

# PHASE II INVESTIGATION REPORT

AREA B: PARCEL B3  
TRADEPOINT ATLANTIC  
SPARROWS POINT, MARYLAND

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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 B3 (the Site). Parcel B3 is comprised of 54.3 acres of the approximately 3,100-acre former steel making facility (**Figure 1**). The Site is bounded to the west by the Plant Garage and a portion of the former residential area that was occupied by mill workers (within Parcel B2), to the north by the Finishing Mills Area and the Hot Strip Mill Area (within Parcel B22 and Parcel B6), to the south by the Blast Furnace Area (within Parcel B5) and the Pennwood Storage Tank Farm (across Sparrows Point Road within Parcel B19), and to the east by the Baltimore County Vehicle Maintenance Shops and Baltimore Fire Academy (across Sparrows Point Road within Parcel B7).

The Phase II Investigation was performed in accordance with procedures outlined in the approved Phase II Investigation Work Plan – Area B: Parcel B3. This Work Plan (Revision 1 dated May 17, 2017) was approved by the Maryland Department of the Environment (MDE) and the United States Environmental Protection Agency (USEPA) on June 6, 2017. This Work Plan was completed 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 the USEPA effective November 25, 2014.

Parcel B3 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 parcel contains several buildings proposed for demolition, including a former Security Building and Offices, former Information Services Building, and former Administrative Building (now under the authority of Tradepoint Atlantic). The Site also contains the main Tradepoint Atlantic Office and the former Roll Grinding Facility (currently occupied by MCM Construction Inc. (MCM)) which may be redeveloped based on future needs of the property.

The Roll Grinding Facility was located within the intact structure to the southwest of the main Tradepoint Atlantic entrance on 7<sup>th</sup> Street. The specific activities completed within the Roll Grinding Facility included maintenance of rolls associated with steel finishing operations. The building remains intact and is currently leased by MCM and used as an office space; MCM equipment is also stored in a large warehouse portion of the building. MCM is currently responsible for cleaning and otherwise improving the structure.

## 1.2. OBJECTIVES

The objective of this Phase II Investigation was to fully characterize the nature and extent of contamination at the Site. 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. A summary table of the site investigation locations, including the boring identification numbers and the analyses performed is provided as **Appendix A**. A human health Screening Level Risk Assessment (SLRA) was prepared to identify constituents and pathways of potential concern and to evaluate the significance of any observed impacts or elevated concentrations with respect to the potential future use of the Site.

As specified in the approved Work Plan for Parcel B3, groundwater at the Site was investigated as described in the separate Area B Groundwater Investigation Work Plan (dated October 6, 2015) and the separate Finishing Mills Groundwater Investigation Work Plan (dated July 7, 2016). The final versions of these Work Plans were approved by the agencies on October 5, 2015 and June 28, 2016, respectively. The Area B Groundwater Phase II Investigation Report (Revision 0 dated September 30, 2016) and the Finishing Mills Groundwater Phase II Investigation Report (Revision 0 dated November 30, 2016) have been submitted to the agencies and discuss the detailed findings of each 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. 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 surface elevations within Parcel B3 range between approximately 4 and 16 feet above mean sea level (amsl) in most areas. The elevations across the Site appear to gradually slope from the north (at an elevation of approximately 14 feet amsl in the vicinity of the main Tradepoint Atlantic Office) to the south (at an elevation of approximately 8 feet amsl near the southern parcel boundary). According to Figure B-2 of the Stormwater Pollution Prevention Plan (SWPPP) Revision 5 dated June 1, 2017, stormwater from the majority of the Site is discharged through the permitted National Pollution Discharge Elimination System (NPDES) Outfalls 016 and 017 to the adjoining surface waters of Jones Creek and Old Road Bay located to the east.

### 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 99% natural soils and 1% fill materials 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 fine-grained sediments (clays and silts) and coarse grained sediments (sands and gravel), with some soil layers identified with non-native fill materials. Non-native fill materials were encountered at depths of up to 5 feet below the ground surface (bgs). The shallow groundwater table was observed in soil borings at depths ranging from 4.5 to 14.5 feet bgs across the Site; however, groundwater was not encountered at every boring location. Soil boring 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 65 soil samples (from 30 boring locations) and seven sub-slab soil gas samples were collected for analysis between May 22, 2017 and July 27, 2017 as part of the Parcel B3 Phase II Investigation. This Phase II Investigation utilized methods and protocols that followed the procedures included in the Quality Assurance Project Plan (QAPP) dated 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 B3 Work Plan dated May 17, 2017, and the QAPP.

All site characterization activities were conducted under the property-wide 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 Geographic Information Systems (GIS) software (ArcMap Version 10.3.1).

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. There were no RECs, SWMUs, or AOCs identified at the Site based on the Phase I ESA or the DCC Report.

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 onto the ground. There were no drip legs identified inside the boundary of Parcel B3. A summary of the specific drawings covering the Site is presented in **Table 1**. Sampling target locations were identified if the historical drawings depicted industrial activities or a specific feature at a location that may have been a source of environmental contamination that potentially impacted the Site.

Based on the review of plant drawings (or based on direct agency guidance), additional non-REC sampling targets were identified at the Site that included the following: Electric Substations, Former #2 Fuel Oil UST, Roll Grinding Facility (and Sanitary Line), and Temporary Stockpile and Laydown Area. 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**. The sampling plan table was extracted directly from the approved Parcel B3 Work Plan. Sample locations were also distributed to fill in large spatial gaps 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 and/or refusal. **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 field shifts.

The density of soil borings met the requirements set forth in QAPP Worksheet 17 – Sampling Design and Rationale. As defined in the Work Plan, Parcel B3 contained a total of 32.6 acres without engineered barriers and 21.7 acres with engineered barriers. Of the 21.7 acres with engineered barriers, 4.0 acres contained current/former building slabs and 17.7 acres consisted of parking/roads. In accordance with the relevant sampling density requirements, a minimum of 22 soil boring locations were required to cover the area without engineered barriers, and a minimum of 8 soil boring locations were required to cover areas with engineered barriers. A total of 30 soil borings were required to meet the density specification; 30 soil borings were completed during this Phase II Investigation.

### 3.2. SOIL INVESTIGATION

Continuous core soil borings were advanced at 30 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 10 and 20 feet bgs using the Geoprobe<sup>®</sup> MC-7 Macrocore soil sampler (surface to 10 feet bgs), the Geoprobe<sup>®</sup> D-22 Dual-Tube Sampler (depths >10 feet bgs). At each boring 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. If clean surface cover materials (such as paving or gravel) were present, the first 1 foot of fine-grained material beneath this layer was collected as the surface sample. 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 above the water table, the sample from the deeper 4 to 5 foot interval was shifted to the alternate depth interval. One additional set of samples was also collected from the 9 to 10

foot depth interval if groundwater had not been encountered. The 10-foot bgs samples may have been held by the laboratory prior to analysis in accordance with the requirements given in the Parcel B3 Work Plan. These project-specific requirements for the analysis of 10-foot bgs samples are further described below. 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.

Each soil sample collected during this investigation was submitted to Pace Analytical Services, Inc. (PACE) for analysis. As stated above, the 10-foot bgs samples may have been held prior to analysis in accordance with the Parcel B3 Work Plan. Excluding these deep samples, the remaining soil samples were analyzed for Target Compound List (TCL) semi-volatile organic compounds (SVOCs) via USEPA Methods 8270D and 8270D SIM, Oil & Grease via USEPA Method 9071, 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 USEPA Methods 6010C and 7471C, hexavalent chromium via USEPA Method 7196A, and cyanide via USEPA Method 9012. Samples from any depth interval with a sustained PID reading of greater than 10 ppm were also analyzed for TCL volatile organic compounds (VOCs) via USEPA Method 8260B. Additionally, the shallow soil samples collected across the Site from the 0 to 1 foot bgs interval were analyzed for polychlorinated biphenyls (PCBs) via USEPA Method 8082. Sample containers, preservatives, and holding times for the sample analyses are listed in the QAPP Worksheet 19 & 30 – Sample Containers, Preservation, and Holding Times.

If the PID reading from the 9 to 10 foot bgs interval was less than 10 ppm (true for all 10-foot bgs samples in Parcel B3), all parameters were held by the laboratory pending the analysis of the 0 to 1 and 4 to 5 foot bgs (or field adjusted interval) samples. If the 9 to 10 foot bgs interval exhibited a sustained PID reading of 10 ppm, this sample would be released to be analyzed for VOCs, SVOCs, TPH-DRO, TPH-GRO, and Oil & Grease. However, the samples for metals and cyanide would still be held by the laboratory pending the analysis of the 0 to 1 and 4 to 5 foot bgs interval samples. If the preliminary laboratory results from the 4 to 5 foot bgs interval indicated exceedances of the Project Action Limits (PALs) for any constituents, the held sample from the 9 to 10 foot bgs interval was then released to be analyzed for those constituents that exhibited PAL exceedances in the overlying sample.

### 3.3. SUB-SLAB SOIL GAS INVESTIGATION

A total of seven temporary vapor monitoring probes were installed at the locations provided on **Figure 4** to collect sub-slab soil gas samples. Three sample locations were completed in the Tradepoint Atlantic Office and four sample locations were completed in the former Roll Grinding Facility (MCM Building). The northern half of the Tradepoint Atlantic Office has a crawl space installed below the floor slab, and this area was not required to be investigated. 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 3 inches in diameter that extended through the concrete floor to facilitate the collection of each sub-slab soil gas sample. A hammer drill was then used to create a borehole that extended through the subgrade and into the soil to a depth of at least 8 inches below the bottom of the floor slab. A 6-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 3-way valve, and clean sand was added around the implant to create a permeable layer that extended at least 2 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 sub-slab 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 3-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 a 24-hour intake time was attached to the

tubing. The sub-slab soil gas sample was then collected over a period of 24 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 TCL-VOCs via USEPA Method TO-15.

### **3.4. 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 the installation of soil borings;
- decontamination fluids; and
- used personal protective equipment

Following the completion of field activities, composite samples were gathered with aliquots from each of the Parcel B3 Phase II IDW soil drums for waste characterization. Following the analysis of each sample, the waste soil was characterized as non-hazardous. A list of all results from the soil waste characterization procedure can be found in **Table 3**. IDW drums containing aqueous materials (including aqueous waste generated during the Parcel B3 Phase II Investigation) were characterized by preparing composite samples from randomly selected drums. Each composite sample included aliquots from several individual drums that were chosen as a subset of the aqueous drums being staged on-site at the date of collection. Following the analysis of each sample, the aqueous waste was characterized as non-hazardous. A list of all results from the aqueous waste characterization procedure can be found in **Table 4**.

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/Oil & Grease) to determine 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 **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 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, any exceedances for PAHs would be based on the adjusted PALs rather than those presented in the QAPP. There were no SVOCs detected above their respective PALs.

Shallow soil samples collected across the Site from the 0 to 1 foot bgs interval were analyzed for PCBs. **Table 5** provides a summary of the PCBs detected above the laboratory's MDLs. There were no PCBs detected above their respective PALs.

**Table 5** provides a summary of the Oil & Grease and TPH-DRO/GRO detections above the laboratory's MDLs in the soil samples collected from across the Site. There were no exceedances of the TPH/Oil & Grease PAL (6,200 mg/kg). In addition, during the completion of the soil borings in Parcel B3, each soil core was screened for evidence of possible non-aqueous phase liquid (NAPL) contamination. None of the soil cores were identified with evidence of possible 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. One inorganic compound (arsenic) was detected above its applicable PAL. Arsenic exceeded the PAL (3 mg/kg) in 54 total soil samples, with a maximum detection of 20.3 mg/kg in sample B3-006-SB-4. Arsenic had a detection frequency of 94% in Parcel B3. The inorganic PAL exceedance locations and results have been provided on **Figure 5**.

#### 4.1.3. Soil Conditions: Results Summary

**Table 5** and **Table 6** provide a summary of the detected organic and inorganic compounds in the soil samples submitted for laboratory analysis, and **Figure 5** presents a summary of the soil sample results that exceeded the PALs. **Table 7** indicates which soil impacts (PAL exceedances of arsenic only) are associated with the specific targets listed in the Parcel B3 Work Plan. There were no detections of VOCs, SVOCs, PCBs, or TPH/Oil & Grease above the applicable PALs, and these compounds are not considered to be significant contaminants in Parcel B3. Exceedances of the PALs in soil were limited to one inorganic constituent (arsenic). The soil analytical results are further evaluated in the SLRA provided in Section 6.0.

### 4.2. GROUNDWATER CONDITIONS – AREA B AND FINISHING MILLS INVESTIGATIONS

As specified in the approved Parcel B3 Work Plan, groundwater at the Site was investigated as described in the separate Area B Groundwater Investigation Work Plan (dated October 6, 2015) and the separate Finishing Mills Groundwater Investigation Work Plan (dated July 7, 2016). The Area B Groundwater Phase II Investigation Report (Revision 0 dated September 30, 2016) and the Finishing Mills Groundwater Phase II Investigation Report (Revision 0 dated November 30, 2016) have been submitted to discuss the detailed findings of these groundwater investigations. Groundwater results obtained during the separate investigations were screening 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 investigations, including detection summary tables and exceedance figures, were provided in the respective Phase II Investigation Reports. A figure summarizing the shallow aqueous PAL exceedances (for all classes of compounds) in the vicinity of Parcel B3 is provided in **Appendix E**. The groundwater analytical results obtained from the intermediate and lower hydrogeologic zones can be reviewed in the separate groundwater reports.

Regarding the shallow groundwater exceedances, some of the PALs have been updated since the submission of the Area B Groundwater Phase II Investigation Report and the Finishing Mills 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 B3 consisted of one VOC (benzene), two SVOCs (naphthalene and pentachlorophenol), three total/dissolved metals (cobalt, manganese, and hexavalent chromium), 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. As an exception, the result for dissolved hexavalent chromium is shown at location FM-015-PZS because this location was resampled due to suspect results for total hexavalent chromium (as described in detail within the Finishing Mills Groundwater Phase II Investigation Report).

Each permanent well or temporary groundwater sample collection point sampled during the Area B Groundwater Investigation or the Finishing Mills 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 groundwater sample points completed under either investigation.

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. There were no potential VI risks/hazards identified from the shallow groundwater sampling points located in the vicinity of Parcel B3. Total cyanide had previously been identified as a potential VI hazard in the Area B Groundwater Phase II Investigation Report at location SW-055-MWS, but the screening level for cyanide has since been adjusted upward by the USEPA, eliminating this concern.

#### 4.3. SUB-SLAB SOIL GAS CONDITIONS

The detected VOCs in sub-slab soil gas are summarized and compared to the PALs in the attached **Table 8**. While there were VOCs detected, none of the detections exceeded the PALs for any respective compound in any of the sub-slab soil gas samples submitted for analysis. These results indicate that potential impacts by VOCs below the building slabs appear to be minimal, and there is an apparent insignificant risk for vapor intrusion due to VOCs. The laboratory 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.

## 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, metals, cyanide, Oil & Grease, 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 control (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 QC samples were submitted for analysis to support the data validation:

- Trip Blank – at a rate of one per cooler with VOC samples
  - Soil – VOCs only
- Blind Field Duplicate – at a rate of one per twenty samples
  - Soil – VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, Oil & Grease, PCBs, hexavalent chromium, and cyanide
  - Air – VOCs only
- Matrix Spike/Matrix Spike Duplicate – at a rate of one per twenty samples
  - Soil – VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, Oil & Grease, 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, Oil & Grease, hexavalent chromium, and cyanide
  - Air – VOCs only

The 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 PID calibration log has been provided in **Appendix C**.

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). The DVRs provided by EDQI have been included as electronic attachments.

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 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.

The PACE-Greensburg (PA) laboratory facility implements quality assurance and reporting requirements through the TNI certification program with the State of Pennsylvania; which is accepted by Maryland. Since late-January 2017, these requirements include the flagging of contaminants with a “B” qualifier when an analyte is detected in an associated laboratory method blank, regardless of the level of the contaminant detected in the sample. A method blank is analyzed at a rate of one blank for each 20 sample analytical batch. The USEPA has previously specified that results flagged with the “B” qualifier do not represent legitimate detections. They have also specified that results flagged with a “JB” qualifier are invalid, and any such results should be revised to display the “B” qualifier only.

Although elevated sample results may be “B” qualified by the laboratory as non-detects due to low-level blank detections, EDQI corrects any erroneous “B” qualifiers during the data validation procedure to avoid under-reporting analytical detections. EDQI removes the “B” qualifiers for relevant samples according to the guidance given in the table below. Therefore, a

result originally flagged with a “B” qualifier in the laboratory certificate may be reported as a legitimate detection without this qualifier. Likewise, a result originally flagged with a “JB” qualifier in the laboratory certificate may be reported as a “J” qualifier if the erroneous “B” qualifier can be eliminated, but would be reported as a “B” qualified non-detect result if the original “B” qualifier is legitimate.

Blank Result	Sample Result	Qualifying Action
Result less than RL	Result less than RL	Result is Qualified "B"
	Result greater than RL	Remove "B"
Result greater than RL	Result less than Blank Result	Result is Qualified "B"
	Result greater than Blank Result	Remove "B"

RL = Reporting Limit

As directed by EDQI, ARM has reviewed all non-validated laboratory reports (those which were not designated to be reviewed by EDQI), and applied the same validation corrections to any relevant “B” or “JB” qualified results. This review of the non-validated data ensures that any elevated detections of parameters, including those which may exceed the PALs, are not mistakenly reported as non-detect values simply because they did not undergo the formal validation procedure by EDQI. 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. A list of the analytical soil results that were rejected during data validation is provided as **Table 9**. There were no rejected

analytical results from the sub-slab soil gas validated dataset, so an additional table is not warranted. 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 significant 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.

Only one analyte (1,4-dioxane) did not meet the completeness goal of 90% for soils in Parcel B3. The rejection of the soil results for 1,4-dioxane has not been uncommon for data obtained from the Tradepoint Atlantic property. There were no detections of 1,4-dioxane above the laboratory MDL (among the validated or non-validated data). Based on the infrequency of soil detections, 1,4-dioxane is not considered to be a significant data gap. Overall, the soil data can be used as intended. There were no rejected results among the validated sub-slab soil gas dataset, and the analytical data from this site media can be used as intended.

## 6.0 HUMAN HEALTH SCREENING LEVEL RISK ASSESSMENT (SLRA)

### 6.1. ANALYSIS PROCESS

A human health Screening Level Risk Assessment (SLRA) has been conducted for soils to further evaluate the Site conditions in support of the design of necessary response measures. The SLRA included the following evaluation process:

**Identification of Exposure Units (EUs):** Parcel B3 (54.3 ac) consisted of a single EU including the entire Site.

**Identification of Constituents of Potential Concern (COPCs):** Compounds that are present at concentrations at or above the USEPA RSLs set at a target cancer risk of  $1E-6$  or target non-cancer Hazard Quotient (HQ) of 0.1 were identified as COPCs to be included in the SLRA. A COPC screening analysis is provided in **Table 10** to identify compounds above the relevant screening levels in Parcel B3.

**Exposure Point Concentrations (EPCs):** The COPC soil results for the site-wide EU were divided into surface (0 to 1 foot) and subsurface (>1 foot) depths for estimation of potential EPCs. An evaluation of pooled surface and subsurface soil data was also performed for the EU. Thus, for Parcel B3 there are three soil datasets. A statistical analysis was performed for each COPC dataset using the ProUCL software (version 5.0) developed by the USEPA to determine representative reasonable maximum exposure (RME) values for the EPC for each constituent. The RME value is typically the 95% Upper Confidence Limit (UCL) of the mean. For lead, the arithmetic mean for each depth was calculated for comparison to the Adult Lead Model (ALM)-based values, and any individual results exceeding 10,000 mg/kg would be delineated for possible excavation and removal (if applicable). For PCBs, all results equaling or exceeding 50 mg/kg would be delineated for excavation and removal (if applicable).

**Risk Ratios:** The surface soil EPCs, subsurface soil EPCs, and pooled soil EPCs were compared to the USEPA RSLs for the Composite Industrial Worker and to site-specific Soil Screening Levels (SSLs) for the Construction Worker based on equation derived in the USEPA Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites (OSWER 9355.4-24, December 2002). For the Construction Worker scenario, a baseline scenario was evaluated using the default exposure frequency of 250 work days (1 year construction period) for potential future risk. Risk ratios were calculated with a cancer risk of  $1E-6$  and a non-cancer HQ of 1. The risk ratios for the carcinogens were summed to develop a screening level estimate of the baseline cumulative cancer risk. The risk ratios for the non-carcinogens were segregated and summed by target organ to develop a screening level estimate of the baseline cumulative non-cancer hazard. There

is no potential for exposure to groundwater for a Composite Worker since groundwater is not used on the Tradepoint Atlantic property (and is not proposed to be utilized).

**Assessment of Lead:** For lead, the arithmetic mean concentrations for surface soils, subsurface soils, and pooled soils for the site-wide EU were compared to the applicable RSL (800 mg/kg) as an initial screening. If the mean concentrations for the EU were below the applicable RSL, the EU was identified as requiring no further action for lead. If a mean concentration exceeded the RSL, the mean values were compared to calculated ALM values (ALM Version dated 6/21/2009 updated with the 5/17/2017 OLEM Directive) with inputs of 1.8 for the geometric standard deviation and a blood baseline lead level of 0.6 ug/dL. The ALM calculation generates a soil lead concentration of 2,518 mg/kg, which is the most conservative (i.e., lowest) concentration which would yield a probability of 5% of a blood lead concentration of 10 ug/dL. If the arithmetic mean concentrations for the EU were below 2,518 mg/kg, the EU was identified as requiring no further action for lead. The lead averages and ALM screening levels are presented for surface, subsurface, and pooled soils in **Table 11**. For lead, any results equaling or exceeding 10,000 mg/kg would be identified to be delineated for possible excavation and removal (if applicable).

**Assessment of TPH-DRO/GRO and Oil & Grease:** EPCs were not calculated for TPH-DRO/GRO or Oil & Grease. Instead, the individual results were compared to the PAL set to a HQ of 1 (6,200 mg/kg). There were no analytical TPH/Oil & Grease PAL exceedances or evidence of NAPL in any soil cores throughout the Site.

**Risk Characterization Approach:** For the site-wide EU, if the baseline risk ratio for each non-carcinogenic COPC or cumulative target organ does not exceed 1 (with the exception of lead) and the sum of the risk ratios for the carcinogenic COPCs does not exceed a cumulative cancer risk of 1E-5 for Composite Worker and Construction Worker exposures to surface and subsurface soils, then a no further action determination will be recommended. Pooled soil data has also been evaluated and included for discussion.

If the baseline estimate of cumulative cancer risk exceeds 1E-5, but is less than or equal to 1E-4, then capping of the EU will be considered to be an acceptable remedy for the Composite Worker. For the Construction Worker, cumulative cancer risks exceeding 1E-5, but less than or equal to 1E-4, will be mitigated via site-specific health and safety requirements. The efficacy of capping for elevated non-cancer hazard will be evaluated in terms of the magnitude of the exceedance and other factors such as bioavailability of the COPC. Similarly, for lead, if the ALM results indicate that the mean concentrations would present a 5% to 10% probability of a blood concentration of 10 ug/dL for the EU, then capping of the EU would be an acceptable presumptive remedy. The mean soil lead concentrations corresponding to ALM probabilities of 5% and 10% are 2,518 mg/kg, and

3,216 mg/kg, respectively. If capping of the identified area is not proposed, additional more detailed quantitative evaluation of risk will be required for the EU. This supplemental risk evaluation may include a selective removal (excavation) remedy to reduce site-wide risks/hazards to acceptable levels.

The USEPA's acceptable risk range is between 1E-6 and 1E-4. If the sum of the risk ratios for carcinogens exceeds a cumulative cancer risk of 1E-4, further analysis of site conditions will be required including the consideration of toxicity reduction in any proposal for a remedy. The magnitude of non-carcinogen hazard exceedances and bioavailability of the COPC will also dictate further analysis of site conditions including consideration of toxicity reduction in any proposal for a remedy. In addition, if the ALM indicates that the mean concentrations would present a >10% probability of a blood concentration of 10 ug/dL for the EU, further analysis of site conditions including toxicity reduction will be completed such that the probability would be reduced to less than 10% after toxicity reduction, but before capping.

## 6.2. PARCEL B3 SLRA RESULTS AND RISK CHARACTERIZATION

Soil data were divided into three datasets (surface, subsurface, and pooled) for the site-wide EU to evaluate potential current and future exposure scenarios. The current Composite Worker will be exposed only to surface soils. However, if construction activities in the future were to result in the placement of subsurface material over existing surface soils, a future Composite Worker could be exposed to a mixture of surface and subsurface soils. The Construction Worker may be exposed only to surface soils, but subsurface soils would be encountered for development activities that involve soil disturbances such as excavations or other intrusive earth-moving activities. The pooled data may be applicable for development work that involves disturbances through the surface soil, since workers would likely not be exposed solely to the subsurface soil.

If the detection frequency of an analyte is less than 5% in a dataset with a minimum of 20 samples, the COPC can be eliminated from the risk assessment assuming the detections are not extremely high (based on agency discretion). A single detection that is extremely high could require delineation rather than elimination. No analyte designated as a COPC in Parcel B3 had a detection frequency less than 5%; thus, no COPCs were removed due to low detection frequencies. All COPCs identified in **Table 10** have been retained for the risk assessment.

EPCs were calculated for each soil dataset (i.e., surface, subsurface, and pooled surface/subsurface) in the site-wide EU. ProUCL output tables (with computed UCLs) derived from the data for each COPC in soils are provided as electronic attachments, with computations presented and EPCs calculated for COPCs within each of the three datasets. The ProUCL input tables are also included as electronic attachments. The results were evaluated to identify any samples that may require additional assessment or special management based on the risk characterization approach. The calculated site-wide EPCs for the surface and subsurface

exposure scenarios are provided in **Table 12**. The supplemental EPCs generated from the pooled surface and subsurface soils are also included in the EPC table. These EPCs were used for both the Composite Worker and Construction Worker risk assessments.

As indicated above, the EPCs for lead are the average (i.e., arithmetic mean) values for each dataset. A lead evaluation spreadsheet, providing the computations used to determine lead averages for each dataset in the site-wide EU, is also included as an electronic attachment. The average lead concentrations are presented for each dataset in **Table 11**, which indicates that neither surface, subsurface, nor pooled soils exceeded an average lead value of 800 mg/kg. The screening criterion for lead was set at an EU arithmetic mean of 800 mg/kg based on the RSL, with a secondary limit of 2,518 mg/kg based on the May 2017 updated ALM developed by the USEPA (corresponding to a 5% probability of a blood lead level of 10 ug/dL). There were no locations where detections of lead exceeded 10,000 mg/kg, the designated threshold at which delineation would be required.

None of the detections of PCBs exceeded the mandatory excavation criterion of 50 mg/kg.

**Composite Worker Assessment:**

Risk ratios for the estimates of potential EPCs for the Composite Worker scenario are shown in **Table 13** (surface), **Table 14** (subsurface), and **Table 15** (pooled surface and subsurface soils). The results are summarized as follows:

Worker Scenario	Medium	Hazard Index (>1)	Total Cancer Risk
Composite Worker	Surface Soil	none	2E-6
	Subsurface Soil	none	3E-6
	Surface & Subsurface Soil	none	2E-6

The current Composite Worker will be exposed only to surface soils. The risk ratios indicated that the cumulative cancer risk for a potential Composite Worker exposure to surface soils was less than the acceptable limit for no further action (1E-5) in the site-wide EU. When the non-cancer risks were segregated and summed by target organ for cumulative Hazard Index (HI), no target organ exceeded a cumulative HI of 1 in surface soils in the EU.

Future construction activities were assumed to result in the placement of subsurface material over existing surface soils exposing a future Composite Worker to a mixture of surface and subsurface soils. This exposure scenario is dependent on any future development proposed for the parcel. The risk ratios indicated that the cumulative cancer risks for the Composite Worker scenario were less than 1E-5 (the acceptable level for no further action) in the site-wide EU for both subsurface soils and pooled soils. When the non-cancer risks were segregated and summed by target organ, no target organ exceeded a cumulative HI of 1 in subsurface or pooled soils.

The calculated total cancer risks and cumulative non-cancer hazards for potential Composite Worker exposures to surface, subsurface, and pooled soils did not exceed the regulatory standards identified in the SLRA Risk Characterization Approach. Based on this assessment, the current/future risks to a Composite Worker are acceptable with no further action. The Site is suitable for occupancy and use by Composite Workers without special land-use considerations or corrective remedies to be implemented in a Response and Development Work Plan.

**Construction Worker Assessment:**

Risk ratios for the estimates of potential EPCs for the Construction Worker scenario (250-day baseline exposure frequency) are shown in **Table 16** (surface), **Table 17** (subsurface), and **Table 18** (pooled surface and subsurface soils). The variables entered for calculation of site-specific SSLs (EU area, input assumptions, and exposure frequency) are indicated as notes on the tables. The spreadsheet used for computation of the site-specific 250-day Construction Worker SSLs is included as **Appendix H**. The results are summarized as follows:

<b>Worker Scenario</b>	<b>Medium</b>	<b>Hazard Index (&gt;1)</b>	<b>Total Cancer Risk</b>
Construction Worker	Surface Soil	none	4E-7
	Subsurface Soil	none	5E-7
	Surface & Subsurface Soil	none	5E-7

The Construction Worker may be exposed to only surface soils or a combination of surface and subsurface soils (i.e. pooled) during future excavation or other earth moving activities. Using the baseline 250-day exposure duration, the screening level estimates of Construction Worker cancer risk for exposures to surface soils, subsurface soils, and pooled soils the site-wide EU were all less than the acceptable carcinogenic risk level of 1E-5. In addition, no elevated non-cancer hazards above the HI of 1 were calculated for any target organ for surface soils, subsurface soils, or pooled soils. Based on the baseline Construction Worker risk assessment, there are no potentially unacceptable risks/hazards resulting from exposures to existing on-site soils using default exposure assumptions. Therefore, no institutional controls or site-specific health and safety requirements are necessary for protection of future Construction Workers in Parcel B3.

## 7.0 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 Phase II Investigation, a total of 65 soil samples (all locations/depths) and seven sub-slab soil gas samples were collected and analyzed to define the nature and extent of contamination in Parcel B3. 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, Oil & Grease, TPH-DRO/GRO, TAL-Metals, hexavalent chromium, and cyanide. Shallow soil samples (0 to 1 foot bgs) were additionally analyzed for PCBs. Sub-slab soil gas samples were analyzed for TCL-VOCs.

### 7.1. 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 and PCB concentrations are well below the levels that would warrant evaluation of a removal remedy. The average lead concentrations in the surface, subsurface, and pooled (surface and subsurface) soils are below the 800 mg/kg RSL, indicating that further action is not needed with respect to lead. In addition, there were no locations where detections of lead exceeded 10,000 mg/kg, the designated threshold at which delineation would be required. There were no concentrations of total PCBs identified in Parcel B3 above the mandatory delineation criterion of 50 mg/kg, indicating that further action is not needed.

There were no soil PAL exceedances of VOCs, SVOCs PCBs, or TPH/Oil & Grease, indicating that these analytes are not significant contaminants in soil at the Site. Exceedances of the PALs in soil within Parcel B3 were limited to a single inorganic constituent: arsenic. Arsenic was detected in 94% of the soil samples analyzed for this compound (with 54 total PAL exceedances). The maximum detection of arsenic was 20.3 mg/kg in sample B3-006-SB-4.

As stated above, there were no elevated detections of TPH/Oil & Grease above the soil PAL throughout the parcel. The maximum detections of DRO, GRO, and Oil & Grease were 237 mg/kg (B3-025-SB-1), 8.4 mg/kg (B3-005-SB-1), and 4,260 mg/kg (B3-028-SB-1), respectively. There is a low potential for mobile NAPL to be present in Parcel B3 due to the low analytical detections and lack of physical evidence of NAPL in the soil cores throughout the Site.

### 7.2. SUB-SLAB SOIL GAS

The nature and extent of constituents in sub-slab soil gas have been adequately characterized by the Phase II Investigation. The sub-slab samples collected during the investigation of the former Roll Grinding Facility (MCM Building) and the Tradepoint Atlantic Office did not contain any

VOC compounds that exceeded their specified PALs. Further investigation is not recommended based on the documentation of minimal impacts below the building slabs, and the apparent insignificant risk for vapor intrusion.

