PHASE II
INVESTIGATION REPORT

AREA B: PARCEL B2
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 B2 (the Site). Parcel B2 is comprised of 122.7 acres of the approximately 3,100-acre former steel making facility (**Figure 1**). The Site is bounded to the west by the Slab Mill within the Primary Rolling Mills Area (within Parcel B1), to the north by a locomotive shop (within Parcel B23) and the Finishing Mills Area (within Parcel B21), and to the east by the Roll Grinding Facility and several administrative buildings (within Parcel B3), and to the south by a portion of the Blast Furnace Area (within Parcel B5).

The Phase II Investigation was performed in accordance with procedures outlined in the approved Phase II Investigation Work Plan – Area B: Parcel B2. This Work Plan (Revision 1 dated May 17, 2017) and an associated comment response letter (dated June 14, 2017) were collectively approved by the Maryland Department of the Environment (MDE) and the United States Environmental Protection Agency (USEPA) on June 26, 2017. The agencies later made a determination that three additional soil borings proposed in the June 14, 2017 comment response letter in the vicinity of the Slab Hauler Repair Shop would not be required, as stated in correspondence received from the MDE on December 22, 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 B2 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.

Parcel B2 was formerly occupied by a fire and police station, the Plant Garage (which replaced the former Mason's Garage), Steelside Electronics, Sparrows Point Scrap Processing, and several small storage areas and shops. A large portion of the western-central parcel area was occupied by railways which were installed in the former Sparrows Point Scrap Processing area. The majority of the eastern-central areas of the parcel are occupied by a network of roadways indicative of a former residential area that was occupied by mill workers. The former residential town is now wooded, but the paved roadways still exist. Site visits by ARM personnel on November 2 and 3, 2016 verified that all buildings in the parcel had been demolished at that time with the exception of the former Slab Hauler Repair Shop and the Railroad Office. The concrete slabs of the demolished buildings (Slab Mill, Steelside Electronics Building, Old 7th St Steam Station, Fire & Police Station, and Plant Garage) remained on grade. The former Slab Hauler Repair Shop is proposed for demolition; whereas, the Railroad Office in the northwest corner of the Site will remain standing for the foreseeable future.

The Mason's Garage, Plant Garage, and several petroleum storage tanks formerly occupied the southeastern corner of the parcel. At the time of the Phase I Environmental Site Assessment (ESA) prepared by Weaver Boos Consultants dated May 19, 2014, the Plant Garage was still in operation. The findings presented in Weaver Boos' Phase I ESA suggested that the Plant Garage was constructed at the same location as the former Mason's Garage; however, a review of historical plant drawings suggests that the Plant Garage was constructed in a new location approximately 750 feet to the southeast of the former Mason's Garage. Therefore, both of these garages represent locations of potential concern for historical environmental releases; both were targeted during this Phase II Investigation.

The Plant Garage included several underground storage tanks (USTs), aboveground storage tanks (ASTs), gas pumps, and drums. During the Phase I ESA site visit, the Plant Garage was observed to be conducting refueling and maintenance activities for the vehicles operating at the plant property. Weaver Boos observed several ASTs, fuel dispensers, and drums. The drums in this storage area appeared to be in good condition. The ASTs appeared to be in fair to good conditions with either secondary containment or with double-walled construction. However, overfill leaks and staining near the tanks, dispensers, and connection piping were observed by Weaver Boos on the ground surface. According to Weaver Boos' Phase I ESA, USTs previously

containing gasoline, diesel fuel, and waste oil products were closed possibly without assessment sampling at the Plant Garage. Weaver Boos did not observe any indications of any former USTs at the Site during their visit in 2014. According to the Closure of Underground Storage Tanks Report prepared by Geraghty & Miller, Inc. dated June 1992, three USTs associated with the Mason's Garage were closed by 1990 and removed. These tanks were closed with assessment sampling as documented in the referenced closure report.

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 B2, groundwater at the Site was investigated as described in the separate Area B Groundwater Investigation Work Plan (dated October 6, 2015), the final version of which was approved by the agencies on October 5, 2015. A separate Area B Groundwater Phase II Investigation Report has been submitted (Revision 0 dated September 30, 2016) to discuss the detailed findings of the groundwater investigation.

2.0 ENVIRONMENTAL SETTING

2.1. LAND USE AND SURFACE FEATURES

The Tradepoint Atlantic property consists of the former Sparrows Point steel mill. According to the Phase I 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 B2 range between approximately 6 and 25 feet above mean sea level (amsl). The elevations across the Site appear to be relatively uniform in most areas, with typical elevations ranging from approximately 10 to 14 feet amsl. Several small stockpiled mounds have historically been located throughout the Site and were visible on the topographic maps; these mounds are responsible for the highest elevations reported at the Site (18 to 25 feet amsl). 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. Stormwater from the far northwestern corner of the Site is discharged through NPDES Outfall 013 to the adjoining surface waters of Bear Creek located to the west.

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 45% natural soils and 55% 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 interbedded non-native fill materials (sand, gravel, slag, and brick) and natural soils, which included fine-grained sediments (clays and silts) and coarse grained sediments (sands and gravel). Non-native fill materials were encountered at depths of up to 12 feet below the ground surface (bgs). The shallow groundwater table was observed in soil borings at depths ranging from 3.5 to 19.5 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 118 soil samples (from 55 boring locations) and six sub-slab soil gas samples were collected for analysis between May 26, 2017 and July 27, 2017 as part of the Parcel B2 Phase II Investigation. A total of six supplemental groundwater samples were collected between June 23, 2017 and July 17, 2017 from five temporary piezometers installed in the Plant Garage area and from one additional location installed for site-wide coverage (all of which were installed for the purpose of evaluating potential non-aqueous phase liquid (NAPL)). 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 B2 Work Plan dated May 17, 2017 (and associated comment response letter dated June 14, 2017), and the QAPP.

All site characterization activities were conducted under the property-wide Health and Safety Plan (HASP) provided as Appendix E 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. The following RECs were identified in the Parcel B2 Work Plan: Former Diesel Fuel UST Area (HREC, Finding 236, AOC Q), ASTs (REC 15A-15B, Finding 252, AOC H), Mason's Garage Drums (REC 15A-15B, Finding 253, AOC H, SWMU 197), Mason's Garage Former USTs and Gas Pumps (REC 15A-15B, Finding 254, AOC H), Possible USTs (REC 15A-15B, Finding 254, AOC H), Residential Town Tanks (REC 21, Finding 271), and Scrap Processing Facility and Bulk Petroleum Storage (REC 9C, 239). As described in Section 1.1, the Phase I ESA suggested that the Plant Garage was constructed at the same location as the former Mason's Garage, but other historical plant drawings indicated that the Plant Garage was constructed in a new location to the southeast of

the former Mason's Garage. Therefore, the findings designated as REC 15A-15B may refer to the Plant Garage rather than the Mason's Garage. All of the listed RECs are further described in detail in the Parcel B2 Work Plan. There were no additional SWMUs or AOCs identified at the Site based on the DCC Report, besides those cross-listed as RECs.

Four sets of historical drawings were also reviewed to identify potential sampling targets for the Site. These drawings included the 5000 Set (Plant Arrangement), the 5100 Set (Plant Index), the 5500 Set (Plant Sewer Lines), and a set of drawings indicating coke oven gas distribution drip leg locations. Drip legs are points throughout the distribution system where coke oven gas condensate was removed from the gas pipelines. The condensate from the drip legs was typically discharged to drums, although it is possible some spilled out of the drums and on to the ground. There were no drip legs identified inside the boundary of Parcel B2. 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: Tanks (unknown contents), Slab Hauler Repair Shop, Sludge and Acid Trailers, Steelside Electronics Building, Sub-Stations, and Mason's Garage (Former USTs and Gas Pumps). 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**. This appendix was updated to more accurately designate the sampling targets associated with the Plant Garage, which may have been listed as the Mason's Garage in the Phase I ESA. Sample locations were distributed to fill in large spatial gaps between proposed borings to provide complete coverage of the Site. During the completion of fieldwork, it was necessary to shift some borings from the approved locations given in the Work Plan, primarily due to access restrictions 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 B2 contained a total of 90.1 acres without engineered barriers and 32.5 acres with engineered barriers. Of the 32.5 acres with engineered barriers, 1.8 acres contained current/former building slabs and 30.7 acres consisted of parking/roads. In accordance with the relevant sampling density requirements, a minimum of 37 soil boring locations were required to cover the area without engineered barriers, and a minimum of 11 soil boring locations were required to cover areas with engineered barriers. A total of 48 borings were required to meet the density specification; 55 locations were completed during this Phase II Investigation (two closely associated borings B2-005-SB and B2-005A-SB are treated as a single location and are further described in Section 3.2).

3.2. SOIL INVESTIGATION

Continuous core soil borings were advanced at 55 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**). Soil boring B2-005-SB provided analytical soil data from two completion dates (June 1 and June 27, 2017). On the initial date, this soil boring could only be completed to a depth of 1-foot bgs due to equipment refusal and restrictions due to ongoing utility mark-outs. Another supplemental boring was completed at a nearby location (approximately 25 feet to the southeast of the original location) in order to provide subsurface data once the utilities were marked. The initial shallow boring from June 1, 2017 has been assigned ID# B2-005A-SB, and the boring completed on June 27, 2017 has been assigned ID# B2-005-SB. The continuous core soil borings were advanced to depths between 5 and 20 feet bgs using the Geoprobe® MC-7 Macrocore soil sampler (surface to 10 feet bgs), the Geoprobe® 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 B2 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, with two exceptions in the vicinity of the former Plant Garage. An intermediate sample was collected at B2-014-SB-7 from below the groundwater (observed at 6 feet bgs) because of a high PID reading (84.3 ppm) and a strong fuel-like odor in the soil core from 6 to 7.3 feet bgs. An intermediate sample was collected at B2-011-SB-8 from below the groundwater (observed at 7 feet bgs) because of a strong fuel-like odor in the soil core and a light amount of visible NAPL from 7 to 9 feet bgs.

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 B2 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, 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 was released to be analyzed for VOCs, SVOCs, TPH-DRO, TPH-GRO, and Oil & Grease. However, the samples for metals and cyanide were 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 six temporary vapor monitoring probes were installed at the locations provided on **Figure 4** to collect sub-slab soil gas samples. The sub-slab soil gas samples were collected according to procedures and methods referenced in **Field SOP Number 002** provided in Appendix A of the QAPP. During the completion of fieldwork, it was necessary to shift the locations of the monitoring probes within the Railroad Office (B2-056-SG through B2-058-SG) from the approved locations given in the Work Plan, due to access restrictions associated with the layout of the building interior. **Table 2** provides the coordinates of the proposed and final locations, and the distance/direction of the field shifts.

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. SUPPLEMENTAL GROUNDWATER SAMPLING

3.4.1. B2-051-SB (Parcel Coverage) Groundwater Sample

A trace to light tar substance was observed in the soil core in boring B2-051-SB from 6 to 6.2 feet bgs. A temporary NAPL screening piezometer was installed at this location on June 22, 2017 with a screen interval from 3 to 13 feet bgs. This piezometer was installed in accordance with the procedures and methods referenced in **Field SOP Number 028**. The construction log for this piezometer has been included in **Appendix D**. Due to the location of this piezometer on the Tradepoint Atlantic property (in a high traffic area), a groundwater sample was collected to characterize any potential impacts in case the piezometer was damaged/destroyed.

The groundwater sample was collected in accordance with methods referenced in **Field SOP Number 007** provided in Appendix A of the QAPP; which employed the use of laboratory supplied sample containers and preservatives, a peristaltic pump, dedicated polyethylene tubing, and a water quality multiparameter meter with a flow-through cell. The groundwater sample submitted for analysis of dissolved metals was filtered in the field with an in-line 0.45 micron filter. The sampling and purge log for location B2-051-PZ has been included in **Appendix E**. Calibration of the multiparameter meter was performed before the start of the sampling event, and a calibration post-check was completed following the event. Appropriate documentation of the multiparameter meter calibration has also been included in **Appendix E**.

The groundwater sample from B2-051-PZ was submitted to PACE and analyzed for TCL-VOCs via USEPA Method 8260B, TCL-SVOCs via USEPA Methods 8270D and 8270D SIM, Oil & Grease via USEPA Method 1664A, TPH-DRO/GRO via USEPA Methods 8015B and 8015D, TAL-Dissolved Metals via USEPA Methods 6010C and 7470A, dissolved hexavalent chromium via USEPA Method 7196A, and total cyanide via USEPA Method 9012A. Sample containers, preservatives, and holding times for the sample analyses are listed in the QAPP Worksheet 19 & 30 – Sample Containers, Preservation, and Holding Times.

3.4.2. Plant Garage Groundwater Samples

Visual observations of NAPL and/or strong fuel-like odors were noted in several of the soil cores installed within the Plant Garage area. These locations with physical evidence of NAPL and/or strong odors (as documented on the boring logs) were B2-007-SB, B2-011-SB, B2-013-SB, B2-014-SB, and B2-015-SB. Temporary piezometers were installed at each of the five locations to investigate the potential presence of NAPL and associated dissolved petroleum impacts in groundwater. Each piezometer was installed in accordance with the procedures and methods referenced in **Field SOP Number 028**. The construction logs for these piezometers have been included in **Appendix D**.

Groundwater samples were collected in accordance with methods referenced in **Field SOP Number 007** provided in Appendix A of the QAPP; which employed the use of laboratory supplied sample containers and preservatives, a peristaltic pump, dedicated polyethylene tubing, and a water quality multiparameter meter with a flow-through cell. The sampling and purge logs have been included in **Appendix E**. Calibration of the multiparameter meter was performed at the start of the day (all samples were collected on July 17, 2017), and a calibration post-check was completed at the end of the day. Appropriate documentation of the multiparameter meter calibration has also been included in **Appendix E**.

Since gasoline contamination was suspected to be present in the Plant Garage area based on the field observations, the groundwater samples were submitted to PACE and analyzed for TCL-VOCs via USEPA Method 8260B, TPH-DRO/GRO via USEPA Methods 8015B and 8015D, and total lead via USEPA Method 6010C. Sample containers, preservatives, and holding times for the sample analyses are listed in the QAPP Worksheet 19 & 30 – Sample Containers, Preservation, and Holding Times.

3.5. MANAGEMENT OF INVESTIGATION-DERIVED WASTE (IDW)

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

- soil cuttings generated from the installation of soil borings or temporary groundwater points;
- purged groundwater;
- decontamination fluids; and
- used personal protective equipment

Following the completion of field activities, composite samples were gathered with aliquots from each of the Parcel B2 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 B2 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 F**. 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, exceedances for PAHs are based on the adjusted PALs rather than those presented in the QAPP. One SVOC (benzo[a]pyrene) was detected above its adjusted PAL in five soil samples (B2-020-SB-4, B2-031-SB-7, B2-046-SB-1, B2-050-SB-1, and B2-055-SB-1). The maximum detection of benzo[a]pyrene was 10.5 mg/kg in sample B2-046-SB-1. The SVOC PAL exceedance locations and results have been provided on **Figure S-1**.

Shallow soil samples collected across the Site from the 0 to 1 foot bgs interval were 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 in the parcel. Exceedances of the TPH/Oil & Grease PAL (6,200 mg/kg) were noted in four samples (collected from three borings) at the Site. Oil & Grease exceeded its PAL in the following samples: B2-011-SB-8, B2-014-SB-1.5, B2-

014-SB-7, and B2-024-SB-1. The maximum detection of Oil & Grease was 13,600 mg/kg in sample B2-014-SB-7. There was only one DRO PAL exceedance, which was identified in sample B2-011-SB-8 with a detection of 9,730 mg/kg. GRO did not exceed its PAL in any soil samples collected at the Site. The TPH/Oil & Grease exceedance locations and results have been provided on **Figure S-2**. In addition to the analytical exceedances, several other Phase II Investigation borings had physical evidence of NAPL (i.e., free product or sheen) in the soil cores. There were also a few locations where strong non-visual evidence of NAPL was recorded (i.e., strong fuel-like odors and elevated PID readings). These borings are also highlighted on the exceedance figure, and the specific locations are discussed in greater detail in Section 4.2.

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. Four inorganic compounds (arsenic, hexavalent chromium, lead, and manganese) were detected above their respective PALs. Arsenic was by far the most common inorganic exceedance, and was detected above the PAL in 90 soil samples collected from the Site with a maximum detection of 173 mg/kg at B2-017-SB-5. Manganese, lead, and hexavalent chromium were detected above their respective PALs in 23 samples (maximum detection of manganese at 59,300 mg/kg in B2-016-SB-1), seven samples (maximum detection of lead at 12,000 mg/kg in B2-017-SB-5), and three samples (maximum detection of hexavalent chromium at 16.9 mg/kg in B2-039-SB-5). The inorganic PAL exceedance locations and results have been provided on **Figure S-3**.

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 S-1** through **Figure S-3** present a summary of the soil sample results that exceeded the PALs. **Table 7** provides a summary of results for all PAL exceedances in soil, including maximum values and detection frequencies. **Table 8** indicates which soil impacts (PAL exceedances) are associated with the specific targets listed in the Parcel B2 Work Plan. There were no detections of VOCs or PCBs above the applicable PALs. Exceedances of the PALs in soil within Parcel B2 consisted of four inorganics (arsenic, hexavalent chromium, lead, and manganese), one SVOC (benzo[a]pyrene), DRO, and Oil & Grease. Petroleum impacts, including a discussion of the analytical exceedance of the TPH/Oil & Grease PAL as well as borings with physical evidence of NAPL in the soil cores, are further discussed in Section 4.2. The soil analytical results are further evaluated in the SLRA provided in Section 6.0.

