08	Phase 1A	13	U (0.38) - 0.53	0.13	190000	10000
SVOC	Phenanthrene	202-E09	Phase 1A	16	U (0.41) - 1.4	0.25	190000	10000
SVOC	Phenanthrene	202-E10	Phase 1A	6	U (0.45) - 1.9	0.60	190000	10000
SVOC	Phenanthrene	202-E11	Phase 1A	2	U (0.41) - 2	1.1	190000	10000
SVOC	Phenanthrene	202-E12	Phase 1A	4	U (0.42) - 0.72	0.24	190000	10000
SVOC	Phenanthrene	202-E13	Phase 1A	2	2.3 - 2.5	2.4	190000	10000
SVOC	Phenanthrene	202-E15	Phase 1A	2	3.9 - 3.9	2.0	190000	10000
SVOC	Phenanthrene	202-F01	Phase 1A	7	1.5 - 1.9	1.0	190000	10000
SVOC	Phenanthrene	202-F04	Phase 1A	10	0.054 - 0.88	0.22	190000	10000
SVOC	Phenanthrene	202-F05	Phase 1A	2	U (0.11)	0.038	190000	10000
SVOC	Phenanthrene	202-F06	Phase 1A	2	0.17 - 0.17	0.19	190000	10000
SVOC	Phenanthrene	202-F07	Phase 1A	17	0.048 - 13	1.3	190000	10000
SVOC	Phenanthrene	202-F08	Phase 1A	4	U (0.12) - 0.034	0.034	190000	10000
SVOC	Phenanthrene	202-F10	Phase 1A	2	U (0.12)	0.060	190000	10000
SVOC	Phenanthrene	202-F14	Phase 1A	2	0.0235 - 0.0235	0.021	190000	10000
SVOC	Phenanthrene	202-F16	Phase 1A	4	U (0.4) - 1.6	0.62	190000	10000
SVOC	Phenanthrene	202-F17	Phase 1A	8	U (0.11)	0.054	190000	10000
SVOC	Phenanthrene	202-G01	Phase 1A	8	U (0.21)	0.060	190000	10000
SVOC	Phenanthrene	202-G02	Phase 1A	14	U (2.4) - 29	2.1	190000	10000
SVOC	Phenanthrene	202-G03	Phase 1A	9	U (0.11)	0.048	190000	10000
SVOC	Phenanthrene	202-G04	Phase 1A	3	U (0.2) - 2	0.85	190000	10000
SVOC	Phenanthrene	202-G05	Phase 1A	6	U (0.41) - 1.5	0.80	190000	10000
SVOC	Phenanthrene	202-G07	Phase 1A	16	0.043 - 1.7	0.22	190000	10000
SVOC	Phenanthrene	202-H01	Phase 1A	2	0.55 - 1	0.78	190000	10000
SVOC	Phenanthrene	202-H03	Phase 1A	10	2.5 - 21.7	5.4	190000	10000
SVOC	Phenanthrene	202-H05	Phase 1A	8	0.0341 - 14	2.4	190000	10000
SVOC	Phenanthrene	202-H06	Phase 1A	2	U (0.04) - 0.104	0.062	190000	10000
SVOC	Phenanthrene	202-H07	Phase 1A	2	0.0401 - 0.0401	0.029	190000	10000
SVOC	Phenanthrene	202-H08	Phase 1A	3	U (0.12)	0.053	190000	10000
SVOC	Phenanthrene	202-H11	Phase 1A	10	U (0.12) - 0.99	0.22	190000	10000
SVOC	Phenanthrene	202-I01	Phase 1A	2	U (0.12)	0.058	190000	10000
SVOC	Phenanthrene	202-I04	Phase 1A	4	U (0.11)	0.053	190000	10000
SVOC	Phenanthrene	202-J03	Phase 1A	7	1.8 - 19.6	7.9	190000	10000
SVOC	Phenanthrene	202-J04	Phase 1A	8	0.2 - 38	9.2	190000	10000
SVOC	Phenanthrene	202-J05	Phase 1A	6	0.0051 - 0.18	0.084	190000	10000
SVOC	Phenanthrene	202-J07	Phase 1A	4	0.12 - 0.59	0.37	190000	10000
SVOC	Phenanthrene	202-J08	Phase 1A	1	1.5 - 1.5	1.5	190000	10000
SVOC	Phenanthrene	202-J09	Phase 1A	2	1.8 - 1.8	0.90	190000	10000
SVOC	Phenanthrene	301-AA01	Phase 1A	1	0.0183 - 0.0183	0.018	190000	10000
SVOC	Phenanthrene	301-AA06	Phase 1A	11	0.0092 - 2.5	0.49	190000	10000
SVOC	Phenanthrene	301-AA07	Phase 1A	4	0.028 - 6.99	1.8	190000	10000
SVOC	Phenanthrene	301-AA08	Phase 1A	3	0.15 - 0.16	0.11	190000	10000
SVOC	Phenanthrene	301-AA09	Phase 1A	3	0.019 - 0.35	0.20	190000	10000
SVOC	Phenanthrene	301-AB04	Phase 1A	3	0.057 - 0.36	0.20	190000	10000
SVOC	Phenanthrene	301-AB06	Phase 1A	2	U (0.11)	0.055	190000	10000
SVOC	Phenanthrene	301-AB07	Phase 1A	1	0.48 - 0.48	0.48	190000	10000
SVOC	Phenanthrene	301-AB09	Phase 1A	2	U (0.876) - 3.62	1.8	190000	10000
SVOC	Phenanthrene	301-AC04	Phase 1A	25	U (0.57) - 12	0.79	190000	10000
SVOC	Phenanthrene	301-AC07	Phase 1A	10	U (0.56) - 6	0.81	190000	10000
SVOC	Phenanthrene	301-AC08	Phase 1A	7	0.13 - 26	3.9	190000	10000
SVOC	Phenanthrene	301-AC09	Phase 1A	6	0.00089 - 0.0098	0.0045	190000	10000
SVOC	Phenanthrene	301-B01	Phase 1A	1	U (0.018)	0.0090	190000	10000
SVOC	Phenanthrene	301-C01	Phase 1A	3	0.025 - 26	8.7	190000	10000
SVOC	Phenanthrene	301-C02	Phase 1A	7	U (0.39) - 0.26	0.11	190000	10000
SVOC	Phenanthrene	301-D01	Phase 1A	13	0.054 - 4.2	0.49	190000	10000
SVOC	Phenanthrene	301-E02	Phase 1A	14	0.033 - 3	0.37	190000	10000
SVOC	Phenanthrene	301-E03	Phase 1A	4	0.006 - 2.3	0.74	190000	10000
SVOC	Phenanthrene	301-G01	Phase 1A	2	0.011 - 0.087	0.049	190000	10000
SVOC	Phenanthrene	301-G02	Phase 1A	3	0.16 - 0.75	0.39	190000	10000
SVOC	Phenanthrene	301-G03	Phase 1A	1	0.49 - 0.49	0.49	190000	10000
SVOC	Phenanthrene	301-H02	Phase 1A	3	0.0029 - 0.37	0.20	190000	10000
SVOC	Phenanthrene	301-H03	Phase 1A	2	0.039 - 0.039	0.027	190000	10000
SVOC	Phenanthrene	301-N02	Phase 1A	3	0.25 - 1.3	0.62	190000	10000
SVOC	Phenanthrene	301-P02	Phase 1A	2	0.351 - 12.7	6.5	190000	10000
SVOC	Phenanthrene	301-Q04	Phase 1A	6	U (0.4) - 1.18	0.35	190000	10000
SVOC	Phenanthrene	301-R02	Phase 1A	6	U (0.087) - 0.11	0.040	190000	10000
SVOC	Phenanthrene	301-S02	Phase 1A	4	0.059 - 0.059	0.030	190000	10000
SVOC	Phenanthrene	301-S03	Phase 1A	1	0.084 - 0.084	0.084	190000	10000
SVOC	Phenanthrene	301-T04	Phase 1A	2	0.034 - 0.11	0.072	190000	10000
SVOC	Phenanthrene	301-V04	Phase 1A	29	U (0.12) - 0.45	0.078	190000	10000
SVOC	Phenanthrene	301-W03	Phase 1A	4	0.018 - 0.038	0.024	190000	10000
SVOC	Phenanthrene	301-X03	Phase 1A	3	U (0.018) - 0.74	0.26	190000	10000
SVOC	Phenanthrene	301-Y03	Phase 1A	2	0.0376 - 0.686	0.36	190000	10000
SVOC	Phenanthrene	301-Y04	Phase 1A	3	0.023 - 0.45	0.17	190000	10000
SVOC	Phenanthrene	301-Y05	Phase 1A	6	0.0098 - 1.8	0.46	190000	10000
SVOC	Phenanthrene	302-AD08	Phase 1A	2	U (0.1)	0.050	190000	10000

Table 3.4
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Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Phenanthrene	302-AD09	Phase 1A	3	U (0.1)	0.029	190000	10000
SVOC	Phenanthrene	302-AD10	Phase 1A	4	0.58 - 3	1.6	190000	10000
SVOC	Phenanthrene	302-AE09	Phase 1A	4	U (0.12)	0.046	190000	10000
SVOC	Phenanthrene	302-AF06	Phase 1A	8	0.032 - 4.8	0.75	190000	10000
SVOC	Phenanthrene	302-AG07	Phase 1A	14	U (0.12) - 2.2	0.19	190000	10000
SVOC	Phenanthrene	302-AJ09	Phase 1A	13	U (2) - 230	25.1	190000	10000
SVOC	Phenanthrene	302-AK06	Phase 1A	3	U (0.42) - 4.7	1.9	190000	10000
SVOC	Phenanthrene	302-AL06	Phase 1A	13	0.35 - 10	1.6	190000	10000
SVOC	Phenanthrene	302-AN02	Phase 1A	2	U (0.198)	0.058	190000	10000
SVOC	Phenanthrene	302-AO03	Phase 1A	2	U (0.0418)	0.020	190000	10000
SVOC	Phenanthrene	302-AQ02	Phase 1A	7	U (1.1) - 12	1.8	190000	10000
SVOC	Phenanthrene	302-AR02	Phase 1A	4	U (0.12) - 0.22	0.10	190000	10000
SVOC	Phenanthrene	302-AS03	Phase 1A	13	U (0.12) - 2.21	0.30	190000	10000
SVOC	Phenanthrene	302-AV01	Phase 1A	10	0.17 - 4.5	1.4	190000	10000
SVOC	Phenanthrene	302-AV03	Phase 1A	6	U (0.12) - 5.2	0.92	190000	10000
SVOC	Phenanthrene	302-AW01	Phase 1A	9	0.48 - 28	4.2	190000	10000
SVOC	Phenanthrene	302-AW03	Phase 1A	2	U (0.12)	0.060	190000	10000
SVOC	Phenanthrene	302-AX01	Phase 1A	12	U (0.16) - 62	13.0	190000	10000
SVOC	Phenanthrene	302-AX05	Phase 1A	2	U (0.0414)	0.020	190000	10000
SVOC	Phenanthrene	302-AZ05	Phase 1A	2	U (0.41) - 0.46	0.26	190000	10000
SVOC	Phenanthrene	302-BA05	Phase 1A	2	0.476 - 5.7	3.1	190000	10000
SVOC	Phenanthrene	302-BC05	Phase 1A	7	U (0.039) - 0.29	0.057	190000	10000
SVOC	Phenanthrene	302-BE04	Phase 1A	2	U (0.19) - 0.0079	0.051	190000	10000
SVOC	Phenanthrene	303-AY01	Phase 1A	6	0.008 - 2.4	0.55	190000	10000
SVOC	Phenanthrene	303-AZ01	Phase 1A	5	0.72 - 8.4	4.7	190000	10000
SVOC	Phenanthrene	303-BA01	Phase 1A	8	0.0302 - 1.2	0.52	190000	10000
SVOC	Phenanthrene	303-BA02	Phase 1A	11	0.122 - 180	27.5	190000	10000
SVOC	Phenanthrene	303-BB01	Phase 1A	2	0.99 - 1.7	1.3	190000	10000
SVOC	Phenanthrene	303-BB02	Phase 1A	5	0.13 - 124	31.7	190000	10000
SVOC	Phenanthrene	303-BC01	Phase 1A	4	U (0.038) - 0.374	0.13	190000	10000
SVOC	Phenanthrene	303-BD04	Phase 1A	9	0.14 - 11	2.5	190000	10000
SVOC	Phenanthrene	303-BE03	Phase 1A	38	0.053 - 18	2.7	190000	10000
SVOC	Phenanthrene	303-BF05	Phase 1A	16	0.031 - 15	2.8	190000	10000
SVOC	Phenanthrene	303-BG04	Phase 1A	27	0.075 - 8.2	2.2	190000	10000
SVOC	Phenanthrene	303-BH02	Phase 1A	22	0.19 - 150	8.5	190000	10000
SVOC	Phenanthrene	303-BI03	Phase 1A	6	0.82 - 4.6	2.1	190000	10000
SVOC	Phenanthrene	303-BJ01	Phase 1A	3	29 - 36	31.7	190000	10000
SVOC	Phenanthrene	303-BJ02	Phase 1A	3	0.0353 - 1.16	0.52	190000	10000
SVOC	Phenanthrene	303-BK03	Phase 1A	7	0.39 - 3.5	1.5	190000	10000
SVOC	Phenanthrene	303-BL02	Phase 1A	10	0.062 - 8.9	1.4	190000	10000
SVOC	Phenanthrene	303-BM02	Phase 1A	1	15.3 - 15.3	15.3	190000	10000
SVOC	Phenanthrene	303-BN02	Phase 1A	15	0.0229 - 20	3.4	190000	10000
SVOC	Phenanthrene	303-BN03	Phase 1A	14	0.028 - 17	2.8	190000	10000
SVOC	Phenanthrene	303-BO02	Phase 1A	10	0.01 - 13	1.8	190000	10000
SVOC	Phenanthrene	303-BP02	Phase 1A	30	0.013 - 31	4.3	190000	10000
SVOC	Phenanthrene	303-BQ01	Phase 1A	5	0.379 - 11	6.4	190000	10000
SVOC	Phenanthrene	303-BQ02	Phase 1A	15	0.004 - 46	3.9	190000	10000
SVOC	Phenanthrene	303-BR02	Phase 1A	8	0.17 - 120	16.2	190000	10000
SVOC	Phenanthrene	303-BT01	Phase 1A	13	0.006 - 4.3	0.39	190000	10000
SVOC	Phenanthrene	303-BW01	Phase 1A	2	0.0748 - 0.4	0.24	190000	10000
SVOC	Phenanthrene	301-AA02	Phase 1B	2	0.0219 - 0.0328	0.027	190000	10000
SVOC	Phenanthrene	301-AA05	Phase 1B	11	0.019 - 2.8	0.91	190000	10000
SVOC	Phenanthrene	301-AB05	Phase 1B	6	0.0959 - 3.42	0.73	190000	10000
SVOC	Phenanthrene	301-AC03	Phase 1B	2	0.529 - 1.8	1.2	190000	10000
SVOC	Phenanthrene	301-T01	Phase 1B	5	U (5.3) - 11	3.0	190000	10000
SVOC	Phenanthrene	301-T02	Phase 1B	7	0.099 - 39	8.4	190000	10000
SVOC	Phenanthrene	301-U01	Phase 1B	2	U (0.19) - 2.8	1.4	190000	10000
SVOC	Phenanthrene	301-U03	Phase 1B	1	U (0.17)	0.085	190000	10000
SVOC	Phenanthrene	301-V01	Phase 1B	7	U (0.041) - 2.6	0.63	190000	10000
SVOC	Phenanthrene	301-V02	Phase 1B	19	0.0024 - 4.7	0.86	190000	10000
SVOC	Phenanthrene	301-W01	Phase 1B	24	0.0026 - 4.1	0.27	190000	10000
SVOC	Phenanthrene	301-X01	Phase 1B	11	U (0.18) - 3.7	1.1	190000	10000
SVOC	Phenanthrene	301-Y01	Phase 1B	10	U (0.36) - 4.64	0.55	190000	10000
SVOC	Phenanthrene	301-Y02	Phase 1B	4	U (0.17) - 3.1	0.82	190000	10000
SVOC	Phenanthrene	301-Z01	Phase 1B	6	U (0.039) - 0.0753	0.029	190000	10000
SVOC	Phenanthrene	301-Z02	Phase 1B	2	U (0.18) - 0.57	0.29	190000	10000
SVOC	Phenanthrene	301-Z03	Phase 1B	5	0.0371 - 14	3.8	190000	10000
SVOC	Phenanthrene	302-AD06	Phase 1B	12	U (0.14) - 0.22	0.11	190000	10000
SVOC	Phenanthrene	302-AD07	Phase 1B	2	0.14 - 0.14	0.095	190000	10000
SVOC	Phenanthrene	302-AE03	Phase 1B	4	U (0.18) - 20	5.3	190000	10000
SVOC	Phenanthrene	302-AE04	Phase 1B	8	U (0.56) - 1.2	0.19	190000	10000
SVOC	Phenanthrene	302-AE05	Phase 1B	20	0.032 - 0.39	0.090	190000	10000
SVOC	Phenanthrene	302-AE07	Phase 1B	3	U (0.11) - 0.839	0.31	190000	10000
SVOC	Phenanthrene	302-AE08	Phase 1B	3	0.00093 - 0.00093	0.039	190000	10000
SVOC	Phenanthrene	302-AF04	Phase 1B	22	0.031 - 6.2	0.64	190000	10000
SVOC	Phenanthrene	302-AF05	Phase 1B	2	0.228 - 0.318	0.27	190000	10000
SVOC	Phenanthrene	302-AF09	Phase 1B	5	U (0.04) - 0.72	0.16	190000	10000
SVOC	Phenanthrene	302-AG04	Phase 1B	9	U (0.2) - 7	1.3	190000	10000
SVOC	Phenanthrene	302-AG06	Phase 1B	5	U (0.041) - 0.172	0.054	190000	10000
SVOC	Phenanthrene	302-AG08	Phase 1B	6	0.18 - 4.1	1.7	190000	10000
SVOC	Phenanthrene	302-AH05	Phase 1B	11	0.12 - 4.7	1.3	190000	10000
SVOC	Phenanthrene	302-AH06	Phase 1B	4	0.1 - 0.1	0.039	190000	10000
SVOC	Phenanthrene	302-AH07	Phase 1B	21	U (0.37) - 2.1	0.19	190000	10000