### 7.3. HUMAN HEALTH SCREENING LEVEL RISK ASSESSMENT

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. Findings from the Area B Groundwater Investigation and the Finishing Mills Groundwater Investigation, which include the groundwater data obtained within and surrounding Parcel B3, are presented in the Area B Groundwater Phase II Investigation Report (Revision 0) dated September 30, 2016, and the Finishing Mills Groundwater Phase II Investigation Report (Revision 0) dated November 30, 2016, both of which were 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 within, or in close proximity to, Parcel B3. The separate Area B Groundwater Phase II Investigation Report and the Finishing Mills Groundwater Phase II Investigation Report both included a screening level VI evaluation to determine whether any cumulative (or individual) sample results exceeded the USEPA VI TCR (carcinogen) or THQ (non-carcinogen) Screening Levels. There were no potential VI risks/hazards identified from the groundwater sampling points located in the vicinity of Parcel B3. Total cyanide had previously been identified as a potential VI hazard at location SW-055-MWS, but the screening level for cyanide has since been adjusted upward by the USEPA, eliminating this concern.

The current Composite Worker could potentially be exposed to surface soils at the Site. Future development of the Site could potentially lead to Composite Worker exposures to subsurface soils. The risk ratios indicated that the cumulative cancer risks for the Composite Worker scenario were less than  $1E-5$  for both surface and subsurface soils (equal to the target benchmark) in the site-wide EU. A non-cancer cumulative HI of 1 was not exceeded for any target organ system evaluated for Composite Worker exposures to surface or subsurface soils in the site-wide EU. Since the cumulative HI values did not exceed 1 for any target organ and the estimates of cumulative cancer risk did not exceed  $1E-5$ , no additional action is required to address potential risks to a Composite Worker who may be exposed to soils at the Site in its current condition. The Site is suitable for occupancy and use by a Composite Worker without special land-use considerations or corrective measures.

The Construction Worker risk assessment for a potential default baseline exposure (250 work days) indicated that the cumulative cancer risks were below the acceptable criterion for no further action ( $1E-5$ ) for both surface and subsurface soils in the site-wide EU. In addition, no elevated non-cancer hazards above the HI of 1 were calculated for any target organ evaluated for surface or subsurface soils in the site-wide EU. Therefore, the risk assessment indicates there is no action necessary for protection of Construction Workers if a construction project is proposed for the property in the future.

#### 7.4. RECOMMENDATIONS

Sufficient remedial investigation data has been collected to present this evaluation of the nature and extent of possible constituents of concern in Parcel B3. The presence and absence of soil and sub-slab soil gas impacts within Parcel B3 have been adequately described and further investigation is not warranted. Based on the evaluation of risk presented in the SLRA, the Site is suitable for use by Composite Workers; remedial action is not required to support occupancy and use of the parcel in its current condition. Recommendations for the parcel are as follows:

- The SLRA presented in this Phase II Investigation Report evaluated the baseline risks for potential Composite Workers for an industrial use scenario. Therefore, unless additional assessment of risk to other potential receptors is conducted as part of a Response and Development Work Plan, the future use of the parcel should be restricted as follows:
  - Deed restriction for industrial Site use only; no portion of the Site should be used for commercial/recreational or residential purposes. A supplemental SLRA in a project-specific Response and Development Work Plan would be required prior to non-industrial use of any portion of the Site.
  - Deed restriction on groundwater use; no subsurface water or groundwater should be extracted from aquifers for any purpose.
- Based on the baseline Composite Worker and Construction Worker SLRA, there are no potentially unacceptable risks/hazards resulting from potential exposures to existing on-site soils. The Site is suitable for occupancy and use by Composite Workers without special land-use considerations or corrective measures. No institutional controls or site-specific health and safety requirements are necessary for protection of future Construction Workers. On behalf of EAG and Tradepoint Atlantic, ARM respectfully requests the issuance of a No Further Action (NFA) Letter for the Site.

## 8.0 REFERENCES

- ARM Group Inc. (2016). *Area B Groundwater Phase II Investigation Report*. Revision 0. September 30, 2016.
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## **FIGURES**

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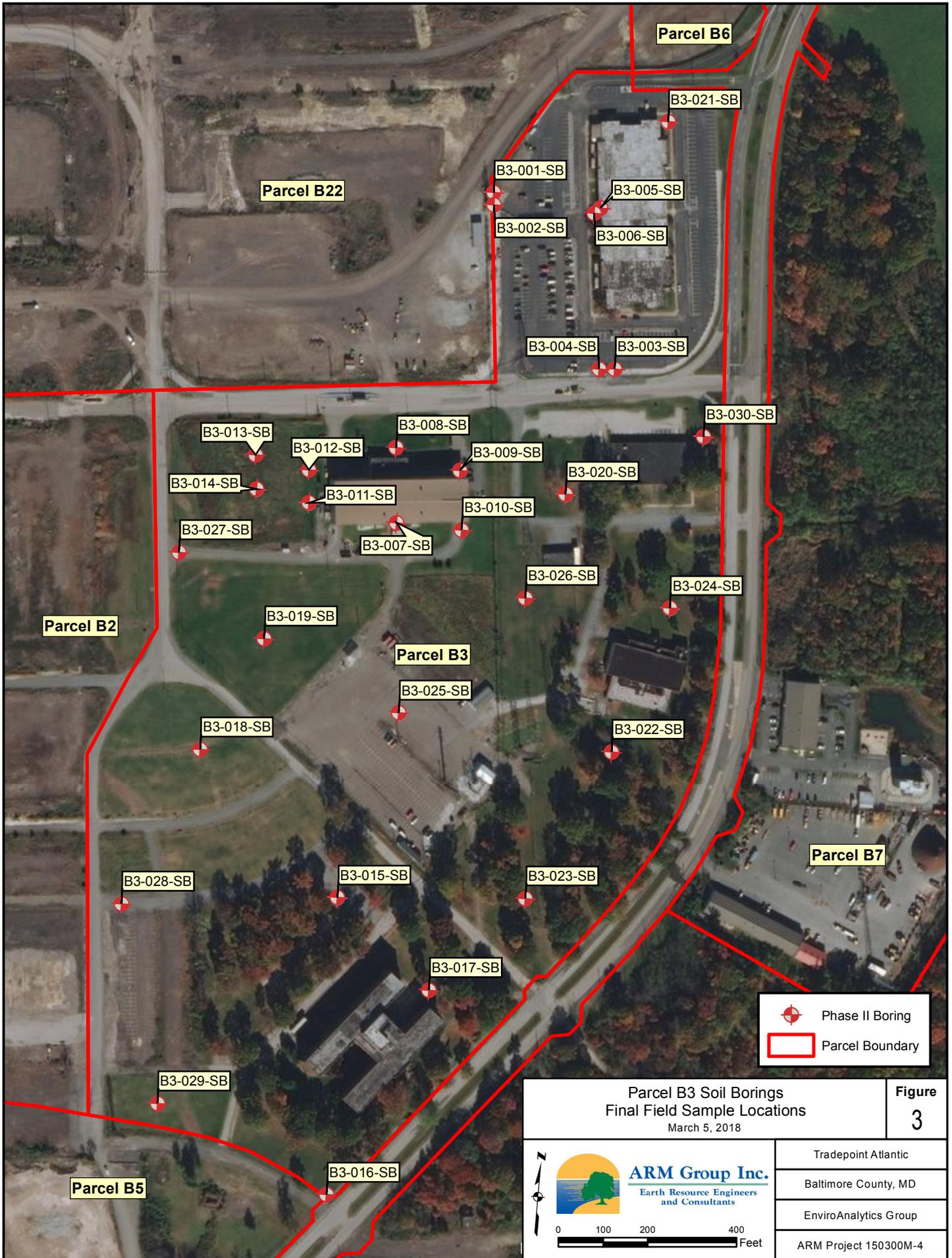
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Site Boundary  
 Parcel Boundaries  
 Private Property

<b>Tradepoint Atlantic</b> <b>Area A and Area B Parcels</b> March 1, 2018		<b>Figure</b> <span style="font-size: 2em; font-weight: bold;">1</span>
 	 <b>ARM Group Inc.</b> Earth Resource Engineers and Consultants	Tradepoint Atlantic Baltimore County, MD EnviroAnalytics Group
	Area A: Project 150298M Area B: Project 150300M Development: Project 160443M	





 Phase II Boring  
 Parcel Boundary

**Parcel B3 Soil Borings**  
**Final Field Sample Locations**  
 March 5, 2018

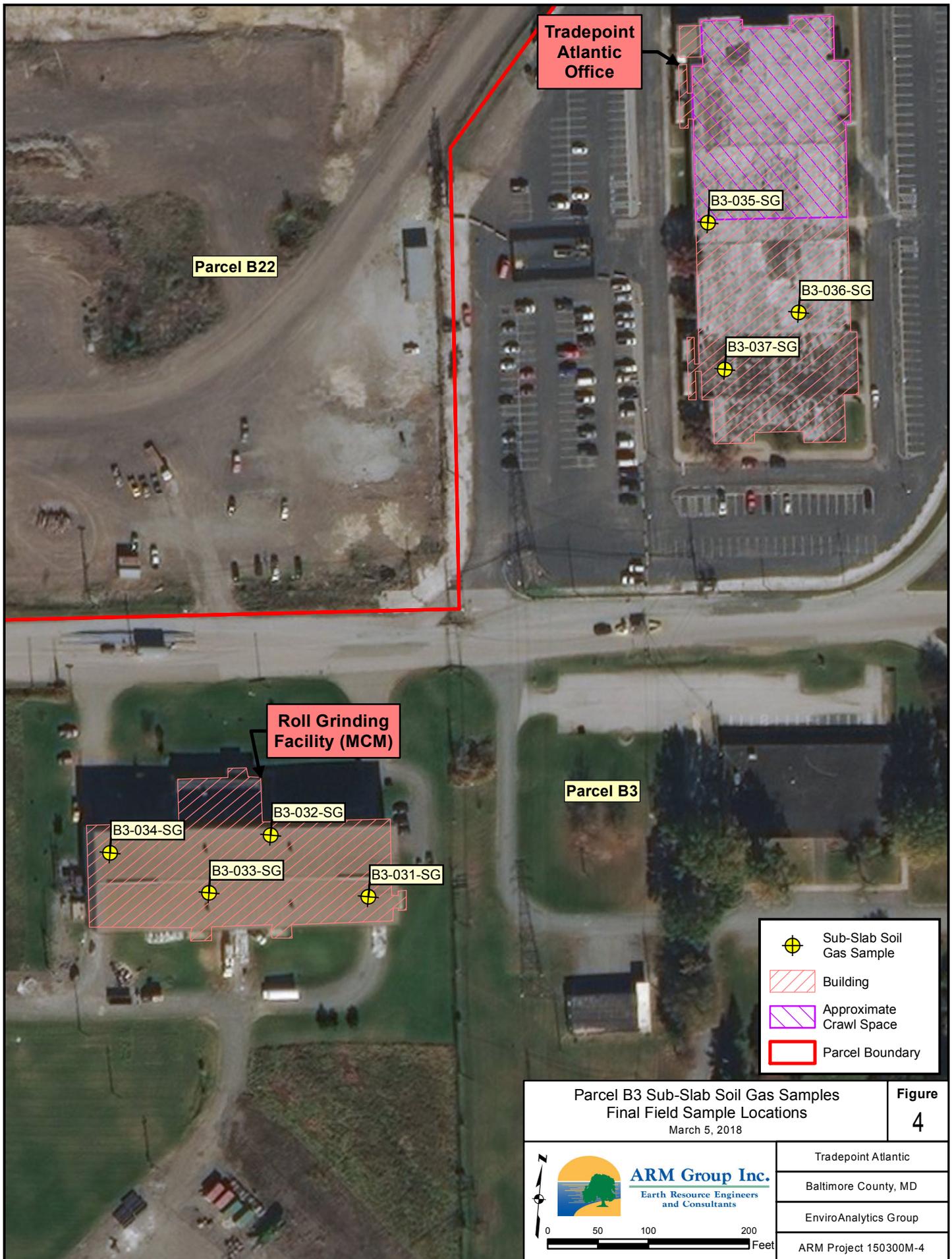
**Figure**  
**3**



**ARM Group Inc.**  
 Earth Resource Engineers  
 and Consultants

0 100 200 400  
 Feet

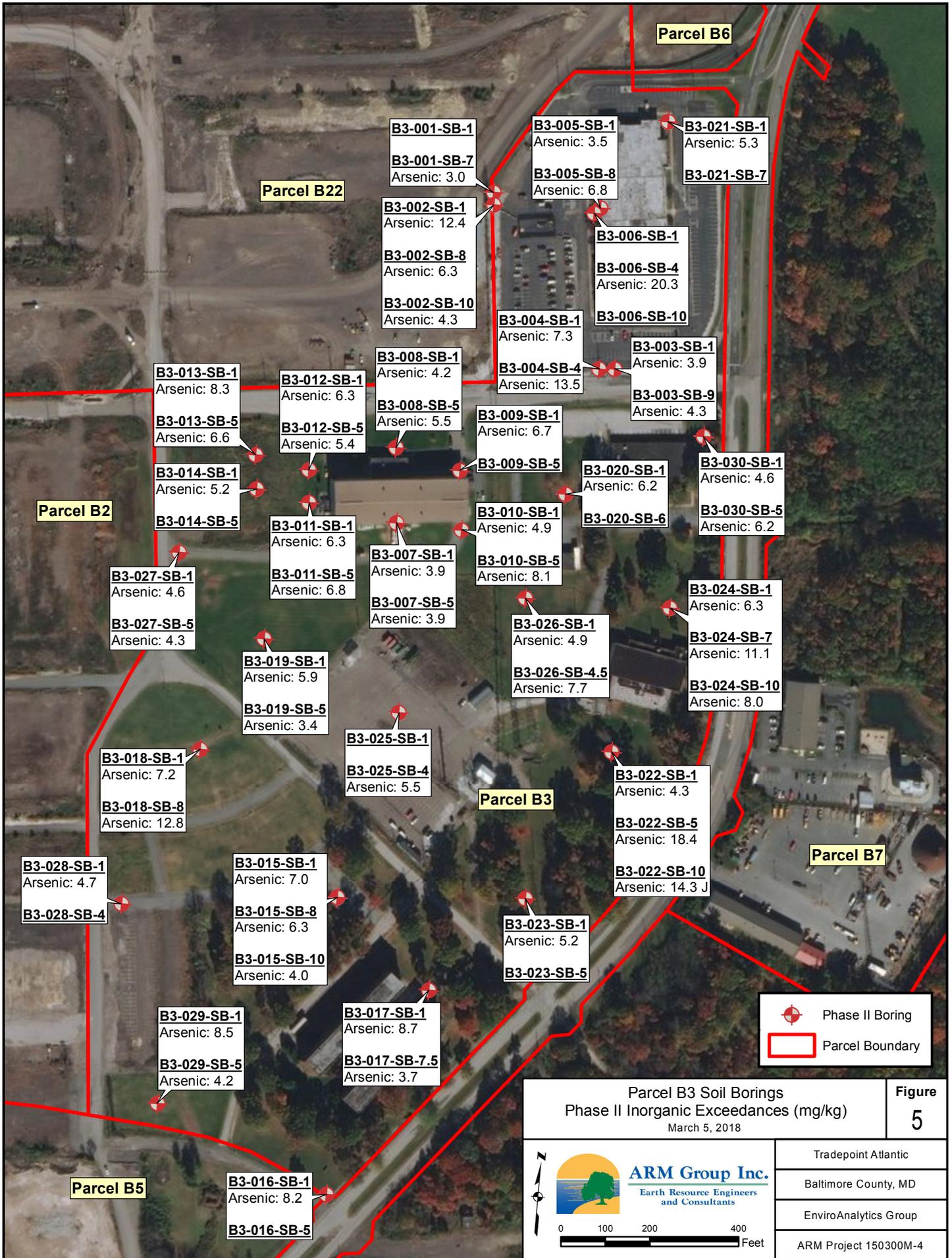
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-4



Parcel B3 Sub-Slab Soil Gas Samples  
 Final Field Sample Locations  
 March 5, 2018

Figure  
 4

		Tradepoint Atlantic
		Baltimore County, MD
		EnviroAnalytics Group
		ARM Project 150300M-4



Parcel B6

Parcel B22

Parcel B2

Parcel B3

Parcel B7

Parcel B5

**B3-001-SB-1**

**B3-001-SB-7**

Arsenic: 3.0

**B3-002-SB-1**

Arsenic: 12.4

**B3-002-SB-8**

Arsenic: 6.3

**B3-002-SB-10**

Arsenic: 4.3

**B3-008-SB-1**

Arsenic: 4.2

**B3-008-SB-5**

Arsenic: 5.5

**B3-009-SB-1**

Arsenic: 6.7

**B3-009-SB-5**

Arsenic: 4.9

**B3-010-SB-1**

Arsenic: 8.1

**B3-010-SB-5**

Arsenic: 8.1

**B3-007-SB-1**

Arsenic: 3.9

**B3-007-SB-5**

Arsenic: 3.9

**B3-026-SB-1**

Arsenic: 4.9

**B3-026-SB-4.5**

Arsenic: 7.7

**B3-025-SB-1**

Arsenic: 5.5

**B3-025-SB-4**

Arsenic: 5.5

**B3-022-SB-1**

Arsenic: 4.3

**B3-022-SB-5**

Arsenic: 18.4

**B3-022-SB-10**

Arsenic: 14.3

**B3-023-SB-1**

Arsenic: 5.2

**B3-023-SB-5**

Arsenic: 5.2

**B3-005-SB-1**

Arsenic: 3.5

**B3-005-SB-8**

Arsenic: 6.8

**B3-006-SB-1**

Arsenic: 20.3

**B3-006-SB-4**

Arsenic: 7.3

**B3-004-SB-1**

Arsenic: 13.5

**B3-004-SB-4**

Arsenic: 7.3

**B3-003-SB-1**

Arsenic: 3.9

**B3-003-SB-9**

Arsenic: 4.3

**B3-020-SB-1**

Arsenic: 6.2

**B3-020-SB-6**

Arsenic: 6.2

**B3-030-SB-1**

Arsenic: 4.6

**B3-030-SB-5**

Arsenic: 6.2

**B3-024-SB-1**

Arsenic: 6.3

**B3-024-SB-7**

Arsenic: 11.1

**B3-024-SB-10**

Arsenic: 8.0

**B3-013-SB-1**

Arsenic: 8.3

**B3-013-SB-5**

Arsenic: 6.6

**B3-014-SB-1**

Arsenic: 5.2

**B3-014-SB-5**

Arsenic: 5.2

**B3-027-SB-1**

Arsenic: 4.6

**B3-027-SB-5**

Arsenic: 4.3

**B3-019-SB-1**

Arsenic: 5.9

**B3-019-SB-5**

Arsenic: 3.4

**B3-018-SB-1**

Arsenic: 7.2

**B3-018-SB-8**

Arsenic: 12.8

**B3-028-SB-1**

Arsenic: 4.7

**B3-028-SB-4**

Arsenic: 4.7

**B3-015-SB-1**

Arsenic: 7.0

**B3-015-SB-8**

Arsenic: 6.3

**B3-015-SB-10**

Arsenic: 4.0

**B3-029-SB-1**

Arsenic: 8.5

**B3-029-SB-5**

Arsenic: 4.2

**B3-012-SB-1**

Arsenic: 6.3

**B3-012-SB-5**

Arsenic: 5.4

**B3-011-SB-1**

Arsenic: 6.3

**B3-011-SB-5**

Arsenic: 6.8

**B3-017-SB-1**

Arsenic: 8.7

**B3-017-SB-7.5**

Arsenic: 3.7

**B3-016-SB-1**

Arsenic: 8.2

**B3-016-SB-5**

Arsenic: 8.2

Phase II Boring

Parcel Boundary

Figure

5

Tradepoint Atlantic

Baltimore County, MD

EnviroAnalytics Group

ARM Project 150300M-4

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## **TABLES**

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**Table 1 - Parcel B3  
Historical Site Drawing Details**

<u>Set Name</u>	<u>Typical Features Shown</u>	<u>Drawing Number</u>	<u>Original Date Drawn</u>	<u>Latest Revision Date</u>
Plant Arrangement	Roads, water bodies, building/structure footprints, electric lines, above-ground pipelines (e.g.: steam, nitrogen, etc.)	5023	9/8/1958	3/11/1982
		5028	6/24/1959	3/11/1982
		5029	8/25/1959	3/11/1982
		5035	9/1/1958	3/11/1982
Plant Index	Roads, water bodies, demolished buildings/structures, electric lines, above-ground pipelines	5123	<i>Unknown</i>	11/7/2008
		5128	<i>Unknown</i>	12/14/2007
		5129	<i>Unknown</i>	9/10/2009
		5135	<i>Unknown</i>	7/11/2008
Plant Sewer Lines	Same as above plus trenches, sumps, underground piping (includes pipe materials)	5523	<i>Unknown</i>	2/24/1982
		5528	<i>Unknown</i>	9/10/2008
		5529	8/26/1959	7/14/1992
		5535	<i>Unknown</i>	5/28/1976
Drip Legs	Coke Oven Gas Drip Legs Locations	5886B	<i>Unknown</i>	Sept. 1988

**Table 2 - Parcel B3  
Field Shifted Boring Locations**

<u>Location ID</u>	<u>Sample Target</u>	<u>Proposed Location</u> <sup>¥</sup>		<u>Final Location</u> <sup>¥</sup>		<u>Relocation Distance &amp; Direction</u>	
		<u>Northing</u>	<u>Easting</u>	<u>Northing</u>	<u>Easting</u>		
B3-003-SB	Electric Sub-Station	567,592	1,462,463	567,597	1,462,466	6	NE
B3-004-SB	Electric Sub-Station	567,590	1,462,437	567,594	1,462,431	7	NW
B3-005-SB	Former #2 Fuel Oil UST	567,943	1,462,394	567,955	1,462,403	15	NE
B3-016-SB	Parcel Coverage	565,716	1,461,974	565,690	1,461,983	28	SE
B3-023-SB	Parcel Coverage	566,347	1,462,391	566,393	1,462,370	50	NW

<sup>¥</sup>Reported northings and eastings are not survey accurate.  
Coordinates are reported in NAD 1983 Maryland State Plane (US feet).

**Table 3 - Parcel B3  
Characterization Results for Solid IDW**

Sample ID	Parameter	Result (mg/kg)	TCLP Limit (mg/kg)	TCLP Exceedance	Laboratory Flag	LOQ (mg/kg)
B3 Waste Disposal 6/14/2017	1,1-Dichloroethene	0.05	0.7	no	U	0.05
	1,2-Dichloroethane	0.05	0.5	no	U	0.05
	1,4-Dichlorobenzene	0.5	7.5	no	U	0.5
	2,4,5-Trichlorophenol	5	400	no	U	5
	2,4,6-Trichlorophenol	0.1	2	no	U	0.1
	2,4-Dinitrotoluene	0.1	0.13	no	U	0.1
	2-Butanone (MEK)	5	200	no	U	5
	2-Methylphenol	2	200	no	U	2
	3&4-Methylphenol(m&p Cresol)	2	200	no	U	2
	Arsenic	0.0045	5	no	B	0.05
	Barium	0.37	100	no	J	1
	Benzene	0.05	0.5	no	U	0.05
	Cadmium	0.0011	1	no	J	0.05
	Carbon tetrachloride	0.05	0.5	no	U	0.05
	Chlorobenzene	1	100	no	U	1
	Chloroform	0.5	6	no	U	0.5
	Chromium	0.0021	5	no	B	0.05
	Hexachlorobenzene	0.1	0.13	no	U	0.1
	Hexachloroethane	0.5	3	no	U	0.5
	Lead	0.25	5	no	U	0.25
	Mercury	0.001	0.2	no	U	0.001
	Nitrobenzene	0.1	2	no	U	0.1
	Pentachlorophenol	5	100	no	U	5
	Selenium	0.1	1	no	U	0.1
	Silver	0.05	5	no	U	0.05
	Tetrachloroethene	0.05	0.7	no	U	0.05
	Trichloroethene	0.05	0.5	no	U	0.05
	Vinyl chloride	0.05	0.2	no	U	0.05

**Table 3 - Parcel B3  
Characterization Results for Solid IDW**

Sample ID	Parameter	Result (mg/kg)	TCLP Limit (mg/kg)	TCLP Exceedance	Laboratory Flag	LOQ (mg/kg)
B3 Waste Disposal 3/6/2018	1,1-Dichloroethene	0.05	0.7	no	U	0.05
	1,2-Dichloroethane	0.05	0.5	no	U	0.05
	1,4-Dichlorobenzene	0.5	7.5	no	U	0.5
	2,4,5-Trichlorophenol	5	400	no	U	5
	2,4,6-Trichlorophenol	0.1	2	no	U	0.1
	2,4-Dinitrotoluene	0.1	0.13	no	U	0.1
	2-Butanone (MEK)	0.1	200	no	U	0.1
	2-Methylphenol	2	200	no	U	2
	3&4-Methylphenol(m&p Cresol)	2	200	no	U	2
	Arsenic	0.025	5	no	U	0.025
	Barium	0.43	100	no		0.05
	Benzene	0.05	0.5	no	U	0.05
	Cadmium	0.015	1	no	U	0.015
	Carbon tetrachloride	0.05	0.5	no	U	0.05
	Chlorobenzene	0.05	100	no	U	0.05
	Chloroform	0.05	6	no	U	0.05
	Chromium	0.025	5	no	U	0.025
	Hexachlorobenzene	0.1	0.13	no	U	0.1
	Hexachloroethane	0.2	3	no	U	0.2
	Lead	0.025	5	no	U	0.025
	Mercury	0.001	0.2	no	U	0.001
	Nitrobenzene	0.1	2	no	U	0.1
	Pentachlorophenol	5	100	no	U	5
	Selenium	0.04	1	no	U	0.04
	Silver	0.03	5	no	U	0.03
	Tetrachloroethene	0.05	0.7	no	U	0.05
	Trichloroethene	0.05	0.5	no	U	0.05
Vinyl chloride	0.05	0.2	no	U	0.05	

J: The positive result reported for this analyte is a quantitative estimate below the laboratory LOQ.

U: The analyte was not detected in the sample. The numeric value represents the sample LOQ.

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

TCLP: Toxicity Characteristic Leaching Procedure

LOQ: Limit of Quantitation

**Table 4 - Parcel B3  
Characterization Results for Liquid IDW**

<u>Sample ID</u>	<u>Parameter</u>	<u>Result (mg/L)</u>	<u>TCLP Limit (mg/L)</u>	<u>TCLP Exceedance</u>	<u>Laboratory Flag</u>	<u>Laboratory LOQ (mg/L)</u>
Water Disposal 6/14/2017	1,1-Dichloroethene	0.005	0.7	no	U	0.005
	1,2-Dichloroethane	0.005	0.5	no	U	0.005
	1,4-Dichlorobenzene	0.005	7.5	no	U	0.005
	2,4,5-Trichlorophenol	0.0026	400	no	U	0.0026
	2,4,6-Trichlorophenol	0.001	2	no		0.001
	2,4-Dinitrotoluene	0.001	0.13	no	U	0.001
	2-Butanone (MEK)	0.05	200	no	U	0.05
	2-Methylphenol	0.001	200	no	U	0.001
	3&4-Methylphenol(m&p Cresol)	0.0021	200	no	U	0.0021
	Arsenic	0.005	5	no	U	0.005
	Barium	0.0261	100	no		0.01
	Benzene	0.005	0.5	no	U	0.005
	Cadmium	0.0803	1	no		0.003
	Carbon tetrachloride	0.005	0.5	no	U	0.005
	Chlorobenzene	0.005	100	no	U	0.005
	Chloroform	0.005	6	no	U	0.005
	Chromium	0.0039	5	no	J	0.005
	Hexachlorobenzene	0.001	0.13	no	U	0.001
	Hexachloroethane	0.001	3	no	U	0.001
	Lead	0.0058	5	no		0.005
	Mercury	0.0002	0.2	no	U	0.0002
	Nitrobenzene	0.001	2	no	U	0.001
	Pentachlorophenol	0.0026	100	no	U	0.0026
	Selenium	0.008	1	no	U	0.008
	Silver	0.006	5	no	U	0.006
	Tetrachloroethene	0.005	0.7	no	U	0.005
Trichloroethene	0.005	0.5	no	U	0.005	
Vinyl chloride	0.005	0.2	no	U	0.005	

J: The positive result reported for this analyte is a quantitative estimate below the laboratory LOQ.

U: The analyte was not detected in the sample. The numeric value represents the sample LOQ.

TCLP: Toxicity Characteristic Leaching Procedure

LOQ: Limit of Quantitation - analyzed by Pace Analytical

**Table 4 - Parcel B3  
Characterization Results for Liquid IDW**

<u>Sample ID</u>	<u>Parameter</u>	<u>Result</u> (mg/L)	<u>TCLP Limit</u> (mg/L)	<u>TCLP</u> <u>Exceedance</u>	<u>Laboratory</u> <u>Flag</u>	<u>Laboratory</u> <u>LLQ (mg/L)</u>
Waste Disposal 12/4/2017	1,1,1-Trichloroethane	0.005		no	U	0.005
	1,1,2,2-Tetrachloroethane	0.005		no	U	0.005
	1,1,2-Trichloroethane	0.005		no	U	0.005
	1,1,2-Trichlorotrifluoroethane	0.005		no	U	0.005
	1,1-Dichloroethane	0.005		no	U	0.005
	1,1-Dichloroethene	0.005	0.7	no	U	0.005
	1,2,4-Trichlorobenzene	0.005		no	U	0.005
	1,2-Dibromo-3-chloropropane	0.005		no	U	0.005
	1,2-Dibromoethane	0.005		no	U	0.005
	1,2-Dichlorobenzene	0.005		no	U	0.005
	1,2-Dichloroethane	0.005	0.5	no	U	0.005
	1,2-Dichloropropane	0.005		no	U	0.005
	1,3-Dichlorobenzene	0.005		no	U	0.005
	1,4-Dichlorobenzene	0.005	7.5	no	U	0.005
	2-Butanone (MEK)	0.025	200	no	U	0.025
	2-Hexanone (MBK)	0.025		no	U	0.025
	4-Methyl-2-pentanone (MIBK)	0.025		no	U	0.025
	Acetone	0.025		no	U	0.025
	Antimony	0.005		no	U	0.005
	Aroclor 1016	0.0005		no	U	0.0005
	Aroclor 1221	0.0005		no	U	0.0005
	Aroclor 1232	0.0005		no	U	0.0005
	Aroclor 1242	0.0005		no	U	0.0005
	Aroclor 1248	0.0005		no	U	0.0005
	Aroclor 1254	0.0005		no	U	0.0005
	Aroclor 1260	0.0005		no	U	0.0005
	Arsenic	0.005	5	no	U	0.005
	Benzene	0.007	0.5	no		0.001
	Beryllium	0.004		no	U	0.004
	Bromodichloromethane	0.005		no	U	0.005
	Bromoform	0.005		no	U	0.005
	Bromomethane	0.005		no	U	0.005
	Cadmium	0.005	1	no	U	0.005
	Carbon disulfide	0.005		no	U	0.005
	Carbon tetrachloride	0.005	0.5	no	U	0.005
	Chlorobenzene	0.005	100	no	U	0.005
	Chloroethane	0.005		no	U	0.005
	Chloroform	0.005	6	no	U	0.005
	Chloromethane	0.005		no	U	0.005
	Chromium	0.005	5	no	U	0.005

**Table 4 - Parcel B3  
Characterization Results for Liquid IDW**

<u>Sample ID</u>	<u>Parameter</u>	<u>Result</u> <u>(mg/L)</u>	<u>TCLP Limit</u> <u>(mg/L)</u>	<u>TCLP</u> <u>Exceedance</u>	<u>Laboratory</u> <u>Flag</u>	<u>Laboratory</u> <u>LLQ (mg/L)</u>
Waste Disposal 12/4/2017	cis-1,2-Dichloroethene	0.005		no	U	0.005
	cis-1,3-Dichloropropene	0.005		no	U	0.005
	Copper	0.005		no	U	0.005
	Cyclohexane	0.005		no	U	0.005
	Dibromochloromethane	0.005		no	U	0.005
	Dichlorodifluoromethane	0.005		no	U	0.005
	Diisopropyl ether (DIPE)	0.025		no	U	0.025
	Ethyl t-butyl ether (ETBE)	0.025		no	U	0.025
	Ethylbenzene	0.001		no	U	0.001
	Isopropylbenzene	0.005		no	U	0.005
	Lead	0.0072	5	no		0.005
	m&p-Xylene	0.005		no	U	0.005
	Mercury	0.001	0.2	no	U	0.001
	Methyl acetate	0.005		no	U	0.005
	Methyl t-butyl ether (MTBE)	0.005		no	U	0.005
	Methylcyclohexane	0.005		no	U	0.005
	Methylene chloride	0.01		no	U	0.01
	Naphthalene	0.01		no	U	0.01
	Nickel	0.024		no		0.005
	o-Xylene	0.005		no	U	0.005
	Selenium	0.013	1	no		0.005
	Silver	0.005	5	no	U	0.005
	Styrene	0.005		no	U	0.005
	tert-Amyl alcohol (TAA)	0.025		no	U	0.025
	tert-Amyl ethyl ether (TAEE)	0.025		no	U	0.025
	tert-Amyl methyl ether (TAME)	0.025		no	U	0.025
	tert-Butanol (TBA)	0.025		no	U	0.025
	Tetrachloroethene	0.005	0.7	no	U	0.005
	Thallium	0.002		no	U	0.002
	Toluene	0.001		no	U	0.001
	trans-1,2-Dichloroethene	0.005		no	U	0.005
	trans-1,3-Dichloropropene	0.005		no	U	0.005
	Trichloroethene	0.005	0.5	no	U	0.005
Trichlorofluoromethane	0.005		no	U	0.005	
Vinyl chloride	0.001	0.2	no	U	0.001	
Zinc	0.32		no		0.005	

U: The analyte was not detected in the sample. The numeric value represents the sample LLQ.

