



ARM Group Inc.

Engineers and Scientists

August 7, 2019

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

Re: Parcel B4 Phase II Investigation Report
(Revision 1)
Comment Response Letter
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown:

On behalf of EnviroAnalytics Group, LLC (EAG), ARM Group Inc. (ARM) is pleased to provide the following responses to comments provided by the Maryland Department of the Environment (MDE) via email on April 26, 2018 regarding the previous submission of the Phase II Investigation Report (Revision 0 dated March 3, 2017) for Parcel B4 of the Tradepoint Atlantic property located in Sparrows Point, Maryland.

Hard copy replacement pages are provided for incorporation into the Parcel B4 Phase II Investigation Report. The revised report text is included as **Attachment 1**, and additional revised attachments are provided as referenced below. The enclosed CD provides a compiled PDF of the entire report with the inserted replacement pages. Revised cover and spine cardstock sheets are also provided for insertion into the binders. Select attachments previously included in the Phase II Investigation Report (Revision 0) can be discarded as noted below. Responses to specific MDE comments are given below; the original comments are included in italics with responses following.

1. *Page 9 [Section 3.2] – Add language regarding Oil & Grease sampling.*

Section 3.2 (Soil Investigation) has been updated to include clarification regarding Oil & Grease sampling. The Work Plan requirements for analysis of TPH-DRO/GRO and/or Oil & Grease have evolved throughout the investigation process and changed several times since late-2015 under agency guidance. During the implementation of the Parcel B4 Work Plan, TPH-DRO/GRO analysis was required at every location, but Oil & Grease analysis was not required or completed.

2. *Section 4.1.1 – Soil Conditions: Organic Compounds – Revise with updated PALs for PAHs*

The PALs for relevant polynuclear aromatic hydrocarbons (PAHs) have been adjusted upward based on revised toxicity data published in the United States Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs). The updated PALs are referenced and used in Section 4.1.1 (and the new “Groundwater Conditions” Section 4.3).

3. *B4-018-SB – Piezometer installed 3/6/17 and last gauged on 4/13/17 with no measurable NAPL detected Is this piezometer still located on the parcel? Provide piezometer construction details along with the gauging table? This does not have to be provided in the Phase II Report but may be a separate NAPL investigation letter.*

Piezometer construction details and gauging data have been provided within this revision in Section 4.5. Piezometer B4-018-PZ was re-gauged on July 17, 2019. During this gauging event, non-aqueous phase liquid (NAPL) was detected in the piezometer with a thickness of approximately 0.07 feet. In order to avoid the need for continued updates to this Phase II Investigation Report, any future NAPL gauging and delineation/response activities completed after July 17, 2019 will be addressed in separate documents.

4. *Section 7.2 [now Section 6.4] “Soils potentially impacted by NAPL have been present for many years and migration pathways associated with existing utilities that may cause off-site migration or surface discharges should be apparent by now.” This statement is not appropriate for inclusion in this Phase II Report. NAPL migration can be affected by a variety of factors that change over time and conclusions regarding migration or discharges cannot be made with the available data. Please revise.*

The referenced language has been removed.

5. *Section 7.3 [now deleted] – Remove language re: manganese bioavailability.*

The referenced language has been removed.

6. *Section 7.5 [now Section 6.5] – Remove commercial Site use language.*

The reference to future site use (previously listed as commercial/industrial) has been removed. The future use is discussed in separate RADWPs which include their own risk assessment and any use restrictions.

7. *Work was done to remove PCBs > 50ppm in the area around B4-037-SB. Provide a PCB removal completion report to the Agencies for review. It is understood that this work was completed on-site in 2017.*



The referenced PCB removal work has not yet been completed. PCB-impacted soil exceeding 50 mg/kg of total PCBs in the vicinity of boring location B4-037-SB will be excavated and removed in accordance with the Delineation Activities and Proposed Excavation of PCB Impacted Soil Letter dated March 22, 2017, and the associated Comment Response Letter dated April 5, 2017. A Completion Report will be submitted following implementation of these response actions.

Additional Revisions:

8. Large portions of the groundwater sampling conducted throughout the property were done as part of the Area B Groundwater Investigation or the Finishing Mills Groundwater Investigation. Parcel specific groundwater sampling was not conducted as part of several Phase II investigations (including Parcel B4) because of these larger sampling events. **Appendix E** is included as a new attachment which provides a figure summarizing the shallow aqueous Project Action Limit (PAL) exceedances (for all classes of compounds) detected in permanent wells which were sampled in the vicinity of Parcel B4 during the Area B Groundwater Investigation. The Finishing Mills Groundwater Investigation is not relevant for this particular report. Section 4.3 and Section 6.2 were added to the Phase II Investigation Report to discuss the relevant data. This approach is consistent with other recent submissions for parcels covered by the separate groundwater investigations.
9. The report has been updated in accordance with the Phase II Investigation Report Approach Letter: Screening Level Risk Assessments (SLRAs) for Parcel-Specific Statement of Basis (dated April 22, 2019). The USEPA and MDE have recommended that the SLRAs based upon hypothetical EUs be removed from future Phase II Investigation Reports. As outlined in the referenced letter, the SLRA for Construction and Composite Workers should not be included in the Phase II Investigation Reports (with a few noted exceptions) since each development boundary will include its own site-specific SLRA. Therefore, the SLRA (previously Section 6.0 and Section 7.3) has been removed from this revised Parcel B4 Phase II Investigation Report. Some information previously contained in these deleted sections has been relocated to other sections, such as the discussion of borings exhibiting potential exceedances of the established NAPL/petroleum, lead, or PCB delineation criteria (retained within Section 4.1.3); and the groundwater results and VI evaluation from the separate Area B Groundwater Investigation (retained within new “Groundwater” Sections 4.3 and 6.2). In addition to removing the SLRA, the recommendations (previously Section 7.5 but now Section 6.5) have been revised to exclude the SLRA findings that are not relevant. The SLRA attachments (**Table 12** through **Table 22**, and **Appendix G**) have been removed from this revised submission and can be discarded from the report copies currently held by the agencies. The attached CD delivers the revised electronic attachments which do not include the ProUCL Input/Output files.



10. **Table 5** through **Table 8**, and **Table 11** – Relevant tables and text sections were updated to correct the spelling of benz[a]anthracene (previously listed as “benzo[a]anthracene”). The detection summary tables were revised to indicate that results flagged with the B qualifier do not represent detections. For these non-detect results, the bolded formatting has been removed. Any data previously labelled with the erroneous JB qualifier were corrected in accordance with USEPA guidance, which is now referenced in Section 5.2. The PALs for relevant PAHs have been adjusted upward based on revised toxicity data published in the USEPA RSLs, which is now referenced in Sections 4.1.1 and 4.3. Several tables were revised following a comprehensive review by Environmental Data Quality Inc. (EDQI) to verify the accuracy of the Data Validation Reports (DVRs) and accompanying Electronic Data Deliverables (EDDs) used to generate the tables.
11. **Table 10** was revised to include an expanded list of compounds reported in sub-slab soil gas, as outlined in the Parcel A2 Phase II Investigation Report – Preliminary Responses to MDE/USEPA Comments Letter dated November 14, 2017. Please note that the detection summary table only displays data for compounds that were detected in at least one sub-slab soil gas sample; the analytical data is provided for all compounds in the sub-slab soil gas laboratory report which is included as a revised electronic attachment.
12. **Figure 1** and **Figure 2** – Changes to some of the site-wide parcel boundaries necessitated that these figures be updated. The boundary of Parcel B4 was not modified.
13. **Figure S-1** and **Figure S-3** – **Figure S-1** (SVOC Exceedances) was revised to correct the spelling of benz[a]anthracene (previously listed as “benzo[a]anthracene”) and to identify exceedances of the PALs based on the updated USEPA RSLs for PAHs. **Figure S-3** (DRO Exceedances) has been modified to identify boring location B4-018-SB as a boring with physical evidence of NAPL.
14. **Appendix G** (formerly **Appendix F**) – The Evaluation of Data Completeness was revised to correct the spelling of benz[a]anthracene, and to update the number of detections of each compound to account for B qualified data. In addition, EDQI’s comprehensive review of DVRs and EDDs impacted the completeness ratios of several parameters in the Parcel B4 dataset. Therefore, the data completeness summary was regenerated to ensure accuracy. Section 5.3 was also updated with the new completeness ratios, but no conclusions regarding data completeness needed to be updated. The new compounds added to the revised sub-slab soil gas reporting list are not included in the Evaluation of Data Completeness because these compounds were recovered from archived analytical runs and were not validated. This has been noted in Section 5.2.



If you have any questions, or if we can provide any additional information at this time, please do not hesitate to contact ARM Group Inc. at 410-290-7775.

Respectfully submitted,
ARM Group Inc.



Taylor R. Smith, P.E.
Project Engineer



T. Neil Peters, P.E.
Senior Vice President



Attachment 1

PHASE II INVESTIGATION REPORT

AREA B: PARCEL B4
TRADEPOINT ATLANTIC
SPARROWS POINT, MARYLAND

Prepared For:



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Respectfully Submitted,

A handwritten signature in black ink that reads "Melissa Replogle".

Melissa Replogle, E.I.T.
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A handwritten signature in black ink that reads "Neil Peters".

T. Neil Peters, P.E.
Senior Vice President

Revision 1 – August 7, 2019

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1.0 INTRODUCTION

ARM Group Inc. (ARM), on behalf of EnviroAnalytics Group (EAG), has completed a Phase II Investigation of a portion of the Tradepoint Atlantic property (formerly Sparrows Point Terminal, LLC) that has been designated as Area B: Parcel B4 (the Site). Parcel B4 is comprised of 72.1 acres of the approximately 3,100-acre former steel making facility (**Figure 1**). The Site is bounded to the south by the former Coke Oven Laboratory and the Kinder Morgan Warehouse (Parcel B18), to the north by the former Primary Rolling Mills (Parcel B1), to the west by the former Shipyard (currently outside of Tradepoint Atlantic property), and to the east by the Fender Area and the former Steel Making Area (Parcel B5). Parcel B4 includes a 5,750 square foot building designated as the Maintenance Repair Shop.

The central portion of the Site has undergone recent industrial redevelopment as noted in the Response and Development Work Plan for Area B: Sub-Parcel B4-1 (Automotive and RO-RO Distribution Center), Revision 2 dated August 10, 2016. Sub-Parcel B4-1 represents 21.0 acres which were separated from the greater Parcel B4 in order to develop the sub-parcel. This Phase II Investigation Report addresses the entire Parcel B4, including both Sub-Parcel B4-1 (the 21.0 acre developed area) and the remaining undeveloped area of Parcel B4 (51.1 acres).

The Phase II Investigation was performed in accordance with procedures outlined in the approved Phase II Investigation Work Plan – Parcel B4. This Work Plan (dated July 8, 2016) was approved by the Maryland Department of the Environment (MDE) and the United States Environmental Protection Agency (USEPA) on June 30, 2016 (based on a comment response letter dated March 9, 2016 which preceded the final submission of the Work Plan). A supplemental PCB delineation investigation was also completed following the initial Phase II Investigation based on the receipt of analytical data. The proposed PCB delineation plan was approved by the MDE on October 11, 2016, with the expectation that the initial investigation area would be expanded if further elevated concentrations of PCBs were encountered. Site investigations were performed in compliance with requirements pursuant to the following:

- Administrative Consent Order (ACO) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the MDE (effective September 12, 2014); and
- Settlement Agreement and Covenant Not to Sue (SA) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and USEPA (effective November 25, 2014).

Parcel B4 is part of the acreage that was removed (Carveout Area) from inclusion in the Multimedia Consent Decree between Bethlehem Steel Corporation, the USEPA, and the MDE (effective October 8, 1997) as documented in correspondence received from the USEPA on September 12, 2014. Based on this agreement, the USEPA determined that no further investigation or corrective measures will be required under the terms of the Consent Decree for the Carveout

Area. However, the SA reflects that the property within the Carveout Area will remain subject to the USEPA's Resource Conservation and Recovery Act (RCRA) Corrective Action authorities.

An application to enter the full Tradepoint Atlantic property (3,100 acres) into the Maryland Department of the Environment Voluntary Cleanup Program (MDE-VCP) was submitted to the MDE and delivered on June 27, 2014. The property's current and anticipated future use is Tier 3 (Industrial), and plans for the property include demolition and redevelopment over the next several years.

1.1. SITE HISTORY

From the late 1800s until 2012, the production and manufacturing of steel was conducted at Sparrows Point. Iron and steel production operations and processes at Sparrows Point included raw material handling, coke production, sinter production, iron production, steel production, and semi-finished and finished product preparation. In 1970, Sparrows Point was the largest steel facility in the United States, producing hot and cold rolled sheets, coated materials, pipes, plates, and rod and wire. The steel making operations at Sparrows Point ceased in fall 2012.

The Maintenance Repair Shop located in the southwestern area of Parcel B4 was formerly occupied by the Phoenix Aggregate and Industrial Minerals Company. Based on historic aerial images available through Google Earth Pro, the building was constructed between August 2006 and September 2007. The company was active while the steel facility was operational, and primarily served to process slag into aggregate for resale. The building was used for the maintenance of company equipment, and processing operations took place elsewhere on the property. There were no aggregate stockpiles observed nearby the building in the historic aerial images. More recently, the building has been occupied by MCM Management Corporation (MCM) as an equipment maintenance and repair facility.

Parcel B4 was formerly occupied by part of the Former Steel Making Area. Several iron and steel work processes were completed within the boundary of Parcel B4. Descriptions of the facilities and processes are provided below:

Basic Oxygen Furnace (BOF):

Basic oxygen steel making replaced the older open hearth furnace method. Basic oxygen steel making is a method of primary steel making in which carbon-rich molten pig iron is made into steel. Blowing oxygen through molten pig iron lowers the carbon content of the alloy and changes it into low-carbon steel. The process is known as basic because fluxes of burnt lime or dolomite, which are chemical bases, are added to promote the removal of impurities and protect the lining of the converter. The BOF received hot metal from the blast furnaces, scrap steel, and additional recyclable additives. After it was removed from the blast furnaces, the hot metal was passed through a desulfurization process or sent directly to the BOF. Pure oxygen was blown through a

water-cooled lance to produce carbon monoxide, which accelerates the metallurgical reactions in the iron. After completion, the molten steel was poured into a ladle, where other alloying agents could be added.

Mould Yard:

When the BOF facilities were unable to receive the hot metals produced from the blast furnaces, the iron could be temporarily stored in the Mould Yard. The hot metal was poured on the ground and allowed to cool. Once it was cooled it could be broken into smaller pieces and then transferred to the BOF.

Continuous Caster:

Ladles of steel from the BOF were taken to the Continuous Caster Ladle Metallurgy Station where they could be first reheated with an oxygen lance and/or chemistry adjusted by adding alloys and other materials and argon stirred. The steel then was moved by crane to the Slab Caster. Steel was then poured into the water-jacketed strand mould of the Slab Caster, from which a continuous slab was formed. The slab entered a roller containment area within the Slab Caster, where it was cooled with water sprays. The slabs then were cut to size by using a torch and then transferred to slab storage or the Hot Strip Mill. Fumes generated by the reactions were controlled by baghouses.

1.2. OBJECTIVES

The objective of this Phase II Investigation was to fully characterize the nature and extent of contamination at the Site. A summary table of the site investigation locations, including the boring identification numbers and the analyses performed, is provided as **Appendix A**. This report includes a summary of the work performed, including the environmental setting, site investigation methods, analytical results and data usability assessment, and findings and recommendations.

As specified in the approved Work Plan for Parcel B4, groundwater at the Site was investigated as described in the separate Area B Groundwater Investigation Work Plan (dated October 6, 2015), the final version of which was approved by the agencies on October 5, 2015. A separate Area B Groundwater Phase II Investigation Report has been submitted (Revision 0 dated September 30, 2016) to discuss the findings of the groundwater investigation.

2.0 ENVIRONMENTAL SETTING

2.1. LAND USE AND SURFACE FEATURES

The Tradepoint Atlantic property consists of the former Sparrows Point steel mill facility. According to the Phase I Environmental Site Assessment (ESA) prepared by Weaver Boos dated May 19, 2014, the property is zoned Manufacturing Heavy-Industrial Major (MH-IM). Surrounding property zoning classifications (beyond Tradepoint Atlantic) include the following: Manufacturing Light (ML); Resource Conservation (RC); Density Residential (DR); Business Roadside (BR); Business Major (BM); Business Local (BL); and Residential Office (RO). Light industrial and commercial properties are located northeast of the property and northwest of the property across Bear Creek. Residential areas of Edgemere and Fort Howard are located northeast of the property across Jones Creek and to the southeast across Old Road Bay, respectively. Residential and commercial areas of Dundalk are located northwest of the property across Bear Creek.

According to topographic maps provided by EAG, the Site is at an elevation of approximately 14 feet above mean sea level (amsl). Elevations at the Site range from 10 to 17 feet amsl across the majority of the parcel area, with increased elevations (>20 feet amsl) documented around several small stockpiles. Across most of the Site, the surface elevations are fairly uniform. According to Figure B-2 of the Stormwater Pollution Prevention Plan (SWPPP) Revision 6 dated February 22, 2018, stormwater from the majority of the Site appears to flow toward National Pollution Discharge Elimination System (NPDES) Outfall 012, which discharges through a Shipyard impoundment to Bear Creek. Runoff from the northern-central area of the parcel appears to drain through Parcels B1 and B17 to Outfall 013. Stormwater runoff from the eastern edge of the parcel appears to drain to the distant Outfall 001 located within Parcel B5 (at the mouth of the Pennwood Canal identified on **Figure 1**).

2.2. REGIONAL GEOLOGY

The Site is located within the Atlantic Coastal Plain Physiographic Province (Coastal Plain). The western boundary of the Coastal Plain is the “Fall Line”, which separates the Coastal Plain from the Piedmont Plateau Province. The Fall Line runs from northeast to southwest along the western boundary of the Chesapeake Bay, passing through Elkton (MD), Havre de Grace (MD), Baltimore City (MD), and Laurel (MD). The eastern boundary of the Coastal Plain is the off-shore Continental Shelf.

The unconsolidated sediments beneath the Site belong to the Talbot Formation (Pleistocene), which is then underlain by the Cretaceous formations which comprise the Potomac Group (Patapsco Formation, Arundel Formation and the Patuxent Formation). The Potomac Group formations are comprised of unconsolidated sediments of varying thicknesses and types, which

may be several hundred feet to several thousand feet thick. These unconsolidated formations may overlie deeper Mesozoic and/or Precambrian bedrock. Depth to bedrock is approximately 700 feet within the Site.

2.3. SITE GEOLOGY

Groundcover at the Site is comprised of approximately 66% natural soils and 34% fill based on the approximate shoreline of the Sparrows Point Peninsula in 1916, as shown on **Figure 2** (adapted from Figure 2-20 in the Description of Current Conditions (DCC) Report prepared by Rust Environment and Infrastructure, dated January 1998).

In general, the encountered subsurface geology included slag fill materials overlying natural soils, which included fine-grained sediments (clays and silts) and coarse-grained sediments (sands). Shallow groundwater was observed in the soil borings at depths ranging from 4.1 to 14.5 feet below the ground surface (bgs) across the Site. Soil boring observation logs are provided in **Appendix B**. Please note that unless otherwise indicated, all Unified Soil Classification System (USCS) group symbols provided on the attached boring logs are from visual observations, and not from laboratory testing.

3.0 SITE INVESTIGATION

A total of 112 soil samples (from 56 boring locations), 117 additional PCB delineation soil samples (from 49 boring locations), and three sub-slab soil gas samples were collected for analysis between February 29, 2016 and December 13, 2016 as part of the Parcel B4 Phase II Investigation. This Phase II Investigation utilized methods and protocols that followed the procedures included in the Quality Assurance Project Plan (QAPP) dated October 2, 2015 (updated April 5, 2016) approved by the agencies to support the investigation and remediation of the Tradepoint Atlantic property. Information regarding the project organization, field activities and sampling methods, sampling equipment, sample handling and management procedures, the selected laboratory and analytical methods, quality control and quality assurance procedures, investigation-derived waste (IDW) management methods, and reporting requirements are described in detail in the approved Parcel B4 Work Plan dated July 8, 2016, and the QAPP.

All site characterization activities were conducted under the site-specific health and safety plan (HASP) provided as Appendix F of the approved Work Plan.

3.1. SAMPLE TARGET IDENTIFICATION

Previous activities within and around the buildings and facilities located on the Tradepoint Atlantic property may have been historical sources of environmental contamination. If present, source areas were identified as targets for sampling through a careful review of historical documents. When a sampling target was identified, a boring was placed at or next to its location using GIS software (ArcMap Version 10.2.2).

Sampling targets included, as applicable, 1) Recognized Environmental Conditions (RECs) shown on the REC Location Map provided in Weaver Boos' Phase I ESA, 2) additional findings (non-RECs) from the Phase I ESA which were identified as potential environmental concerns, and 3) Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) identified from the DCC Report prepared by Rust Environment and Infrastructure. The following RECs were identified in the Parcel B4 Work Plan: Oil House (REC 8C, Finding 203) and Gas Pumping Station (REC 8D, Finding 204). There were no additional SWMUs or AOCs identified as sampling targets, although several non-releasing units were identified from the DCC Report Table 3-1 (identified in the Work Plan). Since these features were not observed to be releasing, they were not considered by Rust Environment and Infrastructure to be a risk for significant environmental impact and were screened out (not proposed for further action).

Four sets of historical drawings were also reviewed to identify potential sampling targets for the Site. These drawings included the 5000 Set (Plant Arrangement), the 5100 Set (Plant Index), the 5500 Set (Plant Sewer Lines), and a set of drawings indicating coke oven gas distribution drip leg locations. Drip legs are points throughout the distribution system where coke oven gas condensate

was removed from the gas pipelines. The condensate from the drip legs was typically discharged to drums, although it is possible some spilled out of the drums and on to the ground. There were 13 drip legs identified inside the boundary of Parcel B4. A summary of the specific drawings covering the Site is presented in **Table 1**.

Additional Findings (non-RECs) from the Phase I ESA or features on the historical drawings which were identified as potential environmental concerns were also reviewed and targeted as applicable. Sampling target locations were identified if the historical site drawings depicted industrial activities or a specific feature at a location that may have been a source of environmental contamination that impacted the Site. Based on the review of plant drawings and Phase I ESA documents (or based on direct agency guidance for additional features), sampling targets were identified at the Site that included the following: Emergency Plating Pit, Substations/Transformers, Desulfurizer Stations, Mould Treatment Building, Fuel Department, Oil House (non-REC), Tar Tanks, Thickener Tanks, Mould Yards, Water Treatment Area, No. 3 Open Hearth, and Additional PCB Investigation (sampling target; not delineation samples).

A subset of the drip legs within Parcel B4 were selected for inclusion in the sampling plan. In total, five drip legs were targeted (each with two soil borings) from the 13 locations indicated on the historical drip legs drawings. Every drip leg which was not explicitly targeted was located within 100 feet of at least one other soil boring. ARM also received a list of former PCB-containing transformer equipment from Tradepoint Atlantic personnel. These possible PCB-containing equipment areas were already covered by borings targeting the former Substations/Transformers.

A summary of the areas that were investigated, along with the applicable boring identification numbers and the analyses performed, has been provided as **Appendix A**. Additional sample locations were then added to fill in large spatial gaps between proposed borings to provide complete coverage of the Site. During the completion of fieldwork, it was necessary to shift some borings from the approved locations given in the Work Plan, primarily due to access restrictions, refusal, and/or utility conflicts. **Table 2** provides the identification numbers of the field adjusted borings, the coordinates of the proposed and final locations, and the distance/direction of the shifts.

The density of soil borings met the requirements set forth in QAPP Worksheet 17 – Sampling Design and Rationale. The density requirements for the Site were based on preliminary future development plans for Parcel B4. The Site contained a total of 1.6 acres without proposed engineered barriers. Of the 70.5 acres containing proposed engineered barriers, 20.1 acres are now covered by the paved RO-RO Distribution Center (as indicated in the Parcel B4: Sub-Parcel B4-1 Response and Development Work Plan dated August 10, 2016) including the 0.13 acre Maintenance Repair Shop (sampling covered by sub-slab soil gas). In accordance with the relevant sampling density requirements, a minimum of 3 soil borings were required to cover the area without proposed engineered barriers, and a minimum of 35 soil borings were required to cover

areas with proposed barriers. A total of 38 borings were required to meet the density specification; however, 56 soil boring locations were completed during the Phase II Investigation. (Additional PCB-delineation samples were collected following the completion of the sampling plan specified in the Phase II Investigation Work Plan, with separate approval by the agencies.)

A sub-slab soil gas survey of the Maintenance Repair Shop was completed as part of the Phase II Investigation. The purpose of the investigation was to verify that conditions within, below, and around the building would not pose a potentially unacceptable risk to current and future workers occupying the buildings. The Maintenance Repair Shop has an area of approximately 5,750 ft². According to the density requirement given in QAPP Worksheet 17 – Sampling Design and Rationale, three sampling locations were required in the structure.

3.2. SOIL INVESTIGATION

Continuous core soil borings were advanced at 56 locations across the Site to assess the presence or absence of soil contamination, and to assess the vertical distribution of any encountered contamination (**Figure 3**). The continuous core soil borings were advanced to depths between 1.5 and 15 feet bgs using the Geoprobe[®] MC-7 Macrocore soil sampler (surface to 10 feet bgs) and the Geoprobe[®] D-22 Dual-Tube Sampler (depths >10 feet bgs). At each location, each soil core was visually inspected and screened with a hand-held photoionization detector (PID) prior to logging soil types. Soil boring logs have been included as **Appendix B**, and the PID calibration log has been included as **Appendix C**. Unless otherwise indicated, all USCS group symbols provided on the attached boring logs are from visual observations.

One shallow sample was collected from the 0 to 1 foot depth interval, and a deeper sample was collected from the 4 to 5 foot depth interval from each continuous core soil boring. One additional set of samples was also collected from the 9 to 10 foot depth interval if groundwater had not been encountered; however, these samples were held by the laboratory pending the analysis of the 0 to 1 and 4 to 5 foot depth interval samples, and were only analyzed for parameters that were detected in the 5 foot depth samples at concentrations above the Project Action Limits (PALs). If the PID or other field observations indicated contamination to exist at a depth greater than 3 feet bgs but less than 9 feet bgs, and was above the water table, the sample from the deeper 4 to 5 foot interval was shifted to the alternate depth interval. It should be noted that soil samples were not collected from a depth that was below the water table.

Soil sampling activities were conducted in accordance with the procedures and methods referenced in **Field Standard Operating Procedure (SOP) Numbers 008, 009, 012, and 013** provided in Appendix A of the QAPP.

Down-hole soil sampling equipment was decontaminated after soil sampling had been concluded at a location, according to the procedures and methods referenced in **Field SOP Number 016** provided in Appendix A of the QAPP.

Soil samples were submitted to Pace Analytical Services, Inc. (PACE), and analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via USEPA Method 8260B, TCL semi-volatile organic compounds (SVOCs) via USEPA Methods 8270D and 8270D SIM, total petroleum hydrocarbon (TPH) diesel range organics (DRO) and gasoline range organics (GRO) via USEPA Methods 8015B and 8015D, Target Analyte List (TAL) Metals via 6010C and 7471C, hexavalent chromium via USEPA Method 7196A, and cyanide via USEPA Method 9012. Additionally, the shallow soil samples collected across the Site from the 0 to 1 foot bgs interval were also analyzed for polychlorinated biphenyls (PCBs) via USEPA Method 8082. The Work Plan requirements for analysis of TPH-DRO/GRO and/or Oil & Grease have evolved throughout the investigation process and changed several times since late-2015 under agency guidance. During the implementation of the Parcel B4 Work Plan, TPH-DRO/GRO analysis was required at every location, but Oil & Grease analysis was not required or completed. Sample containers, preservatives, and holding times for the sample analyses are listed in the QAPP Worksheet 19 & 30 – Sample Containers, Preservation, and Holding Times.

3.3. SUB-SLAB SOIL GAS INVESTIGATION

A total of three temporary vapor monitoring probes were installed at the locations provided on **Figure 4** to collect sub-slab soil gas samples. The sub-slab soil gas samples were collected according to procedures and methods referenced in **Field SOP Number 002** provided in Appendix A of the QAPP.

A core drill was used to create a pilot-hole approximately three-inches in diameter that extended through the concrete floor to facilitate the collection of each sub-slab soil gas sample. A hand auger and/or hammer drill was then used to create a borehole that extended through the subgrade and into the soil to a depth of at least eight inches below the bottom of the floor slab. A six-inch soil gas implant, constructed of double woven stainless steel wire screen, was then attached to an appropriate length of polyethylene tubing and lowered to the bottom of the borehole. Once the implant and tubing were installed, the tubing was capped with a three-way valve, and clean sand was added around the implant to create a permeable layer that extended at least two inches above the implant. Bentonite was then added and hydrated to create a seal above the sand pack that extended to the surface. Once installed, each sub-slab soil gas monitoring probe was allowed to equilibrate for at least 24 hours.

Leak tests were performed prior to sample collection to ensure that valid soil gas samples were collected, and to provide quantitative proof of the integrity of the surface seal. The testing involved the introduction of a gaseous tracer compound (helium) into a shroud which covered the sampling point, and then monitoring with a hand held meter for the presence of helium in the air withdrawn from the subsurface.

While the shroud was inflated, air was purged from the monitoring point using a three-way valve and a syringe. Using the same three-way valve and a syringe, a Tedlar bag was then filled with at

least 500 mL of air that was withdrawn from the monitoring point. The air inside of the Tedlar bag was then screened in the field with the meter.

As stated in **Field SOP Number 002**, if less than 10% of the starting concentration of the tracer gas within the shroud was observed in the Tedlar bag sample, the seal could be considered competent and sampling would continue. During fieldwork, the concentration of helium measured in the Tedlar bag was always significantly less than 10%, and each seal was deemed adequate to proceed.

Prior to sampling, a syringe was attached to the three-way valve and three purge volumes of air were removed. After the probe had been purged of any ambient air, an evacuated stainless steel canister (summa canisters) with a flow restrictor set for an 8-hour intake time was attached to the tubing. The soil gas sample was then collected over a period of eight hours. At the completion of the sampling period, the valve of the summa canister was closed, and an identification tag was attached to the canister. The probes were then removed, the borehole filled, and the surface repaired. Sub-slab soil gas samples were submitted to PACE and analyzed for VOCs via USEPA Method TO-15.

3.4. SUPPLEMENTAL PCB DELINEATION

Additional PCB delineation activities were completed to further characterize a detection of PCBs in excess of 50 mg/kg (the limit at which mandatory excavation and removal of PCB-impacted material is required by the agencies) at one boring location (B4-037-SB). An initial delineation grid was established surrounding the elevated detection location with a grid spacing of 25 feet, and supplemental samples were collected for PCB analysis. The initial delineation grid (with expansion possible) was approved by the agencies for fieldwork on October 11, 2016. The delineation grid was adjusted and revisited based on the receipt of data from the PCB delineation, and several resampling events were completed. The PCB delineation activities occurred between October 12, 2016 and December 13, 2016.

For each delineation sample location, continuous soil cores were completed using the Geoprobe® D-22 Dual-Tube Sampler to depths of up to 5 feet bgs. Each delineation location was sampled at every 1-foot interval from 0 to 5 feet bgs (unless refusal was encountered). Additional soil samples were also collected at the initial Phase II Investigation boring location B4-037-SB from each 1-foot interval to be analyzed for PCBs. The surface (0 to 1 foot bgs) and intermediate (4 to 5 feet bgs) samples were analyzed first, and the intermediate depth samples recovered from 2 to 4 feet bgs in depth were analyzed if exceedances of 50 mg/kg were identified in the preceding samples. Areas of concrete in the vicinity of the proposed locations were inspected for evidence of staining, and if possible, concrete samples were collected from the 0 to 0.5 foot bgs interval. If the Geoprobe® was able to penetrate the layer of concrete to the underlying soils, samples were collected from below the concrete at the specified 1 to 5 foot depth intervals. The samples were analyzed for PCBs (consecutively as described above) via USEPA Method 8082.