4.2. Summary of NAPL Observations

During the completion of the Phase II soil borings in Parcel B2, soil cores were screened for evidence of possible NAPL contamination. During the field screening, five boring locations

exhibited physical evidence of possible NAPL. Soil borings B2-007-SB, B2-011-SB, B2-013-SB, B2-015-SB, and B2-051-SB had observations of sheen or NAPL in the soil cores. In addition, three borings (B2-014-SB, B2-053-SB, and B2-055-SB) had very strong fuel-like odors and/or highly elevated PID readings during screening of the soil cores. The specific observations are noted on each relevant soil boring log provided in **Appendix B**. Each of these eight locations is highlighted on **Figure S-2**. Seven of the eight identified locations (all except B2-051-SB) were completed in the vicinity of either the Plant Garage or the Mason's Garage. Elevated detections of TPH/Oil & Grease above the PAL of 6,200 mg/kg were observed in soil samples collected from three boring locations (B2-011-SB, B2-014-SB, and B2-024-SB). Note that boring B2-024-SB was the only location which had a PAL exceedance without documented evidence of NAPL. Oil & Grease was detected at 12,400 mg/kg in the shallow soil sample collected from this location. No underlying soil samples were collected based on the shallow depth to groundwater at this location (less than 4 feet bgs).

Based on these considerations, temporary screening piezometers were installed at B2-007-SB, B2-011-SB, B2-013-SB, B2-014-SB, B2-015-SB, B2-024-SB, B2-051-SB, B2-053-SB, and B2-055-SB over the duration of the Phase II Investigation to delineate and assess the potential mobility of free-phase product (NAPL) to groundwater. Each screening piezometer was installed in accordance with the procedures and methods for the installation of temporary groundwater sample collection points referenced in **Field SOP Number 028** (example construction logs can be viewed in **Appendix D**). Following the installation of each NAPL screening piezometer, it was gauged using an oil-water interface probe after 0-hours, 48-hours, and at least 30-days. No measurable NAPL was observed in any of the temporary screening piezometers. The exact dates of gauging activities completed through December 4, 2017 (the date of the final 30-day measurement for location B2-024-PZ) as well as water level measurements for that time period, have been included in **Appendix G**. This attachment also includes the specific installation date of each of the nine piezometers, as well as relevant construction details (total depths, screen intervals, etc.).

The only exception to the standard gauging schedule (0-hours, 48-hours, and 30-days) was implemented at location B2-051-PZ. A 30-day gauging measurement was not obtained at this location. Due to the position of the piezometer in a high traffic area, Tradepoint Atlantic requested the early abandonment of B2-051-PZ which was completed on July 10, 2017. A final gauging measurement was not recorded on the abandonment date (MDE guidance has since been updated to require a gauging event immediately prior to abandonment), but no visible product was noted in or on the PVC casing once the piezometer was withdrawn from the ground. None of the other screening piezometers in Parcel B2 have yet been abandoned. B2-051-PZ and the five locations in the vicinity of the former Plant Garage (B2-007-PZ, B2-011-PZ, B2-013-PZ, B2-014-PZ, and B2-015-PZ) were sampled for groundwater in accordance with standard methods to further evaluate the potential presence of NAPL and associated dissolved-phase contamination. The results of the groundwater sampling events are discussed below.

4.3. GROUNDWATER CONDITIONS

4.3.1. Area B Groundwater Investigation

As specified in the approved Parcel B2 Work Plan, groundwater at the Site was investigated as described in the separate Area B Groundwater Investigation Work Plan (dated October 6, 2015). A separate Area B Groundwater Phase II Investigation Report has been submitted (Revision 0 dated September 30, 2016) to discuss the detailed findings of the groundwater investigation. Groundwater results obtained during this separate investigation 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 investigation, including detection summary tables and exceedance figures, are presented in the Area B Groundwater Phase II Investigation Report. A figure summarizing the shallow aqueous PAL exceedances (for all classes of compounds) in the vicinity of Parcel B2 is provided in **Appendix H**. The groundwater analytical results obtained from the intermediate and lower hydrogeologic zones are not relevant for this Parcel B2 Phase II Investigation, but can be reviewed in the separate Area B Groundwater Phase II Investigation Report.

Regarding the shallow groundwater exceedances, some of the PALs have been updated since the submission of the Area B Groundwater Phase II Investigation Report. In particular, the aqueous screening levels for some PAH constituents have been adjusted upward. Similar to the evaluation of soil data, the PALs for relevant PAHs have been modified based on revised toxicity data published in the USEPA RSL Resident Tapwater Table. Aqueous PAL exceedances in the shallow groundwater in the vicinity of Parcel B2 consisted of three VOCs (benzene, chloroform, and methyl tert-butyl ether), three SVOCs (benz[a]anthracene naphthalene, and pentachlorophenol), four total/dissolved metals (vanadium, cobalt, iron, and manganese), DRO, and GRO. For simplicity, the inorganic PAL exceedances shown on the figure do not include duplicate exceedances of total and dissolved metals at relevant sample locations. If both total and dissolved concentrations exceeded the PAL for a specific compound, the value for total metals is displayed on the figure for each sample.

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

4.3.2. Supplemental Groundwater Sampling – B2-051-PZ

Table 9 provides a summary of constituents detected above the laboratory's MDLs in the supplemental groundwater sample collected from temporary piezometer B2-051-PZ. This piezometer was originally installed due to observations of NAPL in a thin soil layer within the soil core from 6 to 6.2 feet bgs. The NAPL screening piezometer was sampled because it was installed in a high traffic area, and there was a possibility that the piezometer might be

damaged/destroyed. The sample from this groundwater point was analyzed for VOCs, SVOCs, TPH/Oil & Grease, dissolved metals (with hexavalent chromium), and total cyanide. The laboratory Certificate of Analysis (including the Chain of Custody) for the sample collected from B2-051-PZ is provided in the electronic attachments. This sample was not designated to be validated, so no DVR is provided.

Only three parameters were detected above the aqueous PALs in the sample from B2-051-PZ. Benz[a]anthracene, DRO, and dissolved vanadium were detected at 0.056 µg/L, 198 µg/L, and 110 µg/L, respectively. These exceedances are shown on **Figure GW-1**, which also displays the relevant groundwater exceedances from the three permanent monitoring wells which were sampled in the vicinity of this supplemental point under the Area B Groundwater Investigation. The PAL exceedances from the nearby permanent monitoring wells are also displayed in **Appendix H**, along with the remaining site-wide shallow permanent monitoring wells.

4.3.3. Supplemental Groundwater Sampling – Plant Garage

Table 10 provides a summary of constituents detected above the laboratory's MDL in the supplemental groundwater samples collected from the five temporary screening piezometers in the vicinity of the former Plant Garage (B2-007-PZ, B2-011-PZ, B2-013-PZ, B2-014-PZ, and B2-015-PZ). Since gasoline contamination was suspected to be present in the Plant Garage area based on the field observations, these piezometers were sampled for VOCs, DRO, GRO, and total lead. 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. The relevant analytical results from the permanent monitoring well SW-055-MWS (sampled under the separate Area B Groundwater Investigation) are also displayed on **Table 10**. Since SW-055-MWS was sampled for a more comprehensive set of analytes in accordance with the Area B Groundwater Investigation Work Plan, only the comparable parameter lists (VOCs, DRO, GRO, and total lead) are displayed on the detection summary table.

Among the NAPL screening piezometers, there were four parameters that exceeded their respective aqueous PALs in the vicinity of the Plant Garage. These PAL exceedances were limited to one VOC (benzene), total lead, DRO, and GRO. These exceedances are shown on **Figure GW-2**, which also displays the relevant groundwater exceedances from the permanent monitoring well SW-055-MWS in the immediate vicinity. SW-055-MWS had detections of benzene, DRO, and GRO above the applicable PALs. Additional PAL exceedances at location SW-055-MWS (for SVOCs) can be viewed in **Appendix H**, but the information displayed on **Figure GW-2** is limited to the results for comparable parameters (VOCs, DRO, GRO, and total lead). Including the data from SW-055-MWS, benzene exceeded its PAL in two groundwater samples, with a maximum detection of 17.5 µg/L at location B2-013-PZ. Total lead exceeded its PAL in three groundwater samples (B2-007-PZ, B2-014-PZ, and B2-015-PZ) with a maximum

detection of 804 µg/L at B2-015-PZ. DRO and GRO exceeded their aqueous PAL (47 µg/L) in all five piezometers and the permanent monitoring well SW-055-MWS. The highest detections of DRO (24,900 µg/L) and GRO (1,350 µg/L) were both observed at location B2-011-PZ.

Based on the historical use of the Plant Garage area and existing impacts which have been documented in the groundwater, additional monitoring and/or appropriate response actions will be coordinated as needed with the MDE. Although NAPL was not detected in the groundwater in the vicinity of the Plant Garage (see Section 4.2), the dissolved-phase contamination suggests that further action may be needed.

4.3.4. Vapor Intrusion Screening Analysis

Groundwater data were 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.

The permanent monitoring wells which were sampled under the Area B Groundwater Investigation were previously evaluated for potential VI risk within the separate Area B Groundwater Phase II Investigation Report. Total cyanide had previously been identified as a potential VI risk in the Area B Groundwater Phase II Investigation Report, but the screening level for cyanide has since been adjusted upward by the USEPA, eliminating this concern. There were no additional VI risks identified from among the shallow permanent monitoring wells that are relevant for Parcel B2.

The groundwater results obtained from temporary piezometers during the Phase II Investigation of Parcel B2 (B2-007-PZ, B2-011-PZ, B2-013-PZ, B2-014-PZ, B2-015-PZ, and B2-051-PZ) have been evaluated for potential VI risks at these locations. It should be noted that the samples obtained in the vicinity of the Plant Garage were analyzed only for VOCs, DRO, GRO, and total lead. None of the aqueous results exceeded the individual VI TCR or THQ criteria as specified by the VISL Calculator. Following the initial screening, a cumulative VI risk assessment was also performed for each individual sample location, with the results separated by cancer versus non-cancer risk. All compounds with detections were included in the computation of the cumulative cancer risk, and all compounds with detections exceeding 10% of the THQ level were included in the evaluation of non-cancer hazard. None of the cumulative VI cancer risks were greater than 1E-5, and there were no compounds that were identified above the 10% THQ level to be included in the cumulative VI evaluation for non-cancer hazard. The results of the cumulative VI comparisons for the six aqueous samples obtained during the Parcel B2 Phase II Investigation are provided in **Table 11**.

4.4. SUB-SLAB SOIL GAS CONDITIONS

The detected VOCs in sub-slab soil gas are summarized and compared to the PALs in **Table 12**. 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 Certificates of Analysis (including Chains of Custody) and the DVR for the validated sample group 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, groundwater, and sub-slab soil gas) at concentrations that could pose an unacceptable risk to Site receptors. Individual results are compared to the PALs established in the QAPP (i.e., the most current USEPA RSLs) or based on other direct guidance from the agencies, to identify the presence of exceedances in each environmental medium.

Quality assurance and quality control (QA/QC) samples were collected during field studies to evaluate field/laboratory variability. A summary of QA/QC samples associated with this investigation has been included as **Appendix I**. The following QA/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
  - Water – 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
  - Water – VOCs, TPH-DRO, TPH-GRO, and total lead
  - Soil Gas – 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
  - Water – VOCs, TPH-DRO, TPH-GRO, and total lead
- 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
  - Water – VOCs, TPH-DRO, TPH-GRO, and total lead
  - Soil Gas – VOCs only

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

5.1. DATA VERIFICATION

A verification review was performed on documentation generated during sample collection and analysis. The verification included a review of field log books, field data sheets, and Chain of Custody forms to ensure that all planned samples were collected, and to ensure consistency with

the field methods and decontamination procedures specified in the QAPP Worksheet 21 – Field SOPs and Appendix A of the QAPP. In addition, calibration logs were reviewed to ensure that field equipment was calibrated and/or checked once per day. The logs have been provided in **Appendix C** (PID calibration log) and **Appendix E** (multiparameter meter calibration log).

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

5.2. DATA VALIDATION

USEPA Stage 2B data validation was completed for a representative 50% of the environmental sample analyses performed by PACE and supporting Level IV Data Package information by Environmental Data Quality Inc. (EDQI). 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. Lists of the analytical results that were rejected during data validation are provided as **Table 13** (soil) and **Table 14** (groundwater). 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, 007, 008, 009, 010, 011, 017, and 024**. Review of the field notes and laboratory sample receipt records indicated that collection of soil, groundwater, 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 J**. This evaluation of completeness includes only the representative 50% of sample results which were randomly selected for validation.

A total of 13 analytes did not meet the completeness goal of 90% for soils in Parcel B2. Of these 13 analytes, 11 acid extractable SVOCs (2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2-chlorophenol, 2-

methylphenol, 3&4-methylphenol (m&p Cresol), pentachlorophenol, and phenol) had soil completeness values of ≥74.6%. Some of the results for these compounds were rejected due to poor recoveries, which are believed to be due to the highly alkaline conditions typical of slag fill. These compounds had completeness ratios which were fairly close to the 90% goal, and since these compounds either were not detected in soil across the Site or were detected at low concentrations, the rejected soil results for the acid extractable SVOCs are not considered to be significant data gaps. Of the remaining two soil compounds with completeness values less than 90% (1,4-dioxane and benzaldehyde), only benzaldehyde was detected in soil. The maximum benzaldehyde detection (0.28 mg/kg) was well below the established PAL (120,000 mg/kg). Based on the infrequency and low magnitude of soil detections for these compounds, these are not considered to be significant data gaps. The rejection of the soil results for these compounds has not been uncommon for data obtained from the Tradepoint Atlantic property. Overall, the soil data can be used as intended.

The five groundwater samples collected from the temporary NAPL screening piezometers in the vicinity of the Plant Garage were validated and are included in the aqueous evaluation of data completeness. Among these five samples, the only analyte with less than 100% completeness was bromomethane (all results were rejected). The lack of groundwater data for this compound is not considered to be a significant data gap. Overall, the groundwater 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): Three EUs were identified for the Site, as indicated in **Figure 5**. The three EUs (EU1 through EU3) are comprised of 25.3 acres (EU1), 46.4 acres (EU2), and 51.0 acres (EU3).

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 15** to identify compounds above the relevant screening levels in Parcel B2.

Exposure Point Concentrations (EPCs): The COPC soil datasets for each 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 each EU. Thus, for Parcel B2 there are three soil datasets associated with each EU. 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 equations derived in the USEPA Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites (OSWER 9355.4-24, December 2002). 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.

For the Construction Worker, site-specific risk-based evaluations were completed for a range of potential exposure frequencies to determine the maximum exposure frequency for each EU that would result in risk ratios equivalent to a cumulative cancer risk of 1E-5 or Hazard Index (HI) of 1 for any individual target organ. This analysis indicated that exposure frequencies of 55 days (EU1), 35 days (EU2), and 60 days (EU3) would be allowable before additional worker protections or more detailed job safety evaluations might be needed.

There is no potential for human exposure to groundwater for a Composite Worker since groundwater is not used on the Tradepoint Atlantic property (and is not proposed to be utilized). In the event that future construction/excavation leads to a potential Construction Worker exposure to groundwater, health and safety plans and procedures shall be followed to limit exposure risk.

Assessment of Lead: For lead, the arithmetic mean concentrations for surface soils, subsurface soils, and pooled soils for each 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 16**. For lead, any results equaling or exceeding 10,000 mg/kg would be identified to be delineated for possible excavation and removal (see below).

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). TPH/Oil & Grease PAL exceedances and/or evidence of NAPL in the soil cores were noted at several locations throughout the Site. These locations include B2-007-SB, B2-011-SB, B2-013-SB, B2-014-SB, B2-015-SB, B2-024-SB, B2-051-SB, B2-053-SB, and B2-055-SB. The specific observations for each location are provided in the boring logs (**Appendix B**). NAPL screening piezometers were installed at each of the listed locations to evaluate the potential for product mobility throughout the Site, and none of these piezometers accumulated product. Additional discussion is presented following the SLRA in Section 7.2.

Risk Characterization Approach: For each 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, then a no further action determination will be recommended. The primary EPC comparison to determine the need for possible remedial action will be the Composite Worker comparison to the surface soil EPCs. However, no further action will only be approvable if subsurface soil EPCs are also compared to the Composite Worker RSLs, and the cancer and non-cancer risk estimates are equal to or less than 1E-5 and 1, respectively. In addition, the Construction Worker scenario comparisons to the surface and subsurface soil EPCs will be used to determine if institutional controls such as site-specific work practices are necessary to mitigate risk and ensure proper management of any excavated materials. 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. 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 B2 SLRA RESULTS AND RISK CHARACTERIZATION

Soil data were divided into three datasets (surface, subsurface, and pooled) for each of the Parcel B2 EUs 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 B2 had a detection frequency less than 5%; thus, no COPCs were removed due to low detection frequencies. All COPCs identified in **Table 15** have been retained for the risk assessment.

EPCs were calculated for each soil dataset (i.e., surface, subsurface, and pooled surface/subsurface) in each 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 17**. 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 each EU, is also included as an electronic attachment. The average lead concentrations are presented for each dataset in **Table 16**, which indicates that neither surface nor pooled soils exceeded an average lead value of 800 mg/kg in any EU. 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). Subsurface soils in EU1 had a computed average lead concentration of 1,127 mg/kg. This concentration exceeded the lead screening level of 800 mg/kg but was well below the secondary limit of 2,518 mg/kg. This

elevated mean concentration in EU1 was caused by an elevated detection of lead in subsurface sample B2-017-SB-5, which is further described below. The average lead concentrations in subsurface soils in EU2 and EU3 did not exceed the lowest lead screening level of 800 mg/kg.