TCLP: Toxicity Characteristic Leaching Procedure

LLQ: Lowest Level Quantitation - analyzed by Caliber Analytical Services

**Table 5 - Parcel B3  
Summary of Organics Detected in Soil**

Parameter	Units	PAL	B3-001-SB-1*	B3-001-SB-7*	B3-002-SB-1*	B3-002-SB-8*	B3-003-SB-1*	B3-003-SB-9*	B3-004-SB-1	B3-004-SB-4	B3-005-SB-1*	B3-005-SB-8*
<b>Volatile Organic Compound</b>												
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0089 U
Acetone	mg/kg	670,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0089 U
Carbon disulfide	mg/kg	3,500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<b>0.0025 J</b>
<b>Semi-Volatile Organic Compound^</b>												
1,1-Biphenyl	mg/kg	200	0.07 U	0.082 U	0.079 U	0.081 U	0.079 U	0.081 U	0.083 U	0.078 U	0.068 U	0.078 U
2-Methylnaphthalene	mg/kg	3,000	<b>0.0014 J</b>	0.0081 U	<b>0.009 J</b>	<b>0.01 J</b>	<b>0.013</b>	0.008 U	<b>0.0023 J</b>	0.0079 U	<b>0.016 J</b>	<b>0.0052 J</b>
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.17 U	0.16 U	0.14 U	0.16 U
Acenaphthene	mg/kg	45,000	0.0071 U	0.0081 U	0.079 U	0.083 U	<b>0.074</b>	0.008 U	0.0084 UJ	0.0079 UJ	0.069 U	0.0078 U
Acenaphthylene	mg/kg	45,000	0.0071 U	0.0081 U	0.079 U	0.083 U	<b>0.011</b>	0.008 U	<b>0.001 J</b>	0.0079 U	0.069 U	0.0078 U
Acetophenone	mg/kg	120,000	0.07 U	0.082 U	0.079 U	0.081 U	0.079 U	0.081 U	0.083 U	0.078 U	0.068 U	0.078 U
Anthracene	mg/kg	230,000	<b>0.00065 J</b>	0.0081 U	<b>0.005 J</b>	0.083 U	<b>0.096</b>	0.008 U	<b>0.0023 J</b>	0.0079 U	<b>0.008 J</b>	<b>0.0012 J</b>
Benz[a]anthracene	mg/kg	21	<b>0.006 J</b>	0.0081 U	<b>0.035 J</b>	<b>0.023 J</b>	<b>0.94</b>	0.008 U	<b>0.017</b>	<b>0.0024 J</b>	<b>0.041 J</b>	<b>0.0047 J</b>
Benzaldehyde	mg/kg	120,000	0.07 U	0.082 U	0.079 U	0.081 U	0.079 U	0.081 U	0.083 U	0.078 U	0.068 U	0.078 U
Benzo[a]pyrene	mg/kg	2.1	<b>0.0071</b>	0.0081 U	<b>0.025 J</b>	<b>0.016 J</b>	<b>1</b>	0.008 U	<b>0.017 J</b>	<b>0.0025 J</b>	<b>0.043 J</b>	<b>0.0046 J</b>
Benzo[b]fluoranthene	mg/kg	21	<b>0.012</b>	0.0081 U	<b>0.037 J</b>	<b>0.034 J</b>	<b>2.3</b>	0.008 U	<b>0.037 J</b>	<b>0.011 J</b>	<b>0.1</b>	<b>0.0092</b>
Benzo[g,h,i]perylene	mg/kg		<b>0.0056 J</b>	0.0081 U	<b>0.018 J</b>	<b>0.016 J</b>	<b>0.81</b>	0.008 U	<b>0.0074 J</b>	<b>0.00086 J</b>	<b>0.03 J</b>	<b>0.0041 J</b>
Benzo[k]fluoranthene	mg/kg	210	<b>0.0036 J</b>	0.0081 U	<b>0.018 J</b>	<b>0.03 J</b>	<b>0.59</b>	0.008 U	<b>0.033 J</b>	<b>0.01 J</b>	<b>0.078</b>	<b>0.0084</b>
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.07 U	0.082 U	<b>0.025 J</b>	0.081 U	<b>0.061 J</b>	0.081 U	0.083 U	0.078 U	<b>1.2</b>	<b>0.11</b>
Caprolactam	mg/kg	400,000	0.18 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.19 U	0.17 U	0.19 U
Carbazole	mg/kg		0.07 U	0.082 U	0.079 U	0.081 U	<b>0.2</b>	0.081 U	0.083 U	0.078 U	0.068 U	0.078 U
Chrysene	mg/kg	2,100	<b>0.0081</b>	0.0081 U	<b>0.025 J</b>	<b>0.029 J</b>	<b>1.5</b>	0.008 U	<b>0.021</b>	<b>0.011</b>	<b>0.069 J</b>	<b>0.0061 J</b>
Dibenz[a,h]anthracene	mg/kg	2.1	0.0071 U	0.0081 U	0.079 U	0.083 U	<b>0.24</b>	0.008 U	<b>0.0027 J</b>	0.0079 UJ	0.069 U	0.0078 U
Diethylphthalate	mg/kg	660,000	0.07 U	0.082 U	<b>0.02 J</b>	0.081 U	0.079 U	0.081 U	0.083 U	<b>0.051 J</b>	0.068 U	0.078 U
Di-n-ocetylphthalate	mg/kg	8,200	0.07 U	0.082 U	0.079 U	0.081 U	<b>0.022 J</b>	0.081 U	0.083 U	0.078 U	0.068 U	0.078 U
Fluoranthene	mg/kg	30,000	<b>0.0096</b>	0.0081 U	<b>0.042 J</b>	<b>0.024 J</b>	<b>3.5</b>	<b>0.0018 J</b>	<b>0.036</b>	<b>0.021</b>	<b>0.1</b>	<b>0.0078 J</b>
Fluorene	mg/kg	30,000	0.0071 U	0.0081 U	0.079 U	0.083 U	<b>0.11</b>	0.008 U	0.0084 U	0.0079 U	0.069 U	0.0078 U
Hexachloroethane	mg/kg	8	0.07 U	0.082 U	0.079 U	0.081 U	0.079 U	0.081 U	0.083 U	0.078 U	0.068 U	0.078 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	<b>0.0044 J</b>	0.0081 U	<b>0.016 J</b>	0.083 U	<b>0.7</b>	0.008 U	<b>0.0077 J</b>	0.0079 UJ	<b>0.023 J</b>	<b>0.003 J</b>
Naphthalene	mg/kg	17	0.0071 U	0.0081 U	0.079 U	0.083 U	<b>0.012</b>	0.008 U	0.0084 UJ	0.0079 UJ	0.069 U	<b>0.0039 J</b>
N-Nitrosodiphenylamine	mg/kg	470	0.07 U	0.082 U	0.079 U	0.081 U	0.079 U	0.081 U	0.083 U	0.078 U	0.068 U	0.078 U
Phenanthrene	mg/kg		<b>0.0044 J</b>	0.0081 U	<b>0.027 J</b>	<b>0.018 J</b>	<b>2.1</b>	<b>0.0015 J</b>	<b>0.016 J</b>	<b>0.0034 J</b>	<b>0.053 J</b>	<b>0.0077 J</b>
Phenol	mg/kg	250,000	0.07 U	0.082 U	0.079 U	0.081 U	0.079 U	0.081 U	0.083 U	0.078 U	0.068 U	0.078 U
Pyrene	mg/kg	23,000	<b>0.0079</b>	0.0081 U	<b>0.036 J</b>	<b>0.023 J</b>	<b>2.7</b>	<b>0.0015 J</b>	<b>0.029</b>	<b>0.019</b>	<b>0.083</b>	<b>0.0073 J</b>
<b>PCBs</b>												
Aroclor 1260	mg/kg	0.99	<b>0.0032 J</b>	N/A	<b>0.022</b>	N/A	0.02 U	N/A	0.021 UJ	N/A	0.017 U	N/A
<b>TPH/Oil &amp; Grease</b>												
Diesel Range Organics	mg/kg	6,200	<b>7.5</b>	2.8 B	<b>11.5</b>	<b>20.7</b>	<b>51.3</b>	2.9 B	<b>18 J</b>	3.5 B	<b>15.2</b>	<b>23.7</b>
Gasoline Range Organics	mg/kg	6,200	10.4 U	10.2 U	11.8 U	9.8 U	10.6 U	10.8 U	17.3 U	10 U	<b>8.4 J</b>	<b>2.4 J</b>
Oil & Grease	mg/kg	6,200	<b>123</b>	<b>105 J</b>	<b>233</b>	<b>113 J</b>	<b>210</b>	<b>104 J</b>	<b>82 J</b>	<b>45.8 J</b>	<b>176</b>	<b>82.9 J</b>

**Detections in bold**

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

N/A indicates that the parameter was not analyzed for this sample

\* indicates non-validated data

^ indicates PAHs analyzed for SIM

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.

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

**Table 5 - Parcel B3  
Summary of Organics Detected in Soil**

Parameter	Units	PAL	B3-006-SB-1*	B3-006-SB-4*	B3-007-SB-1*	B3-007-SB-5*	B3-008-SB-1*	B3-008-SB-5*	B3-009-SB-1*	B3-009-SB-5*	B3-010-SB-1	B3-010-SB-5
<b>Volatile Organic Compound</b>												
2-Butanone (MEK)	mg/kg	190,000	N/A	0.0096 U	N/A	<b>0.0057 J</b>	N/A	N/A	N/A	N/A	N/A	N/A
Acetone	mg/kg	670,000	N/A	0.0096 U	N/A	<b>0.029</b>	N/A	N/A	N/A	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	N/A	0.0048 U	N/A	<b>0.0051</b>	N/A	N/A	N/A	N/A	N/A	N/A
<b>Semi-Volatile Organic Compound^</b>												
1,1-Biphenyl	mg/kg	200	0.087 U	0.076 U	0.07 U	0.079 U	0.072 U	0.082 U	0.07 U	0.074 U	0.077 U	0.08 U
2-Methylnaphthalene	mg/kg	3,000	<b>0.025 J</b>	0.076 U	<b>0.005 J</b>	<b>0.083</b>	<b>0.01</b>	0.085 U	<b>0.0085 J</b>	<b>0.0014 J</b>	0.078 U	<b>0.04</b>
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.17 U	0.15 U	0.14 U	<b>0.065 J</b>	0.14 U	<b>0.024 J</b>	0.14 U	0.15 U	0.15 U	<b>0.19 J</b>
Acenaphthene	mg/kg	45,000	<b>0.039 J</b>	0.076 U	<b>0.0017 J</b>	<b>0.028 J</b>	<b>0.0019 J</b>	0.085 U	0.073 U	0.0076 U	0.078 U	<b>0.0038 J</b>
Acenaphthylene	mg/kg	45,000	<b>0.0064 J</b>	0.076 U	<b>0.0026 J</b>	<b>0.23</b>	<b>0.0099</b>	0.085 U	0.073 U	0.0076 U	0.078 U	<b>0.019</b>
Acetophenone	mg/kg	120,000	0.087 U	0.076 U	0.07 U	0.079 U	0.072 U	0.082 U	0.07 U	0.074 U	0.077 U	<b>0.053 J</b>
Anthracene	mg/kg	230,000	<b>0.12</b>	0.076 U	<b>0.0077</b>	<b>0.5</b>	<b>0.013</b>	0.085 U	<b>0.011 J</b>	0.0076 U	<b>0.0046 J</b>	<b>0.033</b>
Benz[a]anthracene	mg/kg	21	<b>0.47</b>	0.076 U	<b>0.045</b>	<b>1.5</b>	<b>0.075</b>	0.085 U	<b>0.038 J</b>	<b>0.0014 J</b>	<b>0.033 J</b>	<b>0.18</b>
Benzaldehyde	mg/kg	120,000	0.087 U	0.076 U	0.07 U	0.079 U	0.072 U	0.082 U	0.07 U	0.074 U	<b>0.022 J</b>	<b>0.076 J</b>
Benzo[a]pyrene	mg/kg	2.1	<b>0.51</b>	0.076 U	<b>0.063</b>	<b>1.1</b>	<b>0.076</b>	0.085 U	<b>0.036 J</b>	0.0076 U	<b>0.019 J</b>	<b>0.15</b>
Benzo[b]fluoranthene	mg/kg	21	<b>1.1</b>	0.076 U	<b>0.13</b>	<b>1.5</b>	<b>0.14</b>	0.085 U	<b>0.081</b>	0.0076 U	<b>0.05 J</b>	<b>0.31</b>
Benzo[g,h,i]perylene	mg/kg		<b>0.37</b>	0.076 U	<b>0.053</b>	<b>0.68</b>	<b>0.052</b>	0.085 U	<b>0.029 J</b>	0.0076 U	0.078 U	<b>0.16 J</b>
Benzo[k]fluoranthene	mg/kg	210	<b>0.83</b>	0.076 U	<b>0.1</b>	<b>0.55</b>	<b>0.13</b>	0.085 U	<b>0.061 J</b>	0.0076 U	<b>0.038 J</b>	<b>0.24</b>
bis(2-Ethylhexyl)phthalate	mg/kg	160	<b>0.21</b>	0.076 U	0.07 U	0.079 U	0.072 U	<b>0.02 J</b>	<b>0.033 J</b>	0.074 U	0.017 B	0.08 U
Caprolactam	mg/kg	400,000	0.22 U	0.19 U	0.17 U	0.2 U	0.18 U	0.21 U	0.18 U	0.19 U	0.19 U	<b>0.028 J</b>
Carbazole	mg/kg		<b>0.2</b>	0.076 U	0.07 U	<b>0.2</b>	0.072 U	0.082 U	0.07 U	0.074 U	0.077 U	<b>0.17</b>
Chrysene	mg/kg	2,100	<b>0.73</b>	<b>0.0094 J</b>	<b>0.049</b>	<b>1.1</b>	<b>0.074</b>	0.085 U	<b>0.061 J</b>	0.0076 U	<b>0.024 J</b>	<b>0.16</b>
Dibenz[a,h]anthracene	mg/kg	2.1	<b>0.074 J</b>	0.076 U	<b>0.014</b>	<b>0.18</b>	<b>0.017</b>	0.085 U	0.073 U	0.0076 U	0.078 U	<b>0.045</b>
Diethylphthalate	mg/kg	660,000	0.087 U	0.076 U	0.07 U	0.079 U	0.072 U	0.082 U	0.07 U	0.074 U	0.077 U	0.08 U
Di-n-ocylphthalate	mg/kg	8,200	0.087 U	0.076 U	0.07 U	0.079 U	0.072 U	0.082 U	0.07 U	0.074 U	0.077 UJ	0.08 U
Fluoranthene	mg/kg	30,000	<b>1.7</b>	<b>0.016 J</b>	<b>0.054</b>	<b>3</b>	<b>0.12</b>	0.085 U	<b>0.077</b>	<b>0.0013 J</b>	<b>0.04 J</b>	<b>0.27</b>
Fluorene	mg/kg	30,000	<b>0.049 J</b>	0.076 U	<b>0.0014 J</b>	<b>0.16</b>	<b>0.0029 J</b>	0.085 U	0.073 U	0.0076 U	0.078 U	<b>0.0068 J</b>
Hexachloroethane	mg/kg	8	0.087 U	0.076 U	0.07 U	0.079 U	0.072 U	0.082 U	0.07 U	0.074 U	0.077 U	0.08 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	<b>0.29</b>	0.076 U	<b>0.043</b>	<b>0.61</b>	<b>0.048</b>	0.085 U	<b>0.018 J</b>	0.0076 U	0.078 U	<b>0.12</b>
Naphthalene	mg/kg	17	0.087 U	0.076 U	<b>0.0038 J</b>	<b>0.35</b>	<b>0.012</b>	0.085 U	0.073 U	<b>0.013</b>	0.078 U	<b>0.043</b>
N-Nitrosodiphenylamine	mg/kg	470	0.087 U	0.076 U	0.07 U	0.079 U	0.072 U	0.082 U	0.07 U	0.074 U	0.077 U	0.08 U
Phenanthrene	mg/kg		<b>1.1</b>	<b>0.029 J</b>	<b>0.026</b>	<b>1.6</b>	<b>0.051</b>	0.085 U	<b>0.049 J</b>	<b>0.0015 J</b>	<b>0.022 J</b>	<b>0.17</b>
Phenol	mg/kg	250,000	0.087 U	0.076 U	0.07 U	0.079 U	0.072 U	0.082 U	0.07 U	0.074 U	0.077 U	<b>0.073 J</b>
Pyrene	mg/kg	23,000	<b>1.3</b>	<b>0.019 J</b>	<b>0.042</b>	<b>2.4</b>	<b>0.11</b>	0.085 U	<b>0.072 J</b>	<b>0.0011 J</b>	<b>0.035 J</b>	<b>0.22</b>
<b>PCBs</b>												
Aroclor 1260	mg/kg	0.99	0.022 U	N/A	0.018 U	N/A	0.018 U	N/A	0.018 U	N/A	0.019 U	N/A
<b>TPH/Oil &amp; Grease</b>												
Diesel Range Organics	mg/kg	6,200	<b>95.8</b>	<b>11.2</b>	<b>11.5</b>	<b>61.1</b>	<b>13.5</b>	<b>43.5</b>	<b>22.4</b>	<b>19.1</b>	<b>13.2 J</b>	<b>46.3 J</b>
Gasoline Range Organics	mg/kg	6,200	<b>5.5 J</b>	<b>2.5 J</b>	<b>3 J</b>	<b>3.5 J</b>	<b>2.9 J</b>	<b>3.1 J</b>	<b>2.5 J</b>	<b>2.7 J</b>	4.1 B	5.8 B
Oil & Grease	mg/kg	6,200	<b>277</b>	<b>161</b>	<b>168</b>	<b>412</b>	<b>103 J</b>	<b>702</b>	<b>199</b>	<b>95.5 J</b>	<b>196</b>	<b>137</b>

**Detections in bold**

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

N/A indicates that the parameter was not analyzed for this sample

\* indicates non-validated data

^ indicates PAHs analyzed for SIM

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.

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

**Table 5 - Parcel B3  
Summary of Organics Detected in Soil**

Parameter	Units	PAL	B3-011-SB-1	B3-011-SB-5	B3-012-SB-1*	B3-012-SB-5*	B3-013-SB-1*	B3-013-SB-5*	B3-014-SB-1	B3-014-SB-5	B3-015-SB-1	B3-015-SB-8
<b>Volatile Organic Compound</b>												
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0094 UJ
Acetone	mg/kg	670,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.013 B
Carbon disulfide	mg/kg	3,500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0047 U
<b>Semi-Volatile Organic Compound^</b>												
1,1-Biphenyl	mg/kg	200	0.077 U	0.082 U	0.071 U	0.082 U	<b>0.088</b>	0.08 U	0.081 U	0.083 U	0.084 U	0.083 U
2-Methylnaphthalene	mg/kg	3,000	0.078 U	0.0081 U	<b>0.013</b>	<b>0.0009 J</b>	<b>0.14</b>	<b>0.0018 J</b>	<b>0.00087 J</b>	0.0084 U	<b>0.01</b>	0.0085 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.16 U	0.14 U	0.16 U	0.15 U	0.16 U	0.16 U	0.17 U	0.17 U	0.17 U
Acenaphthene	mg/kg	45,000	0.078 U	0.0081 U	<b>0.0007 J</b>	0.0084 U	<b>0.0058 J</b>	0.0081 U	0.0079 U	0.0084 U	<b>0.00068 J</b>	0.0085 U
Acenaphthylene	mg/kg	45,000	<b>0.0062 J</b>	0.0081 U	<b>0.0023 J</b>	0.0084 U	<b>0.0097 J</b>	0.0081 U	0.0079 U	0.0084 U	<b>0.0017 J</b>	0.0085 U
Acetophenone	mg/kg	120,000	0.077 U	0.082 U	0.071 U	0.082 U	0.076 U	0.08 U	0.081 U	0.083 U	0.084 U	0.083 U
Anthracene	mg/kg	230,000	<b>0.013 J</b>	0.0081 U	<b>0.0061 J</b>	0.0084 U	<b>0.038 J</b>	0.0081 U	<b>0.00051 J</b>	0.0084 U	<b>0.0037 J</b>	0.0085 U
Benz[a]anthracene	mg/kg	21	<b>0.061 J</b>	0.0081 U	<b>0.026</b>	0.0084 U	<b>0.088</b>	0.0081 U	<b>0.0049 J</b>	<b>0.001 J</b>	<b>0.022</b>	<b>0.0011 J</b>
Benzaldehyde	mg/kg	120,000	0.077 U	0.082 U	0.071 U	0.082 U	0.076 U	0.08 U	0.081 U	0.083 U	0.084 U	0.083 U
Benzo[a]pyrene	mg/kg	2.1	<b>0.051 J</b>	0.0081 U	<b>0.022</b>	0.0084 U	<b>0.085</b>	0.0081 U	<b>0.0035 J</b>	0.0084 U	<b>0.021</b>	0.0085 U
Benzo[b]fluoranthene	mg/kg	21	<b>0.12</b>	0.0081 U	<b>0.052</b>	0.0084 U	<b>0.22</b>	0.0081 U	<b>0.008</b>	0.0084 U	<b>0.043</b>	0.0085 U
Benzo[g,h,i]perylene	mg/kg		<b>0.034 J</b>	0.0081 U	<b>0.018</b>	0.0084 U	<b>0.073 J</b>	0.0081 U	<b>0.0037 J</b>	0.0084 UJ	<b>0.015</b>	0.0085 U
Benzo[k]fluoranthene	mg/kg	210	<b>0.09</b>	0.0081 U	<b>0.047</b>	<b>0.002 J</b>	<b>0.17</b>	0.0081 U	<b>0.0066 J</b>	0.0084 U	<b>0.034</b>	0.0085 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.077 U	0.082 U	0.071 U	0.082 U	<b>0.03 J</b>	0.08 U	0.081 U	0.083 U	0.084 U	0.083 U
Caprolactam	mg/kg	400,000	0.19 U	0.2 U	0.18 U	0.21 U	<b>0.026 J</b>	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U
Carbazole	mg/kg		0.077 U	0.082 U	0.071 U	0.082 U	<b>0.031 J</b>	0.08 U	0.081 U	0.083 U	0.084 U	0.083 U
Chrysene	mg/kg	2,100	<b>0.05 J</b>	0.0081 U	<b>0.037</b>	<b>0.0016 J</b>	<b>0.18</b>	<b>0.0012 J</b>	<b>0.0032 J</b>	0.0084 U	<b>0.022</b>	0.0085 U
Dibenz[a,h]anthracene	mg/kg	2.1	0.078 U	0.0081 U	<b>0.0049 J</b>	0.0084 U	<b>0.02 J</b>	0.0081 U	0.0079 U	0.0084 U	<b>0.0043 J</b>	0.0085 U
Diethylphthalate	mg/kg	660,000	0.077 U	0.082 U	0.071 U	0.082 U	0.076 U	0.08 U	0.081 U	0.083 U	0.084 U	0.083 U
Di-n-ocetylphthalate	mg/kg	8,200	0.077 U	0.082 U	0.071 U	0.082 U	0.076 U	0.08 U	0.081 U	0.083 U	0.084 U	0.083 U
Fluoranthene	mg/kg	30,000	<b>0.085</b>	0.0081 U	<b>0.05</b>	<b>0.0023 J</b>	<b>0.16</b>	<b>0.00093 J</b>	<b>0.0067 J</b>	0.0084 U	<b>0.037</b>	0.0085 U
Fluorene	mg/kg	30,000	0.078 U	0.0081 U	<b>0.0013 J</b>	0.0084 U	<b>0.01 J</b>	0.0081 U	0.0079 U	0.0084 U	<b>0.00078 J</b>	0.0085 U
Hexachloroethane	mg/kg	8	0.077 U	0.082 U	0.071 U	0.082 U	<b>0.021 J</b>	0.08 U	0.081 U	0.083 U	0.084 U	0.083 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	<b>0.027 J</b>	0.0081 U	<b>0.016</b>	0.0084 U	<b>0.055 J</b>	0.0081 U	<b>0.0028 J</b>	0.0084 U	<b>0.012</b>	0.0085 U
Naphthalene	mg/kg	17	0.078 U	0.0081 U	<b>0.0095</b>	0.0084 U	<b>0.08</b>	0.0081 U	0.0079 U	0.0084 U	<b>0.0088</b>	0.0085 U
N-Nitrosodiphenylamine	mg/kg	470	0.077 U	0.082 U	0.071 U	0.082 U	0.076 U	0.08 U	0.081 U	0.083 U	0.084 U	0.083 U
Phenanthrene	mg/kg		<b>0.039 J</b>	0.0081 U	<b>0.037</b>	<b>0.0024 J</b>	<b>0.27</b>	<b>0.0027 J</b>	<b>0.003 J</b>	0.0084 U	<b>0.021</b>	0.0085 U
Phenol	mg/kg	250,000	0.077 U	0.082 U	0.071 U	0.082 U	0.076 U	0.08 U	0.081 U	0.083 U	0.084 U	0.083 U
Pyrene	mg/kg	23,000	<b>0.069 J</b>	0.0081 U	<b>0.039</b>	<b>0.0016 J</b>	<b>0.15</b>	<b>0.00087 J</b>	<b>0.0057 J</b>	0.0084 U	<b>0.032</b>	0.0085 U
<b>PCBs</b>												
Aroclor 1260	mg/kg	0.99	0.02 U	N/A	0.018 U	N/A	0.019 U	N/A	0.02 U	N/A	0.021 U	N/A
<b>TPH/Oil &amp; Grease</b>												
Diesel Range Organics	mg/kg	6,200	<b>18.5 J</b>	7.2 B	<b>10.5</b>	5.1 B	<b>34</b>	4.4 B	<b>10.7 J</b>	7.7 B	<b>15.3 J</b>	8.1 B
Gasoline Range Organics	mg/kg	6,200	4.6 B	4.3 B	<b>2.5 J</b>	<b>2.7 J</b>	<b>6.6 J</b>	<b>2.4 J</b>	2.6 B	3.4 B	8.1 B	2.8 B
Oil & Grease	mg/kg	6,200	<b>234</b>	<b>121 J</b>	<b>149</b>	<b>183</b>	<b>1,530</b>	<b>65.5 J</b>	<b>126</b>	<b>223</b>	<b>160</b>	<b>147</b>

**Detections in bold**

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

N/A indicates that the parameter was not analyzed for this sample

\* indicates non-validated data

^ indicates PAHs analyzed for SIM

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.