Table 3.4
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Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Phenanthrene	302-AH08	Phase 1B	13	U (0.041) - 3.4	0.47	190000	10000
SVOC	Phenanthrene	302-AI05	Phase 1B	11	0.0303 - 1.1	0.16	190000	10000
SVOC	Phenanthrene	302-AI06	Phase 1B	19	U (0.13) - 5.6	0.62	190000	10000
SVOC	Phenanthrene	302-AI07	Phase 1B	10	0.16 - 1.04	0.26	190000	10000
SVOC	Phenanthrene	302-AI08	Phase 1B	2	U (0.38)	0.11	190000	10000
SVOC	Phenanthrene	302-AI09	Phase 1B	3	U (0.041) - 0.296	0.11	190000	10000
SVOC	Phenanthrene	302-AJ05	Phase 1B	2	U (0.12) - 0.04	0.050	190000	10000
SVOC	Phenanthrene	302-AJ06	Phase 1B	5	0.074 - 0.37	0.12	190000	10000
SVOC	Phenanthrene	302-AK05	Phase 1B	5	0.164 - 1.8	0.52	190000	10000
SVOC	Phenanthrene	302-AK07	Phase 1B	13	U (0.2) - 9.3	1.9	190000	10000
SVOC	Phenanthrene	302-AL03	Phase 1B	2	0.0807 - 10	5.0	190000	10000
SVOC	Phenanthrene	302-AL05	Phase 1B	13	U (0.42) - 4.3	1.2	190000	10000
SVOC	Phenanthrene	302-AL08	Phase 1B	2	U (0.041)	0.019	190000	10000
SVOC	Phenanthrene	302-AN01	Phase 1B	2	0.0826 - 0.0826	0.050	190000	10000
SVOC	Phenanthrene	302-AP02	Phase 1B	2	0.459 - 0.577	0.52	190000	10000
SVOC	Phenanthrene	302-AP03	Phase 1B	23	0.043 - 0.3	0.080	190000	10000
SVOC	Phenanthrene	302-AP04	Phase 1B	2	0.11 - 0.371	0.24	190000	10000
SVOC	Phenanthrene	302-AP05	Phase 1B	2	U (0.035)	0.017	190000	10000
SVOC	Phenanthrene	302-AQ01	Phase 1B	2	0.41 - 3.7	2.1	190000	10000
SVOC	Phenanthrene	302-AQ04	Phase 1B	2	U (0.11)	0.055	190000	10000
SVOC	Phenanthrene	302-AR01	Phase 1B	2	0.26 - 7.3	3.8	190000	10000
SVOC	Phenanthrene	302-AR04	Phase 1B	3	U (0.12)	0.050	190000	10000
SVOC	Phenanthrene	302-AS04	Phase 1B	2	U (0.0419) - 0.0446	0.032	190000	10000
SVOC	Phenanthrene	302-AT01	Phase 1B	2	U (0.64) - 2.26	1.3	190000	10000
SVOC	Phenanthrene	302-AT02	Phase 1B	2	0.214 - 34.1	17.2	190000	10000
SVOC	Phenanthrene	302-AT03	Phase 1B	4	U (0.039) - 0.901	0.24	190000	10000
SVOC	Phenanthrene	302-AU01	Phase 1B	4	U (0.21) - 2.4	0.80	190000	10000
SVOC	Phenanthrene	302-AU02	Phase 1B	8	U (4)	0.30	190000	10000
SVOC	Phenanthrene	302-AU03	Phase 1B	2	U (0.12)	0.060	190000	10000
SVOC	Phenanthrene	302-AV02	Phase 1B	4	U (0.59) - 14	3.6	190000	10000
SVOC	Phenanthrene	302-AV04	Phase 1B	2	U (0.0415)	0.020	190000	10000
SVOC	Phenanthrene	302-AW02	Phase 1B	2	U (1.9) - 3.8	1.9	190000	10000
SVOC	Phenanthrene	302-AX02	Phase 1B	3	U (0.038)	0.018	190000	10000
SVOC	Phenanthrene	302-AY02	Phase 1B	14	0.0508 - 160	26.2	190000	10000
SVOC	Phenanthrene	302-AY03	Phase 1B	2	0.0871 - 0.171	0.13	190000	10000
SVOC	Phenanthrene	302-AY05	Phase 1B	2	U (0.19)	0.058	190000	10000
SVOC	Phenanthrene	302-AZ02	Phase 1B	8	0.611 - 58	11.4	190000	10000
SVOC	Phenanthrene	302-AZ03	Phase 1B	1	0.82 - 0.82	0.82	190000	10000
SVOC	Phenanthrene	302-BA03	Phase 1B	3	U (0.21)	0.11	190000	10000
SVOC	Phenanthrene	302-BB07	Phase 1B	5	0.036 - 0.68	0.34	190000	10000
SVOC	Phenanthrene	302-BB08	Phase 1B	1	0.3 - 0.3	0.30	190000	10000
SVOC	Phenanthrene	302-BC06	Phase 1B	1	U (0.23)	0.12	190000	10000
SVOC	Phenanthrene	301-L01	Phase 1C	7	0.602 - 4.8	1.5	190000	10000
SVOC	Phenanthrene	301-T03	Phase 1C	2	1.2 - 1.2	0.62	190000	10000
SVOC	Phenanthrene	302-AD02	Phase 1C	2	U (0.19)	0.057	190000	10000
SVOC	Phenanthrene	302-AH01	Phase 1C	2	U (0.19) - 0.24	0.13	190000	10000
SVOC	Phenanthrene	302-AI01	Phase 1C	2	U (0.04) - 0.402	0.21	190000	10000
SVOC	Phenanthrene	302-AL01	Phase 1C	2	U (0.037) - 0.193	0.11	190000	10000
SVOC	Pyrene	LS-A-A01	Life Sciences	1	25 - 25	25.0	96000	2200
SVOC	Pyrene	LS-A-A02	Life Sciences	2	0.0991 - 1.6	0.85	96000	2200
SVOC	Pyrene	LS-A-A03	Life Sciences	1	3.18 - 3.18	3.2	96000	2200
SVOC	Pyrene	LS-A-A04	Life Sciences	3	1.9 - 7.5	4.1	96000	2200
SVOC	Pyrene	LS-A-B02	Life Sciences	14	0.054 - 5.77	1.1	96000	2200
SVOC	Pyrene	LS-A-B03	Life Sciences	4	0.0767 - 0.426	0.16	96000	2200
SVOC	Pyrene	LS-A-C01	Life Sciences	28	U (19) - 380	24.0	96000	2200
SVOC	Pyrene	LS-A-C02	Life Sciences	12	0.0594 - 15	3.7	96000	2200
SVOC	Pyrene	LS-A-C04	Life Sciences	3	0.138 - 0.44	0.20	96000	2200
SVOC	Pyrene	LS-A-D01	Life Sciences	5	0.365 - 11.8	3.1	96000	2200
SVOC	Pyrene	LS-A-D02	Life Sciences	1	U (1.9)	0.95	96000	2200
SVOC	Pyrene	LS-A-D03	Life Sciences	3	U (0.95)	0.17	96000	2200
SVOC	Pyrene	LS-A-D04	Life Sciences	2	U (1.84) - 2.23	1.1	96000	2200
SVOC	Pyrene	LS-A-D05	Life Sciences	6	0.23 - 1.26	0.61	96000	2200
SVOC	Pyrene	LS-A-D06	Life Sciences	2	U (0.364)	0.14	96000	2200
SVOC	Pyrene	LS-A-D07	Life Sciences	2	0.56 - 0.56	1.2	96000	2200
SVOC	Pyrene	LS-A-E01	Life Sciences	3	U (1.84) - 0.398	0.60	96000	2200
SVOC	Pyrene	LS-A-E03	Life Sciences	1	1.1 - 1.1	1.1	96000	2200
SVOC	Pyrene	LS-A-E04	Life Sciences	2	U (22.3)	5.6	96000	2200
SVOC	Pyrene	LS-A-E05	Life Sciences	1	1.2 - 1.2	1.2	96000	2200
SVOC	Pyrene	LS-A-E07	Life Sciences	1	0.56 - 0.56	0.56	96000	2200
SVOC	Pyrene	LS-A-E08	Life Sciences	1	U (0.98)	0.49	96000	2200
SVOC	Pyrene	LS-A-F01	Life Sciences	3	U (7.96) - 10.3	4.3	96000	2200
SVOC	Pyrene	LS-A-F02	Life Sciences	3	15 - 15	6.0	96000	2200
SVOC	Pyrene	LS-A-F03	Life Sciences	1	2.6 - 2.6	2.6	96000	2200
SVOC	Pyrene	LS-A-F04	Life Sciences	12	U (0.94) - 0.325	0.16	96000	2200
SVOC	Pyrene	LS-A-F05	Life Sciences	1	50 - 50	50.0	96000	2200
SVOC	Pyrene	LS-A-G01	Life Sciences	3	0.572 - 2.2	1.1	96000	2200
SVOC	Pyrene	LS-A-G02	Life Sciences	2	0.484 - 0.624	0.55	96000	2200
SVOC	Pyrene	LS-A-G03	Life Sciences	3	4.26 - 4.26	2.2	96000	2200
SVOC	Pyrene	LS-A-G07	Life Sciences	3	0.282 - 25	15.4	96000	2200
SVOC	Pyrene	LS-A-G08	Life Sciences	2	2.15 - 2.94	2.5	96000	2200
SVOC	Pyrene	LS-A-H03	Life Sciences	2	0.134 - 0.439	0.29	96000	2200
SVOC	Pyrene	LS-A-H04	Life Sciences	2	U (2.02) - 0.759	0.88	96000	2200
SVOC	Pyrene	LS-A-H06	Life Sciences	1	1.4 - 1.4	1.4	96000	2200