3.5. MANAGEMENT OF INVESTIGATION-DERIVED WASTE (IDW)

In accordance with **Field SOP Number 005** provided in Appendix A of the QAPP, potentially impacted materials, or IDW, generated during this Phase II Investigation was containerized in 55-gallon (DOT-UN1A2) drums. The types of IDW that were generated during this Phase II Investigation included the following:

- soil cuttings generated from soil borings;
- decontamination fluids; and
- used personal protective equipment

Following the completion of field activities, two composite samples were gathered from the Parcel B4 Phase II IDW soil drums for TCLP analysis. Following this analysis, the waste soil was characterized as non-hazardous. A list of all results from the soil TCLP procedure can be found in **Table 3**, which indicates no exceedances of TCLP criteria.

IDW drums containing aqueous materials were characterized by preparing composite samples from randomly selected drums. Each composite sample included aliquots from individual drums being staged on-site at the date of collection. A total of 10 composite samples were collected for TCLP analysis from relevant aqueous drums, including decontamination fluids and purge water generated during the implementation of the separate Area B Groundwater Investigation within Parcel B4. A list of all results from the aqueous TCLP procedure can be found in **Table 4**, which indicates no exceedances of TCLP criteria.

The parcel specific IDW drum log from the Phase II investigation is included as **Appendix D**. All IDW procedures were carried out in accordance with methods referenced in the QAPP Worksheet 21 – Field SOPs and Appendix A of the QAPP.

4.0 ANALYTICAL RESULTS

4.1. SOIL CONDITIONS

Soil analytical results were screened against PALs established in the property-wide QAPP (or other direct guidance from the agencies; i.e., TPH-DRO/GRO) to determine PAL exceedances. PALs are generally based on the USEPA's Regional Screening Levels (RSLs) for the Composite Worker exposure to soil. The Composite Worker is defined by the USEPA as a long-term receptor exposed during the work day who is a full time employee that spends most of the workday conducting maintenance activities (which typically involve on-site exposures to surface soils) outdoors.

The analytical results for the detected parameters are summarized and compared to the PALs in the attached **Table 5** (Organics) and **Table 6** (Inorganics). The laboratory Certificates of Analysis (including Chains of Custody) and Data Validation Reports (DVRs) have been included as electronic attachments. The DVRs contain a glossary of qualifiers for the final flags assigned to individual results in the attached summary tables.

4.1.1. Soil Conditions: Organic Compounds

As provided on **Table 5**, several VOCs were identified above the laboratory's method detection limits (MDLs) in the soil boring samples collected from across the Site. There were no VOCs detected above their respective PALs.

Table 5 provides a summary of SVOCs detected above the laboratory's MDLs in the soil samples collected from across the Site. The PALs for relevant polynuclear aromatic hydrocarbons (PAHs) have been adjusted upward based on revised toxicity data published in the USEPA RSL Composite Worker Soil Table. Therefore, exceedances for PAHs are based on the adjusted PALs rather than those presented in the QAPP. Five SVOCs, all PAHs, were detected above their PALs. These SVOCs were benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, dibenz[a,h]anthracene, and naphthalene. Of the SVOC exceedances, benzo[a]pyrene exceeded the PAL in the largest number of samples (11 total). The SVOC PAL exceedance locations and results have been provided on **Figure S-1**.

Shallow soil samples collected across the Site from the 0 to 1 foot bgs interval were also analyzed for PCBs. **Table 5** provides a summary of the PCBs detected above the laboratory's MDLs. Aroclor 1254, Aroclor 1260, and total PCBs exceeded their respective PALs in multiple locations (eight total) collected across the Site. The PCB PAL exceedance locations and results have been provided on **Figure S-2**. One sample (B4-037-SB-1) associated with a former Substation/Transformers had a detection which exceeded 50 mg/kg of total PCBs (due to Aroclor 1254 and Aroclor 1260).

Table 5 provides a summary of the TPH-DRO/GRO detections in the parcel. GRO was detected above the laboratory's MDL in multiple locations; however, no detections exceeded the PAL. Only DRO was detected above its PAL, in two subsurface soil samples (B4-037-SB-6 and B4-042-SB-5) with detections of 6,760 mg/kg and 6,270 mg/kg, respectively. No evidence of possible non-aqueous phase liquid (NAPL) was noted in the associated soil cores at these two locations. One boring location exhibited physical evidence of NAPL in the soil core (B4-018-SB). This location is discussed in greater detail in Section 4.5 (Summary of NAPL Observations). The DRO PAL exceedance locations and results have been provided on **Figure S-3**. B4-018-SB is also highlighted on this figure due to the evidence of NAPL.

4.1.2. Soil Conditions: Inorganic Constituents

Table 6 provides a summary of inorganic constituents detected above the laboratory's MDLs in the soil samples collected from across the Site. Six inorganic compounds (arsenic, manganese, lead, thallium, vanadium, and hexavalent chromium) were detected above their respective PALs. Arsenic was by far the most common inorganic exceedance (detected above the PAL in 83 soil samples), followed by manganese (detected above the PAL in 17 soil samples). In comparison, lead and hexavalent chromium each exceeded their respective PALs in four samples, while thallium and vanadium (co-located) accounted for only two PAL exceedances each. The inorganic PAL exceedance locations and results have been provided on **Figure S-4**.

4.1.3. Soil Conditions: Results Summary

Table 5 and **Table 6** provide a summary of the detected organic compounds and inorganics in the soil samples submitted for laboratory analysis, and **Figure S-1** through **Figure S-4** present a summary of the soil sample results that exceeded the PALs. **Table 7** provides a summary of results for all PAL exceedances in soil, including detection frequencies and maximum results. **Table 8** indicates which soil impacts (PAL exceedances) are associated with the specific targets listed in the Parcel B4 Work Plan. There were no detections of VOCs above the applicable PALs. Exceedances in soil within Parcel B4 consisted of six inorganics (arsenic, manganese, lead, thallium, vanadium, and hexavalent chromium), five SVOCs (benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, dibenz[a,h]anthracene, and naphthalene), three PCB groups (Aroclor 1254, Aroclor 1260, and total PCBs), and DRO.

Arsenic was detected above the PAL in the majority of the Phase II samples analyzed for this compound, with a maximum detection of 85.7 mg/kg. Manganese was the next most common exceedance, with a maximum detection of 49,400 mg/kg. Lead and hexavalent chromium were detected above their PALs in four samples each, while thallium and vanadium were only detected above their PALs in two soil samples. The maximum detections of manganese, lead, thallium, vanadium, and hexavalent chromium were less than four times the PAL. Benzo[a]pyrene was the most common SVOC exceedance, and was detected above its PAL in 11 soil samples. Naphthalene was only detected above the PAL in a single isolated sample (B4-016-SB-5). The

maximum detections for the four remaining SVOCs were identified in a single sample location (B4-056-SB), which targeted the former Water Treatment Area. PCBs (total) were detected above the PAL in eight samples collected during the initial Phase II Investigation with the highest detection of 123.7 mg/kg (B4-037-SB-1). Additional delineation was later completed in the vicinity of this elevated PCB detection, as described in greater detail in Section 4.2. Aroclor 1254 and Aroclor 1260 were detected above their individual PALs in three locations and five locations, respectively. There were two DRO soil PAL exceedances, both slightly above the PAL (6,200 mg/kg). The maximum detection of DRO was 6,760 mg/kg in sample B4-037-SB-6, and neither of the DRO exceedance locations exhibited evidence of possible NAPL during soil core screening.

Lead, PCBs, and TPH-DRO/GRO are subject to special requirements as designated by the agencies: lead results above 10,000 mg/kg are subject to additional delineation (and possible excavation), PCB results above 50 mg/kg are subject to delineation and excavation, and TPH-DRO/GRO results above 6,200 mg/kg should be evaluated for the potential presence and mobility of NAPL in any future development planning:

- There were no locations where detections of lead exceeded 10,000 mg/kg, the designated threshold at which delineation would be required.
- Total PCBs exceeded the mandatory excavation criterion of 50 mg/kg in soil sample B4-037-SB-1. Supplemental PCB delineation activities have been completed at this location, as discussed in greater detail in Section 4.2.
- DRO was detected slightly above its PAL in two subsurface soil samples (B4-037-SB-6 and B4-042-SB-5) with concentrations of 6,760 mg/kg and 6,270 mg/kg, respectively. One boring location exhibited physical evidence of product in the soil core (B4-018-SB). This location is discussed in greater detail in Section 4.5 (Summary of NAPL Observations). Each identified location should be considered for proximity to proposed utilities in any future development plans.

4.2. SUPPLEMENTAL PCB DELINEATION

Following completion of the Phase II Investigation, concentrations of total PCBs in excess of 50 mg/kg were identified in the surface soil sample collected from boring B4-037-SB which targeted a historical Substation/Transformer. This sampling target was identified on a map of former PCB-containing transformer equipment which historically contained PCBs at levels greater than 50 ppm but less than 500 ppm. Surface soil sample B4-037-SB-1 had concentrations of total PCBs and Aroclor 1254 exceeding the specified excavation criterion (123.7 mg/kg and 84 mg/kg, respectively), which warranted additional delineation. Additional PCB delineation activities were completed between October 12, 2016 and December 13, 2016, following agency approval, to further characterize the elevated detection of total PCBs.

Vertical and horizontal delineation activities were completed on the northern portion of the Substation/Transformer sampling target, and this investigation identified a total of six surface delineation soil borings (including B4-037-SB) which exceeded 50 mg/kg of total PCBs. Several of the delineation samples exceeded the total PCB concentrations identified in the initial sample B4-037-SB-1 (including a re-sample at this location and depth). The delineation locations with PCB detections above 50 mg/kg are shown on **Figure 5**. A summary of the delineation analytical results for total PCBs is presented in **Table 9**, which demonstrates that the vertical distribution of exceedances was limited to the surface.

The delineation results were formally presented in the Delineation Activities and Proposed Excavation of PCB Impacted Soil Letter in Parcel B4 dated March 22, 2017, which was approved by the MDE on April 3, 2017. A Comment Response Letter was subsequently submitted on April 5, 2017 to provide clarification regarding concrete testing and materials handling for the approved excavation plan. Material exceeding the threshold of 50 mg/kg will be excavated and disposed of at a permitted off-site commercial landfill approved to accept Toxic Substances Control Act (TSCA) regulated waste.

4.3. GROUNDWATER CONDITIONS – AREA B GROUNDWATER

As specified in the approved Parcel B4 Work Plan, groundwater at the Site was investigated as described in the separate Area B Groundwater Investigation Work Plan (dated October 6, 2015). The Area B Groundwater Phase II Investigation Report (Revision 0 dated September 30, 2016) has been submitted to discuss the detailed finding of this groundwater investigation. Groundwater results obtained during the separate investigation were screened against the PALs established in the property-wide QAPP (or other direct guidance from the agencies) to determine exceedances. The complete findings of the groundwater investigation, including detection summary tables and exceedance figures, were provided in the referenced Phase II Investigation Report. A figure summarizing the shallow aqueous PAL exceedances (for all classes of compounds) in the vicinity of Parcel B4 is provided in **Appendix E**. The groundwater analytical results obtained from the intermediate and lower hydrogeologic zones are not relevant for this Parcel B4 Phase II Investigation but can be reviewed in the separate groundwater report.

Regarding the shallow groundwater exceedances, some of the PALs have been updated since the submission of the Area B Groundwater Phase II Investigation Report. In particular, the aqueous screening levels for some PAH constituents have been adjusted upward. Similar to the evaluation of soil data, the PALs for relevant PAHs have been modified based on revised toxicity data published in the USEPA RSL Resident Tapwater Table. Aqueous PAL exceedances in the shallow groundwater in the vicinity of Parcel B4 consisted of two VOCs (benzene and chloroform), four SVOCs (naphthalene, benz[a]anthracene, benzo[a]pyrene, and 1,1-biphenyl), three inorganics including total/dissolved metals (cobalt, manganese, and cyanide), DRO, and GRO. For simplicity, the inorganic PAL exceedances shown on the figure do not include duplicate

exceedances of total and dissolved metals at relevant sample locations. If both total and dissolved concentrations exceeded the PAL for a specific compound, the value for total metals is displayed on the figure for each sample.

Each permanent well sampled during the Area B Groundwater Investigation was checked for the potential presence of NAPL using an oil-water interface probe prior to sampling. During these checks, NAPL was not detected in any of the permanent monitoring wells.

Groundwater data were also screened to determine whether any individual sample results, or cumulative results summed by sample location, may exceed the USEPA Vapor Intrusion (VI) Screening Levels (Target Cancer Risk (TCR) of 1E-5 and Target Hazard Quotient (THQ) of 1) as determined by the Vapor Intrusion Screening Level (VISL) Calculator version 3.5 (<https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-levels-visls>). The aqueous PALs specified in the QAPP are based upon drinking water use, which is not a potential exposure pathway for groundwater at the Site. Total cyanide had previously been identified as a potential VI hazard in the Area B Groundwater Phase II Investigation Report at several locations, but the screening level for cyanide has since been adjusted upward by the USEPA, eliminating this concern at all but two locations near the southern boundary of the Site (SW-029-MWS and SW-065-MWS). Supplemental sampling has since been conducted at the identified locations (outside of the scope of the Area B Groundwater Investigation) to determine the speciation of cyanide, and the results have indicated that available cyanide is not present at concentrations that could pose a potential VI concern. Location SW13-PZM003 exhibited concentrations of VOCs/SVOCs, in particular benzene and naphthalene, which could present a potential VI risk if a structure were to be proposed in this area. Potential VI risks would be evaluated in a Response and Development Work Plan for any such proposed work.

4.4. SUB-SLAB SOIL GAS CONDITIONS

The detected VOC parameters for sub-slab soil gas samples collected from below the Maintenance Repair Shop are summarized and compared to the PALs in attached **Table 10**. While there were several VOCs detected in the sub-slab samples, none of the detections exceeded the applicable PALs in any of the soil gas samples submitted for analysis. The laboratory's Certificate of Analysis (including the Chain of Custody) and the DVR have been included as electronic attachments. The DVR contains a glossary of qualifiers for the final flags assigned to individual results in the attached summary table.

4.5. SUMMARY OF NAPL OBSERVATIONS

Soil cores were screened for evidence of possible NAPL contamination during the completion of the Phase II soil borings in Parcel B4. During the soil core screening, one sample location had physical evidence of possible product which was noted on the soil boring log (B4-018-SB). The observations of possible NAPL (as indicated on the boring log) included the presence of a sheen

in the soil core from 7.5 to 10 feet bgs, which was accompanied by a petroleum odor throughout the soil core. A soil sample was collected from the intermediate depth interval (4 to 5 feet bgs), above the observed sheen and associated odors. Due to encountering groundwater above 10 feet bgs a deeper sample was not collected. The intermediate sample interval had a detection of DRO at 4,990 mg/kg.

Based on these observations, a temporary screening piezometer was installed at boring location B4-018-SB on March 6, 2017 to delineate and assess the potential mobility of free-phase product (NAPL) to groundwater. The temporary screening piezometer was installed in accordance with standard specifications for temporary groundwater sample collection points, with a total depth of 15 feet bgs and a screen interval from 5 to 15 feet bgs. The piezometer was checked for the presence of NAPL using an oil-water interface probe immediately after installation, approximately 48 hours after installation, and again after at least 30 days. NAPL was not detected in the screening piezometers during any of the gauging checks, and no additional installations or delineation were warranted at that time. Piezometer B4-018-PZ was re-gauged on July 17, 2019. During this supplemental gauging event, NAPL was detected in the piezometer with a thickness of approximately 0.07 feet. NAPL gauging events, and any delineation/response activities completed after July 17, 2019 will be addressed in separate documents to avoid the need for additional updates to this Phase II Investigation Report.

5.0 DATA USABILITY ASSESSMENT

The approved property-wide QAPP specified a process for evaluating data usability in the context of meeting project goals. Specifically, the goal of the Phase II Investigation is to determine if potentially hazardous substances or petroleum products (VOCs, SVOCs, PCBs, TAL-Metals, cyanide, or TPH-DRO/GRO) are present in Site media (soil and sub-slab soil gas) at concentrations that could pose an unacceptable risk to Site receptors. Individual results are compared to the PALs established in the QAPP (i.e., the most current USEPA RSLs) or based on other direct guidance from the agencies, to identify the presence of exceedances in each environmental medium.

Quality assurance and quality control (QA/QC) samples were collected during field studies to evaluate field/laboratory variability. A summary of QA/QC samples associated with this investigation has been included as **Appendix F**. The following QA/QC samples were submitted for analysis to support the data validation:

- Trip Blank – at a rate of one per day
 - Soil – VOCs only
- Blind Field Duplicate – at a rate of one per twenty samples
 - Soil – VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, PCBs, Hexavalent Chromium, and Cyanide
 - Air – VOCs
- Matrix Spike/Matrix Spike Duplicate – at a rate of one per twenty samples
 - Soil – VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, PCBs, and Hexavalent Chromium
- Field Blank and Equipment Blank – at a rate of one per twenty samples
 - Soil – VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, Hexavalent Chromium, and Cyanide
 - Air – VOCs

The QA/QC samples were collected and analyzed in accordance with the QAPP Worksheet 12 – Measurement Performance Criteria, QAPP Worksheet 20 – Field Quality Control, and QAPP Worksheet 28 – Analytical Quality Control and Corrective Action.

5.1. DATA VERIFICATION

A verification review was performed on documentation generated during sample collection and analysis. The verification included a review of field log books, field data sheets, and Chain of Custody forms to ensure that all planned samples were collected, and to ensure consistency with the field methods and decontamination procedures specified in the QAPP Worksheet 21 – Field SOPs and Appendix A of the QAPP. In addition, calibration logs were reviewed to ensure that field equipment was calibrated and/or checked once per day. The logs have been provided in **Appendix C** (PID calibration log).

The laboratory deliverables were reviewed to ensure that all records specified in the QAPP as well as necessary signatures and dates are present. Sample receipt records were reviewed to ensure that the sample condition upon receipt was noted, and any missing/broken sample containers (if any) were noted and reported according to plan. The data packages were compared to the Chains of Custody to verify that results were provided for all collected samples. The data package case narratives were reviewed to ensure that all exceptions (if any) are described.

5.2. DATA VALIDATION

USEPA Stage 2B data validation was completed for a representative 50% of the environmental sample analyses performed by PACE and supporting Level IV Data Package information by Environmental Data Quality Inc. (EDQI). Select soil gas parameters did not undergo the validation procedure because these parameters were added to the laboratory report at a later date. As outlined in the Parcel A2 Phase II Investigation Report – Preliminary Responses to MDE/USEPA Comments Letter (dated November 14 and approved on November 30, 2017), the analytical laboratory was able to re-evaluate their archived analytical runs in order to report the sub-slab vapor concentrations for a supplemental list of soil gas constituents. The relevant laboratory report (Job ID #30180457) states that the report was reissued to add analytes. Since these supplemental compounds were recovered from archived analytical runs and represent estimated values, they were not validated by EDQI. Thus, they are reported as non-validated data in the detection summary table.

Sample analyses have undergone an analytical quality assurance review to ensure adherence to the required protocols. The Stage 2B review was performed as outlined in “Guide for Labeling Externally Validated Laboratory Analytical Data for Superfund Use”, EPA-540-R-08-005. Results have been validated or qualified according to general guidance provided in “USEPA National Functional Guidelines for Inorganic Superfund Data Review (ISM02.1)”, USEPA October 2013. Region III references this guidance for validation requirements. This document specifies procedures for validating data generated for Contract Laboratory Program (CLP) analyses. The approved QAPP dated October 2, 2015 (updated April 5, 2016) and the quality control requirements specified in the methods and associated acceptance criteria were also used to evaluate the non-CLP data.

Data validation has been completed for a representative 50% of all sample results, and the DVRs provided by EDQI have been included as electronic attachments. The USEPA has previously specified that results flagged with a “JB” qualifier are erroneous, and any such results should be revised to display the “B” qualifier only. EDQI reviews and corrects any “JB” qualified results during the data validation procedure. Therefore, any result originally flagged with a “JB” qualifier in the laboratory certificate is reported as a “B” qualified non-detect result in this Phase II Investigation Report. ARM has reviewed all non-validated laboratory reports (those which were

not designated to be reviewed by EDQI) and applied the same validation correction to any relevant “JB” qualified results. ARM has also revised the non-validated results to eliminate any laboratory-specific, non-standardized qualifiers (L2, 6c, ip, 4c, etc.), which are customarily removed by EDQI during the validation procedure.

5.3. DATA USABILITY

The data were evaluated with respect to the quality control elements of precision, bias, representativeness, comparability, completeness and sensitivity relative to data quality indicators and performance measurement criteria outlined in QAPP Worksheet 12 – Measurement Performance Criteria. The following discussion details deviation from the performance measurement criteria, and the impact on data quality and usability.

The measurement performance criteria of precision and bias were evaluated in the data validation process as described in the DVRs provided as electronic attachments. Where appropriate, potential limitations in the results have been indicated through final data flags. These flags indicate whether particular data points were quantitative estimates, biased high/low, associated with blank contamination, etc. Individual data flags are provided with the results in the detection summary tables. A qualifier code glossary is included with each DVR provided by EDQI. Particular results may have been marked with the “R” flag if the result was deemed to be unreliable and was not included in any further data evaluation. There were no rejected results for sub-slab soil gas. A summary of the results that were rejected during data validation has been provided on **Table 11** (soil). A discussion of data completeness (the proportion of valid data) is included below.

Representativeness is a measure of how accurately and precisely the data describe the Site conditions. Representativeness of the samples submitted for analysis was ensured by adherence to standard sampling techniques and protocols, as well as appropriate sample preservation prior to analysis. Sampling was conducted in accordance with the QAPP Worksheet 21 – Field SOPs and Appendix A of the QAPP. Specific Field SOPs applicable to the assessment of representativeness include **Field SOP Numbers 002, 008, 009, 010, 011, 017, and 024**. Review of the field notes and laboratory sample receipt records indicated that collection of soil and sub-slab soil gas at the Site was representative, with no significant deviations from the SOPs.

Comparability describes the degree of confidence in comparing two sets of data. Comparability is maintained across multiple datasets by the use of consistent sampling and analytical methods across multiple project phases. Comparability of sample results was ensured through the use of approved standard sampling and analysis methods outlined in the QAPP. QA/QC protocols help to maintain the comparability of datasets, and in this case were assessed via blind duplicates, blank samples, and spiked samples, where applicable. No deviations from the QAPP were noted in the dataset.

Sensitivity is a determination of whether the analytical methods and quantitation limits will satisfy the requirements of the project. The laboratory reports were reviewed to verify that reporting limits met the quantitation limits for specific analytes provided in QAPP Worksheet #15 – Project Action Limits and Laboratory-Specific Detection/Quantitation Limits. In general, the laboratory reporting limits met the detection and quantitation limits specified in the QAPP.

Completeness is expressed as a ratio of the number of valid data points to the total number of analytical data results. Non-usable (“R” flagged) data results were determined through the data validation process. The approved QAPP specifies that the completeness of data is assessed by professional judgement, but should be greater than or equal to 90%. Data completeness for each compound is provided in **Appendix G**. This evaluation of completeness includes only the representative 50% of sample results which were randomly selected for validation.

A total of 14 analytes did not meet the completeness goal of 90% for soils in Parcel B4. Of these 14 compounds, 11 acid extractable SVOCs (2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2-chlorophenol, 2-methylphenol, 3&4-methylphenol (m&p cresol), pentachlorophenol, and phenol) had soil completeness values of 77.8% (or 75.8% in the case of pentachlorophenol and 73.7% for 2,4-dinitrophenol). Some of the results for these compounds were rejected due to poor recoveries, which are believed to be due to the highly alkaline conditions typical of slag fill. These compounds are generally not expected to be site-related contaminants, and have not been detected above the PALs on any portion of the Tradepoint Atlantic property completed to date. Each of these SVOCs had a very low number of detections at the Site, and none remotely approaching the PAL. Since each of these compounds are unlikely to be site-related contaminants and were detected only at very low levels across the Site, these are not considered to be significant data gaps.

Of the remaining three compounds with reduced completeness percentages in soil (benzaldehyde, 1,4-dioxane, and bromomethane), only benzaldehyde had any detections in soil, and the maximum benzaldehyde detection (0.15 mg/kg) was well below the established PAL (120,000 mg/kg). Based on the infrequency and low magnitude of detections for these compounds, these are not considered to be significant data gaps.

Overall, the soil data can be used as intended, and no significant data gaps were identified. While a limited set of compounds did not meet the completeness goal of 90%, these compounds do not appear to be significant contaminants at the Site.

6.0 FINDINGS AND RECOMMENDATIONS

The objective of this Phase II Investigation was to fully characterize the nature and extent of contamination at the Site. During the investigation, a total of 112 Phase II Investigation soil samples, 117 additional PCB delineation soil samples, and three sub-slab soil gas samples were collected and analyzed to define the nature and extent of contamination in Parcel B4. The sampling and analysis plan for the parcel was developed to target specific features which represented a potential release of hazardous substances and/or petroleum products to the environment. Soil samples were analyzed for TCL-VOCs, TCL-SVOCs, TPH-DRO/GRO, TAL-Metals, hexavalent chromium, and cyanide. Shallow soil samples (0-1 foot bgs) were analyzed for PCBs. Sub-slab soil gas samples were analyzed for VOCs.

6.1. SOIL

The concentrations of constituents in the soil have been characterized by the Phase II Investigation to provide estimates of exposure point concentrations to support risk assessment.

Lead concentrations are well below the levels that would warrant evaluation of a removal remedy. None of the individual lead detections exceeded the mandatory delineation threshold of 10,000 mg/kg. Aroclor 1254, Aroclor 1260, and total PCBs exceeded their respective PALs in multiple locations (eight total) collected from across the Site. Only one soil sample (B4-037-SB-1) exceeded the level that would warrant delineation and excavation of PCBs (50 mg/kg), with a detection of 123.7 mg/kg. At this time, delineation activities have been completed on the portion of the Substation/Transformer sampling target where elevated PCBs were identified. A total of six surface delineation soil samples (including B4-037-SB) exceeded the mandatory excavation criterion of 50 mg/kg. Material exceeding the threshold of 50 mg/kg will be excavated and disposed of at a permitted off-site commercial landfill approved to accept TSCA regulated waste.

There were two PAL exceedances of DRO with the highest detection of 6,760 mg/kg in sample B4-037-SB-6, which targeted a former Substation/Transformer. Locations impacted by elevated DRO represent areas where free product (NAPL) could potentially mobilize, particularly along utility corridors. In addition, one location had physical evidence of possible free product which was noted on the soil boring log (B4-018-SB). Locations which warrant consideration for further action based on DRO detections and/or evidence of possible NAPL are discussed in Section 6.4 (NAPL).

There were no soil PAL exceedances or concerns related to VOCs at the Site. The remaining PAL exceedances in soil consisted of six inorganics (arsenic, manganese, lead, thallium, vanadium, and hexavalent chromium) and five PAHs (benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, dibenz[a,h]anthracene, and naphthalene). Arsenic was the most common inorganic exceedance, and was detected above the PAL in the majority of soil samples analyzed at the Site (83 total).

The maximum detection of arsenic was 85.7 mg/kg at sample location B4-003-SB-5. Benzo[a]pyrene exceeded the PAL in the largest number of samples (11 total) of any SVOC. The maximum detections for all SVOCs, with the exception of naphthalene, were identified in a single sample (B4-056-SB-7.5) which targeted the former Water Treatment Area.

6.2. GROUNDWATER

Groundwater is not used on the Tradepoint Atlantic property (and is not proposed to be utilized); therefore, there is no potential for direct human exposure for a Composite Worker. In the event that future construction/excavation leads to a potential Construction Worker exposure to groundwater, health and safety plans should be implemented to limit exposure risk. Findings from the Area B Groundwater Phase II Investigation which include the groundwater data obtained within Parcel B4 are presented within the Area B Groundwater Phase II Investigation Report (Revision 0) dated September 30, 2016, which was submitted to the agencies for review. An aqueous PAL exceedance figure is provided in **Appendix E** to indicate the locations of any shallow groundwater exceedances from the Area B Groundwater Investigation.

The groundwater data were screened to determine whether any cumulative (or individual) sample results exceeded the USEPA VI TCR (carcinogen) or THQ (non-carcinogen) Screening Levels. Total cyanide had previously been identified as a potential VI hazard in the Area B Groundwater Phase II Investigation Report at several locations, but the screening level for cyanide has since been adjusted upward by the USEPA, eliminating this concern at all but two locations near the southern boundary of the Site (SW-029-MWS and SW-065-MWS). Supplemental sampling has since been conducted at the identified locations (outside of the scope of the Area B Groundwater Investigation) to determine the speciation of cyanide, and the results have indicated that available cyanide is not present at concentrations that could pose a potential VI concern. Location SW13-PZM003 exhibited concentrations of VOCs/SVOCs, in particular benzene and naphthalene, which could present a potential VI risk if a structure were to be proposed in this area. Potential VI risks would be evaluated in a Response and Development Work Plan for any such proposed work.

6.3. SUB-SLAB SOIL GAS

The nature and extent of constituents in sub-slab soil gas below the Maintenance Repair Shop have been adequately characterized by the Phase II Investigation. The sub-slab samples collected during the investigation of the Maintenance Repair Shop did not contain any VOC compounds that exceeded their specified PALs. Further investigation is not recommended based on the documentation of no significant impacts below the building slabs, indicating an insignificant risk for vapor intrusion to workers. The current buildings are suitable for occupancy and use by indoor workers.

6.4. NAPL

Soil cores were screened for evidence of possible NAPL contamination during the completion of the Phase II soil borings in Parcel B4. The field observations were noted on the boring logs, and one boring location had physical evidence of NAPL noted in the soil core (B4-018-SB). A soil sample was collected from the intermediate depth interval (4 to 5 feet bgs) above the observed impacts, and had a concentration of DRO below the PAL at 4,990 mg/kg. DRO was identified slightly above the PAL (6,200 mg/kg) in two soil samples (B4-037-SB-6 and B4-042-SB-5) with detections of 6,760 mg/kg and 6,270 mg/kg, respectively.

No piezometers or additional investigations are warranted at borings B4-037-SB and B4-042-SB based the low level of the DRO exceedances and lack of evidence of NAPL in the soil cores. Based on the specific observations documented on the soil boring log, a temporary screening piezometer was installed at B4-018-SB to assess potential mobility of NAPL at this location. This piezometer was gauged at standard intervals (0-hours, 48-hours, 30-days) to document any accumulation of NAPL in the casing. NAPL was not observed during these standard gauging intervals. Piezometer B4-018-PZ was re-gauged on July 17, 2019, at which time NAPL was detected in the piezometer with a thickness of approximately 0.07 feet. NAPL gauging events, and any delineation/response activities completed after July 17, 2019 will be addressed in separate documents to avoid the need for additional updates to this Phase II Investigation Report.

The proximity of potential future utilities to B4-018-SB, B4-037-SB, and B4-042-SB should be evaluated in any future development planning for Parcel B4. Appropriate protocols should be documented in a Response and Development Work Plan (as necessary) to prevent the mobilization of any product if future utilities are proposed in the vicinity of these impacts.

6.5. RECOMMENDATIONS

Sufficient remedial investigation data has been collected to evaluate the nature and extent of possible constituents of concern in Parcel B4. The presence and absence of soil and sub-slab soil gas impacts within Parcel B4 have been adequately described and further site-wide investigation is not warranted to characterize overall conditions. Recommendations for the Site are as follows:

- Materials containing elevated concentrations of total PCBs (>50 mg/kg) in the vicinity of the former Substation/Transformer targeted by B4-037-SB are required to be excavated. Delineation has been completed, and material exceeding the threshold of 50 mg/kg will be excavated and disposed of at a permitted off-site commercial landfill approved to accept TSCA regulated waste. An excavation plan has been submitted to the agencies and approved for implementation.
- Soil boring locations with physical evidence of possible NAPL and/or elevated DRO concentrations (B4-018-SB, B4-037-SB, and B4-042-SB) should be considered for

proximity to proposed utilities in any future development plans. If future utilities are proposed in the vicinity of these borings, appropriate protocols for the mitigation of potential product (NAPL) mobility should be specified in a Response and Development Work Plan.

- Additional delineation/response activities are warranted at the NAPL screening piezometer B4-018-PZ based on the accumulation of NAPL detected during the July 17, 2019 gauging event. Any additional gauging events and activities completed after July 17, 2019 will be addressed in separate documents to avoid the need for additional updates to this Phase II Investigation Report.
- The Area B Groundwater monitoring well SW13-PZM003 exhibited concentrations of VOCs/SVOCs, in particular benzene and naphthalene, which could present a potential VI risk if a structure were to be proposed in this area. This well is located to the south of Parcel B4 in the adjoining Parcel B18. Potential VI risks associated with the impacts at this location will be evaluated in a Response and Development Work Plan for any development work proposed in this area.