One sample had a detection of lead that exceeded 10,000 mg/kg, the designated threshold at which delineation is required. Sample B2-017-SB-5 had a lead concentration of 12,000 mg/kg, which was the maximum reported lead result in soil in Parcel B2. The maximum soil concentration of arsenic (173 mg/kg) was also identified in this sample. Delineation of lead (and associated elevated arsenic) has been completed at this location in accordance with the agency-approved Work Plan for Delineation/Characterization of Lead & Arsenic Impacted Soil at B2-017-SB dated September 18, 2017. This plan was approved via email on September 20, 2017, and the plan was implemented on September 25, 2017. Following review of the delineation results, which were presented within the Supplemental Investigation Report dated June 26, 2018, the MDE and USEPA have agreed that no further action is warranted with respect to the lead/arsenic impacts at location B2-017-SB. The delineation results have not been incorporated into the SLRA presented herein (although the maximum lead and arsenic detections reported in sample B2-017-SB-5 have been retained) because the addition of this delineation data would unnecessarily bias the sampling results due to the large number of samples collected within the delineation area. It has been standard practice in Phase II Investigation Reports to exclude any supplemental delineation data from the baseline risk assessment.

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 18** (surface), **Table 19** (subsurface), and **Table 20** (pooled surface and subsurface soils). The results are summarized as follows:

Worker Scenario	EU	Medium	Hazard Index (>1)	Total Cancer Risk
Composite Worker	EU1 (25.3 ac.)	Surface Soil	none	6E-6
		Subsurface Soil	none	1E-5
		Surface & Subsurface Soil	none	9E-6
	EU2 (46.4 ac.)	Surface Soil	none	4E-6
		Subsurface Soil	Nervous System = 2	7E-6
		Surface & Subsurface Soil	none	4E-6
	EU3 (51.0 ac.)	Surface Soil	none	3E-6
		Subsurface Soil	none	6E-6
		Surface & Subsurface Soil	none	4E-6

The current Composite Worker will be exposed only to surface soils. The risk ratios indicated that the cumulative cancer risks for potential Composite Worker exposures to surface soils were less than the acceptable limit for no further action (1E-5) in each EU. When the non-cancer risks were segregated and summed by target organ for cumulative HI, no target organ exceeded a cumulative HI of 1 in surface soils in any 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 or equal to 1E-5 (the acceptable level for no further action) in each EU for both subsurface soils and pooled soils. A single elevated hazard above the HI of 1 was calculated for potential subsurface exposures for the nervous system in EU2 (HI=2) due to elevated detections of manganese (HQ=2). There were no HI values above 1 for the potential subsurface exposure scenario in EU1 and EU3. Supplemental analysis evaluating the potential Composite Worker exposures to pooled soils (which may be applicable depending on any proposed development) resulted in no elevated hazards above the HI of 1 in any EU.

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, excluding an elevated HI for the nervous system (HI=2) in EU2 subsurface soils. Based on this assessment, an unacceptable non-cancer hazard to a future Composite Worker may be encountered if soil disturbances occur which relocate manganese-impacted subsurface soils in EU2 to the surface. Potential hazards resulting from such a development scenario should be addressed by institutional controls to ensure proper notification and management of any future disturbance of subsurface soil to provide protection for the future Composite Worker.

Construction Worker Assessment:

Construction Worker risk ratios were evaluated for several exposure scenarios to determine the maximum exposure frequency for each EU that would result in risk ratios equivalent to a cumulative cancer risk of 1E-5 or HI of 1 for any individual target organ. Risk ratios for the Construction Worker scenario using the selected durations (55 days, 35 days, and 60 days for EU1 through EU3, respectively) are shown in **Table 21** (surface), **Table 22** (subsurface), and **Table 23** (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 spreadsheets used for computation of the site-specific Construction Worker SSLs are included as **Appendix K**. The results for the Construction Worker exposure scenarios are summarized as follows:

Worker Scenario	EU	Medium	Hazard Index (>1)	Total Cancer Risk
Construction Worker	EU1 55 days (25.3 ac.)	Surface Soil	none	2E-7
		Subsurface Soil	none	5E-7
		Surface & Subsurface Soil	none	4E-7
	EU2 35 days (46.4 ac.)	Surface Soil	none	9E-8
		Subsurface Soil	none	2E-7
		Surface & Subsurface Soil	none	1E-7
	EU3 60 days (51.0 ac.)	Surface Soil	none	2E-7
		Subsurface Soil	none	4E-7
		Surface & Subsurface Soil	none	2E-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 exposure durations of 55 days (EU1), 35 days (EU2), and 60 days (EU3), the screening level estimates of Construction Worker cancer risk for exposures to surface soils, subsurface soils, and pooled soils in each EU were all less than the acceptable 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 site-specific Construction Worker risk assessment using the given exposure frequencies, there are no potentially unacceptable risks/hazards resulting from exposures to on-site soils.

Since the allowable exposure durations are less than the default baseline exposure scenario for a Construction Worker (which would be evaluated using a duration of 250 days), institutional controls should be implemented to ensure proper oversight and management of any future intrusive construction activity that would include disturbances of the existing soil for more than 55 days (EU1), 35 days (EU2), and 60 days (EU3). These controls will be protective of future Construction Workers by limiting potential exposures to surface and subsurface soils which may be impacted above the acceptable risk criteria. Potential risks and hazards will be re-evaluated in a Response and Development Work Plan if the proposed duration of intrusive work will exceed the specified exposure frequencies for any future construction project.

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 118 soil samples (all locations/depths), six sub-slab soil gas samples, and six supplemental groundwater samples were collected and analyzed to define the nature and extent of contamination in Parcel B2. 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. The supplemental groundwater sample collected from B2-051-PZ was analyzed for TCL-VOCs, TCL-SVOCs, Oil & Grease, TPH-DRO/GRO, TAL-Dissolved Metals, dissolved hexavalent chromium, and total cyanide. The supplemental groundwater samples collected in the vicinity of the Plant Garage were analyzed for TCL-VOCs, TPH-DRO/GRO, and total lead.

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.

PCB concentrations are well below levels that would warrant evaluation of a removal remedy (50 mg/kg), indicating that no further action is needed with respect to PCBs. The computed average lead concentrations in the surface, subsurface, and pooled (surface and subsurface) soils in each EU were below the 800 mg/kg RSL, with the exception of subsurface soils in EU1. Subsurface soils in EU1 had a computed average lead concentration of 1,127 mg/kg. This concentration exceeded the lead screening level of 800 mg/kg but was well below the secondary limit of 2,518 mg/kg. There was one soil sample (B2-017-SB-5) in which the detection of lead exceeded 10,000 mg/kg, the designated threshold at which delineation would be required.

Sample B2-017-SB-5 had a detection of lead of 12,000 mg/kg, which was the maximum reported lead result in soil in Parcel B2. The maximum soil detection of arsenic (173 mg/kg) was also identified in this sample. Delineation of lead (and associated elevated arsenic) has been completed at this location in accordance with the agency-approved Work Plan for Delineation/Characterization of Lead & Arsenic Impacted Soil at B2-017-SB dated September 18, 2017. Following review of the delineation results, which were formally presented to the agencies within the associated Supplemental Investigation Report dated June 26, 2018, the MDE and USEPA have agreed that no further action is warranted with respect to the lead/arsenic impacts at location B2-017-SB.

There were no soil PAL exceedances of VOCs or PCBs, indicating that VOCs and PCBs are not significant contaminants in soil at the Site. Exceedances of the PALs in soil within Parcel B2 consisted of four inorganics (arsenic, hexavalent chromium, lead, and manganese), one SVOC (benzo[a]pyrene), DRO, and Oil & Grease. Arsenic exceeded its PAL in the largest proportion of the samples analyzed site-wide. Arsenic was detected in 86% of the soil samples analyzed for this compound (with 90 total PAL exceedances), with a maximum detection of 173 mg/kg in sample B2-017-SB-5. The remaining inorganic exceedances were less common in comparison. Manganese, lead, and hexavalent chromium were detected above their respective PALs in 23 samples (maximum detection of manganese at 59,300 mg/kg in B2-016-SB-1), seven samples (maximum detection of lead at 12,000 mg/kg in B2-017-SB-5), and three samples (maximum detection of hexavalent chromium at 16.9 mg/kg in B2-039-SB-5). Benzo[a]pyrene exceeded its PAL in five soil samples with a maximum detection of 10.5 mg/kg at B2-046-SB-1. Oil & Grease exceeded its PAL in four soil samples with a maximum detection of 13,600 mg/kg in sample B2-014-SB-7. DRO exceeded its PAL in only one soil sample (B2-011-SB-8) with a detection of 9,730 mg/kg.

Petroleum impacts, including a discussion of the borings with analytical exceedance of the TPH/Oil & Grease PAL (B2-011-SB, B2-014-SB, and B2-024-SB) as well as borings with evidence of NAPL or sheen in the soil cores (B2-007-SB, B2-011-SB, B2-013-SB, B2-015-SB, and B2-051-SB) or other non-visual evidence of NAPL (B2-014-SB, B2-053-SB, and B2-055-SB), are further discussed below in Section 7.2.

7.2. NON-AQUEOUS PHASE LIQUID

There were several elevated detections of DRO and Oil & Grease above the soil PAL throughout the parcel, which could be indicative of potential NAPL impacts. There were four Oil & Grease soil PAL exceedances in Parcel B2 (B2-011-SB-8, B2-014-SB-1.5, B2-014-SB-7, and B2-024-SB-1), with a maximum detection of 13,600 mg/kg at B2-014-SB-7. DRO exceeded the soil PAL in only one sample (B2-011-SB-8) with a detection of 9,730 mg/kg. During field screening of the soil cores installed during this investigation, borings B2-007-SB, B2-011-SB, B2-013-SB, B2-014-SB, B2-015-SB, B2-051-SB, B2-053-SB, and B2-055-SB had visible observations of product (i.e., NAPL or sheen) and/or strong petroleum odors and elevated PID readings in the soil cores. The specific observations are noted on each relevant soil boring log provided in **Appendix B**. Each of these eight locations is highlighted on **Figure S-2**. Seven of the eight identified locations (all except B2-051-SB) were installed in the vicinity of either the Plant Garage or the Mason's Garage.

The potential mobility of NAPL to groundwater was investigated via the installation of nine temporary NAPL piezometers at the following boring locations: B2-007-SB, B2-011-SB, B2-013-SB, B2-014-SB, B2-015-SB, B2-024-SB, B2-051-SB, B2-053-SB, and B2-055-SB. Based on 0-hour, 48-hour, and 30-day gauging measurements of each screening piezometer using an

oil-water interface probe, NAPL was not detected at these locations and therefore is not believed to be present in groundwater at quantities that are likely to migrate. In addition to the NAPL screening piezometers, none of the permanent groundwater monitoring wells located within, or adjacent to, Parcel B2 showed any evidence of NAPL during the mandatory checks prior to sampling under the Area B Groundwater Investigation.

The only exception to the standard gauging schedule (0-hours, 48-hours, and 30-days) was implemented at location B2-051-PZ. A 30-day gauging measurement was not obtained at this location, but the piezometer was sampled to provide aqueous data. Due to the position of the piezometer in a high traffic area, Tradepoint Atlantic requested the early abandonment of B2-051-PZ which was completed on July 10, 2017. A final gauging measurement was not recorded on the abandonment date (MDE guidance has since been updated to require a gauging event immediately prior to abandonment), but no visible product was noted in or on the PVC casing once the piezometer was withdrawn from the ground. None of the other screening piezometers in Parcel B2 have yet been abandoned. Since there was no measurable NAPL recorded in B2-024-PZ, B2-053-PZ, or B2-055-PZ, no additional action is recommended at this time, and these screening piezometers will be abandoned in accordance with the Maryland abandonment standards as stated in COMAR 26.04.04.34 through 36. Each of these piezometers will be gauged a final time on the abandonment date in accordance with current MDE guidance.

Groundwater samples were collected from the five piezometers installed in the vicinity of the former Plant Garage (B2-007-SB, B2-011-SB, B2-013-SB, B2-014-SB, and B2-015-SB) to further evaluate the potential presence of dissolved-phase contamination. The results of this groundwater sampling event (as well as the results from B2-051-PZ) are discussed below. The piezometers in the vicinity of the Plant Garage are not proposed to be abandoned at this time.

The proximity of all TPH/Oil & Grease impacted borings and NAPL screening piezometers to proposed utilities should be evaluated in any future development planning for Parcel B2. Appropriate protocols should be documented in a Response and Development Work Plan (as necessary) to prevent the mobilization of any product if future utilities are proposed in the vicinity of these impacts.

7.3. GROUNDWATER (SUPPLEMENTAL)

Six supplemental groundwater samples were collected from temporary NAPL screening piezometers to characterize potential groundwater impacts in select areas of the Site. No groundwater samples were originally specified to be collected in the Parcel B2 Work Plan.

The temporary piezometer B2-051-PZ was installed due to observations of NAPL in a thin soil layer within the soil core. This screening piezometer was sampled because it was installed in a high traffic area, and there was a possibility that the piezometer might be damaged or destroyed. Due to the position of the piezometer in a high traffic area, Tradepoint Atlantic requested the

early abandonment of B2-051-PZ which was completed on July 10, 2017 (after it had previously been sampled). Only three parameters were detected above the aqueous PALs in the sample from B2-051-PZ. Benz[a]anthracene, DRO, and dissolved vanadium were detected at 0.056 µg/L, 198 µg/L, and 110 µg/L, respectively. No additional action is proposed in this area.

Five temporary piezometers were installed in the vicinity of the former Plant Garage based on evidence of NAPL which was observed in this area. Since gasoline contamination was suspected to be present based on the field observations, these piezometers were sampled for VOCs, DRO, GRO, and total lead. The comparable results for VOCs, DRO, GRO, and total lead from the nearby permanent monitoring well SW-055-MWS (sampled during the separate Area B Groundwater Investigation) are also relevant for comparison to the data obtained from the temporary piezometers. Among the NAPL screening piezometers, benzene, DRO, GRO, and total lead were detected above the aqueous PALs. Exceedances of benzene, DRO, and GRO were also observed at location SW-055-MWS. Including the data from SW-055-MWS, benzene exceeded its PAL in two groundwater samples, with a maximum detection of 17.5 µg/L at location B2-013-PZ. Total lead exceeded its PAL in three groundwater samples (B2-007-PZ, B2-014-PZ, and B2-015-PZ) with a maximum detection of 804 µg/L at B2-015-PZ. TPH-DRO/GRO exceeded their respective aqueous PALs in all six sample locations, with the maximum detections of DRO and GRO (24,900 µg/L and 1,350 µg/L, respectively) both observed at B2-011-PZ.

Based on the historical use of the Plant Garage area and existing impacts which have been documented in the groundwater, additional monitoring and/or appropriate response actions will be coordinated as needed with the MDE.

7.4. 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 Railroad Office and the Slab Hauler Repair Shop 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.

7.5. 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. In the event that future construction/excavation leads to a potential Construction Worker exposure to groundwater, health and safety plans should be implemented to limit exposure risk. Findings from the Area B Groundwater Phase II Investigation which include the groundwater data obtained from permanent monitoring wells within and surrounding Parcel B2 are presented in the

Area B Groundwater Phase II Investigation Report (Revision 0) dated September 30, 2016, which was submitted to the agencies for review. An aqueous PAL exceedance figure is provided in **Appendix H** to indicate the locations of any shallow groundwater exceedances from the Area B Groundwater Investigation. The groundwater data were screened to determine whether any cumulative (or individual) sample results exceeded the USEPA VI TCR (carcinogen) or THQ (non-carcinogen) Screening Levels. Among the samples obtained during the separate Area B Groundwater Investigation, there were no potential VI risks identified from the permanent monitoring wells located in the vicinity of Parcel B2. Total cyanide had previously been identified as a potential VI risk in the Area B Groundwater Phase II Investigation Report, but the screening level for cyanide has since been adjusted upward by the USEPA, eliminating this concern. Among the six supplemental groundwater samples which were collected from temporary NAPL screening piezometers at select locations in Parcel B2, none of the individual results exceeded the VI TCR or THQ criteria. When the aqueous results were summed by sample location, none of the cumulative VI cancer risks were greater than or equal to 1E-5, and none of the cumulative VI non-cancer HI values exceeded 1. There are no concerns related to potential VI risks at the Site based on the existing sampling information.

The current Composite Worker could potentially be exposed to surface soils at the Site. The risk ratios indicated that the cumulative cancer risks for the Composite Worker scenario was less than 1E-5 for surface soils (equal to the target benchmark) in each EU. A non-cancer cumulative HI of 1 was not exceeded for any target organ system evaluated for Composite Worker exposure to surface soils in any 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 surface soils at the Site in its current condition.

The cumulative carcinogenic risk estimates for potential future Composite Worker exposures to subsurface soils were less than or equal to 1E-5 (equal to the target benchmark) in each EU. When the non-cancer risks were segregated and summed by target organ, a cumulative HI of 1 was exceeded for the nervous system (HI=2) for subsurface soils in EU2 due to elevated detections of manganese (HQ=2). Based on this assessment, an unacceptable non-cancer hazard to a future Composite Worker may be encountered if soil disturbances occur that relocate manganese-impacted soils to the surface. Institutional controls to ensure proper oversight and management of any future construction activity that includes disturbances of the existing subsurface soil below 1-foot bgs would be protective of future Composite Workers by limiting potential exposures to relocated subsurface material that may be impacted above the acceptable criteria. Potential risks to a Composite Worker associated with any future intrusive construction activities should be addressed in a Response and Development Work Plan for that work.