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Pyrene	LS-A-H07	Life Sciences	2	U (1.92) - 0.415	0.69	96000	2200
SVOC	Pyrene	LS-A-I01	Life Sciences	6	U (8.23) - 0.698	2.6	96000	2200
SVOC	Pyrene	LS-A-I02	Life Sciences	1	U (5)	2.5	96000	2200
SVOC	Pyrene	LS-A-I03	Life Sciences	3	U (0.94) - 7.84	2.8	96000	2200
SVOC	Pyrene	LS-B-B01	Life Sciences	1	0.02 - 0.02	0.020	96000	2200
SVOC	Pyrene	LS-B-C01	Life Sciences	3	U (0.19) - 0.39	0.14	96000	2200
SVOC	Pyrene	LS-B-E01	Life Sciences	4	0.413 - 3.84	2.2	96000	2200
SVOC	Pyrene	LS-B-G02	Life Sciences	1	7.04 - 7.04	7.0	96000	2200
SVOC	Pyrene	LS-B-H02	Life Sciences	3	U (1)	0.21	96000	2200
SVOC	Pyrene	LS-E-B01	Life Sciences	81	0.0052 - 190	17.4	96000	2200
SVOC	Pyrene	LS-E-G01	Life Sciences	4	1.07 - 2.5	1.1	96000	2200
SVOC	Pyrene	201-A01	Phase 1A	7	0.032 - 0.64	0.16	96000	2200
SVOC	Pyrene	201-A02	Phase 1A	14	0.022 - 1.9	0.36	96000	2200
SVOC	Pyrene	201-A03	Phase 1A	7	0.13 - 0.16	0.092	96000	2200
SVOC	Pyrene	201-A04	Phase 1A	29	U (2.6) - 1.78	0.42	96000	2200
SVOC	Pyrene	201-A05	Phase 1A	9	0.0032 - 0.19	0.064	96000	2200
SVOC	Pyrene	201-A06	Phase 1A	7	0.0031 - 0.21	0.070	96000	2200
SVOC	Pyrene	201-A07	Phase 1A	9	0.0055 - 0.12	0.039	96000	2200
SVOC	Pyrene	201-A08	Phase 1A	7	0.0008 - 0.22	0.046	96000	2200
SVOC	Pyrene	201-A09	Phase 1A	7	0.001 - 0.52	0.085	96000	2200
SVOC	Pyrene	201-A10	Phase 1A	3	U (0.039) - 0.62	0.21	96000	2200
SVOC	Pyrene	201-A11	Phase 1A	4	0.0045 - 0.023	0.010	96000	2200
SVOC	Pyrene	201-A12	Phase 1A	6	0.022 - 1	0.23	96000	2200
SVOC	Pyrene	201-A13	Phase 1A	4	U (0.041) - 0.35	0.16	96000	2200
SVOC	Pyrene	201-A14	Phase 1A	9	0.0076 - 3.1	0.59	96000	2200
SVOC	Pyrene	201-B02	Phase 1A	2	U (0.42)	0.11	96000	2200
SVOC	Pyrene	201-B04	Phase 1A	3	U (0.49) - 0.0044	0.094	96000	2200
SVOC	Pyrene	201-B05	Phase 1A	3	0.19 - 0.54	0.36	96000	2200
SVOC	Pyrene	201-B08	Phase 1A	4	U (0.47)	0.10	96000	2200
SVOC	Pyrene	201-C01	Phase 1A	14	U (1.2) - 0.14	0.13	96000	2200
SVOC	Pyrene	201-C04	Phase 1A	11	0.036 - 0.29	0.21	96000	2200
SVOC	Pyrene	201-C05	Phase 1A	3	0.01 - 24.8	8.6	96000	2200
SVOC	Pyrene	201-C07	Phase 1A	8	0.16 - 3	1.4	96000	2200
SVOC	Pyrene	201-C08	Phase 1A	11	0.021 - 9.8	0.96	96000	2200
SVOC	Pyrene	201-C09	Phase 1A	7	U (0.11)	0.051	96000	2200
SVOC	Pyrene	201-C10	Phase 1A	3	U (0.4) - 3.65	1.6	96000	2200
SVOC	Pyrene	201-D01	Phase 1A	4	U (0.42) - 1.29	0.43	96000	2200
SVOC	Pyrene	201-D05	Phase 1A	4	0.012 - 9.7	3.2	96000	2200
SVOC	Pyrene	201-D12	Phase 1A	3	0.036 - 0.036	0.049	96000	2200
SVOC	Pyrene	201-E01	Phase 1A	43	0.0013 - 0.17	0.14	96000	2200
SVOC	Pyrene	201-E02	Phase 1A	1	U (0.12)	0.060	96000	2200
SVOC	Pyrene	201-E03	Phase 1A	3	0.039 - 0.039	0.089	96000	2200
SVOC	Pyrene	201-E04	Phase 1A	3	U (0.59) - 1.3	0.54	96000	2200
SVOC	Pyrene	201-E05	Phase 1A	22	0.014 - 0.27	0.067	96000	2200
SVOC	Pyrene	201-F01	Phase 1A	36	0.031 - 4.2	0.29	96000	2200
SVOC	Pyrene	201-F02	Phase 1A	4	0.006 - 1.1	0.37	96000	2200
SVOC	Pyrene	201-F03	Phase 1A	25	0.0044 - 0.2	0.080	96000	2200
SVOC	Pyrene	201-F04	Phase 1A	21	U (0.41) - 0.22	0.089	96000	2200
SVOC	Pyrene	202-A03	Phase 1A	8	U (0.12) - 0.16	0.066	96000	2200
SVOC	Pyrene	202-A04	Phase 1A	4	U (0.41) - 1	0.33	96000	2200
SVOC	Pyrene	202-A05	Phase 1A	4	0.002 - 0.14	0.052	96000	2200
SVOC	Pyrene	202-A06	Phase 1A	4	U (0.12)	0.055	96000	2200
SVOC	Pyrene	202-A07	Phase 1A	3	U (0.12) - 0.021	0.047	96000	2200
SVOC	Pyrene	202-A08	Phase 1A	3	U (0.12)	0.060	96000	2200
SVOC	Pyrene	202-A09	Phase 1A	6	U (0.12)	0.059	96000	2200
SVOC	Pyrene	202-B01	Phase 1A	2	0.1 - 0.22	0.16	96000	2200
SVOC	Pyrene	202-B02	Phase 1A	8	U (0.4) - 0.16	0.13	96000	2200
SVOC	Pyrene	202-B03	Phase 1A	15	0.064 - 0.28	0.084	96000	2200
SVOC	Pyrene	202-B04	Phase 1A	3	0.15 - 0.15	0.12	96000	2200
SVOC	Pyrene	202-B05	Phase 1A	4	0.054 - 0.11	0.087	96000	2200
SVOC	Pyrene	202-B09	Phase 1A	9	0.19 - 0.36	0.14	96000	2200
SVOC	Pyrene	202-C04	Phase 1A	15	0.021 - 0.44	0.30	96000	2200
SVOC	Pyrene	202-C05	Phase 1A	10	0.076 - 1	0.36	96000	2200
SVOC	Pyrene	202-C06	Phase 1A	4	0.081 - 0.21	0.12	96000	2200
SVOC	Pyrene	202-C07	Phase 1A	8	U (0.5) - 1.6	0.49	96000	2200
SVOC	Pyrene	202-C08	Phase 1A	4	0.2 - 0.36	0.17	96000	2200
SVOC	Pyrene	202-C10	Phase 1A	1	U (0.38)	0.19	96000	2200
SVOC	Pyrene	202-D05	Phase 1A	5	0.0608 - 3.1	0.69	96000	2200
SVOC	Pyrene	202-D06	Phase 1A	11	U (2) - 1.3	0.57	96000	2200
SVOC	Pyrene	202-E06	Phase 1A	2	0.031 - 0.031	0.041	96000	2200
SVOC	Pyrene	202-E08	Phase 1A	13	U (0.38) - 0.24	0.076	96000	2200
SVOC	Pyrene	202-E09	Phase 1A	16	0.036 - 0.82	0.13	96000	2200
SVOC	Pyrene	202-E10	Phase 1A	6	U (0.45) - 0.055	0.11	96000	2200
SVOC	Pyrene	202-E11	Phase 1A	2	U (0.41)	0.16	96000	2200
SVOC	Pyrene	202-E12	Phase 1A	4	U (0.42) - 0.092	0.10	96000	2200
SVOC	Pyrene	202-E13	Phase 1A	2	U (0.38)	0.15	96000	2200
SVOC	Pyrene	202-E15	Phase 1A	2	U (0.38)	0.19	96000	2200
SVOC	Pyrene	202-F01	Phase 1A	7	U (0.43)	0.18	96000	2200
SVOC	Pyrene	202-F04	Phase 1A	10	0.029 - 0.15	0.066	96000	2200
SVOC	Pyrene	202-F05	Phase 1A	2	U (0.11) - 0.024	0.022	96000	2200
SVOC	Pyrene	202-F06	Phase 1A	2	0.24 - 0.24	0.23	96000	2200
SVOC	Pyrene	202-F07	Phase 1A	17	0.022 - 0.79	0.25	96000	2200
SVOC	Pyrene	202-F08	Phase 1A	4	U (0.12)	0.040	96000	2200

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Pyrene	202-F10	Phase 1A	2	U (0.12)	0.060	96000	2200
SVOC	Pyrene	202-F14	Phase 1A	2	U (0.038) - 0.0297	0.024	96000	2200
SVOC	Pyrene	202-F16	Phase 1A	4	U (0.4) - 1.1	0.36	96000	2200
SVOC	Pyrene	202-F17	Phase 1A	8	U (0.11)	0.054	96000	2200
SVOC	Pyrene	202-G01	Phase 1A	8	U (0.21)	0.060	96000	2200
SVOC	Pyrene	202-G02	Phase 1A	14	U (2.4) - 2.9	0.27	96000	2200
SVOC	Pyrene	202-G03	Phase 1A	9	U (0.11)	0.048	96000	2200
SVOC	Pyrene	202-G04	Phase 1A	3	U (0.2)	0.083	96000	2200
SVOC	Pyrene	202-G05	Phase 1A	6	U (0.41)	0.13	96000	2200
SVOC	Pyrene	202-G07	Phase 1A	16	U (0.12) - 0.11	0.061	96000	2200
SVOC	Pyrene	202-H03	Phase 1A	5	0.697 - 1.11	0.40	96000	2200
SVOC	Pyrene	202-H05	Phase 1A	1	U (0.04)	0.020	96000	2200
SVOC	Pyrene	202-H06	Phase 1A	2	U (0.04) - 0.12	0.070	96000	2200
SVOC	Pyrene	202-H07	Phase 1A	2	0.0476 - 0.0476	0.033	96000	2200
SVOC	Pyrene	202-H08	Phase 1A	3	U (0.12)	0.053	96000	2200
SVOC	Pyrene	202-H11	Phase 1A	10	U (0.12) - 0.18	0.081	96000	2200
SVOC	Pyrene	202-I01	Phase 1A	2	U (0.12)	0.058	96000	2200
SVOC	Pyrene	202-I04	Phase 1A	4	U (0.11)	0.053	96000	2200
SVOC	Pyrene	202-J03	Phase 1A	7	0.34 - 2.68	1.3	96000	2200
SVOC	Pyrene	202-J04	Phase 1A	8	0.078 - 2.2	0.63	96000	2200
SVOC	Pyrene	202-J05	Phase 1A	6	0.014 - 0.44	0.17	96000	2200
SVOC	Pyrene	202-J07	Phase 1A	4	0.25 - 0.78	0.39	96000	2200
SVOC	Pyrene	202-J08	Phase 1A	1	2.4 - 2.4	2.4	96000	2200
SVOC	Pyrene	202-J09	Phase 1A	2	U (0.022) - 1.1	0.55	96000	2200
SVOC	Pyrene	301-AA01	Phase 1A	1	0.0201 - 0.0201	0.020	96000	2200
SVOC	Pyrene	301-AA06	Phase 1A	11	0.0099 - 0.29	0.086	96000	2200
SVOC	Pyrene	301-AA07	Phase 1A	4	U (0.12) - 1.44	0.45	96000	2200
SVOC	Pyrene	301-AA08	Phase 1A	3	0.052 - 0.11	0.057	96000	2200
SVOC	Pyrene	301-AA09	Phase 1A	3	0.039 - 0.26	0.10	96000	2200
SVOC	Pyrene	301-AB04	Phase 1A	3	U (0.37)	0.18	96000	2200
SVOC	Pyrene	301-AB06	Phase 1A	2	U (0.11)	0.055	96000	2200
SVOC	Pyrene	301-AB07	Phase 1A	1	0.58 - 0.58	0.58	96000	2200
SVOC	Pyrene	301-AB09	Phase 1A	2	U (0.876) - 16.1	8.1	96000	2200
SVOC	Pyrene	301-AC04	Phase 1A	25	U (0.57) - 14	1.0	96000	2200
SVOC	Pyrene	301-AC07	Phase 1A	10	U (0.56) - 1.1	0.34	96000	2200
SVOC	Pyrene	301-AC08	Phase 1A	7	0.074 - 4.3	0.74	96000	2200
SVOC	Pyrene	301-AC09	Phase 1A	6	0.00056 - 0.0018	0.035	96000	2200
SVOC	Pyrene	301-B01	Phase 1A	1	U (0.018)	0.0090	96000	2200
SVOC	Pyrene	301-C01	Phase 1A	3	0.013 - 8.7	2.9	96000	2200
SVOC	Pyrene	301-C02	Phase 1A	7	U (0.39) - 0.13	0.074	96000	2200
SVOC	Pyrene	301-D01	Phase 1A	13	0.032 - 3.8	0.47	96000	2200
SVOC	Pyrene	301-E02	Phase 1A	14	U (0.35) - 0.23	0.061	96000	2200
SVOC	Pyrene	301-E03	Phase 1A	4	U (0.021) - 0.33	0.12	96000	2200
SVOC	Pyrene	301-G01	Phase 1A	2	0.007 - 0.039	0.023	96000	2200
SVOC	Pyrene	301-G02	Phase 1A	3	U (0.11) - 1.3	0.50	96000	2200
SVOC	Pyrene	301-G03	Phase 1A	1	U (0.6)	0.30	96000	2200
SVOC	Pyrene	301-H02	Phase 1A	3	U (0.89) - 0.11	0.19	96000	2200
SVOC	Pyrene	301-H03	Phase 1A	2	U (0.29)	0.10	96000	2200
SVOC	Pyrene	301-N02	Phase 1A	3	0.034 - 2.1	0.73	96000	2200
SVOC	Pyrene	301-P02	Phase 1A	2	0.152 - 3.75	2.0	96000	2200
SVOC	Pyrene	301-Q04	Phase 1A	6	U (0.4) - 2.25	0.53	96000	2200
SVOC	Pyrene	301-R02	Phase 1A	6	U (0.087) - 0.95	0.18	96000	2200
SVOC	Pyrene	301-S02	Phase 1A	4	U (0.088) - 0.031	0.023	96000	2200
SVOC	Pyrene	301-S03	Phase 1A	1	0.095 - 0.095	0.10	96000	2200
SVOC	Pyrene	301-T04	Phase 1A	2	0.12 - 0.12	0.065	96000	2200
SVOC	Pyrene	301-V04	Phase 1A	29	U (0.6) - 0.19	0.057	96000	2200
SVOC	Pyrene	301-W03	Phase 1A	4	0.021 - 0.024	0.014	96000	2200
SVOC	Pyrene	301-X03	Phase 1A	3	U (0.018) - 0.13	0.049	96000	2200
SVOC	Pyrene	301-Y03	Phase 1A	2	0.0712 - 0.104	0.088	96000	2200
SVOC	Pyrene	301-Y04	Phase 1A	3	0.039 - 0.08	0.043	96000	2200
SVOC	Pyrene	301-Y05	Phase 1A	6	U (0.12) - 0.14	0.054	96000	2200
SVOC	Pyrene	302-AD08	Phase 1A	2	U (0.1)	0.050	96000	2200
SVOC	Pyrene	302-AD09	Phase 1A	3	U (0.1)	0.029	96000	2200
SVOC	Pyrene	302-AD10	Phase 1A	4	0.079 - 2.9	0.91	96000	2200
SVOC	Pyrene	302-AE09	Phase 1A	4	U (0.12)	0.046	96000	2200
SVOC	Pyrene	302-AF06	Phase 1A	8	0.054 - 0.68	0.26	96000	2200
SVOC	Pyrene	302-AG07	Phase 1A	14	U (0.12) - 0.37	0.068	96000	2200
SVOC	Pyrene	302-AJ09	Phase 1A	13	0.26 - 37	5.6	96000	2200
SVOC	Pyrene	302-AK06	Phase 1A	3	U (0.42) - 3.6	1.6	96000	2200
SVOC	Pyrene	302-AL06	Phase 1A	13	1.2 - 7.3	1.6	96000	2200
SVOC	Pyrene	302-AN02	Phase 1A	2	U (0.198)	0.058	96000	2200
SVOC	Pyrene	302-AO03	Phase 1A	2	U (0.0418)	0.020	96000	2200
SVOC	Pyrene	302-AQ02	Phase 1A	7	U (1.1) - 0.5	0.12	96000	2200
SVOC	Pyrene	302-AR02	Phase 1A	4	U (0.12) - 0.11	0.070	96000	2200
SVOC	Pyrene	302-AS03	Phase 1A	13	0.0575 - 0.201	0.065	96000	2200
SVOC	Pyrene	302-AV01	Phase 1A	10	0.276 - 4.4	1.8	96000	2200
SVOC	Pyrene	302-AV03	Phase 1A	6	U (0.12) - 0.43	0.12	96000	2200
SVOC	Pyrene	302-AW01	Phase 1A	9	0.44 - 26	3.6	96000	2200
SVOC	Pyrene	302-AW03	Phase 1A	2	U (0.12)	0.060	96000	2200
SVOC	Pyrene	302-AX01	Phase 1A	12	0.0396 - 160	17.8	96000	2200
SVOC	Pyrene	302-AX05	Phase 1A	2	U (0.0414)	0.020	96000	2200
SVOC	Pyrene	302-AZ05	Phase 1A	2	U (0.41)	0.13	96000	2200
SVOC	Pyrene	302-BA05	Phase 1A	2	0.0417 - 0.565	0.30	96000	2200