7.0 REFERENCES

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- ARM Group Inc. (2018). *Stormwater Pollution Prevention Plan (SWPPP)*. Revision 6. February 22, 2018.
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- Weaver Boos Consultants (2014). *Phase I Environmental Site Assessment: Former RG Steel Facility*. Final Draft. May 19, 2014.

FIGURES



	Site Boundary
	Parcel Boundaries
	Private Property

Tradepoint Atlantic
Area A and Area B Parcels

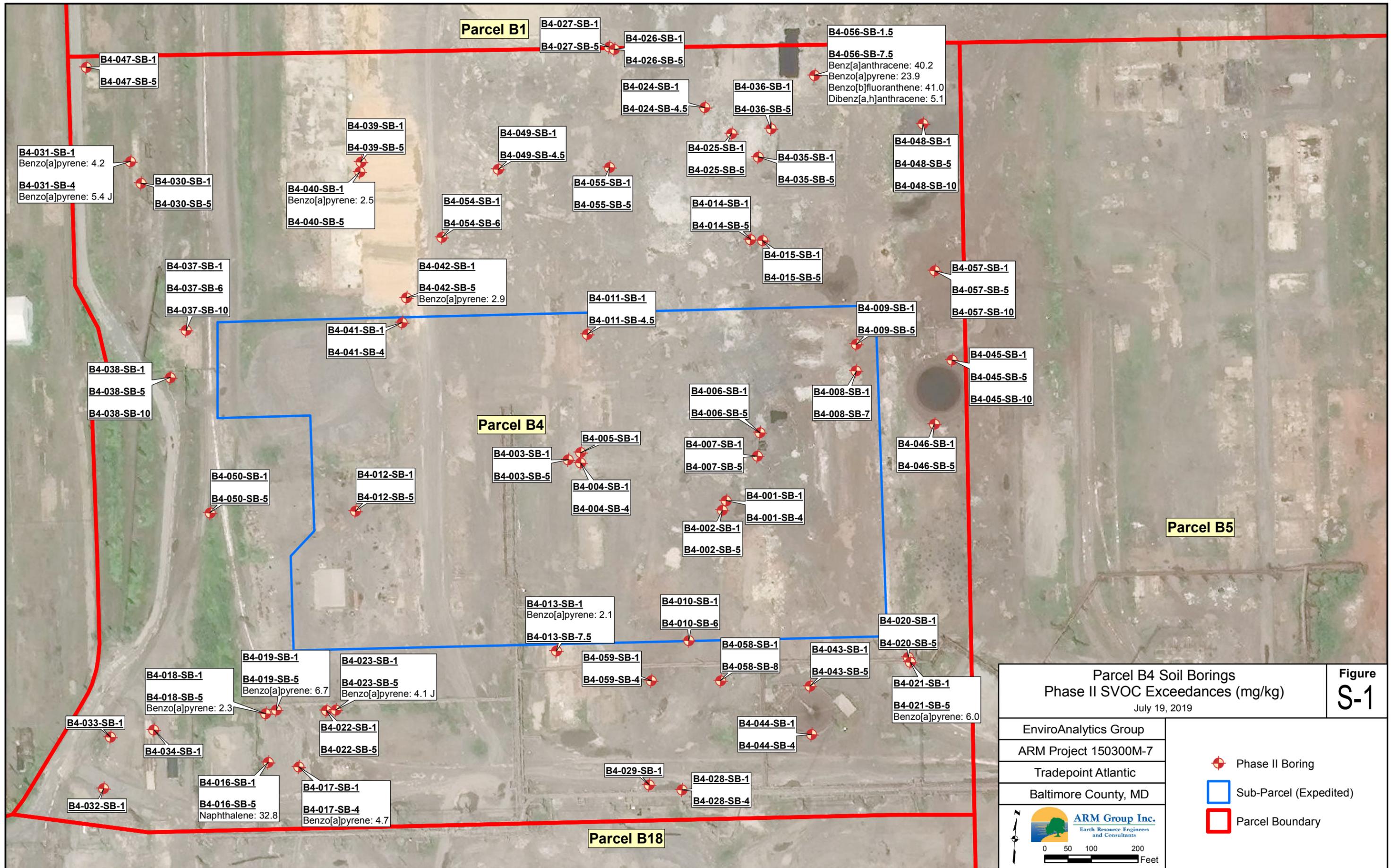
June 21, 2018

Figure
1

	 ARM Group Inc. Engineers and Scientists

Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
Area A: Project 150298M Area B: Project 150300M Development: Project 160443M





B4-031-SB-1
Benzo[a]pyrene: 4.2

B4-031-SB-4
Benzo[a]pyrene: 5.4 J

B4-030-SB-1

B4-030-SB-5

B4-037-SB-1

B4-037-SB-6

B4-037-SB-10

B4-038-SB-1

B4-038-SB-5

B4-038-SB-10

B4-050-SB-1

B4-050-SB-5

B4-018-SB-1

B4-018-SB-5
Benzo[a]pyrene: 2.3

B4-034-SB-1

B4-016-SB-1

B4-016-SB-5
Naphthalene: 32.8

B4-017-SB-1

B4-017-SB-4
Benzo[a]pyrene: 4.7

B4-040-SB-1
Benzo[a]pyrene: 2.5

B4-040-SB-5

B4-041-SB-1

B4-041-SB-4

B4-012-SB-1

B4-012-SB-5

B4-019-SB-1

B4-019-SB-5
Benzo[a]pyrene: 6.7

B4-023-SB-1

B4-023-SB-5
Benzo[a]pyrene: 4.1 J

B4-022-SB-1

B4-022-SB-5

B4-054-SB-1

B4-054-SB-6

B4-042-SB-1

B4-042-SB-5
Benzo[a]pyrene: 2.9

B4-003-SB-1

B4-003-SB-5

B4-004-SB-1

B4-004-SB-4

B4-013-SB-1
Benzo[a]pyrene: 2.1

B4-013-SB-7.5

B4-059-SB-1

B4-059-SB-4

B4-029-SB-1

B4-028-SB-1

B4-028-SB-4

Parcel B1

B4-027-SB-1

B4-027-SB-5

B4-026-SB-1

B4-026-SB-5

B4-024-SB-1

B4-024-SB-4.5

B4-055-SB-1

B4-055-SB-5

B4-025-SB-1

B4-025-SB-5

B4-014-SB-1

B4-014-SB-5

B4-015-SB-1

B4-015-SB-5

B4-011-SB-1

B4-011-SB-4.5

B4-056-SB-1.5

B4-056-SB-7.5
Benz[a]anthracene: 40.2
Benzo[a]pyrene: 23.9
Benzo[b]fluoranthene: 41.0
Dibenz[a,h]anthracene: 5.1

B4-036-SB-1

B4-036-SB-5

B4-048-SB-1

B4-048-SB-5

B4-048-SB-10

B4-057-SB-1

B4-057-SB-5

B4-057-SB-10

B4-009-SB-1

B4-009-SB-5

B4-045-SB-1

B4-045-SB-5

B4-045-SB-10

B4-006-SB-1

B4-006-SB-5

B4-008-SB-1

B4-008-SB-7

B4-046-SB-1

B4-046-SB-5

B4-002-SB-1

B4-002-SB-5

B4-001-SB-1

B4-001-SB-4

B4-010-SB-1

B4-010-SB-6

B4-058-SB-1

B4-058-SB-8

B4-043-SB-1

B4-043-SB-5

B4-020-SB-1

B4-020-SB-5

B4-021-SB-1

B4-021-SB-5
Benzo[a]pyrene: 6.0

B4-044-SB-1

B4-044-SB-4

Parcel B18

Parcel B5

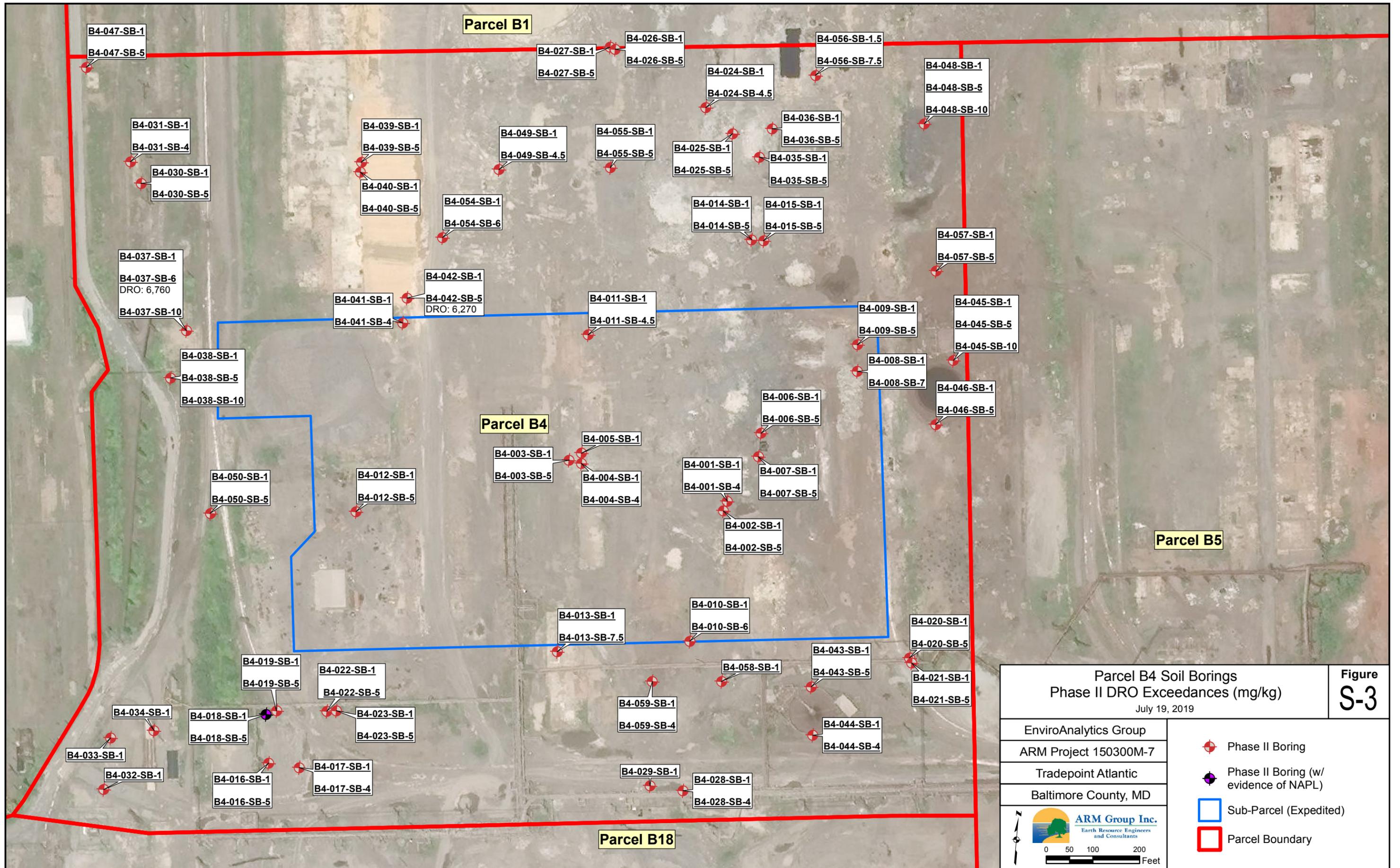


Figure S-3

TABLES

Table 5
Summary of Organics Detected in Soil
Parcel B4
Tradeport Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B4-001-SB-1	B4-001-SB-4	B4-002-SB-1	B4-002-SB-5	B4-003-SB-1	B4-003-SB-5	B4-004-SB-1	B4-004-SB-4	B4-005-SB-1	B4-006-SB-1	B4-006-SB-5	B4-007-SB-1	B4-007-SB-5	B4-008-SB-1	B4-008-SB-7	B4-009-SB-1	B4-009-SB-5	B4-010-SB-1	B4-010-SB-6
Volatile Organic Compounds																					
1,2,3-Trichlorobenzene	mg/kg	930	0.0051 U	0.007 U	0.0043 U	0.013 U	0.0066 U	0.0054 U	0.0059 U	0.0057 U	0.006 U	0.004 U	0.0048 UJ	0.0066 U	0.0041 U	0.0022 J	0.006 U	0.0058 U	0.0055 U	0.0052 U	0.0051 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0051 U	0.007 U	0.0043 U	0.013 U	0.0066 U	0.0054 U	0.0059 U	0.0057 U	0.006 U	0.004 U	0.0048 UJ	0.0066 U	0.0041 U	0.0022 J	0.006 U	0.0058 U	0.0055 U	0.0052 U	0.0051 U
1,4-Dichlorobenzene	mg/kg	11	0.0051 U	0.007 U	0.0043 U	0.013 U	0.0066 U	0.0054 U	0.0059 U	0.0057 U	0.006 U	0.004 U	0.0048 UJ	0.0066 U	0.0041 U	0.0051 U	0.006 U	0.0058 U	0.0055 U	0.0052 U	0.0051 U
2-Butanone (MEK)	mg/kg	190,000	0.01 U	0.014 U	0.0026 J	0.026 U	0.013 U	0.011 U	0.012 U	0.011 U	0.012 U	0.0081 U	0.0096 UJ	0.0081 J	0.0082 U	0.01 U	0.012 U	0.012 U	0.011 U	0.0027 J	0.0042 J
2-Hexanone	mg/kg	1,300	0.01 U	0.014 U	0.0086 U	0.026 U	0.013 U	0.011 U	0.012 U	0.011 U	0.012 U	0.0081 U	0.0096 UJ	0.002 J	0.0082 U	0.01 U	0.012 U	0.012 U	0.011 U	0.01 U	0.01 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.01 U	0.014 U	0.0086 U	0.026 U	0.013 U	0.011 U	0.012 U	0.011 U	0.012 U	0.0081 U	0.0096 UJ	0.013 U	0.0082 U	0.01 U	0.012 U	0.012 U	0.011 U	0.01 U	0.0021 J
Acetone	mg/kg	670,000	0.023	0.13	0.031	0.041	0.013 UJ	0.13 J	0.015 J	0.031 J	0.039 J	0.021	0.038 J	0.11	0.011	0.017 J	0.028 J	0.06	0.031	0.097 J	0.091 J
Benzene	mg/kg	5.1	0.0051 U	0.007 U	0.0043 U	0.013 U	0.0066 U	0.013	0.0059 U	0.0057 U	0.006 U	0.0038 J	0.0043 J	0.0066 U	0.0018 J	0.0051 U	0.006 U	0.0058 U	0.0055 U	0.0052 U	0.0051 U
Chloroform	mg/kg	1.4	0.0051 U	0.0093	0.0043 U	0.013 U	0.0066 U	0.0054 U	0.0059 U	0.0057 U	0.006 U	0.004 U	0.0048 UJ	0.0066 U	0.0041 U	0.0051 U	0.006 U	0.0058 U	0.0055 U	0.0052 U	0.0051 U
Cyclohexane	mg/kg	27,000	0.01 U	0.014 U	0.0086 U	0.026 U	0.013 U	0.011 U	0.012 U	0.011 U	0.012 U	0.0081 U	0.0096 UJ	0.013 U	0.0082 U	0.01 U	0.012 U	0.012 U	0.011 U	0.01 U	0.01 U
Ethylbenzene	mg/kg	25	0.0051 U	0.007 U	0.0043 U	0.013 U	0.0066 U	0.0061	0.0059 U	0.0057 U	0.006 U	0.0016 J	0.0048 UJ	0.0066 U	0.0013 J	0.0051 U	0.006 U	0.0058 U	0.0055 U	0.0052 U	0.0051 U
Isopropylbenzene	mg/kg	9,900	0.0051 U	0.007 U	0.0043 U	0.013 U	0.0066 U	0.0054 U	0.0059 U	0.0057 U	0.006 U	0.004 U	0.0048 UJ	0.0066 U	0.0041 U	0.0051 U	0.006 U	0.0058 U	0.0055 U	0.0052 U	0.0051 U
Methyl Acetate	mg/kg	1,200,000	0.051 U	0.07 U	0.043 U	0.13 U	0.066 U	0.054 U	0.059 U	0.057 U	0.06 U	0.04 U	0.048 UJ	0.066 U	0.041 U	0.051 R	0.06 U	0.058 U	0.055 U	0.052 U	0.051 U
Styrene	mg/kg	35,000	0.0051 U	0.007 U	0.0043 U	0.013 U	0.0066 U	0.0054 U	0.0059 U	0.0057 U	0.006 U	0.004 U	0.0048 UJ	0.0066 U	0.0041 U	0.0051 U	0.006 U	0.0058 U	0.0055 U	0.0052 U	0.0051 U
Toluene	mg/kg	47,000	0.0056	0.0047 J	0.0061	0.018	0.0059 J	0.017	0.0053 J	0.0059	0.0049 J	0.0099	0.0091 J	0.0095	0.0075	0.0053	0.0025 J	0.011	0.0088	0.0091	0.0035 J
Xylenes	mg/kg	2,800	0.015 U	0.021 U	0.013 U	0.038 U	0.02 U	0.0062 J	0.018 U	0.017 U	0.018 U	0.012 U	0.014 UJ	0.02 U	0.012 U	0.015 U	0.018 U	0.018 U	0.017 U	0.016 U	0.015 U
Semi-Volatile Organic Compounds^																					
1,1-Biphenyl	mg/kg	200	0.072 U	0.026 J	0.072 U	0.094 U	0.017 J	0.02 J	0.075 U	0.073 J	0.074 U	0.071 U	0.071 U	0.073 U	0.07 U	0.072 U	0.018 J	0.073 U	0.072 U	0.02 J	0.028 J
2,4-Dimethylphenol	mg/kg	16,000	0.072 R	0.078 U	0.072 R	0.094 U	0.075 U	0.073 U	0.075 U	0.024 J	0.074 U	0.071 R	0.071 R	0.073 UJ	0.07 U	0.072 U	0.073 U	0.073 U	0.072 U	0.072 R	0.071 R
2,4-Dinitrophenol	mg/kg	1,600	0.18 R	0.2 UJ	0.18 R	0.23 UJ	0.19 U	0.18 U	0.19 U	0.19 U	0.19 U	0.18 R	0.18 R	0.18 UJ	0.18 UJ	0.18 R	0.18 U	0.18 UJ	0.18 R	0.18 R	0.18 R
2,6-Dinitrotoluene	mg/kg	1.5	0.072 U	0.078 U	0.072 U	0.094 U	0.075 U	0.073 U	0.075 U	0.077 U	0.074 U	0.071 U	0.071 U	0.073 U	0.07 U	0.072 U	0.073 U	0.073 U	0.072 U	0.072 U	0.071 U
2-Chloronaphthalene	mg/kg	60,000	0.072 U	0.078 U	0.072 U	0.094 U	0.075 U	0.073 U	0.075 U	0.077 U	0.074 U	0.071 U	0.071 U	0.073 U	0.07 U	0.072 U	0.073 U	0.073 U	0.072 U	0.072 U	0.071 U
2-Methylnaphthalene	mg/kg	3,000	0.017	0.11	0.018	0.0075 J	0.051 J	0.14	0.014 J	0.26	0.032 J	0.024	0.027	0.0048 J	0.034	0.021	0.062	0.023 J	0.037	0.1	0.11
2-Methylphenol	mg/kg	41,000	0.072 R	0.078 U	0.072 R	0.094 U	0.075 U	0.073 U	0.075 U	0.077 U	0.074 U	0.071 R	0.071 R	0.073 UJ	0.07 U	0.072 U	0.073 U	0.073 U	0.072 U	0.072 R	0.071 R
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 R	0.045 J	0.14 R	0.19 U	0.15 U	0.15 U	0.15 U	0.038 J	0.15 U	0.14 R	0.14 R	0.15 UJ	0.14 U	0.14 R	0.14 R				
4-Chloroaniline	mg/kg	11	0.072 U	0.078 U	0.072 U	0.094 U	0.075 U	0.073 U	0.075 U	0.077 U	0.074 U	0.071 U	0.071 U	0.073 U	0.07 U	0.072 UJ	0.073 U	0.073 U	0.072 U	0.072 U	0.071 U
Acenaphthene	mg/kg	45,000	0.001 J	0.027	0.0037 J	0.0094 U	0.077 U	0.0077	0.076 U	0.029 J	0.074 U	0.043	0.077	0.0012 J	0.28	0.0047 J	0.013	0.011 J	0.015	0.01	0.029
Acenaphthylene	mg/kg	45,000	0.0022 J	0.056	0.024	0.0022 J	0.041 J	0.013	0.023 J	0.13	0.026 J	0.0076	0.0049 J	0.0009 J	0.0069 J	0.0072 U	0.07	0.0064 J	0.0019 J	0.072	0.31
Acetophenone	mg/kg	120,000	0.072 U	0.078 U	0.072 U	0.094 U	0.075 U	0.073 U	0.075 U	0.034 J	0.074 U	0.071 U	0.071 U	0.073 U	0.07 U	0.072 U	0.073 U	0.073 U	0.072 U	0.046 J	0.026 J
Anthracene	mg/kg	230,000	0.0067 B	0.11	0.031	0.0047 B	0.067 J	0.017	0.039 J	0.23	0.052 J	0.021	0.023	0.0048 B	0.064	0.015 J	0.11	0.034 J	0.0045 B	0.048	0.18
Benz[a]anthracene	mg/kg	21	0.033	0.54	0.076	0.015	0.22	0.058	0.11	0.19	0.12	0.19	0.11	0.019	0.53	0.025 J	0.48	0.098 J	0.029	0.057	0.17
Benzaldehyde	mg/kg	120,000	0.072 R	0.078 R	0.072 R	0.094 R	0.033 J	0.031 J	0.023 J	0.056 J	0.074 R	0.071 R	0.071 R	0.073 R	0.07 R	0.021 J	0.024 J	0.073 R	0.072 R	0.044 J	0.026 J
Benzo[a]pyrene	mg/kg	2.1	0.021	0.46	0.066	0.014	0.27	0.066	0.17	1.5	0.24	0.23	0.37	0.015	1.2	0.022 J	0.46	0.072 J	0.043	0.05	0.16
Benzo[b]fluoranthene	mg/kg	21	0.097	1.1	0.18	0.042	0.71	0.18	0.39	3.7	0.58	0.55	0.83	0.047	1.6	0.069 J	1.2	0.28 J	0.056	0.15	0.35
Benzo[g,h,i]perylene	mg/kg	0.85	0.013	0.12	0.022	0.0057 B	0.1	0.022	0.085	0.79	0.41	0.12	0.17	0.0062 B	0.49	0.0089 J	0.1	0.04 J	0.019	0.028	0.062
Benzo[k]fluoranthene	mg/kg	210	0.093	1.1	0.18	0.041	0.68	0.18	0.38	3.5	0.55	0.52	0.79	0.045	0.68	0.066 J	1.1	0.27 J	0.054	0.14	0.34
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.072 U	0.078 U	0.018 B	0.094 U	0.64 J	0.016 B	0.18 B	0.11 B	0.1 J	0.071 U	0.071 U	0.073 U	0.07 U	0.13 J	0.073 UJ	0.085 B	0.072 U	0.019 B	0.052 B
Caprolactam	mg/kg	400,000	0.18 U	0.2 U	0.18 U	0.23 U	0.19 U	0.18 U	0.19 U	0.19 U	0.19 U	0.18 U									
Carbazole	mg/kg	0.072 U	0.052 J	0.072 U	0.094 U	0.038 J	0.073 U	0.024 J	0.15 J	0.021 J	0.071 U	0.071 U	0.073 U	0.052 J	0.072 U	0.12 J	0.02 J	0.072 U	0.051 J	0.098	
Chrysene	mg/kg	2,100	0.053	0.58	0.09	0.026	0.26	0.092	0.17	1.2	0.23	0.19	0.24	0.03	0.57	0.042 J	0.46	0.19 J	0.046	0.077	0.18
Dibenz[a,h]anthracene	mg/kg	2.1	0.0045 J	0.061	0.0084	0.0022 J	0.033 J	0.0088	0.031 J	0.29	0.035 J	0.046	0.07	0.0025 J	0.22	0.0024 J	0.056	0.013 J	0.0068 J	0.0093	0.023
Di-n-butylphthalate	mg/kg	82,000	0.072 U	0.078 U	0.072 U	0.094 U	0.075 U	0.072 U	0.075 U	0.077 U	0.074 U	0.071 U	0.071 U	0.073 U	0.07 U	0.072 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 J
Di-n-octylph																					

Table 5
Summary of Organics Detected in Soil
Parcel B4
Tradeport Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B4-011-SB-1	B4-011-SB-4.5	B4-012-SB-1	B4-012-SB-5	B4-013-SB-1	B4-013-SB-7.5	B4-014-SB-1	B4-014-SB-5	B4-015-SB-1	B4-015-SB-5	B4-016-SB-1	B4-016-SB-5	B4-017-SB-1	B4-017-SB-4	B4-018-SB-1	B4-018-SB-5	B4-019-SB-1	B4-019-SB-5	B4-020-SB-1
Volatile Organic Compounds																					
1,2,3-Trichlorobenzene	mg/kg	930	0.0056 U	0.0056 U	0.0051 U	0.0051 U	0.0073 U	0.004 U	0.0046 J	0.0049 U	0.0017 J	0.0052 U	0.0049 U	0.0056 U	0.0049 U	0.0078 U	0.005 U	0.0068 UJ	0.0049 U	0.0065 UJ	0.0051 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0056 U	0.0056 U	0.0051 U	0.0051 U	0.0073 U	0.004 U	0.0083	0.0049 U	0.0037 J	0.0052 U	0.0049 U	0.0056 U	0.0049 U	0.0078 U	0.005 U	0.0068 UJ	0.0049 U	0.0065 UJ	0.0051 U
1,4-Dichlorobenzene	mg/kg	11	0.0056 U	0.0056 U	0.0051 U	0.0051 U	0.0073 U	0.004 U	0.005 U	0.0049 U	0.005 U	0.0052 U	0.0049 U	0.0056 U	0.0049 U	0.0078 U	0.005 U	0.0068 UJ	0.0049 U	0.0065 UJ	0.0051 U
2-Butanone (MEK)	mg/kg	190,000	0.011 U	0.011 U	0.0042 J	0.01 U	0.015 U	0.0079 U	0.0099 U	0.0025 J	0.0099 U	0.0026 J	0.0098 UJ	0.014 J	0.0098 U	0.016 U	0.01 UJ	0.021 J	0.0097 UJ	0.013 UJ	0.01 UJ
2-Hexanone	mg/kg	1,300	0.011 U	0.011 U	0.01 U	0.01 U	0.015 U	0.0079 U	0.0099 U	0.0098 U	0.0099 U	0.01 U	0.0098 U	0.011 U	0.0098 U	0.016 U	0.01 U	0.014 U	0.0097 U	0.013 U	0.01 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.011 U	0.011 U	0.01 U	0.01 U	0.015 U	0.0079 U	0.0099 U	0.0024 J	0.0099 U	0.01 U	0.0098 U	0.011 U	0.0098 U	0.016 U	0.0083 J	0.014 U	0.0097 U	0.013 U	0.01 U
Acetone	mg/kg	670,000	0.011 UJ	0.025 J	0.05	0.12	0.023 J	0.033 J	0.0099 U	0.035	0.047	0.045	0.029 J	0.071 J	0.031 J	0.089 B	0.01 B	0.1 J	0.051 J	0.043 J	0.022 J
Benzene	mg/kg	5.1	0.0056 U	0.011	0.0051 U	0.016	0.0073 U	0.0021 J	0.005 U	0.0049 U	0.005 U	0.0052 U	0.0049 U	0.0016 J	0.0049 U	0.0078 U	0.005 U	0.0035 J	0.0014 J	0.0065 U	0.0051 U
Chloroform	mg/kg	1.4	0.0056 U	0.0056 U	0.0051 U	0.0051 U	0.0073 U	0.004 U	0.005 U	0.0049 U	0.005 U	0.0052 U	0.0049 U	0.0056 U	0.0049 U	0.0078 U	0.005 U	0.0068 U	0.0049 U	0.0065 U	0.0051 U
Cyclohexane	mg/kg	27,000	0.011 U	0.011 U	0.01 U	0.027	0.015 U	0.0079 U	0.0099 U	0.0098 U	0.0099 U	0.01 U	0.0098 U	0.011 U	0.0098 U	0.016 U	0.01 U	0.014 U	0.0097 U	0.013 U	0.01 U
Ethylbenzene	mg/kg	25	0.0056 U	0.0086	0.0051 U	0.0071	0.0073 U	0.004 U	0.005 U	0.0049 U	0.005 U	0.0052 U	0.0049 U	0.0023 J	0.0049 U	0.0078 U	0.005 U	0.0026 J	0.0049 U	0.0065 UJ	0.0051 U
Isopropylbenzene	mg/kg	9,900	0.0056 U	0.0056 U	0.0051 U	0.0051 U	0.0073 U	0.004 U	0.005 U	0.0049 U	0.005 U	0.0052 U	0.0049 U	0.0056 U	0.0049 U	0.0078 U	0.005 U	0.011 J	0.0049 U	0.0065 UJ	0.0051 U
Methyl Acetate	mg/kg	1,200,000	0.056 U	0.056 U	0.051 U	0.051 U	0.073 U	0.04 U	0.05 U	0.049 U	0.05 U	0.052 U	0.049 U	0.056 U	0.049 U	0.078 U	0.05 U	0.068 U	0.0021 J	0.065 U	0.051 U
Styrene	mg/kg	35,000	0.0056 U	0.0056 U	0.0051 U	0.0051 U	0.0073 U	0.004 U	0.005 U	0.0049 U	0.005 U	0.0052 U	0.0049 U	0.0056 U	0.0049 U	0.0031 J	0.005 U	0.0068 U	0.0049 U	0.0065 UJ	0.0051 U
Toluene	mg/kg	47,000	0.005 J	0.025	0.0043 J	0.019	0.0059 J	0.0045	0.013 B	0.012 B	0.018 B	0.015 B	0.01	0.011	0.01	0.011	0.011	0.009	0.0085	0.0039 J	0.0066
Xylenes	mg/kg	2,800	0.017 U	0.01 J	0.015 U	0.0054 J	0.022 U	0.012 U	0.015 U	0.015 U	0.015 U	0.016 U	0.015 U	0.0038 J	0.015 U	0.023 U	0.0038 J	0.011 J	0.015 U	0.019 U	0.015 U
Semi-Volatile Organic Compounds[^]																					
1,1-Biphenyl	mg/kg	200	0.073 U	0.072 U	0.036 J	0.07 U	0.076 J	0.074 U	0.038 J	0.08 U	0.073 U	0.081 U	0.073 U	0.15 J	0.073 U	0.025 J	0.097 J	0.4 J	0.075 U	0.66 J	0.071 U
2,4-Dimethylphenol	mg/kg	16,000	0.073 R	0.072 U	0.074 R	0.07 U	0.081 UJ	0.074 U	0.055 J	0.08 U	0.073 R	0.081 U	0.073 R	0.077 U	0.073 R	0.09 R	0.074 U	0.46 U	0.075 U	0.079 U	0.071 U
2,4-Dinitrophenol	mg/kg	1,600	0.18 R	0.18 U	0.18 R	0.18 UJ	0.2 UJ	0.19 U	0.19 U	0.2 U	0.18 R	0.2 U	0.18 R	0.19 U	0.18 R	0.23 R	0.066 J	1.1 U	0.19 U	0.2 U	0.18 U
2,6-Dinitrotoluene	mg/kg	1.5	0.073 U	0.072 U	0.074 U	0.07 U	0.081 U	0.074 U	0.077 U	0.08 U	0.073 U	0.039 J	0.073 U	0.077 U	0.073 U	0.09 U	0.074 U	0.46 U	0.075 U	0.079 U	0.071 U
2-Chloronaphthalene	mg/kg	60,000	0.073 U	0.072 U	0.074 U	0.07 U	0.081 U	0.074 U	0.077 U	0.08 U	0.073 U	0.081 U	0.073 U	0.077 U	0.073 U	0.09 U	0.074 U	0.46 U	0.075 U	0.079 U	0.071 U
2-Methylnaphthalene	mg/kg	3,000	0.017	0.032	0.092	0.0075	0.72	0.06	0.013	0.0081 U	0.011	0.14	0.0091	0.62	0.0093	0.26 J	0.068 J	0.61	0.11	2.2	0.015
2-Methylphenol	mg/kg	41,000	0.073 R	0.072 U	0.074 R	0.07 U	0.081 UJ	0.074 U	0.064 J	0.08 U	0.073 R	0.081 U	0.073 R	0.077 U	0.073 R	0.09 R	0.074 U	0.46 U	0.075 U	0.079 U	0.071 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 R	0.14 U	0.15 R	0.14 U	0.16 UJ	0.15 U	0.042 J	0.16 U	0.15 R	0.16 U	0.15 R	0.15 U	0.15 R	0.18 R	0.15 U	0.91 U	0.15 U	0.028 J	0.14 U
4-Chloroaniline	mg/kg	11	0.073 U	0.072 U	0.074 U	0.07 U	0.081 U	0.074 U	0.077 U	0.08 U	0.073 U	0.081 U	0.073 U	0.077 U	0.073 U	0.09 U	0.074 U	0.46 U	0.075 U	0.079 U	0.071 U
Acenaphthene	mg/kg	45,000	0.0011 J	0.036	0.0062 J	0.0053 J	0.056	0.0045 J	0.004 B	0.0081 U	0.0015 B	0.0094	0.0026 J	0.014 J	0.00094 J	0.034	0.021 J	1 J	0.019 J	0.57 J	0.0028 J
Acenaphthylene	mg/kg	45,000	0.0035 J	0.0015 J	0.0033 J	0.00073 J	0.11	0.023	0.0051 J	0.0026 J	0.0019 J	0.018	0.039	0.31	0.0019 J	0.81	0.15	0.92	0.34	2	0.029
Acetophenone	mg/kg	120,000	0.024 J	0.024 J	0.074 U	0.018 J	0.11	0.074 U	0.077 U	0.08 U	0.073 U	0.081 U	0.073 U	0.061 J	0.073 U	0.026 J	0.038 J	0.46 U	0.075 U	0.046 J	0.071 U
Anthracene	mg/kg	230,000	0.0071 J	0.0015 J	0.0095	0.0071 U	0.37	0.039	0.011	0.0081 U	0.0074 U	0.039	0.034	0.19	0.0053 J	0.53 J	0.046 J	0.73	0.049	6.3	0.031
Benz[a]anthracene	mg/kg	21	0.027	0.0061 J	0.044	0.0071 U	2.1	0.18	0.049	0.0081 U	0.021	0.091	0.14	1.1	0.017	4.3	0.076	1.3	0.15	7.5	0.061
Benzaldehyde	mg/kg	120,000	0.023 J	0.044 J	0.039 J	0.07 R	0.072 J	0.074 R	0.15 J	0.08 R	0.073 R	0.081 R	0.073 R	0.064 J	0.073 R	0.09 R	0.074 R	0.46 R	0.075 R	0.071 J	0.071 R
Benzo[a]pyrene	mg/kg	2.1	0.031	0.0057 J	0.034	0.0071 U	2.1	0.19	0.057	0.001 B	0.021	0.13	0.1	1.4	0.011	4.7	0.065 J	2.3	0.22	6.7	0.06
Benzo[b]fluoranthene	mg/kg	21	0.095	0.019	0.15	0.0071 U	3.6	0.47	0.17	0.0022 B	0.098	0.26	0.25	3.9	0.042	9.3	0.18	4	0.68	15.7	0.16
Benzo[g,h,i]perylene	mg/kg	0.015	0.0031 J	0.013	0.0071 U	0.66	0.087	0.018	0.0081 U	0.016	0.072	0.073	0.037	0.0064 J	1.3	0.079	2.7	0.064	1.4	0.04	
Benzo[k]fluoranthene	mg/kg	210	0.091	0.018	0.14	0.0071 U	1.4	0.45	0.16	0.0021 B	0.095	0.24	0.24	3.7	0.04	8.9	0.17	3.9	0.65	15.2	0.15
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.073 U	0.072 U	0.074 U	0.07 U	0.081 U	0.074 U	0.077 UJ	0.08 U	0.073 U	0.081 U	0.073 U	0.077 UJ	0.073 UJ	0.09 UJ	0.074 UJ	0.46 UJ	0.075 U	0.079 UJ	0.071 UJ
Caprolactam	mg/kg	400,000	0.18 U	0.18 U	0.18 U	0.18 U	0.2 U	0.19 U	0.19 U	0.2 U	0.18 U	0.2 U	0.18 U	0.19 U	0.18 U	0.23 U	0.19 U	1.1 U	0.19 U	0.2 U	0.18 U
Carbazole	mg/kg	0.073 U	0.072 U	0.074 U	0.07 U	0.3	0.074 U	0.077 U	0.08 U	0.073 U	0.026 J	0.073 U	0.065 J	0.073 U	0.024 J	0.029 J	0.22 J	0.019 J	2.5 J	0.022 J	
Chrysene	mg/kg	2,100	0.036	0.0097	0.061	0.0071 U	2.4	0.21	0.13	0.0011 B	0.051	0.11	0.12	1.1	0.022	3.7	0.12	1.3	0.17	6.4	0.076
Dibenz[a,h]anthracene	mg/kg	2.1	0.0054 J	0.0073 U	0.0052 J	0.0071 U	0.47	0.045	0.015 U	0.0081 U	0.0056 J	0.03	0.024	0.17	0.002 J	1.1	0.023 J	0.68	0.02	0.65	0.012
Di-n-butylphthalate	mg/kg	82,000	0.073 U	0.072 U	0.074 U	0.07 U	0.081 U	0.074 U	0.044 J	0.08 UJ	0.073 UJ	0.081 UJ	0.073 UJ	0.077 U	0.073 U	0.09 U	0.074 U	0.88 J	0.075 U	0.079 U	0.071 U
Di-n-octylphthalate	mg/kg	8,200</																			