The Construction Worker evaluation for the site-specific exposure frequencies of 55 days (EU1), 35 days (EU2), and 60 days (EU3) indicated that the cumulative cancer risks for surface and

subsurface soils were below the allowable 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 or subsurface soils using the given exposure frequencies. These findings indicate that there are no potentially unacceptable risks/hazards resulting from exposures to on-site soils if the durations of intrusive work for future development projects in each respective EU are limited to 55 days, 35 days, and 60 days. Since the allowable exposure durations are less than the default baseline Construction Worker scenario (250 days), institutional controls should be implemented to ensure proper oversight and management of any future construction activity that would include disturbances of the existing soil for more than 55 days (EU1), 35 days (EU2), and 60 days (EU3). These controls will be protective of future Construction Workers by limiting potential exposures to surface and subsurface soils which may be impacted above the acceptable risk criteria. Potential risks/hazards will be re-evaluated in a Response and Development Work Plan if the proposed duration of intrusive work will exceed the specified exposure frequencies for any future construction project.

7.6. RECOMMENDATIONS

Sufficient remedial investigation data has been collected to present this evaluation of the nature and extent of possible constituents of concern in Parcel B2. The presence and absence of soil and sub-slab soil gas impacts within Parcel B2 have been adequately described and further investigation is not warranted for these site media to characterize overall conditions. Due to the historical use of the Plant Garage and the existing impacts which have been documented in the groundwater, further action may be needed in this area. 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.
- Institutional controls should be implemented for the protection of Composite Workers and Construction Workers to ensure proper oversight and management of any future construction activity that includes disturbances of the existing soil. These institutional

controls will necessarily include a written notice to the MDE of any future soil disturbance activities, proper management and characterization of any material disturbed at the Site, and health and safety requirements for any excavations of substantial time periods (exceeding 55 days, 35 days, and 60 days for EU1 through EU3, respectively). Construction Worker risks for any proposed durations exceeding the specified exposure frequencies will be re-evaluated in site-specific Response and Development Work Plans, as necessary.

- Elevated detections of lead and arsenic in the vicinity of boring B2-017-SB have been delineated in accordance with the approved Work Plan for Delineation/Characterization of Lead & Arsenic Impacted Soil at B2-017-SB dated September 18, 2017. It is recommended that no further action is required in the vicinity of B2-017-SB. Following review of the delineation results within the Supplemental Investigation Report dated June 26, 2018, the MDE and USEPA have agreed that no further action is warranted with respect to these impacts.

- The soil borings with elevated detections of TPH/Oil & Grease and/or physical evidence of NAPL in the soil cores (B2-007-SB, B2-011-SB, B2-013-SB, B2-014-SB, B2-015-SB, B2-024-SB, B2-051-SB, B2-053-SB, and B2-055-SB) should be considered for proximity to proposed utilities in any future development planning. If future utilities are proposed in the vicinity of these borings/piezometers, appropriate protocols for the mitigation of potential product (NAPL) mobility should be addressed in a Response and Development Work Plan.

- Based on the historical use of the Plant Garage area and existing impacts which have been documented in the groundwater, additional monitoring and/or appropriate response actions will be coordinated as needed with the MDE.

8.0 REFERENCES

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USEPA (2017). Vapor Intrusion Screening Level (VISL) Calculator version 3.5. (https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-levels-visls).

Weaver Boos Consultants (2014). *Phase I Environmental Site Assessment: Former RG Steel Facility*. Final Draft. May 19, 2014.

FIGURES

Site Boundary

Parcel Boundaries

Private Property

Parcel A9
Parcel A5
Parcel A13
Parcel A7
Parcel A14
Parcel A11
Parcel A8
Parcel A12
Parcel A2
Parcel A15
Parcel A17
Parcel A18
Parcel A16
Parcel A6
Parcel A4
Parcel A10
Parcel A3
Parcel A1
Parcel B6
Parcel B8
Parcel B14
Parcel B22
Parcel B16
Parcel B21
Parcel B15
Parcel B24
Parcel B23
Parcel B25
Parcel B7
Parcel B1
Parcel B2
Parcel B3
Parcel B17
Parcel B19
Parcel B4
Parcel B5
Parcel B9
Parcel B18
Parcel B10
Parcel B13
Parcel B20
Parcel B11
Parcel B12

Tradepoint Atlantic
Area A and Area B Parcels

March 1, 2018

Figure 1

N

ARM Group Inc.
Earth Resource Engineers and Consultants

0 500 1,000 2,000 Feet

Tradepoint Atlantic

Baltimore County, MD

EnviroAnalytics Group

Area A: Project 150298M
Area B: Project 150300M
Development: Project 160443M

Site Boundary

Parcel Boundaries

1916 Shoreline:

Land

Marsh

Water

Parcel A9

Parcel A5

Parcel A13

Parcel A7

Parcel A14

Greys Creek

Bear Creek

Parcel A11

Parcel A8

Parcel A12

Parcel A2

Parcel A15

Parcel A17

Parcel A18

Parcel A16

Parcel A6

Parcel A3

Parcel A4

Parcel A10

Parcel A1

Parcel B6

Humphrey Creek

Parcel B8

Parcel B14

Parcel B21

Parcel B22

Parcel B16

Parcel B15

Parcel B24

Parcel B23

Parcel B25

Old Road Bay

Block House Cove

Parcel B7

Jones Creek

Parcel B1

Parcel B2

Parcel B3

Parcel B17

Parcel B19

Parcel B4

Parcel B5

Parcel B9

Parcel B18

Parcel B10

Parcel B13

Parcel B20

Parcel B11

Parcel B12

Patapsco River

Approximate Shoreline 1916

March 1, 2018

Adapted from Figure 2-20 of the Description of Current Conditions Report prepared by Rust Environmental and Infrastructure, dated January 1998