Table 3.4

Evergreen and PESRM Sampling Results Summary

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Pyrene	302-BC05	Phase 1A	7	U (0.039) - 0.04	0.014	96000	2200
SVOC	Pyrene	302-BE04	Phase 1A	2	U (0.19) - 0.0074	0.051	96000	2200
SVOC	Pyrene	303-AY01	Phase 1A	6	0.014 - 2.8	0.67	96000	2200
SVOC	Pyrene	303-AZ01	Phase 1A	5	0.67 - 4.7	2.6	96000	2200
SVOC	Pyrene	303-BA01	Phase 1A	8	0.0421 - 3.5	0.87	96000	2200
SVOC	Pyrene	303-BA02	Phase 1A	11	0.15 - 11	2.7	96000	2200
SVOC	Pyrene	303-BB01	Phase 1A	2	1.9 - 3	2.5	96000	2200
SVOC	Pyrene	303-BB02	Phase 1A	5	0.035 - 137	35.7	96000	2200
SVOC	Pyrene	303-BC01	Phase 1A	4	0.0156 - 0.986	0.34	96000	2200
SVOC	Pyrene	303-BD04	Phase 1A	9	0.14 - 5.5	1.9	96000	2200
SVOC	Pyrene	303-BE03	Phase 1A	38	0.054 - 23	3.0	96000	2200
SVOC	Pyrene	303-BF05	Phase 1A	16	0.06 - 10	2.2	96000	2200
SVOC	Pyrene	303-BG04	Phase 1A	27	0.1 - 7	1.9	96000	2200
SVOC	Pyrene	303-BH02	Phase 1A	22	0.2 - 160	9.5	96000	2200
SVOC	Pyrene	303-BI03	Phase 1A	6	0.97 - 4.2	2.3	96000	2200
SVOC	Pyrene	303-BJ01	Phase 1A	3	11 - 20	15.3	96000	2200
SVOC	Pyrene	303-BJ02	Phase 1A	3	0.0708 - 1.33	0.61	96000	2200
SVOC	Pyrene	303-BK03	Phase 1A	7	0.39 - 4.8	1.7	96000	2200
SVOC	Pyrene	303-BL02	Phase 1A	10	0.041 - 3.2	0.87	96000	2200
SVOC	Pyrene	303-BM02	Phase 1A	1	16.6 - 16.6	16.6	96000	2200
SVOC	Pyrene	303-BN02	Phase 1A	15	0.0886 - 15.2	2.6	96000	2200
SVOC	Pyrene	303-BN03	Phase 1A	14	0.045 - 4.87	1.3	96000	2200
SVOC	Pyrene	303-BO02	Phase 1A	10	0.015 - 6.2	1.3	96000	2200
SVOC	Pyrene	303-BO02	Phase 1A	30	0.025 - 23.1	2.9	96000	2200
SVOC	Pyrene	303-BQ01	Phase 1A	5	1.05 - 11	3.8	96000	2200
SVOC	Pyrene	303-BQ02	Phase 1A	15	0.007 - 5.8	0.78	96000	2200
SVOC	Pyrene	303-BR02	Phase 1A	8	0.301 - 11	2.7	96000	2200
SVOC	Pyrene	303-BT01	Phase 1A	13	0.015 - 1.4	0.19	96000	2200
SVOC	Pyrene	303-BW01	Phase 1A	2	0.121 - 0.5	0.31	96000	2200
SVOC	Pyrene	301-AA02	Phase 1B	2	0.0573 - 0.0573	0.038	96000	2200
SVOC	Pyrene	301-AA05	Phase 1B	11	U (2.1) - 0.89	0.28	96000	2200
SVOC	Pyrene	301-AB05	Phase 1B	6	0.042 - 0.348	0.12	96000	2200
SVOC	Pyrene	301-AC03	Phase 1B	2	0.822 - 1.6	1.2	96000	2200
SVOC	Pyrene	301-T01	Phase 1B	5	U (5.3) - 13	3.9	96000	2200
SVOC	Pyrene	301-T02	Phase 1B	2	0.528 - 1.7	1.1	96000	2200
SVOC	Pyrene	301-U01	Phase 1B	2	U (0.19) - 3	1.5	96000	2200
SVOC	Pyrene	301-U03	Phase 1B	1	U (0.17)	0.085	96000	2200
SVOC	Pyrene	301-V01	Phase 1B	7	U (0.041) - 0.307	0.11	96000	2200
SVOC	Pyrene	301-V02	Phase 1B	19	0.0013 - 41	2.5	96000	2200
SVOC	Pyrene	301-W01	Phase 1B	24	0.0023 - 0.28	0.053	96000	2200
SVOC	Pyrene	301-X01	Phase 1B	11	0.0029 - 2.2	0.65	96000	2200
SVOC	Pyrene	301-Y01	Phase 1B	10	U (0.36) - 0.569	0.13	96000	2200
SVOC	Pyrene	301-Y02	Phase 1B	4	U (0.17) - 1.7	0.55	96000	2200
SVOC	Pyrene	301-Z01	Phase 1B	6	U (0.039) - 0.0349	0.021	96000	2200
SVOC	Pyrene	301-Z02	Phase 1B	2	U (0.18) - 0.56	0.29	96000	2200
SVOC	Pyrene	301-Z03	Phase 1B	5	0.018 - 0.935	0.30	96000	2200
SVOC	Pyrene	302-AD06	Phase 1B	12	0.048 - 0.35	0.16	96000	2200
SVOC	Pyrene	302-AD07	Phase 1B	2	0.18 - 0.18	0.12	96000	2200
SVOC	Pyrene	302-AE03	Phase 1B	4	0.043 - 3	0.83	96000	2200
SVOC	Pyrene	302-AE04	Phase 1B	8	U (0.56) - 1.2	0.19	96000	2200
SVOC	Pyrene	302-AE05	Phase 1B	20	0.018 - 0.53	0.096	96000	2200
SVOC	Pyrene	302-AE07	Phase 1B	3	1.04 - 1.04	0.38	96000	2200
SVOC	Pyrene	302-AE08	Phase 1B	3	0.0014 - 0.0014	0.039	96000	2200
SVOC	Pyrene	302-AF04	Phase 1B	22	U (0.11) - 0.39	0.069	96000	2200
SVOC	Pyrene	302-AF05	Phase 1B	2	0.0615 - 0.42	0.24	96000	2200
SVOC	Pyrene	302-AF09	Phase 1B	5	U (0.04) - 0.0898	0.035	96000	2200
SVOC	Pyrene	302-AG04	Phase 1B	9	U (0.11) - 0.34	0.10	96000	2200
SVOC	Pyrene	302-AG06	Phase 1B	5	U (0.041) - 0.0583	0.029	96000	2200
SVOC	Pyrene	302-AG08	Phase 1B	6	0.17 - 3	0.83	96000	2200
SVOC	Pyrene	302-AH05	Phase 1B	11	0.085 - 0.99	0.42	96000	2200
SVOC	Pyrene	302-AH06	Phase 1B	4	U (0.0415) - 0.173	0.058	96000	2200
SVOC	Pyrene	302-AH07	Phase 1B	21	U (0.37) - 1.5	0.17	96000	2200
SVOC	Pyrene	302-AH08	Phase 1B	13	U (0.041) - 1.1	0.28	96000	2200
SVOC	Pyrene	302-AI05	Phase 1B	11	0.0613 - 0.71	0.14	96000	2200
SVOC	Pyrene	302-AI06	Phase 1B	19	U (0.13) - 7.4	0.66	96000	2200
SVOC	Pyrene	302-AI07	Phase 1B	10	U (0.375) - 0.53	0.19	96000	2200
SVOC	Pyrene	302-AI08	Phase 1B	2	U (0.38)	0.11	96000	2200
SVOC	Pyrene	302-AI09	Phase 1B	3	U (0.041) - 0.351	0.13	96000	2200
SVOC	Pyrene	302-AJ05	Phase 1B	2	U (0.12) - 0.061	0.061	96000	2200
SVOC	Pyrene	302-AJ06	Phase 1B	5	0.13 - 0.41	0.14	96000	2200
SVOC	Pyrene	302-AK05	Phase 1B	5	0.046 - 2	0.51	96000	2200
SVOC	Pyrene	302-AK07	Phase 1B	13	U (0.2) - 7.2	1.1	96000	2200
SVOC	Pyrene	302-AL03	Phase 1B	2	0.12 - 0.629	0.37	96000	2200
SVOC	Pyrene	302-AL05	Phase 1B	13	U (0.42) - 4.4	1.3	96000	2200
SVOC	Pyrene	302-AL08	Phase 1B	2	U (0.041)	0.019	96000	2200
SVOC	Pyrene	302-AN01	Phase 1B	2	0.12 - 0.12	0.069	96000	2200
SVOC	Pyrene	302-AP02	Phase 1B	2	0.0448 - 0.623	0.33	96000	2200
SVOC	Pyrene	302-AP03	Phase 1B	23	0.05 - 0.31	0.077	96000	2200
SVOC	Pyrene	302-AP04	Phase 1B	2	0.022 - 0.127	0.075	96000	2200
SVOC	Pyrene	302-AP05	Phase 1B	2	U (0.035)	0.017	96000	2200
SVOC	Pyrene	302-AQ01	Phase 1B	2	0.46 - 4.5	2.5	96000	2200
SVOC	Pyrene	302-AQ04	Phase 1B	2	U (0.11)	0.055	96000	2200
SVOC	Pyrene	302-AR01	Phase 1B	2	0.36 - 13	6.7	96000	2200

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
SVOC	Pyrene	302-AR04	Phase 1B	3	0.0604 - 0.0604	0.052	96000	2200
SVOC	Pyrene	302-AS04	Phase 1B	2	U (0.0419)	0.021	96000	2200
SVOC	Pyrene	302-AT01	Phase 1B	2	U (0.3) - 0.808	0.48	96000	2200
SVOC	Pyrene	302-AT02	Phase 1B	2	0.185 - 7.26	3.7	96000	2200
SVOC	Pyrene	302-AT03	Phase 1B	4	0.0273 - 0.0404	0.027	96000	2200
SVOC	Pyrene	302-AU01	Phase 1B	4	0.212 - 3.1	0.99	96000	2200
SVOC	Pyrene	302-AU02	Phase 1B	8	U (4)	0.30	96000	2200
SVOC	Pyrene	302-AU03	Phase 1B	2	U (0.12)	0.060	96000	2200
SVOC	Pyrene	302-AV02	Phase 1B	4	U (0.59) - 0.58	0.19	96000	2200
SVOC	Pyrene	302-AV04	Phase 1B	2	U (0.0415)	0.020	96000	2200
SVOC	Pyrene	302-AW02	Phase 1B	2	U (1.9) - 5.3	2.7	96000	2200
SVOC	Pyrene	302-AX02	Phase 1B	3	U (0.038)	0.018	96000	2200
SVOC	Pyrene	302-AY02	Phase 1B	14	0.0767 - 32	7.1	96000	2200
SVOC	Pyrene	302-AY03	Phase 1B	2	0.154 - 0.172	0.16	96000	2200
SVOC	Pyrene	302-AY05	Phase 1B	2	U (0.19)	0.058	96000	2200
SVOC	Pyrene	302-AZ02	Phase 1B	8	0.1 - 60	9.6	96000	2200
SVOC	Pyrene	302-AZ03	Phase 1B	1	1.1 - 1.1	1.1	96000	2200
SVOC	Pyrene	302-BA03	Phase 1B	3	U (0.074) - 0.18	0.12	96000	2200
SVOC	Pyrene	302-BB07	Phase 1B	5	0.027 - 0.084	0.044	96000	2200
SVOC	Pyrene	302-BB08	Phase 1B	1	0.9 - 0.9	0.90	96000	2200
SVOC	Pyrene	302-BC06	Phase 1B	1	U (0.23)	0.12	96000	2200
SVOC	Pyrene	301-L01	Phase 1C	7	U (0.19) - 7.1	1.2	96000	2200
SVOC	Pyrene	301-T03	Phase 1C	2	1.1 - 1.1	0.57	96000	2200
SVOC	Pyrene	302-AD02	Phase 1C	2	U (0.19)	0.057	96000	2200
SVOC	Pyrene	302-AH01	Phase 1C	2	U (0.19) - 0.48	0.25	96000	2200
SVOC	Pyrene	302-AI01	Phase 1C	2	U (0.04) - 0.404	0.21	96000	2200
SVOC	Pyrene	302-AL01	Phase 1C	2	U (0.037) - 0.306	0.16	96000	2200
INORG	Lead	LS-A-A01	Life Sciences	2	400 - 1300	850.0	1000	450
INORG	Lead	LS-A-A02	Life Sciences	2	128 - 733	430.5	1000	450
INORG	Lead	LS-A-A03	Life Sciences	1	84000 - 84000	84000.0	1000	450
INORG	Lead	LS-A-A04	Life Sciences	3	135 - 214	173.7	1000	450
INORG	Lead	LS-A-A05	Life Sciences	1	38.8 - 38.8	38.8	1000	450
INORG	Lead	LS-A-B02	Life Sciences	14	5 - 191	42.7	1000	450
INORG	Lead	LS-A-B03	Life Sciences	4	4.2 - 108	50.6	1000	450
INORG	Lead	LS-A-C01	Life Sciences	29	5.06 - 202	48.3	1000	450
INORG	Lead	LS-A-C02	Life Sciences	18	4.36 - 2220	344.3	1000	450
INORG	Lead	LS-A-C04	Life Sciences	3	3.87 - 78.1	30.9	1000	450
INORG	Lead	LS-A-D01	Life Sciences	5	19.7 - 625	210.3	1000	450
INORG	Lead	LS-A-D02	Life Sciences	1	147 - 147	147.0	1000	450
INORG	Lead	LS-A-D03	Life Sciences	3	10.3 - 174	65.4	1000	450
INORG	Lead	LS-A-D04	Life Sciences	2	33.4 - 380	206.7	1000	450
INORG	Lead	LS-A-D05	Life Sciences	6	10.4 - 405	135.5	1000	450
INORG	Lead	LS-A-D06	Life Sciences	2	4.1 - 349	176.6	1000	450
INORG	Lead	LS-A-D07	Life Sciences	2	45.7 - 124	84.9	1000	450
INORG	Lead	LS-A-E01	Life Sciences	3	12.3 - 294	165.1	1000	450
INORG	Lead	LS-A-E03	Life Sciences	1	219 - 219	219.0	1000	450
INORG	Lead	LS-A-E04	Life Sciences	2	14.6 - 1420	717.3	1000	450
INORG	Lead	LS-A-E05	Life Sciences	1	200 - 200	200.0	1000	450
INORG	Lead	LS-A-E07	Life Sciences	1	101 - 101	101.0	1000	450
INORG	Lead	LS-A-E08	Life Sciences	1	181 - 181	181.0	1000	450
INORG	Lead	LS-A-F01	Life Sciences	3	6.63 - 131	69.8	1000	450
INORG	Lead	LS-A-F02	Life Sciences	3	102 - 1380	674.0	1000	450
INORG	Lead	LS-A-F03	Life Sciences	1	314 - 314	314.0	1000	450
INORG	Lead	LS-A-F04	Life Sciences	12	8.52 - 143	43.0	1000	450
INORG	Lead	LS-A-F05	Life Sciences	1	74.6 - 74.6	74.6	1000	450
INORG	Lead	LS-A-G01	Life Sciences	3	79.2 - 912	363.2	1000	450
INORG	Lead	LS-A-G02	Life Sciences	2	6.75 - 170	88.4	1000	450
INORG	Lead	LS-A-G03	Life Sciences	3	21 - 230	141.0	1000	450
INORG	Lead	LS-A-G07	Life Sciences	3	9.56 - 254	127.5	1000	450
INORG	Lead	LS-A-G08	Life Sciences	2	65.2 - 148	106.6	1000	450
INORG	Lead	LS-A-H03	Life Sciences	2	21.5 - 68	44.8	1000	450
INORG	Lead	LS-A-H04	Life Sciences	2	11.5 - 30.7	21.1	1000	450
INORG	Lead	LS-A-H06	Life Sciences	1	191 - 191	191.0	1000	450
INORG	Lead	LS-A-H07	Life Sciences	2	20.7 - 56.5	38.6	1000	450
INORG	Lead	LS-A-I01	Life Sciences	7	19.8 - 478	150.8	1000	450
INORG	Lead	LS-A-I02	Life Sciences	1	374 - 374	374.0	1000	450
INORG	Lead	LS-A-I03	Life Sciences	3	10.3 - 670	340.8	1000	450
INORG	Lead	LS-B-B01	Life Sciences	1	26.9 - 26.9	26.9	1000	450
INORG	Lead	LS-B-C01	Life Sciences	3	11.4 - 25.6	20.6	1000	450
INORG	Lead	LS-B-E01	Life Sciences	4	13.7 - 1250	554.7	1000	450
INORG	Lead	LS-B-G02	Life Sciences	1	547 - 547	547.0	1000	450
INORG	Lead	LS-B-H02	Life Sciences	3	11.7 - 118	63.7	1000	450
INORG	Lead	LS-E-B01	Life Sciences	109	9.14 - 95000	2167.3	1000	450
INORG	Lead	LS-E-G01	Life Sciences	4	31.3 - 370	172.3	1000	450
INORG	Lead	201-A01	Phase 1A	7	6.6 - 178	36.0	1000	450
INORG	Lead	201-A02	Phase 1A	14	5.78 - 2740	287.6	1000	450
INORG	Lead	201-A03	Phase 1A	7	6.74 - 1580	257.6	1000	450
INORG	Lead	201-A04	Phase 1A	24	6.55 - 1050	159.1	1000	450
INORG	Lead	201-A05	Phase 1A	12	2.25 - 2500	358.1	1000	450
INORG	Lead	201-A06	Phase 1A	10	5.65 - 153	30.7	1000	450
INORG	Lead	201-A07	Phase 1A	9	5.15 - 37.3	12.3	1000	450
INORG	Lead	201-A08	Phase 1A	9	4.39 - 2110	270.2	1000	450
INORG	Lead	201-A09	Phase 1A	7	7.46 - 98.7	31.2	1000	450