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

**Table 5 - Parcel B3  
Summary of Organics Detected in Soil**

Parameter	Units	PAL	B3-016-SB-1	B3-016-SB-5	B3-017-SB-1	B3-017-SB-7.5	B3-018-SB-1	B3-018-SB-8	B3-019-SB-1	B3-019-SB-5	B3-020-SB-1*	B3-020-SB-6*
<b>Volatile Organic Compound</b>												
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acetone	mg/kg	670,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Semi-Volatile Organic Compound^</b>												
1,1-Biphenyl	mg/kg	200	0.08 U	0.076 U	0.076 U	0.079 U	0.079 U	0.083 U	0.08 U	0.082 U	0.08 U	0.08 U
2-Methylnaphthalene	mg/kg	3,000	<b>0.024 J</b>	0.0078 U	0.075 U	0.008 U	<b>0.023 J</b>	0.0081 U	<b>0.047</b>	0.0081 U	<b>0.0067 J</b>	<b>0.00086 J</b>
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.16 U	0.15 U	0.15 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Acenaphthene	mg/kg	45,000	0.081 U	0.0078 U	0.075 U	0.008 U	<b>0.012 J</b>	0.0081 U	<b>0.0031 J</b>	0.0081 UJ	<b>0.0013 J</b>	0.0081 U
Acenaphthylene	mg/kg	45,000	0.081 U	0.0078 U	<b>0.0057 J</b>	0.008 U	<b>0.038 J</b>	0.0081 U	<b>0.016 J</b>	0.0081 UJ	<b>0.0014 J</b>	0.0081 U
Acetophenone	mg/kg	120,000	0.08 U	0.076 U	0.076 U	0.079 U	0.079 U	0.083 U	0.08 U	0.082 U	0.08 U	0.08 U
Anthracene	mg/kg	230,000	<b>0.0072 J</b>	0.0078 U	<b>0.017 J</b>	0.008 U	<b>0.068 J</b>	0.0081 U	<b>0.034</b>	0.0081 U	<b>0.0036 J</b>	<b>0.00059 J</b>
Benz[a]anthracene	mg/kg	21	<b>0.045 J</b>	0.0078 U	<b>0.07 J</b>	<b>0.001 J</b>	<b>0.36</b>	<b>0.0017 J</b>	<b>0.17</b>	0.0081 U	<b>0.019</b>	<b>0.0036 J</b>
Benzaldehyde	mg/kg	120,000	0.08 U	0.076 U	<b>0.028 J</b>	0.079 U	0.079 U	0.083 U	0.08 U	0.082 U	0.08 U	0.08 U
Benzo[a]pyrene	mg/kg	2.1	<b>0.036 J</b>	0.0078 U	<b>0.048 J</b>	0.008 U	<b>0.31</b>	0.0081 U	<b>0.14</b>	0.0081 U	<b>0.017</b>	<b>0.0025 J</b>
Benzo[b]fluoranthene	mg/kg	21	<b>0.078 J</b>	0.0078 U	<b>0.091</b>	0.008 U	<b>0.62</b>	0.0081 U	<b>0.3</b>	0.0081 U	<b>0.035</b>	<b>0.004 J</b>
Benzo[g,h,i]perylene	mg/kg		<b>0.025 J</b>	0.0078 U	<b>0.045 J</b>	0.008 U	<b>0.17</b>	0.0081 U	<b>0.074</b>	0.0081 U	<b>0.011</b>	<b>0.0015 J</b>
Benzo[k]fluoranthene	mg/kg	210	<b>0.061 J</b>	0.0078 U	<b>0.071 J</b>	0.008 U	<b>0.48</b>	0.0081 U	<b>0.26</b>	0.0081 U	<b>0.031</b>	0.0081 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.08 U	0.076 U	0.022 B	0.079 U	0.049 B	0.083 U	0.025 B	0.023 B	0.08 U	0.08 U
Caprolactam	mg/kg	400,000	0.2 U	0.19 U	0.19 U	0.2 U	<b>0.024 J</b>	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U
Carbazole	mg/kg		0.08 U	0.076 U	0.076 U	0.079 U	<b>0.063 J</b>	0.083 U	0.08 U	0.082 U	0.08 U	0.08 U
Chrysene	mg/kg	2,100	<b>0.03 J</b>	0.0078 U	<b>0.046 J</b>	0.008 U	<b>0.27</b>	0.0081 U	<b>0.21</b>	0.0081 U	<b>0.021</b>	<b>0.0025 J</b>
Dibenz[a,h]anthracene	mg/kg	2.1	0.081 U	0.0078 U	0.075 U	0.008 U	<b>0.033 J</b>	0.0081 U	<b>0.033</b>	0.0081 U	<b>0.0034 J</b>	0.0081 U
Diethylphthalate	mg/kg	660,000	0.08 U	0.076 U	0.076 U	0.079 U	0.079 U	0.083 U	0.017 B	0.082 U	0.08 U	0.08 U
Di-n-ocetylphthalate	mg/kg	8,200	0.08 U	0.076 U	0.076 UJ	0.079 U	0.079 UJ	0.083 U	0.08 U	0.082 U	0.08 U	0.08 U
Fluoranthene	mg/kg	30,000	<b>0.05 J</b>	0.0078 U	<b>0.1</b>	0.008 U	<b>0.58</b>	<b>0.0021 J</b>	<b>0.22</b>	0.0081 U	<b>0.028</b>	<b>0.0051 J</b>
Fluorene	mg/kg	30,000	0.081 U	0.0078 U	0.075 U	0.008 U	<b>0.011 J</b>	0.0081 U	<b>0.0069 J</b>	0.0081 U	<b>0.0012 J</b>	0.0081 U
Hexachloroethane	mg/kg	8	0.08 U	0.076 U	0.076 U	0.079 U	0.079 U	0.083 U	0.08 U	0.082 U	0.08 U	0.08 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	<b>0.019 J</b>	0.0078 U	<b>0.03 J</b>	0.008 U	<b>0.16</b>	0.0081 U	<b>0.077</b>	0.0081 U	<b>0.0097</b>	<b>0.0014 J</b>
Naphthalene	mg/kg	17	0.081 U	0.0078 U	0.075 U	0.008 U	0.079 U	0.0081 U	<b>0.036 J</b>	0.0081 UJ	<b>0.0058 J</b>	0.0081 U
N-Nitrosodiphenylamine	mg/kg	470	0.08 U	0.076 U	0.076 U	0.079 U	0.079 U	0.083 U	0.08 U	0.082 U	0.08 U	0.08 U
Phenanthrene	mg/kg		<b>0.042 J</b>	0.0078 U	<b>0.061 J</b>	<b>0.00064 J</b>	<b>0.25</b>	<b>0.0018 J</b>	<b>0.17</b>	0.0081 U	<b>0.02</b>	<b>0.003 J</b>
Phenol	mg/kg	250,000	0.08 U	0.076 U	0.076 U	0.079 U	0.079 U	0.083 U	0.08 U	0.082 U	0.08 U	0.08 U
Pyrene	mg/kg	23,000	<b>0.046 J</b>	0.0078 U	<b>0.087</b>	0.008 U	<b>0.5</b>	<b>0.0017 J</b>	<b>0.23</b>	0.0081 U	<b>0.025</b>	<b>0.0043 J</b>
<b>PCBs</b>												
Aroclor 1260	mg/kg	0.99	0.1 UJ	N/A	0.094 UJ	N/A	0.02 U	N/A	0.02 U	N/A	<b>0.0051 J</b>	N/A
<b>TPH/Oil &amp; Grease</b>												
Diesel Range Organics	mg/kg	6,200	<b>11.5 J</b>	4.3 B	<b>22.4 J</b>	5.6 B	<b>35.2 J</b>	6.1 B	<b>50.2 J</b>	4.5 B	<b>9.8</b>	3.3 B
Gasoline Range Organics	mg/kg	6,200	4.4 B	5.1 B	6.1 B	4.9 B	5.8 B	4.6 B	14.8 UJ	11.2 UJ	11.3 U	9.9 U
Oil & Grease	mg/kg	6,200	<b>107 J</b>	<b>81.4 J</b>	<b>191</b>	<b>138</b>	<b>283</b>	<b>86.2 J</b>	<b>170</b>	<b>184</b>	<b>166</b>	<b>121 J</b>

**Detections in bold**

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

N/A indicates that the parameter was not analyzed for this sample

\* indicates non-validated data

^ indicates PAHs analyzed for SIM

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.

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

**Table 5 - Parcel B3  
Summary of Organics Detected in Soil**

Parameter	Units	PAL	B3-021-SB-1	B3-021-SB-7	B3-022-SB-1	B3-022-SB-5	B3-023-SB-1	B3-023-SB-5	B3-024-SB-1*	B3-024-SB-7*	B3-025-SB-1	B3-025-SB-4
<b>Volatile Organic Compound</b>												
2-Butanone (MEK)	mg/kg	190,000	N/A	0.0092 UJ	0.011 UJ	N/A	N/A	N/A	N/A	N/A	N/A	0.0093 UJ
Acetone	mg/kg	670,000	N/A	<b>0.017 J</b>	0.011 UJ	N/A	N/A	N/A	N/A	N/A	N/A	<b>0.02 J</b>
Carbon disulfide	mg/kg	3,500	N/A	<b>0.0021 J</b>	0.0053 U	N/A	N/A	N/A	N/A	N/A	N/A	0.0046 U
<b>Semi-Volatile Organic Compound^</b>												
1,1-Biphenyl	mg/kg	200	0.081 U	0.076 U	0.079 U	0.081 U	0.087 U	0.08 U	0.08 U	0.086 U	0.074 U	0.082 U
2-Methylnaphthalene	mg/kg	3,000	<b>0.0023 J</b>	<b>0.001 J</b>	<b>0.0021 J</b>	0.0081 U	<b>0.013</b>	0.0082 U	<b>0.0099</b>	0.0084 U	<b>0.013 J</b>	0.0081 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.16 U	0.15 U	0.16 U	0.16 U	0.17 U	0.16 U	0.16 U	0.17 U	0.15 U	0.16 U
Acenaphthene	mg/kg	45,000	0.0082 UJ	0.0078 UJ	0.0078 UJ	0.0081 UJ	<b>0.00086 J</b>	0.0082 U	<b>0.0013 J</b>	0.0084 U	0.074 UJ	0.0081 UJ
Acenaphthylene	mg/kg	45,000	<b>0.00078 J</b>	<b>0.00057 J</b>	0.0078 UJ	0.0081 UJ	<b>0.0018 J</b>	0.0082 U	<b>0.0037 J</b>	0.0084 U	0.074 UJ	0.0081 UJ
Acetophenone	mg/kg	120,000	0.081 U	0.076 U	0.079 U	0.081 U	0.087 U	0.08 U	0.08 U	0.086 U	0.074 U	0.082 U
Anthracene	mg/kg	230,000	<b>0.0018 J</b>	<b>0.0013 J</b>	<b>0.00094 J</b>	0.0081 U	<b>0.0055 J</b>	0.0082 U	<b>0.0066 J</b>	0.0084 U	<b>0.0054 J</b>	0.0081 U
Benz[a]anthracene	mg/kg	21	<b>0.029 J</b>	<b>0.015</b>	0.0054 B	0.00078 B	<b>0.026</b>	<b>0.00098 J</b>	<b>0.044</b>	0.0084 U	0.074 U	0.0012 B
Benzaldehyde	mg/kg	120,000	0.081 U	0.076 U	0.079 U	0.081 U	<b>0.039 J</b>	0.08 U	0.08 U	0.086 U	0.074 U	0.082 U
Benzo[a]pyrene	mg/kg	2.1	<b>0.035 J</b>	<b>0.017</b>	0.0042 B	0.0081 U	<b>0.022</b>	0.0082 U	<b>0.041</b>	0.0084 U	0.074 U	0.0081 U
Benzo[b]fluoranthene	mg/kg	21	<b>0.08 J</b>	<b>0.036</b>	<b>0.009</b>	0.0081 U	<b>0.046</b>	0.0082 U	<b>0.082</b>	0.0084 U	<b>0.029 J</b>	0.0081 U
Benzo[g,h,i]perylene	mg/kg		<b>0.021 J</b>	<b>0.0093</b>	0.0023 B	0.0081 U	<b>0.015</b>	0.0082 U	<b>0.022</b>	0.0084 U	0.074 U	0.0081 U
Benzo[k]fluoranthene	mg/kg	210	<b>0.071 J</b>	<b>0.032</b>	<b>0.008</b>	0.0081 U	<b>0.036</b>	0.0082 U	<b>0.073</b>	0.0084 U	<b>0.024 J</b>	0.0081 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.024 B	0.076 U	0.016 B	0.021 B	0.087 U	0.08 U	0.08 U	<b>0.018 J</b>	0.048 B	0.082 U
Caprolactam	mg/kg	400,000	0.2 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 U	0.2 U	0.21 U	0.19 U	0.21 U
Carbazole	mg/kg		0.081 U	0.076 U	0.079 U	0.081 U	0.087 U	0.08 U	0.08 U	0.086 U	0.074 U	0.082 U
Chrysene	mg/kg	2,100	<b>0.047 J</b>	<b>0.018</b>	0.0043 B	0.0081 U	<b>0.023</b>	0.0082 U	<b>0.045</b>	0.0084 U	0.011 B	0.0081 U
Dibenz[a,h]anthracene	mg/kg	2.1	<b>0.0065 J</b>	<b>0.0027 J</b>	0.0078 U	0.0081 U	<b>0.0045 J</b>	0.0082 U	<b>0.008</b>	0.0084 U	0.074 U	0.0081 U
Diethylphthalate	mg/kg	660,000	0.081 U	0.076 U	0.079 U	0.081 U	0.087 U	0.08 U	0.08 U	0.086 U	0.015 B	0.082 U
Di-n-ocylphthalate	mg/kg	8,200	0.081 U	0.076 U	0.079 U	0.081 U	0.087 U	0.08 U	0.08 U	0.086 U	0.074 UJ	0.082 U
Fluoranthene	mg/kg	30,000	<b>0.065 J</b>	<b>0.02</b>	0.0072 B	0.0081 U	<b>0.04</b>	0.0082 U	<b>0.058</b>	0.0084 U	0.013 B	0.00063 B
Fluorene	mg/kg	30,000	<b>0.00073 J</b>	0.0078 U	0.0078 U	0.0081 U	<b>0.0011 J</b>	0.0082 U	<b>0.002 J</b>	0.0084 U	0.074 U	0.0081 U
Hexachloroethane	mg/kg	8	0.081 U	0.076 U	0.079 U	0.081 U	0.087 U	0.08 U	0.08 U	0.086 U	0.074 U	0.082 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	<b>0.02 J</b>	<b>0.009</b>	0.002 B	0.0081 U	<b>0.013</b>	0.0082 U	<b>0.023</b>	0.0084 U	0.074 U	0.0081 U
Naphthalene	mg/kg	17	<b>0.0051 J</b>	0.0078 UJ	0.0078 UJ	0.0081 UJ	<b>0.013</b>	0.0082 U	<b>0.01</b>	0.0084 U	0.074 UJ	0.0081 UJ
N-Nitrosodiphenylamine	mg/kg	470	0.081 U	0.076 U	0.079 U	0.081 U	0.087 U	0.08 U	0.08 U	0.086 U	0.074 U	0.082 U
Phenanthrene	mg/kg		<b>0.021 J</b>	<b>0.0069 J</b>	<b>0.0038 J</b>	0.0081 U	<b>0.024</b>	0.0082 U	<b>0.034</b>	0.0084 U	<b>0.015 J</b>	0.0081 U
Phenol	mg/kg	250,000	0.081 U	0.076 U	0.079 U	0.081 U	0.087 U	0.08 U	0.08 U	0.086 U	0.074 U	0.082 U
Pyrene	mg/kg	23,000	<b>0.05 J</b>	<b>0.016</b>	0.0061 B	0.0081 U	<b>0.035</b>	0.0082 U	<b>0.049</b>	0.0084 U	0.015 B	0.0081 U
<b>PCBs</b>												
Aroclor 1260	mg/kg	0.99	0.02 UJ	N/A	0.02 U	N/A	<b>0.012 J</b>	N/A	<b>0.0078 J</b>	N/A	0.019 U	N/A
<b>TPH/Oil &amp; Grease</b>												
Diesel Range Organics	mg/kg	6,200	<b>11.3 J</b>	7.3 B	<b>11.9 J</b>	7.2 B	<b>41.5 J</b>	7 B	<b>13.7</b>	4.8 B	<b>237 J</b>	7 B
Gasoline Range Organics	mg/kg	6,200	18.9 U	9.4 U	10.8 UJ	10.2 UJ	2.6 B	5 B	12.8 U	10.9 U	12.5 UJ	12.1 UJ
Oil & Grease	mg/kg	6,200	<b>82.4 J</b>	<b>58.2 J</b>	<b>162</b>	<b>191</b>	<b>274</b>	<b>146</b>	<b>141</b>	<b>154</b>	<b>3,520</b>	<b>285</b>

**Detections in bold**

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

N/A indicates that the parameter was not analyzed for this sample

\* indicates non-validated data

^ indicates PAHs analyzed for SIM

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.

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

**Table 5 - Parcel B3  
Summary of Organics Detected in Soil**

Parameter	Units	PAL	B3-026-SB-1*	B3-026-SB-4.5*	B3-027-SB-1	B3-027-SB-5	B3-028-SB-1	B3-028-SB-4	B3-029-SB-1	B3-029-SB-5	B3-030-SB-1*	B3-030-SB-5*
<b>Volatile Organic Compound</b>												
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.01 UJ	N/A	N/A
Acetone	mg/kg	670,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.01 UJ	N/A	N/A
Carbon disulfide	mg/kg	3,500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0051 U	N/A	N/A
<b>Semi-Volatile Organic Compound^</b>												
1,1-Biphenyl	mg/kg	200	0.075 U	<b>0.035 J</b>	0.077 U	0.083 U	0.074 U	0.078 U	0.075 U	0.079 U	0.079 U	0.076 U
2-Methylnaphthalene	mg/kg	3,000	<b>0.0098</b>	<b>0.016</b>	<b>0.017</b>	0.0084 U	<b>0.034 J</b>	0.079 U	<b>0.041 J</b>	0.0079 U	<b>0.042 J</b>	0.0078 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.14 U	0.15 U	0.17 U	0.15 U	0.16 U	0.15 U	0.16 U	0.16 U	0.15 U
Acenaphthene	mg/kg	45,000	<b>0.0087 J</b>	<b>0.019</b>	<b>0.0013 J</b>	0.0084 UJ	0.076 UJ	<b>0.009 J</b>	<b>0.081 J</b>	0.0079 UJ	<b>0.019 J</b>	0.0078 U
Acenaphthylene	mg/kg	45,000	<b>0.0022 J</b>	<b>0.0088</b>	<b>0.011 J</b>	0.0084 UJ	<b>0.0095 J</b>	<b>0.0083 J</b>	<b>0.026 J</b>	0.0079 U	<b>0.011 J</b>	0.0078 U
Acetophenone	mg/kg	120,000	0.075 U	0.071 U	0.077 U	0.083 U	0.074 U	0.078 U	0.075 U	0.079 U	<b>0.043 J</b>	0.076 U
Anthracene	mg/kg	230,000	<b>0.0051 J</b>	<b>0.021</b>	<b>0.013</b>	0.0084 U	<b>0.013 J</b>	<b>0.042 J</b>	<b>0.27</b>	0.0079 U	<b>0.034 J</b>	0.0078 U
Benz[a]anthracene	mg/kg	21	<b>0.025</b>	<b>0.1</b>	<b>0.072</b>	0.0084 U	<b>0.069 J</b>	<b>0.15</b>	<b>0.7</b>	0.0079 U	<b>0.24</b>	0.0078 U
Benzaldehyde	mg/kg	120,000	0.075 U	0.071 U	0.018 B	0.083 U	0.074 U	0.078 U	0.075 U	0.079 U	<b>0.074 J</b>	0.076 U
Benzo[a]pyrene	mg/kg	2.1	<b>0.022</b>	<b>0.15</b>	<b>0.069</b>	0.0084 U	<b>0.069 J</b>	<b>0.1 J</b>	<b>0.62</b>	0.0079 U	<b>0.23</b>	0.0078 U
Benzo[b]fluoranthene	mg/kg	21	<b>0.038</b>	<b>0.24</b>	<b>0.14</b>	0.0084 U	<b>0.14</b>	<b>0.21 J</b>	<b>1.2</b>	0.0079 U	<b>0.39</b>	0.0078 U
Benzo[g,h,i]perylene	mg/kg		<b>0.015</b>	<b>0.11</b>	<b>0.042</b>	0.0084 U	<b>0.03 J</b>	<b>0.037 J</b>	<b>0.31</b>	0.0079 U	<b>0.15</b>	0.0078 U
Benzo[k]fluoranthene	mg/kg	210	<b>0.011</b>	<b>0.069</b>	<b>0.12</b>	0.0084 U	<b>0.13</b>	<b>0.19 J</b>	<b>1.1</b>	<b>0.0015 J</b>	<b>0.14</b>	0.0078 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.075 U	0.071 U	0.041 B	0.025 B	<b>0.32 J</b>	0.078 U	0.025 B	0.079 U	<b>0.15</b>	0.076 U
Caprolactam	mg/kg	400,000	0.19 U	0.18 U	0.19 U	0.21 U	0.18 U	0.2 U	0.19 U	0.2 U	0.2 U	0.19 U
Carbazole	mg/kg		0.075 U	0.071 U	0.077 U	0.083 U	0.074 U	0.078 U	<b>0.12</b>	0.079 U	<b>0.046 J</b>	0.076 U
Chrysene	mg/kg	2,100	<b>0.029</b>	<b>0.11</b>	<b>0.074</b>	0.0084 U	<b>0.11</b>	<b>0.11</b>	<b>0.66</b>	0.0079 U	<b>0.29</b>	0.0078 U
Dibenz[a,h]anthracene	mg/kg	2.1	<b>0.0045 J</b>	<b>0.036</b>	<b>0.014</b>	0.0084 U	0.076 U	0.079 UJ	<b>0.093</b>	0.0079 U	<b>0.045 J</b>	0.0078 U
Diethylphthalate	mg/kg	660,000	0.075 U	0.071 U	0.077 U	0.083 U	0.074 U	0.078 U	0.075 U	0.079 U	<b>0.02 J</b>	0.076 U
Di-n-ocetylphthalate	mg/kg	8,200	0.075 U	0.071 U	0.077 UJ	0.083 U	0.074 UJ	0.078 U	0.075 U	0.079 U	<b>0.077 J</b>	0.076 U
Fluoranthene	mg/kg	30,000	<b>0.038</b>	<b>0.13</b>	<b>0.12</b>	0.0006 B	<b>0.1</b>	<b>0.24</b>	<b>1.5</b>	<b>0.0019 J</b>	<b>0.45</b>	0.0078 U
Fluorene	mg/kg	30,000	<b>0.0012 J</b>	<b>0.0051 J</b>	<b>0.0028 J</b>	0.0084 U	0.076 U	<b>0.011 J</b>	<b>0.074 J</b>	0.0079 U	<b>0.014 J</b>	0.0078 U
Hexachloroethane	mg/kg	8	0.075 U	0.071 U	0.077 U	0.083 U	0.074 U	0.078 U	0.075 U	0.079 U	0.079 U	0.076 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	<b>0.013</b>	<b>0.11</b>	<b>0.038</b>	0.0084 U	<b>0.022 J</b>	<b>0.037 J</b>	<b>0.29</b>	0.0079 U	<b>0.13</b>	0.0078 U
Naphthalene	mg/kg	17	<b>0.0072 J</b>	<b>0.025</b>	<b>0.018 J</b>	0.0084 UJ	0.076 UJ	0.079 UJ	<b>0.039 J</b>	0.0079 UJ	<b>0.036 J</b>	0.0078 U
N-Nitrosodiphenylamine	mg/kg	470	0.075 U	0.071 U	0.077 U	0.083 U	0.074 U	0.078 U	<b>0.024 J</b>	0.079 U	0.079 U	0.076 U
Phenanthrene	mg/kg		<b>0.03</b>	<b>0.092</b>	<b>0.056</b>	0.0084 U	<b>0.068 J</b>	<b>0.17 J</b>	<b>0.94 J</b>	<b>0.0013 J</b>	<b>0.23</b>	0.0078 U
Phenol	mg/kg	250,000	0.075 U	0.071 U	0.077 U	0.083 U	0.074 U	0.078 U	0.075 U	0.079 U	0.079 U	0.076 U
Pyrene	mg/kg	23,000	<b>0.034</b>	<b>0.091</b>	<b>0.1</b>	0.0084 U	<b>0.1</b>	<b>0.22</b>	<b>1.2</b>	<b>0.0015 J</b>	<b>0.34</b>	0.0078 U
<b>PCBs</b>												
Aroclor 1260	mg/kg	0.99	<b>0.0051 J</b>	N/A	0.019 U	N/A	0.019 UJ	N/A	0.019 UJ	N/A	<b>0.029</b>	N/A
<b>TPH/Oil &amp; Grease</b>												
Diesel Range Organics	mg/kg	6,200	<b>11.7</b>	<b>34.8</b>	<b>45.4 J</b>	6.6 B	<b>50.4 J</b>	<b>16.9 J</b>	<b>43.9 J</b>	5 B	<b>28.2</b>	2.4 B
Gasoline Range Organics	mg/kg	6,200	15.7 U	<b>7 J</b>	13.3 UJ	11.2 UJ	11.1 U	11.1 U	13.1 U	10.5 U	10.9 U	9.8 U
Oil & Grease	mg/kg	6,200	<b>127</b>	<b>273</b>	<b>196</b>	<b>176</b>	<b>4,260</b>	<b>191</b>	<b>273</b>	<b>71.8 J</b>	<b>1,130</b>	<b>170</b>

**Detections in bold**

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N/A indicates that the parameter was not analyzed for this sample

\* indicates non-validated data

^ indicates PAHs analyzed for SIM

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.

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

**Table 6 - Parcel B3  
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	B3-001-SB-1*	B3-001-SB-7*	B3-002-SB-1*	B3-002-SB-8*	B3-002-SB-10*	B3-003-SB-1*	B3-003-SB-9*
<b>Metal</b>									
Aluminum	mg/kg	1,100,000	<b>47,400</b>	<b>18,500</b>	<b>15,300</b>	<b>16,300</b>	N/A	<b>39,800</b>	<b>9,200</b>
Arsenic	mg/kg	3	2 U	<b>3</b>	<b>12.4</b>	<b>6.3</b>	<b>4.3</b>	<b>3.9</b>	<b>4.3</b>
Barium	mg/kg	220,000	<b>372</b>	<b>63</b>	<b>162</b>	<b>112</b>	N/A	<b>388</b>	<b>21.1</b>
Beryllium	mg/kg	2,300	<b>8</b>	<b>1.5</b>	<b>0.84 J</b>	<b>0.81 J</b>	N/A	<b>5.1</b>	<b>0.44 J</b>
Cadmium	mg/kg	980	1.2 U	1.6 U	<b>0.99 J</b>	<b>0.84 J</b>	N/A	<b>0.47 J</b>	1.6 U
Chromium	mg/kg	120,000	<b>9.3</b>	<b>29.9</b>	<b>43.3</b>	<b>143</b>	N/A	<b>27.8</b>	<b>10.4</b>
Chromium VI	mg/kg	6.3	0.49 B	0.97 B	0.66 B	0.79 B	N/A	0.67 B	0.79 B
Cobalt	mg/kg	350	8.2 U	<b>8.3</b>	<b>8.8</b>	<b>10</b>	N/A	<b>7.7</b>	<b>2.7 J</b>
Copper	mg/kg	47,000	<b>1.3 J</b>	<b>17.3</b>	<b>33.4</b>	<b>32.8</b>	N/A	<b>32.3</b>	<b>5.1 J</b>
Iron	mg/kg	820,000	<b>3,810</b>	<b>21,600</b>	<b>21,000</b>	<b>33,400</b>	N/A	<b>17,400</b>	<b>19,800</b>
Lead	mg/kg	800	4.1 U	<b>8.4</b>	<b>111</b>	<b>120</b>	N/A	<b>14.2</b>	<b>5.5</b>
Manganese	mg/kg	26,000	<b>2,550</b>	<b>79.2</b>	<b>822</b>	<b>3,510</b>	N/A	<b>3,820</b>	<b>37.7</b>
Mercury	mg/kg	350	0.11 U	0.12 U	<b>0.15</b>	<b>0.08 J</b>	N/A	<b>0.072 J</b>	0.14 U
Nickel	mg/kg	22,000	8.2 U	<b>20.7</b>	<b>16</b>	<b>19.3</b>	N/A	<b>7.2 J</b>	<b>7.1 J</b>
Selenium	mg/kg	5,800	3.3 U	<b>2.4 J</b>	3.5 U	3.3 U	N/A	3.7 U	<b>2 J</b>
Silver	mg/kg	5,800	<b>12.7</b>	<b>5.2</b>	<b>3.3</b>	<b>8.7</b>	N/A	<b>13</b>	<b>0.42 J</b>
Vanadium	mg/kg	5,800	<b>8.7</b>	<b>33</b>	<b>83.9</b>	<b>491</b>	N/A	<b>37.7</b>	<b>13.8</b>
Zinc	mg/kg	350,000	<b>5.9</b>	<b>56.6</b>	<b>402</b>	<b>254</b>	N/A	<b>70.6</b>	<b>16.2</b>
<b>Other</b>									
Cyanide	mg/kg	150	<b>0.8 J</b>	1.2 U	<b>0.45 J</b>	1.2 U	N/A	<b>0.39 J</b>	0.98 U

**Bold indicates detection**

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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 low.

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

**Table 6 - Parcel B3  
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	B3-004-SB-1	B3-004-SB-4	B3-005-SB-1*	B3-005-SB-8*	B3-006-SB-1*	B3-006-SB-4*	B3-006-SB-10*
<b>Metal</b>									
Aluminum	mg/kg	1,100,000	<b>18,500</b>	<b>15,300</b>	<b>11,100</b>	<b>11,900</b>	<b>61,400</b>	<b>22,300</b>	N/A
Arsenic	mg/kg	3	<b>7.3</b>	<b>13.5</b>	<b>3.5</b>	<b>6.8</b>	<b>2.7</b>	<b>20.3</b>	<b>2.5</b>
Barium	mg/kg	220,000	<b>290 J</b>	<b>54 J</b>	<b>56.8</b>	<b>54.7</b>	<b>402</b>	<b>111</b>	N/A
Beryllium	mg/kg	2,300	<b>2.1</b>	<b>0.77 J</b>	<b>0.39 J</b>	<b>1.1</b>	<b>9.6</b>	<b>1.7</b>	N/A
Cadmium	mg/kg	980	<b>0.98 J</b>	1.4 U	<b>0.39 J</b>	1.3 U	1.6 U	<b>1.8</b>	N/A
Chromium	mg/kg	120,000	<b>30.3</b>	<b>33</b>	<b>23.1</b>	<b>20.8</b>	<b>15.5</b>	<b>27.7</b>	N/A
Chromium VI	mg/kg	6.3	0.61 B	0.75 B	0.51 B	0.43 B	0.92 B	0.85 B	N/A
Cobalt	mg/kg	350	<b>8.3</b>	<b>3.7 J</b>	<b>8.1</b>	<b>3.2 J</b>	<b>0.82 J</b>	<b>4.5 J</b>	N/A
Copper	mg/kg	47,000	<b>20.4</b>	<b>14.7</b>	<b>19.8</b>	<b>9.9</b>	<b>5.4</b>	<b>15.2</b>	N/A
Iron	mg/kg	820,000	<b>16,300</b>	<b>29,300</b>	<b>26,000</b>	<b>22,100</b>	<b>6,530</b>	<b>28,700</b>	N/A
Lead	mg/kg	800	<b>79.4</b>	<b>13.4</b>	<b>14.2</b>	<b>11.4</b>	<b>4</b>	<b>13.8</b>	N/A
Manganese	mg/kg	26,000	<b>2,160 J</b>	<b>57.7 J</b>	<b>427</b>	<b>231</b>	<b>3,520</b>	<b>655</b>	N/A
Mercury	mg/kg	350	<b>0.22</b>	0.14 U	<b>0.046 J</b>	0.11 U	0.13 U	0.12 U	N/A
Nickel	mg/kg	22,000	<b>12.2</b>	<b>12.4</b>	<b>17.3</b>	<b>7.9 J</b>	<b>1.7 J</b>	<b>10.2</b>	N/A
Selenium	mg/kg	5,800	4.9 UJ	3.8 UJ	3.2 U	3.5 U	<b>4.4</b>	3.6 U	N/A
Silver	mg/kg	5,800	<b>10.3</b>	<b>5.4</b>	<b>8.5</b>	<b>2.5 J</b>	<b>14.5</b>	<b>6.9</b>	N/A
Vanadium	mg/kg	5,800	<b>67.9</b>	<b>80.7</b>	<b>24.9</b>	<b>29.3</b>	<b>14.2</b>	<b>47.3</b>	N/A
Zinc	mg/kg	350,000	<b>232 J</b>	<b>33.3 J</b>	<b>76.9</b>	<b>50.3</b>	<b>47.8</b>	<b>157</b>	N/A
<b>Other</b>									
Cyanide	mg/kg	150	<b>0.13 J</b>	0.99 U	<b>0.2 J</b>	<b>0.26 J</b>	<b>0.68 J</b>	<b>0.13 J</b>	N/A

**Bold indicates detection**

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

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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.