Figure 2

ARM Group Inc.
Earth Resource Engineers and Consultants

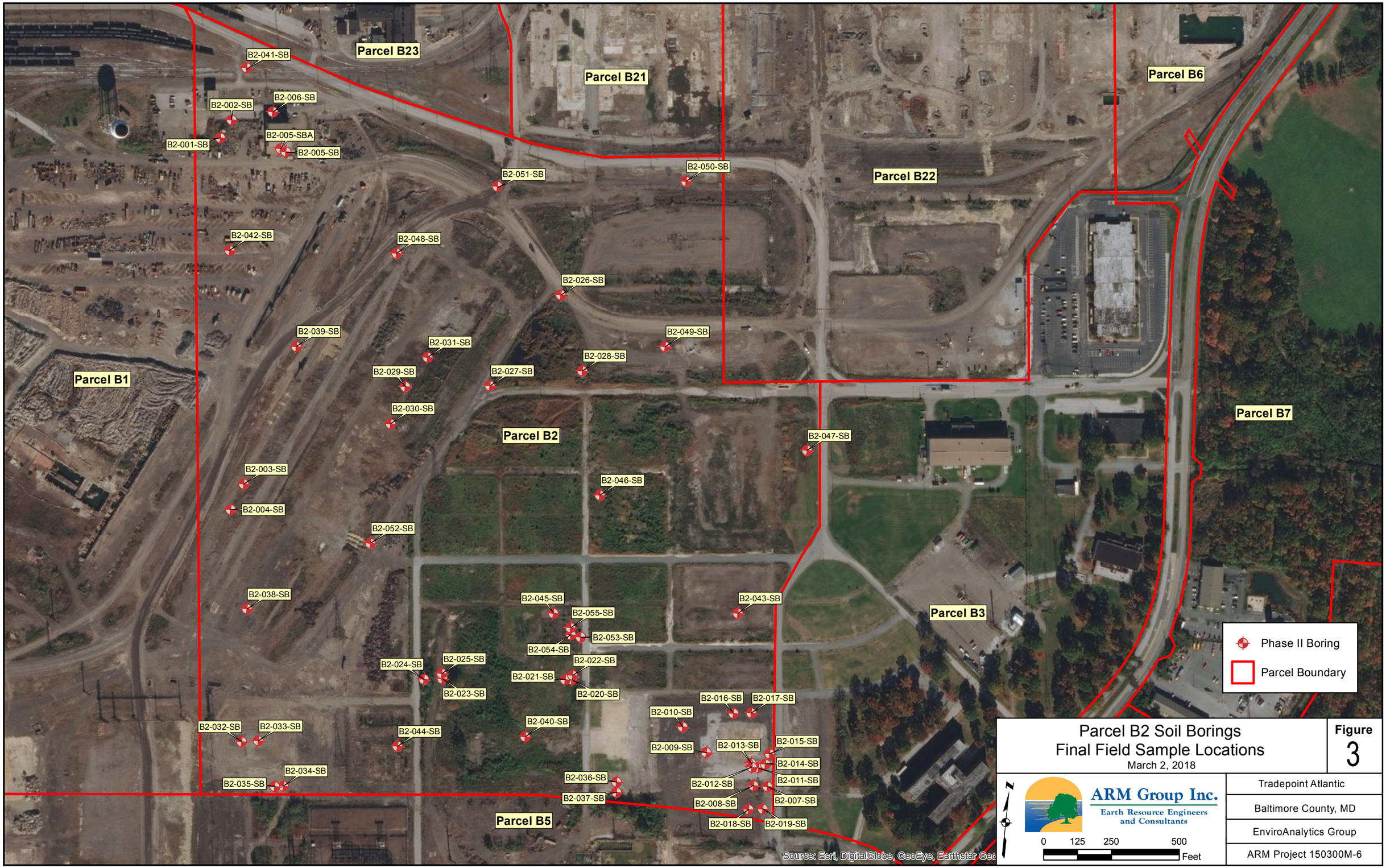
0 500 1,000 2,000 Feet

Tradepoint Atlantic

Baltimore County, MD

EnviroAnalytics Group

Area A: Project 150298M
Area B: Project 150300M
Development: Project 160443M



Parcel B2 Soil Borings
Final Field Sample Locations

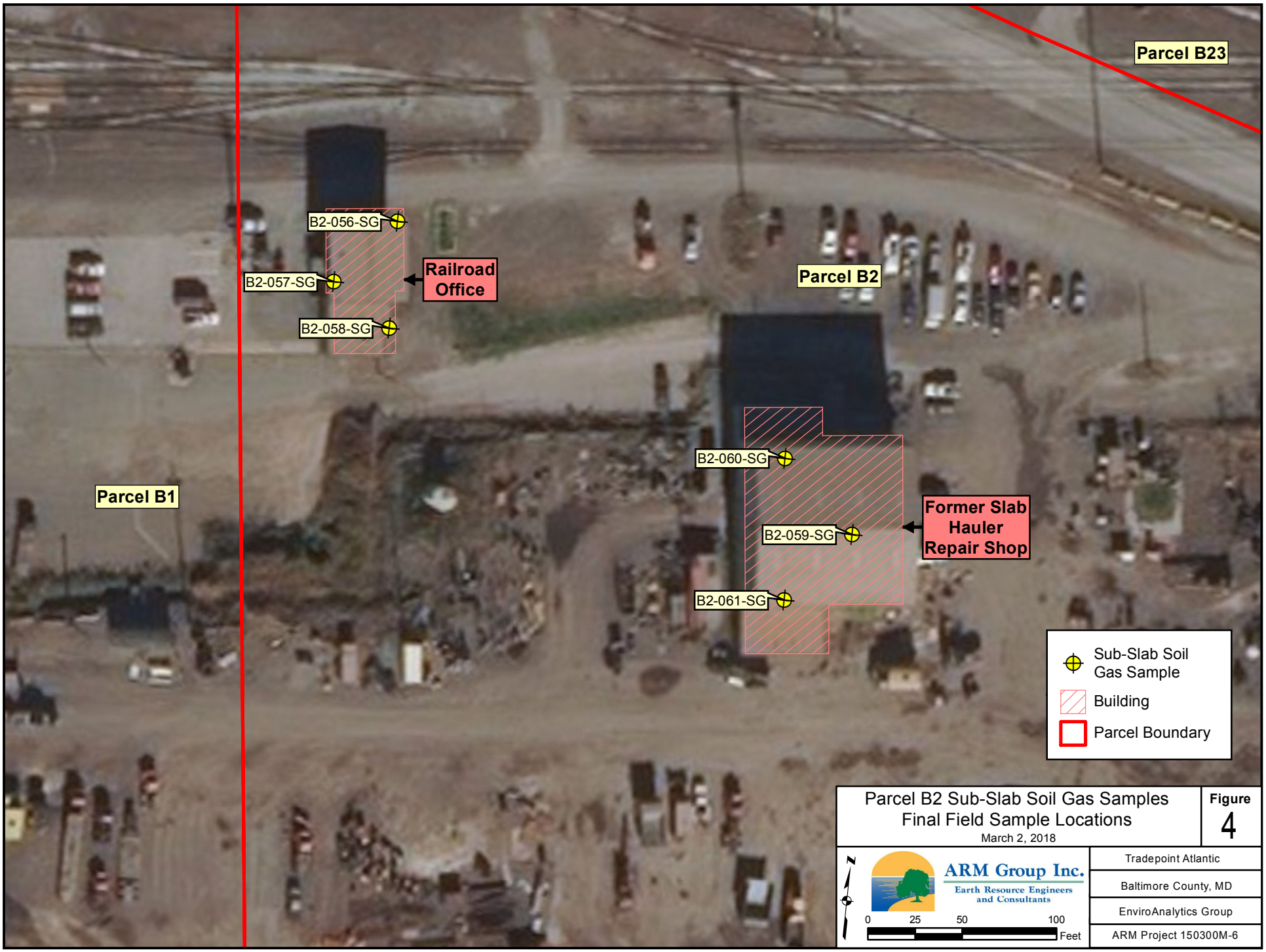
March 2, 2018

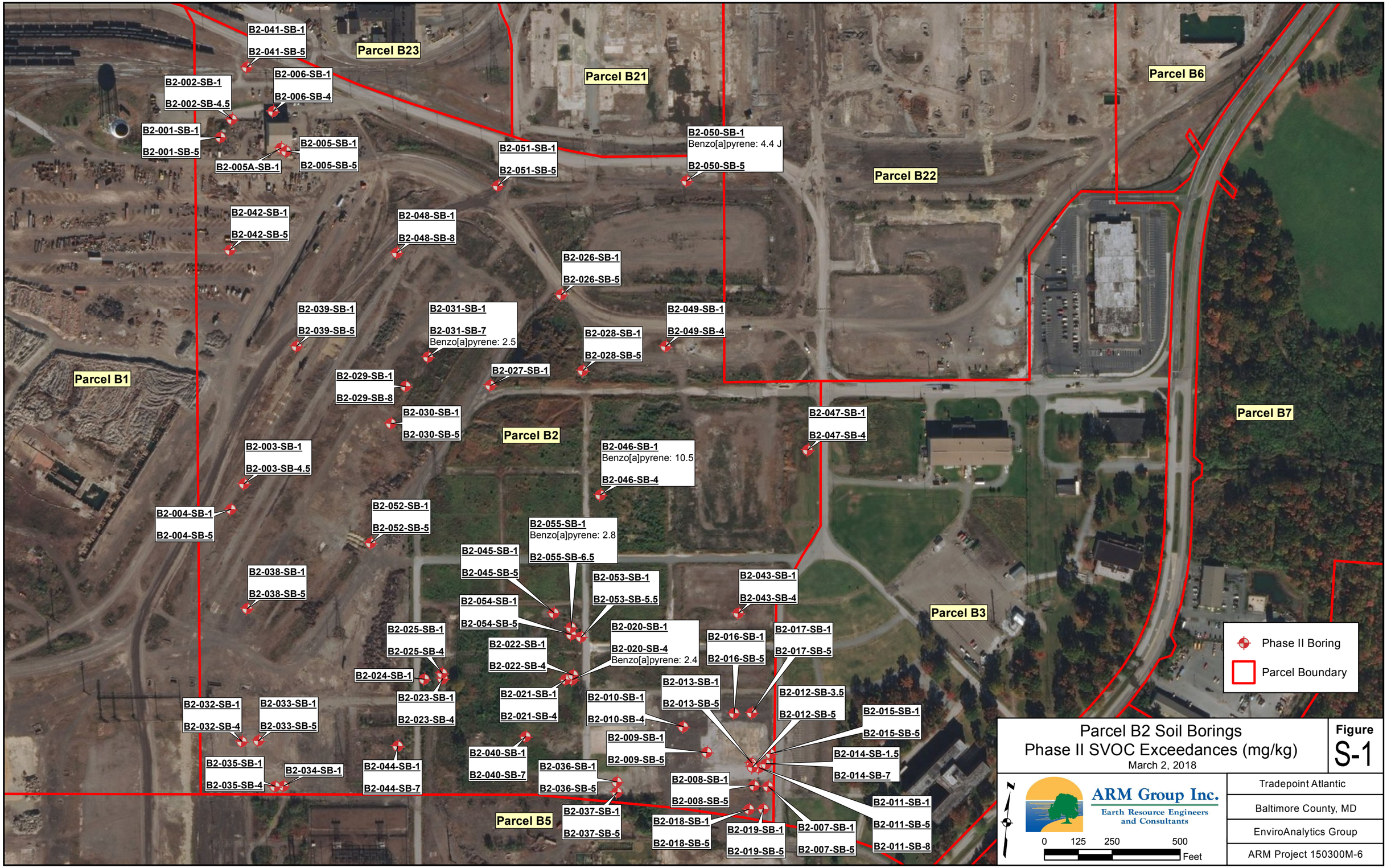
Figure 3

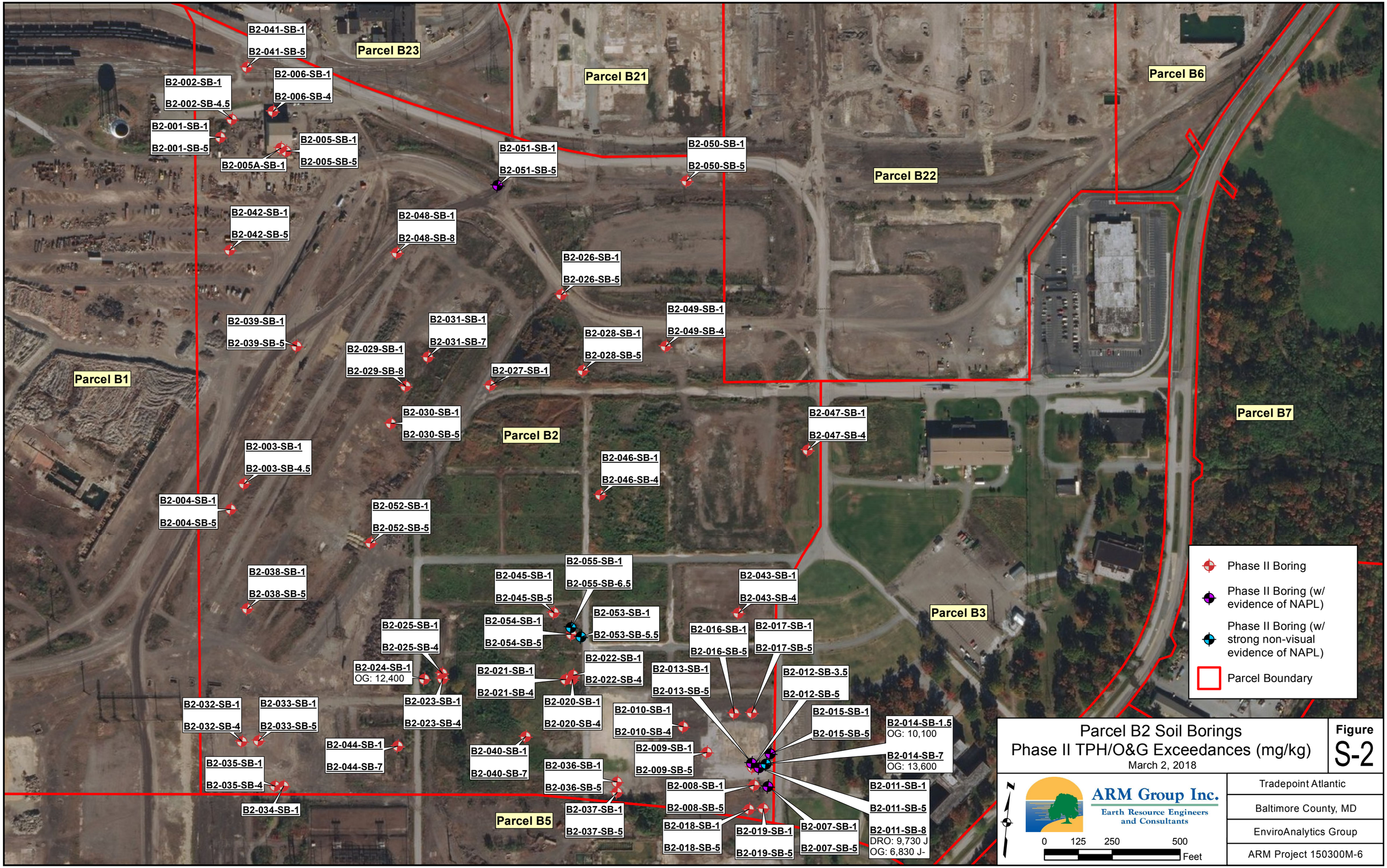
ARM Group Inc.
Earth Resource Engineers and Consultants

0 125 250 500 Feet

Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-6


Parcel B23
B2-056-SG
B2-057-SG
B2-058-SG
Railroad Office
Parcel B2
B2-060-SG
B2-059-SG
B2-061-SG
Former Slab Hauler Repair Shop
Parcel B1
Sub-Slab Soil Gas Sample
Building
Parcel Boundary
Parcel B2 Sub-Slab Soil Gas Samples
Final Field Sample Locations
March 2, 2018
Figure
4
ARM Group Inc.
Earth Resource Engineers and Consultants
0
25
50
100
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-6


Parcel B23
Parcel B21
Parcel B6
Parcel B22
Parcel B1
Parcel B2
Parcel B7
Parcel B3
Parcel B5
B2-041-SB-1
B2-041-SB-5
B2-002-SB-1
B2-002-SB-4.5
B2-006-SB-1
B2-006-SB-4
B2-001-SB-1
B2-001-SB-5
B2-005-SB-1
B2-005-SB-5
B2-005A-SB-1
B2-050-SB-1
Benzo[a]pyrene: 4.4 J
B2-050-SB-5
B2-051-SB-1
B2-051-SB-5
B2-042-SB-1
B2-042-SB-5
B2-048-SB-1
B2-048-SB-8
B2-026-SB-1
B2-026-SB-5
B2-039-SB-1
B2-039-SB-5
B2-031-SB-1
B2-031-SB-7
Benzo[a]pyrene: 2.5
B2-049-SB-1
B2-049-SB-4
B2-028-SB-1
B2-028-SB-5
B2-029-SB-1
B2-029-SB-8
B2-027-SB-1
B2-030-SB-1
B2-030-SB-5
B2-047-SB-1
B2-047-SB-4
B2-003-SB-1
B2-003-SB-4.5
B2-046-SB-1
Benzo[a]pyrene: 10.5
B2-046-SB-4
B2-004-SB-1
B2-004-SB-5
B2-052-SB-1
B2-052-SB-5
B2-055-SB-1
Benzo[a]pyrene: 2.8
B2-055-SB-6.5
B2-045-SB-1
B2-045-SB-5
B2-038-SB-1
B2-038-SB-5
B2-053-SB-1
B2-053-SB-5.5
B2-043-SB-1
B2-043-SB-4
B2-054-SB-1
B2-054-SB-5
B2-025-SB-1
B2-025-SB-4
B2-020-SB-1
B2-020-SB-4
Benzo[a]pyrene: 2.4
B2-022-SB-1
B2-022-SB-4
B2-016-SB-1
B2-016-SB-5
B2-017-SB-1
B2-017-SB-5
B2-024-SB-1
B2-023-SB-1
B2-023-SB-4
B2-021-SB-1
B2-021-SB-4
B2-013-SB-1
B2-013-SB-5
B2-012-SB-3.5
B2-012-SB-5
B2-032-SB-1
B2-032-SB-4
B2-033-SB-1
B2-033-SB-5
B2-010-SB-1
B2-010-SB-4
B2-015-SB-1
B2-015-SB-5
B2-009-SB-1
B2-009-SB-5
B2-014-SB-1.5
B2-014-SB-7
B2-035-SB-1
B2-035-SB-4
B2-034-SB-1
B2-044-SB-1
B2-044-SB-7
B2-040-SB-1
B2-040-SB-7
B2-036-SB-1
B2-036-SB-5
B2-008-SB-1
B2-008-SB-5
B2-011-SB-1
B2-011-SB-5
B2-011-SB-8
B2-037-SB-1
B2-037-SB-5
B2-018-SB-1
B2-018-SB-5
B2-019-SB-1
B2-019-SB-5
B2-007-SB-1
B2-007-SB-5
Phase II Boring
Parcel Boundary
Parcel B2 Soil Borings
Phase II SVOC Exceedances (mg/kg)
March 2, 2018
Figure
S-1
ARM Group Inc.
Earth Resource Engineers and Consultants
0
125
250
500
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-6



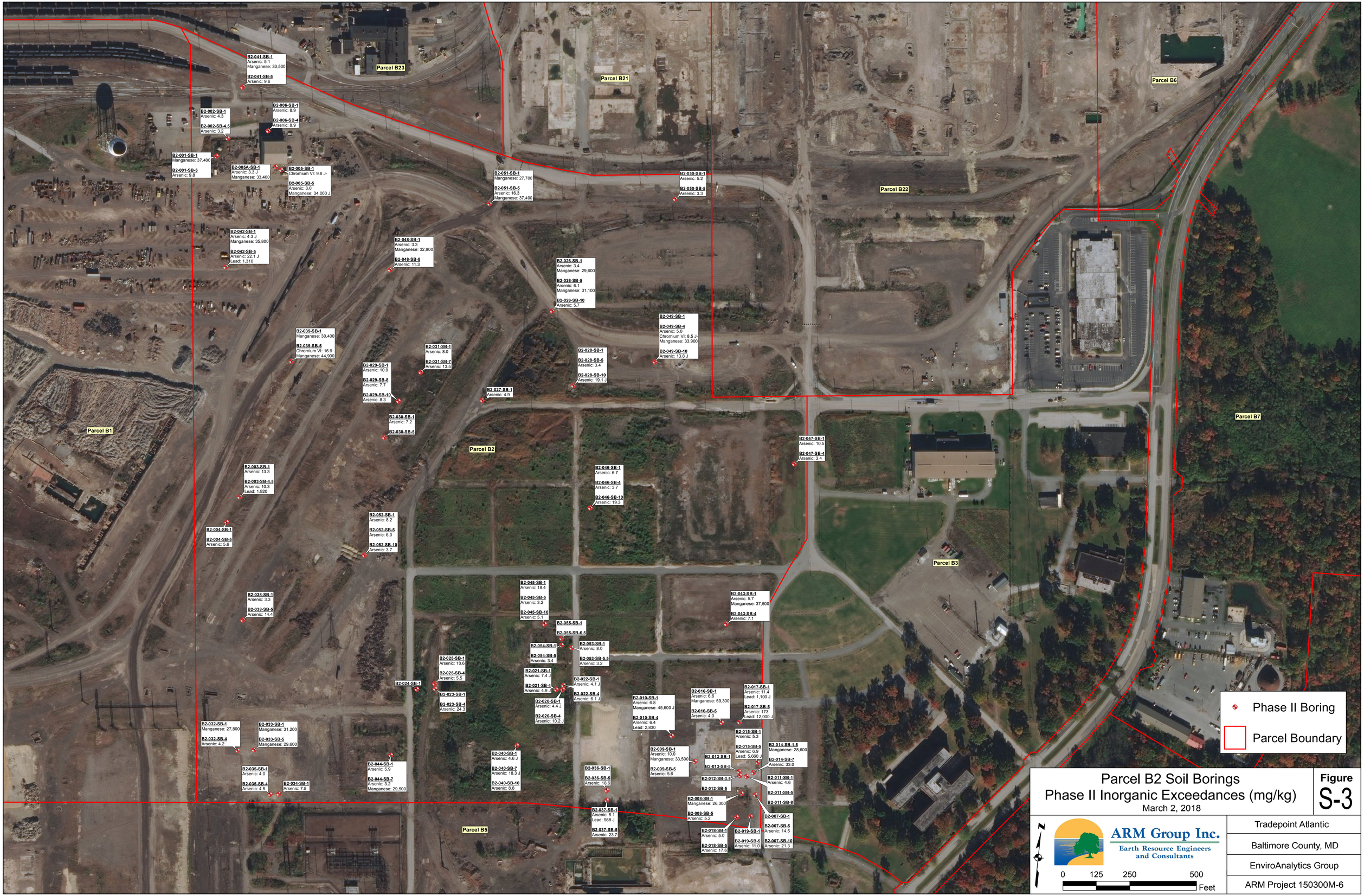
Parcel B2 Soil Borings
Phase II TPH/O&G Exceedances (mg/kg)