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Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
INORG	Lead	201-A10	Phase 1A	8	5.19 - 449	124.9	1000	450
INORG	Lead	201-A11	Phase 1A	9	6.85 - 2740	435.8	1000	450
INORG	Lead	201-A12	Phase 1A	18	8.6 - 780	133.7	1000	450
INORG	Lead	201-A13	Phase 1A	14	6.7 - 359	103.1	1000	450
INORG	Lead	201-A14	Phase 1A	15	2 - 419	95.1	1000	450
INORG	Lead	201-B01	Phase 1A	4	7.54 - 1500	422.0	1000	450
INORG	Lead	201-B02	Phase 1A	8	7.86 - 60.4	19.2	1000	450
INORG	Lead	201-B03	Phase 1A	1	10.8 - 10.8	10.8	1000	450
INORG	Lead	201-B04	Phase 1A	9	7.32 - 90.4	29.3	1000	450
INORG	Lead	201-B05	Phase 1A	3	19.4 - 406	151.3	1000	450
INORG	Lead	201-B07	Phase 1A	7	10 - 690	245.9	1000	450
INORG	Lead	201-B08	Phase 1A	10	8.8 - 218	64.3	1000	450
INORG	Lead	201-B09	Phase 1A	10	5.8 - 1850	273.6	1000	450
INORG	Lead	201-B10	Phase 1A	8	26 - 1100	365.9	1000	450
INORG	Lead	201-B11	Phase 1A	7	3.4 - 6720	1255.2	1000	450
INORG	Lead	201-B12	Phase 1A	3	10.3 - 25.2	15.4	1000	450
INORG	Lead	201-C01	Phase 1A	15	5.71 - 5150	461.0	1000	450
INORG	Lead	201-C02	Phase 1A	2	40.1 - 258	149.1	1000	450
INORG	Lead	201-C04	Phase 1A	10	3.4 - 40.6	16.6	1000	450
INORG	Lead	201-C05	Phase 1A	3	10.1 - 228	84.0	1000	450
INORG	Lead	201-C06	Phase 1A	15	3.28 - 1780	370.6	1000	450
INORG	Lead	201-C07	Phase 1A	12	123 - 3920	766.8	1000	450
INORG	Lead	201-C08	Phase 1A	14	2.92 - 402	48.0	1000	450
INORG	Lead	201-C09	Phase 1A	7	2.65 - 36.1	8.8	1000	450
INORG	Lead	201-C10	Phase 1A	4	8.46 - 2590	788.2	1000	450
INORG	Lead	201-C11	Phase 1A	2	1370 - 6280	3825.0	1000	450
INORG	Lead	201-D01	Phase 1A	4	4.2 - 122	43.0	1000	450
INORG	Lead	201-D05	Phase 1A	9	5.42 - 160000	18180.0	1000	450
INORG	Lead	201-D12	Phase 1A	4	U (15) - 125	38.6	1000	450
INORG	Lead	201-E01	Phase 1A	39	7.4 - 1040	86.4	1000	450
INORG	Lead	201-E02	Phase 1A	1	8.8 - 8.8	8.8	1000	450
INORG	Lead	201-E03	Phase 1A	3	4.4 - 212	114.8	1000	450
INORG	Lead	201-E04	Phase 1A	5	7.1 - 19.2	11.7	1000	450
INORG	Lead	201-E05	Phase 1A	22	2.2 - 1510	145.4	1000	450
INORG	Lead	201-F01	Phase 1A	53	2.07 - 1200	94.8	1000	450
INORG	Lead	201-F02	Phase 1A	20	6.3 - 3570	470.4	1000	450
INORG	Lead	201-F03	Phase 1A	32	3.2 - 13800	663.3	1000	450
INORG	Lead	201-F04	Phase 1A	20	3.9 - 262	25.1	1000	450
INORG	Lead	202-A03	Phase 1A	8	3.78 - 19.4	7.7	1000	450
INORG	Lead	202-A05	Phase 1A	4	10 - 73.6	26.9	1000	450
INORG	Lead	202-A06	Phase 1A	4	2.18 - 7.37	5.0	1000	450
INORG	Lead	202-A07	Phase 1A	3	4.25 - 11	7.3	1000	450
INORG	Lead	202-A08	Phase 1A	3	5.14 - 7.61	6.5	1000	450
INORG	Lead	202-A09	Phase 1A	6	5.82 - 13.9	7.8	1000	450
INORG	Lead	202-B01	Phase 1A	2	46.8 - 110	78.4	1000	450
INORG	Lead	202-B03	Phase 1A	15	1.22 - 89.2	9.1	1000	450
INORG	Lead	202-B04	Phase 1A	3	1.49 - 1.78	1.6	1000	450
INORG	Lead	202-B09	Phase 1A	9	4.03 - 12.6	7.0	1000	450
INORG	Lead	202-C04	Phase 1A	7	12.8 - 295	118.9	1000	450
INORG	Lead	202-C06	Phase 1A	1	5.85 - 5.85	5.9	1000	450
INORG	Lead	202-C07	Phase 1A	1	6.6 - 6.6	6.6	1000	450
INORG	Lead	202-C10	Phase 1A	1	24.9 - 24.9	24.9	1000	450
INORG	Lead	202-D05	Phase 1A	3	6.2 - 10	7.8	1000	450
INORG	Lead	202-D06	Phase 1A	3	6.9 - 2140	718.2	1000	450
INORG	Lead	202-E06	Phase 1A	2	2.38 - 24.5	13.4	1000	450
INORG	Lead	202-E08	Phase 1A	11	1.04 - 45.9	9.6	1000	450
INORG	Lead	202-E09	Phase 1A	13	1.68 - 60.2	14.4	1000	450
INORG	Lead	202-E10	Phase 1A	4	5.62 - 89	27.5	1000	450
INORG	Lead	202-E12	Phase 1A	2	1.39 - 2.41	1.9	1000	450
INORG	Lead	202-F04	Phase 1A	7	6.75 - 3200	501.9	1000	450
INORG	Lead	202-F05	Phase 1A	1	51.6 - 51.6	51.6	1000	450
INORG	Lead	202-F07	Phase 1A	14	7.2 - 8400	1288.1	1000	450
INORG	Lead	202-F08	Phase 1A	2	15.7 - 1140	577.9	1000	450
INORG	Lead	202-F10	Phase 1A	2	6.41 - 60.7	33.6	1000	450
INORG	Lead	202-F14	Phase 1A	2	12.8 - 399	205.9	1000	450
INORG	Lead	202-F16	Phase 1A	2	6.7 - 8.99	7.8	1000	450
INORG	Lead	202-F17	Phase 1A	8	2.04 - 3.04	2.4	1000	450
INORG	Lead	202-G01	Phase 1A	8	1.33 - 150	27.4	1000	450
INORG	Lead	202-G02	Phase 1A	13	1.49 - 17.4	5.6	1000	450
INORG	Lead	202-G03	Phase 1A	9	1.45 - 10.7	2.9	1000	450
INORG	Lead	202-G04	Phase 1A	1	8.6 - 8.6	8.6	1000	450
INORG	Lead	202-G05	Phase 1A	1	5.5 - 5.5	5.5	1000	450
INORG	Lead	202-G07	Phase 1A	16	1.76 - 81.9	8.2	1000	450
INORG	Lead	202-H01	Phase 1A	40	48.6 - 66400	14032.5	1000	450
INORG	Lead	202-H03	Phase 1A	15	5.6 - 7460	2204.0	1000	450
INORG	Lead	202-H05	Phase 1A	3	11.3 - 134	59.8	1000	450
INORG	Lead	202-H06	Phase 1A	2	10.2 - 494	252.1	1000	450
INORG	Lead	202-H07	Phase 1A	2	9.2 - 1620	814.6	1000	450
INORG	Lead	202-H08	Phase 1A	4	3.14 - 1080	272.6	1000	450
INORG	Lead	202-H11	Phase 1A	10	1.7 - 162	20.5	1000	450
INORG	Lead	202-I01	Phase 1A	2	1.81 - 4.51	3.2	1000	450
INORG	Lead	202-I04	Phase 1A	4	3.14 - 6.77	4.2	1000	450
INORG	Lead	202-J03	Phase 1A	6	3.38 - 156	40.9	1000	450

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INORG	Lead	202-J04	Phase 1A	8	6.94 - 116	23.2	1000	450
INORG	Lead	202-J07	Phase 1A	2	8.5 - 102	55.3	1000	450
INORG	Lead	202-J09	Phase 1A	2	0.99 - 8.8	4.9	1000	450
INORG	Lead	301-AA01	Phase 1A	1	16.3 - 16.3	16.3	1000	450
INORG	Lead	301-AA06	Phase 1A	11	2.47 - 15.4	5.5	1000	450
INORG	Lead	301-AA07	Phase 1A	4	4.77 - 180	49.8	1000	450
INORG	Lead	301-AA08	Phase 1A	3	7 - 83	32.9	1000	450
INORG	Lead	301-AA09	Phase 1A	3	2.3 - 94	34.4	1000	450
INORG	Lead	301-AB04	Phase 1A	3	4.9 - 12.5	8.6	1000	450
INORG	Lead	301-AB06	Phase 1A	2	2.91 - 2.93	2.9	1000	450
INORG	Lead	301-AB07	Phase 1A	1	166 - 166	166.0	1000	450
INORG	Lead	301-AB09	Phase 1A	5	9 - 9630	2014.8	1000	450
INORG	Lead	301-AC04	Phase 1A	25	6.3 - 2270	315.1	1000	450
INORG	Lead	301-AC07	Phase 1A	10	10.4 - 215	92.4	1000	450
INORG	Lead	301-AC08	Phase 1A	8	7.03 - 125	49.1	1000	450
INORG	Lead	301-AC09	Phase 1A	6	3 - 8.3	7.0	1000	450
INORG	Lead	301-B01	Phase 1A	1	9.8 - 9.8	9.8	1000	450
INORG	Lead	301-C01	Phase 1A	3	5.2 - 9.4	6.8	1000	450
INORG	Lead	301-C02	Phase 1A	9	1.2 - 330	66.1	1000	450
INORG	Lead	301-D01	Phase 1A	27	3.88 - 1580	172.6	1000	450
INORG	Lead	301-E02	Phase 1A	22	6.54 - 461	53.5	1000	450
INORG	Lead	301-E03	Phase 1A	4	3 - 12	6.7	1000	450
INORG	Lead	301-G01	Phase 1A	2	33.4 - 103	68.2	1000	450
INORG	Lead	301-G02	Phase 1A	3	38.8 - 1830	647.7	1000	450
INORG	Lead	301-G03	Phase 1A	1	17.8 - 17.8	17.8	1000	450
INORG	Lead	301-H01	Phase 1A	13	6.33 - 13	8.9	1000	450
INORG	Lead	301-H02	Phase 1A	9	8.1 - 3540	776.2	1000	450
INORG	Lead	301-H03	Phase 1A	2	10.3 - 22	16.2	1000	450
INORG	Lead	301-I01	Phase 1A	7	8.82 - 372	72.5	1000	450
INORG	Lead	301-I02	Phase 1A	1	84.4 - 84.4	84.4	1000	450
INORG	Lead	301-I03	Phase 1A	2	341 - 371	356.0	1000	450
INORG	Lead	301-J01	Phase 1A	4	6.32 - 177	68.0	1000	450
INORG	Lead	301-J02	Phase 1A	6	7.41 - 1520	348.3	1000	450
INORG	Lead	301-K01	Phase 1A	11	5.27 - 1330	210.3	1000	450
INORG	Lead	301-K02	Phase 1A	3	6.73 - 63.2	25.8	1000	450
INORG	Lead	301-L02	Phase 1A	5	34.8 - 355	127.3	1000	450
INORG	Lead	301-L03	Phase 1A	5	6.14 - 463	208.6	1000	450
INORG	Lead	301-M02	Phase 1A	6	7.08 - 1070	195.5	1000	450
INORG	Lead	301-M03	Phase 1A	3	34.4 - 248	113.5	1000	450
INORG	Lead	301-M04	Phase 1A	1	1550 - 1550	1550.0	1000	450
INORG	Lead	301-N02	Phase 1A	3	6.5 - 579	198.9	1000	450
INORG	Lead	301-P02	Phase 1A	2	119 - 156	137.5	1000	450
INORG	Lead	301-Q04	Phase 1A	6	2.5 - 280	55.9	1000	450
INORG	Lead	301-R02	Phase 1A	6	4.1 - 17	7.6	1000	450
INORG	Lead	301-S02	Phase 1A	4	1.8 - 4.7	1.9	1000	450
INORG	Lead	301-T04	Phase 1A	2	6.1 - 67	36.6	1000	450
INORG	Lead	301-V04	Phase 1A	29	U (22) - 884	47.0	1000	450
INORG	Lead	301-W03	Phase 1A	4	1.3 - 14.7	6.4	1000	450
INORG	Lead	301-X03	Phase 1A	3	1.7 - 72	29.2	1000	450
INORG	Lead	301-Y03	Phase 1A	2	12.3 - 75.7	44.0	1000	450
INORG	Lead	301-Y04	Phase 1A	3	3.6 - 45	18.5	1000	450
INORG	Lead	301-Y05	Phase 1A	6	9.5 - 47.6	17.1	1000	450
INORG	Lead	302-AD08	Phase 1A	2	3.07 - 3.32	3.2	1000	450
INORG	Lead	302-AD09	Phase 1A	3	4.3 - 14.2	9.8	1000	450
INORG	Lead	302-AD10	Phase 1A	4	19.8 - 230	146.2	1000	450
INORG	Lead	302-AE09	Phase 1A	4	5.3 - 9.65	6.6	1000	450
INORG	Lead	302-AF06	Phase 1A	9	4.3 - 93.9	28.7	1000	450
INORG	Lead	302-AG07	Phase 1A	7	3.02 - 14.2	5.9	1000	450
INORG	Lead	302-AN02	Phase 1A	2	17.9 - 310	164.0	1000	450
INORG	Lead	302-AO03	Phase 1A	2	7.21 - 7.7	7.5	1000	450
INORG	Lead	302-AQ02	Phase 1A	9	3.88 - 6.75	5.3	1000	450
INORG	Lead	302-AR02	Phase 1A	4	3.59 - 68.6	25.5	1000	450
INORG	Lead	302-AS03	Phase 1A	13	2.77 - 93.7	13.9	1000	450
INORG	Lead	302-AV01	Phase 1A	12	U (3.21) - 623	206.4	1000	450
INORG	Lead	302-AV03	Phase 1A	6	4.75 - 11.9	8.4	1000	450
INORG	Lead	302-AW01	Phase 1A	12	16 - 464	262.1	1000	450
INORG	Lead	302-AW03	Phase 1A	2	4.65 - 5.42	5.0	1000	450
INORG	Lead	302-AX01	Phase 1A	14	78.5 - 472	240.6	1000	450
INORG	Lead	302-AX05	Phase 1A	2	7.56 - 7.89	7.7	1000	450
INORG	Lead	302-AZ05	Phase 1A	1	7.58 - 7.58	7.6	1000	450
INORG	Lead	302-BA05	Phase 1A	2	11.4 - 12.4	11.9	1000	450
INORG	Lead	302-BC05	Phase 1A	7	5.88 - 156	31.2	1000	450
INORG	Lead	302-BE04	Phase 1A	2	11 - 143	77.0	1000	450
INORG	Lead	303-AY01	Phase 1A	6	6.35 - 445	155.5	1000	450
INORG	Lead	303-AZ01	Phase 1A	5	268 - 533	373.4	1000	450
INORG	Lead	303-BA01	Phase 1A	8	101 - 438	228.4	1000	450
INORG	Lead	303-BA02	Phase 1A	9	19.8 - 955	394.5	1000	450
INORG	Lead	303-BB01	Phase 1A	2	98.6 - 119	108.8	1000	450
INORG	Lead	303-BB02	Phase 1A	5	4.4 - 702	320.3	1000	450
INORG	Lead	303-BC01	Phase 1A	4	3.3 - 224	75.6	1000	450
INORG	Lead	303-BD04	Phase 1A	11	8.1 - 1340	301.9	1000	450
INORG	Lead	303-BE03	Phase 1A	26	4.98 - 589	234.8	1000	450
INORG	Lead	303-BF05	Phase 1A	20	7.52 - 1110	282.9	1000	450