**Table 6 - Parcel B3  
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	B3-007-SB-1*	B3-007-SB-5*	B3-008-SB-1*	B3-008-SB-5*	B3-009-SB-1*	B3-009-SB-5*	B3-010-SB-1
<b>Metal</b>									
Aluminum	mg/kg	1,100,000	<b>49,600</b>	<b>39,800</b>	<b>12,200</b>	<b>16,400</b>	<b>11,700</b>	<b>15,100</b>	<b>17,000</b>
Arsenic	mg/kg	3	<b>3.9</b>	<b>3.9</b>	<b>4.2</b>	<b>5.5</b>	<b>6.7</b>	<b>2.1 J</b>	<b>4.9</b>
Barium	mg/kg	220,000	<b>445</b>	<b>404</b>	<b>75.5</b>	<b>143</b>	<b>94.7</b>	<b>67.5</b>	<b>93.2 J</b>
Beryllium	mg/kg	2,300	<b>7.3</b>	<b>2.9</b>	<b>0.54 J</b>	<b>1 J</b>	<b>0.58 J</b>	<b>0.34 J</b>	<b>0.91 J</b>
Cadmium	mg/kg	980	1.3 U	<b>0.9 J</b>	1.4 U	<b>0.87 J</b>	<b>0.39 J</b>	1.4 U	1.4 U
Chromium	mg/kg	120,000	<b>52.3</b>	<b>120</b>	<b>19</b>	<b>65.2</b>	<b>50.3</b>	<b>21.7</b>	<b>48.9</b>
Chromium VI	mg/kg	6.3	0.43 B	0.64 B	0.5 B	0.8 B	0.64 B	0.67 B	0.58 B
Cobalt	mg/kg	350	<b>1.4 J</b>	<b>7.4</b>	<b>3.8 J</b>	<b>4.9 J</b>	<b>5.3</b>	<b>2.8 J</b>	<b>4.9</b>
Copper	mg/kg	47,000	<b>5.2</b>	<b>45.2</b>	<b>12.7</b>	<b>29</b>	<b>26.2</b>	<b>9.7</b>	<b>17.5 J</b>
Iron	mg/kg	820,000	<b>31,200</b>	<b>17,600</b>	<b>13,200</b>	<b>26,300</b>	<b>23,000</b>	<b>8,120</b>	<b>22,200</b>
Lead	mg/kg	800	<b>6.7</b>	<b>64.1</b>	<b>30.9</b>	<b>86.9</b>	<b>70.7</b>	<b>19.6</b>	<b>45.7 J</b>
Manganese	mg/kg	26,000	<b>3,180</b>	<b>4,270</b>	<b>210</b>	<b>1,230</b>	<b>965</b>	<b>137</b>	<b>941</b>
Mercury	mg/kg	350	0.095 U	<b>0.055 J</b>	<b>0.075 J</b>	<b>0.11 J</b>	<b>0.15</b>	<b>0.01 J</b>	<b>0.065 J</b>
Nickel	mg/kg	22,000	<b>15.7</b>	<b>25.1</b>	<b>8.8 J</b>	<b>15.1</b>	<b>12.8</b>	<b>6.2 J</b>	<b>12.6</b>
Selenium	mg/kg	5,800	<b>2 J</b>	<b>1.7 J</b>	3.8 U	4.2 U	3.2 U	3.6 U	3.8 U
Silver	mg/kg	5,800	<b>10.8</b>	<b>9.8</b>	<b>1.5 J</b>	<b>3 J</b>	<b>2.5</b>	<b>1.1 J</b>	<b>3.1</b>
Vanadium	mg/kg	5,800	<b>22.5</b>	<b>62.8</b>	<b>28.5</b>	<b>79.3</b>	<b>56.1</b>	<b>25.5</b>	<b>52.6</b>
Zinc	mg/kg	350,000	<b>23.9</b>	<b>204</b>	<b>85.5</b>	<b>299</b>	<b>276</b>	<b>86.1</b>	<b>121</b>
<b>Other</b>									
Cyanide	mg/kg	150	<b>0.4 J</b>	<b>0.76 J</b>	0.88 U	1.2 U	<b>0.17 J</b>	1 U	<b>0.11 J-</b>

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**Table 6 - Parcel B3  
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	B3-010-SB-5	B3-011-SB-1	B3-011-SB-5	B3-012-SB-1*	B3-012-SB-5*	B3-013-SB-1*	B3-013-SB-5*
<b>Metal</b>									
Aluminum	mg/kg	1,100,000	<b>14,100</b>	<b>10,300</b>	<b>21,600</b>	<b>18,700</b>	<b>27,900</b>	<b>9,930</b>	<b>14,200</b>
Arsenic	mg/kg	3	<b>8.1</b>	<b>6.3</b>	<b>6.8</b>	<b>6.3</b>	<b>5.4</b>	<b>8.3</b>	<b>6.6</b>
Barium	mg/kg	220,000	<b>97.3 J</b>	<b>88.7 J</b>	<b>31.6 J</b>	<b>112</b>	<b>113</b>	<b>124</b>	<b>145</b>
Beryllium	mg/kg	2,300	<b>0.42 J</b>	<b>0.53 J</b>	<b>0.87 J</b>	<b>0.89</b>	<b>0.92 J</b>	<b>0.64 J</b>	<b>0.75 J</b>
Cadmium	mg/kg	980	<b>0.93 J</b>	1.5 U	1.4 U	1.2 U	1.6 U	<b>0.93 J</b>	1.5 U
Chromium	mg/kg	120,000	<b>356</b>	<b>23</b>	<b>28.8</b>	<b>23.4</b>	<b>33.8</b>	<b>35.4</b>	<b>23.1</b>
Chromium VI	mg/kg	6.3	0.64 B	0.48 B	1.2 B	0.49 B	0.63 B	0.79 B	0.78 B
Cobalt	mg/kg	350	<b>6.7</b>	<b>12.4</b>	<b>5.4</b>	<b>6.1</b>	<b>7.6</b>	<b>8</b>	<b>4.4 J</b>
Copper	mg/kg	47,000	<b>37.9 J</b>	<b>22.5 J</b>	<b>10.8 J</b>	<b>16.1</b>	<b>12.4</b>	<b>29.5</b>	<b>11.5</b>
Iron	mg/kg	820,000	<b>62,100</b>	<b>17,200</b>	<b>21,900</b>	<b>31,400</b>	<b>29,300</b>	<b>21,200</b>	<b>14,000</b>
Lead	mg/kg	800	<b>61.6 J</b>	<b>60.6 J</b>	<b>10.5 J</b>	<b>25.3</b>	<b>11.9</b>	<b>99</b>	<b>9.2</b>
Manganese	mg/kg	26,000	<b>8,090</b>	<b>442</b>	<b>68.9</b>	<b>651</b>	<b>97.3</b>	<b>870</b>	<b>59</b>
Mercury	mg/kg	350	<b>0.058 J</b>	<b>0.19</b>	0.1 U	<b>0.046 J</b>	<b>0.065 J</b>	<b>0.15</b>	0.15 U
Nickel	mg/kg	22,000	<b>19.8</b>	<b>14.4</b>	<b>14.1</b>	<b>10</b>	<b>14.8</b>	<b>14.5</b>	<b>13.1</b>
Selenium	mg/kg	5,800	3.8 U	3.9 U	3.7 U	3.1 U	4.1 U	3.3 U	4 U
Silver	mg/kg	5,800	<b>10.4</b>	<b>1.7 J</b>	<b>3</b>	<b>1.7 J</b>	<b>3.8</b>	<b>1.3 J</b>	<b>3.8</b>
Vanadium	mg/kg	5,800	<b>324</b>	<b>28.1</b>	<b>35.8</b>	<b>31.9</b>	<b>39.9</b>	<b>57.7</b>	<b>28.9</b>
Zinc	mg/kg	350,000	<b>223</b>	<b>127</b>	<b>39</b>	<b>62.7</b>	<b>44</b>	<b>228</b>	<b>33.8</b>
<b>Other</b>									
Cyanide	mg/kg	150	<b>0.17 J-</b>	1 UJ	1 UJ	<b>0.12 J</b>	1.3 U	<b>0.13 J</b>	1 U

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**Table 6 - Parcel B3  
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	B3-014-SB-1	B3-014-SB-5	B3-015-SB-1	B3-015-SB-8	B3-015-SB-10	B3-016-SB-1	B3-016-SB-5
<b>Metal</b>									
Aluminum	mg/kg	1,100,000	<b>20,600</b>	<b>23,600</b>	<b>12,600</b>	<b>19,800</b>	N/A	<b>19,000</b>	<b>10,200</b>
Arsenic	mg/kg	3	<b>5.2</b>	2.5 U	<b>7</b>	<b>6.3</b>	<b>4</b>	<b>8.2</b>	<b>2.7</b>
Barium	mg/kg	220,000	<b>90.8 J</b>	<b>68.5 J</b>	<b>80.5 J</b>	<b>60.1 J</b>	N/A	<b>47.5 J</b>	<b>36.4 J</b>
Beryllium	mg/kg	2,300	<b>0.82 J</b>	<b>0.67 J</b>	<b>0.9 J</b>	<b>0.74 J</b>	N/A	<b>0.65 J</b>	<b>0.28 J</b>
Cadmium	mg/kg	980	1.4 U	1.5 U	<b>0.98 J</b>	1.4 U	N/A	1.4 U	1.4 U
Chromium	mg/kg	120,000	<b>28.6</b>	<b>29.7</b>	<b>45.4</b>	<b>37.8</b>	N/A	<b>30.4</b>	<b>9.8</b>
Chromium VI	mg/kg	6.3	1.1 B	0.61 B	0.62 B	0.68 B	N/A	0.76 B	0.53 B
Cobalt	mg/kg	350	<b>4.5 J</b>	<b>5.6</b>	<b>17.2</b>	<b>3.9 J</b>	N/A	<b>4.8</b>	<b>1.5 J</b>
Copper	mg/kg	47,000	<b>12.9 J</b>	<b>8.6 J</b>	<b>38.4 J</b>	<b>11.5 J</b>	N/A	<b>13.1 J</b>	<b>3.5 J</b>
Iron	mg/kg	820,000	<b>21,400</b>	<b>7,890</b>	<b>32,100</b>	<b>19,400</b>	N/A	<b>25,900</b>	<b>7,130</b>
Lead	mg/kg	800	<b>20.1 J</b>	<b>8.2 J</b>	<b>96.8 J</b>	<b>33.7 J</b>	N/A	<b>15.9 J</b>	<b>5.8 J</b>
Manganese	mg/kg	26,000	<b>341</b>	<b>24.9</b>	<b>1,830</b>	<b>33.1</b>	N/A	<b>128</b>	<b>15.5</b>
Mercury	mg/kg	350	<b>0.028 J</b>	<b>0.02 J</b>	<b>0.073 J</b>	<b>0.04 J</b>	N/A	<b>0.14</b>	0.1 U
Nickel	mg/kg	22,000	<b>11.4</b>	<b>13.1</b>	<b>20.6</b>	<b>10.1</b>	N/A	<b>13.8</b>	<b>4.2 J</b>
Selenium	mg/kg	5,800	3.7 U	3.9 U	4.1 U	3.8 U	N/A	3.7 U	3.8 U
Silver	mg/kg	5,800	<b>4.4</b>	<b>2.1 J</b>	<b>1.8 J</b>	<b>0.64 J</b>	N/A	<b>4.1</b>	<b>0.74 J</b>
Vanadium	mg/kg	5,800	<b>45.5</b>	<b>18.9</b>	<b>63.9</b>	<b>43</b>	N/A	<b>41.6</b>	<b>16.7</b>
Zinc	mg/kg	350,000	<b>60.6</b>	<b>30.9</b>	<b>393</b>	<b>40.5</b>	N/A	<b>54.4</b>	<b>10.8</b>
<b>Other</b>									
Cyanide	mg/kg	150	1.2 UJ	1.1 UJ	1 U	1.2 U	N/A	1 UJ	1.1 UJ

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**Table 6 - Parcel B3  
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	B3-017-SB-1	B3-017-SB-7.5	B3-018-SB-1	B3-018-SB-8	B3-019-SB-1	B3-019-SB-5
<b>Metal</b>								
Aluminum	mg/kg	1,100,000	<b>9,040</b>	<b>11,100</b>	<b>13,900</b>	<b>10,300</b>	<b>9,080</b>	<b>24,800</b>
Arsenic	mg/kg	3	<b>8.7</b>	<b>3.7</b>	<b>7.2</b>	<b>12.8</b>	<b>5.9</b>	<b>3.4</b>
Barium	mg/kg	220,000	<b>87.6 J</b>	<b>50.4 J</b>	<b>90.5 J</b>	<b>17.8 J</b>	<b>114</b>	<b>129</b>
Beryllium	mg/kg	2,300	<b>0.67 J</b>	<b>0.48 J</b>	<b>0.73 J</b>	<b>1.2</b>	<b>0.49 J</b>	<b>0.61 J</b>
Cadmium	mg/kg	980	<b>0.95 J</b>	1.5 U	<b>1 J</b>	1.5 U	<b>1.1 J</b>	1.7 U
Chromium	mg/kg	120,000	<b>38</b>	<b>15.2</b>	<b>31.5</b>	<b>22.5</b>	<b>24.8</b>	<b>27.5</b>
Chromium VI	mg/kg	6.3	0.65 B	0.65 B	0.64 B	0.99 B	0.44 B	0.66 B
Cobalt	mg/kg	350	<b>5</b>	<b>2.8 J</b>	<b>11.5</b>	<b>8.4</b>	<b>7.4</b>	<b>4.7 J</b>
Copper	mg/kg	47,000	<b>20.3 J</b>	<b>6.3 J</b>	<b>24.5 J</b>	<b>8.3 J</b>	<b>30</b>	<b>8.1</b>
Iron	mg/kg	820,000	<b>16,100</b>	<b>10,400</b>	<b>26,300</b>	<b>65,200</b>	<b>14,000</b>	<b>10,500</b>
Lead	mg/kg	800	<b>73.2 J</b>	<b>9.4 J</b>	<b>77.1 J</b>	<b>22.7 J</b>	<b>110</b>	<b>8.1</b>
Manganese	mg/kg	26,000	<b>604</b>	<b>136</b>	<b>653</b>	<b>459</b>	<b>547</b>	<b>26.8</b>
Mercury	mg/kg	350	<b>6.8</b>	<b>0.049 J</b>	<b>0.14</b>	<b>0.0043 J</b>	<b>0.1 J</b>	0.11 U
Nickel	mg/kg	22,000	<b>8.3 J</b>	<b>6.6 J</b>	<b>19.5</b>	<b>9.3 J</b>	<b>13.2</b>	<b>11.8</b>
Selenium	mg/kg	5,800	3.6 U	4 U	3.9 U	4 U	3.7 U	4.5 U
Silver	mg/kg	5,800	<b>3.3</b>	<b>1 J</b>	<b>2.9</b>	<b>1.3 J</b>	<b>1.4 J</b>	<b>2.3 J</b>
Vanadium	mg/kg	5,800	<b>41.1</b>	<b>19.4</b>	<b>48.4</b>	<b>43.3</b>	<b>37</b>	<b>23.7</b>
Zinc	mg/kg	350,000	<b>157</b>	<b>23.7</b>	<b>236</b>	<b>33.1</b>	<b>254</b>	<b>27.5</b>
<b>Other</b>								
Cyanide	mg/kg	150	1 U	1.2 UJ	1.1 UJ	1.2 UJ	1.1 U	1.1 U

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**Table 6 - Parcel B3  
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	B3-020-SB-1*	B3-020-SB-6*	B3-021-SB-1	B3-021-SB-7	B3-022-SB-1	B3-022-SB-5
<b>Metal</b>								
Aluminum	mg/kg	1,100,000	<b>12,800</b>	<b>17,900</b>	<b>18,800</b>	<b>11,500</b>	<b>16,700</b>	<b>20,300</b>
Arsenic	mg/kg	3	<b>6.2</b>	2.6 U	<b>5.3</b>	2.9 U	<b>4.3</b>	<b>18.4</b>
Barium	mg/kg	220,000	<b>87.3</b>	<b>27.6</b>	<b>62 J</b>	<b>65.2 J</b>	<b>63.6</b>	<b>61.7</b>
Beryllium	mg/kg	2,300	<b>0.7 J</b>	<b>0.86 J</b>	<b>0.85 J</b>	<b>0.43 J</b>	<b>0.45 J</b>	<b>0.67 J</b>
Cadmium	mg/kg	980	<b>1.1 J</b>	1.5 U	1.5 U	1.7 U	1.4 U	1.4 U
Chromium	mg/kg	120,000	<b>40.7</b>	<b>14.4</b>	<b>29.5</b>	<b>11.1</b>	<b>21.9</b>	<b>33.2</b>
Chromium VI	mg/kg	6.3	0.66 B	0.55 B	0.56 B	0.47 B	0.71 B	0.72 B
Cobalt	mg/kg	350	<b>9.4</b>	<b>3.1 J</b>	<b>5.8</b>	<b>3.2 J</b>	<b>8.1</b>	<b>3.3 J</b>
Copper	mg/kg	47,000	<b>34.6</b>	<b>13</b>	<b>10.3</b>	<b>2.2 J</b>	<b>13.2</b>	<b>9.9</b>
Iron	mg/kg	820,000	<b>24,700</b>	<b>8,440</b>	<b>26,800</b>	<b>8,740</b>	<b>15,800</b>	<b>22,800</b>
Lead	mg/kg	800	<b>86.3</b>	<b>8.9</b>	<b>11.6</b>	<b>5.3</b>	<b>22.4</b>	<b>11.8</b>
Manganese	mg/kg	26,000	<b>895</b>	<b>24.4</b>	<b>90.9 J</b>	<b>30.9 J</b>	<b>327</b>	<b>51.1</b>
Mercury	mg/kg	350	<b>0.062 J</b>	0.13 U	<b>0.017 J</b>	0.11 U	<b>0.031 J</b>	<b>0.034 J</b>
Nickel	mg/kg	22,000	<b>16.4</b>	<b>7.6 J</b>	<b>13.2</b>	<b>8.2 J</b>	<b>11.4</b>	<b>9.8</b>
Selenium	mg/kg	5,800	4.2 U	4.1 U	4.1 UJ	4.6 UJ	<b>1.9 J</b>	3.7 U
Silver	mg/kg	5,800	<b>2.3 J</b>	<b>0.58 J</b>	<b>2.7 J</b>	<b>0.45 J</b>	<b>2.6 J</b>	<b>0.93 J</b>
Vanadium	mg/kg	5,800	<b>61.5</b>	<b>13.7</b>	<b>37.1</b>	<b>16.8</b>	<b>34.7</b>	<b>52.7</b>
Zinc	mg/kg	350,000	<b>310</b>	<b>14.5</b>	<b>57 J</b>	<b>17.5 J</b>	<b>80</b>	<b>33.9</b>
<b>Other</b>								
Cyanide	mg/kg	150	<b>0.11 J</b>	1.1 U	<b>0.25 J</b>	<b>0.32 J</b>	1.1 U	1.2 U

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**Table 6 - Parcel B3  
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	B3-022-SB-10	B3-023-SB-1	B3-023-SB-5	B3-024-SB-1*	B3-024-SB-7*	B3-024-SB-10*
<b>Metal</b>								
Aluminum	mg/kg	1,100,000	N/A	<b>11,600</b>	<b>8,200</b>	<b>13,900</b>	<b>18,900</b>	N/A
Arsenic	mg/kg	3	<b>14.3 J</b>	<b>5.2</b>	<b>2.3 J</b>	<b>6.3</b>	<b>11.1</b>	<b>8</b>
Barium	mg/kg	220,000	N/A	<b>107 J</b>	<b>19.8 J</b>	<b>83.3</b>	<b>104</b>	N/A
Beryllium	mg/kg	2,300	N/A	<b>0.8 J</b>	<b>0.34 J</b>	<b>0.66 J</b>	<b>0.67 J</b>	N/A
Cadmium	mg/kg	980	N/A	<b>0.96 J</b>	1.4 U	<b>0.53 J</b>	1.6 U	N/A
Chromium	mg/kg	120,000	N/A	<b>44.3</b>	<b>11</b>	<b>33.4</b>	<b>40.2</b>	N/A
Chromium VI	mg/kg	6.3	N/A	0.58 B	0.67 B	0.65 B	0.71 B	N/A
Cobalt	mg/kg	350	N/A	<b>4.3 J</b>	<b>1.6 J</b>	<b>7.8</b>	<b>3.4 J</b>	N/A
Copper	mg/kg	47,000	N/A	<b>29.5 J</b>	<b>4.4 J</b>	<b>29.3</b>	<b>16</b>	N/A
Iron	mg/kg	820,000	N/A	<b>26,100</b>	<b>6,970</b>	<b>18,800</b>	<b>22,600</b>	N/A
Lead	mg/kg	800	N/A	<b>78.5 J</b>	<b>5.2 J</b>	<b>81.2</b>	<b>14.1</b>	N/A
Manganese	mg/kg	26,000	N/A	<b>1,220</b>	<b>16.8</b>	<b>499</b>	<b>38.3</b>	N/A
Mercury	mg/kg	350	N/A	<b>0.047 J</b>	0.13 U	<b>0.054 J</b>	0.12 U	N/A
Nickel	mg/kg	22,000	N/A	<b>13.3</b>	<b>5.6 J</b>	<b>13.4</b>	<b>8.4 J</b>	N/A
Selenium	mg/kg	5,800	N/A	4 U	3.9 U	3.6 U	4.2 U	N/A
Silver	mg/kg	5,800	N/A	<b>3.7</b>	<b>0.68 J</b>	<b>1.9 J</b>	<b>1.1 J</b>	N/A
Vanadium	mg/kg	5,800	N/A	<b>71.6</b>	<b>19.4</b>	<b>65.5</b>	<b>62.9</b>	N/A
Zinc	mg/kg	350,000	N/A	<b>366</b>	<b>24.7</b>	<b>152</b>	<b>32.9</b>	N/A
<b>Other</b>								
Cyanide	mg/kg	150	N/A	1.3 U	1.2 U	1.2 U	1.1 U	N/A

**Bold indicates detection**

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

N/A indicates that the parameter was not analyzed for this sample

\* indicates non-validated data

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 low.

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

**Table 6 - Parcel B3  
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	B3-025-SB-1	B3-025-SB-4	B3-026-SB-1*	B3-026-SB-4.5*	B3-027-SB-1	B3-027-SB-5
<b>Metal</b>								
Aluminum	mg/kg	1,100,000	<b>45,600</b>	<b>22,700</b>	<b>15,900</b>	<b>7,500</b>	<b>18,900</b>	<b>22,500</b>
Arsenic	mg/kg	3	<b>2.8</b>	<b>5.5</b>	<b>4.9</b>	<b>7.7</b>	<b>4.6</b>	<b>4.3</b>
Barium	mg/kg	220,000	<b>902</b>	<b>65.5</b>	<b>78.2</b>	<b>61.9</b>	<b>106</b>	<b>62.9</b>
Beryllium	mg/kg	2,300	<b>5.5</b>	<b>0.9</b>	<b>0.82 J</b>	<b>0.18 J</b>	<b>0.77 J</b>	<b>0.51 J</b>
Cadmium	mg/kg	980	1.3 U	1.3 U	<b>0.78 J</b>	<b>0.54 J</b>	<b>0.46 J</b>	1.6 U
Chromium	mg/kg	120,000	<b>63.2</b>	<b>28.8</b>	<b>36.7</b>	<b>818</b>	<b>41.6</b>	<b>32.7</b>
Chromium VI	mg/kg	6.3	0.66 B	1 B	0.62 B	<b>1.3</b>	0.75 B	0.85 B
Cobalt	mg/kg	350	<b>4 J</b>	<b>5.3</b>	<b>11.8</b>	<b>11.4</b>	<b>5</b>	<b>1.9 J</b>
Copper	mg/kg	47,000	<b>17.4</b>	<b>9</b>	<b>59.5</b>	<b>108</b>	<b>17.1</b>	<b>8.4</b>
Iron	mg/kg	820,000	<b>31,800</b>	<b>20,400</b>	<b>23,000</b>	<b>257,000</b>	<b>17,800</b>	<b>28,600</b>
Lead	mg/kg	800	<b>8</b>	<b>9.7</b>	<b>69.2</b>	<b>107</b>	<b>39.2</b>	<b>11.2</b>
Manganese	mg/kg	26,000	<b>9,960</b>	<b>64.2</b>	<b>696</b>	<b>21,100</b>	<b>1,070</b>	<b>31.5</b>
Mercury	mg/kg	350	0.1 U	0.15 U	<b>0.016 J</b>	0.1 U	<b>0.06 J</b>	<b>0.098 J</b>
Nickel	mg/kg	22,000	<b>10.8</b>	<b>13.8</b>	<b>15</b>	<b>49.1</b>	<b>13.1</b>	<b>8.3 J</b>
Selenium	mg/kg	5,800	<b>1.8 J</b>	3.4 U	3.4 U	3.2 U	3.8 U	<b>2.5 J</b>
Silver	mg/kg	5,800	<b>39.1</b>	<b>3.4</b>	<b>1.4 J</b>	<b>59</b>	<b>2.9</b>	<b>5</b>
Vanadium	mg/kg	5,800	<b>278</b>	<b>39.3</b>	<b>56</b>	<b>2,250</b>	<b>44.3</b>	<b>43.7</b>
Zinc	mg/kg	350,000	<b>33.3</b>	<b>32.3</b>	<b>267</b>	<b>140</b>	<b>128</b>	<b>19.2</b>
<b>Other</b>								
Cyanide	mg/kg	150	<b>0.56 J</b>	1.1 U	<b>0.16 J</b>	<b>0.25 J</b>	1.1 U	1.1 U

**Bold indicates detection**

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

N/A indicates that the parameter was not analyzed for this sample

\* indicates non-validated data

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 but may be biased low.

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

**Table 6 - Parcel B3  
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	B3-028-SB-1	B3-028-SB-4	B3-029-SB-1	B3-029-SB-5	B3-030-SB-1*	B3-030-SB-5*
<b>Metal</b>								
Aluminum	mg/kg	1,100,000	<b>39,000</b>	<b>2,580</b>	<b>18,000</b>	<b>19,200</b>	<b>15,800</b>	<b>15,600</b>
Arsenic	mg/kg	3	<b>4.7</b>	<b>2.3 J</b>	<b>8.5</b>	<b>4.2</b>	<b>4.6</b>	<b>6.2</b>
Barium	mg/kg	220,000	<b>522 J</b>	<b>51 J</b>	<b>223 J</b>	<b>54.8 J</b>	<b>119</b>	<b>35.7</b>
Beryllium	mg/kg	2,300	<b>4.6</b>	0.93 U	<b>1.6</b>	<b>0.67 J</b>	<b>1.1</b>	<b>0.54 J</b>
Cadmium	mg/kg	980	<b>1.9</b>	1.4 U	<b>1 J</b>	1.3 U	<b>1 J</b>	1.5 U
Chromium	mg/kg	120,000	<b>51</b>	<b>12.4</b>	<b>84</b>	<b>26.7</b>	<b>641</b>	<b>16.1</b>
Chromium VI	mg/kg	6.3	0.61 B	0.63 B	0.57 B	1.2 UJ	0.61 B	0.85 B
Cobalt	mg/kg	350	<b>4.4</b>	<b>1.1 J</b>	<b>10.7</b>	<b>4.9</b>	<b>7.5</b>	<b>4.2 J</b>
Copper	mg/kg	47,000	<b>27.6</b>	<b>10.3</b>	<b>46.9</b>	<b>10.3</b>	<b>38.9</b>	<b>7.4</b>
Iron	mg/kg	820,000	<b>23,400</b>	<b>5,380</b>	<b>38,800</b>	<b>20,700</b>	<b>127,000</b>	<b>27,100</b>
Lead	mg/kg	800	<b>71</b>	<b>38.5</b>	<b>108</b>	<b>9.5</b>	<b>89.4</b>	<b>6.3</b>
Manganese	mg/kg	26,000	<b>6,660 J</b>	<b>269 J</b>	<b>2,890 J</b>	<b>111 J</b>	<b>11,700</b>	<b>38.7</b>
Mercury	mg/kg	350	0.094 U	<b>0.4</b>	<b>0.18</b>	0.1 U	<b>0.083 J</b>	0.11 U
Nickel	mg/kg	22,000	<b>11.7</b>	<b>3.4 J</b>	<b>33.5</b>	<b>14</b>	<b>18.9</b>	<b>9.1 J</b>
Selenium	mg/kg	5,800	<b>2 J</b>	3.7 UJ	4.2 UJ	3.6 UJ	4.1 U	4 U
Silver	mg/kg	5,800	<b>22.1</b>	<b>1.5 J</b>	<b>7.8</b>	<b>4</b>	<b>8.3</b>	<b>0.58 J</b>
Vanadium	mg/kg	5,800	<b>113</b>	<b>13.2</b>	<b>189</b>	<b>35.3</b>	<b>520</b>	<b>23.8</b>
Zinc	mg/kg	350,000	<b>358 J</b>	<b>136 J</b>	<b>328 J</b>	<b>42.6 J</b>	<b>309</b>	<b>21.7</b>
<b>Other</b>								
Cyanide	mg/kg	150	<b>0.63 J</b>	<b>0.3 J</b>	<b>1.4</b>	1.2 U	<b>1.6</b>	1.1 U

**Bold indicates detection**

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**Table 7 - Parcel B3**  
**Soil PAL Exceedances for Specific Targets**

<u>Target Feature</u>	<u>Boring ID</u>	<u>Sample Depth (ft)</u>	<u>Parameter</u>	<u>PAL</u>	<u>Result (mg/kg)</u>	<u>Final Flag</u>
Electric Substations	B3-001-SB	7	Arsenic	3	3	
	B3-002-SB	1	Arsenic	3	12.4	
		8	Arsenic	3	6.3	
		10	Arsenic	3	4.3	
	B3-003-SB	1	Arsenic	3	3.9	
		9	Arsenic	3	4.3	
	B3-004-SB	1	Arsenic	3	7.3	
		4	Arsenic	3	13.5	
Former #2 Fuel UST (1,000 gallons)	B3-005-SB	1	Arsenic	3	3.5	
		8	Arsenic	3	6.8	
	B3-006-SB	4	Arsenic	3	20.3	
Roll Grinding Facility	B3-007-SB	1	Arsenic	3	3.9	
		5	Arsenic	3	3.9	
	B3-008-SB	1	Arsenic	3	4.2	
		5	Arsenic	3	5.5	
	B3-009-SB	1	Arsenic	3	6.7	
	B3-010-SB	1	Arsenic	3	4.9	
5		Arsenic	3	8.1		
Roll Grinding Facility Sanitary Line	B3-011-SB	1	Arsenic	3	6.3	
		5	Arsenic	3	6.8	
	B3-012-SB	1	Arsenic	3	6.3	
		5	Arsenic	3	5.4	
Temporary Stockpile and Laydown Area	B3-013-SB	1	Arsenic	3	8.3	
		5	Arsenic	3	6.6	
	B3-014-SB	1	Arsenic	3	5.2	

**Table 8 - Parcel B3**  
**Summary of VOCs Detected in Sub-Slab Soil Gas**

Parameter	Units	PAL	B3-031-SG	B3-032-SG	B3-033-SG	B3-034-SG	B3-035-SG	B3-036-SG	B3-037-SG
<b>Volatile Organic Compound</b>									
1,1,1-Trichloroethane	µg/m3	2,200,000	<b>392</b>	<b>449</b>	<b>214</b>	<b>59.1</b>	<b>3.93</b>	1.09 U	<b>2.06</b>
1,2,4-Trimethylbenzene	µg/m3	3,100	<b>6.43</b>	<b>2.71</b>	<b>2.73</b>	0.98 U	<b>1.58</b>	0.98 U	<b>2.4</b>
1,2-Dichloroethene (Total)	µg/m3	2,700	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	<b>2.26</b>
1,3,5-Trimethylbenzene	µg/m3	2,200	<b>1.78</b>	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U
1,4-Dioxane	µg/m3	250	<b>11.6</b>	<b>11.5</b>	<b>16.2</b>	0.72 U	0.72 U	0.72 U	0.72 U
2-Butanone (MEK)	µg/m3	2,200,000	<b>19.5</b>	<b>14.3</b>	<b>10.1</b>	<b>26.1</b>	<b>12.3</b>	<b>10.6</b>	<b>37.6</b>
2-Hexanone	µg/m3	14,000	<b>0.86</b>	0.82 U	<b>1.05</b>	<b>1.31</b>	<b>0.88</b>	0.82 U	<b>2.06</b>
4-Methyl-2-pentanone (MIBK)	µg/m3	1,400,000	<b>4.65</b>	<b>3.36</b>	<b>2.54</b>	<b>5.23</b>	<b>1.34</b>	0.82 U	<b>1.61</b>
Acetone	µg/m3	14,000,000	<b>68.5</b>	<b>1,050</b>	<b>60.8</b>	<b>124</b>	<b>40.2</b>	<b>22.8</b>	<b>296</b>
Benzene	µg/m3	1,600	<b>5.3</b>	<b>23</b>	<b>5.61</b>	<b>4.3</b>	<b>2.18</b>	<b>2.83</b>	<b>3.91</b>
Bromodichloromethane	µg/m3		<b>21.6</b>	<b>1.55</b>	<b>3.83</b>	<b>12</b>	<b>11</b>	1.34 U	<b>4.42</b>
Carbon disulfide	µg/m3	310,000	<b>91.5</b>	<b>3.5</b>	<b>29.6</b>	<b>54.9</b>	<b>109</b>	<b>58.2</b>	<b>231</b>
Chloroform	µg/m3	540	<b>236</b>	<b>7.5</b>	<b>58.4</b>	<b>131</b>	<b>80</b>	<b>4.42</b>	<b>16.3</b>
Chloromethane	µg/m3	40,000	<b>0.72</b>	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Cyclohexane	µg/m3	2,700,000	<b>5.32</b>	<b>9.74</b>	<b>2.84</b>	<b>4.21</b>	<b>3.38</b>	1.07 J	<b>1.45 J</b>
Dichlorodifluoromethane	µg/m3	44,000	<b>2.06</b>	<b>2.23</b>	<b>1.8</b>	<b>1.8</b>	<b>2.3</b>	0.99 U	<b>2.44</b>
Ethylbenzene	µg/m3	5,000	<b>7.03</b>	<b>3.25</b>	<b>4.23</b>	<b>6.42</b>	<b>1.08</b>	0.87 U	<b>1.75</b>
Methyl tert-butyl ether (MTBE)	µg/m3	48,000	<b>1.25</b>	<b>0.72 U</b>	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
Methylene Chloride	µg/m3	270,000	<b>2.53</b>	<b>2.16</b>	<b>2.22</b>	<b>1.74</b>	<b>0.87</b>	0.78 U	<b>1.01</b>
Naphthalene	µg/m3	370	<b>3.44</b>	<b>5.37</b>	<b>2.06 J</b>	2.62 U	<b>1.06 J</b>	2.62 U	<b>3.55</b>
Tetrachloroethene	µg/m3	18,000	<b>19.3</b>	<b>21.2</b>	<b>20.9</b>	5.24 B	1.36 U	1.36 U	<b>12.4</b>
Toluene	µg/m3	2,200,000	<b>27.1</b>	<b>22.3</b>	<b>16.9</b>	<b>14.9</b>	<b>6.38</b>	<b>2.33</b>	<b>9.96</b>
trans-1,2-Dichloroethene	µg/m3	27,000	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	<b>2.2</b>
Trichloroethene	µg/m3	880	1.07 U	1.07 U	<b>1.57</b>	1.07 U	1.07 U	1.07 U	1.07 U
Trichlorofluoromethane	µg/m3	310,000	<b>1.18</b>	<b>1.67</b>	<b>1.31</b>	<b>1.33</b>	<b>1.25</b>	1.12 U	1.12 U
Vinyl chloride	µg/m3	2,800	<b>0.94</b>	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Xylenes	µg/m3	44,000	<b>27.4</b>	<b>15.1</b>	<b>17</b>	<b>15.5</b>	<b>4.5</b>	<b>1.36</b>	<b>7.66</b>