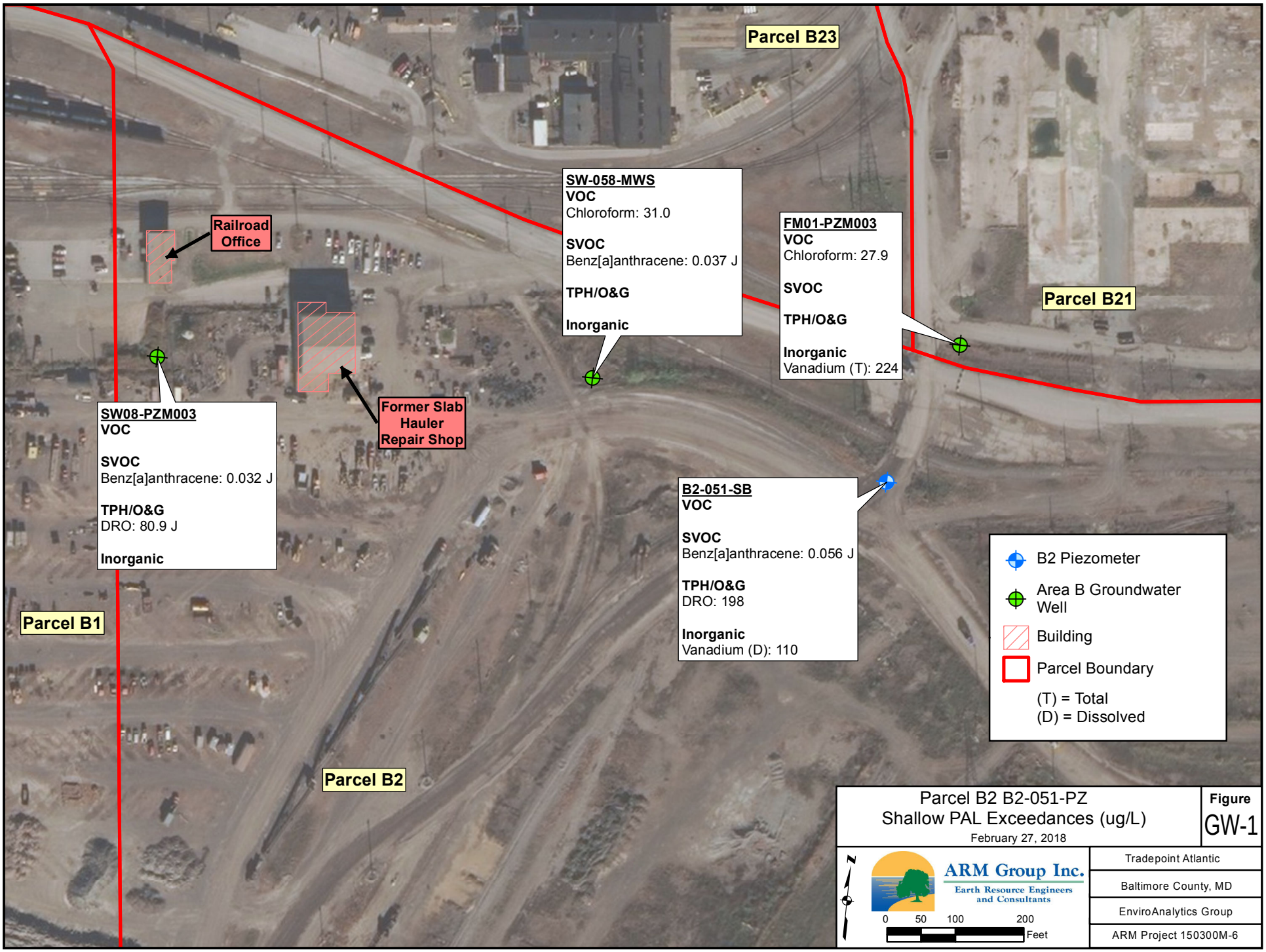
March 2, 2018

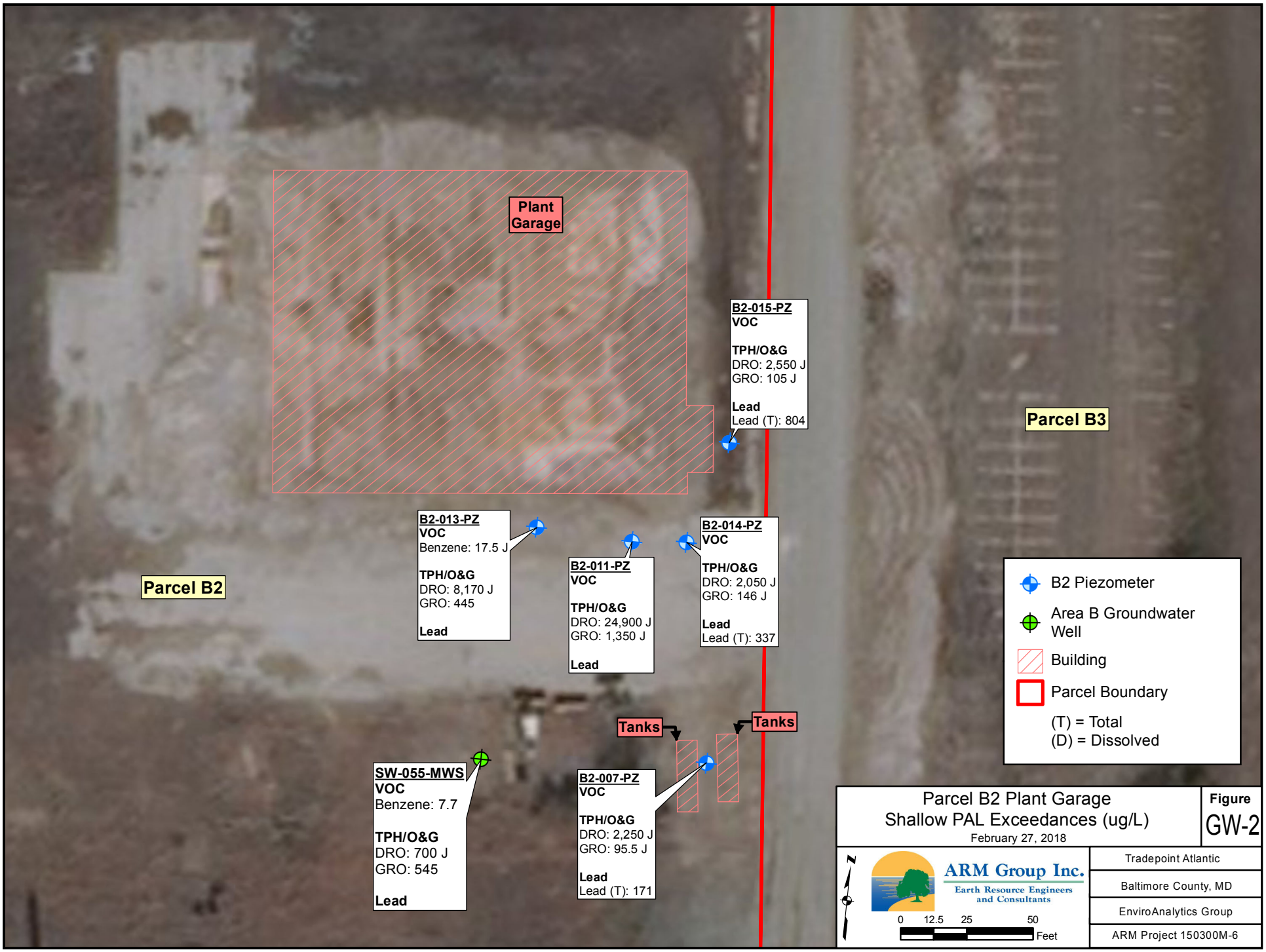
Figure S-2

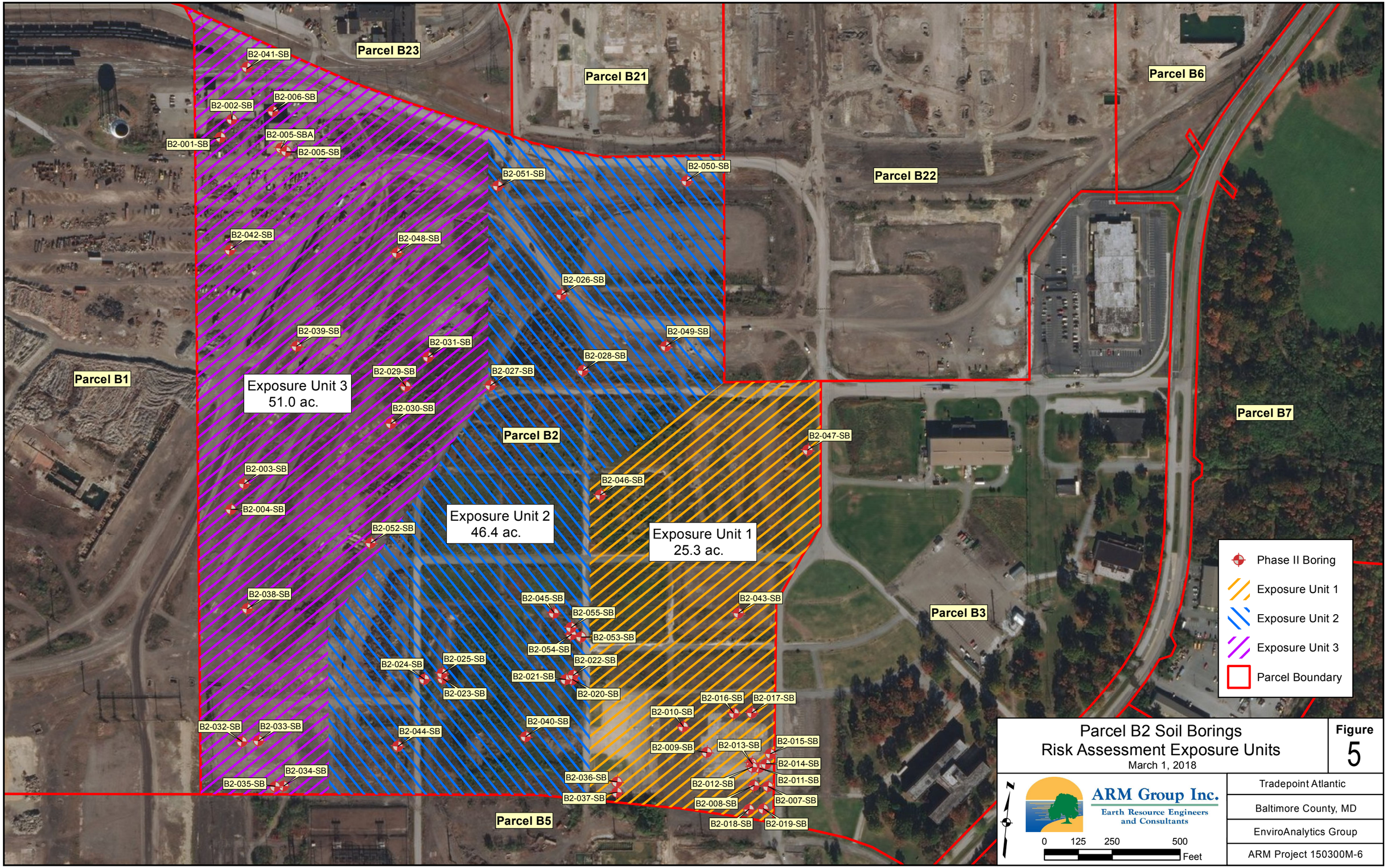
ARM Group Inc.
Earth Resource Engineers and Consultants

Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-6


Parcel B23
Parcel B21
Parcel B6
Parcel B22
Parcel B7
Parcel B1
Parcel B2
Parcel B3
Parcel B5
B2-041-SB-1
Arsenic: 5.1
Manganese: 33,500
B2-041-SB-5
Arsenic: 9.6
B2-002-SB-1
Arsenic: 4.3
B2-002-SB-4.5
Arsenic: 3.2
B2-006-SB-1
Arsenic: 8.9
B2-006-SB-4
Arsenic: 8.9
B2-001-SB-1
Manganese: 37,400
B2-001-SB-5
Arsenic: 9.8
B2-005A-SB-1
Arsenic: 3.3 J
Manganese: 33,400
B2-005-SB-1
Chromium VI: 9.8 J-
B2-005-SB-5
Arsenic: 3.0
Manganese: 34,000 J
B2-051-SB-1
Manganese: 27,700
B2-051-SB-5
Arsenic: 16.3
Manganese: 37,400
B2-050-SB-1
Arsenic: 5.2
B2-050-SB-5
Arsenic: 3.3
B2-042-SB-1
Arsenic: 4.3 J
Manganese: 35,800
B2-042-SB-5
Arsenic: 22.1 J
Lead: 1,310
B2-048-SB-1
Arsenic: 3.3
Manganese: 32,900
B2-048-SB-8
Arsenic: 11.3
B2-026-SB-1
Arsenic: 3.4
Manganese: 29,600
B2-026-SB-5
Arsenic: 6.1
Manganese: 31,100
B2-026-SB-10
Arsenic: 5.7
B2-049-SB-1
B2-049-SB-4
Arsenic: 5.0
Chromium VI: 8.5 J-
Manganese: 33,900
B2-049-SB-10
Arsenic: 13.8 J
B2-039-SB-1
Manganese: 30,400
B2-039-SB-5
Chromium VI: 16.9
Manganese: 44,900
B2-031-SB-1
Arsenic: 8.0
B2-031-SB-7
Arsenic: 13.5
B2-028-SB-1
B2-028-SB-5
Arsenic: 3.4
B2-028-SB-10
Arsenic: 19.1 J
B2-029-SB-1
Arsenic: 10.9
B2-029-SB-8
Arsenic: 7.7
B2-029-SB-10
Arsenic: 8.3
B2-027-SB-1
Arsenic: 4.9
B2-030-SB-1
Arsenic: 7.2
B2-030-SB-5
B2-047-SB-1
Arsenic: 10.5
B2-047-SB-4
Arsenic: 3.4
B2-003-SB-1
Arsenic: 13.3
B2-003-SB-4.5
Arsenic: 10.3
Lead: 1,920
B2-046-SB-1
Arsenic: 6.7
B2-046-SB-4
Arsenic: 3.7
B2-046-SB-10
Arsenic: 19.3
B2-052-SB-1
Arsenic: 8.2
B2-052-SB-5
Arsenic: 6.0
B2-052-SB-10
Arsenic: 3.7
B2-004-SB-1
B2-004-SB-5
Arsenic: 5.6
B2-038-SB-1
Arsenic: 3.3
B2-038-SB-5
Arsenic: 14.4
B2-045-SB-1
Arsenic: 18.4
B2-045-SB-5
Arsenic: 3.2
B2-045-SB-10
Arsenic: 5.1
B2-055-SB-1
B2-055-SB-6.5
B2-043-SB-1
Arsenic: 5.7
Manganese: 37,500
B2-043-SB-4
Arsenic: 7.1
B2-054-SB-1
B2-054-SB-5
Arsenic: 3.4
B2-053-SB-1
Arsenic: 8.0
B2-053-SB-5.5
Arsenic: 3.2
B2-025-SB-1
Arsenic: 10.6
B2-025-SB-4
Arsenic: 5.5
B2-021-SB-1
Arsenic: 7.4 J
B2-021-SB-4
Arsenic: 4.9 J
B2-022-SB-1
Arsenic: 4.1 J
B2-022-SB-4
Arsenic: 6.1 J
B2-024-SB-1
B2-023-SB-1
B2-023-SB-4
Arsenic: 24.3
B2-020-SB-1
Arsenic: 4.4 J
B2-020-SB-4
Arsenic: 10.2 J
B2-010-SB-1
Arsenic: 6.8
Manganese: 45,600 J
B2-010-SB-4
Arsenic: 6.4
Lead: 2,830
B2-016-SB-1
Arsenic: 6.6
Manganese: 59,300
B2-016-SB-5
Arsenic: 4.0
B2-017-SB-1
Arsenic: 11.4
Lead: 1,100 J
B2-017-SB-5
Arsenic: 173
Lead: 12,000 J
B2-032-SB-1
Manganese: 27,800
B2-032-SB-4
Arsenic: 4.2
B2-033-SB-1
Manganese: 31,200
B2-033-SB-5
Manganese: 29,600
B2-040-SB-1
Arsenic: 4.6 J
B2-040-SB-7
Arsenic: 18.3 J
B2-040-SB-10
Arsenic: 8.8
B2-009-SB-1
Arsenic: 10.0
Manganese: 33,500
B2-009-SB-5
Arsenic: 5.6
B2-013-SB-1
B2-013-SB-5
B2-015-SB-1
Arsenic: 5.3
B2-015-SB-5
Arsenic: 6.9
Lead: 5,660 J
B2-014-SB-1.5
Manganese: 28,600
B2-014-SB-7
Arsenic: 33.0
B2-044-SB-1
Arsenic: 5.9
B2-044-SB-7
Arsenic: 3.2
Manganese: 29,500
B2-035-SB-1
Arsenic: 4.0
B2-035-SB-4
Arsenic: 4.5
B2-034-SB-1
Arsenic: 7.5
B2-036-SB-1
B2-036-SB-5
Arsenic: 18.6
B2-012-SB-3.5
B2-012-SB-5
B2-011-SB-1
Arsenic: 4.6
B2-011-SB-5
B2-011-SB-8
B2-008-SB-1
Manganese: 26,300
B2-008-SB-5
Arsenic: 5.2
B2-007-SB-1
B2-007-SB-5
Arsenic: 14.5
B2-007-SB-10
Arsenic: 21.3
B2-037-SB-1
Arsenic: 5.1
Lead: 988 J
B2-037-SB-5
Arsenic: 23.7
B2-018-SB-1
Arsenic: 5.0
B2-018-SB-5
Arsenic: 17.6
B2-019-SB-1
B2-019-SB-5
Arsenic: 11.0
Phase II Boring
Parcel Boundary
Parcel B2 Soil Borings
Phase II Inorganic Exceedances (mg/kg)
March 2, 2018
Figure
S-3
ARM Group Inc.
Earth Resource Engineers and Consultants
0
125
250
500
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-6


Parcel B23
Parcel B21
Parcel B1
Parcel B2
Railroad Office
Former Slab Hauler Repair Shop
SW-058-MWS
VOC
Chloroform: 31.0
SVOC
Benz[a]anthracene: 0.037 J
TPH/O&G
Inorganic
FM01-PZM003
VOC
Chloroform: 27.9
SVOC
TPH/O&G
Inorganic
Vanadium (T): 224
SW08-PZM003
VOC
SVOC
Benz[a]anthracene: 0.032 J
TPH/O&G
DRO: 80.9 J
Inorganic
B2-051-SB
VOC
SVOC
Benz[a]anthracene: 0.056 J
TPH/O&G
DRO: 198
Inorganic
Vanadium (D): 110
B2 Piezometer
Area B Groundwater Well
Building
Parcel Boundary
(T) = Total
(D) = Dissolved
Parcel B2 B2-051-PZ
Shallow PAL Exceedances (ug/L)
February 27, 2018
Figure
GW-1
ARM Group Inc.
Earth Resource Engineers and Consultants
0 50 100 200
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-6


Plant Garage
Parcel B3
Parcel B2
B2-015-PZ
VOC
TPH/O&G
DRO: 2,550 J
GRO: 105 J
Lead
Lead (T): 804
B2-013-PZ
VOC
Benzene: 17.5 J
TPH/O&G
DRO: 8,170 J
GRO: 445
Lead
B2-011-PZ
VOC
TPH/O&G
DRO: 24,900 J
GRO: 1,350 J
Lead
B2-014-PZ
VOC
TPH/O&G
DRO: 2,050 J
GRO: 146 J
Lead
Lead (T): 337
Tanks
Tanks
SW-055-MWS
VOC
Benzene: 7.7
TPH/O&G
DRO: 700 J
GRO: 545
Lead
B2-007-PZ
VOC
TPH/O&G
DRO: 2,250 J
GRO: 95.5 J
Lead
Lead (T): 171
B2 Piezometer
Area B Groundwater Well
Building
Parcel Boundary
(T) = Total
(D) = Dissolved
Parcel B2 Plant Garage
Shallow PAL Exceedances (ug/L)
February 27, 2018
Figure
GW-2
ARM Group Inc.
Earth Resource Engineers and Consultants
0 12.5 25 50
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-6



Parcel B2 Soil Borings
Risk Assessment Exposure Units

March 1, 2018

Figure 5

ARM Group Inc.
Earth Resource Engineers and Consultants

Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-6

TABLES

TABLE 1
HISTORICAL SITE DRAWING DETAILS

Set Name	Typical Features Shown	Drawing Number	Original Date Drawn	Latest Revision Date
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
		5027	6/24/1959	3/11/1982
		5028	6/24/1959	3/11/1982
		5033	6/23/1958	3/11/1982
		5034	6/23/1958	3/19/1982
		5039	9/1/1958	3/11/1982
		5040	6/15/1958	3/19/1982
Plant Index	Roads, water bodies, demolished buildings/structures, electric lines, above-ground pipelines	5123	*Unknown*	11/7/2008
		5127	*Unknown*	8/14/2008
		5128	*Unknown*	12/14/2007
		5133	*Unknown*	7/9/2008
		5134	*Unknown*	1/8/2008
		5139	*Unknown*	1/18/2008
		5140	*Unknown*	8/15/2008
Plant Sewer Lines	Same as above plus trenches, sumps, underground piping (includes pipe materials)	5523	*Unknown*	2/24/1982
		5527	*Unknown*	9/10/2008
		5528	*Unknown*	9/10/2008
		5533	8/25/1959	6/8/1976
		5534	8/28/1959	3/19/1976
		5539	8/28/1959	2/21/1975
		5540	6/15/1958	7/14/1991
Drip Legs	Coke Oven Gas Drip Legs Locations	5886B	*Unknown*	Sept. 1988

TABLE 2
FIELD SHIFTED BORING LOCATIONS

Location ID	Sample Target	Proposed Location¥		Final Location¥		Relocation Distance (ft.) & Direction	
		Northing	Easting	Northing	Easting		
B2-001-SB	Tank (unknown contents)	568,146	1,459,140	568,121	1,459,144	25	N
B2-002-SB	Tank (unknown contents)	568,151	1,459,174	568,192	1,459,179	41	NE
B2-005-SB	Slab Hauler Repair Shop	568,104	1,459,369	568,095	1,459,391	24	E
B2-006-SB	Slab Hauler Repair Shop	568,219	1,459,328	568,235	1,459,327	19	N
B2-011-SB	Plant Garage	566,033	1,461,364	566,018	1,461,361	16	SW
B2-013-SB	Plant Garage	566,035	1,461,328	566,033	1,461,331	5	SE
B2-016-SB	Possible UST	566,210	1,461,244	566,209	1,461,248	3	SE
B2-022-SB	Residential Town Tanks	566,283	1,460,631	566,286	1,460,644	13	E
B2-023-SB	Residential Town Tanks	566,218	1,460,136	566,223	1,460,167	31	E
B2-025-SB	Residential Town Tanks	566,240	1,460,133	566,242	1,460,163	30	E
B2-026-SB	Residential Town Tanks	567,647	1,460,435	567,676	1,460,454	35	NE
B2-027-SB	Residential Town Tanks	567,348	1,460,247	567,316	1,460,229	37	SW
B2-029-SB	Scrap Processing Facility and Bulk Petroleum Storage	567,262	1,459,932	567,280	1,459,918	23	NW
B2-032-SB	Steelside Electronics Building	565,919	1,459,459	565,915	1,459,456	4	SW
B2-041-SB	Parcel B2 Coverage	568,393	1,459,181	568,388	1,459,214	34	SE
B2-042-SB	Parcel B2 Coverage	567,715	1,459,243	567,712	1,459,222	21	W
B2-051-SB	Parcel B2 Coverage	568,041	1,460,194	568,051	1,460,179	18	NW
B2-056-SG	Railroad Office	568,285	1,459,098	568,292	1,459,115	18	E
B2-057-SG	Railroad Office	568,260	1,459,101	568,256	1,459,085	17	W
B2-058-SG	Railroad Office	568,232	1,459,105	568,235	1,459,117	13	E

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

TABLE 3
CHARACTERIZATION RESULTS FOR SOLID IDW

Sample ID	Parameter	Result (mg/kg)	TCLP Limit (mg/kg)	TCLP Exceedance	Laboratory Flag	LOQ (mg/kg)
B2 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	0.05	5	no	U	0.05
	Barium	0.081	100	no	J	1
	Benzene	0.05	0.5	no	U	0.05
	Cadmium	0.05	1	no	U	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	0.025	5	no	B	0.05
	Hexachlorobenzene	0.1	0.13	no	U	0.1
	Hexachloroethane	0.5	3	no	U	0.5
	Lead	0.1	5	no	U	0.1
	Mercury	0.001	0.2	no	U	0.001
	Nitrobenzene	0.1	2	no	U	0.1
	Pentachlorophenol	5	100	no	U	5
	Selenium	0.0081	1	no	B	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
CHARACTERIZATION RESULTS FOR SOLID IDW

Sample ID	Parameter	Result (mg/kg)	TCLP Limit (mg/kg)	TCLP Exceedance	Laboratory Flag	LOQ (mg/kg)
B2 Soil Waste 9/29/2017	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)	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	0.51	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	0.12	5	no	U	0.12
	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 esstimate below the laboratory LOQ.