**Table 5
Summary of Organics Detected in Soil
Parcel B4
Tradeport Atlantic
Sparrows Point, Maryland**

Parameter	Units	PAL	B4-020-SB-5	B4-021-SB-1	B4-021-SB-5	B4-022-SB-1	B4-022-SB-5	B4-023-SB-1	B4-023-SB-5	B4-024-SB-1	B4-024-SB-4.5	B4-025-SB-1	B4-025-SB-5	B4-026-SB-1	B4-026-SB-5	B4-027-SB-1	B4-027-SB-5	B4-028-SB-1	B4-028-SB-4	B4-029-SB-1	B4-030-SB-1
Volatile Organic Compounds																					
1,2,3-Trichlorobenzene	mg/kg	930	0.0069 U	0.0057 U	0.0062 U	0.006 UJ	0.0061 UJ	0.0062 UJ	0.0059 UJ	0.0063 U	0.0045 U	0.0053 U	0.0079 U	0.005 U	0.0046 U	0.005 U	0.0057 U	0.005 U	0.0059 U	0.0051 U	0.0058 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0069 U	0.0057 U	0.0062 U	0.006 UJ	0.0061 UJ	0.0062 UJ	0.0059 UJ	0.0063 U	0.0045 U	0.0053 U	0.0079 U	0.005 U	0.0046 U	0.005 U	0.0057 U	0.005 U	0.0059 U	0.0051 U	0.0058 U
1,4-Dichlorobenzene	mg/kg	11	0.0069 U	0.0057 U	0.0062 U	0.006 U	0.0061 U	0.0062 U	0.0059 UJ	0.0063 U	0.0045 U	0.0039 J	0.0079 U	0.005 U	0.0046 U	0.005 U	0.0057 U	0.005 U	0.0059 U	0.0051 U	0.0058 U
2-Butanone (MEK)	mg/kg	190,000	0.014 UJ	0.011 UJ	0.017 J	0.012 U	0.012 U	0.012 U	0.012 U	0.013 U	0.009 U	0.011 U	0.016 U	0.0032 J	0.0092 U	0.01 U	0.011 U	0.0099 U	0.012 U	0.025	0.012 U
2-Hexanone	mg/kg	1,300	0.014 U	0.011 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.013 U	0.009 U	0.011 U	0.016 U	0.0099 U	0.0092 U	0.01 U	0.011 U	0.0099 U	0.012 U	0.0022 J	0.012 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.014 U	0.011 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.013 U	0.009 U	0.011 U	0.016 U	0.0099 U	0.0092 U	0.01 U	0.011 U	0.0099 U	0.012 U	0.01 U	0.012 U
Acetone	mg/kg	670,000	0.047 J	0.028 J	0.04 J	0.0093 B	0.016 B	0.042 J	0.012 UJ	0.031 J	0.01 J	0.029 J	0.057 J	0.035 J	0.039 J	0.01 U	0.019 J	0.017 B	0.097 B	0.11 B	0.015
Benzene	mg/kg	5.1	0.0073	0.0057 U	0.037	0.006 U	0.005 J	0.0062 U	0.0059 U	0.0063 U	0.0045 U	0.0053 U	0.0079 U	0.005 U	0.0046 U	0.005 U	0.0057 U	0.005 U	0.0059 U	0.0051 U	0.0058 U
Chloroform	mg/kg	1.4	0.0069 U	0.0057 U	0.0062 U	0.006 U	0.0061 U	0.0062 U	0.0059 U	0.0063 U	0.0045 U	0.0053 U	0.0079 U	0.005 U	0.0046 U	0.005 U	0.0057 U	0.005 U	0.0059 U	0.0051 U	0.0058 U
Cyclohexane	mg/kg	27,000	0.014 U	0.011 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.013 U	0.009 U	0.011 U	0.016 U	0.0099 U	0.0092 U	0.01 U	0.011 U	0.0099 U	0.012 U	0.01 U	0.012 U
Ethylbenzene	mg/kg	25	0.017	0.0057 U	0.0077	0.006 U	0.0014 J	0.0062 U	0.0059 U	0.0063 U	0.0045 U	0.0053 U	0.0079 U	0.005 U	0.0046 U	0.005 U	0.0057 U	0.005 U	0.0059 U	0.0051 U	0.0058 U
Isopropylbenzene	mg/kg	9,900	0.0069 U	0.0057 U	0.0062 U	0.006 U	0.0061 U	0.0062 U	0.0059 UJ	0.0063 U	0.0045 U	0.0053 U	0.0079 U	0.005 U	0.0046 U	0.005 U	0.0057 U	0.005 U	0.0059 U	0.0051 U	0.0058 U
Methyl Acetate	mg/kg	1,200,000	0.069 U	0.057 U	0.062 U	0.06 U	0.061 U	0.062 U	0.059 U	0.063 U	0.045 U	0.053 U	0.079 U	0.05 U	0.046 U	0.05 U	0.057 U	0.05 U	0.059 U	0.051 U	0.058 U
Styrene	mg/kg	35,000	0.0069 U	0.0057 U	0.0062 U	0.006 U	0.0061 U	0.0062 U	0.0059 U	0.0063 U	0.0045 U	0.0053 U	0.0079 U	0.005 U	0.0046 U	0.005 U	0.0057 U	0.005 U	0.0059 U	0.0051 U	0.0058 U
Toluene	mg/kg	47,000	0.041	0.0083	0.036	0.006 U	0.0042 J	0.0062 U	0.0059 U	0.015	0.0098	0.012	0.021	0.0096	0.012	0.0043 J	0.0066	0.0048 J	0.0052 J	0.0074	0.013 B
Xylenes	mg/kg	2,800	0.018 J	0.017 U	0.0077 J	0.018 U	0.018 U	0.019 U	0.018 U	0.019 U	0.014 U	0.016 U	0.024 U	0.015 U	0.014 U	0.015 U	0.017 U	0.003 J	0.018 U	0.015 U	0.017 U
Semi-Volatile Organic Compounds^A																					
1,1-Biphenyl	mg/kg	200	0.073 U	0.15 J	0.033 J	0.078 U	0.037 J	0.077 U	0.039 J	0.076 U	0.072 U	0.075 U	0.086 U	0.073 U	0.075 U	0.073 U	0.017 J	0.078 U	0.024 J	0.051 J	0.052 J
2,4-Dimethylphenol	mg/kg	16,000	0.073 U	0.074 UJ	0.078 UJ	0.078 R	0.078 U	0.077 R	0.079 U	0.076 U	0.072 U	0.075 U	0.086 U	0.073 U	0.075 U	0.073 U	0.077 U	0.078 R	0.077 R	0.072 R	0.074 U
2,4-Dinitrophenol	mg/kg	1,600	0.18 U	0.19 R	0.2 UJ	0.2 R	0.2 UJ	0.19 R	0.2 UJ	0.19 U	0.18 U	0.19 U	0.21 U	0.18 U	0.19 U	0.18 UJ	0.19 U	0.2 R	0.19 R	0.18 R	0.19 U
2,6-Dinitrotoluene	mg/kg	1.5	0.073 U	0.074 U	0.078 U	0.078 U	0.078 U	0.077 U	0.079 U	0.076 U	0.072 U	0.075 U	0.086 U	0.073 U	0.075 U	0.073 U	0.077 U	0.078 U	0.077 U	0.072 U	0.074 U
2-Chloronaphthalene	mg/kg	60,000	0.073 U	0.074 U	0.078 U	0.078 U	0.078 U	0.077 U	0.079 U	0.076 U	0.072 U	0.075 U	0.086 U	0.073 U	0.075 U	0.073 U	0.077 U	0.078 U	0.077 U	0.072 U	0.074 U
2-Methylnaphthalene	mg/kg	3,000	0.017	0.41 J	0.2	0.014	0.12	0.0058 J	0.65	0.012 J	0.0011 J	0.074 U	0.023	0.021	0.0037 J	0.074 U	0.14	0.019	0.12	0.068	0.04 J
2-Methylphenol	mg/kg	41,000	0.073 U	0.074 UJ	0.078 UJ	0.078 R	0.031 J	0.077 R	0.079 U	0.076 U	0.072 U	0.075 U	0.086 U	0.073 U	0.075 U	0.073 U	0.077 U	0.078 R	0.077 R	0.072 R	0.074 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	0.15 UJ	0.16 UJ	0.16 R	0.099 J	0.15 R	0.16 U	0.15 U	0.14 U	0.15 U	0.17 U	0.15 U	0.15 U	0.15 U	0.15 U	0.16 R	0.15 R	0.14 R	0.15 U
4-Chloroaniline	mg/kg	11	0.073 U	0.074 U	0.078 U	0.078 U	0.078 U	0.077 U	0.079 U	0.076 U	0.072 U	0.075 U	0.086 U	0.073 U	0.075 U	0.073 U	0.077 U	0.078 U	0.077 U	0.072 U	0.074 U
Acenaphthene	mg/kg	45,000	0.0073 J	0.056 J	0.2 J	0.0012 J	0.016	0.008 U	0.18	0.077 U	0.00082 J	0.074 U	0.0087 U	0.0079	0.0076 U	0.074 U	0.0078 U	0.0036 J	0.017	0.021	0.03 B
Acenaphthylene	mg/kg	45,000	0.0052 J	0.59 J	0.35	0.0042 J	0.13	0.0024 J	1.1	0.077 U	0.0011 J	0.074 U	0.0056 J	0.0041 J	0.0032 J	0.074 U	0.044	0.0031 J	0.022	0.0075	0.061 J
Acetophenone	mg/kg	120,000	0.073 U	0.074 U	0.078 U	0.078 U	0.035 J	0.077 U	0.079 U	0.076 U	0.072 U	0.075 U	0.086 U	0.073 U	0.075 U	0.073 U	0.077 U	0.078 U	0.028 J	0.022 J	0.074 U
Anthracene	mg/kg	230,000	0.0073 J	0.56 J	2.1	0.0074 J	0.074	0.0026 J	2.6	0.015 J	0.0061 J	0.074 U	0.0037 J	0.019	0.0035 J	0.074 U	0.047	0.018	0.087	0.059	0.12
Benz[a]anthracene	mg/kg	21	0.028	0.88 J	7	0.028	0.53	0.007 J	4.8	0.049 J	0.0074	0.038 J	0.015	0.04	0.0098	0.03 J	0.26	0.037	0.14	0.09	0.33
Benzaldehyde	mg/kg	120,000	0.073 R	0.074 R	0.078 R	0.078 R	0.042 J	0.077 R	0.079 R	0.076 R	0.072 R	0.075 R	0.086 R	0.073 R	0.075 R	0.073 R	0.077 R	0.078 R	0.021 J	0.041 J	0.074 R
Benzo[a]pyrene	mg/kg	2.1	0.031	0.8 J	6	0.033	0.51	0.0067 J	4.1 J	0.037 J	0.0073 J	0.074 UJ	0.087	0.037 J	0.013	0.074 UJ	0.28	0.024	0.11	0.043	0.37 J
Benzo[b]fluoranthene	mg/kg	21	0.081	1.4	12.6	0.085	1.2	0.021	9.8 J	0.11	0.017	0.074 UJ	0.12	0.1	0.036	0.074 UJ	0.74	0.076	0.33	0.22	0.96 J
Benzo[g,h,i]perylene	mg/kg	0.031	0.18 J	2.7	0.019	0.19	0.0039 J	0.78	0.035 J	0.0058 J	0.074 UJ	0.11	0.044 J	0.0085	0.074 UJ	0.17	0.016	0.048	0.023	0.15 J	
Benzo[k]fluoranthene	mg/kg	210	0.079	1.4 J	12.1	0.086	1.2	0.021	10 J	0.1	0.016	0.074 UJ	0.048	0.1	0.034	0.074 UJ	0.71	0.074	0.31	0.21	0.92 J
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.073 U	0.074 UJ	0.078 UJ	0.078 U	0.016 J	0.077 U	0.079 U	0.076 UJ	0.072 U	0.075 UJ	0.086 U	0.073 UJ	0.075 U	0.073 UJ	0.077 U	0.078 UJ	0.077 UJ	0.072 UJ	0.074 UJ
Caprolactam	mg/kg	400,000	0.18 U	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U	0.18 U	0.19 U	0.21 U	0.18 U	0.19 U	0.18 U	0.19 U	0.2 U	0.19 U	0.087 J	0.19 U
Carbazole	mg/kg	0.073 U	0.68 J	0.65 J	0.078 U	0.076 J	0.077 U	0.27	0.076 U	0.072 U	0.075 U	0.086 U	0.073 U	0.075 U	0.073 UJ	0.022 J	0.078 U	0.037 J	0.024 J	0.043 J	
Chrysene	mg/kg	2,100	0.04	0.81 J	6.4	0.042	0.57	0.011	4.9	0.043 J	0.0065 J	0.013 J	0.023	0.06	0.0081	0.019 J	0.3	0.058	0.18	0.17	0.36
Dibenz[a,h]anthracene	mg/kg	2.1	0.0082 J	0.079 J	1.1	0.0059 J	0.091	0.008 U	0.37	0.01 J	0.0016 J	0.074 UJ	0.034	0.013 J	0.0076 U	0.074 UJ	0.08	0.0048 J	0.013	0.008	0.075 UJ
Di-n-butylphthalate	mg/kg	82,000	0.073 U	0.074 U	0.078 U	0.078 U	0.078 U	0.077 U	0.079 U	0.076 U	0.072 U	0.075 U	0.086 U	0.073 U	0.075 U	0.073 UJ	0.077 U	0.078 U	0.077 U	0.072 U	0.074 UJ
Di-n-octylphthalate	mg/kg	8,200	0.073 U	0.074 UJ	0.078 UJ	0.078 U	0.078 UJ	0.077 U													

Table 5
Summary of Organics Detected in Soil
Parcel B4
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B4-030-SB-5	B4-031-SB-1	B4-031-SB-4	B4-032-SB-1	B4-033-SB-1	B4-034-SB-1	B4-035-SB-1	B4-035-SB-5	B4-036-SB-1	B4-036-SB-5	B4-037-SB-1	B4-037-SB-6	B4-037-SB-10	B4-038-SB-1	B4-038-SB-5	B4-038-SB-10	B4-039-SB-1	B4-039-SB-5	B4-040-SB-1
Volatile Organic Compounds																					
1,2,3-Trichlorobenzene	mg/kg	930	0.0044 U	0.0044 U	0.0051 U	0.0051 UJ	0.0046 UJ	0.0049 UJ	0.005 U	0.0063 U	0.0051 U	0.0057 U	0.0053 U	0.0074	0.0044 U	0.0054 U	0.0048 U	0.0044 U	0.0047 U	0.0064 U	0.0057 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0044 U	0.0044 U	0.0051 U	0.0051 UJ	0.0046 UJ	0.0049 UJ	0.005 U	0.0063 U	0.0051 U	0.0057 U	0.0053 U	0.0042 U	0.0044 U	0.0054 U	0.0048 U	0.0044 U	0.0047 U	0.0064 U	0.0057 U
1,4-Dichlorobenzene	mg/kg	11	0.0044 U	0.0044 U	0.0051 U	0.0051 UJ	0.0046 UJ	0.0049 UJ	0.005 U	0.0063 U	0.0032 J	0.0057 U	0.0053 U	0.0042 U	0.0044 U	0.0054 U	0.0048 U	0.0044 U	0.0047 U	0.0064 U	0.0057 U
2-Butanone (MEK)	mg/kg	190,000	0.0024 J	0.0087 U	0.01 U	0.0049 J	0.0091 U	0.0044 J	0.01 U	0.013 U	0.01 U	0.011 U	0.011 U	0.0045 J	0.005 J	0.011 U	0.0096 U	0.0088 U	0.0094 U	0.013 U	0.011 U
2-Hexanone	mg/kg	1,300	0.0088 U	0.0087 U	0.01 U	0.01 U	0.0091 U	0.0098 U	0.01 U	0.013 U	0.01 U	0.011 U	0.011 U	0.0085 U	0.0088 U	0.011 U	0.0096 U	0.0088 U	0.0094 U	0.013 U	0.011 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.0088 U	0.0087 U	0.01 U	0.01 U	0.0091 U	0.0098 U	0.01 U	0.013 U	0.01 U	0.011 U	0.011 U	0.0085 U	0.0088 U	0.011 U	0.0096 U	0.0088 U	0.0094 U	0.013 U	0.011 U
Acetone	mg/kg	670,000	0.038	0.0087 U	0.025	0.031 J	0.0091 UJ	0.028 J	0.02	0.025	0.021	0.029	0.015 J	0.045 J	0.047 J	0.028 J	0.024 J	0.024 J	0.059 J	0.036 J	0.011 U
Benzene	mg/kg	5.1	0.0044 U	0.0044 U	0.019	0.021	0.0046 U	0.0059	0.005 U	0.0063 U	0.0051 U	0.0057 U	0.0053 U	0.0013 J	0.0044 U	0.0054 U	0.0048 U	0.0044 U	0.0047 U	0.0064 U	0.0057 U
Chloroform	mg/kg	1.4	0.0044 U	0.0044 U	0.0051 U	0.0051 UJ	0.0046 UJ	0.0049 UJ	0.005 U	0.0063 U	0.0051 U	0.0057 U	0.0053 U	0.0042 U	0.0044 U	0.0054 U	0.0048 U	0.0044 U	0.0047 U	0.0064 U	0.0057 U
Cyclohexane	mg/kg	27,000	0.0088 U	0.0087 U	0.01 U	0.01 U	0.0091 U	0.0098 U	0.01 U	0.013 U	0.01 U	0.011 U	0.011 U	0.0085 U	0.0088 U	0.011 U	0.0096 U	0.0088 U	0.0094 U	0.013 U	0.011 U
Ethylbenzene	mg/kg	25	0.0044 U	0.0044 U	0.001 J	0.0051 U	0.0046 U	0.0049 U	0.005 U	0.0063 U	0.0051 U	0.0057 U	0.0053 U	0.0042 U	0.0044 U	0.0054 U	0.0048 U	0.0044 U	0.0047 U	0.0064 U	0.0057 U
Isopropylbenzene	mg/kg	9,900	0.0044 U	0.0044 U	0.0051 U	0.0051 UJ	0.0046 UJ	0.0049 UJ	0.005 U	0.0063 U	0.0051 U	0.0057 U	0.0053 U	0.0042 U	0.0044 U	0.0054 U	0.0048 U	0.0044 U	0.0047 U	0.0064 U	0.0057 U
Methyl Acetate	mg/kg	1,200,000	0.044 U	0.044 U	0.051 U	0.051 UJ	0.046 UJ	0.049 UJ	0.0025 J	0.063 U	0.051 U	0.057 U	0.053 U	0.042 U	0.044 U	0.054 U	0.048 U	0.044 U	0.047 U	0.064 U	0.057 U
Styrene	mg/kg	35,000	0.0044 U	0.0044 U	0.0051 U	0.0051 UJ	0.0046 UJ	0.0049 UJ	0.005 U	0.0063 U	0.0051 U	0.0057 U	0.0053 U	0.0042 U	0.0044 U	0.0054 U	0.0048 U	0.0044 U	0.0047 U	0.0064 U	0.0057 U
Toluene	mg/kg	47,000	0.013 B	0.008 B	0.016 B	0.0032 J	0.0046 U	0.002 J	0.011 B	0.015 B	0.014 B	0.013 B	0.0046 J	0.0064 J	0.014	0.007	0.01	0.011	0.0078	0.0044 J	0.0045 J
Xylenes	mg/kg	2,800	0.013 U	0.013 U	0.0088 J	0.015 U	0.014 U	0.015 U	0.015 U	0.019 U	0.015 U	0.017 U	0.016 U	0.013 U	0.013 U	0.016 U	0.014 U	0.013 U	0.014 U	0.019 U	0.017 U
Semi-Volatile Organic Compounds[^]																					
1,1-Biphenyl	mg/kg	200	0.077 U	0.45	0.024 J	0.019 J	0.073 U	0.016 J	0.083 U	0.084 U	0.082 U	0.085 U	0.02 J	0.15 U	0.16 U	0.089	0.073 U	0.078 U	0.077 U	0.019 J	0.12 J
2,4-Dimethylphenol	mg/kg	16,000	0.077 U	0.074 U	0.078 U	0.074 R	0.073 U	0.076 R	0.083 U	0.084 U	0.082 U	0.085 U	0.075 U	0.15 U	0.16 U	0.08 U	0.073 U	0.078 U	0.077 U	0.083 UJ	0.079 U
2,4-Dinitrophenol	mg/kg	1,600	0.19 U	0.18 U	0.2 U	0.19 R	0.18 UJ	0.19 U	0.21 U	0.21 U	0.21 U	0.19 UJ	0.39 R	0.4 UJ	0.2 UJ	0.18 UJ	0.2 UJ	0.19 UJ	0.21 UJ	0.2 UJ	0.2 UJ
2,6-Dinitrotoluene	mg/kg	1.5	0.077 U	0.074 U	0.078 U	0.074 U	0.073 U	0.076 U	0.083 U	0.084 U	0.082 U	0.085 U	0.075 U	0.15 U	0.16 U	0.08 U	0.073 U	0.078 U	0.077 U	0.083 U	0.079 U
2-Chloronaphthalene	mg/kg	60,000	0.077 U	0.074 U	0.078 U	0.074 U	0.073 U	0.076 U	0.083 U	0.084 U	0.082 U	0.085 U	0.075 U	0.15 U	0.16 U	0.08 U	0.073 U	0.078 U	0.077 U	0.083 U	0.079 U
2-Methylnaphthalene	mg/kg	3,000	0.0015 J	0.36	0.21	0.15	0.023	0.046	0.035	0.0052 J	0.052	0.0085	0.055	0.077 U	0.08 U	0.16	0.0074 U	0.0078 U	0.0021 J	0.037	0.48
2-Methylphenol	mg/kg	41,000	0.077 U	0.074 U	0.078 U	0.074 R	0.073 U	0.076 R	0.083 U	0.084 U	0.082 U	0.085 U	0.075 U	0.15 U	0.16 U	0.08 U	0.073 U	0.078 U	0.077 U	0.083 UJ	0.079 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.15 U	0.16 U	0.15 R	0.15 U	0.15 R	0.17 U	0.17 U	0.16 U	0.17 U	0.15 U	0.31 U	0.32 U	0.16 U	0.15 U	0.16 U	0.15 U	0.17 UJ	0.047 J
4-Chloroaniline	mg/kg	11	0.077 U	0.074 U	0.028 J	0.074 U	0.073 U	0.076 U	0.083 U	0.084 U	0.082 U	0.085 U	0.075 U	0.15 U	0.16 U	0.08 U	0.073 U	0.078 U	0.077 U	0.083 U	0.079 U
Acenaphthene	mg/kg	45,000	0.0046 B	0.3	0.098	0.018	0.0029 J	0.0071 J	0.013	0.0023 B	0.0055 B	0.0021 B	0.053	0.16	0.12	0.013	0.0074 U	0.0078 U	0.0079 U	0.0099	0.96
Acenaphthylene	mg/kg	45,000	0.0078 U	0.53	1.5	0.078	0.044	0.21	0.017	0.0013 J	0.0098	0.0056 J	0.063	0.086	0.043 J	0.12	0.0074 U	0.0078 U	0.0011 J	0.025	0.14
Acetophenone	mg/kg	120,000	0.077 U	0.063 J	0.025 J	0.027 J	0.073 U	0.042 J	0.083 U	0.084 U	0.082 U	0.085 U	0.075 U	0.15 U	0.16 U	0.04 J	0.073 U	0.078 U	0.077 U	0.02 J	0.18 J
Anthracene	mg/kg	230,000	0.0078 U	1.2	2.6	0.069	0.014	0.022	0.051	0.0079 B	0.02	0.01	0.29	0.14	0.21	0.11	0.0074 U	0.0078 U	0.0035 J	0.038	2.1
Benz[a]anthracene	mg/kg	21	0.0078 U	4.1	6.1	0.23	0.055	0.1	0.12	0.019	0.063	0.043	1.4	0.11	0.05 J	0.4	0.0074 U	0.0078 U	0.0095	0.18	2.9
Benzaldehyde	mg/kg	120,000	0.077 R	0.033 J	0.019 J	0.018 J	0.073 R	0.029 J	0.083 R	0.084 R	0.082 R	0.085 R	0.075 R	0.15 R	0.16 R	0.069 J	0.073 R	0.078 R	0.077 R	0.078 J	0.067 J
Benzo[a]pyrene	mg/kg	2.1	0.063	4.2	5.4 J	0.24 J	0.067	0.29	0.14	0.02	0.092	0.057	1.1	0.094	0.016 J	0.43	0.0074 U	0.0078 U	0.012	0.23	2.5
Benzo[b]fluoranthene	mg/kg	21	0.0078 U	8.7	16.6 J	0.74 J	0.2	0.59	0.22	0.045	0.15	0.12	1.6	0.21	0.039 J	1	0.0074 U	0.0078 U	0.018	0.77	4.9
Benzo[g,h,i]perylene	mg/kg	0.0078 U	1.2	1.5 J	1.5 J	0.047	0.23	0.064	0.01	0.046	0.029	0.23	0.55	0.086	0.08 U	0.1	0.0074 U	0.0078 U	0.0068 J	0.08	1.4
Benzo[k]fluoranthene	mg/kg	210	0.0078 U	8.3	16 J	0.76 J	0.21	0.6	0.086	0.043	0.053	0.12	1.6	0.21	0.037 J	1	0.0074 U	0.0078 U	0.0071 J	0.74	4.7
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.077 UJ	0.074 UJ	0.078 UJ	0.023 J	0.073 U	0.034 J	0.083 U	0.084 U	0.082 UJ	0.085 UJ	0.075 UJ	0.15 UJ	0.16 UJ	0.042 B	0.073 U	0.078 U	0.077 U	0.48 J	0.079 UJ
Caprolactam	mg/kg	400,000	0.19 U	0.18 U	0.2 U	0.19 U	0.18 U	0.19 U	0.21 U	0.21 U	0.21 U	0.19 U	0.39 U	0.4 U	0.2 U	0.18 U	0.2 U	0.19 U	0.21 U	0.2 U	0.2 U
Carbazole	mg/kg	0.077 U	0.36	0.078 U	0.074 U	0.073 U	0.076 U	0.083 U	0.084 U	0.082 U	0.16	0.13	0.15 U	0.16 UJ	0.12	0.073 U	0.078 U	0.077 U	0.097	0.89 J	
Chrysene	mg/kg	2,100	0.0014 B	4.2	5.8	0.3	0.073	0.14	0.12	0.02	0.073	0.046	1.4	0.17	0.035 J	0.51	0.0074 U	0.0078 U	0.012	0.26	2.8
Dibenz[a,h]anthracene	mg/kg	2.1	0.0078 U	0.35	0.49 J	0.05 J	0.015	0.056	0.027	0.0034 J	0.021	0.01	0.22	0.026 J	0.08 U	0.059	0.0074 U	0.0078 U	0.0023 J	0.031	0.6
Di-n-butylphthalate	mg/kg	82,000	0.077 UJ	0.018 J	0.078 UJ	0.074 UJ	0.073 UJ	0.076 UJ	0.083 UJ	0.084 UJ	0.082 UJ	0.085 UJ	0.075 UJ	0.15 UJ	0.16 UJ	0.08 UJ	0.073 UJ	0.078 UJ	0.077 UJ	0.083 UJ	0.037 J
Di-n-octylphthalate	mg/kg	8,200	0.077 UJ	0.074 UJ	0.078 UJ	0.074 UJ	0.073 UJ	0.076													