**Detections in bold**

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

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

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

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



## Table 9 - Parcel B3

### Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
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**Sample:** *B3-010-SB-5*

2,3,4,6-Tetrachlorophenol	0.08	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.2	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.08	mg/kg	210	no	R
2,4-Dichlorophenol	0.08	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.08	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.2	mg/kg	1,600	no	R
2-Chlorophenol	0.08	mg/kg	5,800	no	R
2-Methylphenol	0.08	mg/kg	41,000	no	R
Pentachlorophenol	0.2	mg/kg	4	no	R

**Sample:** *B3-015-SB-8*

1,4-Dioxane	0.094	mg/kg	24	no	R
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**Sample:** *B3-021-SB-7*

1,4-Dioxane	0.092	mg/kg	24	no	R
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**Sample:** *B3-029-SB-5*

1,4-Dioxane	0.1	mg/kg	24	no	R
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**Table 10 - Parcel B3  
COPC Screening Analysis**

Parameter	CAS#	Location of Max Result	Max Detection (mg/kg)	Final Flag	Min Detection (mg/kg)	Average Detection (mg/kg)	Total Samples	Frequency of Detection (%)	Cancer TR=1E-06 (mg/kg)	Non-Cancer HQ=0.1 (mg/kg)	COPC?
1,1-Biphenyl	92-52-4	B3-013-SB-1	0.088		0.035	0.06	60	3.33	410	20	no
2-Butanone (MEK)	78-93-3	B3-007-SB-5	0.0057	J	0.0057	0.006	8	12.50		19,000	no
2-Methylnaphthalene	91-57-6	B3-013-SB-1	0.14		0.00086	0.02	60	61.67		300	no
Acenaphthene	83-32-9	B3-029-SB-1	0.081	J	0.00068	0.02	60	33.33		4,500	no
Acenaphthylene	208-96-8	B3-007-SB-5	0.23		0.00057	0.02	60	43.33			no
Acetone	67-64-1	B3-007-SB-5	0.029		0.017	0.02	8	37.50		67,000	no
Acetophenone	98-86-2	B3-010-SB-5	0.053	J	0.043	0.05	60	3.33		12,000	no
Aluminum	7429-90-5	B3-006-SB-1	61,400		2,580	19,057	60	100.00		110,000	no
Anthracene	120-12-7	B3-007-SB-5	0.5		0.00051	0.04	60	61.67		23,000	no
Aroclor 1260	11096-82-5	B3-030-SB-1	0.029		0.0032	0.01	30	23.33	0.99		no
Arsenic	7440-38-2	B3-006-SB-4	20.3		2.1	6.34	65	93.85	3	48	YES (C)
Barium	7440-39-3	B3-025-SB-1	902		17.8	133	60	100.00		22,000	no
Benz[a]anthracene	56-55-3	B3-007-SB-5	1.5		0.00098	0.13	60	71.67	21		no
Benzaldehyde	100-52-7	B3-010-SB-5	0.076	J	0.022	0.05	60	8.33	820	12,000	no
Benzo[a]pyrene	50-32-8	B3-007-SB-5	1.1		0.0025	0.14	60	61.67	2.1	22	no
Benzo[b]fluoranthene	205-99-2	B3-003-SB-1	2.3		0.004	0.26	60	65.00	21		no
Benzo[g,h,i]perylene	191-24-2	B3-003-SB-1	0.81		0.00086	0.10	60	60.00			no
Benzo[k]fluoranthene	207-08-9	B3-029-SB-1	1.1		0.0015	0.15	60	66.67	210		no
Beryllium	7440-41-7	B3-006-SB-1	9.6		0.18	1.40	60	98.33	6,900	230	no
bis(2-Ethylhexyl)phthalate	117-81-7	B3-005-SB-1	1.2		0.018	0.20	60	18.33	160	1,600	no
Cadmium	7440-43-9	B3-028-SB-1	1.9		0.39	0.91	60	40.00	9,300	98	no
Caprolactam	105-60-2	B3-010-SB-5	0.028	J	0.024	0.03	60	5.00		40,000	no
Carbazole	86-74-8	B3-003-SB-1 & B3-006-SB-1 & B3-007-SB-5	0.2		0.031	0.13	60	13.33			no
Carbon disulfide	75-15-0	B3-007-SB-5	0.0051		0.0021	0.003	8	37.50		350	no
Chromium	7440-47-3	B3-026-SB-4.5	818		9.3	63.1	60	100.00		180,000	no
Chromium VI	18540-29-9	B3-026-SB-4.5	1.3		1.3	1.30	60	1.67	6.3	350	no
Chrysene	218-01-9	B3-003-SB-1	1.5		0.0012	0.16	60	66.67	2,100		no
Cobalt	7440-48-4	B3-015-SB-1	17.2		0.82	5.88	60	98.33	1,900	35	no
Copper	7440-50-8	B3-026-SB-4.5	108		1.3	20.0	60	100.00		4,700	no
Cyanide	57-12-5	B3-030-SB-1	1.6		0.11	0.42	60	41.67		120	no

**Table 10 - Parcel B3  
COPC Screening Analysis**

Parameter	CAS#	Location of Max Result	Max Detection (mg/kg)	Final Flag	Min Detection (mg/kg)	Average Detection (mg/kg)	Total Samples	Frequency of Detection (%)	Cancer TR=1E-06 (mg/kg)	Non-Cancer HQ=0.1 (mg/kg)	COPC?
Dibenz[a,h]anthracene	53-70-3	B3-003-SB-1	0.24		0.0027	0.04	60	36.67	2.1		no
Diethylphthalate	84-66-2	B3-004-SB-4	0.051	J	0.02	0.03	60	5.00		66,000	no
Di-n-ocetylphthalate	117-84-0	B3-030-SB-1	0.077	J	0.022	0.05	60	3.33		820	no
Fluoranthene	206-44-0	B3-003-SB-1	3.5		0.00093	0.30	60	73.33		3,000	no
Fluorene	86-73-7	B3-007-SB-5	0.16		0.00073	0.02	60	35.00		3,000	no
Hexachloroethane	67-72-1	B3-013-SB-1	0.021	J	0.021	0.02	60	1.67	8	46	no
Indeno[1,2,3-c,d]pyrene	193-39-5	B3-003-SB-1	0.7		0.0014	0.09	60	56.67	21		no
Iron	7439-89-6	B3-026-SB-4.5	257,000		3,810	27,395	60	100.00		82,000	YES (NC)
Lead <sup>^</sup>	7439-92-1	B3-002-SB-8	120		4	40.2	60	98.33		800	no
Manganese	7439-96-5	B3-026-SB-4.5	21,100		15.5	1,694	60	100.00		2,600	YES (NC)
Mercury	7439-97-6	B3-017-SB-1	6.8		0.0043	0.26	60	63.33		35	no
Naphthalene	91-20-3	B3-007-SB-5	0.35		0.0038	0.04	60	33.33	17	59	no
Nickel	7440-02-0	B3-026-SB-4.5	49.1		1.7	13.2	60	98.33	64,000	2,200	no
N-Nitrosodiphenylamine	86-30-6	B3-029-SB-1	0.024	J	0.024	0.02	60	1.67	470		no
Phenanthrene	85-01-8	B3-003-SB-1	2.1		0.00064	0.17	60	78.33			no
Phenol	108-95-2	B3-010-SB-5	0.073	J	0.073	0.07	60	1.67		25,000	no
Pyrene	129-00-0	B3-003-SB-1	2.7		0.00087	0.24	60	73.33		2,300	no
Selenium	7782-49-2	B3-006-SB-1	4.4		1.7	2.30	60	15.00		580	no
Silver	7440-22-4	B3-026-SB-4.5	59		0.42	5.78	60	100.00		580	no
Vanadium	7440-62-2	B3-026-SB-4.5	2,250		8.7	105	60	100.00		580	YES (NC)
Zinc	7440-66-6	B3-002-SB-1	402		5.9	125	60	100.00		35,000	no

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

COPC = Constituent of Potential Concern

C = Compound was identified as a cancer COPC

NC = Compound was identified as a non-cancer COPC

TR = Target Risk

HQ = Hazard Quotient

<sup>^</sup>The COPC screening level for lead was not adjusted to the HQ=0.1 because lead is not assessed in the SLRA.

The 800 mg/kg PAL is relevant to the Adult Lead Model procedure.

**Table 11 - Parcel B3  
Assessment of Lead**

<b>Exposure Unit</b>	<b>Surface/Sub-Surface</b>	<b>Arithmetic Mean (mg/kg)</b>
Site-Wide (54.3 ac.)	Surface	54.1
	Sub-Surface	25.1
	Pooled	39.6

<b>Adult Lead Model (ALM) Risk Levels</b>	
<b>Soil Concentration (mg/kg)</b>	<b>Probability of Blood Concentration of 10 ug/dL</b>
2,518 mg/kg	5%
3,216 mg/kg	10%

**Table 12 - Parcel B3  
Soil Exposure Point Concentrations**

			Site-Wide (54.3 ac.)					
			Surface Soil EPCs		Sub-Surface Soil EPCs		Pooled Soil EPCs	
Parameter	Cancer COPC Screening Level (mg/kg)	Non-Cancer COPC Screening Level (mg/kg)	EPC Type Site-Wide	EPC Site-Wide (mg/kg)	EPC Type Site-Wide	EPC Site-Wide (mg/kg)	EPC Type Site-Wide	EPC Site-Wide (mg/kg)
Arsenic	3.00	48.0	95% KM (t) UCL	<b>6.40</b>	95% Adjusted Gamma KM-UCL	<b>7.94</b>	95% Approximate Gamma KM-UCL	<b>6.90</b>
Iron		82,000	95% Chebyshev (Mean, Sd) UCL	41,755	95% Chebyshev (Mean, Sd) UCL	65,420	95% Chebyshev (Mean, Sd) UCL	47,031
Manganese		2,600	95% H-UCL	<b>3,724</b>	95% Chebyshev (Mean, Sd) UCL	<b>4,630</b>	95% H-UCL	<b>5,421</b>
Vanadium		580	95% Chebyshev (Mean, Sd) UCL	155	95% Chebyshev (Mean, Sd) UCL	462	95% Chebyshev (Mean, Sd) UCL	273

**Bold indicates EPC higher than lowest COPC Screening Level**  
COPC = Constituent of Potential Concern

**Table 13 - Parcel B3  
Surface Soils  
Composite Worker Risk Ratios**

		<b>Site-Wide (54.3 ac.)</b>				
		<b>EPC mg/kg</b>	<b>Composite Worker</b>			
<b>Parameter</b>	<b>Target Organ</b>		<b>RSLs</b>		<b>Risk Estimates</b>	
			<b>Cancer</b>	<b>Non-Cancer</b>	<b>Risk</b>	<b>HQ</b>
<b>Arsenic</b>	<b>Cardiovascular; Dermal</b>	6.40	3.00	480	2.1E-06	0.01
<b>Iron</b>	<b>Gastrointestinal</b>	41,755		820,000		0.05
<b>Manganese</b>	<b>Nervous</b>	3,724		26,000		0.1
<b>Vanadium</b>	<b>Dermal</b>	155		5,800		0.03
					<b>2E-06</b>	<b>↓</b>

RSLs were obtained from the EPA Regional Screening Levels at [https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl\\_search](https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search)

Total HI	Cardiovascular	0
	Dermal	0
	Gastrointestinal	0
	Nervous	0

**Table 14 - Parcel B3  
Sub-Surface Soils  
Composite Worker Risk Ratios**

		<b>Site-Wide (54.3 ac.)</b>				
		<b>EPC mg/kg</b>	<b>Composite Worker</b>			
<b>Parameter</b>	<b>Target Organ</b>		<b>RSLs</b>		<b>Risk Estimates</b>	
			<b>Cancer</b>	<b>Non-Cancer</b>	<b>Risk</b>	<b>HQ</b>
<b>Arsenic</b>	<b>Cardiovascular; Dermal</b>	7.94	3.00	480	2.6E-06	0.02
<b>Iron</b>	<b>Gastrointestinal</b>	65,420		820,000		0.08
<b>Manganese</b>	<b>Nervous</b>	4,630		26,000		0.2
<b>Vanadium</b>	<b>Dermal</b>	462		5,800		0.08
					<b>3E-06</b>	<b>↓</b>

RSLs were obtained from the EPA Regional Screening Levels at [https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl\\_search](https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search)

Total HI	Cardiovascular	0
	Dermal	0
	Gastrointestinal	0
	Nervous	0

**Table 15 - Parcel B3  
Pooled Soils  
Composite Worker Risk Ratios**

		<b>Site-Wide (54.3 ac.)</b>				
		<b>EPC mg/kg</b>	<b>Composite Worker</b>			
<b>Parameter</b>	<b>Target Organ</b>		<b>RSLs</b>		<b>Risk Estimates</b>	
			<b>Cancer</b>	<b>Non-Cancer</b>	<b>Risk</b>	<b>HQ</b>
<b>Arsenic</b>	<b>Cardiovascular; Dermal</b>	6.90	3.00	480	2.3E-06	0.01
<b>Iron</b>	<b>Gastrointestinal</b>	47,031		820,000		0.06
<b>Manganese</b>	<b>Nervous</b>	5,421		26,000		0.2
<b>Vanadium</b>	<b>Dermal</b>	273		5,800		0.05
					<b>2E-06</b>	<b>↓</b>

RSLs were obtained from the EPA Regional Screening Levels at [https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl\\_search](https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search)

Total HI	Cardiovascular	0
	Dermal	0
	Gastrointestinal	0
	Nervous	0

**Table 16 - Parcel B3  
Surface Soils  
Construction Worker Risk Ratios**

<b>250 Day</b>		<b>Site-Wide (54.3 ac.)</b>				
		<b>EPC mg/kg</b>	<b>Construction Worker</b>			
<b>SSLs</b>			<b>Risk Estimates</b>			
<b>Cancer</b>	<b>Non-Cancer</b>		<b>Risk</b>	<b>HQ</b>		
<b>Parameter</b>	<b>Target Organ</b>					
<b>Arsenic</b>	<b>Cardiovascular; Dermal</b>	6.40	15.1	96.5	4.2E-07	0.07
<b>Iron</b>	<b>Gastrointestinal</b>	41,755		240,541		0.2
<b>Manganese</b>	<b>Nervous</b>	3,724		4,275		0.9
<b>Vanadium</b>	<b>Dermal</b>	155		1,606		0.1
					<b>4E-07</b>	<b>↓</b>

SSLs calculated using equations in the EPA Supplemental Guidance dated 2002

Guidance Equation Input Assumptions:

- 5 cars/day (2 tons/car)
- 5 trucks/day (20 tons/truck)
- 3 meter source depth thickness

Total HI	Cardiovascular	0
	Dermal	0
	Gastrointestinal	0
	Nervous	1

**Table 17 - Parcel B3  
Sub-Surface Soils  
Construction Worker Risk Ratios**

<b>250 Day</b>		<b>Site-Wide (54.3 ac.)</b>				
		<b>EPC mg/kg</b>	<b>Construction Worker</b>			
<b>Parameter</b>	<b>Target Organ</b>		<b>SSLs</b>		<b>Risk Estimates</b>	
			<b>Cancer</b>	<b>Non-Cancer</b>	<b>Risk</b>	<b>HQ</b>
<b>Arsenic</b>	<b>Cardiovascular; Dermal</b>	7.94	15.1	96.5	5.3E-07	0.08
<b>Iron</b>	<b>Gastrointestinal</b>	65,420		240,541		0.3
<b>Manganese</b>	<b>Nervous</b>	4,630		4,275		1
<b>Vanadium</b>	<b>Dermal</b>	462		1,606		0.3
					<b>5E-07</b>	<b>↓</b>

SSLs calculated using equations in the EPA Supplemental Guidance dated 2002

Guidance Equation Input Assumptions:

- 5 cars/day (2 tons/car)
- 5 trucks/day (20 tons/truck)
- 3 meter source depth thickness

Total HI	Cardiovascular	0
	Dermal	0
	Gastrointestinal	0
	Nervous	1

**Table 18 - Parcel B3  
Pooled Soils  
Construction Worker Risk Ratios**

<b>250 Day</b>		<b>Site-Wide (54.3 ac.)</b>				
		<b>EPC mg/kg</b>	<b>Construction Worker</b>			
<b>Parameter</b>	<b>Target Organ</b>		<b>SSLs</b>		<b>Risk Estimates</b>	
			<b>Cancer</b>	<b>Non-Cancer</b>	<b>Risk</b>	<b>HQ</b>
<b>Arsenic</b>	<b>Cardiovascular; Dermal</b>	6.90	15.1	96.5	4.6E-07	0.07
<b>Iron</b>	<b>Gastrointestinal</b>	47,031		240,541		0.2
<b>Manganese</b>	<b>Nervous</b>	5,421		4,275		1
<b>Vanadium</b>	<b>Dermal</b>	273		1,606		0.2
					<b>5E-07</b>	<b>↓</b>

SSLs calculated using equations in the EPA Supplemental Guidance dated 2002

Guidance Equation Input Assumptions:

- 5 cars/day (2 tons/car)
- 5 trucks/day (20 tons/truck)
- 3 meter source depth thickness

Total HI	Cardiovascular	0
	Dermal	0
	Gastrointestinal	0
	Nervous	1

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## APPENDIX A

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Parcel B3 Sampling Plan Summary  
 Table 1: Soil Boring  
 Former Sparrows Point Steel Mill  
 Sparrows Point, Maryland

Source Area Description	REC & Finding/ SWMU/AOC	Figure or Drawing of Reference	RATIONALE	Number of Locations	Sample Locations	Boring Depth	Sample Depth	Analytical Parameters: Soil Samples
Electric Substations (2)		Drawing 5035	Investigate potential impacts related to electric substations (potential leaks or releases).	4	B3-001 through B3-004	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC*, SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
Former #2 Fuel UST (1000 gallons)		UST Closure Report (hand sketch)	Investigate potential impacts related to the former #2 Fuel UST (1000 gallons) removed on December 6, 1989 (potential leaks or releases).	2	B3-005 and B3-006	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC*, SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
Roll Grinding Facility		Drawing 5535	Investigate potential impacts related to the Roll Grinding Facility (potential leaks or releases).	4	B3-007 through B3-010	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC*, SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
Roll Grinding Facility Sanitary Line		Drawing 5535	Investigate potential impacts related to the sanitary line, in particular cornered segments, leading from the Roll Grinding Facility (potential leaks or releases).	2	B3-011 and B3-012	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC*, SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
Temporary Stockpile and Laydown Area		Drawing 5535	Investigate potential impacts related to the temporary stockpile and laydown area (potential leaks or releases).	2	B3-013 and B3-014	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC*, SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
Parcel B3 Coverage			Investigate potential impacts related to unknown historical activities, and characterize soil in areas not previously sampled.	16	B3-015 through B3-030	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC*, SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
<b>Total:</b>				30				

Soil Borings Sampling Density Requirements (from **Worksheet 17 - Sampling Design and Rationale**)

*No Engineered Barrier (16-40 acres): 1 boring per 1.5 acres with no less than 15.*

*Engineered Barrier (16-40 acres): 1 boring per 3 acres with no less than 7.*

No Engineered Barrier (32.6 acres) = **22 Borings Required, 22 Proposed**

Engineered Barrier (21.7 acres) = **8 Borings Required, 8 Proposed**

Parking/Roads (17.7 acres)

Buildings (4.0 acres)

VOC - Volatile Organic Compounds (Target Compound List)

SVOCs - Semivolatile Organic Compounds (Target Compound List)

Metals - (Target Analyte List plus Hexavalent Chromium and Cyanide)

DRO/GRO - Diesel Range Organics/Gasoline Range Organics

O&G - Oil and Grease

\*VOCs are only collected if the PID reading exceeds 10 ppm

bgs - Below Ground Surface

Parcel B3 Sampling Plan Summary  
 Table 2: Sub-Slab Soil Gas  
 Former Sparrows Point Steel Mill  
 Sparrows Point, Maryland

Source Area/ Description	REC & Finding/ SWMU/ AOC	Figure or Drawing of Reference	RATIONALE	Number of Locations	Sample Locations	Boring Depth	Sample Depth	Analytical Parameters: Near-Slab Soil Gas
MCM Building (formerly Roll Grinding Facility)	N/A	Aerial View	Investigate potential impacts related to any historical activities which may have occurred within or adjacent to the MCM Building (potential leaks or releases).	4	B3-031 through B3-034	6 inches below bottom of concrete slab	6 inches below bottom of concrete slab	VOCs
Tradepoint Atlantic Office (formerly Employee Services and Human Resource Building)	N/A	Aerial View	Investigate potential impacts related to any historical activities which may have occurred within or adjacent to the Tradepoint Atlantic Office (potential leaks or releases).	3	B3-035 through B3-037	6 inches below bottom of concrete slab	6 inches below bottom of concrete slab	VOCs
<b>Total</b>				<b>7</b>				

Soil Gas Sampling Density Requirements (from **Worksheet 17 - Sampling Design and Rationale**)

*Soil Gas: 1 sample collected per 20,000 ft<sup>2</sup>, with a minimum of 3 per building*

Tradepoint Atlantic Office Investigation Area (34,333 ft<sup>2</sup>) = **3 samples required, 3 proposed**

Total Floor Area = 63,333 ft<sup>2</sup>

Crawl Space Area (north) = 29,000 ft<sup>2</sup>

Remaining Floor Area (south) = 34,333 ft<sup>2</sup>

MCM Building (35,565 ft<sup>2</sup>) = **3 samples required, 4 proposed**

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## APPENDIX B

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Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/23/17  
 Weather : Cloudy, 60s  
 Northing (US ft) : 567968.98  
 Easting (US ft) : 1462160.34

**Boring ID: B3-001-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-001-SB-1	(0-1') SILTY SAND with GRAVEL, brown, moist, no plasticity, non cohesive	SM	Wet at 9.5' bgs
		2.1		(1-2.2') SLAG, brown, dry, no plasticity, non cohesive	SW/GW	
	82	1.2		(2.2-5') SILTY CLAY grading to CLAY, very firm, grayish brown with yellowish red mottling, dry, low plasticity, cohesive	CL	
		0.9				
		0.2				
5		0.9		(5-9') CLAY, very firm, light gray to light brown with yellowish red mottling, moist, low to medium plasticity, cohesive	CL	
		2.1	B3-001-SB-7			
	100	1.4				
		0.5				
		0.3		(9-10') CLAYEY SAND grading to SAND, very fine to medium grained, medium dense to dense, very light gray with trace reddish yellow motting, very moist to wet at 9.5' bgs, no plasticity, non cohesive	SC-SW	
10		-		(10-12.2') SAND, fine to medium dense, yellowish red, wet, no plasticity, non cohesive	SW	
		-				
	100	-		(12.2-14.6') SANDY CLAY, soft, yellowish red, very moist, low plasticity, non cohesive	CL	
		-				
		-		(14.6-15') SILTY CLAY, soft, dark grayish brown, very moist, low plasticity, cohesive	CL	
15				End of boring		

Total Borehole Depth: 15' bgs.  
 Boring terminated at 15' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/23/17  
 Weather : Cloudy 60s  
 Northing (US ft) : 567940.85  
 Easting (US ft) : 1462163.47

**Boring ID: B3-002-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		0.4	B3-002-SB-1	(0-1.2') GRAVELLY SAND with SILT, medium dense, brown, very moist	SW/GW	Trace organics
	94	0.7		(1.2-5') SILTY CLAY grading to CLAY with trace GRAVEL, very firm to hard, dry to moist, olive and gray with trace yellowish red, low plasticity, cohesive	CL	
		0.8				
		0.4				
		0.3				
5		-		(5-7.5') CLAY, firm to very firm, olive and gray with trace reddish yellow, moist, medium plasticity, cohesive	CL	
	90	2.3				
		2.8	B3-002-SB-8	(7.5-9') CLAY, soft, olive and gray with trace reddish yellow, very moist, medium plasticity, cohesive	CL	
		0.2				
		0.2	B3-002-SB-10	(9-13') CLAY with SAND, soft, olive and gray with trace reddish yellow, very moist, medium plasticity, cohesive	CL	
10		-				
	70	-				
		-		(13-14.3') SAND with trace CLAY lenses, fine to coarse grained, brownish yellow, wet, no plasticity, non cohesive	SW	Wet at 13' bgs
		-		(14.3-15') CLAY with SAND, soft, olive and gray with trace reddish yellow, very moist, medium plasticity, cohesive	CL	
15				End of boring		

Total Borehole Depth: 15' bgs.  
 Boring terminated at 15' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/23/17  
 Weather : Cloudy 60s  
 Northing (US ft) : 567597.10  
 Easting (US ft) : 1462465.91

**Boring ID: B3-003-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-003-SB-1	(0-0.8') GRAVEL, loose, white and gray, dry, no plasticity, non cohesive	GP	
		0.2		(0.8-2') SILT with CLAY, soft, yellowish red, dry, no plasticity, non cohesive	ML	
	78	0.8		(2-2.4') GRAVEL SLAG and MARBLE, coarse to cobble-sized, gray and white, loose, dry, no plasticity, non cohesive	GW	
		0.5		(2.4-9') SILTY CLAY grading to CLAY with trace SAND, firm to very firm, brownish yellow to light brown with reddish yellow mottling, moist, low plasticity grading to medium plasticity, cohesive	CL	
5		0.0				
		1.2				
	100	0.7			CL	
		2.2	B3-003-SB-9			
		0.0		(9-9.7') CLAYEY SAND, firm, very pale brown with trace reddish yellow, wet, no plasticity, non cohesive		SC
10				(9.7-10') SAND, medium dense to dense, very pale brown with reddish mottling, wet, no plasticity, non cohesive	SW	Wet at 9' bgs
				End of boring		

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water



**ARM Group Inc.**  
Earth Resource Engineers  
and Consultants

Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/22/17  
 Weather : Cloudy 60s

Northing (US ft) : 567594.23  
 Easting (US ft) : 1462431.46

**Boring ID: B3-004-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-004-SB-1	(0-0.8') Non-native GRAVELLY SAND, medium to coarse grained, loose, dark brown, no plasticity, non cohesive	SW/GW	
		0.0		(0.8-6') CLAYEY SILT, very firm, light grayish to brown with reddish yellow mottling, moist, low plasticity, cohesive	ML	
80		0.0				
		6.5	B3-004-SB-4			
		0.1				
5		2.8				
		0.0		(6-8.9') CLAYEY SILT, fine to meduim grained, soft, light grayish brown, very moist, low plasticity, cohesive	ML	
100		0.0				
		0.0				
		0.0		(8.9-10') SAND, dense, light grayish brown grading to reddish yellow, wet, no plasticity, non cohesive	SW	Wet at 8.9' bgs
10				End of Boring		

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 6/21/17  
 Weather : Sunny, 90s  
 Northing (US ft) : 567954.86  
 Easting (US ft) : 1462402.79

**Boring ID: B3-005-SB**

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Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0			B3-005-SB-1	(0-0.5') SILT with SAND, very firm, brown, dry, no plasticity, non cohesive	ML	Moderate organic matter
				(0.5-3.2') SILTY SAND, very fine to medium grained, loose, very pale brown, dry, no plasticity, non cohesive	SM	
				(3.2-8.4') SILTY SAND with some GRAVEL, very fine to medium grained, dense, very pale brown, dry, no plasticity, non cohesive		
5					SM	
			B3-005-SB-8			
				(8.4-8.9') SAND, medium to coarse grained, medium dense, light red, wet, no plasticity, non cohesive	SM	Wet at 8.4' bgs
				(8.9-9.5') SANDY SILT, soft, light grayish brown and reddish yellow, very moist, low plasticity, cohesive	ML	
				(9.5-10') SILTY SAND, medium dense, light grayish brown and reddish yellow, wet, no plasticity, non cohesive	SM	
10				End of boring		

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 6/21/17  
 Weather : Sunny, 90s  
 Northing (US ft) : 567942.21  
 Easting (US ft) : 1462389.54

**Boring ID: B3-006-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-006-SB-1	(0-1') SANDY SILT, very firm, brown, dry, no plasticity, non cohesive	ML	Moderate organic matter
	84	9.7		(1-3') SAND with SILT and very small GRAVEL, very fine to medium grained, medium dense, light brown, dry, no plasticity, non cohesive	SW-SM	
		12.7				
		13.8	B3-006-SB-4	(3-10') SILTY CLAY with some GRAVEL and trace SAND, very firm, dark yellowish brown, dry then very moist from 8-9' bgs, low plasticity, cohesive		
		2.3				
5		0.0			CL	
	100	0.0				
		0.0				
		0.0	B3-006-SB-10			
		0.0		(10-10.5') SANDY SILT, soft, light grayish brown, very moist, low plasticity, cohesive	ML	
		0.0		(10.5-12.5') SAND with SILT, very fine to medium grained, medium dense to dense, light brownish gray and very light brown with reddish yellow, wet, no plasticity, non cohesive	SW	
	100	0.0		(12.5-15') CLAY, soft, very light brown and light brownish gray, very moist, low plasticity, cohesive	CL	
15		0.0		End of boring		

Total Borehole Depth: 15' bgs.  
 Boring terminated at 15' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 6/21/17  
 Weather : Sunny, 90s  
 Northing (US ft) : 567209.55  
 Easting (US ft) : 1462007.29

**Boring ID: B3-007-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS	
0			B3-007-SB-1	(0-0.5') SILT with trace SAND and GRAVEL, soft brown, dry, no plasticity, non cohesive	ML	Light organic matter	
				(0.5-2') SILTY CLAY, very firm, brown and reddish yellow, dry, low plasticity, cohesive	CL		
	86	0.0		(2-4.2') Non-native SAND with GRAVEL, fine to very coarse grained, medium dense, grayish brown, dry, no plasticity, non cohesive	SW/GW		
		3.0					
		22.2	B3-007-SB-5	(4.2-4.5') SILT, hard, dark brown to black, dry, no plasticity, non cohesive	ML		
				(4.5-5') SLAG GRAVEL with SAND and SILT, loose, light gray and black, wet, no plasticity, non cohesive	GW/SW		
5		0.0		(5-8') SILTY CLAY, hard to firm, very light brown, light brownish gray, and reddish yellow mottling, low plasticity, cohesive	CL		
	100	9.7					
		0.0		(8-10') SAND, fine to medium grading to fine to coarse grained, medium dense, very pale brown grading to reddish yellow, wet, no plasticity, non cohesive	SW		
10			End of boring				Wet at 8' bgs

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 6/21/17  
 Weather : Sunny, 90s