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

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

TCLP: Toxicity Characteristic Leaching Procedure

LOQ: Limit of Quantitation

TABLE 4
CHARACTERIZATION RESULTS FOR LIQUID IDW

Sample ID	Parameter	Result (mg/L)	TCLP Limit (mg/L)	TCLP Exceedance	Laboratory Flag	LOQ (mg/L)
B2 Water Waste 9/29/2017	1,1-Dichloroethene	0.001	0.7	no	U	0.001
	1,2-Dichloroethane	0.001	0.5	no	U	0.001
	1,4-Dichlorobenzene	0.001	7.5	no	U	0.001
	2-Butanone (MEK)	0.01	200	no	U	0.01
	Arsenic	0.0132	5	no		0.01
	Barium	0.238	100	no		0.02
	Benzene	0.001	0.5	no	U	0.001
	Cadmium	0.0031	1	no	J	0.006
	Carbon tetrachloride	0.001	0.5	no	U	0.001
	Chlorobenzene	0.001	100	no	U	0.001
	Chloroform	0.001	6	no	U	0.001
	Chromium	0.121	5	no		0.01
	Lead	0.0567	5	no		0.01
	Mercury	0.00035	0.2	no		0.0002
	Selenium	0.016	1	no	U	0.016
	Silver	0.012	5	no	U	0.012
	Tetrachloroethene	0.001	0.7	no	U	0.001
	Trichloroethene	0.001	0.5	no	U	0.001
	Vinyl chloride	0.001	0.2	no	U	0.001
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