**Table 5
Summary of Organics Detected in Soil
Parcel B4
Tradepoint Atlantic
Sparrows Point, Maryland**

Parameter	Units	PAL	B4-040-SB-5	B4-041-SB-1	B4-041-SB-4	B4-042-SB-1	B4-042-SB-5	B4-043-SB-1	B4-043-SB-5	B4-044-SB-1	B4-044-SB-4	B4-045-SB-1	B4-045-SB-5	B4-045-SB-10	B4-046-SB-1	B4-046-SB-5	B4-047-SB-1	B4-047-SB-5	B4-048-SB-1	B4-048-SB-5	B4-048-SB-10
Volatile Organic Compounds																					
1,2,3-Trichlorobenzene	mg/kg	930	0.0048 U	0.0048 U	0.0062 U	0.0071 U	0.0046 U	0.0055 U	0.0054 U	0.0061 U	0.008 U	0.0065 U	0.0059 U	0.0053 U	0.0059 U	0.0061 U	0.0066 U	0.0048 U	0.0068 U	0.0055 U	0.0054 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0048 U	0.0048 U	0.0062 U	0.0071 U	0.0046 U	0.0055 U	0.0054 U	0.0061 U	0.008 U	0.0065 U	0.0059 U	0.0053 U	0.0059 U	0.0061 U	0.0066 U	0.0048 U	0.0068 U	0.0055 U	0.0054 U
1,4-Dichlorobenzene	mg/kg	11	0.0048 U	0.0048 U	0.0062 U	0.0071 U	0.0046 U	0.0055 U	0.0054 U	0.0061 U	0.008 U	0.0065 U	0.0059 U	0.0053 U	0.0059 U	0.0061 U	0.0066 U	0.0048 U	0.0068 U	0.0055 U	0.0054 U
2-Butanone (MEK)	mg/kg	190,000	0.0095 U	0.0097 U	0.012 U	0.014 U	0.013	0.011 U	0.011 U	0.0037 J	0.016 UJ	0.013 U	0.012 U	0.011 UJ	0.012 UJ	0.012 UJ	0.013 U	0.0096 U	0.014 U	0.011 U	0.011 U
2-Hexanone	mg/kg	1,300	0.0095 U	0.0097 U	0.012 U	0.014 U	0.0036 J	0.011 U	0.011 U	0.012 U	0.016 U	0.013 U	0.012 U	0.011 U	0.012 U	0.012 U	0.013 U	0.0096 U	0.014 U	0.011 U	0.011 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.0095 U	0.0097 U	0.012 U	0.014 U	0.0026 J	0.011 U	0.011 U	0.012 U	0.016 U	0.013 U	0.012 U	0.011 U	0.012 U	0.012 U	0.013 U	0.0096 U	0.014 U	0.011 U	0.011 U
Acetone	mg/kg	670,000	0.029 J	0.0049 J	0.047	0.071	0.1	0.03 B	0.029 B	0.061 J	0.04 J	0.024 J	0.031 J	0.029 J	0.022 B	0.022 B	0.0073 J	0.028	0.014 U	0.045	0.038
Benzene	mg/kg	5.1	0.0048 U	0.0048 U	0.0062 U	0.0071 U	0.0019 J	0.0055 U	0.0054 U	0.0061 U	0.008 U	0.0065 U	0.0059 U	0.0053 U	0.0059 U	0.0061 U	0.0066 U	0.0048 U	0.0068 U	0.0055 U	0.0054 U
Chloroform	mg/kg	1.4	0.0048 U	0.0048 U	0.0062 U	0.0071 U	0.0046 U	0.0055 U	0.0054 U	0.0061 U	0.008 U	0.0065 U	0.0059 U	0.0053 U	0.0059 U	0.0061 U	0.0066 U	0.0048 U	0.0068 U	0.0055 U	0.0054 U
Cyclohexane	mg/kg	27,000	0.0095 U	0.0097 U	0.012 U	0.014 U	0.0092 U	0.011 U	0.011 U	0.012 U	0.016 U	0.013 U	0.012 U	0.011 U	0.012 U	0.012 U	0.013 U	0.0096 U	0.014 U	0.011 U	0.011 U
Ethylbenzene	mg/kg	25	0.0048 U	0.0048 U	0.0062 U	0.0071 U	0.0046 U	0.0055 U	0.0054 U	0.0061 U	0.008 U	0.0065 U	0.0059 U	0.0053 U	0.0059 U	0.0061 U	0.0066 U	0.0048 U	0.0068 U	0.0055 U	0.0054 U
Isopropylbenzene	mg/kg	9,900	0.0048 U	0.0048 U	0.0062 U	0.0071 U	0.0046 U	0.0055 U	0.0054 U	0.0061 U	0.008 U	0.0065 U	0.0059 U	0.0053 U	0.0059 U	0.0061 U	0.0066 U	0.0048 U	0.0068 U	0.0055 U	0.0054 U
Methyl Acetate	mg/kg	1,200,000	0.048 U	0.048 U	0.062 U	0.071 U	0.046 U	0.055 U	0.054 U	0.061 U	0.08 U	0.065 U	0.059 U	0.053 U	0.059 U	0.061 U	0.066 U	0.048 U	0.068 U	0.055 U	0.054 U
Styrene	mg/kg	35,000	0.0048 U	0.0048 U	0.0062 U	0.0071 U	0.0046 U	0.0055 U	0.0054 U	0.0061 U	0.008 U	0.0065 U	0.0059 U	0.0053 U	0.0059 U	0.0061 U	0.0066 U	0.0048 U	0.0068 U	0.0055 U	0.0054 U
Toluene	mg/kg	47,000	0.0031 J	0.0047 J	0.0074	0.012	0.0043 J	0.0047 J	0.0064	0.016	0.0036 J	0.0097 B	0.012 B	0.008 B	0.0097	0.012	0.018 B	0.015 B	0.0097 B	0.017 B	0.0067 B
Xylenes	mg/kg	2,800	0.014 U	0.015 U	0.019 U	0.021 U	0.014 U	0.017 U	0.016 U	0.018 U	0.024 U	0.019 U	0.018 U	0.016 U	0.018 U	0.018 U	0.02 U	0.014 U	0.02 U	0.016 U	0.016 U
Semi-Volatile Organic Compounds[^]																					
1,1-Biphenyl	mg/kg	200	0.022 J	0.066 J	0.021 J	0.073 U	0.031 J	0.19	0.077 U	0.07 U	0.022 J	0.074 U	0.072 U	0.073 U	0.071 U	0.072 U	0.024 J	0.076 U	0.072 U	0.07 U	0.07 U
2,4-Dimethylphenol	mg/kg	16,000	0.077 R	0.072 U	0.077 U	0.073 U	0.069 U	0.079 UJ	0.077 R	0.07 U	0.082 U	0.074 U	0.072 U	0.073 U	0.071 U	0.072 U	0.076 U	0.076 UJ	0.072 R	0.07 UJ	0.07 U
2,4-Dinitrophenol	mg/kg	1,600	0.19 R	0.18 UJ	0.19 UJ	0.18 UJ	0.17 UJ	0.2 UJ	0.19 R	0.18 U	0.2 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 R	0.18 UJ	0.18 U	0.18 U
2,6-Dinitrotoluene	mg/kg	1.5	0.077 U	0.072 U	0.077 U	0.073 U	0.069 U	0.079 U	0.077 U	0.07 U	0.082 U	0.074 U	0.072 U	0.073 U	0.071 U	0.072 U	0.076 U	0.076 U	0.072 U	0.07 U	0.07 U
2-Chloronaphthalene	mg/kg	60,000	0.077 U	0.072 U	0.077 U	0.073 U	0.069 U	0.079 U	0.077 U	0.07 U	0.082 U	0.074 U	0.072 U	0.073 U	0.071 U	0.072 U	0.076 U	0.076 U	0.072 U	0.07 U	0.07 U
2-Methylnaphthalene	mg/kg	3,000	0.044	0.05	0.098	0.073 U	0.092	0.053	0.0061 J	0.0098	0.2	0.011	0.0091	0.0079	0.0088	0.0074	0.062 J	0.0019 J	0.014	0.0039 J	0.0072 U
2-Methylphenol	mg/kg	41,000	0.077 R	0.072 U	0.077 U	0.073 U	0.069 U	0.079 UJ	0.077 R	0.07 U	0.082 U	0.074 U	0.072 U	0.073 U	0.071 U	0.072 U	0.076 U	0.076 U	0.072 R	0.07 UJ	0.07 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 R	0.14 U	0.15 U	0.15 U	0.14 U	0.16 UJ	0.15 R	0.14 U	0.16 U	0.15 U	0.14 U	0.15 U	0.14 U	0.14 U	0.15 U	0.15 U	0.14 R	0.14 UJ	0.14 U
4-Chloroaniline	mg/kg	11	0.077 U	0.072 U	0.077 U	0.073 U	0.069 U	0.079 U	0.077 U	0.07 U	0.082 U	0.074 U	0.072 U	0.073 U	0.071 U	0.072 U	0.076 U	0.076 U	0.072 U	0.07 U	0.07 U
Acenaphthene	mg/kg	45,000	0.048	0.18	0.079	0.073 U	0.084	0.12	0.0019 J	0.0039 J	0.013 J	0.0028 B	0.0034 B	0.0038 B	0.0013 J	0.0025 J	0.011 B	0.0077 U	0.0077	0.0069 U	0.0072 U
Acenaphthylene	mg/kg	45,000	0.052	0.011	0.019	0.0062 J	0.039 J	0.006 J	0.001 J	0.0019 J	0.14	0.0058 J	0.00093 J	0.002 J	0.0014 J	0.00073 J	0.18	0.0042 J	0.08	0.0025 J	0.0072 U
Acetophenone	mg/kg	120,000	0.036 J	0.072 U	0.077 U	0.073 U	0.053 J	0.079 U	0.077 U	0.07 U	0.082 U	0.074 U	0.072 U	0.073 U	0.071 U	0.072 U	0.076 U	0.076 U	0.021 J	0.07 UJ	0.07 U
Anthracene	mg/kg	230,000	0.18	0.43	0.17	0.028 B	0.57	0.033	0.0077 J	0.017	0.12	0.013	0.0086	0.0059 B	0.0047 J	0.007 J	0.16	0.0059 B	0.13	0.0056 B	0.003 B
Benz[a]anthracene	mg/kg	21	0.42	0.8	0.025	0.11	0.25	0.068 U	0.097	0.025	0.014	0.4	0.077	0.036	0.032	0.028	0.97	0.032	0.68	0.036	0.0029 B
Benzaldehyde	mg/kg	120,000	0.033 J	0.072 R	0.077 R	0.073 R	0.069 R	0.018 J	0.077 R	0.07 R	0.028 J	0.074 R	0.072 R	0.073 R	0.071 R	0.072 R	0.019 J	0.076 R	0.072 R	0.07 R	0.07 R
Benzo[a]pyrene	mg/kg	2.1	0.54	0.75	0.96	0.36	2.9	0.2	0.027	0.0085	0.61	0.094	0.045	0.05	0.058	0.033	1.3	0.047	1.9	0.037	0.0029 B
Benzo[b]fluoranthene	mg/kg	21	1.1	1.3	1.3	1.2	8.5	0.33	0.059	0.039	1.1	0.18	0.084	0.072	0.1	0.077	3.2	0.063	4.5	0.15	0.031
Benzo[g,h,i]perylene	mg/kg	21	0.35	0.19	0.24	0.14	1.6	0.1	0.016	0.004 J	0.16	0.046	0.026	0.027	0.022	0.013	0.34	0.026	0.89	0.029	0.0054 B
Benzo[k]fluoranthene	mg/kg	210	1.1	1.3	0.54	1.1	8.1	0.32	0.057	0.038	1.1	0.18	0.08	0.069	0.099	0.074	3.1	0.026	4.3	0.15	0.03
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.047 B	0.024 B	0.016 B	0.073 UJ	0.069 UJ	0.079 UJ	0.077 UJ	0.07 U	0.082 UJ	0.074 U	0.072 U	0.073 U	0.071 U	0.072 U	0.076 UJ	0.076 UJ	0.072 UJ	0.07 U	0.07 U
Caprolactam	mg/kg	400,000	0.19 U	0.18 U	0.19 U	0.18 U	0.17 U	0.074 J	0.19 U	0.18 U	0.2 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.18 U	0.18 U
Carbazole	mg/kg	0.16	0.7	0.053 J	0.073 U	0.3 J	0.31	0.077 U	0.07 U	0.059 J	0.074 U	0.072 U	0.073 U	0.071 U	0.072 U	0.11 J	0.076 U	0.053 J	0.07 U	0.07 U	
Chrysene	mg/kg	2,100	1.3	0.72	1.4	1.8	12.6	0.12	0.033	0.019	0.52	0.086	0.05	0.048	0.043	0.039	0.95	0.026	0.75	0.069	0.022
Dibenz[a,h]anthracene	mg/kg	2.1	0.11 J	0.078	0.12	0.057 J	0.64	0.032	0.0043 J	0.0072 U	0.087	0.016	0.0076	0.008	0.0076	0.0038 J	0.12	0.0085	0.32	0.011	0.0023 J
Di-n-butylphthalate	mg/kg	82,000	0.077 U	0.072 U	0.077 U	0.073 U	0.069 UJ	0.079 U	0.077 U	0.07 U	0.082 U	0.074 UJ	0.072 UJ	0.073 UJ	0.071 U	0.072 U	0.076 UJ	0.076 UJ	0.072 UJ	0.07 UJ	0.07 UJ
Di-n-octylphthalate	mg/kg	8,200	0.077 UJ	0.072 UJ	0.077 U	0.073 UJ	0.069 UJ	0.079 UJ	0.077 UJ	0.07 U	0.082 UJ	0.074 U	0.072								

Table 5
Summary of Organics Detected in Soil
Parcel B4
Tradeport Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B4-049-SB-1	B4-049-SB-4.5	B4-050-SB-1	B4-050-SB-5	B4-054-SB-1*	B4-054-SB-6*	B4-055-SB-1*	B4-055-SB-5*	B4-056-SB-1.5*	B4-056-SB-7.5*	B4-057-SB-1*	B4-057-SB-5*	B4-057-SB-10*	B4-058-SB-1*	B4-058-SB-8*	B4-059-SB-1*	B4-059-SB-4*
Volatile Organic Compounds																			
1,2,3-Trichlorobenzene	mg/kg	930	0.0049 U	0.0062 U	0.006 U	0.0047 U	0.0051 U	0.0056 U	0.0061 U	0.0096 U	0.0054 U	0.0076 U	0.0047 U	0.0054 U	N/A	0.0042 U	0.0084 U	0.0044 U	0.0077 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0049 U	0.0062 U	0.006 U	0.0047 U	0.0051 U	0.0056 U	0.0061 U	0.0096 U	0.0054 U	0.0076 U	0.0047 U	0.0054 U	N/A	0.0042 U	0.0084 U	0.0044 U	0.0077 U
1,4-Dichlorobenzene	mg/kg	11	0.0049 U	0.0062 U	0.006 U	0.0047 U	0.0051 U	0.0056 U	0.0061 U	0.0096 U	0.0054 U	0.0076 U	0.0047 U	0.0054 U	N/A	0.0042 U	0.0084 U	0.0044 U	0.0077 U
2-Butanone (MEK)	mg/kg	190,000	0.0098 U	0.012 U	0.012 U	0.0093 U	0.01 U	0.011 U	0.012 U	0.019 U	0.011 U	0.015 U	0.0094 U	0.011 U	N/A	0.0085 U	0.017 U	0.0087 U	0.015 U
2-Hexanone	mg/kg	1,300	0.0098 U	0.012 U	0.012 U	0.0093 U	0.01 U	0.011 U	0.012 U	0.019 U	0.011 U	0.015 U	0.0094 U	0.011 U	N/A	0.0085 U	0.017 U	0.0087 U	0.015 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.0098 U	0.012 U	0.012 U	0.0093 U	0.01 U	0.011 U	0.012 U	0.019 U	0.011 U	0.015 U	0.0094 U	0.011 U	N/A	0.0085 U	0.017 U	0.0087 U	0.015 U
Acetone	mg/kg	670,000	0.11 J	0.039 J	0.012 U	0.034 J	0.01 U	0.011 U	0.016	0.027	0.011 U	0.015 U	0.0094 U	0.011 U	N/A	0.014	0.017 U	0.026	0.015 U
Benzene	mg/kg	5.1	0.0049 U	0.0062 U	0.006 U	0.0047 U	0.0051 U	0.0056 U	0.0061 U	0.0096 U	0.0054 U	0.0076 U	0.0047 U	0.0054 U	N/A	0.0042 U	0.0084 U	0.0044 U	0.0077 U
Chloroform	mg/kg	1.4	0.0049 U	0.0062 U	0.006 U	0.0047 U	0.0051 U	0.0056 U	0.0061 U	0.0096 U	0.022	0.077	0.0047 U	0.0054 U	N/A	0.0042 U	0.0066 J	0.0044 U	0.0077 U
Cyclohexane	mg/kg	27,000	0.0098 U	0.012 U	0.012 U	0.0093 U	0.01 U	0.011 U	0.012 U	0.019 U	0.011 U	0.015 U	0.0094 U	0.011 U	N/A	0.0085 U	0.017 U	0.0087 U	0.015 U
Ethylbenzene	mg/kg	25	0.0049 U	0.0062 U	0.006 U	0.0047 U	0.0051 U	0.0056 U	0.0061 U	0.0096 U	0.0054 U	0.0076 U	0.0047 U	0.0054 U	N/A	0.0042 U	0.0084 U	0.0044 U	0.0077 U
Isopropylbenzene	mg/kg	9,900	0.0049 U	0.0062 U	0.006 U	0.0047 U	0.0051 U	0.0056 U	0.0061 U	0.0096 U	0.0054 U	0.0076 U	0.0047 U	0.0054 U	N/A	0.0042 U	0.0084 U	0.0044 U	0.0077 U
Methyl Acetate	mg/kg	1,200,000	0.049 U	0.062 U	0.06 U	0.047 U	0.051 U	0.056 U	0.061 U	0.096 U	0.054 U	0.076 U	0.047 U	0.054 U	N/A	0.042 U	0.084 U	0.044 U	0.077 U
Styrene	mg/kg	35,000	0.0049 U	0.0062 U	0.006 U	0.0047 U	0.0051 U	0.0056 U	0.0061 U	0.0096 U	0.0054 U	0.0076 U	0.0047 U	0.0054 U	N/A	0.0042 U	0.0084 U	0.0044 U	0.0077 U
Toluene	mg/kg	47,000	0.0075	0.0058 J	0.0051 J	0.012	0.0051 U	0.0056 U	0.0061 U	0.0096 U	0.0054 U	0.0076 U	0.0047 U	0.0054 U	N/A	0.0042 U	0.0084 U	0.0044 U	0.0077 U
Xylenes	mg/kg	2,800	0.015 U	0.019 U	0.018 U	0.014 U	0.015 U	0.017 U	0.018 U	0.029 U	0.016 U	0.023 U	0.014 U	0.016 U	N/A	0.013 U	0.025 U	0.013 U	0.023 U
Semi-Volatile Organic Compounds[^]																			
1,1-Biphenyl	mg/kg	200	0.074 U	0.019 J	0.067 J	0.077 U	0.074 U	0.028 J	0.089 U	0.087 U	0.078 U	0.03 J	0.072 U	0.072 U	N/A	0.07 U	0.083 U	0.071 U	0.091 U
2,4-Dimethylphenol	mg/kg	16,000	0.074 U	0.076 U	0.078 U	0.077 U	0.074 U	0.077 U	0.089 U	0.087 U	0.078 U	0.052 J	0.072 U	0.072 U	N/A	0.07 U	0.083 U	0.071 U	0.091 U
2,4-Dinitrophenol	mg/kg	1,600	0.19 UJ	0.19 UJ	0.2 UJ	0.19 UJ	0.19 U	0.22 U	0.2 U	0.22 U	0.2 U	0.21 U	0.18 U	0.18 U	N/A	0.18 U	0.21 U	0.18 U	0.23 U
2,6-Dinitrotoluene	mg/kg	1.5	0.074 U	0.076 U	0.078 U	0.077 U	0.074 U	0.077 U	0.089 U	0.087 U	0.078 U	0.084 U	0.072 U	0.072 U	N/A	0.07 U	0.083 U	0.071 U	0.091 U
2-Chloronaphthalene	mg/kg	60,000	0.074 U	0.076 U	0.078 U	0.077 U	0.074 U	0.083	0.089 U	0.087 U	0.078 U	0.084 U	0.072 U	0.072 U	N/A	0.07 U	0.083 U	0.071 U	0.091 U
2-Methylnaphthalene	mg/kg	3,000	0.0085	0.079	0.25	0.0078 U	0.028	0.013	0.026 J	0.16	0.022	1.5	0.014	0.022	N/A	0.021 J	0.052	0.0058 J	0.45
2-Methylphenol	mg/kg	41,000	0.074 U	0.076 U	0.078 U	0.077 U	0.074 U	0.077 U	0.089 U	0.087 U	0.078 U	0.084 U	0.072 U	0.072 U	N/A	0.07 U	0.083 U	0.071 U	0.091 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.15 U	0.03 J	0.15 U	0.15 U	0.15 U	0.18 U	0.17 U	0.025 J	0.024 J	0.14 U	0.14 U	N/A	0.14 U	0.17 U	0.14 U	0.18 U
4-Chloroaniline	mg/kg	11	0.074 U	0.076 U	0.078 U	0.077 U	0.074 U	0.077 U	0.089 U	0.087 U	0.078 U	0.084 U	0.072 U	0.072 U	N/A	0.07 U	0.083 U	0.071 U	0.091 U
Acenaphthene	mg/kg	45,000	0.0013 J	0.0036 J	0.011	0.0078 U	0.0074 U	0.00066 J	0.012 J	0.0017 J	0.033	0.6	0.0044 J	0.0017 J	N/A	0.071 U	0.005 J	0.0072 U	0.0061 J
Acenaphthylene	mg/kg	45,000	0.0034 J	0.033	0.18	0.0078 U	0.0046 J	0.0077 U	0.017 J	0.019	0.031	5.2	0.0054 J	0.006 J	N/A	0.0085 J	0.0041 J	0.0016 J	0.02
Acetophenone	mg/kg	120,000	0.074 U	0.076 U	0.11	0.077 U	0.074 U	0.077 U	0.034 J	0.087 U	0.078 U	0.084 U	0.072 U	0.072 U	N/A	0.07 U	0.023 J	0.071 U	0.026 J
Anthracene	mg/kg	230,000	0.0088	0.1	0.21	0.0078 U	0.019	0.0028 J	0.02 J	0.014	0.19	15.7	0.012	0.038	N/A	0.012 J	0.0086	0.003 J	0.026
Benz[a]anthracene	mg/kg	21	0.018	0.13	0.95	0.0078 U	0.056	0.016	0.1	0.09	0.67	40.2	0.04	0.41	N/A	0.034 J	0.016	0.015	0.092
Benzaldehyde	mg/kg	120,000	0.074 R	0.076 R	0.11 J	0.077 R	0.074 U	0.028 J	0.046 J	0.022 J	0.078 U	0.026 J	0.023 J	0.072 U	N/A	0.07 U	0.032 J	0.071 U	0.054 J
Benzo[a]pyrene	mg/kg	2.1	0.023	0.14	0.97	0.0078 U	0.022	0.017	0.071 J	0.087	0.61	23.9	0.026	0.32	0.55	0.025 J	0.011	0.013	0.086
Benzo[b]fluoranthene	mg/kg	21	0.073	0.45	1.6	0.0018 J	0.15	0.06	0.17	0.19	0.9	41	0.094	0.77	N/A	0.085	0.032	0.037	0.22
Benzo[g,h,i]perylene	mg/kg	0.013	0.069	0.25	0.0078 U	0.044	0.022	0.04 J	0.041	0.32	11.7	0.029	0.28	0.28	N/A	0.031 J	0.011	0.015	0.06
Benzo[k]fluoranthene	mg/kg	210	0.07	0.43	0.72	0.0016 J	0.11	0.045	0.16	0.17	0.3	17.2	0.069	0.23	N/A	0.063 J	0.024	0.034	0.2
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.074 UJ	0.015 B	0.024 B	0.077 U	0.074 U	0.077 U	3	0.087 U	0.078 U	0.084 U	0.072 U	0.072 U	N/A	0.07 U	0.083 U	0.071 U	0.091 U
Caprolactam	mg/kg	400,000	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.22 U	0.22 U	0.2 U	0.21 U	0.18 U	0.18 U	N/A	0.18 U	0.21 U	0.18 U	0.23 U
Carbazole	mg/kg	0.074 U	0.18	0.087	0.087	0.077 U	0.074 U	0.077 U	0.089 U	0.087 U	0.021 J	0.042 J	0.072 U	0.036 J	N/A	0.07 U	0.083 U	0.071 U	0.091 U
Chrysene	mg/kg	2,100	0.036	0.21	0.92	0.00086 J	0.098	0.025	0.18	0.12	0.62	30.3	0.049	0.39	N/A	0.058 J	0.033	0.022	0.16
Dibenz[a,h]anthracene	mg/kg	2.1	0.0032 J	0.027	0.13	0.0078 U	0.013	0.0075 J	0.016 J	0.015	0.094	5.1	0.0083	0.11	N/A	0.071 U	0.0048 J	0.0038 J	0.023
Di-n-butylphthalate	mg/kg	82,000	0.074 U	0.076 U	0.078 U	0.077 U	0.074 U	0.077 U	0.089 U	0.087 U	0.078 U	0.084 U	0.072 U	0.072 U	N/A	0.07 U	0.083 U	0.071 U	0.091 U
Di-n-octylphthalate	mg/kg	8,200	0.074 UJ	0.076 UJ	0.078 UJ	0.077 U	0.074 U	0.077 U	0.089 U	0.087 U	0.078 U	0.084 U	0.072 U	0.072 U	N/A	0.07 U	0.083 U	0.071 U	0.091 U
Fluoranthene	mg/kg	30,000	0.047	0.38	2.2	0.0018 J	0.18	0.026	0.19	0.13	1.8	82.8	0.082	0.51	N/A	0.077	0.036	0.036	0.2
Fluorene	mg/kg	30,000	0.0017 J	0.009	0.015	0.0078 U	0.0074 U	0.0077 U	0.0088 J	0.0027 J	0.073	4.6	0.0012 J	0.0015 J	N/A	0.071 U	0.004 J	0.00067 J	0.012
Hexachlorobenzene	mg/kg	0.96	0.074 U	0.041 J	0.078 U	0.077 U	0.074 U	0.077 U	0.089 U	0.087 U	0.078 U	0.084 U	0.072 U	0.072 U	N/A	0.07 U	0.083 U	0.071 U	0.091 U
Hexachloroethane	mg/kg	8	0.074 U	0.076 U	0.078 U	0.077 U	0.074 U	0.077 U	0.089 U	0.087 U	0.078 U	0.084 U	0.072 U	0.072 U	N/A	0.07 U	0.083 U	0.071 U	0.091 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.01	0.075	0.33	0.0078 U	0.034	0.018	0.032 J	0.042	0.32								

Table 6
Summary of Inorganics Detected in Soil
Parcel B4
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B4-001-SB-1	B4-001-SB-4	B4-002-SB-1	B4-002-SB-5	B4-003-SB-1	B4-003-SB-5	B4-004-SB-1	B4-004-SB-4	B4-005-SB-1	B4-006-SB-1	B4-006-SB-5	B4-007-SB-1
Metals														
Aluminum	mg/kg	1,100,000	11,800	23,500	14,400	72,600	20,800	5,140	10,700	20,600	13,300	6,340	6,820	25,700
Antimony	mg/kg	470	2.1 UJ	2.4 UJ	1.8 UJ	4 UJ	3.5 UJ	3.6 J	2 UJ	3.5 UJ	3.4 UJ	1.7 UJ	1.8 UJ	2.8 UJ
Arsenic	mg/kg	3	1.8 U	9.7	1.5 U	2.7	8.9	85.7	3.6	17.3	7.7	5.1	3.5	3.4
Barium	mg/kg	220,000	52.5	401	124	411	239	35.7	117	367	108	54.2	69	290
Beryllium	mg/kg	2,300	0.71 U	2.7	0.66	2.4	1.8	0.21 B	0.66 B	2.1	0.79 B	0.2 J	0.22 J	4.6
Cadmium	mg/kg	980	0.88 B	1.2 B	1.5 J	1 B	2.8	0.12 B	1.8	23.9	1.9	0.97 J	0.68 B	0.78 B
Chromium	mg/kg	120,000	1,100	163	957	239	305 J	48.3 J	141 J	230 J	175 J	1,240	1,280	19.2
Chromium VI	mg/kg	6.3	7.5 J-	0.84 B	1.9 J-	0.63 B	1.2 UJ	1.1 UJ	1.1 UJ	0.32 J-	1.1 UJ	2.8 J-	2.5 J-	1.1 UJ
Cobalt	mg/kg	350	3.4 B	21.6	3.5	7.3	8.8	23.6	9.2	18.6	5.2 B	9.8	6.2	2 B
Copper	mg/kg	47,000	74.1 J	120 J	83.9 J	25.4 J	92.6	145	59.6	227	53.9	79.7 J	62.7 J	13.6 J
Iron	mg/kg	820,000	272,000	147,000	171,000	9,590	76,200	130,000	44,200	124,000	41,200	242,000	237,000	21,100
Lead	mg/kg	800	13.5 J	106 J	137 J	7 J	210 J	52.1 J	179 J	1,110 J	140 J	40.4 J	47.3 J	14.8 J
Manganese	mg/kg	26,000	24,000	4,670	23,000	1,390	9,050	19,400	6,180	6,200	4,580	28,300	26,100	1,970
Mercury	mg/kg	350	0.026 J	0.045 J	0.11 J	0.13 UJ	0.3 J-	0.038 J-	0.12 J-	0.13 J-	0.056 J-	0.022 J	0.026 J	0.1 UJ
Nickel	mg/kg	22,000	31.5	72.7	27.4	42.5	43.5 J	33.5 J	26 J	71.2 J	23.7 J	48.1	37.5	4.5 B
Selenium	mg/kg	5,800	2.8 U	3.2 U	2.4 U	3.8 J	4.6 U	3 U	2.7 U	4.7 U	4.5 U	2.3 U	2.5 U	4.2
Silver	mg/kg	5,800	2.1 UJ	2.4 UJ	1.8 UJ	4 UJ	3.5 U	2.1 J	2 U	3.3 J	3.4 U	1.7 UJ	1.8 UJ	2.8 UJ
Thallium	mg/kg	12	7.1 UJ	8.1 UJ	6.1 UJ	10.6 UJ	11.6 U	7.4 U	6.8 U	11.7 U	11.3 U	6.3 J	6.9 J	9.3 UJ
Vanadium	mg/kg	5,800	763 J	198 J	557 J	16.7 J	215 J	126 J	80.4 J	447 J	128 J	2,530 J	2,690 J	39.2 J
Zinc	mg/kg	350,000	155	272	499	97.3	819 J	46 J	568 J	3,020 J	416 J	219	279	98.1
Other														
Cyanide	mg/kg	150	0.14 J-	0.62 J-	0.51 J-	1.7 J-	0.77 J-	0.58 J-	1.2 J-	1 J-	1.4 J-	0.089 J-	0.15 J-	0.17 J-

Bold indicates detection

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R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte.