Table 3.4

Evergreen and PESRM Sampling Results Summary

Soil Management Plan Addendum No. 6

Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
INORG	Lead	303-BG04	Phase 1A	28	22.8 - 896	237.5	1000	450
INORG	Lead	303-BH02	Phase 1A	25	7.08 - 397	218.3	1000	450
INORG	Lead	303-BI03	Phase 1A	6	157 - 315	272.5	1000	450
INORG	Lead	303-BJ01	Phase 1A	3	12.9 - 517	187.3	1000	450
INORG	Lead	303-BJ02	Phase 1A	3	106 - 853	423.3	1000	450
INORG	Lead	303-BK03	Phase 1A	7	20.4 - 981	371.0	1000	450
INORG	Lead	303-BL02	Phase 1A	10	20.2 - 1360	229.3	1000	450
INORG	Lead	303-BM02	Phase 1A	1	329 - 329	329.0	1000	450
INORG	Lead	303-BN02	Phase 1A	15	15.1 - 1460	272.5	1000	450
INORG	Lead	303-BN03	Phase 1A	15	17.2 - 1020	275.6	1000	450
INORG	Lead	303-BO02	Phase 1A	10	10 - 180	84.0	1000	450
INORG	Lead	303-BP02	Phase 1A	30	5.5 - 429	105.9	1000	450
INORG	Lead	303-BQ01	Phase 1A	5	66.3 - 283	138.2	1000	450
INORG	Lead	303-BQ02	Phase 1A	15	3.73 - 417	78.7	1000	450
INORG	Lead	303-BR02	Phase 1A	8	168 - 1070	494.0	1000	450
INORG	Lead	303-BS03	Phase 1A	1	211 - 211	211.0	1000	450
INORG	Lead	303-BT01	Phase 1A	13	10.8 - 688	134.6	1000	450
INORG	Lead	303-BW01	Phase 1A	5	18.5 - 1490	391.8	1000	450
INORG	Lead	301-AA02	Phase 1B	2	7.6 - 26.2	16.9	1000	450
INORG	Lead	301-AA05	Phase 1B	16	4.7 - 1100	186.1	1000	450
INORG	Lead	301-AB05	Phase 1B	6	5.14 - 216	67.3	1000	450
INORG	Lead	301-AC03	Phase 1B	2	9.9 - 64.7	37.3	1000	450
INORG	Lead	301-T01	Phase 1B	5	3.1 - 384	145.4	1000	450
INORG	Lead	301-T02	Phase 1B	2	25.4 - 121	73.2	1000	450
INORG	Lead	301-U01	Phase 1B	2	7.9 - 145	76.5	1000	450
INORG	Lead	301-U03	Phase 1B	1	4.31 - 4.31	4.3	1000	450
INORG	Lead	301-V01	Phase 1B	7	2.6 - 99.5	24.8	1000	450
INORG	Lead	301-V02	Phase 1B	19	0.007 - 168	35.2	1000	450
INORG	Lead	301-W01	Phase 1B	24	4 - 433	25.7	1000	450
INORG	Lead	301-X01	Phase 1B	9	2.4 - 47.6	16.4	1000	450
INORG	Lead	301-Y01	Phase 1B	5	4.6 - 55	20.6	1000	450
INORG	Lead	301-Z01	Phase 1B	6	3.2 - 33.1	10.4	1000	450
INORG	Lead	301-Z02	Phase 1B	2	10 - 48.4	29.2	1000	450
INORG	Lead	301-Z03	Phase 1B	6	3.5 - 393	109.7	1000	450
INORG	Lead	302-AD06	Phase 1B	12	7.1 - 532	139.6	1000	450
INORG	Lead	302-AD07	Phase 1B	2	3.27 - 53.1	28.2	1000	450
INORG	Lead	302-AE04	Phase 1B	8	5.16 - 278	53.7	1000	450
INORG	Lead	302-AE05	Phase 1B	20	2.51 - 103	12.4	1000	450
INORG	Lead	302-AE07	Phase 1B	3	2.6 - 258	89.0	1000	450
INORG	Lead	302-AE08	Phase 1B	3	4.2 - 6.1	5.1	1000	450
INORG	Lead	302-AF03	Phase 1B	2	11.5 - 50.1	30.8	1000	450
INORG	Lead	302-AF04	Phase 1B	12	7.72 - 176	65.3	1000	450
INORG	Lead	302-AF05	Phase 1B	11	4.2 - 3100	1222.2	1000	450
INORG	Lead	302-AF09	Phase 1B	5	4.4 - 22.2	11.5	1000	450
INORG	Lead	302-AG04	Phase 1B	3	9.8 - 165	99.3	1000	450
INORG	Lead	302-AG06	Phase 1B	5	10.8 - 18.5	13.9	1000	450
INORG	Lead	302-AH04	Phase 1B	8	7.08 - 344	136.1	1000	450
INORG	Lead	302-AH05	Phase 1B	2	6.6 - 51.1	28.9	1000	450
INORG	Lead	302-AH06	Phase 1B	4	4.1 - 46.9	16.5	1000	450
INORG	Lead	302-AH07	Phase 1B	12	2.5 - 92	16.4	1000	450
INORG	Lead	302-AI05	Phase 1B	3	7.88 - 41.8	19.3	1000	450
INORG	Lead	302-AI06	Phase 1B	9	4.2 - 222	69.8	1000	450
INORG	Lead	302-AI07	Phase 1B	8	3.9 - 255	96.6	1000	450
INORG	Lead	302-AI08	Phase 1B	2	13.3 - 60.8	37.1	1000	450
INORG	Lead	302-AI09	Phase 1B	3	1.5 - 206	72.5	1000	450
INORG	Lead	302-AK05	Phase 1B	2	63.5 - 86.2	74.9	1000	450
INORG	Lead	302-AK07	Phase 1B	2	5.91 - 6.97	6.4	1000	450
INORG	Lead	302-AL03	Phase 1B	2	2.6 - 114	58.3	1000	450
INORG	Lead	302-AL08	Phase 1B	2	8.1 - 24.3	16.2	1000	450
INORG	Lead	302-AN01	Phase 1B	2	4.3 - 85.4	44.9	1000	450
INORG	Lead	302-AP02	Phase 1B	2	10.8 - 128	69.4	1000	450
INORG	Lead	302-AP03	Phase 1B	23	2.9 - 268	50.1	1000	450
INORG	Lead	302-AP04	Phase 1B	2	13.3 - 500	256.7	1000	450
INORG	Lead	302-AP05	Phase 1B	2	5.2 - 49.5	27.4	1000	450
INORG	Lead	302-AQ01	Phase 1B	2	254 - 538	396.0	1000	450
INORG	Lead	302-AQ04	Phase 1B	2	7.3 - 60.8	34.1	1000	450
INORG	Lead	302-AR01	Phase 1B	2	27.3 - 814	420.7	1000	450
INORG	Lead	302-AR04	Phase 1B	3	6.2 - 43.8	20.5	1000	450
INORG	Lead	302-AS04	Phase 1B	2	13.6 - 370	191.8	1000	450
INORG	Lead	302-AT01	Phase 1B	2	230 - 440	335.0	1000	450
INORG	Lead	302-AT02	Phase 1B	2	162 - 674	418.0	1000	450
INORG	Lead	302-AT03	Phase 1B	4	2.6 - 103	54.0	1000	450
INORG	Lead	302-AU01	Phase 1B	3	U (2.4) - 237	121.7	1000	450
INORG	Lead	302-AU02	Phase 1B	8	4.1 - 536	72.9	1000	450
INORG	Lead	302-AU03	Phase 1B	2	4.27 - 4.91	4.6	1000	450
INORG	Lead	302-AV02	Phase 1B	4	6.94 - 74.3	25.9	1000	450
INORG	Lead	302-AV04	Phase 1B	2	2.22 - 9.54	5.9	1000	450
INORG	Lead	302-AW02	Phase 1B	2	4.52 - 151	77.8	1000	450
INORG	Lead	302-AX02	Phase 1B	3	5.7 - 14.4	9.6	1000	450
INORG	Lead	302-AY02	Phase 1B	20	58 - 479	234.0	1000	450
INORG	Lead	302-AY03	Phase 1B	2	93.2 - 409	251.1	1000	450
INORG	Lead	302-AY05	Phase 1B	2	2.73 - 11.2	7.0	1000	450
INORG	Lead	302-AZ02	Phase 1B	11	110 - 1110	411.6	1000	450

Table 3.4
Evergreen and PESRM Sampling Results Summary
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Chem Group	Chemical	Cell	Area	Number of Samples	Range (mg/kg)	Average (mg/kg)	Non-Res Direct Contact Soil MSC (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW (mg/kg)
INORG	Lead	302-AZ03	Phase 1B	1	320 - 320	320.0	1000	450
INORG	Lead	302-BA03	Phase 1B	3	30.3 - 179	85.2	1000	450
INORG	Lead	302-BB07	Phase 1B	5	7.24 - 160	41.9	1000	450
INORG	Lead	302-BB08	Phase 1B	1	192 - 192	192.0	1000	450
INORG	Lead	302-BC06	Phase 1B	1	18.2 - 18.2	18.2	1000	450
INORG	Lead	301-L01	Phase 1C	7	3.2 - 86	20.8	1000	450
INORG	Lead	301-T03	Phase 1C	2	U (1.3) - 6.5	3.6	1000	450
INORG	Lead	302-AD02	Phase 1C	2	8.1 - 18.9	13.5	1000	450
INORG	Lead	302-AE01	Phase 1C	1	9.96 - 9.96	10.0	1000	450
INORG	Lead	302-AE02	Phase 1C	2	240 - 547	393.5	1000	450
INORG	Lead	302-AF01	Phase 1C	1	11.3 - 11.3	11.3	1000	450
INORG	Lead	302-AF02	Phase 1C	4	7.81 - 9.99	9.0	1000	450
INORG	Lead	302-AG02	Phase 1C	2	15.1 - 31.1	23.1	1000	450
INORG	Lead	302-AH01	Phase 1C	2	17.8 - 266	141.9	1000	450
INORG	Lead	302-AH03	Phase 1C	2	4.57 - 10.3	7.4	1000	450
INORG	Lead	302-AI01	Phase 1C	2	6.6 - 139	72.8	1000	450
INORG	Lead	302-AI03	Phase 1C	1	7.89 - 7.89	7.9	1000	450
INORG	Lead	302-AI04	Phase 1C	2	5.2 - 7.76	6.5	1000	450
INORG	Lead	302-AJ04	Phase 1C	1	4.66 - 4.66	4.7	1000	450
INORG	Lead	302-AL01	Phase 1C	2	5.7 - 544	274.9	1000	450

Notes:

U -- Not Detected.

Detection limits are in parentheses.

All samples at a location are included, regardless of depth.

Calculation of the average used half the analytical limit if the chemical was non-detect, except for 1,2-dibromoethane and 1,2-dichloroethane which were detected at a frequency of <1%.

Indicates average concentration exceeds the Non-Res Soil-to-GW Numeric Value.

Indicates average concentration exceeds the Non-Res Soil DC and Soil-to-GW Numeric Values.