Northing (US ft) : 567378.07  
 Easting (US ft) : 1461992.29

**Boring ID: B3-008-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-008-SB-1	(0-7') SILT with some large GRAVEL, light brown then black from 4-5' bgs, dry, no plasticity, non cohesive	ML	Light organic matter
	94	0.0				
		0.0				
		0.0	B3-008-SB-5			
5		0.0				
		0.0		(7-7.5') SILT, soft, grayish brown, very moist, low plasticity, cohesive	ML	Wet at 8.5' bgs
	90	0.0		(7.5-8') SILT with some large GRAVEL, hard, light brown, dry, no plasticity, non cohesive	ML	
		0.0		(8-10') SAND, fine to medium grained, light brown grading to light gray, very moist then wet at 8.5' bgs, no plasticity, non cohesive	SW	
10		0.0		End of boring		

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 6/21/17  
 Weather : Sunny, 90s  
 Northing (US ft) : 567339.35  
 Easting (US ft) : 1462139.26

**Boring ID: B3-009-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-009-SB-1	(0-1') SILT with SAND, very firm, light brown, dry, no plasticity, non cohesive	ML	Light organic matter
		0.0		(1-2') SANDY SILT, hard, light brown, dry, no plasticity, non cohesive	ML	
	82	0.0		(2-3.9') Non-native SAND with GRAVEL, medium dense, light gray and light grayish brown, dry, no plasticity, non cohesive	SW/GW	
		0.4				
		0.0	B3-009-SB-5	(3.9-5') SILT, hard grading to soft, brown grading to gray, dry then moist from 4.5-5' bgs, low plasticity, cohesive	ML	
5		0.0		(5-7.5') SAND, fine to medium grained, dense, gray, light brown, and reddish yellow, moist, no plasticity, non cohesive	SW	
	100	0.0		(7.5-9.1') SAND, fine to medium grained, dense, light brownish gray then reddish yellow from 8.5-9.1' bgs, wet, no plasticity, non cohesive	SW	Wet at 7.5' bgs
		0.0		(9.1-10') SILTY CLAY, soft, very pale brown with reddish yellow mottling, low plasticity, cohesive	CL	
10			End of boring			

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/25/17  
 Weather : Sunny 50s  
 Northing (US ft) : 567206.89  
 Easting (US ft) : 1462155.04

**Boring ID: B3-010-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-010-SB-1	(0-0.4') SILT with SAND and GRAVEL, soft, brown, moist, low plasticity, cohesive	ML	Light organic matter
				(0.4-3.2') SILT with SAND and GRAVEL, very soft, brown, very moist, low plasticity, cohesive	ML	
	80	0.2			ML	
		0.7				
		0.2		(3.2-5') SILT with SAND and GRAVEL, hard, brown, dry, low plasticity, cohesive	ML	
		1.5	B3-010-SB-5		ML	
5		0.0		(5-7.6') CLAY, hard, light grayish brown, dry, medium plasticity, cohesive	CL	Wet at 7.4' bgs
		0.0			CL	
	100	0.0		(7.6-9') SANDY CLAY, soft, brownish yellow, wet, low plasticity, cohesive	CL	
		0.0		(9-10') SAND, fine to medium grained, medium dense to dense, wet, no plasticity, non cohesive	SW	
10				End of boring		

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/25/17  
 Weather : Sunny 60s  
 Northing (US ft) : 567237.04  
 Easting (US ft) : 1461807.82

**Boring ID: B3-011-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		0.0	B3-011-SB-1	(0-0.5') SILT, soft, dark brown, moist	ML	Wet at 8' bgs
		0.0		(0.5-3') SILT with GRAVEL from 0.7-1.5' bgs, very firm, brown, dry, low plasticity, cohesive	ML	
	92	0.0				
		0.0		(3-6') CLAY, very firm, reddish brown and light grayish brown, moist, medium plasticity, cohesive		
		0.0	B3-011-SB-5		CL	
5		0.3				
		0.4		(6-8') SANDY CLAY, soft, brown, very moist, low plasticity, cohesive	CL	
	100	0.2				
		0.1		(8-9.7') SAND, fine to coarse grained, light brownish gray, wet, no plasticity, non cohesive	SW	
		0.1				
10				(9.7-10') SANDY CLAY, soft, light gray and reddish yellow mottling, medium plasticity, cohesive	CL	
				End of boring		

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to refusals.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 6/21/17  
 Weather : Sunny 90s  
 Northing (US ft) : 567310.56  
 Easting (US ft) : 1461801.44

**Boring ID: B3-012-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		0.0	B3-012-SB-1	(0-0.5') SILT, firm, brown, dry, no plasticity, non cohesive	ML	Moderate organic matter
		0.0		(0.5-3') SILT with SAND, hard, gray brown and reddish yellow, dry, no plasticity, non cohesive	ML	
	92	0.0				
		0.0	B3-012-SB-5	(3-6.3') SILTY CLAY, very firm to hard, brown and reddish yellow then light gray with reddish yellow, dry then very moist from 5.5-6.3' bgs, low plasticity, cohesive	CL	
5		0.0				
		0.0		(6.3-7.8') SANDY SILT, soft, light gray and reddish yellow mottling, wet, low plasticity, cohesive	ML	Wet at 6.3' bgs
	100	0.0		(7.8-10') SAND with SILT, very fine to medium grained, medium dense, very pale brown, reddish yellow, and very light brown, wet, no plasticity, non cohesive	SW-SM	
10				End of boring		

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to refusals.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 6/21/17  
 Weather : Sunny 90s  
 Northing (US ft) : 567334.35  
 Easting (US ft) : 1461678.45

**Boring ID: B3-013-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		0.0	B3-013-SB-1	(0-1') SILT with SAND, soft, brown, dry, no plasticity, non cohesive	ML	Light organic matter
		0.0		(1-5.5') CLAYEY SILT, hard, light grayish brown, brown, and reddish yellow, dry, low plasticity, cohesive	ML	
84		0.0				
		0.0	B3-013-SB-5		SW-SM	
5		0.0		(5.5-6') SILT, very soft, grayish brown, very moist, low plasticity, cohesive		
		0.0		(6-7.5') SAND with SILT, very fine to medium grained, medium dense, pale brown grading to grayish brown with reddish yellow, wet, no plasticity, non cohesive		SW-SM
		0.0		(7.5-8.2') SAND, fine to coarse grained, reddish brown and light grayish brown, wet, no plasticity, non cohesive	SW	Wet at 6' bgs
92		0.0		(8.2-10') CLAY with SAND, soft, very pale brown with reddish yellow, very moist, low plasticity, cohesive	CL	
10				End of boring		

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to refusals.



**ARM Group Inc.**  
Earth Resource Engineers  
and Consultants

Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/25/17  
 Weather : Cloudy 60's  
 Northing (US ft) : 567257.29  
 Easting (US ft) : 1461687.84

**Boring ID: B3-014-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-014-SB-1	(0-1') SILT, soft, grayish brown, moist, low plasticity, cohesive	ML	Wet at 6' bgs
		0.3		(1-5') SILTY CLAY, hard, light grayish brown and reddish yellow mottling, dry to moist, low plasticity, cohesive	CL	
	86	0.5				
		0.7				
		0.0	B3-014-SB-5			
5		0.0		(5-6') CLAYEY SILT with SAND, very soft, gray, very moist, low plasticity, cohesive	ML	
		0.0		(6-6.8') SANDY CLAY, soft, brownish yellow, wet, low plasticity, cohesive	CL	
	100	0.0		(6.8-9') SAND, fine to coarse grained, reddish yellow to yellowish red, wet, no plasticity, non cohesive	SW	
		0.0		(9-10') CLAY with trace SAND, firm to very firm, light gray, moist, low plasticity, cohesive	CL	
10			End of boring			

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/25/17  
 Weather : Rainy 50s  
 Northing (US ft) : 566357.86  
 Easting (US ft) : 1461948.97

**Boring ID: B3-015-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-015-SB-1	(0-0.6') SILT, soft, brown, moist, low plasticity, cohesive	ML	Light organic matter
		3.7		(0.6-2.5') CLAY with SAND, hard, pale brown with reddish yellow mottling	CL	
80		37.0		(2.6-3.5') SANDY CLAY, hard, very pale brown with yellowish mottling, moist, low plasticity, cohesive	CL	
		7.4		(3.5-4.5') CLAYEY SAND, dense, very pale brown and reddish yellow, very moist, no plasticity, non cohesive	SC	
5		1.2		(4.5-5') SAND, fine to coarse grained, medium dense, very pale brown and reddish yellow, very moist, no plasticity, non cohesive	SW	
		3.9		(5-10') CLAY, hard, very pale brown and light gray with reddish yellow mottling, moist, medium plasticity, cohesive	CL	
100		10.9	B3-015-SB-8			
		4.2				
		2.2	B3-015-SB-10			
10		-		(10-14.5') CLAY, soft, light gray, very moist, medium plasticity, cohesive	CL	
		-				
90		-				
		-				
15		-		(14.5-15') CLAYEY SAND, medium dense, reddish yellow, wet, no plasticity, non cohesive	SC	Wet at 14.5' bgs
				End of boring		

Total Borehole Depth: 15' bgs.  
 Boring terminated at 15' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle. E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/25/17  
 Weather : Cloudy 50s

Northing (US ft) : 565689.77  
 Easting (US ft) : 1461982.84

**Boring ID: B3-016-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-016-SB-1	(0-1') SILT, soft, dark brown, moist, no plasticity, non cohesive	ML	Heavy organics (grass and roots)
		-		(1-3.7') CLAY, very firm, reddish yellow and light grayish brown, moist, low plasticity, cohesive	CL	
72	4.5	0.1				
		0.1	B3-016-SB-5	(3.7-6') CLAYEY SAND, dense, pale brown, very moist, no plasticity, non cohesive	SC	
5	0.0					
		0.1		(6-8') SAND, fine to coarse grained, with CLAY, medium dense, brownish yellow and reddish yellow, wet, no plasticity, non cohesive	SW-SC	Wet at 6' bgs
100	0.1					
		0.0		(8-10') CLAY, firm, grayish brown, moist, medium plasticity, cohesive	CL	
10		0.0				
End of boring						

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/25/17  
 Weather : Cloudy 50s  
 Northing (US ft) : 566168.61  
 Easting (US ft) : 1462172.06

**Boring ID: B3-017-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-017-SB-1	(0-0.5') SILT, soft, dark brown, moist, low plasticity, cohesive	ML	Light organic matter
		2.0		(0.5-2') SILTY SAND, medium dense, brown, moist, no plasticity, non cohesive	SM	
90		9.3		(2-3') SLAG, coarse GRAVEL to COBBLE-sized, gray, wet, no plasticity, non cohesive	GW	
		2.1		(3-5.6') SILTY CLAY, hard, gray, moist, low plasticity, cohesive	CL	
5		0.7				
		-		(5.6-7.5') CLAY, very firm to hard, brownish yellow with reddish yellow mottling, low plasticity, cohesive	CL	Wet at 7.5' bgs
88		0.8				
		2.3	B3-017-SB-7.5	(7.5-8.3') SANDY CLAY, soft, brownish yellow, very moist, low plasticity, cohesive	CL	
		-		(8.3-10') CLAY, firm, light gray to brownish yellow, very moist, medium plasticity, cohesive		
10		-			CL	
		-				
30		-				
		-				
		-		(13.5-15') CLAY, soft, gray, medium plasticity, cohesive	CL	
15		-		End of boring		

Total Borehole Depth: 15' bgs.  
 Boring terminated at 15' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Reploge, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/25/17  
 Weather : Drizzle 50s  
 Northing (US ft) : 566663.07  
 Easting (US ft) : 1461612.47

**Boring ID: B3-018-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-018-SB-1	(0-1') SILT, soft, dark brown, moist, no plasticity, non cohesive	ML	
	80	2.6		(1-3') SILTY CLAY with SAND, very firm, yellowish brown, moist, low plasticity, cohesive	CL	
		2.1		(3-4.2') SANDY CLAY, very firm, brownish yellow, very moist, low plasticity, low cohesion	CL	
		1.0		(4.2-5.8') CLAYEY SAND, very firm, brownish yellow to reddish yellow, very moist, no plasticity, non cohesive	SC	
5		0.7		(5.8-6.3') SAND, fine to medium grained, medium dense, reddish yellow, very moist, no plasticity, non cohesive	SW	
		1.0		(6.3-6.9') SANDY CLAY, very firm, brownish yellow, very moist, low plasticity, cohesive	CL	
		1.1		(6.9-9.5') SILTY CLAY with SAND, very firm, very pale brown and reddish yellow gradding to yellowish red and strong brown, moist to very moist, low plasticity, cohesive	CL	
	100	3.2	B3-018-SB-8			
		0.9				
		0.3		(9.5-10') SILTY SAND, medium dense, yellowish red and strong brown, wet, no plasticity, non cohesive	SM	
10				End of boring		Wet at 9.5' bgs

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/24/17  
 Weather : Cloudy 60s  
 Northing (US ft) : 566924.18  
 Easting (US ft) : 1461733.72

**Boring ID: B3-019-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-019-SB-1	(0-1.5') SILT, soft, dark brown, moist, no plasticity, non cohesive	ML	Moderate organic matter
		0.4		(1.5-5.5') CLAY, very firm to hard, light gray with reddish yellow, moist to dry, low plasticity, cohesive		
	84	0.3			CL	Wet at 5.5' bgs
		0.9				
		0.5	B3-019-SB-5			
5		0.4		(5.5-6.3') SANDY CLAY, soft, very pale brown, wet, low plasticity, cohesive	CL	
		0.3		(6.3-7.5') SAND, fine to medium grained, medium dense, very pale brown with trace reddish yellow, wet, no plasticity, non cohesive	SW	
	100	0.2		(7.5-9') SANDY CLAY, soft, very pale brown, very moist, low plasticity, cohesive	CL	
		0.2			CL	
		0.1		(9-10') CLAY with SAND, soft, light gray and reddish yellow, very moist, medium plasticity, cohesive	CL	
10				End of boring		

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/23/17  
 Weather : Couldy 50s  
 Northing (US ft) : 567307.22  
 Easting (US ft) : 1462380.59

**Boring ID: B3-020-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-020-SB-1	(0-1.1') SILT, soft, grayish brown, moist, low plasticity, cohesive	ML	Heavy organic matter
	92	0.0		(1.1-6.5') CLAY, hard, reddish yellow and grayish brown mottling, dry, low plasticity, cohesive	CL	
		0.0				
		0.0				
5		5.0	B3-020-SB-6			Wet at 6.5' bgs
	100	0.2		(6.5-9.2') SAND, fine and medium grained grading to fine and coarse grained, dense, very pale brown grading to yellowish red, wet, no plasticity, non cohesive	SW	
		0.1				
		0.1		(9.2-10') SAND CLAY, very firm, very pale brown with reddish yellow mottling, moist, medium plasticity, cohesive	CL	
10				End of boring		

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/22/17  
 Weather : Rainy 60s  
 Northing (US ft) : 568161.72  
 Easting (US ft) : 1462537.27

**Boring ID: B3-021-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-021-SB-1	(0-1') SILTY SAND, medium dense, light brown, moist, no plasticity, non cohesive	SM	Moderate organic matter
	70	0.1		(1-2.4') GRAVELLY SAND, fine to coarse grained, medium dense, brown, moist, no plasticity, non cohesive	SW/GW	
		0.0		(2.4-7.3') SILTY CLAY with trace SAND, very firm, pale brown and light brown mottling with trace reddish yellow, dry, medium plasticity, cohesive	CL	
5		-				
		34.0	B3-021-SB-7			
80		8.0		(7.3-9.2') SAND, fine to coarse grained, medium dense to dense, very pale brown grading to very pale brown with reddish yellow, moist then wet at 8.5' bgs, no plasticity, non cohesive	SW	Wet at 8.5' bgs
		0.0		(9.2-10') CLAY, soft, very pale brown with trace reddish yellow mottling, very moist to wet, high plasticity, cohesive	CL	
10		-				
		0.0		(10.5-10.8') SAND, medium dense to dense, very pale brown grading to very pale brown with reddish yellow, wet, no plasticity, non cohesive	SW	
		0.0		(10.8-11.2') SANDY CLAY, soft, very pale brown and reddish yellow, wet, low plasticity, cohesive	CL	
	92	0.0		(11.2-13.5') CLAY, soft, light gray to light grayish brown, very moist to wet, medium plasticity, cohesive	CL	
		0.0		(13.5-15') CLAY with small layers of strong brown SAND, soft, reddish brown and strong brown, very moist to wet, medium plasticity, cohesive	CL	
15		0.0		End of boring		

Total Borehole Depth: 15' bgs.  
 Boring terminated at 15' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/24/17  
 Weather : Cloudy 60s  
 Northing (US ft) : 566738.42  
 Easting (US ft) : 1462534.07

**Boring ID: B3-022-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-022-SB-1	(0-0.5') SILT, firm, dark brown, moist, no plasticity, non cohesive	ML	No water encountered
	82	19.1		(0.5-3.5') CLAY with SAND grading to SANDY CLAY, hard to very firm, pale brown to very pale brown, dry grading to moist, low plasticity, cohesive	CL	
		24.1				
		0.7		(3.5-4.4') SAND, fine to coarse grained, medium dense to dense, very pale brown grading to yellowish red, very moist, no plasticity, non cohesive	SW	
5		0.2	B3-022-SB-5			
	100	0.3		(4.4-10') CLAY, hard, light gray and reddish yellow mottling, moist, low plasticity, cohesive	CL	
		0.2				
		1.1				
		0.2				
10		0.3	B3-022-SB-10			
	64	-		(11.8-15') CLAY with trace yellowish red SAND pockets from 13.5-15' bgs, soft from 11.8-12.3' bgs then very firm to firm, pale brown with reddish yellow mottling grading to brownish gray, very moist from 11.8-12.3' bgs, then moist grading to very moist, low plasticity, cohesive	CL	
		-				
15		-		(15-20') CLAY with trace yellowish red SAND pockets from 15-17' bgs, soft, very pale brown and yellowish red mottling, very moist, medium plasticity, cohesive	CL	
	100	-				
		-				
20		-		End of boring		

Total Borehole Depth: 20' bgs.  
 Boring terminated at 20' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/25/17  
 Weather : Raining 60s  
 Northing (US ft) : 566392.65  
 Easting (US ft) : 1462369.96

**Boring ID: B3-023-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-023-SB-1	(0-1.5') SILT, soft, brown, moist, low plasticity, cohesive	ML	Light organic matter     Wet at 5' bgs
		0.1		(1.5-2.7') SILTY CLAY, hard to very firm, very pale brown with reddish yellow mottling, moist, low plasticity, cohesive	CL	
	84	0.2		(2.7-5.5') CLAYEY SAND, medium dense to dense, very pale brown with trace reddish yellow mottling, dry then very moist from 4.5-5' bgs then wet at 5' bgs, no plasticity, non cohesive	SC	
		2.3	B3-032-SB-5			
5		0.7		(5.5-6.8') SAND, fine to coarse grained, medium dense, reddish yellow, wet, no plasticity, non cohesive	SW	
		0.8				
	100	1.4		(6.8-10') CLAY, very firm, light brown with reddish yellow mottling, medium plasticity, cohesive	CL	
		1.4				
		1.9				
10	End of boring					

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/23/17  
 Weather : Cloudy 60s  
 Northing (US ft) : 567071.75  
 Easting (US ft) : 1462636.50

**Boring ID: B3-024-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-024-SB-1	(0-1.5') SILT, soft, brown, moist, no plasticity, non cohesive	ML	Moderate organic matter
	80	0.5		(1.5-10') CLAY with trace SAND layer at 6.2' bgs and with SAND from 9-10' bgs, very firm to hard, brownish yellow and very pale brown with trace reddish yellow mottling, dry to moist, medium plasticity, cohesive	CL	
		0.8				
		0.4				
		0.3				
5		0.6	B3-024-SB-7			
	100	0.6				
		0.5				
		0.6	B3-024-SB-10			
10		-				
		-				
	60	-		(12-12.5') SAND, medium dense, reddish yellow, wet, no plasticity, non cohesive	SW	Wet at 12' bgs
		-		(12.5-15') SANDY CLAY, firm, light gray, very moist, low plasticity, cohesive	SC	
15		-		End of boring		

Total Borehole Depth: 15' bgs.  
 Boring terminated at 15' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/24/17  
 Weather : Cloudy 60s  
 Northing (US ft) : 566784.34  
 Easting (US ft) : 1462049.93

**Boring ID: B3-025-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		0.5	B3-025-SB-1	(0-0.4') Non-native SAND with very small GRAVEL and ASPHALT GRAVEL, medium to coarse grained, loose, dark brown, dry, no plasticity, non cohesive	SW/GW	Wet at 6' bgs
		33.4		(0.4-4.6') CLAY, firm to very firm, light gray to light brown and reddish yellow, moist, medium plasticity, cohesive		
100		16.5			CL	
		14.9	B3-025-SB-4			
		7.4				
5				(4.5-5.5') CLAY with SAND, soft, light brown with trace reddish yellow, very moist, medium plasticity, cohesive	CL	
		2.7		(5.5-6') SANDY CLAY, soft, yellowish brown, very moist, low plasticity, cohesive	CL	
		0.3		(6-7.5') CLAYEY SAND, fine to medium grained, medium dense, brownish yellow, wet, no plasticity, non cohesive	SW	
100		0.2		(7.5-8.9') SAND, fine to coarse grained, very pale brown grading to reddish yellow, wet, no plasticity, non cohesive	SW	
		0.3				
		0.3		(8.9-10') CLAY with SAND, yellowish brown with reddish yellow mottling, moist, medium plasticity, cohesive	CL	
10				End of boring		

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/23/17  
 Weather : Couldy 60s  
 Northing (US ft) : 567066.47  
 Easting (US ft) : 1462311.00

**Boring ID: B3-026-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-026-SB-1	(0-3.6') CLAY, hard, brown grading to brownish yellow with reddish yellow and light brown, dry, low plasticity, cohesive		Moderate organics in surface soil
		0.4			CL	
	80	0.7				
		1.6				
			B3-026-SB-4.5	(3.6-5') Non-native GRAVELLY SAND, loose, dark brown, dry then wet at 4.5' bgs, no plasticity, non cohesive	SW/GW	Wet at 4.5' bgs
		4.9				
5		0.2		(5-7') SILT with trace GRAVEL, soft, greenish gray, very moist, low plasticity, cohesive	CL	
		0.1				
		0.0		(7-7.5') SANDY CLAY, soft, brownish yellow, very moist to wet, low plasticity, cohesive	CL	
	96			(7.5-10') CLAY, hard, brownish yellow with trace reddish yellow mottling, moist, medium plasticity, cohesive	CL	
		0.3				
		0.0				
10				End of boring		

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/24/17  
 Weather : Cloudy, 60s

Northing (US ft) : 567100.93  
 Easting (US ft) : 1461526.32

**Boring ID: B3-027-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-027-SB-1	(0-1') SILT, soft, dark brown, moist, no plasticity, non cohesive	ML	Moderate organic matter          Wet at 7.2' bgs
		0.8		(1-2.1') SILT, hard, brown with trace reddish yellow, dry, low plasticity, cohesive	ML	
	80	0.6		(2.1-3.2') Non-native SAND with small GRAVEL, medium dense, brown, dry, no plasticity, non cohesive	SW	
		0.5		(3.2-6.1') CLAY, very firm, grayish brown grading to yellowish brown with reddish yellow mottling, moist, medium plasticity, cohesive	CL	
		0.4	B3-027-SB-5			
5		0.8				
		0.0		(6.1-7.2') SANDY SILT, dark grayish brown, very soft, very moist to wet, low plasticity, cohesive	ML	
	100	0.0		(7.2-9') SAND, fine to medium grained, medium dense, very pale brown, wet, no plasticity, non cohesive	SW	
		0.1				
		0.0		(9-9.5') CLAYEY SAND, medium dense, pale brown with reddish yellow mottling	SC	
				(9.5-10') SANDY CLAY with SILT, soft, very pale brown, very moist to wet, low plasticity, cohesive	CL	
10				End of boring		

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/22/17  
 Weather : Cloudy 60s  
 Northing (US ft) : 566301.80  
 Easting (US ft) : 1461466.02

**Boring ID: B3-028-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-028-SB-1	(0-1.5') SILTY SAND with GRAVEL, loose, dark brown, dry, no plasticity, non cohesive	SM	Light organic matter       Wet at 6.5' bgs
	80	2.7		(1.5-3.5') CLAYEY SILT grading to CLAY, hard, brown to light brown with trace yellowish red, dry, low plasticity, cohesive	ML/CL	
		4.0				
		5.4	B3-028-SB-4	(3.5-4.2') SAND with small GRAVEL with trace SILT, fine to very coarse grained, medium dense, brown to dark brown and very pale brown, moist, no plasticity, non cohesive	SW	
5		0.0		(4.2-6.5') SILTY CLAY with SAND, soft, light brown grading to brown, very moist, low plasticity, cohesive	CL	
		-				
	86	0.0		(6.5-7.1') GRAVEL with SAND, fine grained GRAVEL, loose, brown, wet, no plasticity, non cohesive	GW	
		0.0		(7.1-9') SILTY CLAY with SAND, soft, brownish gray, very moist, low plasticity, cohesive	CL	
		0.0		(9-10') CLAY, very firm, brownish gray with reddish yellow mottling, low plasticity, cohesive	CL	
10		-				
	84	-		(10.8-15') CLAY with trace SAND, very firm, light grayish brown with yellowish red mottling, low plasticity, cohesive	CL	
		-				
15		-		End of boring		

Total Borehole Depth: 15' bgs.  
 Boring terminated at 15' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Rick Miller  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/22/17  
 Weather : Rain, 60s  
 Northing (US ft) : 565861.13  
 Easting (US ft) : 1461585.99

**Boring ID: B3-029-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B3-029-SB-1	(0-1') SILT with very fine grained SAND, soft, brown, slightly moist, no plasticity, non cohesive	ML	Moderate organic matter
		0.0		(1-2') SILT with trace SAND, very firm, brown to dark brown with trace reddish yellow, dry, no plasticity, non cohesive	ML	
	92	2.3		(2-2.5') SILTY SAND, loose, dark brown to brown, dry, no plasticity, non cohesive	SM	
		15.1		(2.5-6.7') CLAY, firm to very firm, reddish yellow and light grayish brown mottling, moist, medium plasticity, cohesive	CL	
		15.3	B3-029-SB-5			
5		0.6			SW	
		4.9				
	100	0.0		(6.7-8') SAND, fine to coarse grained, medium dense, very pale brown grading to reddish yellow, wet, no plasticity, non cohesive		
		0.5		(8-12') CLAY, very firm to hard, reddish yellow and light grayish brown mottling, moist, medium plasticity, cohesive	CL	Wet at 6.7' bgs
10		0.0			CL	
	94	-		(12-15') CLAY with trace SAND at 12' bgs, soft, light grayish brown grading to very light brown, very moist, low plasticity, cohesive		
15		-			CL	
End of boring						

Total Borehole Depth: 15' bgs.  
 Boring terminated at 15' bgs due to water.



Client : EnviroAnalytics Group  
 ARM Project No. : 150300M-4-3  
 Project Description : Sparrows Point - Parcel B3  
 Site Location : Sparrows Point, MD  
 ARM Representative : L. Perrin  
 Checked by : M. Replogle, E.I.T.  
 Drilling Company : Allied Drilling Co.  
 Driller : Mike Garvine  
 Drilling Equipment : Geoprobe 7822DT

Date : 5/23/17  
 Weather : Cloudy, 60s  
 Northing (US ft) : 567462.43  
 Easting (US ft) : 1462678.37

**Boring ID: B3-030-SB**

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		0.2	B3-030-SB-1	(0-1.7') SILT with SAND, medium dense, brown, dry, no plasticity, non cohesive	ML	Moderate to heavy organic matter
		0.5		(1.7-2.8') CLAY, very firm to hard, brownish yellow, moist, low plasticity, cohesive	CL	
	92	0.4		(2.8-5.5') SANDY CLAY, hard to very firm, brownish yellow, dry, low plasticity, cohesive	CL	
		0.4			CL	
		0.2	B3-030-SB-5			
5		0.7		(5.5-8') SAND, fine to medium grained, dense, very pale brown then yellowish red at 7.5' bgs, wet, no plasticity, non cohesive	SW	Wet at 5.5' bgs
		0.4			SW	
	100	0.7			SW	
		0.2		(8-10') CLAY, very firm to hard, reddish yellow then light brownish gray with reddish yellow mottling at 8.9' bgs, moist, medium plasticity, cohesive	CL	
		0.3			CL	
10	End of boring					

Total Borehole Depth: 10' bgs.  
 Boring terminated at 10' bgs due to water.