N/A: This parameter was not analyzed for this sample.

*Indicates nonvalidated

Values in red indicate a detection exceedance of the Project Action Limit (PAL)

Table 6
Summary of Inorganics Detected in Soil
Parcel B4
Tradeport Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B4-007-SB-5	B4-008-SB-1	B4-008-SB-7	B4-009-SB-1	B4-009-SB-5	B4-010-SB-1	B4-010-SB-6	B4-011-SB-1	B4-011-SB-4.5	B4-012-SB-1	B4-012-SB-5	B4-013-SB-1
Metals														
Aluminum	mg/kg	1,100,000	15,800	39,500	9,860	15,100	42,800	16,200	36,500	23,600	4,590	32,100	16,100	24,900
Antimony	mg/kg	470	2.3 UJ	3.1 UJ	2 UJ	3.2 UJ	2.3 UJ	2.5 UJ	2.1 UJ	2.2 UJ	2 B	2.4 UJ	3.2 UJ	3.7 UJ
Arsenic	mg/kg	3	2 U	2.4 B	8.8	8.3	1.9 U	2.5	3.2	7.1	40.5	2 U	8.5	9.3
Barium	mg/kg	220,000	130	632	209	141	535	89.2	96.9	39.2	27.5	92.8	70.2	303
Beryllium	mg/kg	2,300	1.6	6.8	0.32 B	1.1	7.1	0.36 J	0.32 B	0.25 B	1.1 U	0.33 J	0.65 J	1.7
Cadmium	mg/kg	980	0.66 B	1.6	0.9 B	7.5 J	0.32 B	0.82 B	0.63 B	0.33 B	1.6 U	0.71 B	0.18 B	1.9
Chromium	mg/kg	120,000	975	83.5 J	1,220 J	279	138	1,200 J	1,050 J	1,050 J	220 J	942	72.8	52.2 J
Chromium VI	mg/kg	6.3	0.43 B	1.1 UJ	0.22 J-	0.44 B	0.22 B	1.1 UJ	1.2 J-	9.9 J-	1.1 UJ	9.7 J-	0.3 B	1.2 UJ
Cobalt	mg/kg	350	3.8 B	2.4 J	7.3	10	0.72 B	2.4 B	2.3 B	4.1	26	1.6 J	8	9.7
Copper	mg/kg	47,000	30.1 B	23.3	103	102 J	4 J	44.5	57.3	40	402	23.1 J	25.6 J	88.2
Iron	mg/kg	820,000	118,000	39,700	149,000	151,000	31,800	179,000	171,000	212,000	255,000	159,000	220,000	79,900
Lead	mg/kg	800	38.3 J	49.8 J	160 J	518 J	2 J	108 J	205 J	25.2 J	31.4 J	24.3 J	27.2 J	792 J
Manganese	mg/kg	26,000	22,200	4,820	42,900	10,000	4,920	27,900	29,400	32,300	16,800	25,100	2,300	1,980
Mercury	mg/kg	350	0.014 J	0.11 R	0.1 J-	0.38	0.1 UJ	0.12 J-	0.3 J-	0.025 J-	0.0032 J-	0.0032 J	0.1 UJ	0.0049 J-
Nickel	mg/kg	22,000	15.3	15.2 J	30.2 J	43.5	5 J	26.7 J	23.7 J	36.8 J	54.2 J	16.5	23.5	24.1 J
Selenium	mg/kg	5,800	3.1 U	4.1 U	3.3	4.3 U	4.3	2.9 J	1.9 J	3 U	4.2 U	3.2 U	4.3 U	4.9 U
Silver	mg/kg	5,800	2.3 UJ	3.1 U	2 U	3.7 J	2.3 UJ	2.5 U	1 J	3	4.6	2.4 UJ	3.2 UJ	3.7 U
Thallium	mg/kg	12	7.8 UJ	10.3 U	6.7 U	10.8 UJ	7.8 UJ	8.2 U	6.9 U	7.4 U	10.5 U	8.1 UJ	10.8 UJ	9.8 U
Vanadium	mg/kg	5,800	2,120 J	44.3 J	2,280 J	143 J	56.8 J	704 J	596 J	480 J	108 J	598 J	83.2 J	189 J
Zinc	mg/kg	350,000	271	832 J	281 J	4,880	17.5	459 J	222 J	82.9 J	43.6 J	159	29.8	639 J
Other														
Cyanide	mg/kg	150	0.27 J-	1 J-	0.86 J-	0.54 J-	2.5 J-	3.3 J-	5.8 J-	0.85 J-	0.11 J-	0.18 J-	0.13 J-	1.7 J-

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Table 6
Summary of Inorganics Detected in Soil
Parcel B4
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B4-013-SB-7.5	B4-014-SB-1	B4-014-SB-5	B4-015-SB-1	B4-015-SB-5	B4-016-SB-1	B4-016-SB-5	B4-017-SB-1	B4-017-SB-4	B4-018-SB-1	B4-018-SB-5	B4-019-SB-1
Metals														
Aluminum	mg/kg	1,100,000	13,800	7,970	16,200	13,900	17,400	18,600	15,600	11,500	36,300	20,100	24,300	34,400
Antimony	mg/kg	470	2.8 UJ	3.5 UJ	3.2 UJ	3.1 UJ	3.3 UJ	3.2 UJ	3.1 UJ	3.1 UJ	3.6 UJ	3.1 UJ	4.1 UJ	3.2 UJ
Arsenic	mg/kg	3	15	7.1	3	3.3	7.3	2.7 U	36.1	3.2	19.9	3.2	17.8	4.5
Barium	mg/kg	220,000	155	101 J	54.8 J	60.9 J	78.1 J	40.9	1,300	100 J	244 J	214	434	412
Beryllium	mg/kg	2,300	0.87 B	0.32 B	0.54 B	0.78 B	0.69 B	1.1 U	3.2	1 U	1.2 B	2.4	3.1	6.4
Cadmium	mg/kg	980	1.7	7.5	1.6 U	1.4 B	0.29 B	0.71 J	3.1	0.51 J	2	2.6	2.3	0.82 J
Chromium	mg/kg	120,000	137 J	764	17.9	1,130	35.6	1,340	405	1,380	840	828	1,180	277
Chromium VI	mg/kg	6.3	1.1 UJ	1.2 U	1.2 U	5.8	1.2 UJ	8 J-	1.2 R	2.1 J	1.4 UJ	0.73 J-	1.4 R	1.1 R
Cobalt	mg/kg	350	19.1	6.7	4.1 J	2.3 J	6.8	3.4 B	30.1	0.65 J	11.9	5.6	49	5.2 B
Copper	mg/kg	47,000	146	146	9.8	72.3	19.7	25	203	35.5 J	206 J	400	342	50.2
Iron	mg/kg	820,000	83,700	234,000	17,500	203,000	32,400	203,000	97,200	206,000	179,000	143,000	112,000	64,300
Lead	mg/kg	800	232 J	597	11.6	68.2	64.7	14	679	4.4	511	1,450	352	70.4
Manganese	mg/kg	26,000	28,200	20,200 J	89.2 J	25,800 J	237 J	28,800	11,700	30,000	22,600	13,900	7,810	9,930
Mercury	mg/kg	350	0.026 J-	0.35	0.0079 J	0.049 J	0.066 J	0.018 J	0.0038 J	0.019 J	0.95	46.4	2.5	2
Nickel	mg/kg	22,000	96.5 J	53.6	12.8	25.5	18.6	16.8	157	12.1 J	47.9 J	21.3	340	15.7
Selenium	mg/kg	5,800	3.8 U	4.7 U	4.3 U	4.1 U	4.5 U	4.3 U	4.1 U	4.1 U	3.1 J	4.2 U	3.4 B	4.3 U
Silver	mg/kg	5,800	2.5 J	3 J	3.2 U	2 J	3.3 U	2.1 J	1.7 J	1.7 J	1.8 J	2.3 J	1.2 J	3.2 U
Thallium	mg/kg	12	9.5 U	11.7 U	10.8 U	10.2 U	11.1 U	10.7 U	10.2 U	10.4 UJ	12 UJ	10.4 U	11 U	10.8 U
Vanadium	mg/kg	5,800	53.5 J	503	20.6	768	46.6	938	197	739 J	624 J	488	91.8	188
Zinc	mg/kg	350,000	481 J	3,190	32.3	698	119	76.5 J	1,150 J	132 J	532 J	540 J	796 J	253 J
Other														
Cyanide	mg/kg	150	0.47 J-	0.45 J-	0.69 UJ	0.33 J-	0.069 J-	1.7 J-	10.5 J-	1.6 J+	8.5 J+	91.5 J-	4.3 J-	4.1 J-

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Table 6
Summary of Inorganics Detected in Soil
Parcel B4
Tradeport Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B4-019-SB-5	B4-020-SB-1	B4-020-SB-5	B4-021-SB-1	B4-021-SB-5	B4-022-SB-1	B4-022-SB-5	B4-023-SB-1	B4-023-SB-5	B4-024-SB-1	B4-024-SB-4.5	B4-025-SB-1
Metals														
Aluminum	mg/kg	1,100,000	6,050	6,440	8,380	7,900	23,400	14,300	10,500	11,100	17,800	33,400	3,590	36,600
Antimony	mg/kg	470	3.2 UJ	2.9 UJ	2.8 UJ	3.2 UJ	3.4 UJ	3.5 UJ	3.6 UJ	3.1 UJ	3 UJ	1.9 UJ	3 UJ	3.1 UJ
Arsenic	mg/kg	3	42	5.6	5.3	5.4	8.2	3	13.2	3.4	15.2	4.7	2.5 U	2.7
Barium	mg/kg	220,000	210	57.3	143	68.6	262	98.8	98.5	56.5	380	291	20.8 J	328 J
Beryllium	mg/kg	2,300	0.49 B	0.53 B	0.93 U	0.71 B	1.6	0.78 J	0.91 J	1 U	1.1	5.4	0.38 B	6.6
Cadmium	mg/kg	980	4.6	1.2 J	0.88 J	1.8	1.3 J	0.56 B	1.6 B	0.32 B	2.7	2.7	1.5 U	0.36 B
Chromium	mg/kg	120,000	1,770	241	1,750	529	169	980	54.3	978	52.7	56.1	7.5	32.4
Chromium VI	mg/kg	6.3	1.2 R	1.1 UJ	0.31 J-	1.1 R	1.2 UJ	4.5	1.2 U	5.8	1.2 U	0.18 B	1.1 U	1.1 U
Cobalt	mg/kg	350	133	4.4 B	12.4	4.3 B	12.1	1.4 B	10.1	1.3 B	8.8	3.3	0.32 J	0.85 J
Copper	mg/kg	47,000	621	36.9	138	44.3	161	32.9 J	65 J	30 J	89.1 J	28.6	2.3 J	4.2 J
Iron	mg/kg	820,000	293,000	118,000	131,000	135,000	123,000	192,000 J	48,600 J	229,000 J	74,400 J	18,000	2,310	9,020
Lead	mg/kg	800	664	72.8	76	169	222	20.1	358	2.6 U	200	160 J	3.3	11.2
Manganese	mg/kg	26,000	5,510	7,710	45,600	12,100	4,200	25,000	2,610	26,200	3,430	3,400 J	205 J+	4,070 J+
Mercury	mg/kg	350	0.2	0.038 J	0.049 J	0.1 J	0.0048 J	0.0099 J	0.3 J	0.066 J	0.37 J	0.0022 J	0.0031 J	0.11 R
Nickel	mg/kg	22,000	941	20.4	60.6	22.6	31.9	19.8 J	36.9 J	18.8 J	31.2 J	9.7	10 U	3.1 B
Selenium	mg/kg	5,800	3.6 B	3.9 U	3.7 U	4.3 U	5.3	4.6 U	4.8 U	4.2 U	4 U	2.5 B	4 U	4.1 U
Silver	mg/kg	5,800	4.1	1.5 B	2.8 U	1.9 B	3.4 U	3.5 U	3.6 U	1.1 B	3 U	1.9 U	3 U	3.1 U
Thallium	mg/kg	12	10.7 U	9.6 U	15	10.8 U	11.4 U	11.6 UJ	11.9 UJ	10.4 UJ	10.1 UJ	6.4 U	10 U	10.3 U
Vanadium	mg/kg	5,800	379	152	8,320	278	603	567	130	629	93.9	36.7	9.4	29.3
Zinc	mg/kg	350,000	1,750 J	686 J	173 J	990 J	410 J	316	948	194	393	362	3.6 J	55.5
Other														
Cyanide	mg/kg	150	1.8 J-	2.9 J-	0.76 J-	10 J-	1.7 J-	0.45 J	0.19 J	1.1	13.2	0.52 J	0.27 J	0.31 J

Bold indicates detection

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

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J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate, but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate, but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte.

N/A: This parameter was not analyzed for this sample.

*Indicates nonvalidated

Values in red indicate a detection exceedance of the Project Action Limit (PAL)

Table 6
Summary of Inorganics Detected in Soil
Parcel B4
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B4-025-SB-5	B4-026-SB-1	B4-026-SB-5	B4-027-SB-1	B4-027-SB-5	B4-028-SB-1	B4-028-SB-4	B4-029-SB-1	B4-030-SB-1	B4-030-SB-5	B4-031-SB-1	B4-031-SB-4
Metals														
Aluminum	mg/kg	1,100,000	46,200	17,600	6,220	7,780	25,500	13,600	8,350	14,700	32,200	8,650	15,700	23,300
Antimony	mg/kg	470	3.8 UJ	3.3 UJ	3.2 UJ	2.1 UJ	2.6 UJ	3.2 UJ	3.1 UJ	2.8 UJ	3 UJ	3 UJ	3.3 UJ	2.3 B
Arsenic	mg/kg	3	7	9.6	2.7 U	8.2	6	3.5	2.6 U	4.4	2.7	2.8	6.9	9.6
Barium	mg/kg	220,000	424 J	117	28.5	24.3	445	79.6 J	42.2 J	105 J	655 J	45.5 J	251 J	557 J
Beryllium	mg/kg	2,300	2.1	1.1	0.2 J	0.7 U	3.3	0.35 B	0.39 B	0.47 B	3	0.32 B	1.3	2.2
Cadmium	mg/kg	980	2.6	8	60.8	0.81 B	1.8	0.62 B	0.35 B	1.2 J	0.95 B	1.5 U	3.1	2.8
Chromium	mg/kg	120,000	271	745	40.7	303	151	1,130	479	1,400	52.1	12.1	341	114
Chromium VI	mg/kg	6.3	1.3 U	0.31 B	0.18 B	0.81 B	1.1 R	1.2 UJ	1.2 UJ	1.1 UJ	1.1 U	1.2 U	1.1 U	1.2 U
Cobalt	mg/kg	350	11.1	33.8	2.5 J	31	6.8	2.6 J	0.41 J	1.1 B	3.2 J	4 J	10.2	9.2
Copper	mg/kg	47,000	64.9	61.1	7.7	29.7	59.6	51.1 J	17.1 J	34.1 J	45.5	3.3 J	128	113
Iron	mg/kg	820,000	25,200	154,000	9,570	58,400	33,900	268,000	77,200	235,000	28,800	11,000	109,000	76,200
Lead	mg/kg	800	478	88.2 J	10.4 J	12.4 J	90.9 J	23.7	11	91.3	103	5	408	305
Manganese	mg/kg	26,000	2,460 J+	49,400 J	439 J	40,400 J	4,630 J	24,300	11,900	28,700	7,540 J	248 J	8,150 J	6,750 J
Mercury	mg/kg	350	0.079 J	0.073 J	0.015 J	0.011 J	0.11 U	0.092 J	0.12	7.8	0.11 U	0.017 J	0.25	0.065 J
Nickel	mg/kg	22,000	63.2	62.2	17.4	30.5	29.8	25.2 J	8.2 J	15.7 J	22.8	6.6 B	67.1	45.5
Selenium	mg/kg	5,800	5.6	4.3 U	4.3 U	2.8 U	2.9 B	4.2 U	4.2 U	3.7 U	3.9 U	4 U	4.4 U	4 U
Silver	mg/kg	5,800	3.8 U	5.9	3.2 U	5.4	2.6 U	2.5 B	3.1 U	2.4 J	3 U	3 U	0.91 B	3 U
Thallium	mg/kg	12	10.2 U	10.8 U	10.8 U	7 U	8.6 U	10.6 UJ	10.5 UJ	9.3 UJ	9.9 U	9.9 U	11.1 U	10 U
Vanadium	mg/kg	5,800	37.3	429	21.3	176	477	532 J	235 J	794 J	155	19.5	295	138
Zinc	mg/kg	350,000	451	932	29.5	129	261	313 J	63.6 J	802 J	233	17.5	1,230	368
Other														
Cyanide	mg/kg	150	2.4	0.28 J	0.69 U	0.64 U	2.8	1.4 J+	0.79 J+	87.2 J+	0.83 J-	0.67 UJ	0.9 J-	0.88 J-

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N/A: This parameter was not analyzed for this sample.

*Indicates nonvalidated

Values in red indicate a detection exceedance of the Project Action Limit (PAL)

Table 6
Summary of Inorganics Detected in Soil
Parcel B4
Tradeport Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B4-032-SB-1	B4-033-SB-1	B4-034-SB-1	B4-035-SB-1	B4-035-SB-5	B4-036-SB-1	B4-036-SB-5	B4-037-SB-1	B4-037-SB-6	B4-037-SB-10	B4-038-SB-1	B4-038-SB-5
Metals														
Aluminum	mg/kg	1,100,000	24,000	19,400	11,200	17,900	18,100	23,900	22,200	6,900	16,400	16,800	7,760	5,420
Antimony	mg/kg	470	3.3 UJ	3 UJ	3.2 UJ	3.3 UJ	3.6 UJ	3.3 UJ	3.6 UJ	2.9 UJ	2.9 UJ	3.3 UJ	2.8 UJ	3.1 UJ
Arsenic	mg/kg	3	2.9	3.8	4	4.4	9.8	10.7	9.7	3.5	6.4	4	13.4	2.6 U
Barium	mg/kg	220,000	216	62.4	82.7	105 J	224 J	148 J	161 J	220	65.6	61.8	166	32.9
Beryllium	mg/kg	2,300	2.4	0.36 B	0.27 B	0.71 B	0.75 B	1.3	1.1 B	0.54 J	0.6 J	0.32 J	0.94	0.31 J
Cadmium	mg/kg	980	0.55 B	0.49 B	0.87 B	2	0.55 J	1.2 B	2.3	2.7	0.28 B	1.6 U	2	1.6 U
Chromium	mg/kg	120,000	554	740	533	87.7	142	147	180	34.6	25.5	19.9	66.5	7.5
Chromium VI	mg/kg	6.3	1.1 U	3.1	1.2 U	0.44 J	0.84 J	1.2 U	1.3	0.22 B	1.1 R	1.2 R	5.6 J-	0.27 B
Cobalt	mg/kg	350	3.2 B	2.4 B	1.6 B	5.4 J	5.5 J	7.8	6.5	4.3 B	5	4.7 B	11	3.6 B
Copper	mg/kg	47,000	44.4 J	49.3 J	57.6 J	24.4	26.1	41.4	42.5	96.1	17.3	6.3	236	2 J
Iron	mg/kg	820,000	123,000 J	155,000 J	95,800 J	24,100	36,800	37,300	39,500	16,700	20,600	19,000	34,400	6,420
Lead	mg/kg	800	89.5	52.4	163	70.5	24.7	69.5	112	348 J	16.6 J	8.5 J	715 J	3.6 J
Manganese	mg/kg	26,000	14,500	20,200	14,000	1,910 J	4,110 J	2,610 J	5,050 J	1,100 J	113 J	69.1 J	1,200 J	235 J
Mercury	mg/kg	350	1.4 J	0.3 J	2.7 J	0.3	0.061 J	0.094 J	0.2	0.096 J	0.027 J	0.041 J	0.14	0.0079 J
Nickel	mg/kg	22,000	19.3 J	24.1 J	15.5 J	26	23.1	32.7	39.4	15.2	11.4	12.4	46.8	5.6 J
Selenium	mg/kg	5,800	4.4 U	4 U	4.3 U	4.4 U	4.8 U	4.5 U	4.8 U	3.9 U	3.9 U	4.4 U	3.8 U	4.2 U
Silver	mg/kg	5,800	3.3 U	0.99 J	3.2 U	3.3 U	3.6 U	3.3 U	3.6 U	2.9 U	2.9 U	3.3 U	2.8 U	3.1 U
Thallium	mg/kg	12	11.1 UJ	10.1 UJ	10.7 UJ	11 U	11.9 U	11.1 U	12 U	9.6 U	9.7 U	10.9 U	9.4 U	10.4 U
Vanadium	mg/kg	5,800	338	431	369	63.8	92.8	71.7	116	36.3	36.7	24.2	31.9	11.5
Zinc	mg/kg	350,000	246	131	213	269	80.4	1,230	337	455	41.4	33.4	639	15.1
Other														
Cyanide	mg/kg	150	10.1	5.2	7.1	0.96 J-	0.69 UJ	0.29 J-	0.73 J-	0.13 J	0.7 U	0.7 U	0.36 J	0.56 U

Bold indicates detection

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N/A: This parameter was not analyzed for this sample.

*Indicates nonvalidated

Values in red indicate a detection exceedance of the Project Action Limit (PAL)

Table 6
Summary of Inorganics Detected in Soil
Parcel B4
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B4-038-SB-10	B4-039-SB-1	B4-039-SB-5	B4-040-SB-1	B4-040-SB-5	B4-041-SB-1	B4-041-SB-4	B4-042-SB-1	B4-042-SB-5	B4-043-SB-1	B4-043-SB-5	B4-044-SB-1
Metals														
Aluminum	mg/kg	1,100,000	16,500	10,100	12,200	16,000	14,100	11,400	25,700	3,120	16,200	6,700	49,200	7,420
Antimony	mg/kg	470	3 UJ	2.6 UJ	2.9 UJ	2 UJ	2.1 UJ	2.5 UJ	2.2 UJ	2.6 UJ	2.7 UJ	3.6 UJ	3.1 UJ	3.2 UJ
Arsenic	mg/kg	3	4.7	7.5	17.7	7.7	3.9	2.1 U	2.3	2.2 U	6.7	4.5	2.5 U	7
Barium	mg/kg	220,000	55.7	47.3	235	225	51.3	60.6	213	30.3	154	55.6 J	363 J	87.6
Beryllium	mg/kg	2,300	0.55 J	0.49 J	0.54 J	1.8	0.44 J	0.33 J	2.5	0.87 U	1.8	1.2 U	7.4	1.1 U
Cadmium	mg/kg	980	1.5 U	0.28 B	7	6.6	1.9	0.7 B	1.3 J	0.44 B	2.1 J	2.9	0.3 J	1.1 J
Chromium	mg/kg	120,000	15.6	41.1	750	199	1,050	1,430	93.7	23	85.1	1,270	17.4	1,670
Chromium VI	mg/kg	6.3	0.33 B	0.19 B	0.66 B	0.43 B	1.2 J-	4.8 J-	1.2 UJ	0.57 B	0.62 B	1.2 UJ	1.2 UJ	1.1 UJ
Cobalt	mg/kg	350	6.9	5	25.9	10.8	1.9 B	0.35 B	2.4 B	0.72 B	7.5	3.8 B	0.45 B	4.5 J
Copper	mg/kg	47,000	9.4	16.5	125	231	39.6	25.1 J	158 J	8.1 J	81.2 J	54.2 J	2.4 B	38.5
Iron	mg/kg	820,000	19,900	19,100	185,000	91,000	164,000	169,000	41,400	6,170	59,100	254,000	8,230	204,000
Lead	mg/kg	800	7 J	20.2 J	3,120 J	653 J	87.6 J	46.8 J	81 J	17 J	130 J	133	2.9	33
Manganese	mg/kg	26,000	179 J	282 J	17,800 J	5,590 J	24,400 J	25,500	5,030	353	4,190	26,900	3,080	47,000
Mercury	mg/kg	350	0.014 J	0.13	0.052 J	0.11 U	0.019 J	0.21 J	0.027 J	0.013 J	0.0047 J	0.012 J	0.11 U	0.1 U
Nickel	mg/kg	22,000	12.6	10.8	200	43.5	18.1	11	19.8	4.6 B	21.6	29.5 J	1.3 J	21.2
Selenium	mg/kg	5,800	3.9 U	3.4 U	3.9 U	2.7 U	2.8 U	3.3 U	3 U	3.5 U	3.5 U	4.8 U	4.1 U	4.2 U
Silver	mg/kg	5,800	3 U	2.6 U	2.5 J	1.8 J	1.8 B	2.5 UJ	2.2 UJ	2.6 UJ	2.7 UJ	3.6 U	3.1 U	3.2 U
Thallium	mg/kg	12	9.8 U	8.6 U	9.8 U	6.7 U	7.1 U	8.3 UJ	7.5 UJ	8.7 UJ	8.9 UJ	11.9 UJ	10.2 UJ	12.3
Vanadium	mg/kg	5,800	30.3	35.2	432	135	816	701 J	59.7 J	15.3 J	129 J	4,000 J	14.3 J	6,330
Zinc	mg/kg	350,000	33.9	61.4	1,900	835	302	80.6	218	30.6	344	4,100 J	6.4 J	347 J
Other														
Cyanide	mg/kg	150	0.043 J	0.12 J	0.24 J	0.33 J	0.15 J	0.19 J-	0.24 J-	0.085 J-	0.093 J-	0.36 J+	0.27 J+	0.65 UJ

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R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte.

N/A: This parameter was not analyzed for this sample.

*Indicates nonvalidated

Values in red indicate a detection exceedance of the Project Action Limit (PAL)

Table 6
Summary of Inorganics Detected in Soil
Parcel B4
Tradeport Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B4-044-SB-4	B4-045-SB-1	B4-045-SB-5	B4-045-SB-10	B4-046-SB-1	B4-046-SB-5	B4-047-SB-1	B4-047-SB-5	B4-048-SB-1	B4-048-SB-5	B4-048-SB-10	B4-049-SB-1
Metals														
Aluminum	mg/kg	1,100,000	26,200	46,300	38,600	51,200	38,300	45,000	11,600	10,500	10,200	10,300	4,180	10,400
Antimony	mg/kg	470	3.6 UJ	3.1 UJ	2.9 UJ	3.1 U	2.5 UJ	2.7 UJ	2.9 UJ	2.8 UJ	3.2 UJ	3.2 UJ	3.2 UJ	2.1 UJ
Arsenic	mg/kg	3	38.2	2.6 U	2.4 U	3.1	3	2.3 U	17.6	4.2	9.8	2.6 U	4.8	3.2
Barium	mg/kg	220,000	375	851 J	487 J	982	617	658	328 J	81.3 J	299 J	122 J	39.1 J	57.5
Beryllium	mg/kg	2,300	1.5	7.7	7.6	9	6.5	8.1	0.98	0.7 J	0.44 B	0.38 B	1.1 U	0.45 J
Cadmium	mg/kg	980	6.4	0.82 B	0.33 B	0.26 B	3.6	0.29 J	1.2 B	1.4 U	7.6	0.76 B	0.86 B	0.75 B
Chromium	mg/kg	120,000	198	32.5	22.1	28	73.7	28.3	103	13.5	209	555	677	334
Chromium VI	mg/kg	6.3	1.2 UJ	1.1 UJ	1.1 U	1.1 U	1.1 UJ	1.1 UJ	6 J-	1.4 J-				
Cobalt	mg/kg	350	28.6	0.75 J	0.37 J	0.54 J	2.3 B	0.57 B	19.3	4.9	8.3	2.5 J	10.4	4.7
Copper	mg/kg	47,000	216	7.5	1.9 J	3.7 J	27.7	3.4 B	146	5.5	72.7	19.2	76.8	25.5
Iron	mg/kg	820,000	129,000	28,800	14,100	25,100	77,100	13,300	78,400	13,700	131,000	106,000	69,500	68,900
Lead	mg/kg	800	1,090	19.7	2.4 U	2.6 U	119	2.3 U	475	6.6	544	63.1	172	58.9 J
Manganese	mg/kg	26,000	3,520	3,080 J	2,660 J	3,200	3,970	3,040	3,050 J	285 J	5,260 J	11,000 J	9,030 J	6,970 J
Mercury	mg/kg	350	0.12 U	0.11 U	0.11 R	0.1 R	0.11 U	0.11 U	0.051 J	0.016 J	0.16	0.022 J	0.065 J	0.33
Nickel	mg/kg	22,000	120	5.5 B	2.2 B	3.8 B	13.1	3.1 B	113	6.3 B	38.1	14.8	39	14
Selenium	mg/kg	5,800	3.1 B	3.4 B	2.2 B	3.9 B	2.7 B	4.2	3.9 U	3.7 U	4.2 U	4.2 U	4.2 U	2.8 U
Silver	mg/kg	5,800	1.3 J	3.1 U	2.9 U	3.1 U	0.62 B	2.7 U	2.9 U	2.8 U	2.1 J	3.2 U	3.2 U	2.1 U
Thallium	mg/kg	12	9.7 U	10.2 U	9.5 U	10.3 U	8.3 U	9 U	9.7 U	9.3 U	10.6 U	10.6 U	10.5 U	7.1 U
Vanadium	mg/kg	5,800	217	20.1	14.1	18.2	43	23	180	23.9	180	691	2,680	173
Zinc	mg/kg	350,000	1,850 J	449	7.1	15.4	3,700 J	10.6 J	448	19.8	1,100	136	233	164
Other														
Cyanide	mg/kg	150	13.7 J-	0.97 J-	0.93 J-	0.89 J-	1.4 J-	1.2 J-	0.2 J	0.55 UJ	0.49 J-	0.21 J-	0.52 UJ	0.24 J

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Table 6
Summary of Inorganics Detected in Soil
Parcel B4
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B4-049-SB-4.5	B4-050-SB-1	B4-050-SB-5	B4-054-SB-1*	B4-054-SB-6*	B4-055-SB-1*	B4-055-SB-5*	B4-056-SB-1.5*	B4-056-SB-7.5*	B4-057-SB-1*	B4-057-SB-5*
Metals													
Aluminum	mg/kg	1,100,000	6,110	7,770	8,340	8,450	4,240	18,800	11,600	21,100	30,400	7,240	24,100
Antimony	mg/kg	470	2.7 UJ	3.1 UJ	2.3 UJ	2.7 U	2.9 U	2.7 U	2.6 U	2.6 U	2.6 U	2.5 U	2.7 U
Arsenic	mg/kg	3	10.7	20.5	2.1	4.5	2.2 J	9.1	8.3	5.8	10.7	8.9	13.1
Barium	mg/kg	220,000	60.9	90.4	23.5	33.9	40.4	232	199	166	350	53.5	199
Beryllium	mg/kg	2,300	0.2 B	0.44 J	0.24 J	0.89 U	0.35 J	0.76 J	0.59 J	1.5	1.9	0.16 J	0.99
Cadmium	mg/kg	980	5.9	1.6	1.1 U	0.54 J	0.49 J	3.4	0.77 B	0.68 B	3.5	27.3	1.1 J
Chromium	mg/kg	120,000	134	217	9.1	1,190	288	335	92.6	84.3	543	836	365
Chromium VI	mg/kg	6.3	1.1 B	0.33 B	0.42 B	5	0.42 B	0.32 B	1.3 U	0.32 B	0.3 B	0.3 B	0.51 B
Cobalt	mg/kg	350	12.3	43.1	3 B	4.4 U	3.7 J	12.4	14.1	8	19.8	4.8	52
Copper	mg/kg	47,000	215	228	3.8	31.4	60.1	211	335	33	438	119	76.7
Iron	mg/kg	820,000	86,000	101,000	11,600	171,000	54,000	149,000	87,700	32,900	71,300	329,000	58,100
Lead	mg/kg	800	695 J	247 J	5.1 J	48	19	758	74.9	76.3	420	556	165
Manganese	mg/kg	26,000	1,560 J	1,950 J	53.5 J	26,200	5,360	11,500	2,340	1,450	6,030	14,700	4,000
Mercury	mg/kg	350	0.26	0.06 J	0.013 J	0.027 J	0.048 J	2.6	0.02 J	0.069 J	0.069 J	0.019 J	0.029 J
Nickel	mg/kg	22,000	65.5	290	6.6 J	21.6	15.8	78.2	21.8	31.3	103	69.6	415
Selenium	mg/kg	5,800	3.6 U	4.1 U	3.1 U	3.5 U	3.8 U	3.6 U	3.4 U	3.4 U	3.3 J	3.4 U	3.6 U
Silver	mg/kg	5,800	1.7 J	1.4 B	2.3 U	2.8	2.9 U	2.2 J	0.86 J	2.6 U	1 J	11.1	0.72 J
Thallium	mg/kg	12	9 U	10.2 U	7.6 U	8.9 U	9.5 U	9.1 U	8.6 U	8.6 U	8.7 U	8.4 U	9.1 U
Vanadium	mg/kg	5,800	100	171	13.6	604	192	339	23.7	45.9	158	343	231
Zinc	mg/kg	350,000	1,750	542	17.9	63.2	39.2	1,020	163	127	704	36,700	504
Other													
Cyanide	mg/kg	150	1.3	0.18 J	0.64 U	0.17 J	0.14 J	2.6	2.8	1.4	5.6	0.45 J	6.7

Bold indicates detection

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate, but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate, but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte.