Table 4.1
Bulk Soil Movement and Placement, Soil Reuse Categories and Volume Estimates
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Area ID	Soil Reuse Category	Description	Volume (yd ³)
Innovation Campus			
LS-A5-17	A	--	4,419
LS-A5-18			692
LS-A5-19			966
LS-A5-20			95,435
LS-A5-21			12
LS-A5-22			9,766
LS-A5-23			110,088
LS-A5-24			9
LS-A5-25			168,885
LS-A5-26			4,325
Category A Total (yd³):			394,596
16-C05	B	To be reused (1) in areas beneath an impervious surface cap that will serve as an engineering control at elevations above the groundwater table, or (2) in areas not beneath a surface cap that are more than 500 ft. from a shoreline as long as a risk assessment demonstrates attainment of the Site-specific standard.	2,177
16-C08			4,895
17-C01			4,105
17-C03			3,241
18A-C01			161
18B-C03			2,891
18B-C04			144
18C-C01			0.4
18C-C02			17
18C-C03			483
LS-A5-03			657
LS-A5-04			2,120
LS-A5-05			2,512
LS-A5-06			20,334
LS-A5-08			14,982
LS-A5-09			85,615
LS-A5-12			3,782
LS-A5-13			1,944
LS-A5-14	4,533		
LS-A5-15	19,044		
Category B Total (yd³):			173,639
16-C06a	E	To be reused beneath an impervious surface cap that will serve as an engineering control at elevations above the groundwater table.	1,535
16-C07			487
17-C02			2,748
17-C07			679
18A-C02			4
LS-A5-01			13,049
LS-A5-02			57,676
LS-A5-07			8,187.8
LS-A5-10			7,855
LS-A5-11			2,561
LS-A5-16	11,419		
Category E Total (yd³):			106,201
--	Not Sampled	Not sampled due to railroad spurs.	8,858
Innovation Campus Total (yd³):			683,294
Industrial Development Phase 1			
IP1-A5-01	A	--	3,007
IP1-A5-02			2,697
IP1-A5-03			1,613
IP1-A5-04			2,786
IP1-A5-05			3,177
IP1-A5-06			14,188
IP1-A5-07			3,561
IP1-A5-08			1,381,518
IP1-A5-09			10,650
IP1-A5-10			31,604
IP1-A5-11			5,958
IP1-A5-12			2,046
IP1-A5-13			12,061
IP1-A5-14			13,160
IP1-A5-15			8,009
IP1-A5-16			5,478
IP1-A5-17			4,586
IP1-A5-18			5,046
IP1-A5-19			56
IP1-A5-20			31,514
IP1-A5-21			11,818
IP1-A5-22			17,735
IP1-A5-23			5,758
IP1-A5-24			14,779
IP1-A5-25			5,930
IP1LI-05-A1	9,443		
Category A Total (yd³):			1,608,179

Table 4.1
Bulk Soil Movement and Placement, Soil Reuse Categories and Volume Estimates
Soil Management Plan Addendum No. 6
Philadelphia Energy Solutions Refining and Marketing LLC, Philadelphia, PA

Area ID	Soil Reuse Category	Description	Volume (yd ³)
IP1A-02	B	To be reused (1) in areas beneath an impervious surface cap that will serve as an engineering control at elevations above the groundwater table, or (2) in areas not beneath a surface cap that are more than 500 ft. from a shoreline as long as a risk assessment demonstrates attainment of the Site-specific standard.	252,064
IP1A-06			12,490
IP1A-08			2,951
IP1A-09			--
IP1A-10			--
IP1A-12			5,424
IP1A-13			825
IP1A-16			11,302
IP1A-17			7,276
IP1A-18			6,155
IP1A-19			12,899
IP1A-23			9,769
IP1A-24			17,804
IP1A-26			7,858
IP1A-27			3,490
IP1A-29			9,684
IP1A-30			14,436
IP1A-31			5,490
IP1A-32			20,863
IP1A-33			13,137
IP1A-34			11,534
IP1A-35			3,566
IP1A-37			3,947
IP1B-01			6,650
IP1B-02			12,230
IP1B-03			9,529
IP1B-04			16,428
IP1B-05			3,022
IP1B-10			8,137
IP1B-11			11,865
IP1B-12			8,506
IP1B-13			20,282
IP1B-14			12,062
IP1B-15	6,330		
IP1B-17	45,100		
IP1B-20	9,365		
IP1B-21	11,245		
IP1B-22	14,015		
IP1B-23	18,700		
IP1C-02	9,584		
IP1C-04	30,889		
IP1C-05	7,622		
IP1LI-03	6,021		
IP1LI-04	2,926		
IP1LI-05	7,980		
IP1LI-06	5,065		
IP1-A5-08-B1	4,194		
Category B Total (yd³):			720,707
IP1A-01	E	To be reused beneath an impervious surface cap that will serve as an engineering control at elevations above the groundwater table.	2,937
IP1A-03			2,582
IP1A-04			14,086
IP1A-05			3,030
IP1A-11			1,172
IP1A-14			5,988
IP1A-15			2,712
IP1A-20			5,614
IP1A-21			6,369
IP1A-22			8,541
IP1A-28			10,012
IP1A-36			10,181
IP1B-06			1,754
IP1B-07			5,971
IP1B-08			8,614
IP1B-09			7,472
IP1B-16			6,274
IP1B-18			5,900
IP1B-19			7,231
IP1C-01			6,518
IP1C-03	8,058		
IP1LI-01	3,846		
IP1LI-02	8,747		
Category E Total (yd³):			143,609
--	Not Sampled	Not sampled due to underground utilities.	34,540
Industrial Development Phase 1 Total (yd³):			2,507,035

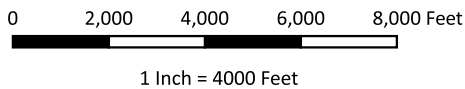
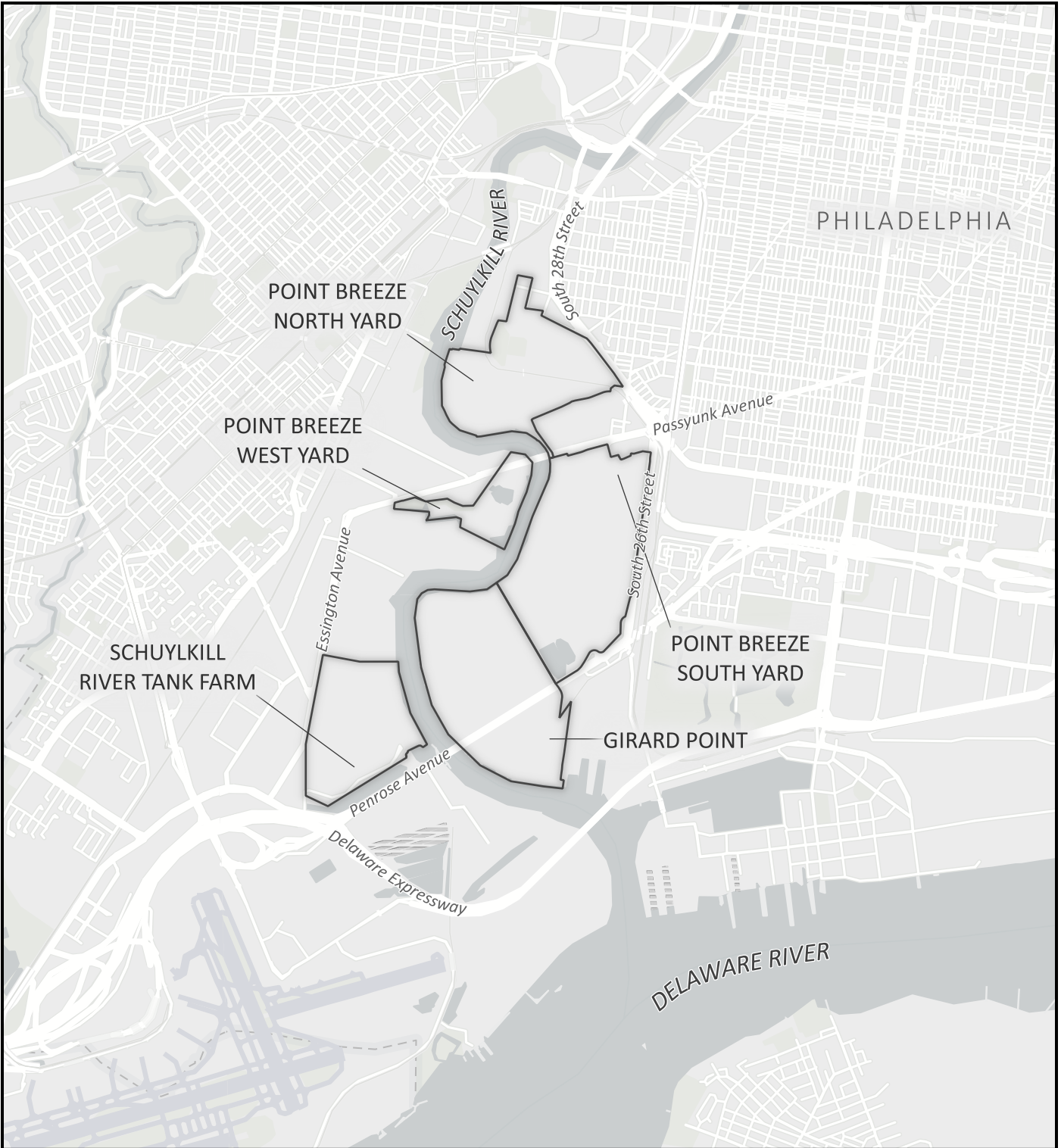
Note:
Area IDs are presented on Figure 4.1.

Figures

- 1.1 Site Location
- 1.2 SMP Addendum No. 6 Development Area (SMP Sampling Area)
- 2.1 SMP Addendum No. 6 Soil Boring Locations
- 2.2a Soil Boring Locations and Cell Boundaries (Innovation Campus)
- 2.2b Soil Boring Locations and Cell Boundaries (Industrial Development Phase 1)
- 3.1a Soil Management Plan Cell Categorization (Innovation Campus)
- 3.1b Soil Management Plan Cell Categorization (Industrial Development Phase 1)
- 4.1 Soil Management Plan Management Area Categorization



N:\GIS\PI\P044.001_PESRM-PES\OGIS\OGZ and GPKG\Branch_SMP\20240124\OGZ328_P044.001_PESRM_SMP.gaz Industrial Development Phase I - SMP Addendum - parent - Site Location 2021-03-26T15:56:13.000 Created by: Resource Checked by: initial



Legend

 Property Boundary

SAFETY FIRST



CLIENT: Philadelphia Energy Solutions
Refining and Marketing LLC

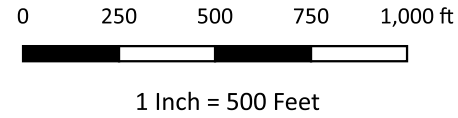
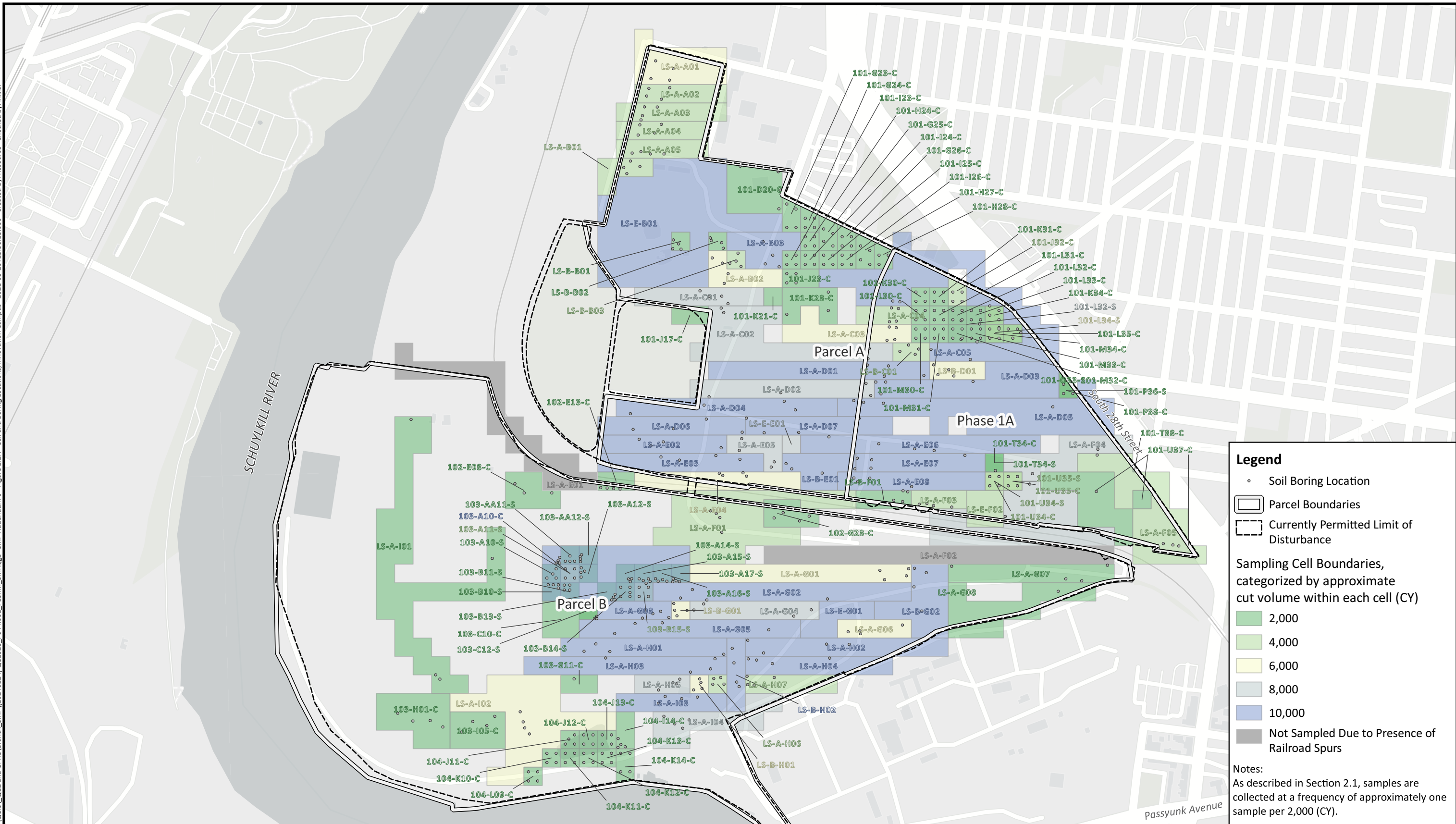
PROJECT: Soil Management Plan
Addendum No. 6

PROJECT NUMBER: P044.001.001

Site Location

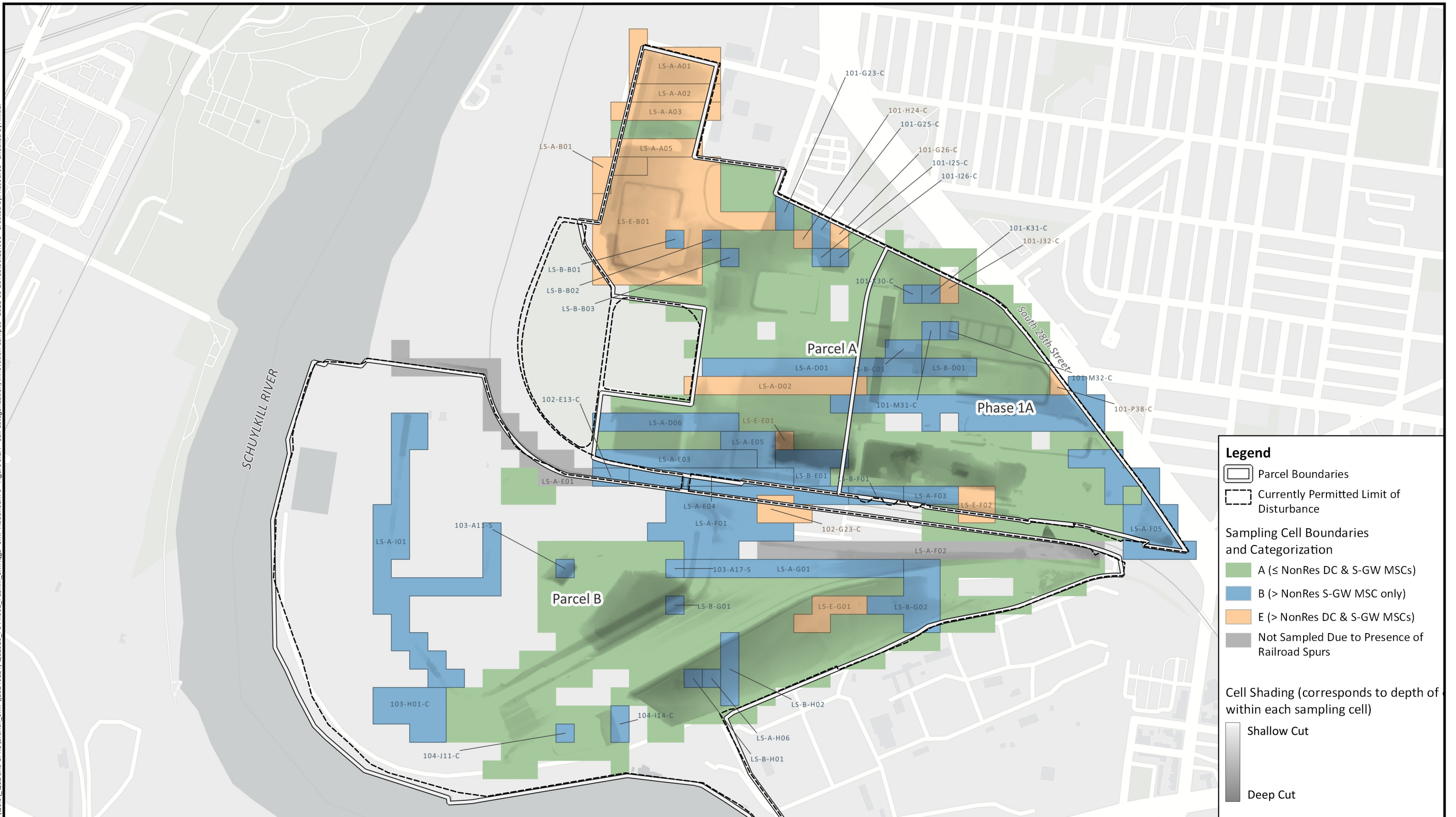
FIGURE 1.1

N:\GIS\Prj\PO44.001_PESRM-PES\OGIS\OGZ and GPKG\Branch_SMP\20240124\OGZ328_P044.001_PESRM_SMP.rgz_SMP Addendum 6 - Figure 2.2A - Cell and Boring Locations, Innovation Campus 2021-03-26T15:56:13.000 Created by: Resource Checked by: initial