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## **APPENDIX C**

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## **APPENDIX D**

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### Parcel B3 - IDW Drum Log

<b>Drum ID</b>	<b>Designation</b>	<b>Activity/Phase</b>	<b>Contents</b>	<b>Open Date</b>
827-Soil-5/22/17-B3	Non-Haz.	Area B: Parcel B3 Phase II	Soil	5/22/2017
828-Decon Water-5/22/17-B3	Non-Haz.	Area B: Parcel B3 Phase II	Water	5/22/2017
829-Liners-5/22/17-B3	Non-Haz.	Area B: Parcel B3 Phase II	Liners	5/22/2017
830-PPE-5/22/17-B3	Non-Haz.	Area B: Parcel B3 Phase II	PPE	5/22/2017
835-Soil-5/25/17-B3	Non-Haz.	Area B: Parcel B3 Phase II	Soil	5/25/2017
845-PPE-6/21/17-B3	Non-Haz.	Area B: Parcel B3 Phase II	PPE	6/21/2017
895-Tubing/Bentonite-7/28/17-B3	Non-Haz.	Area B: Parcel B3 Phase II	Tubing/Bentonite	7/28/2017

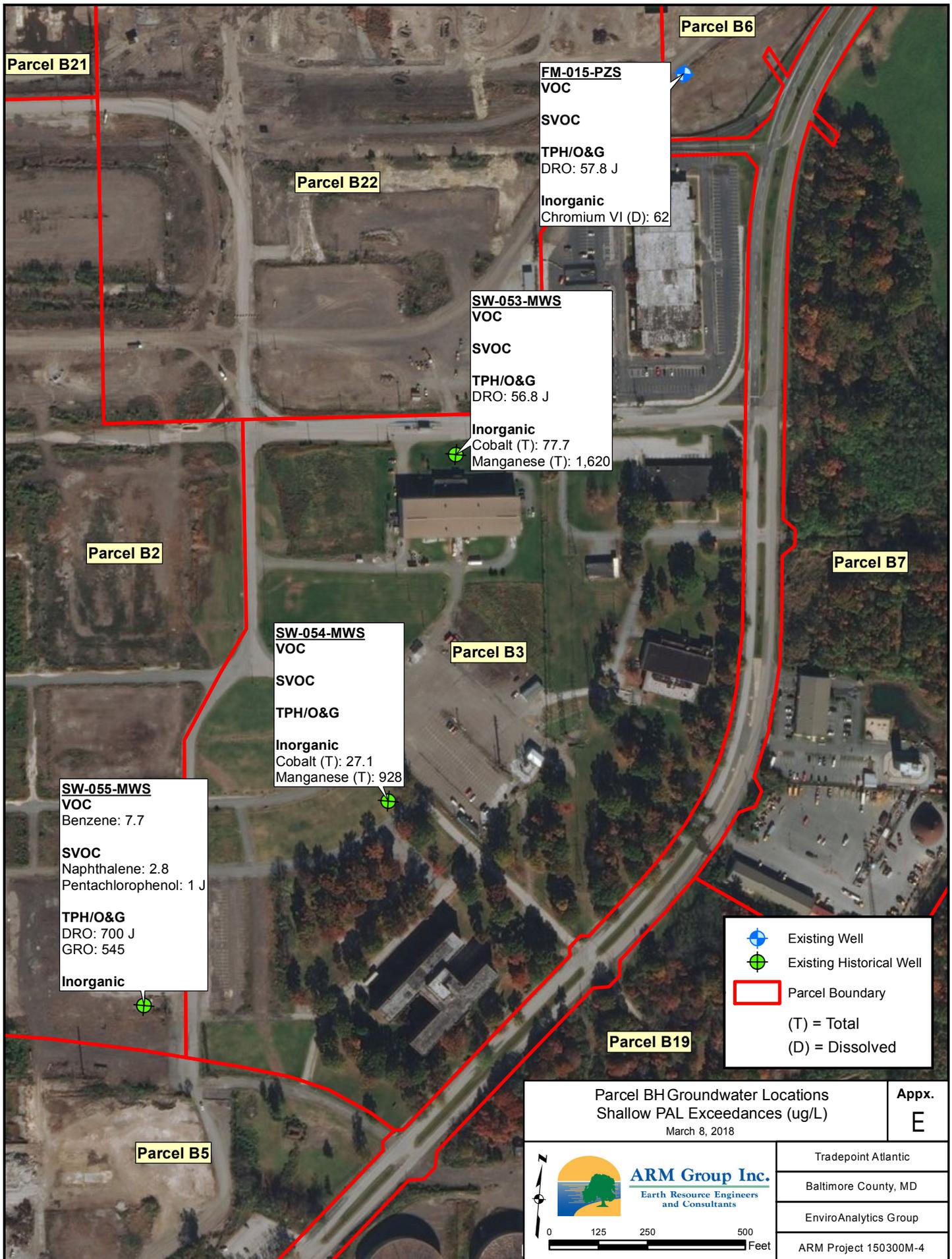
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## **APPENDIX E**

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**Parcel B21**

**Parcel B6**

**Parcel B22**

**FM-015-PZS**  
**VOC**  
 SVOC  
**TPH/O&G**  
 DRO: 57.8 J  
**Inorganic**  
 Chromium VI (D): 62

**SW-053-MWS**  
**VOC**  
 SVOC  
**TPH/O&G**  
 DRO: 56.8 J  
**Inorganic**  
 Cobalt (T): 77.7  
 Manganese (T): 1,620

**Parcel B2**

**Parcel B7**

**SW-054-MWS**  
**VOC**  
 SVOC  
**TPH/O&G**  
**Inorganic**  
 Cobalt (T): 27.1  
 Manganese (T): 928

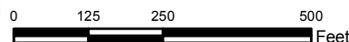
**Parcel B3**

**SW-055-MWS**  
**VOC**  
 Benzene: 7.7  
**SVOC**  
 Naphthalene: 2.8  
 Pentachlorophenol: 1 J  
**TPH/O&G**  
 DRO: 700 J  
 GRO: 545  
**Inorganic**

 Existing Well  
 Existing Historical Well  
 Parcel Boundary  
 (T) = Total  
 (D) = Dissolved

**Parcel B19**

**Parcel B5**

<b>Parcel BH Groundwater Locations</b> Shallow PAL Exceedances (ug/L) March 8, 2018		<b>Appx.</b> <b>E</b>
 <b>ARM Group Inc.</b> Earth Resource Engineers and Consultants		Tradepoint Atlantic
		Baltimore County, MD
		EnviroAnalytics Group
		ARM Project 150300M-4

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## **APPENDIX F**

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# QA/QC Tracking Log

<u>Trip Blank:</u>	<u>Date:</u>	<u>Sample IDs:</u>	<u>Trip Blank:</u>	<u>Date:</u>	<u>Sample IDs:</u>	
TB1	5/22/2017	1) B3-021-SB-1		5/25/2017	1) B3-018-SB-1	
		2) B3-021-SB-7			2) B3-018-SB-8	
TB2		3) B3-029-SB-1			3) B3-016-SB-1	
		4) B3-029-SB-5			4) B3-016-SB-5	
		5) B3-028-SB-1			5) B3-011-SB-1	
		6) B3-028-SB-4			6) B3-011-SB-5	
		7) B3-004-SB-1	<u>Duplicate:</u> B3-004-SB-4		7) B3-010-SB-1	<u>Duplicate:</u> B3-006-SB-4
		8) B3-004-SB-4	<u>Date:</u> 5/22/2017		8) B3-010-SB-5	<u>Date:</u> 6/21/2017
	5/23/2017	9) B3-003-SB-1	<u>MS/MSD:</u> B3-003-SB-9	9) B3-014-SB-1	<u>MS/MSD:</u> B3-012-SB-5	
		10) B3-003-SB-9	<u>Date:</u> 5/23/2017	10) B3-014-SB-5	<u>Date:</u> 6/21/2017	
		11) B3-002-SB-1	<u>Field Blank:</u> Trip Blank 3	11) B3-006-SB-1	<u>Field Blank:</u>	
		12) B3-002-SB-8	<u>Date:</u> 5/22/2017	TB1	12) B3-006-SB-4	<u>Date:</u> 5/25/2017
		13) B3-002-SB-10	<u>Eq. Blank:</u> Trip Blank 3		13) B3-006-SB-10	<u>Eq. Blank:</u>
		14) B3-001-SB-1	<u>Date:</u> 5/22/2017		14) B3-005-SB-1	<u>Date:</u> 5/25/2017
		15) B3-001-SB-7		TB1	15) B3-005-SB-8	
		16) B3-030-SB-1			16) B3-012-SB-1	
		17) B3-030-SB-5			17) B3-012-SB-5	
		18) B3-020-SB-1			18) B3-013-SB-1	
		19) B3-020-SB-6			19) B3-013-SB-5	
		20) B3-026-SB-1			20) B3-008-SB-1	
	5/23/2017	1) B3-026-SB-4.5		6/21/2017	1) B3-008-SB-5	
		2) B3-024-SB-1			2) B3-009-SB-1	
		3) B3-024-SB-7			3) B3-009-SB-5	
		4) B3-024-SB-10			4) B3-007-SB-1	
	5/24/2017	5) B3-027-SB-1		5) B3-007-SB-5		
		6) B3-027-SB-5		6)		
		7) B3-019-SB-1	<u>Duplicate:</u> B3-019-SB-5	7)	<u>Duplicate:</u> B3-008-SB-5	
		8) B3-019-SB-5	<u>Date:</u> 5/24/2017	8)	<u>Date:</u> 6/21/2017	
		9) B3-025-SB-1	<u>MS/MSD:</u> B3-015-SB-8	9)	<u>MS/MSD:</u> B3-009-SB-5	
TB1		10) B3-025-SB-5	<u>Date:</u> 5/25/2017	10)	<u>Date:</u> 6/21/2017	
		11) B3-022-SB-1	<u>Field Blank:</u>	11)	<u>Field Blank:</u>	
		12) B3-022-SB-5	<u>Date:</u> 5/24/2017	12)	<u>Date:</u> 6/21/2017	
		13) B3-022-SB-10	<u>Eq. Blank:</u>	13)	<u>Eq. Blank:</u>	
	5/25/2017	14) B3-023-SB-1	<u>Date:</u> 5/24/2017	14)	<u>Date:</u> 6/21/2017	
		15) B3-023-SB-5		15)		
		16) B3-015-SB-1		16)		
TB1		17) B3-015-SB-8		17)		
		18) B3-015-SB-10		18)		
		19) B3-017-SB-1		19)		
		20) B3-017-SB-7.5		20)		

Soil samples with a sustained PID reading of 10 ppm or greater were collected for VOCs. VOC samples were placed in a cooler with a trip blank.

# QA/QC Tracking Log

Trip  
Blank:

Date:

Sample IDs:

7/27/2017	1)	B3-035-SG	
	2)	B3-037-SG	
	3)	B3-036-SG	
	4)	B3-034-SG	
	5)	B3-033-SG	
	6)	B3-032-SG	
	7)	B3-031-SG	<u>Duplicate:</u> B3-037-SG
	8)		<u>Date:</u> 7/27/2017
	9)		<u>MS/MSD:</u>
	10)		<u>Date:</u>
	11)		<u>Field Blank:</u>
	12)		<u>Date:</u> 7/27/2017
	13)		<u>Eq. Blank:</u>
	14)		<u>Date:</u>
15)			
16)			
17)			
18)			
19)			
20)			

Trip  
Blank:

Date:

Sample IDs:

1)		
2)		
3)		
4)		
5)		
6)		
7)		<u>Duplicate:</u>
8)		<u>Date:</u>
9)		<u>MS/MSD:</u>
10)		<u>Date:</u>
11)		<u>Field Blank:</u>
12)		<u>Date:</u>
13)		<u>Eq. Blank:</u>
14)		<u>Date:</u>
15)		
16)		
17)		
18)		
19)		
20)		

1)		
2)		
3)		
4)		
5)		
6)		
7)		<u>Duplicate:</u>
8)		<u>Date:</u>
9)		<u>MS/MSD:</u>
10)		<u>Date:</u>
11)		<u>Field Blank:</u>
12)		<u>Date:</u>
13)		<u>Eq. Blank:</u>
14)		<u>Date:</u>
15)		
16)		
17)		
18)		
19)		
20)		

1)		
2)		
3)		
4)		
5)		
6)		
7)		<u>Duplicate:</u>
8)		<u>Date:</u>
9)		<u>MS/MSD:</u>
10)		<u>Date:</u>
11)		<u>Field Blank:</u>
12)		<u>Date:</u>
13)		<u>Eq. Blank:</u>
14)		<u>Date:</u>
15)		
16)		
17)		
18)		
19)		
20)		

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**CRRGF KZ'I "**

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**EVALUATION OF DATA COMPLETENESS**  
**Percentage of Non-Rejected Results vs Total Results**  
(Only data which underwent validation are included)

Parameter	Parameter Group	Matrix	Unit	Number of Validated Results	Detections	Number of Rejected Results	Number of Non-rejected Results	Completeness
Hexachlorobutadiene	SVOC	Air	ug/m3	7	0	0	7	100.00%
Naphthalene	SVOC	Air	ug/m3	7	5	0	7	100.00%
1,1,1-Trichloroethane	VOC	Air	ug/m3	7	6	0	7	100.00%
1,1,2,2-Tetrachloroethane	VOC	Air	ug/m3	7	0	0	7	100.00%
1,1,2-Trichloro-1,2,2-Trifluoroethane	VOC	Air	ug/m3	7	0	0	7	100.00%
1,1,2-Trichloroethane	VOC	Air	ug/m3	7	0	0	7	100.00%
1,1-Dichloroethane	VOC	Air	ug/m3	7	0	0	7	100.00%
1,1-Dichloroethene	VOC	Air	ug/m3	7	0	0	7	100.00%
1,2,3-Trichlorobenzene	VOC	Air	ug/m3	7	0	0	7	100.00%
1,2,3-Trimethylbenzene	VOC	Air	ug/m3	7	0	0	7	100.00%
1,2,4-Trichlorobenzene	VOC	Air	ug/m3	7	0	0	7	100.00%
1,2,4-Trimethylbenzene	VOC	Air	ug/m3	7	5	0	7	100.00%
1,2-Dibromo-3-chloropropane	VOC	Air	ug/m3	7	0	0	7	100.00%
1,2-Dibromoethane	VOC	Air	ug/m3	7	0	0	7	100.00%
1,2-Dichlorobenzene	VOC	Air	ug/m3	7	0	0	7	100.00%
1,2-Dichloroethane	VOC	Air	ug/m3	7	0	0	7	100.00%
1,2-Dichloroethene (Total)	VOC	Air	ug/m3	7	1	0	7	100.00%
1,2-Dichloropropane	VOC	Air	ug/m3	7	0	0	7	100.00%
1,3,5-Trimethylbenzene	VOC	Air	ug/m3	7	1	0	7	100.00%
1,3-Dichlorobenzene	VOC	Air	ug/m3	7	0	0	7	100.00%
1,4-Dichlorobenzene	VOC	Air	ug/m3	7	0	0	7	100.00%
2-Butanone (MEK)	VOC	Air	ug/m3	7	7	0	7	100.00%
2-Hexanone	VOC	Air	ug/m3	7	5	0	7	100.00%
4-Methyl-2-pentanone (MIBK)	VOC	Air	ug/m3	7	6	0	7	100.00%
Acetone	VOC	Air	ug/m3	7	7	0	7	100.00%
Benzene	VOC	Air	ug/m3	7	7	0	7	100.00%
Bromodichloromethane	VOC	Air	ug/m3	7	6	0	7	100.00%
Bromoform	VOC	Air	ug/m3	7	0	0	7	100.00%
Bromomethane	VOC	Air	ug/m3	7	0	0	7	100.00%
Carbon disulfide	VOC	Air	ug/m3	7	7	0	7	100.00%
Carbon tetrachloride	VOC	Air	ug/m3	7	0	0	7	100.00%
Chlorobenzene	VOC	Air	ug/m3	7	0	0	7	100.00%
Chloroethane	VOC	Air	ug/m3	7	0	0	7	100.00%
Chloroform	VOC	Air	ug/m3	7	7	0	7	100.00%
Chloromethane	VOC	Air	ug/m3	7	1	0	7	100.00%
cis-1,2-Dichloroethene	VOC	Air	ug/m3	7	0	0	7	100.00%
cis-1,3-Dichloropropene	VOC	Air	ug/m3	7	0	0	7	100.00%
Cyclohexane	VOC	Air	ug/m3	7	7	0	7	100.00%
Dibromochloromethane	VOC	Air	ug/m3	7	0	0	7	100.00%
Dichlorodifluoromethane	VOC	Air	ug/m3	7	6	0	7	100.00%
Ethylbenzene	VOC	Air	ug/m3	7	6	0	7	100.00%
Isopropylbenzene	VOC	Air	ug/m3	7	0	0	7	100.00%
Methyl Acetate	VOC	Air	ug/m3	7	0	0	7	100.00%
Methyl tert-butyl ether (MTBE)	VOC	Air	ug/m3	7	1	0	7	100.00%
Methylene Chloride	VOC	Air	ug/m3	7	6	0	7	100.00%
Styrene	VOC	Air	ug/m3	7	0	0	7	100.00%
Tetrachloroethene	VOC	Air	ug/m3	7	4	0	7	100.00%
Toluene	VOC	Air	ug/m3	7	7	0	7	100.00%
trans-1,2-Dichloroethene	VOC	Air	ug/m3	7	1	0	7	100.00%
trans-1,3-Dichloropropene	VOC	Air	ug/m3	7	0	0	7	100.00%
Trichloroethene	VOC	Air	ug/m3	7	1	0	7	100.00%

**EVALUATION OF DATA COMPLETENESS**  
**Percentage of Non-Rejected Results vs Total Results**  
(Only data which underwent validation are included)

Parameter	Parameter Group	Matrix	Unit	Number of Validated Results	Detections	Number of Rejected Results	Number of Non-rejected Results	Completeness
Trichlorofluoromethane	VOC	Air	ug/m3	7	5	0	7	100.00%
Vinyl chloride	VOC	Air	ug/m3	7	1	0	7	100.00%
Xylenes	VOC	Air	ug/m3	7	7	0	7	100.00%
1,4-Dioxane	VOC/SVOC	Air	ug/m3	7	3	0	7	100.00%
Cyanide	CN	Soil	mg/kg	32	9	0	32	100.00%
Aluminum	Metal	Soil	mg/kg	32	32	0	32	100.00%
Antimony	Metal	Soil	mg/kg	32	0	0	32	100.00%
Arsenic	Metal	Soil	mg/kg	34	32	0	34	100.00%
Barium	Metal	Soil	mg/kg	32	32	0	32	100.00%
Beryllium	Metal	Soil	mg/kg	32	31	0	32	100.00%
Cadmium	Metal	Soil	mg/kg	32	10	0	32	100.00%
Chromium	Metal	Soil	mg/kg	32	32	0	32	100.00%
Chromium VI	Metal	Soil	mg/kg	32	0	0	32	100.00%
Cobalt	Metal	Soil	mg/kg	32	32	0	32	100.00%
Copper	Metal	Soil	mg/kg	32	32	0	32	100.00%
Iron	Metal	Soil	mg/kg	32	32	0	32	100.00%
Lead	Metal	Soil	mg/kg	32	32	0	32	100.00%
Manganese	Metal	Soil	mg/kg	32	32	0	32	100.00%
Mercury	Metal	Soil	mg/kg	32	22	0	32	100.00%
Nickel	Metal	Soil	mg/kg	32	32	0	32	100.00%
Selenium	Metal	Soil	mg/kg	32	4	0	32	100.00%
Silver	Metal	Soil	mg/kg	32	32	0	32	100.00%
Thallium	Metal	Soil	mg/kg	32	0	0	32	100.00%
Vanadium	Metal	Soil	mg/kg	32	32	0	32	100.00%
Zinc	Metal	Soil	mg/kg	32	32	0	32	100.00%
Aroclor 1016	PCB	Soil	mg/kg	16	0	0	16	100.00%
Aroclor 1221	PCB	Soil	mg/kg	16	0	0	16	100.00%
Aroclor 1232	PCB	Soil	mg/kg	16	0	0	16	100.00%
Aroclor 1242	PCB	Soil	mg/kg	16	0	0	16	100.00%
Aroclor 1248	PCB	Soil	mg/kg	16	0	0	16	100.00%
Aroclor 1254	PCB	Soil	mg/kg	16	0	0	16	100.00%
Aroclor 1260	PCB	Soil	mg/kg	16	1	0	16	100.00%
Aroclor 1262	PCB	Soil	mg/kg	16	0	0	16	100.00%
Aroclor 1268	PCB	Soil	mg/kg	16	0	0	16	100.00%
PCBs (total)	PCB	Soil	mg/kg	16	0	0	16	100.00%
1,1-Biphenyl	SVOC	Soil	mg/kg	32	0	0	32	100.00%
1,2,4,5-Tetrachlorobenzene	SVOC	Soil	mg/kg	32	0	0	32	100.00%
2,3,4,6-Tetrachlorophenol	SVOC	Soil	mg/kg	32	0	1	31	96.88%
2,4,5-Trichlorophenol	SVOC	Soil	mg/kg	32	0	1	31	96.88%
2,4,6-Trichlorophenol	SVOC	Soil	mg/kg	32	0	1	31	96.88%
2,4-Dichlorophenol	SVOC	Soil	mg/kg	32	0	1	31	96.88%
2,4-Dimethylphenol	SVOC	Soil	mg/kg	32	0	1	31	96.88%
2,4-Dinitrophenol	SVOC	Soil	mg/kg	32	0	1	31	96.88%
2,4-Dinitrotoluene	SVOC	Soil	mg/kg	32	0	0	32	100.00%
2,6-Dinitrotoluene	SVOC	Soil	mg/kg	32	0	0	32	100.00%
2-Chloronaphthalene	SVOC	Soil	mg/kg	32	0	0	32	100.00%
2-Chlorophenol	SVOC	Soil	mg/kg	32	0	1	31	96.88%
2-Methylnaphthalene	SVOC	Soil	mg/kg	32	15	0	32	100.00%
2-Methylphenol	SVOC	Soil	mg/kg	32	0	1	31	96.88%
2-Nitroaniline	SVOC	Soil	mg/kg	32	0	0	32	100.00%
3&4-Methylphenol(m&p Cresol)	SVOC	Soil	mg/kg	32	1	0	32	100.00%

**EVALUATION OF DATA COMPLETENESS**  
**Percentage of Non-Rejected Results vs Total Results**  
(Only data which underwent validation are included)

Parameter	Parameter Group	Matrix	Unit	Number of Validated Results	Detections	Number of Rejected Results	Number of Non-rejected Results	Completeness
3,3'-Dichlorobenzidine	SVOC	Soil	mg/kg	32	0	0	32	100.00%
4-Chloroaniline	SVOC	Soil	mg/kg	32	0	0	32	100.00%
4-Nitroaniline	SVOC	Soil	mg/kg	32	0	0	32	100.00%
Acenaphthene	SVOC	Soil	mg/kg	32	8	0	32	100.00%
Acenaphthylene	SVOC	Soil	mg/kg	32	14	0	32	100.00%
Acetophenone	SVOC	Soil	mg/kg	32	1	0	32	100.00%
Anthracene	SVOC	Soil	mg/kg	32	19	0	32	100.00%
Benz[a]anthracene	SVOC	Soil	mg/kg	32	23	0	32	100.00%
Benzaldehyde	SVOC	Soil	mg/kg	32	4	0	32	100.00%
Benzo[a]pyrene	SVOC	Soil	mg/kg	32	18	0	32	100.00%
Benzo[b]fluoranthene	SVOC	Soil	mg/kg	32	20	0	32	100.00%
Benzo[g,h,i]perylene	SVOC	Soil	mg/kg	32	17	0	32	100.00%
Benzo[k]fluoranthene	SVOC	Soil	mg/kg	32	21	0	32	100.00%
bis(2-chloroethoxy)methane	SVOC	Soil	mg/kg	32	0	0	32	100.00%
bis(2-Chloroethyl)ether	SVOC	Soil	mg/kg	32	0	0	32	100.00%
bis(2-Chloroisopropyl)ether	SVOC	Soil	mg/kg	32	0	0	32	100.00%
bis(2-Ethylhexyl)phthalate	SVOC	Soil	mg/kg	32	1	0	32	100.00%
Caprolactam	SVOC	Soil	mg/kg	32	2	0	32	100.00%
Carbazole	SVOC	Soil	mg/kg	32	3	0	32	100.00%
Chrysene	SVOC	Soil	mg/kg	32	18	0	32	100.00%
Dibenz[a,h]anthracene	SVOC	Soil	mg/kg	32	10	0	32	100.00%
Diethylphthalate	SVOC	Soil	mg/kg	32	1	0	32	100.00%
Di-n-butylphthalate	SVOC	Soil	mg/kg	32	0	0	32	100.00%
Di-n-octylphthalate	SVOC	Soil	mg/kg	32	0	0	32	100.00%
Fluoranthene	SVOC	Soil	mg/kg	32	20	0	32	100.00%
Fluorene	SVOC	Soil	mg/kg	32	9	0	32	100.00%
Hexachlorobenzene	SVOC	Soil	mg/kg	32	0	0	32	100.00%
Hexachlorobutadiene	SVOC	Soil	mg/kg	32	0	0	32	100.00%
Hexachlorocyclopentadiene	SVOC	Soil	mg/kg	32	0	0	32	100.00%
Hexachloroethane	SVOC	Soil	mg/kg	32	0	0	32	100.00%
Indeno[1,2,3-c,d]pyrene	SVOC	Soil	mg/kg	32	16	0	32	100.00%
Isophorone	SVOC	Soil	mg/kg	32	0	0	32	100.00%
Naphthalene	SVOC	Soil	mg/kg	32	7	0	32	100.00%
Nitrobenzene	SVOC	Soil	mg/kg	32	0	0	32	100.00%
N-Nitroso-di-n-propylamine	SVOC	Soil	mg/kg	32	0	0	32	100.00%
N-Nitrosodiphenylamine	SVOC	Soil	mg/kg	32	1	0	32	100.00%
Pentachlorophenol	SVOC	Soil	mg/kg	32	0	1	31	96.88%
Phenanthrene	SVOC	Soil	mg/kg	32	23	0	32	100.00%
Phenol	SVOC	Soil	mg/kg	32	1	0	32	100.00%
Pyrene	SVOC	Soil	mg/kg	32	20	0	32	100.00%
Diesel Range Organics	TPH	Soil	mg/kg	32	18	0	32	100.00%
Gasoline Range Organics	TPH	Soil	mg/kg	32	0	0	32	100.00%
Oil and Grease	TPH	Soil	mg/kg	32	32	0	32	100.00%
1,1,1-Trichloroethane	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,1,2,2-Tetrachloroethane	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,1,2-Trichloro-1,2,2-Trifluoroethane	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,1,2-Trichloroethane	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,1-Dichloroethane	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,1-Dichloroethene	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,2,3-Trichlorobenzene	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,2,4-Trichlorobenzene	VOC	Soil	mg/kg	5	0	0	5	100.00%

**EVALUATION OF DATA COMPLETENESS**  
**Percentage of Non-Rejected Results vs Total Results**  
(Only data which underwent validation are included)

Parameter	Parameter Group	Matrix	Unit	Number of Validated Results	Detections	Number of Rejected Results	Number of Non-rejected Results	Completeness
1,2-Dibromo-3-chloropropane	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,2-Dibromoethane	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,2-Dichlorobenzene	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,2-Dichloroethane	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,2-Dichloroethene (Total)	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,2-Dichloropropane	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,3-Dichlorobenzene	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,4-Dichlorobenzene	VOC	Soil	mg/kg	5	0	0	5	100.00%
2-Butanone (MEK)	VOC	Soil	mg/kg	5	0	0	5	100.00%
2-Hexanone	VOC	Soil	mg/kg	5	0	0	5	100.00%
4-Methyl-2-pentanone (MIBK)	VOC	Soil	mg/kg	5	0	0	5	100.00%
Acetone	VOC	Soil	mg/kg	5	2	0	5	100.00%
Benzene	VOC	Soil	mg/kg	5	0	0	5	100.00%
Bromodichloromethane	VOC	Soil	mg/kg	5	0	0	5	100.00%
Bromoform	VOC	Soil	mg/kg	5	0	0	5	100.00%
Bromomethane	VOC	Soil	mg/kg	5	0	0	5	100.00%
Carbon disulfide	VOC	Soil	mg/kg	5	1	0	5	100.00%
Carbon tetrachloride	VOC	Soil	mg/kg	5	0	0	5	100.00%
Chlorobenzene	VOC	Soil	mg/kg	5	0	0	5	100.00%
Chloroethane	VOC	Soil	mg/kg	5	0	0	5	100.00%
Chloroform	VOC	Soil	mg/kg	5	0	0	5	100.00%
Chloromethane	VOC	Soil	mg/kg	5	0	0	5	100.00%
cis-1,2-Dichloroethene	VOC	Soil	mg/kg	5	0	0	5	100.00%
cis-1,3-Dichloropropene	VOC	Soil	mg/kg	5	0	0	5	100.00%
Cyclohexane	VOC	Soil	mg/kg	5	0	0	5	100.00%
Dibromochloromethane	VOC	Soil	mg/kg	5	0	0	5	100.00%
Dichlorodifluoromethane	VOC	Soil	mg/kg	5	0	0	5	100.00%
Ethylbenzene	VOC	Soil	mg/kg	5	0	0	5	100.00%
Isopropylbenzene	VOC	Soil	mg/kg	5	0	0	5	100.00%
Methyl Acetate	VOC	Soil	mg/kg	5	0	0	5	100.00%
Methyl tert-butyl ether (MTBE)	VOC	Soil	mg/kg	5	0	0	5	100.00%
Methylene Chloride	VOC	Soil	mg/kg	5	0	0	5	100.00%
Styrene	VOC	Soil	mg/kg	5	0	0	5	100.00%
Tetrachloroethene	VOC	Soil	mg/kg	5	0	0	5	100.00%
Toluene	VOC	Soil	mg/kg	5	0	0	5	100.00%
trans-1,2-Dichloroethene	VOC	Soil	mg/kg	5	0	0	5	100.00%
trans-1,3-Dichloropropene	VOC	Soil	mg/kg	5	0	0	5	100.00%
Trichloroethene	VOC	Soil	mg/kg	5	0	0	5	100.00%
Trichlorofluoromethane	VOC	Soil	mg/kg	5	0	0	5	100.00%
Vinyl chloride	VOC	Soil	mg/kg	5	0	0	5	100.00%
Xylenes	VOC	Soil	mg/kg	5	0	0	5	100.00%
1,4-Dioxane	VOC/SVOC	Soil	mg/kg	5	0	3	2	40.00%

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

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## **APPENDIX H**

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**Construction Worker Soil Screening Levels  
250 Work Day Exposure  
Calculation Spreadsheet - Parcel B3**

Description	Variable	Value
Days worked per week	DW	5
Exposure duration (yr)	ED	1
Hours worked per day	ET	8
A/constant (unitless) - particulate emission factor	Aconst	12.9351
B/constant (unitless) - particulate emission factor	Bconst	5.7383
C/constant (unitless) - particulate emission factor	Cconst	71.7711
Dispersion correction factor (unitless)	FD	0.185
Days per year with at least .01" precipitation	P	130
Target hazard quotient (unitless)	THQ	1
Body weight (kg)	BW	80
Averaging time - noncancer (yr)	ATnc	1
Soil ingestion rate (mg/d)	IR	330
Skin-soil adherence factor (mg/cm <sup>2</sup> )	AF	0.3
Skin surface exposed (cm <sup>2</sup> )	SA	3300
Event frequency (ev/day)	EV	1
Target cancer risk (unitless)	TR	01E-06
Averaging time - cancer (yr)	ATc	70
A/constant (unitless) - volatilization	Aconstv	2.4538
B/constant (unitless) - volatilization	Bconstv	17.566
C/constant (unitless) - volatilization	Cconstv	189.0426
Dry soil bulk density (kg/L)	Pb	1.5
Average source depth (m)	ds	3
Soil particle density (g/cm <sup>3</sup> )	Ps	2.65
Total soil porosity	Lpore/Lsoil	0.43
Air-filled soil porosity	Lair/Lsoil	0.28

**Construction Worker Soil Screening Levels  
250 Work Day Exposure  
Calculation Spreadsheet - Parcel B3**

Area of site (ac)	Ac	54.3
Overall duration of construction (wk/yr)	EW	50
Exposure frequency (day/yr)	EF	250
Cars per day	Ca	5
Tons per car	CaT	2
Trucks per day	Tru	5
Tons per truck	TrT	20
Mean vehicle weight (tons)	w	11
Derivation of dispersion factor - particulate emission factor (g/m <sup>2</sup> -s per kg/m <sup>3</sup> )	Q/Csr	13.5
Overall duration of construction (hr)	tc	8,400
Overall duration of traffic (s)	Tt	7,200,000
Surface area (m <sup>2</sup> )	AR	219,744
Length (m)	LR	469
Distance traveled (km)	ΣVKT	1,172
Particulate emission factor (m <sup>3</sup> /kg)	PEFsc	163,602,944
Derivation of dispersion factor - volatilization (g/m <sup>2</sup> -s per kg/m <sup>3</sup> )	Q/Csa	6.50
Total time of construction (s)	Tcv	7,200,000

Input
Calculation

Chemical	RfD & RfC Sources	<sup>^</sup> Ingestion SF (mg/kg-day) <sup>-1</sup>	<sup>^</sup> Inhalation Unit Risk (ug/m <sup>3</sup> ) <sup>-1</sup>	<sup>^</sup> Subchronic RfD (mg/kg-day)	<sup>^</sup> Subchronic RfC (mg/m <sup>3</sup> )	<sup>^</sup> GIABS	Dermally Adjusted RfD (mg/kg-day)	<sup>^</sup> ABS	<sup>^</sup> RBA	*Dia	*Diw	*Henry's Law Constant (unitless)	*Kd	*Koc	DA	Volatilization Factor - Unlimited Reservoir (m <sup>3</sup> /kg)	Carcinogenic Ingestion/ Dermal SL (SLing/der)	Carcinogenic Inhalation SL (SLinh)	Carcinogenic SL (mg/kg)	Non-Carcinogenic Ingestion/ Dermal SL (SLing/der)	Non-Carcinogenic Inhalation SL (SLinh)	Non-Carcinogenic SL (mg/kg)
Arsenic, Inorganic	I/C	1.50E+00	4.30E-03	3.00E-04	1.50E-05	1	3.00E-04	0.03	0.6			-	2.90E+01				15.2	11,665	15.1	97.4	10,749	96.5
Iron	P	-	-	7.00E-01	-	1	7.00E-01	0.01	1			-	2.50E+01							240,541		240,541
Manganese (Non-diet)	I	-	-	2.40E-02	5.00E-05	0.04	9.60E-04	0.01	1			-	6.50E+01							4,854	35,829	4,275
Vanadium and Compounds	A	-	-	1.00E-02	1.00E-04	0.026	2.60E-04	0.01	1			-	1.00E+03							1,643	71,658	1,606

\*chemical specific parameters found in Chemical Specific Parameters Spreadsheet at <https://www.epa.gov/risk/regional-screening-levels-rsls>

<sup>^</sup>chemical specific parameters found in Unpaved Road Traffic calculator at [https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl\\_search](https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search)

I: chemical specific parameters found in the IRIS at <https://www.epa.gov/iris>

C: chemical specific parameters found in Cal EPA at <https://www.dtsc.ca.gov/AssessingRisk>

A: chemical specific parameters found in Agency for Toxic Substances and Disease Registry Minimal Risk Levels (MRLs) at [https://www.atsdr.cdc.gov/mrls/pdfs/atsdr\\_mrls.pdf](https://www.atsdr.cdc.gov/mrls/pdfs/atsdr_mrls.pdf)

P: chemical specific parameters found in the Database of EPA PPRTVs at <https://hhpprtv.ornl.gov/quickview/pprtv.php>