N/A: This parameter was not analyzed for this sample.

*Indicates nonvalidated

Values in red indicate a detection exceedance of the Project Action Limit (PAL)

Table 6
Summary of Inorganics Detected in Soil
Parcel B4
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B4-057-SB-10*	B4-058-SB-1*	B4-058-SB-8*	B4-059-SB-1*	B4-059-SB-4*
Metals							
Aluminum	mg/kg	1,100,000	N/A	24,900	29,100	13,100	14,800
Antimony	mg/kg	470	N/A	2.6 U	3 U	2.7 U	3.3 U
Arsenic	mg/kg	3	4.9	2.7	8.5	2. J	13.6
Barium	mg/kg	220,000	N/A	378	309	87.1	202
Beryllium	mg/kg	2,300	N/A	1.9	4.2	0.26 J	0.98 J
Cadmium	mg/kg	980	N/A	1.9	0.72 J	0.45 J	2.8
Chromium	mg/kg	120,000	N/A	395	28.4	1,080	142
Chromium VI	mg/kg	6.3	N/A	0.47 B	0.35 B	0.39 B	0.49 B
Cobalt	mg/kg	350	N/A	3.2 J	3.7 J	4.4 U	18.2
Copper	mg/kg	47,000	N/A	49.1	79.8	42.3	307
Iron	mg/kg	820,000	N/A	111,000	59,600	207,000	38,300
Lead	mg/kg	800	N/A	87.7	188	46.4	706
Manganese	mg/kg	26,000	N/A	12,400	1,970	24,600	2,630
Mercury	mg/kg	350	N/A	0.027 J	0.12 U	0.053 J	0.62
Nickel	mg/kg	22,000	N/A	19.5	6.1 J	26.1	96.9
Selenium	mg/kg	5,800	N/A	3.5 U	2.9 J	3.6 U	4.3 U
Silver	mg/kg	5,800	N/A	1.4 J	3 U	2.9	1.2 J
Thallium	mg/kg	12	N/A	8.8 U	9.9 U	8.9 U	10.9 U
Vanadium	mg/kg	5,800	N/A	371	26.4	530	72.4
Zinc	mg/kg	350,000	N/A	398	188	124	1,290
Other							
Cyanide	mg/kg	150	N/A	0.5 J	0.99	0.88	10.1

Bold indicates detection

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate, but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate, but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte.

N/A: This parameter was not analyzed for this sample.

*Indicates nonvalidated

Values in red indicate a detection exceedance of the Project Action Limit (PAL)

**TABLE 7
SUMMARY OF SOIL PAL EXCEEDANCES**

<u>Parameter</u>	<u>CAS#</u>	<u>Frequency of Detections (%)*</u>	<u>Sample ID of Max Result</u>	<u>Unit</u>	<u>PAL Solid</u>	<u>Max Result</u>
Aroclor 1254	11097-69-1	32	B4-037-SB-1	mg/kg	0.97	84.0
Aroclor 1260	11096-82-5	36	B4-037-SB-1	mg/kg	0.99	39.7
Arsenic	7440-38-2	84	B4-003-SB-5	mg/kg	3.0	85.7
Benz[a]anthracene	56-55-3	93	B4-056-SB-7.5	mg/kg	21	40.2
Benzo[a]pyrene	50-32-8	93	B4-056-SB-7.5	mg/kg	2.1	23.9
Benzo[b]fluoranthene	205-99-2	94	B4-056-SB-7.5	mg/kg	21	41.0
Chromium VI	18540-29-9	25	B4-011-SB-1	mg/kg	6.3	9.9
Dibenz[a,h]anthracene	53-70-3	86	B4-056-SB-7.5	mg/kg	2.1	5.1
Diesel Range Organics	DRO	98	B4-037-SB-6	mg/kg	6,200	6,760
Lead	7439-92-1	96	B4-039-SB-5	mg/kg	800	3,120
Manganese	7439-96-5	100	B4-026-SB-1	mg/kg	26,000	49,400
Naphthalene	91-20-3	86	B4-016-SB-5	mg/kg	17	32.8
Thallium	7440-28-0	4	B4-020-SB-5	mg/kg	12	15.0
Vanadium	7440-62-2	100	B4-020-SB-5	mg/kg	5,800	8,320
PCBs (total)	1336-36-3	55	B4-037-SB-1	mg/kg	0.97	123.7

PCB delineation samples are not included in the statistics provided on this table.

*Frequency of detections excludes any rejected (R flagged) data results.

Table 8
Soil PAL Exceedances for Specific Targets

Target Feature	Boring ID	Sample Depth	Parameter	PAL (mg/kg)	Result (mg/kg)	Final Flag
Drip Legs	B4-001-SB	1	Chromium VI	6.3	7.5	J-
	B4-001-SB	4	Arsenic	3	9.7	
	B4-002-SB	1	PCBs (total)	0.97	1,214	
	B4-018-SB	1	Arsenic	3	3.2	
	B4-018-SB	1	Lead	800	1,450	
	B4-018-SB	5	Arsenic	3	17.8	
	B4-018-SB	5	Benzo[a]pyrene	2.1	2.3	
	B4-019-SB	1	Arsenic	3	4.5	
	B4-019-SB	5	Arsenic	3	42	
	B4-019-SB	5	Benzo[a]pyrene	2.1	6.7	
	B4-020-SB	1	Arsenic	3	5.6	
	B4-020-SB	5	Arsenic	3	5.3	
	B4-020-SB	5	Manganese	26,000	45,600	
	B4-020-SB	5	Thallium	12	15	
	B4-020-SB	5	Vanadium	5,800	8,320	
	B4-021-SB	1	Arsenic	3	5.4	
	B4-021-SB	5	Arsenic	3	8.2	
	B4-021-SB	5	Benzo[a]pyrene	2.1	6	
	B4-022-SB	1	Arsenic	3	3	
	B4-022-SB	5	Arsenic	3	13.2	
	B4-023-SB	1	Arsenic	3	3.4	
	B4-023-SB	1	Manganese	26,000	26,200	
	B4-023-SB	5	Arsenic	3	15.2	
	B4-023-SB	5	Benzo[a]pyrene	2.1	4.1	J
	B4-024-SB	1	Arsenic	3	4.7	
B4-025-SB	5	Arsenic	3	7		
REC Oil House	B4-003-SB	1	Arsenic	3	8.9	
	B4-003-SB	5	Arsenic	3	85.7	
	B4-004-SB	1	Arsenic	3	3.6	
	B4-004-SB	1	PCBs (total)	0.97	1,046	
	B4-004-SB	4	Arsenic	3	17.3	
	B4-004-SB	4	Lead	800	1,110	J
	B4-005-SB	1	Arsenic	3	7.7	
Emergency Plating Pit	B4-006-SB	1	Arsenic	3	5.1	
	B4-006-SB	5	Arsenic	3	3.5	
	B4-006-SB	1	Manganese	26,000	28,300	
	B4-006-SB	5	Manganese	26,000	26,100	
	B4-007-SB	1	Arsenic	3	3.4	

Table 8
Soil PAL Exceedances for Specific Targets

Target Feature	Boring ID	Sample Depth	Parameter	PAL (mg/kg)	Result (mg/kg)	Final Flag
Substation / Transformers	B4-008-SB	7	Arsenic	3	8.8	
	B4-008-SB	7	Manganese	26,000	42,900	
	B4-009-SB	1	Aroclor 1260	0.99	1.78	
	B4-009-SB	1	Arsenic	3	8.3	
	B4-009-SB	1	PCBs (total)	0.97	2.191	
	B4-035-SB	1	Arsenic	3	4.4	
	B4-035-SB	5	Arsenic	3	9.8	
	B4-036-SB	1	Arsenic	3	10.7	
	B4-036-SB	5	Arsenic	3	9.7	
	B4-037-SB	1	Aroclor 1254	0.97	84	
	B4-037-SB	1	Aroclor 1260	0.99	39.7	
	B4-037-SB	1	Arsenic	3	3.5	
	B4-037-SB	1	PCBs (total)	0.97	123.7	
	B4-037-SB	6	Arsenic	3	6.4	
	B4-037-SB	6	Diesel Range Organics	6,200	6,760	
	B4-037-SB	10	Arsenic	3	4	
	B4-038-SB	1	Aroclor 1254	0.97	11	
	B4-038-SB	1	Aroclor 1260	0.99	6.01	
	B4-038-SB	1	Arsenic	3	13.4	
	B4-038-SB	1	PCBs (total)	0.97	17.01	
B4-038-SB	10	Arsenic	3	4.7		
Desulfurizer Stations	B4-014-SB	1	Aroclor 1260	0.99	4.68	
	B4-014-SB	1	Arsenic	3	7.1	
	B4-014-SB	1	PCBs (total)	0.97	4.68	
	B4-014-SB	5	Arsenic	3	3	
	B4-015-SB	1	Arsenic	3	3.3	
	B4-015-SB	5	Arsenic	3	7.3	
	B4-016-SB	1	Chromium VI	6.3	8	J-
	B4-016-SB	1	Manganese	26,000	28,800	
	B4-016-SB	5	Arsenic	3	36.1	
	B4-016-SB	5	Naphthalene	17	32.8	
	B4-017-SB	1	Arsenic	3	3.2	
	B4-017-SB	1	Manganese	26,000	30,000	
	B4-017-SB	4	Arsenic	3	19.9	
	B4-017-SB	4	Benzo[a]pyrene	2.1	4.7	
Mould Treatment Building	B4-026-SB	1	Arsenic	3	9.6	
	B4-026-SB	1	Manganese	26,000	49,400	J
	B4-027-SB	1	Arsenic	3	8.2	
	B4-027-SB	1	Manganese	26,000	40,400	J
	B4-027-SB	5	Arsenic	3	6	
Fuel Department	B4-028-SB	1	Arsenic	3	3.5	
	B4-029-SB	1	Arsenic	3	4.4	
	B4-029-SB	1	Manganese	26,000	28,700	

Table 8
Soil PAL Exceedances for Specific Targets

Target Feature	Boring ID	Sample Depth	Parameter	PAL (mg/kg)	Result (mg/kg)	Final Flag
Non-REC Oil House	B4-031-SB	1	Arsenic	3	6.9	
	B4-031-SB	1	Benzo[a]pyrene	2.1	4.2	
	B4-031-SB	4	Arsenic	3	9.6	
	B4-031-SB	4	Benzo[a]pyrene	2.1	5.4	J
Gas Pump Station	B4-033-SB	1	Arsenic	3	3.8	
	B4-034-SB	1	Arsenic	3	4	
Tar Tanks	B4-039-SB	1	Arsenic	3	7.5	
	B4-039-SB	5	Arsenic	3	17.7	
	B4-039-SB	5	Lead	800	3,120	J
	B4-040-SB	1	Arsenic	3	7.7	
	B4-040-SB	1	Benzo[a]pyrene	2.1	2.5	
	B4-040-SB	5	Arsenic	3	3.9	
	B4-042-SB	5	Arsenic	3	6.7	
	B4-042-SB	5	Benzo[a]pyrene	2.1	2.9	
Thickener Tanks	B4-043-SB	1	Arsenic	3	4.5	
	B4-043-SB	1	Manganese	26,000	26,900	
	B4-044-SB	1	Arsenic	3	7	
	B4-044-SB	1	Manganese	26,000	47,000	
	B4-044-SB	1	Thallium	12	12.3	
	B4-044-SB	1	Vanadium	5,800	6,330	
	B4-044-SB	4	Arsenic	3	38.2	
	B4-044-SB	4	Lead	800	1,090	
	B4-045-SB	10	Arsenic	3	3.1	
	B4-046-SB	1	Arsenic	3	3	
Mould Yards	B4-054-SB	1	Arsenic	3	4.5	
	B4-054-SB	1	Manganese	26,000	26,200	
	B4-055-SB	1	Aroclor 1260	0.99	1.05	
	B4-055-SB	1	Arsenic	3	9.1	
	B4-055-SB	1	PCBs (total)	0.97	1.49	
	B4-055-SB	5	Arsenic	3	8.3	
Water Treatment Area	B4-056-SB	1.5	Arsenic	3	5.8	
	B4-056-SB	7.5	Arsenic	3	10.7	
	B4-056-SB	7.5	Benz[a]anthracene	21	40.2	
	B4-056-SB	7.5	Benzo[a]pyrene	2.1	23.9	
	B4-056-SB	7.5	Benzo[b]fluoranthene	21	41	
	B4-056-SB	7.5	Dibenz[a,h]anthracene	2.1	5.1	
No. 3 Open Hearth	B4-057-SB	1	Arsenic	3	8.9	
	B4-057-SB	5	Arsenic	3	13.1	
	B4-057-SB	10	Arsenic	3	4.9	
Additional PCB Investigation	B4-058-SB	8	Arsenic	3	8.5	
	B4-059-SB	4	Arsenic	3	13.6	

J: The positive result for this analyte is a quantitative estimate.

J-: The positive result for this analyte is a quantitative estimate but may be biased low.

Site-wide borings providing general coverage are not included on this table.

**Table 10 - Parcel B4
Summary of VOCs Detected in Soil Gas**

Parameter	Units	PAL	B4-051-SG	B4-052-SG	B4-053-SG
Volatile Organic Compound					
1,1,1-Trichloroethane	µg/m ³	2,200,000	1.09 U	3.38	1.58
2-Butanone (MEK)	µg/m ³	2,200,000	45.3	43.6	46.8
4-Methyl-2-pentanone (MIBK)	µg/m ³	1,400,000	0.9	0.78 J	0.86
Acetone	µg/m ³	14,000,000	207	219	170
Benzene	µg/m ³	1,600	3.39	6.39	7.48
Bromodichloromethane	µg/m ³		7.84	4.09	9.18
Carbon disulfide	µg/m ³	310,000	111	101	80.4
Chloroform	µg/m ³	540	56.6	43.6	39
Chloromethane	µg/m ³	40,000	0.58	0.45	0.5
Dichlorodifluoromethane*	µg/m ³	44,000	3.15	2.97	3.16
Ethylbenzene	µg/m ³	5,000	1.13	1.35	1.95
Methylene Chloride	µg/m ³	270,000	6.56	6.45	6.95
Naphthalene*	µg/m ³	370	6.17	2.62 U	2.62 U
Styrene	µg/m ³	440,000	0.68 J	0.85 U	0.47 J
Tetrachloroethene	µg/m ³	18,000	16.2	66.7	9.02
Toluene	µg/m ³	2,200,000	7.95	21.7	37.6
Trichloroethene	µg/m ³	880	1.07 U	1.45	1.07 U
Trichlorofluoromethane*	µg/m ³	310,000	2.49	2.41	2.43
Xylenes	µg/m ³	44,000	6.12	4.65	6.04

Detections in bold

* indicates non-validated data result

U: This analyte was not detected in the sample. The numeric value represents the sample quantitative/detection limit.

J: The positive result reported for this analyte is a quantitative estimate.

Values in red indicate an exceedance of the Project Action Limit (PAL)



Parcel B4 - Table 11

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-001-SB-1**

1,4-Dioxane	0.1	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.072	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.072	mg/kg	210	no	R
2,4-Dichlorophenol	0.072	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.072	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.072	mg/kg	5,800	no	R
2-Methylphenol	0.072	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Benzaldehyde	0.072	mg/kg	120,000	no	R
Bromomethane	0.0051	mg/kg	30	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.072	mg/kg	250,000	no	R

Sample: **B4-001-SB-4**

1,4-Dioxane	0.14	mg/kg	24	no	R
Benzaldehyde	0.078	mg/kg	120,000	no	R
Bromomethane	0.007	mg/kg	30	no	R

Sample: **B4-002-SB-1**

1,4-Dioxane	0.086	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.072	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.072	mg/kg	210	no	R
2,4-Dichlorophenol	0.072	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.072	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.072	mg/kg	5,800	no	R
2-Methylphenol	0.072	mg/kg	41,000	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-002-SB-1**

3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Benzaldehyde	0.072	mg/kg	120,000	no	R
Bromomethane	0.0043	mg/kg	30	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.072	mg/kg	250,000	no	R

Sample: **B4-002-SB-5**

1,4-Dioxane	0.26	mg/kg	24	no	R
Benzaldehyde	0.094	mg/kg	120,000	no	R
Bromomethane	0.013	mg/kg	30	no	R

Sample: **B4-003-SB-1**

1,4-Dioxane	0.13	mg/kg	24	no	R
Bromomethane	0.0066	mg/kg	30	no	R

Sample: **B4-003-SB-5**

1,4-Dioxane	0.11	mg/kg	24	no	R
Bromomethane	0.0054	mg/kg	30	no	R

Sample: **B4-004-SB-1**

1,4-Dioxane	0.12	mg/kg	24	no	R
Bromomethane	0.0059	mg/kg	30	no	R

Sample: **B4-004-SB-4**

1,4-Dioxane	0.11	mg/kg	24	no	R
Bromomethane	0.0057	mg/kg	30	no	R

Sample: **B4-005-SB-1**

1,4-Dioxane	0.12	mg/kg	24	no	R
Benzaldehyde	0.074	mg/kg	120,000	no	R
Bromomethane	0.006	mg/kg	30	no	R

Sample: **B4-006-SB-1**

1,4-Dioxane	0.081	mg/kg	24	no	R
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Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-006-SB-1**

2,3,4,6-Tetrachlorophenol	0.071	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.071	mg/kg	210	no	R
2,4-Dichlorophenol	0.071	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.071	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.071	mg/kg	5,800	no	R
2-Methylphenol	0.071	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Benzaldehyde	0.071	mg/kg	120,000	no	R
Bromomethane	0.004	mg/kg	30	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.071	mg/kg	250,000	no	R

Sample: **B4-006-SB-5**

1,4-Dioxane	0.096	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.071	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.071	mg/kg	210	no	R
2,4-Dichlorophenol	0.071	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.071	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.071	mg/kg	5,800	no	R
2-Methylphenol	0.071	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Benzaldehyde	0.071	mg/kg	120,000	no	R
Bromomethane	0.0048	mg/kg	30	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.071	mg/kg	250,000	no	R

Sample: **B4-007-SB-1**

1,4-Dioxane	0.13	mg/kg	24	no	R
Benzaldehyde	0.073	mg/kg	120,000	no	R
Bromomethane	0.0066	mg/kg	30	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-007-SB-5**

1,4-Dioxane	0.082	mg/kg	24	no	R
Benzaldehyde	0.07	mg/kg	120,000	no	R
Bromomethane	0.0041	mg/kg	30	no	R

Sample: **B4-008-SB-1**

1,1,2,2-Tetrachloroethane	0.0051	mg/kg	2.7	no	R
1,4-Dioxane	0.1	mg/kg	24	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
Bromomethane	0.0051	mg/kg	30	no	R
Hexachlorocyclopentadiene	0.072	mg/kg	7.5	no	R
Mercury	0.11	mg/kg	350	no	R
Methyl Acetate	0.051	mg/kg	1,200,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R

Sample: **B4-008-SB-7**

1,4-Dioxane	0.12	mg/kg	24	no	R
Bromomethane	0.006	mg/kg	30	no	R

Sample: **B4-009-SB-1**

1,4-Dioxane	0.12	mg/kg	24	no	R
Benzaldehyde	0.073	mg/kg	120,000	no	R
Bromomethane	0.0058	mg/kg	30	no	R

Sample: **B4-009-SB-5**

1,4-Dioxane	0.11	mg/kg	24	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
Benzaldehyde	0.072	mg/kg	120,000	no	R
Bromomethane	0.0055	mg/kg	30	no	R

Sample: **B4-010-SB-1**

1,4-Dioxane	0.1	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.072	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.072	mg/kg	210	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-010-SB-1**

2,4-Dichlorophenol	0.072	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.072	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.072	mg/kg	5,800	no	R
2-Methylphenol	0.072	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.072	mg/kg	250,000	no	R

Sample: **B4-010-SB-6**

1,4-Dioxane	0.1	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.071	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.071	mg/kg	210	no	R
2,4-Dichlorophenol	0.071	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.071	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.071	mg/kg	5,800	no	R
2-Methylphenol	0.071	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Bromomethane	0.0051	mg/kg	30	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.071	mg/kg	250,000	no	R

Sample: **B4-011-SB-1**

1,4-Dioxane	0.11	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.073	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.073	mg/kg	210	no	R
2,4-Dichlorophenol	0.073	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.073	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.073	mg/kg	5,800	no	R
2-Methylphenol	0.073	mg/kg	41,000	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-011-SB-1**

3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Bromomethane	0.0056	mg/kg	30	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.073	mg/kg	250,000	no	R

Sample: **B4-011-SB-4.5**

1,4-Dioxane	0.11	mg/kg	24	no	R
Bromomethane	0.0056	mg/kg	30	no	R

Sample: **B4-012-SB-1**

1,4-Dioxane	0.1	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.074	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.074	mg/kg	210	no	R
2,4-Dichlorophenol	0.074	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.074	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.074	mg/kg	5,800	no	R
2-Methylphenol	0.074	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Bromomethane	0.0051	mg/kg	30	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.074	mg/kg	250,000	no	R

Sample: **B4-012-SB-5**

1,4-Dioxane	0.1	mg/kg	24	no	R
Benzaldehyde	0.07	mg/kg	120,000	no	R
Bromomethane	0.0051	mg/kg	30	no	R

Sample: **B4-013-SB-1**

1,4-Dioxane	0.15	mg/kg	24	no	R
Bromomethane	0.0073	mg/kg	30	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-013-SB-7.5**

1,4-Dioxane	0.079	mg/kg	24	no	R
Benzaldehyde	0.074	mg/kg	120,000	no	R
Bromomethane	0.004	mg/kg	30	no	R

Sample: **B4-014-SB-1**

1,4-Dioxane	0.099	mg/kg	24	no	R
Bromomethane	0.005	mg/kg	30	no	R

Sample: **B4-014-SB-5**

1,4-Dioxane	0.098	mg/kg	24	no	R
Benzaldehyde	0.08	mg/kg	120,000	no	R
Bromomethane	0.0049	mg/kg	30	no	R

Sample: **B4-015-SB-1**

1,4-Dioxane	0.099	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.073	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.073	mg/kg	210	no	R
2,4-Dichlorophenol	0.073	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.073	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.073	mg/kg	5,800	no	R
2-Methylphenol	0.073	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Benzaldehyde	0.073	mg/kg	120,000	no	R
Bromomethane	0.005	mg/kg	30	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.073	mg/kg	250,000	no	R

Sample: **B4-015-SB-5**

1,4-Dioxane	0.1	mg/kg	24	no	R
Benzaldehyde	0.081	mg/kg	120,000	no	R
Bromomethane	0.0052	mg/kg	30	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-016-SB-1**

1,4-Dioxane	0.098	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.073	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.073	mg/kg	210	no	R
2,4-Dichlorophenol	0.073	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.073	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.073	mg/kg	5,800	no	R
2-Methylphenol	0.073	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Benzaldehyde	0.073	mg/kg	120,000	no	R
Bromomethane	0.0049	mg/kg	30	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.073	mg/kg	250,000	no	R

Sample: **B4-016-SB-5**

1,4-Dioxane	0.11	mg/kg	24	no	R
Bromomethane	0.0056	mg/kg	30	no	R
Chromium VI	1.2	mg/kg	6.3	no	R

Sample: **B4-017-SB-1**

1,4-Dioxane	0.098	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.073	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.073	mg/kg	210	no	R
2,4-Dichlorophenol	0.073	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.073	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.073	mg/kg	5,800	no	R
2-Methylphenol	0.073	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Benzaldehyde	0.073	mg/kg	120,000	no	R
Bromomethane	0.0049	mg/kg	30	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-017-SB-1**

Phenol	0.073	mg/kg	250,000	no	R
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Sample: **B4-017-SB-4**

1,1,2,2-Tetrachloroethane	0.0078	mg/kg	2.7	no	R
1,4-Dioxane	0.16	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.09	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.23	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.09	mg/kg	210	no	R
2,4-Dichlorophenol	0.09	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.09	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.23	mg/kg	1,600	no	R
2-Chlorophenol	0.09	mg/kg	5,800	no	R
2-Methylphenol	0.09	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.18	mg/kg	41,000	no	R
Benzaldehyde	0.09	mg/kg	120,000	no	R
Bromomethane	0.0078	mg/kg	30	no	R
Hexachlorocyclopentadiene	0.09	mg/kg	7.5	no	R
Pentachlorophenol	0.23	mg/kg	4	no	R
Phenol	0.09	mg/kg	250,000	no	R

Sample: **B4-018-SB-1**

1,4-Dioxane	0.1	mg/kg	24	no	R
Benzaldehyde	0.074	mg/kg	120,000	no	R
Bromomethane	0.005	mg/kg	30	no	R

Sample: **B4-018-SB-5**

1,4-Dioxane	0.14	mg/kg	24	no	R
Benzaldehyde	0.46	mg/kg	120,000	no	R
Bromomethane	0.0068	mg/kg	30	no	R
Chromium VI	1.4	mg/kg	6.3	no	R

Sample: **B4-019-SB-1**

1,4-Dioxane	0.097	mg/kg	24	no	R
Benzaldehyde	0.075	mg/kg	120,000	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-019-SB-1**

Bromomethane	0.0049	mg/kg	30	no	R
Chromium VI	1.1	mg/kg	6.3	no	R

Sample: **B4-019-SB-5**

1,4-Dioxane	0.13	mg/kg	24	no	R
Bromomethane	0.0065	mg/kg	30	no	R
Chromium VI	1.2	mg/kg	6.3	no	R

Sample: **B4-020-SB-1**

1,4-Dioxane	0.1	mg/kg	24	no	R
Benzaldehyde	0.071	mg/kg	120,000	no	R
Bromomethane	0.0051	mg/kg	30	no	R

Sample: **B4-020-SB-5**

1,4-Dioxane	0.14	mg/kg	24	no	R
Benzaldehyde	0.073	mg/kg	120,000	no	R
Bromomethane	0.0069	mg/kg	30	no	R

Sample: **B4-021-SB-1**

1,4-Dioxane	0.11	mg/kg	24	no	R
2,4-Dinitrophenol	0.19	mg/kg	1,600	no	R
Benzaldehyde	0.074	mg/kg	120,000	no	R
Bromomethane	0.0057	mg/kg	30	no	R
Chromium VI	1.1	mg/kg	6.3	no	R
Hexachlorocyclopentadiene	0.074	mg/kg	7.5	no	R

Sample: **B4-021-SB-5**

1,4-Dioxane	0.12	mg/kg	24	no	R
Benzaldehyde	0.078	mg/kg	120,000	no	R
Bromomethane	0.0062	mg/kg	30	no	R

Sample: **B4-022-SB-1**

1,4-Dioxane	0.12	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.078	mg/kg	25,000	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-022-SB-1**

2,4,5-Trichlorophenol	0.2	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.078	mg/kg	210	no	R
2,4-Dichlorophenol	0.078	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.078	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.2	mg/kg	1,600	no	R
2-Chlorophenol	0.078	mg/kg	5,800	no	R
2-Methylphenol	0.078	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.16	mg/kg	41,000	no	R
Benzaldehyde	0.078	mg/kg	120,000	no	R
Bromomethane	0.006	mg/kg	30	no	R
Pentachlorophenol	0.2	mg/kg	4	no	R
Phenol	0.078	mg/kg	250,000	no	R

Sample: **B4-022-SB-5**

1,4-Dioxane	0.12	mg/kg	24	no	R
Bromomethane	0.0061	mg/kg	30	no	R

Sample: **B4-023-SB-1**

1,4-Dioxane	0.12	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.077	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.19	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.077	mg/kg	210	no	R
2,4-Dichlorophenol	0.077	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.077	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.19	mg/kg	1,600	no	R
2-Chlorophenol	0.077	mg/kg	5,800	no	R
2-Methylphenol	0.077	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Benzaldehyde	0.077	mg/kg	120,000	no	R
Bromomethane	0.0062	mg/kg	30	no	R
Pentachlorophenol	0.19	mg/kg	4	no	R
Phenol	0.077	mg/kg	250,000	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-023-SB-5**

1,4-Dioxane	0.12	mg/kg	24	no	R
Benzaldehyde	0.079	mg/kg	120,000	no	R
Bromomethane	0.0059	mg/kg	30	no	R

Sample: **B4-024-SB-1**

1,4-Dioxane	0.13	mg/kg	24	no	R
Benzaldehyde	0.076	mg/kg	120,000	no	R
Bromomethane	0.0063	mg/kg	30	no	R

Sample: **B4-024-SB-4.5**

1,4-Dioxane	0.09	mg/kg	24	no	R
Benzaldehyde	0.072	mg/kg	120,000	no	R
Bromomethane	0.0045	mg/kg	30	no	R

Sample: **B4-025-SB-1**

1,4-Dioxane	0.11	mg/kg	24	no	R
Benzaldehyde	0.075	mg/kg	120,000	no	R
Bromomethane	0.0053	mg/kg	30	no	R
Mercury	0.11	mg/kg	350	no	R

Sample: **B4-025-SB-5**

1,4-Dioxane	0.16	mg/kg	24	no	R
Benzaldehyde	0.086	mg/kg	120,000	no	R
Bromomethane	0.0079	mg/kg	30	no	R

Sample: **B4-026-SB-1**

1,4-Dioxane	0.099	mg/kg	24	no	R
Benzaldehyde	0.073	mg/kg	120,000	no	R
Bromomethane	0.005	mg/kg	30	no	R

Sample: **B4-026-SB-5**

1,4-Dioxane	0.092	mg/kg	24	no	R
Benzaldehyde	0.075	mg/kg	120,000	no	R
Bromomethane	0.0046	mg/kg	30	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-027-SB-1**

1,4-Dioxane	0.1	mg/kg	24	no	R
Benzaldehyde	0.073	mg/kg	120,000	no	R
Bromomethane	0.005	mg/kg	30	no	R

Sample: **B4-027-SB-5**

1,4-Dioxane	0.11	mg/kg	24	no	R
Benzaldehyde	0.077	mg/kg	120,000	no	R
Bromomethane	0.0057	mg/kg	30	no	R
Chromium VI	1.1	mg/kg	6.3	no	R

Sample: **B4-028-SB-1**

1,4-Dioxane	0.099	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.078	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.2	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.078	mg/kg	210	no	R
2,4-Dichlorophenol	0.078	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.078	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.2	mg/kg	1,600	no	R
2-Chlorophenol	0.078	mg/kg	5,800	no	R
2-Methylphenol	0.078	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.16	mg/kg	41,000	no	R
Benzaldehyde	0.078	mg/kg	120,000	no	R
Bromomethane	0.005	mg/kg	30	no	R
Pentachlorophenol	0.2	mg/kg	4	no	R
Phenol	0.078	mg/kg	250,000	no	R

Sample: **B4-028-SB-4**

1,4-Dioxane	0.12	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.077	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.19	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.077	mg/kg	210	no	R
2,4-Dichlorophenol	0.077	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.077	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.19	mg/kg	1,600	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-028-SB-4**

2-Chlorophenol	0.077	mg/kg	5,800	no	R
2-Methylphenol	0.077	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Bromomethane	0.0059	mg/kg	30	no	R
Pentachlorophenol	0.19	mg/kg	4	no	R
Phenol	0.077	mg/kg	250,000	no	R

Sample: **B4-029-SB-1**

1,4-Dioxane	0.1	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.072	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.072	mg/kg	210	no	R
2,4-Dichlorophenol	0.072	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.072	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.072	mg/kg	5,800	no	R
2-Methylphenol	0.072	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Bromomethane	0.0051	mg/kg	30	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.072	mg/kg	250,000	no	R