	CLIENT:	Philadelphia Energy Solutions Refining and Marketing LLC	Soil Boring Locations and Cell Boundaries Innovation Campus FIGURE 2.2A
	PROJECT:	Soil Management Plan Addendum No. 6	
	PROJECT NUMBER:	P044.001.001	

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Legend

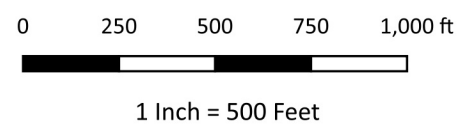
- Parcel Boundaries
- Currently Permitted Limit of Disturbance

Sampling Cell Boundaries and Categorization

- A (\leq NonRes DC & S-GW MSCs)
- B ($>$ NonRes S-GW MSC only)
- E ($>$ NonRes DC & S-GW MSCs)
- Not Sampled Due to Presence of Railroad Spurs

Cell Shading (corresponds to depth of within each sampling cell)

- Shallow Cut
- Deep Cut

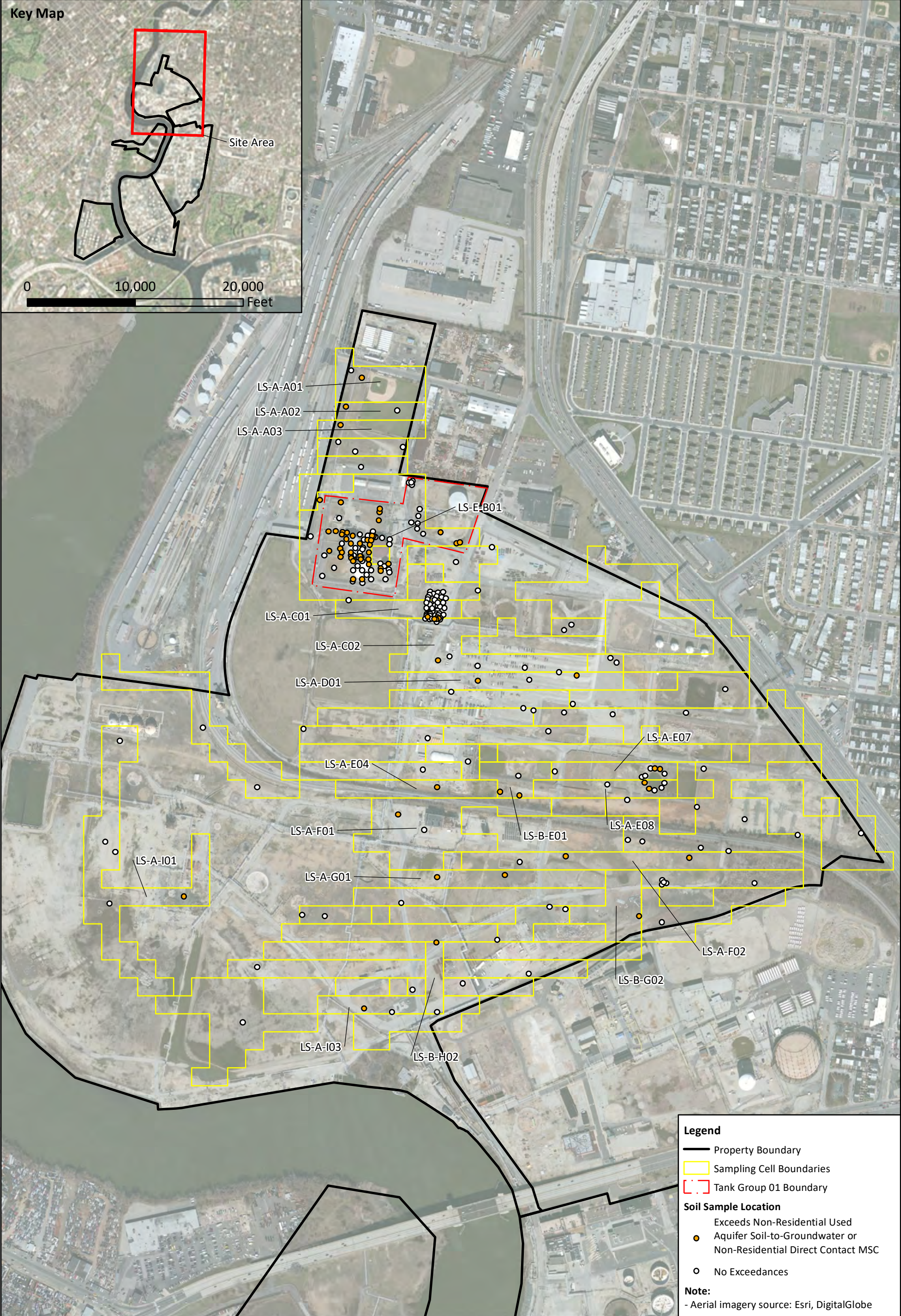


	CLIENT:	Philadelphia Energy Solutions Refining and Marketing LLC	Soil Management Plan Cell Categorization Innovation Campus FIGURE 3.1A
	PROJECT:	Soil Management Plan Addendum No. 6	
	PROJECT NUMBER:	P044.001.001	

Appendix A

Evergreen and PESRM Soil Sampling Results





File: N:\GIS\PI\P044.001_PESRM-PES\MXD\SMP\Addendum No 6\20240122\Figure 1 - AST - RCRA - Areas with Exceedances - In-Campus.mxd 4/11/2024. Created by: ACS. Checked by: Initial. Coordinate System: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702 Ft US



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CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC
 PROJECT: Soil Management Plan Addendum No. 6
 PROJECT NUMBER: P044.001.001

Legend

- Property Boundary
- Sampling Cell Boundaries
- Tank Group 01 Boundary

Soil Sample Location

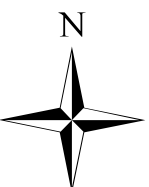
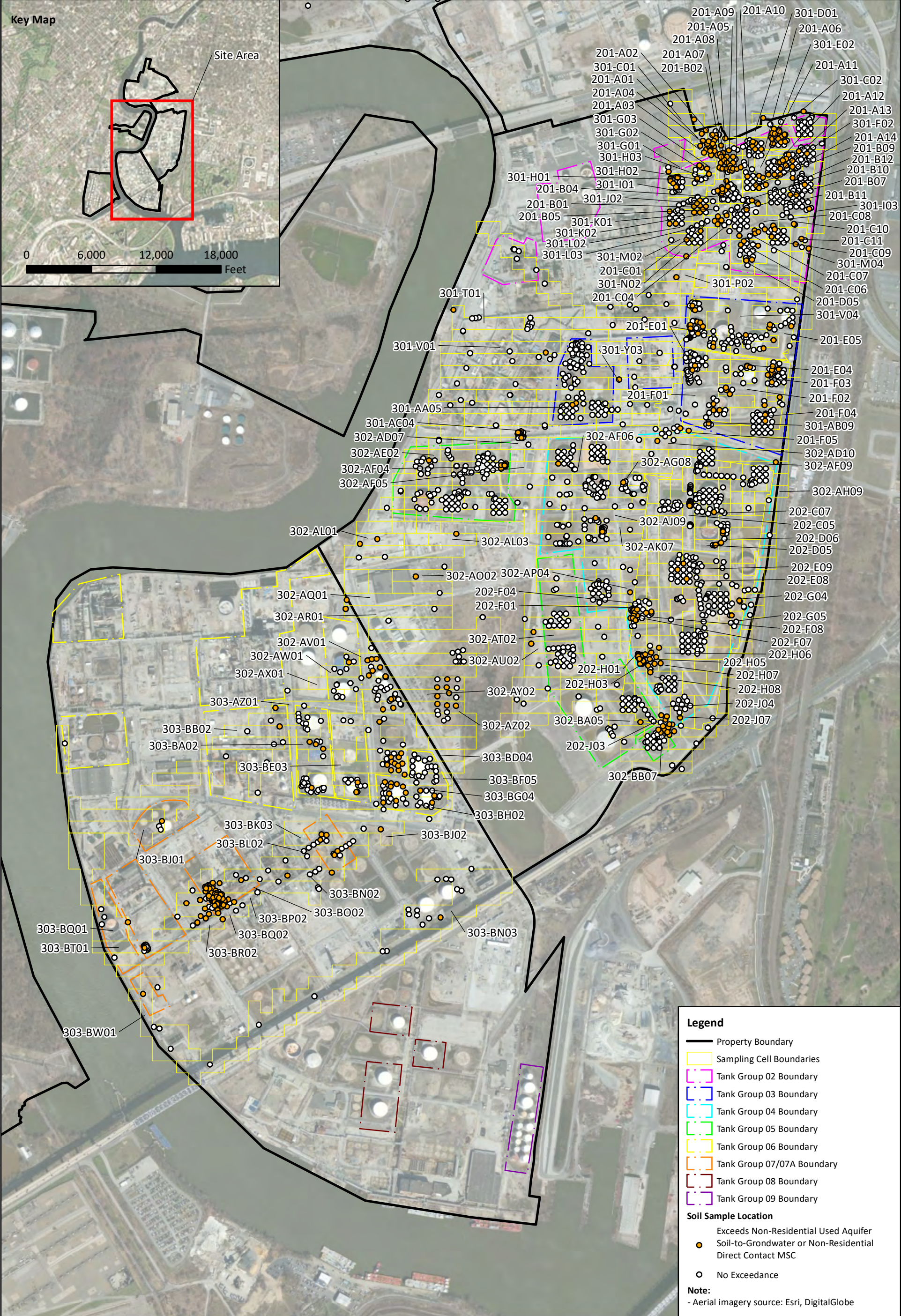
- Exceeds Non-Residential Used
- Aquifer Soil-to-Groundwater or Non-Residential Direct Contact MSC
- No Exceedances

Note:
 - Aerial imagery source: Esri, DigitalGlobe

Aboveground Storage Tank, Evergreen, and RCRA Locations with Exceedances (Innovation Campus)

FIGURE 1

File: N:\GIS\Proj\0404.001_PESRM-PES\WXDS\MP\Addendum No 6\120240122\Figure 2 - AST - RCRA - Areas with Exceedances - IndDevPh1.mxd 4/11/2024 - Created by: ACS Checked by: Initial Coordinate System: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702 Ft US



0 375 750
 Feet
 1 inch = 750 feet

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terraphase
engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC
 PROJECT: Soil Management Plan Addendum No. 6
 PROJECT NUMBER: P044.001.001

Legend

- Property Boundary
- Sampling Cell Boundaries
- Tank Group 02 Boundary
- Tank Group 03 Boundary
- Tank Group 04 Boundary
- Tank Group 05 Boundary
- Tank Group 06 Boundary
- Tank Group 07/07A Boundary
- Tank Group 08 Boundary
- Tank Group 09 Boundary

Soil Sample Location

- Exceeds Non-Residential Used Aquifer
- Soil-to-Groundwater or Non-Residential Direct Contact MSC
- No Exceedance

Note:
 - Aerial imagery source: Esri, DigitalGlobe

**Aboveground Storage Tank, Act 2
 Evergreen, and RCRA Locations
 with Exceedances
 (Industrial Development Phase 1)**

FIGURE 2

Appendix B

Waste Material Identification and Notification Procedure



Waste Material Identification and Notification Procedure

During mass grading activities at the former Philadelphia Refinery, there is the potential for previously unidentified waste materials to be encountered. This document describes the procedures for identifying non-soil waste material and notifying the appropriate parties, so that assessment and remediation activities can be conducted, as needed. These procedures will be applied during earthwork being conducted as part of the redevelopment of the former Philadelphia Refinery located at 3144 W Passyunk Avenue, Philadelphia, Pennsylvania (the Site). An Environmental Professional will be on site to observe soil movement and document that soil is placed in accordance with the results of pre-characterization samples collected under the site-specific Soil Management Plan dated June 15, 2020. The non-soil, waste-like material covered in these procedures includes leaded tank bottoms and containerized waste.

1. Waste Material Identification

Non-soil waste will be identified based on visual observation.

1.1 Leaded Tank Bottoms

Leaded tank bottoms are the sediment, dirt and petroleum byproducts that accumulated at the bottom of storage tanks used to store leaded gasoline. As this site is a former petroleum refining facility, leaded tank bottoms may be present in soil from historical spillage occurring during the cleaning operations of leaded gasoline tanks.

Leaded tank bottom materials encountered at the site have been described by Evergreen as rust/red to black, metallic, mostly oxidized scale materials, sometimes in a matrix of petroleum wax sludge. If material matching this description is encountered, the Environmental Professional will follow the notification procedures described in Section 2.

The contractor shall leave the materials in place pending further characterization and direction from Ownership.

1.2 Containerized Waste

The most common example of a waste container is a 55-gallon steel drum. If drums or containers with unknown contents are identified, on-site personnel will be directed to leave the area, and the general contractor's site safety officer will be notified to determine next steps. Once the site safety officer has confirmed that the drums or containers are not immediately dangerous to life or health, the drums may be further evaluated by the general contractor or earthwork contractor with observation by the Environmental Professional to determine if the drums are empty. Care will be taken during the evaluation to avoid damaging the drums or spilling their (potential) contents. If the drums are determined to be empty, they will be removed and disposed of as construction/demolition debris. If the

drums are not empty, the Environmental Professional will follow the notification procedures described in Section 2.

The contractor shall leave the materials in place pending further characterization and direction from Ownership.

2. Notification

The Environmental Professional will notify the Senior Project Manager immediately upon identifying either (1) material matching the description of leaded tank bottoms or (2) drums that are not empty. The Senior Project Manager will then notify Joseph Jeray of HRP via telephone and send email notification to Joseph Jeray and Julianna Connolly of HRP with a map showing the approximate location of the observation, photos showing what was observed, and a brief narrative providing the date, time, location, and depth relative to the original (pre-construction grade) of the observation. Contact information for the HRP representatives is provided below.

- Joseph Jeray, PE
Vice President, Environmental Remediation
(978) 729-3209 (c)
jjeray@hilcoglobal.com
- Julianna Connolly
Executive Vice President, Environmental Remediation
jconnolly@hilcoglobal.com
617-240-8695 (c)

After reviewing the information, HRP will notify Evergreen Resources Management Operations, a series of Evergreen Resources Group, LLC (Evergreen) of the observation.