Sample: **B4-030-SB-1**

1,4-Dioxane	0.12	mg/kg	24	no	R
Benzaldehyde	0.074	mg/kg	120,000	no	R
Bromomethane	0.0058	mg/kg	30	no	R

Sample: **B4-030-SB-5**

1,4-Dioxane	0.088	mg/kg	24	no	R
Benzaldehyde	0.077	mg/kg	120,000	no	R
Bromomethane	0.0044	mg/kg	30	no	R

Sample: **B4-031-SB-1**

1,4-Dioxane	0.087	mg/kg	24	no	R
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Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-031-SB-1**

Bromomethane	0.0044	mg/kg	30	no	R
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Sample: **B4-031-SB-4**

1,4-Dioxane	0.1	mg/kg	24	no	R
Bromomethane	0.0051	mg/kg	30	no	R

Sample: **B4-032-SB-1**

1,4-Dioxane	0.1	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.074	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.19	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.074	mg/kg	210	no	R
2,4-Dichlorophenol	0.074	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.074	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.19	mg/kg	1,600	no	R
2-Chlorophenol	0.074	mg/kg	5,800	no	R
2-Methylphenol	0.074	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Bromomethane	0.0051	mg/kg	30	no	R
Pentachlorophenol	0.19	mg/kg	4	no	R
Phenol	0.074	mg/kg	250,000	no	R

Sample: **B4-033-SB-1**

1,4-Dioxane	0.091	mg/kg	24	no	R
Benzaldehyde	0.073	mg/kg	120,000	no	R
Bromomethane	0.0046	mg/kg	30	no	R

Sample: **B4-034-SB-1**

1,4-Dioxane	0.098	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.076	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.19	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.076	mg/kg	210	no	R
2,4-Dichlorophenol	0.076	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.076	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.19	mg/kg	1,600	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: *B4-034-SB-1*

2-Chlorophenol	0.076	mg/kg	5,800	no	R
2-Methylphenol	0.076	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Bromomethane	0.0049	mg/kg	30	no	R
Pentachlorophenol	0.19	mg/kg	4	no	R
Phenol	0.076	mg/kg	250,000	no	R

Sample: *B4-035-SB-1*

1,4-Dioxane	0.1	mg/kg	24	no	R
Benzaldehyde	0.083	mg/kg	120,000	no	R
Bromomethane	0.005	mg/kg	30	no	R

Sample: *B4-035-SB-5*

1,4-Dioxane	0.13	mg/kg	24	no	R
Benzaldehyde	0.084	mg/kg	120,000	no	R
Bromomethane	0.0063	mg/kg	30	no	R

Sample: *B4-036-SB-1*

1,4-Dioxane	0.1	mg/kg	24	no	R
Benzaldehyde	0.082	mg/kg	120,000	no	R
Bromomethane	0.0051	mg/kg	30	no	R

Sample: *B4-036-SB-5*

1,4-Dioxane	0.11	mg/kg	24	no	R
Benzaldehyde	0.085	mg/kg	120,000	no	R
Bromomethane	0.0057	mg/kg	30	no	R

Sample: *B4-037-SB-1*

1,4-Dioxane	0.11	mg/kg	24	no	R
Benzaldehyde	0.075	mg/kg	120,000	no	R
Bromomethane	0.0053	mg/kg	30	no	R

Sample: *B4-037-SB-10*

1,4-Dioxane	0.088	mg/kg	24	no	R
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Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-037-SB-10**

Benzaldehyde	0.16	mg/kg	120,000	no	R
Bromomethane	0.0044	mg/kg	30	no	R
Chromium VI	1.2	mg/kg	6.3	no	R

Sample: **B4-037-SB-6**

1,4-Dioxane	0.085	mg/kg	24	no	R
2,4-Dinitrophenol	0.39	mg/kg	1,600	no	R
Benzaldehyde	0.15	mg/kg	120,000	no	R
Bromomethane	0.0042	mg/kg	30	no	R
Chromium VI	1.1	mg/kg	6.3	no	R
Pentachlorophenol	0.39	mg/kg	4	no	R

Sample: **B4-038-SB-1**

1,4-Dioxane	0.11	mg/kg	24	no	R
Bromomethane	0.0054	mg/kg	30	no	R

Sample: **B4-038-SB-10**

1,4-Dioxane	0.088	mg/kg	24	no	R
Benzaldehyde	0.078	mg/kg	120,000	no	R
Bromomethane	0.0044	mg/kg	30	no	R

Sample: **B4-038-SB-5**

1,4-Dioxane	0.096	mg/kg	24	no	R
Benzaldehyde	0.073	mg/kg	120,000	no	R
Bromomethane	0.0048	mg/kg	30	no	R

Sample: **B4-039-SB-1**

1,4-Dioxane	0.094	mg/kg	24	no	R
Benzaldehyde	0.077	mg/kg	120,000	no	R
Bromomethane	0.0047	mg/kg	30	no	R

Sample: **B4-039-SB-5**

1,4-Dioxane	0.13	mg/kg	24	no	R
Bromomethane	0.0064	mg/kg	30	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-040-SB-1**

1,4-Dioxane	0.11	mg/kg	24	no	R
Bromomethane	0.0057	mg/kg	30	no	R

Sample: **B4-040-SB-5**

1,4-Dioxane	0.095	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.077	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.19	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.077	mg/kg	210	no	R
2,4-Dichlorophenol	0.077	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.077	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.19	mg/kg	1,600	no	R
2-Chlorophenol	0.077	mg/kg	5,800	no	R
2-Methylphenol	0.077	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Bromomethane	0.0048	mg/kg	30	no	R
Pentachlorophenol	0.19	mg/kg	4	no	R
Phenol	0.077	mg/kg	250,000	no	R

Sample: **B4-041-SB-1**

1,4-Dioxane	0.097	mg/kg	24	no	R
Benzaldehyde	0.072	mg/kg	120,000	no	R
Bromomethane	0.0048	mg/kg	30	no	R

Sample: **B4-041-SB-4**

1,4-Dioxane	0.12	mg/kg	24	no	R
Benzaldehyde	0.077	mg/kg	120,000	no	R
Bromomethane	0.0062	mg/kg	30	no	R

Sample: **B4-042-SB-1**

1,4-Dioxane	0.14	mg/kg	24	no	R
Benzaldehyde	0.073	mg/kg	120,000	no	R
Bromomethane	0.0071	mg/kg	30	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-042-SB-5**

1,4-Dioxane	0.092	mg/kg	24	no	R
Benzaldehyde	0.069	mg/kg	120,000	no	R
Bromomethane	0.0046	mg/kg	30	no	R

Sample: **B4-043-SB-1**

1,4-Dioxane	0.11	mg/kg	24	no	R
Bromomethane	0.0055	mg/kg	30	no	R

Sample: **B4-043-SB-5**

1,4-Dioxane	0.11	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.077	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.19	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.077	mg/kg	210	no	R
2,4-Dichlorophenol	0.077	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.077	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.19	mg/kg	1,600	no	R
2-Chlorophenol	0.077	mg/kg	5,800	no	R
2-Methylphenol	0.077	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Benzaldehyde	0.077	mg/kg	120,000	no	R
Bromomethane	0.0054	mg/kg	30	no	R
Pentachlorophenol	0.19	mg/kg	4	no	R
Phenol	0.077	mg/kg	250,000	no	R

Sample: **B4-044-SB-1**

1,4-Dioxane	0.12	mg/kg	24	no	R
Benzaldehyde	0.07	mg/kg	120,000	no	R
Bromomethane	0.0061	mg/kg	30	no	R

Sample: **B4-044-SB-4**

1,4-Dioxane	0.16	mg/kg	24	no	R
Bromomethane	0.008	mg/kg	30	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: **B4-045-SB-1**

1,4-Dioxane	0.13	mg/kg	24	no	R
Benzaldehyde	0.074	mg/kg	120,000	no	R
Bromomethane	0.0065	mg/kg	30	no	R

Sample: **B4-045-SB-10**

1,4-Dioxane	0.11	mg/kg	24	no	R
Benzaldehyde	0.073	mg/kg	120,000	no	R
Bromomethane	0.0053	mg/kg	30	no	R
Mercury	0.1	mg/kg	350	no	R

Sample: **B4-045-SB-5**

1,4-Dioxane	0.12	mg/kg	24	no	R
Benzaldehyde	0.072	mg/kg	120,000	no	R
Bromomethane	0.0059	mg/kg	30	no	R
Mercury	0.11	mg/kg	350	no	R

Sample: **B4-046-SB-1**

1,4-Dioxane	0.12	mg/kg	24	no	R
Benzaldehyde	0.071	mg/kg	120,000	no	R
Bromomethane	0.0059	mg/kg	30	no	R

Sample: **B4-046-SB-5**

1,4-Dioxane	0.12	mg/kg	24	no	R
Benzaldehyde	0.072	mg/kg	120,000	no	R
Bromomethane	0.0061	mg/kg	30	no	R

Sample: **B4-047-SB-1**

1,4-Dioxane	0.13	mg/kg	24	no	R
Bromomethane	0.0066	mg/kg	30	no	R

Sample: **B4-047-SB-5**

1,4-Dioxane	0.096	mg/kg	24	no	R
Benzaldehyde	0.076	mg/kg	120,000	no	R
Bromomethane	0.0048	mg/kg	30	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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Sample: *B4-048-SB-1*

1,4-Dioxane	0.14	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.072	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.072	mg/kg	210	no	R
2,4-Dichlorophenol	0.072	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.072	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.072	mg/kg	5,800	no	R
2-Methylphenol	0.072	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Benzaldehyde	0.072	mg/kg	120,000	no	R
Bromomethane	0.0068	mg/kg	30	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.072	mg/kg	250,000	no	R

Sample: *B4-048-SB-10*

1,4-Dioxane	0.11	mg/kg	24	no	R
Benzaldehyde	0.07	mg/kg	120,000	no	R
Bromomethane	0.0054	mg/kg	30	no	R

Sample: *B4-048-SB-5*

1,4-Dioxane	0.11	mg/kg	24	no	R
Benzaldehyde	0.07	mg/kg	120,000	no	R
Bromomethane	0.0055	mg/kg	30	no	R

Sample: *B4-049-SB-1*

1,4-Dioxane	0.098	mg/kg	24	no	R
Benzaldehyde	0.074	mg/kg	120,000	no	R
Bromomethane	0.0049	mg/kg	30	no	R

Sample: *B4-049-SB-4.5*

1,4-Dioxane	0.12	mg/kg	24	no	R
Benzaldehyde	0.076	mg/kg	120,000	no	R
Bromomethane	0.0062	mg/kg	30	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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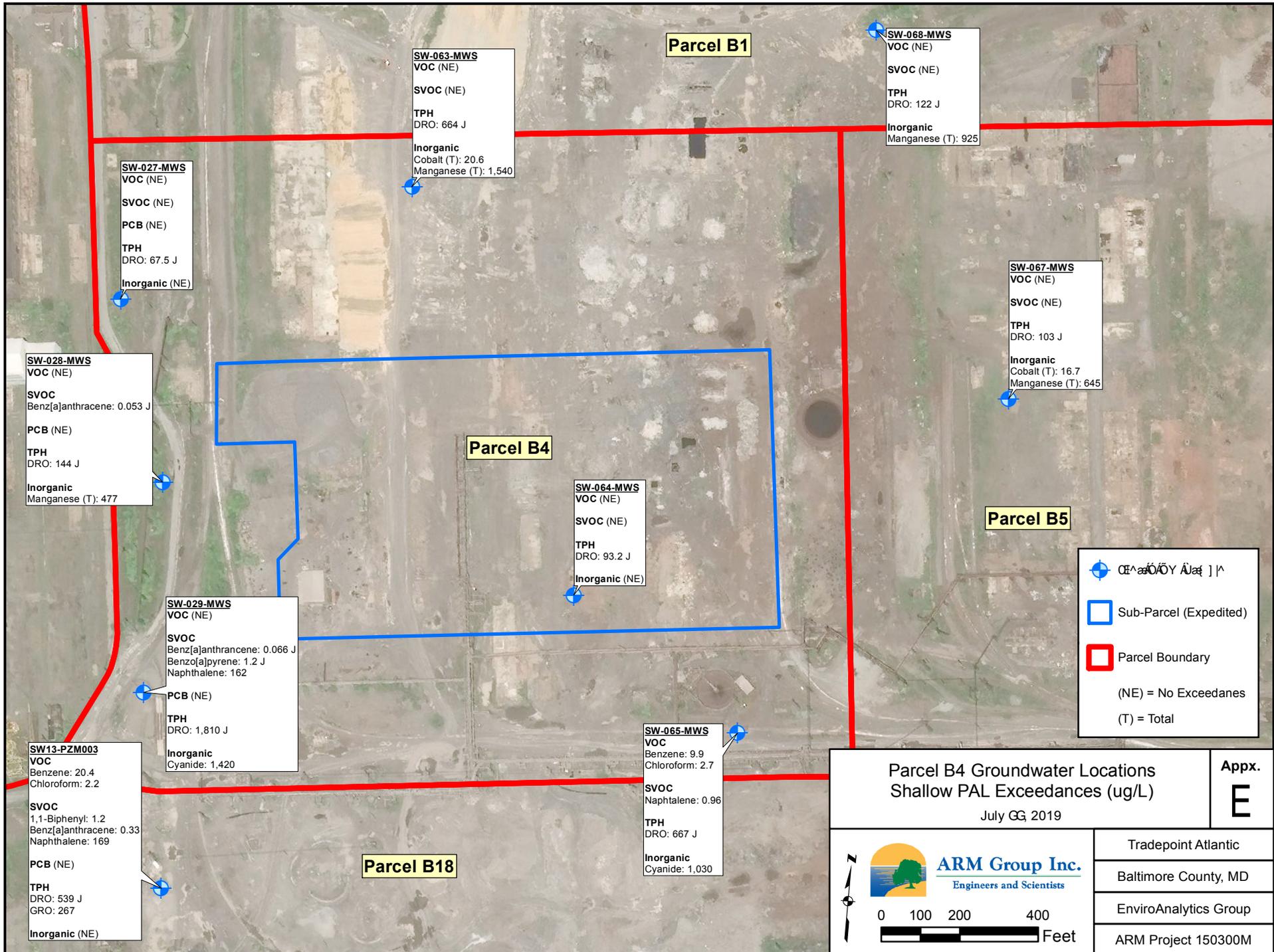
Sample: *B4-050-SB-1*

1,4-Dioxane	0.12	mg/kg	24	no	R
Bromomethane	0.006	mg/kg	30	no	R

Sample: *B4-050-SB-5*

1,4-Dioxane	0.093	mg/kg	24	no	R
Benzaldehyde	0.077	mg/kg	120,000	no	R
Bromomethane	0.0047	mg/kg	30	no	R

APPENDIX E



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EVALUATION OF DATA COMPLETENESS
Percentage of Non-rejected Results vs. Total Results

Parameter	Parameter Group	Matrix	Unit	Number of Results	Detections	Number of Rejected Results	Number of Non-rejected Results	Completeness
1,1,1-Trichloroethane	VOC	Air	ug/m3	3	2	0	3	100.00%
1,1,2,2-Tetrachloroethane	VOC	Air	ug/m3	3	0	0	3	100.00%
1,1,2-Trichloroethane	VOC	Air	ug/m3	3	0	0	3	100.00%
1,1-Dichloroethane	VOC	Air	ug/m3	3	0	0	3	100.00%
1,1-Dichloroethene	VOC	Air	ug/m3	3	0	0	3	100.00%
1,2,3-Trichlorobenzene	VOC	Air	ug/m3	3	3	0	3	100.00%
1,2,4-Trichlorobenzene	VOC	Air	ug/m3	3	0	0	3	100.00%
1,2-Dibromo-3-chloropropane	VOC	Air	ug/m3	3	3	0	3	100.00%
1,2-Dibromoethane	VOC	Air	ug/m3	3	0	0	3	100.00%
1,2-Dichlorobenzene	VOC	Air	ug/m3	3	0	0	3	100.00%
1,2-Dichloroethane	VOC	Air	ug/m3	3	0	0	3	100.00%
1,2-Dichloroethene (Total)	VOC	Air	ug/m3	3	0	0	3	100.00%
1,2-Dichloropropane	VOC	Air	ug/m3	3	0	0	3	100.00%
1,4-Dichlorobenzene	VOC	Air	ug/m3	3	0	0	3	100.00%
1,4-Dioxane	VOC/SVOC	Air	ug/m3	3	0	0	3	100.00%
2-Butanone (MEK)	VOC	Air	ug/m3	3	3	0	3	100.00%
4-Methyl-2-pentanone (MIBK)	VOC	Air	ug/m3	3	3	0	3	100.00%
Acetone	VOC	Air	ug/m3	3	3	0	3	100.00%
Benzene	VOC	Air	ug/m3	3	3	0	3	100.00%
Bromodichloromethane	VOC	Air	ug/m3	3	3	0	3	100.00%
Bromoform	VOC	Air	ug/m3	3	0	0	3	100.00%
Bromomethane	VOC	Air	ug/m3	3	0	0	3	100.00%
Carbon disulfide	VOC	Air	ug/m3	3	3	0	3	100.00%
Carbon tetrachloride	VOC	Air	ug/m3	3	0	0	3	100.00%
Chlorobenzene	VOC	Air	ug/m3	3	0	0	3	100.00%
Chloroethane	VOC	Air	ug/m3	3	0	0	3	100.00%
Chloroform	VOC	Air	ug/m3	3	3	0	3	100.00%
Chloromethane	VOC	Air	ug/m3	3	3	0	3	100.00%
cis-1,2-Dichloroethene	VOC	Air	ug/m3	3	0	0	3	100.00%
cis-1,3-Dichloropropene	VOC	Air	ug/m3	3	0	0	3	100.00%
Dibromochloromethane	VOC	Air	ug/m3	3	0	0	3	100.00%
Ethylbenzene	VOC	Air	ug/m3	3	3	0	3	100.00%
Isopropylbenzene	VOC	Air	ug/m3	3	0	0	3	100.00%
Methyl tert-butyl ether (MTBE)	VOC	Air	ug/m3	3	0	0	3	100.00%
Methylene Chloride	VOC	Air	ug/m3	3	3	0	3	100.00%
Styrene	VOC	Air	ug/m3	3	2	0	3	100.00%
Tetrachloroethene	VOC	Air	ug/m3	3	3	0	3	100.00%
Toluene	VOC	Air	ug/m3	3	3	0	3	100.00%
trans-1,2-Dichloroethene	VOC	Air	ug/m3	3	0	0	3	100.00%
trans-1,3-Dichloropropene	VOC	Air	ug/m3	3	0	0	3	100.00%
Trichloroethene	VOC	Air	ug/m3	3	1	0	3	100.00%
Vinyl chloride	VOC	Air	ug/m3	3	0	0	3	100.00%
Xylenes	VOC	Air	ug/m3	3	3	0	3	100.00%
1,1,1-Trichloroethane	VOC	Soil	mg/kg	99	0	0	99	100.00%
1,1,2,2-Tetrachloroethane	VOC	Soil	mg/kg	99	0	2	97	97.98%
1,1,2-Trichloro-1,2,2-Trifluoroethane	VOC	Soil	mg/kg	99	0	0	99	100.00%
1,1,2-Trichloroethane	VOC	Soil	mg/kg	99	0	0	99	100.00%
1,1-Biphenyl	SVOC	Soil	mg/kg	99	40	0	99	100.00%
1,1-Dichloroethane	VOC	Soil	mg/kg	99	0	0	99	100.00%
1,1-Dichloroethene	VOC	Soil	mg/kg	99	0	0	99	100.00%
1,2,3-Trichlorobenzene	VOC	Soil	mg/kg	99	4	0	99	100.00%
1,2,4,5-Tetrachlorobenzene	SVOC	Soil	mg/kg	99	0	0	99	100.00%
1,2,4-Trichlorobenzene	VOC	Soil	mg/kg	99	3	0	99	100.00%
1,2-Dibromo-3-chloropropane	VOC	Soil	mg/kg	99	0	0	99	100.00%
1,2-Dibromoethane	VOC	Soil	mg/kg	99	0	0	99	100.00%

EVALUATION OF DATA COMPLETENESS
Percentage of Non-rejected Results vs. Total Results

Parameter	Parameter Group	Matrix	Unit	Number of Results	Detections	Number of Rejected Results	Number of Non-rejected Results	Completeness
1,2-Dichlorobenzene	VOC	Soil	mg/kg	99	0	0	99	100.00%
1,2-Dichloroethane	VOC	Soil	mg/kg	99	0	0	99	100.00%
1,2-Dichloroethene (Total)	VOC	Soil	mg/kg	99	0	0	99	100.00%
1,2-Dichloropropane	VOC	Soil	mg/kg	99	0	0	99	100.00%
1,3-Dichlorobenzene	VOC	Soil	mg/kg	99	0	0	99	100.00%
1,4-Dichlorobenzene	VOC	Soil	mg/kg	99	2	0	99	100.00%
1,4-Dioxane	VOC/SVOC	Soil	mg/kg	99	0	99	0	0.00%
2,3,4,6-Tetrachlorophenol	SVOC	Soil	mg/kg	99	0	22	77	77.78%
2,4,5-Trichlorophenol	SVOC	Soil	mg/kg	99	0	22	77	77.78%
2,4,6-Trichlorophenol	SVOC	Soil	mg/kg	99	0	22	77	77.78%
2,4-Dichlorophenol	SVOC	Soil	mg/kg	99	0	22	77	77.78%
2,4-Dimethylphenol	SVOC	Soil	mg/kg	99	2	22	77	77.78%
2,4-Dinitrophenol	SVOC	Soil	mg/kg	99	1	26	73	73.74%
2,4-Dinitrotoluene	SVOC	Soil	mg/kg	99	0	0	99	100.00%
2,6-Dinitrotoluene	SVOC	Soil	mg/kg	99	1	0	99	100.00%
2-Butanone (MEK)	VOC	Soil	mg/kg	99	19	0	99	100.00%
2-Chloronaphthalene	SVOC	Soil	mg/kg	99	0	0	99	100.00%
2-Chlorophenol	SVOC	Soil	mg/kg	99	0	22	77	77.78%
2-Hexanone	VOC	Soil	mg/kg	99	3	0	99	100.00%
2-Methylnaphthalene	SVOC	Soil	mg/kg	99	89	0	99	100.00%
2-Methylphenol	SVOC	Soil	mg/kg	99	2	22	77	77.78%
2-Nitroaniline	SVOC	Soil	mg/kg	99	0	0	99	100.00%
3&4-Methylphenol(m&p Cresol)	SVOC	Soil	mg/kg	99	7	22	77	77.78%
3,3'-Dichlorobenzidine	SVOC	Soil	mg/kg	99	0	0	99	100.00%
4-Chloroaniline	SVOC	Soil	mg/kg	99	1	0	99	100.00%
4-Methyl-2-pentanone (MIBK)	VOC	Soil	mg/kg	99	4	0	99	100.00%
4-Nitroaniline	SVOC	Soil	mg/kg	99	0	0	99	100.00%
Acenaphthene	SVOC	Soil	mg/kg	99	68	0	99	100.00%
Acenaphthylene	SVOC	Soil	mg/kg	99	90	0	99	100.00%
Acetone	VOC	Soil	mg/kg	99	78	0	99	100.00%
Acetophenone	SVOC	Soil	mg/kg	99	25	0	99	100.00%
Aluminum	Metal	Soil	mg/kg	99	99	0	99	100.00%
Anthracene	SVOC	Soil	mg/kg	99	80	0	99	100.00%
Antimony	Metal	Soil	mg/kg	99	1	0	99	100.00%
Aroclor 1016	PCB	Soil	mg/kg	46	0	0	46	100.00%
Aroclor 1221	PCB	Soil	mg/kg	46	1	0	46	100.00%
Aroclor 1232	PCB	Soil	mg/kg	46	0	0	46	100.00%
Aroclor 1242	PCB	Soil	mg/kg	46	1	0	46	100.00%
Aroclor 1248	PCB	Soil	mg/kg	46	6	0	46	100.00%
Aroclor 1254	PCB	Soil	mg/kg	46	15	0	46	100.00%
Aroclor 1260	PCB	Soil	mg/kg	46	18	0	46	100.00%
Aroclor 1262	PCB	Soil	mg/kg	46	0	0	46	100.00%
Aroclor 1268	PCB	Soil	mg/kg	46	2	0	46	100.00%
Arsenic	Metal	Soil	mg/kg	99	81	0	99	100.00%
Barium	Metal	Soil	mg/kg	99	99	0	99	100.00%
Benz[a]anthracene	SVOC	Soil	mg/kg	99	91	0	99	100.00%
Benzaldehyde	SVOC	Soil	mg/kg	99	30	69	30	30.30%
Benzene	VOC	Soil	mg/kg	99	18	0	99	100.00%
Benzo[a]pyrene	SVOC	Soil	mg/kg	99	91	0	99	100.00%
Benzo[b]fluoranthene	SVOC	Soil	mg/kg	99	92	0	99	100.00%
Benzo[g,h,i]perylene	SVOC	Soil	mg/kg	99	87	0	99	100.00%
Benzo[k]fluoranthene	SVOC	Soil	mg/kg	99	92	0	99	100.00%
Beryllium	Metal	Soil	mg/kg	99	60	0	99	100.00%
bis(2-chloroethoxy)methane	SVOC	Soil	mg/kg	99	0	0	99	100.00%
bis(2-Chloroethyl)ether	SVOC	Soil	mg/kg	99	0	0	99	100.00%

EVALUATION OF DATA COMPLETENESS
Percentage of Non-rejected Results vs. Total Results

Parameter	Parameter Group	Matrix	Unit	Number of Results	Detections	Number of Rejected Results	Number of Non-rejected Results	Completeness
bis(2-Chloroisopropyl)ether	SVOC	Soil	mg/kg	99	0	0	99	100.00%
bis(2-Ethylhexyl)phthalate	SVOC	Soil	mg/kg	99	7	0	99	100.00%
Bromodichloromethane	VOC	Soil	mg/kg	99	0	0	99	100.00%
Bromoform	VOC	Soil	mg/kg	99	0	0	99	100.00%
Bromomethane	VOC	Soil	mg/kg	99	0	98	1	1.01%
Cadmium	Metal	Soil	mg/kg	99	51	0	99	100.00%
Caprolactam	SVOC	Soil	mg/kg	99	2	0	99	100.00%
Carbazole	SVOC	Soil	mg/kg	99	43	0	99	100.00%
Carbon disulfide	VOC	Soil	mg/kg	99	0	0	99	100.00%
Carbon tetrachloride	VOC	Soil	mg/kg	99	0	0	99	100.00%
Chlorobenzene	VOC	Soil	mg/kg	99	0	0	99	100.00%
Chloroethane	VOC	Soil	mg/kg	99	0	0	99	100.00%
Chloroform	VOC	Soil	mg/kg	99	1	0	99	100.00%
Chloromethane	VOC	Soil	mg/kg	99	0	0	99	100.00%
Chromium	Metal	Soil	mg/kg	99	99	0	99	100.00%
Chromium VI	Metal	Soil	mg/kg	99	25	8	91	91.92%
Chrysene	SVOC	Soil	mg/kg	99	94	0	99	100.00%
cis-1,2-Dichloroethene	VOC	Soil	mg/kg	99	0	0	99	100.00%
cis-1,3-Dichloropropene	VOC	Soil	mg/kg	99	0	0	99	100.00%
Cobalt	Metal	Soil	mg/kg	99	70	0	99	100.00%
Copper	Metal	Soil	mg/kg	99	96	0	99	100.00%
Cyanide	CN	Soil	mg/kg	99	87	0	99	100.00%
Cyclohexane	VOC	Soil	mg/kg	99	1	0	99	100.00%
Dibenz[a,h]anthracene	SVOC	Soil	mg/kg	99	84	0	99	100.00%
Dibromochloromethane	VOC	Soil	mg/kg	99	0	0	99	100.00%
Dichlorodifluoromethane	VOC	Soil	mg/kg	99	0	0	99	100.00%
Diesel Range Organics	TPH	Soil	mg/kg	99	97	0	99	100.00%
Diethylphthalate	SVOC	Soil	mg/kg	99	0	0	99	100.00%
Di-n-butylphthalate	SVOC	Soil	mg/kg	99	5	0	99	100.00%
Di-n-ocetylphthalate	SVOC	Soil	mg/kg	99	1	0	99	100.00%
Ethylbenzene	VOC	Soil	mg/kg	99	11	0	99	100.00%
Fluoranthene	SVOC	Soil	mg/kg	99	96	0	99	100.00%
Fluorene	SVOC	Soil	mg/kg	99	72	0	99	100.00%
Gasoline Range Organics	TPH	Soil	mg/kg	99	8	0	99	100.00%
Hexachlorobenzene	SVOC	Soil	mg/kg	99	1	0	99	100.00%
Hexachlorobutadiene	SVOC	Soil	mg/kg	99	0	0	99	100.00%
Hexachlorocyclopentadiene	SVOC	Soil	mg/kg	99	0	3	96	96.97%
Hexachloroethane	SVOC	Soil	mg/kg	99	1	0	99	100.00%
Indeno[1,2,3-c,d]pyrene	SVOC	Soil	mg/kg	99	91	0	99	100.00%
Iron	Metal	Soil	mg/kg	99	99	0	99	100.00%
Isophorone	SVOC	Soil	mg/kg	99	0	0	99	100.00%
Isopropylbenzene	VOC	Soil	mg/kg	99	1	0	99	100.00%
Lead	Metal	Soil	mg/kg	99	95	0	99	100.00%
Manganese	Metal	Soil	mg/kg	99	99	0	99	100.00%
Mercury	Metal	Soil	mg/kg	99	82	4	95	95.96%
Methyl Acetate	VOC	Soil	mg/kg	99	2	1	98	98.99%
Methyl tert-butyl ether (MTBE)	VOC	Soil	mg/kg	99	0	0	99	100.00%
Methylene Chloride	VOC	Soil	mg/kg	99	0	0	99	100.00%
Naphthalene	SVOC	Soil	mg/kg	99	83	0	99	100.00%
Nickel	Metal	Soil	mg/kg	99	89	0	99	100.00%
Nitrobenzene	SVOC	Soil	mg/kg	99	1	0	99	100.00%
N-Nitroso-di-n-propylamine	SVOC	Soil	mg/kg	99	0	0	99	100.00%
N-Nitrosodiphenylamine	SVOC	Soil	mg/kg	99	1	0	99	100.00%
PCBs (total)	PCB	Soil	mg/kg	46	25	0	46	100.00%
Pentachlorophenol	SVOC	Soil	mg/kg	99	0	24	75	75.76%

EVALUATION OF DATA COMPLETENESS
Percentage of Non-rejected Results vs. Total Results

Parameter	Parameter Group	Matrix	Unit	Number of Results	Detections	Number of Rejected Results	Number of Non-rejected Results	Completeness
Phenanthrene	SVOC	Soil	mg/kg	99	94	0	99	100.00%
Phenol	SVOC	Soil	mg/kg	99	11	22	77	77.78%
Pyrene	SVOC	Soil	mg/kg	99	98	0	99	100.00%
Selenium	Metal	Soil	mg/kg	99	10	0	99	100.00%
Silver	Metal	Soil	mg/kg	99	25	0	99	100.00%
Styrene	VOC	Soil	mg/kg	99	1	0	99	100.00%
Tetrachloroethene	VOC	Soil	mg/kg	99	0	0	99	100.00%
Thallium	Metal	Soil	mg/kg	99	4	0	99	100.00%
Toluene	VOC	Soil	mg/kg	99	75	0	99	100.00%
trans-1,2-Dichloroethene	VOC	Soil	mg/kg	99	0	0	99	100.00%
trans-1,3-Dichloropropene	VOC	Soil	mg/kg	99	0	0	99	100.00%
Trichloroethene	VOC	Soil	mg/kg	99	0	0	99	100.00%
Trichlorofluoromethane	VOC	Soil	mg/kg	99	0	0	99	100.00%
Vanadium	Metal	Soil	mg/kg	99	99	0	99	100.00%
Vinyl chloride	VOC	Soil	mg/kg	99	0	0	99	100.00%
Xylenes	VOC	Soil	mg/kg	99	10	0	99	100.00%
Zinc	Metal	Soil	mg/kg	99	99	0	99	100.00%

Data validation has been completed for a representative 50% of all samples