TABLE 4
CHARACTERIZATION RESULTS FOR LIQUID IDW

Sample ID	Parameter	Result (mg/L)	TCLP Limit (mg/L)	TCLP Exceedance	Laboratory Flag	LOQ (mg/L)
Water Disposal 6/14/2017	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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-001-SB-1	B2-001-SB-5	B2-002-SB-1	B2-002-SB-4.5	B2-003-SB-1*	B2-003-SB-4.5*	B2-004-SB-1*
Volatile Organic Compounds									
1,2,3-Trichlorobenzene	mg/kg	930	N/A	0.0043 U	N/A	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	mg/kg	110	N/A	0.0043 U	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethane	mg/kg	2	N/A	0.0043 U	N/A	N/A	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	0.0086 U	N/A	N/A	N/A	N/A	N/A
Acetone	mg/kg	670,000	N/A	**0.019 J**	N/A	N/A	N/A	N/A	N/A
Benzene	mg/kg	5.1	N/A	0.0043 U	N/A	N/A	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	N/A	0.0043 U	N/A	N/A	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	N/A	0.0086 U	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	N/A	0.0043 U	N/A	N/A	N/A	N/A	N/A
Isopropylbenzene	mg/kg	9,900	N/A	0.0043 U	N/A	N/A	N/A	N/A	N/A
Toluene	mg/kg	47,000	N/A	0.0043 U	N/A	N/A	N/A	N/A	N/A
Xylenes	mg/kg	2,800	N/A	0.013 U	N/A	N/A	N/A	N/A	N/A
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	mg/kg	200	0.076 U	0.073 U	0.078 U	0.078 U	**0.031 J**	0.072 U	**0.016 J**
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.076 U	0.073 U	0.078 U	0.078 U	0.073 U	0.072 U	0.074 U
2,4-Dimethylphenol	mg/kg	16,000	**0.035 J**	0.073 U	0.078 U	0.078 U	0.073 U	0.072 U	0.074 U
2,4-Dinitrotoluene	mg/kg	7.4	0.076 U	0.073 U	0.078 U	0.078 U	0.073 U	0.072 U	0.074 U
2-Chloronaphthalene	mg/kg	60,000	0.076 U	0.073 U	0.078 U	0.078 U	0.073 U	0.072 U	0.074 U
2-Methylnaphthalene	mg/kg	3,000	**0.15**	**0.056 J**	**0.016 J**	**0.003 J**	**0.29**	**0.032**	**0.067**
2-Methylphenol	mg/kg	41,000	0.076 R	0.073 U	0.078 U	0.078 U	0.073 U	0.072 U	0.074 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 R	0.15 U	0.16 U	0.15 U	0.15 U	0.14 U	0.15 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.076 U	0.073 UJ	0.078 U	0.078 U	0.073 U	0.072 U	0.074 U
4-Chloroaniline	mg/kg	11	0.076 U	0.073 U	0.078 U	0.078 U	0.073 U	0.072 U	0.074 U
Acenaphthene	mg/kg	45,000	**0.098**	**0.022 J**	**0.016 J**	**0.0006 J**	**0.05**	**0.013**	**0.11**
Acenaphthylene	mg/kg	45,000	**0.15**	**0.034 J**	0.078 UJ	**0.0041 J**	**0.16**	**0.042**	**0.051**
Acetophenone	mg/kg	120,000	**0.027 J**	**0.028 J**	0.078 U	0.078 U	**0.033 J**	0.072 U	**0.021 J**
Anthracene	mg/kg	230,000	**0.087 J**	**0.053 J**	**0.009 J**	**0.0099**	**0.25**	**0.12**	**0.092**
Benz[a]anthracene	mg/kg	21	**0.0084**	**0.27**	**0.047 J**	**0.038**	**1.2**	**0.37**	**0.44**
Benzaldehyde	mg/kg	120,000	0.076 U	**0.023 J**	**0.053 J**	0.078 U	**0.083**	0.072 U	**0.031 J**
Benzo[a]pyrene	mg/kg	2.1	**0.0029 J**	**0.29**	**0.071 J**	**0.028**	**1.1**	**0.29**	**0.72**
Benzo[b]fluoranthene	mg/kg	21	**0.013**	**0.41**	**0.14**	**0.06**	**2.6**	**0.49**	**1.3**
Benzo[g,h,i]perylene	mg/kg		**0.0059 J**	**0.25**	**0.047 J**	**0.012**	**0.73**	**0.19**	**0.7**
Benzo[k]fluoranthene	mg/kg	210	**0.01**	**0.12**	**0.11**	**0.048**	**0.65**	**0.15**	**0.98**
bis(2-Chloroethyl)ether	mg/kg	1	0.076 U	0.073 U	0.078 U	0.078 U	0.073 U	0.072 U	0.074 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.076 U	**0.67 J**	0.078 U	0.078 U	0.073 U	0.072 U	0.024 B
Caprolactam	mg/kg	400,000	**1.3**	**0.043 J**	0.2 U	0.19 U	0.18 U	0.18 U	0.19 U
Carbazole	mg/kg		0.076 U	0.073 U	0.078 U	0.078 U	**0.16**	**0.11**	**0.019 J**
Chrysene	mg/kg	2,100	**0.026**	**0.32**	**0.043 J**	**0.032**	**1.3**	**0.33**	**0.46**
Dibenz[a,h]anthracene	mg/kg	2.1	0.0075 U	**0.072 J**	0.078 U	**0.0043 J**	**0.31**	**0.069**	**0.17**
Diethylphthalate	mg/kg	660,000	0.076 U	0.073 U	0.078 U	0.078 U	0.073 U	0.072 U	0.074 U
Di-n-butylphthalate	mg/kg	82,000	0.054 B	0.062 B	0.078 U	0.078 U	0.073 U	0.038 B	0.074 U
Di-n-ocytlphthalate	mg/kg	8,200	0.076 U	0.073 UJ	0.078 UJ	0.078 UJ	0.073 U	0.072 U	0.074 U
Fluoranthene	mg/kg	30,000	**0.03 J**	**0.31**	**0.058 J**	**0.062**	**2.6**	**0.64**	**0.6**
Fluorene	mg/kg	30,000	**0.071**	**0.016 J**	0.078 UJ	**0.0013 J**	**0.04**	**0.022**	**0.027**
Hexachloroethane	mg/kg	8	**0.039 J**	**0.031 J**	0.078 U	0.078 U	0.073 U	0.072 U	0.074 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.0039 J**	**0.18**	**0.043 J**	**0.013**	**0.72**	**0.18**	**0.57**
Isophorone	mg/kg	2,400	**0.1**	0.073 U	0.078 U	0.078 U	0.073 U	0.072 U	0.074 U
Naphthalene	mg/kg	17	**0.042**	**0.044 J**	0.078 UJ	0.0079 UJ	**0.25**	**0.069**	**0.071**
Nitrobenzene	mg/kg	22	0.076 U	0.073 U	0.078 U	0.078 U	0.073 U	0.072 U	0.074 U
N-Nitrosodiphenylamine	mg/kg	470	**0.88**	**0.035 J**	0.078 U	0.078 U	0.073 U	0.072 U	0.074 U
Phenanthrene	mg/kg		**0.87 J**	**0.14**	**0.043 J**	**0.024 J**	**1.3**	**0.41**	**0.37**
Phenol	mg/kg	250,000	0.076 R	0.073 U	0.078 U	0.078 U	0.073 U	0.072 U	0.074 U
Pyrene	mg/kg	23,000	**0.38 J**	**0.39**	**0.055 J**	**0.047**	**2.1**	**0.47**	**0.6**
PCBs									
Aroclor 1248	mg/kg	0.94	0.019 U	N/A	0.019 U	N/A	0.019 U	N/A	0.019 U
Aroclor 1254	mg/kg	0.97	0.019 U	N/A	0.019 U	N/A	**0.11**	N/A	**0.025**
Aroclor 1260	mg/kg	0.99	0.019 U	N/A	0.019 U	N/A	0.019 U	N/A	0.019 U
PCBs (total)	mg/kg	0.97	0.13 U	N/A	0.14 U	N/A	**0.11 J**	N/A	0.13 U
TPH/Oil and Grease									
Diesel Range Organics	mg/kg	6,200	**1,310 J**	**218 J**	**81.5 J**	5.4 B	**61.6**	**19.6**	**64.7**
Gasoline Range Organics	mg/kg	6,200	**20.4**	2.9 B	5.8 B	5.2 B	2.1 B	4.6 B	2.2 B
Oil and Grease	mg/kg	6,200	**1,240**	**3,230**	**4,700**	**248**	**424**	**244**	**396**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-004-SB-5*	B2-005A-SB-1	B2-005-SB-1	B2-005-SB-5	B2-006-SB-1	B2-006-SB-4	B2-007-SB-1*
Volatile Organic Compounds									
1,2,3-Trichlorobenzene	mg/kg	930	N/A	N/A	N/A	N/A	N/A	N/A	0.0046 U
1,2,4-Trichlorobenzene	mg/kg	110	N/A	N/A	N/A	N/A	N/A	N/A	0.0046 U
1,2-Dichloroethane	mg/kg	2	N/A	N/A	N/A	N/A	N/A	N/A	0.0046 U
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	N/A	N/A	N/A	**0.0059 J**
Acetone	mg/kg	670,000	N/A	N/A	N/A	N/A	N/A	N/A	**0.03**
Benzene	mg/kg	5.1	N/A	N/A	N/A	N/A	N/A	N/A	0.0046 U
Carbon disulfide	mg/kg	3,500	N/A	N/A	N/A	N/A	N/A	N/A	0.0046 U
Cyclohexane	mg/kg	27,000	N/A	N/A	N/A	N/A	N/A	N/A	0.0092 U
Ethylbenzene	mg/kg	25	N/A	N/A	N/A	N/A	N/A	N/A	0.0046 U
Isopropylbenzene	mg/kg	9,900	N/A	N/A	N/A	N/A	N/A	N/A	0.0046 U
Toluene	mg/kg	47,000	N/A	N/A	N/A	N/A	N/A	N/A	0.0046 U
Xylenes	mg/kg	2,800	N/A	N/A	N/A	N/A	N/A	N/A	0.014 U
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	mg/kg	200	0.076 U	0.073 U	0.074 U	0.073 U	**0.022 J**	**0.063 J**	0.073 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.076 U	0.073 U	0.074 U	0.073 U	0.073 U	**0.019 J**	0.073 U
2,4-Dimethylphenol	mg/kg	16,000	0.076 U	0.073 UJ	0.074 R	0.073 R	0.073 U	**0.059 J**	0.073 U
2,4-Dinitrotoluene	mg/kg	7.4	0.076 U	0.073 U	0.074 U	0.073 U	0.073 U	0.082 U	0.073 U
2-Chloronaphthalene	mg/kg	60,000	0.076 U	0.073 U	0.074 U	0.073 U	0.073 U	0.082 U	0.073 U
2-Methylnaphthalene	mg/kg	3,000	**0.054**	**0.0064 J**	0.074 U	**0.0062 J**	**0.19**	**0.6**	**0.025 J**
2-Methylphenol	mg/kg	41,000	0.076 U	0.073 UJ	0.074 R	0.073 R	0.073 U	**0.039 J**	0.073 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.15 UJ	0.15 R	0.15 R	0.15 U	**0.12 J**	0.14 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.076 U	0.073 UJ	0.074 U	0.073 U	0.073 UJ	0.082 UJ	0.073 U
4-Chloroaniline	mg/kg	11	0.076 U	0.073 U	0.074 U	0.073 U	0.073 U	0.082 U	0.073 U
Acenaphthene	mg/kg	45,000	**0.013**	**0.0008 J**	0.074 UJ	0.0073 UJ	**0.058 J**	**0.044 J**	**0.0069 J**
Acenaphthylene	mg/kg	45,000	**0.5**	**0.0091**	0.074 UJ	0.0073 UJ	**0.17**	**0.12**	**0.0054 J**
Acetophenone	mg/kg	120,000	0.076 U	0.073 U	0.074 U	0.073 U	**0.02 J**	**0.045 J**	0.073 U
Anthracene	mg/kg	230,000	**0.35**	**0.0058 J**	**0.0043 J**	**0.0036 J**	**0.33**	**0.22**	**0.015 J**
Benz[a]anthracene	mg/kg	21	**1.8**	**0.019**	**0.019 J**	**0.013**	**0.91**	**0.54**	0.072 U
Benzaldehyde	mg/kg	120,000	0.076 U	0.073 U	**0.019 J**	0.073 U	**0.025 J**	**0.11 J**	0.073 U
Benzo[a]pyrene	mg/kg	2.1	**2**	**0.013**	**0.012 J**	**0.0099**	**0.8**	**0.51**	0.072 U
Benzo[b]fluoranthene	mg/kg	21	**2.9**	**0.033**	**0.057 J**	**0.027**	**1.5**	**1**	**0.04 J**
Benzo[g,h,i]perylene	mg/kg		**1.4**	**0.021**	**0.023 J**	**0.0062 J**	**0.41**	**0.53**	**0.015 J**
Benzo[k]fluoranthene	mg/kg	210	**1.2**	**0.026**	**0.045 J**	**0.021**	**1.2**	**0.85**	**0.032 J**
bis(2-Chloroethyl)ether	mg/kg	1	0.076 U	0.073 U	0.074 U	0.073 U	0.073 U	0.082 U	0.073 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.076 U	**0.047 J**	**0.033 J**	0.073 U	0.057 B	0.09 B	**0.095**
Caprolactam	mg/kg	400,000	0.19 U	0.18 U	0.19 U	0.18 U	**0.023 J**	**0.066 J**	0.18 U
Carbazole	mg/kg		**0.43**	0.073 U	0.074 U	0.073 U	**0.078 J**	**0.075 J**	0.073 U
Chrysene	mg/kg	2,100	**1.8**	**0.022**	**0.065 J**	**0.014**	**0.82**	**0.58**	0.072 U
Dibenz[a,h]anthracene	mg/kg	2.1	**0.56**	**0.0034 J**	0.074 U	**0.0016 J**	**0.15**	**0.15**	0.072 U
Diethylphthalate	mg/kg	660,000	0.076 U	0.073 U	0.074 U	0.073 U	0.073 U	0.023 B	**0.086**
Di-n-butylphthalate	mg/kg	82,000	0.076 U	0.12 B	0.074 U	0.073 U	0.05 B	0.058 B	0.059 B
Di-n-ocytlphthalate	mg/kg	8,200	0.076 U	0.073 UJ	0.074 UJ	0.073 U	0.073 UJ	0.082 UJ	0.073 U
Fluoranthene	mg/kg	30,000	**2.4**	**0.035**	**0.055 J**	**0.032**	**1.3**	**0.9**	0.072 U
Fluorene	mg/kg	30,000	**0.12**	**0.0013 J**	0.074 UJ	0.0073 UJ	**0.094**	**0.053 J**	**0.0082 J**
Hexachloroethane	mg/kg	8	0.076 U	0.073 U	0.074 U	0.073 U	0.073 U	0.082 U	0.073 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**1.4**	**0.011**	0.074 U	**0.0058 J**	**0.49**	**0.41**	0.072 U
Isophorone	mg/kg	2,400	0.076 U	0.073 U	0.074 U	0.073 U	0.073 U	0.082 U	0.073 U
Naphthalene	mg/kg	17	**0.23**	**0.0094**	0.074 UJ	**0.0061 J**	**0.18**	**0.48**	0.072 U
Nitrobenzene	mg/kg	22	0.076 U	0.073 U	0.074 U	0.073 U	0.073 U	0.082 U	0.073 U
N-Nitrosodiphenylamine	mg/kg	470	0.076 U	0.073 U	0.074 U	0.073 U	0.073 U	0.082 U	0.073 U
Phenanthrene	mg/kg		**1.3**	**0.016**	**0.022 J**	**0.02 J**	**1**	**1.2**	**0.064 J**
Phenol	mg/kg	250,000	0.076 U	0.073 UJ	0.074 R	0.073 R	0.073 U	**0.046 J**	0.073 U
Pyrene	mg/kg	23,000	**1.9**	**0.03**	**0.077**	**0.025**	**0.99**	**0.73**	**0.074**
PCBs									
Aroclor 1248	mg/kg	0.94	N/A	0.018 U	0.018 U	N/A	0.019 U	N/A	0.018 U
Aroclor 1254	mg/kg	0.97	N/A	0.018 U	0.018 U	N/A	0.019 U	N/A	0.018 U
Aroclor 1260	mg/kg	0.99	N/A	0.018 U	0.018 U	N/A	0.019 U	N/A	0.018 U
PCBs (total)	mg/kg	0.97	N/A	0.13 U	0.13 U	N/A	0.13 U	N/A	0.13 U
TPH/Oil and Grease									
Diesel Range Organics	mg/kg	6,200	**30.1**	**113 J**	**507 J**	**31.3 J**	**53.3 J**	**90.5 J**	**605**
Gasoline Range Organics	mg/kg	6,200	4.6 B	4.1 B	4.7 B	4.3 B	3.4 B	3.5 B	7.4 B
Oil and Grease	mg/kg	6,200	**438**	**436 J-**	**2,440**	**254**	**460**	**552**	**4,810**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-007-SB-5*	B2-008-SB-1*	B2-008-SB-5*	B2-009-SB-1	B2-009-SB-5	B2-010-SB-1	B2-010-SB-4
Volatile Organic Compounds									
1,2,3-Trichlorobenzene	mg/kg	930	0.0057 U	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	mg/kg	110	0.0057 U	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethane	mg/kg	2	**0.0013 J**	N/A	N/A	N/A	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	**0.0095 J**	N/A	N/A	N/A	N/A	N/A	N/A
Acetone	mg/kg	670,000	**0.068**	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	mg/kg	5.1	0.0057 U	N/A	N/A	N/A	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	0.0057 U	N/A	N/A	N/A	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	0.011 U	N/A	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	0.0057 U	N/A	N/A	N/A	N/A	N/A	N/A
Isopropylbenzene	mg/kg	9,900	0.0057 U	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	mg/kg	47,000	0.0057 U	N/A	N/A	N/A	N/A	N/A	N/A
Xylenes	mg/kg	2,800	0.017 U	N/A	N/A	N/A	N/A	N/A	N/A
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	mg/kg	200	0.084 U	**0.039 J**	0.073 U	0.07 U	0.093 U	0.36 U	**0.019 J**
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.084 U	0.071 U	0.073 U	0.07 U	0.093 U	0.36 U	0.075 U
2,4-Dimethylphenol	mg/kg	16,000	0.084 U	0.071 U	0.073 U	0.07 U	0.093 U	0.36 U	0.075 U
2,4-Dinitrotoluene	mg/kg	7.4	0.084 U	0.071 U	0.073 U	0.07 U	0.093 U	0.36 U	0.075 U
2-Chloronaphthalene	mg/kg	60,000	0.084 U	0.071 U	0.073 U	0.07 U	0.093 U	0.36 U	**0.12**
2-Methylnaphthalene	mg/kg	3,000	**0.26**	**0.12**	**0.015 J**	**0.11**	**0.028**	**0.025 J**	**0.053**
2-Methylphenol	mg/kg	41,000	0.084 U	0.071 U	0.073 U	0.07 U	**0.046 J**	0.36 U	0.075 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	**0.021 J**	0.14 U	0.15 U	0.14 U	**0.047 J**	0.72 U	0.15 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.084 U	0.071 U	0.073 U	0.07 UJ	0.093 U	0.36 U	0.075 U
4-Chloroaniline	mg/kg	11	**0.47**	0.071 U	0.073 U	0.07 U	0.093 U	0.36 U	0.075 U
Acenaphthene	mg/kg	45,000	0.086 U	**0.0073 J**	0.073 U	**0.0073**	**0.0011 J**	0.072 UJ	**0.0077 J**
Acenaphthylene	mg/kg	45,000	**0.044 J**	**0.055**	**0.0097 J**	**0.036**	**0.0041 J**	**0.048 J**	**0.019 J**
Acetophenone	mg/kg	120,000	**0.097**	**0.021 J**	0.073 U	0.07 U	0.093 U	0.36 U	0.075 U
Anthracene	mg/kg	230,000	**0.61**	**0.11**	**0.018 J**	**0.019**	**0.0068 J**	**0.12**	**0.047**
Benz[a]anthracene	mg/kg	21	**0.21**	**0.36**	**0.04 J**	**0.053**	**0.02**	**0.61**	**0.21**
Benzaldehyde	mg/kg	120,000	**0.047 J**	0.071 U	0.073 U	0.07 R	0.093 R	0.36 U	**0.054 J**
Benzo[a]pyrene	mg/kg	2.1	**0.21**	**0.29**	**0.038 J**	**0.045**	**0.028**	**0.48**	**0.2**
Benzo[b]fluoranthene	mg/kg	21	**0.43**	**0.54**	**0.093**	**0.17**	**0.07**	**1.2**	**0.42**
Benzo[g,h,i]perylene	mg/kg		**0.1**	**0.12**	**0.017 J**	**0.034**	**0.011**	**0.27**	**0.11**
Benzo[k]fluoranthene	mg/kg	210	**0.12**	**0.15**	**0.07 J**	**0.13**	**0.055**	**0.95**	**0.33**
bis(2-Chloroethyl)ether	mg/kg	1	0.084 U	0.071 U	0.073 U	0.07 U	0.093 U	0.36 U	0.075 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.084 U	0.071 U	0.073 U	**0.042 J**	0.093 U	0.36 U	0.075 U
Caprolactam	mg/kg	400,000	0.21 U	**0.022 J**	0.18 U	0.18 U	0.23 U	0.91 U	**0.03 J**
Carbazole	mg/kg		0.084 U	**0.061 J**	0.073 U	0.07 U	0.093 U	**0.17 J**	**0.04 J**
Chrysene	mg/kg	2,100	**0.22**	**0.34**	**0.038 J**	**0.077**	**0.027**	**0.56**	**0.23**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.036 J**	**0.041**	0.073 U	**0.0087**	**0.0032 J**	**0.077**	**0.032**
Diethylphthalate	mg/kg	660,000	0.084 U	**0.089**	**0.11**	0.07 U	0.093 U	0.36 U	0.075 U
Di-n-butylphthalate	mg/kg	82,000	0.084 U	0.037 B	0.054 B	0.07 U	0.093 U	0.36 U	0.075 U
Di-n-ocytlphthalate	mg/kg	8,200	0.084 U	0.071 U	0.073 U	0.07 UJ	0.093 U	0.36 U	0.075 U
Fluoranthene	mg/kg	30,000	**0.33**	**0.76**	**0.055 J**	**0.12**	**0.034**	**1.2**	**0.38**
Fluorene	mg/kg	30,000	**0.43**	**0.014**	0.073 U	**0.0088**	**0.0023 J**	0.072 UJ	**0.017 J**
Hexachloroethane	mg/kg	8	0.084 U	0.071 U	0.073 U	0.07 U	0.093 U	0.36 U	0.075 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.11**	**0.12**	**0.018 J**	**0.036**	**0.011**	**0.28**	**0.1**
Isophorone	mg/kg	2,400	0.084 U	0.071 U	0.073 U	0.07 U	0.093 U	0.36 U	0.075 U
Naphthalene	mg/kg	17	**0.19**	**0.18**	0.073 U	**0.12**	**0.025**	**0.046 J**	**0.11 J**
Nitrobenzene	mg/kg	22	0.084 U	0.071 U	0.073 U	0.07 U	0.093 U	0.36 U	0.075 U
N-Nitrosodiphenylamine	mg/kg	470	**0.84**	0.071 U	**0.017 J**	0.07 U	0.093 U	0.36 U	0.075 U
Phenanthrene	mg/kg		**0.41**	**0.53**	**0.031 J**	**0.17**	**0.037**	**0.47 J**	**0.26 J**
Phenol	mg/kg	250,000	0.084 U	0.071 U	0.073 U	0.07 U	**0.098**	0.36 U	0.075 U
Pyrene	mg/kg	23,000	**0.5**	**0.57**	**0.071 J**	**0.088**	**0.034**	**0.91**	**0.31**
PCBs									
Aroclor 1248	mg/kg	0.94	N/A	0.018 U	N/A	0.018 U	N/A	0.018 U	N/A
Aroclor 1254	mg/kg	0.97	N/A	0.018 U	N/A	0.018 U	N/A	0.018 U	N/A
Aroclor 1260	mg/kg	0.99	N/A	0.018 U	N/A	0.018 U	N/A	0.018 U	N/A
PCBs (total)	mg/kg	0.97	N/A	0.13 U	N/A	0.13 U	N/A	0.13 U	N/A
TPH/Oil and Grease									
Diesel Range Organics	mg/kg	6,200	**1,480**	**55.8**	**211**	**201 J**	**24.1 J**	**160 J**	**38.4 J**
Gasoline Range Organics	mg/kg	6,200	**21.5**	7.5 B	6.7 B	4.4 B	7.6 B	8.1 B	5.6 B
Oil and Grease	mg/kg	6,200	**2,020**	**223**	**442**	**1,260 J-**	**163 J-**	**1,410**	**219**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-011-SB-1	B2-011-SB-5	B2-011-SB-8	B2-012-SB-3.5	B2-012-SB-5	B2-013-SB-1	B2-013-SB-5
Volatile Organic Compounds									
1,2,3-Trichlorobenzene	mg/kg	930	N/A	N/A	0.28 U	N/A	N/A	0.0049 U	0.0044 U
1,2,4-Trichlorobenzene	mg/kg	110	N/A	N/A	0.28 U	N/A	N/A	0.0049 U	0.0044 U
1,2-Dichloroethane	mg/kg	2	N/A	N/A	0.28 U	N/A	N/A	0.0049 U	0.0044 U
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	0.55 U	N/A	N/A	**0.0033 J**	0.0087 U
Acetone	mg/kg	670,000	N/A	N/A	0.55 U	N/A	N/A	**0.057 J**	**0.052 J**
Benzene	mg/kg	5.1	N/A	N/A	0.28 U	N/A	N/A	0.0049 U	**0.0022 J**
Carbon disulfide	mg/kg	3,500	N/A	N/A	0.28 UJ	N/A	N/A	0.0049 UJ	**0.0026 J**
Cyclohexane	mg/kg	27,000	N/A	N/A	0.55 U	N/A	N/A	0.0098 U	**0.075**
Ethylbenzene	mg/kg	25	N/A	N/A	**0.54**	N/A	N/A	0.0049 U	**0.0074**
Isopropylbenzene	mg/kg	9,900	N/A	N/A	**9.3**	N/A	N/A	0.0049 U	**0.025**
Toluene	mg/kg	47,000	N/A	N/A	0.28 U	N/A	N/A	0.0049 U	0.0044 U
Xylenes	mg/kg	2,800	N/A	N/A	**0.55 J**	N/A	N/A	0.015 U	0.013 U
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	mg/kg	200	0.073 U	0.074 U	1.5 U	0.072 U	0.076 U	0.069 U	**1.4 J**
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.073 U	0.074 U	1.5 U	0.072 U	0.076 U	0.069 U	1.4 U
2,4-Dimethylphenol	mg/kg	16,000	0.073 R	0.074 U	**1 J**	0.072 U	0.076 U	0.069 U	**0.34 J**
2,4-Dinitrotoluene	mg/kg	7.4	0.073 U	0.074 U	1.5 U	0.072 U	0.076 U	0.069 U	1.4 U
2-Chloronaphthalene	mg/kg	60,000	0.073 U	0.074 U	1.5 U	0.072 U	0.076 U	0.069 U	1.4 U
2-Methylnaphthalene	mg/kg	3,000	**0.0082 J**	**0.023 J**	**2.6**	0.073 U	**0.00075 J**	**0.012**	**10.2**
2-Methylphenol	mg/kg	41,000	0.073 R	0.074 U	1.5 U	0.072 U	0.076 U	0.069 U	1.4 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 R	0.15 U	3 U	0.14 U	0.15 U	0.14 U	2.8 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.073 UJ	0.074 UJ	1.5 U	0.072 U	0.076 U	0.069 U	1.4 U
4-Chloroaniline	mg/kg	11	0.073 U	0.074 U	1.5 U	0.072 U	0.076 U	0.069 U	1.4 U
Acenaphthene	mg/kg	45,000	0.074 U	**0.0066 J**	**3**	0.073 U	0.0076 U	**0.00081 J**	**0.95**
Acenaphthylene	mg/kg	45,000	0.074 U	**0.0077 J**	**1.3**	0.073 U	0.0076 U	0.007 U	**0.11**
Acetophenone	mg/kg	120,000	0.073 U	0.074 U	1.5 U	0.072 U	0.076 U	0.069 U	1.4 U
Anthracene	mg/kg	230,000	**0.014 J**	**0.019 J**	**2.4**	0.073 U	0.0076 U	**0.0012 J**	**0.93**
Benz[a]anthracene	mg/kg	21	**0.1**	**0.076**	**0.024 J**	0.073 U	0.0076 U	**0.001 J**	0.07 U
Benzaldehyde	mg/kg	120,000	0.073 R	0.074 R	1.5 R	0.072 R	0.076 R	0.069 R	1.4 R
Benzo[a]pyrene	mg/kg	2.1	**0.083**	**0.07 J**	**0.018 J**	0.073 U	0.0076 U	0.007 U	0.07 U
Benzo[b]fluoranthene	mg/kg	21	**0.24**	**0.16**	**0.041 J**	0.073 U	0.0076 U	0.007 U	0.07 U
Benzo[g,h,i]perylene	mg/kg		**0.042 J**	**0.031 J**	**0.0089 J**	0.073 U	0.0076 U	**0.00084 J**	0.07 U
Benzo[k]fluoranthene	mg/kg	210	**0.19**	**0.13**	**0.033 J**	0.073 U	0.0076 U	0.007 U	0.07 U
bis(2-Chloroethyl)ether	mg/kg	1	0.073 U	0.074 U	1.5 U	0.072 U	0.076 U	0.069 U	1.4 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	**0.23 J**	**0.28 J**	1.5 U	0.072 U	0.076 U	**0.19**	1.4 U
Caprolactam	mg/kg	400,000	0.18 U	**0.1 J**	**37.9**	0.18 U	0.19 U	0.17 U	**6.4**
Carbazole	mg/kg		0.073 U	0.074 U	1.5 U	0.072 U	0.076 U	0.069 U	1.4 U
Chrysene	mg/kg	2,100	**0.12**	**0.06 J**	**0.15**	0.073 U	0.0076 U	**0.0016 J**	**0.068 J**
Dibenz[a,h]anthracene	mg/kg	2.1	0.074 U	0.074 U	0.073 U	0.073 U	0.0076 U	0.007 U	0.07 U
Diethylphthalate	mg/kg	660,000	0.073 U	0.074 U	1.5 U	0.072 U	**0.066 J**	**0.048 J**	**1 J**
Di-n-butylphthalate	mg/kg	82,000	**0.3 J**	**0.37**	1.5 U	0.072 U	0.076 U	0.069 U	1.4 U
Di-n-ocytlphthalate	mg/kg	8,200	0.073 UJ	0.074 UJ	1.5 U	0.072 U	0.076 U	0.069 U	1.4 U
Fluoranthene	mg/kg	30,000	**0.21**	**0.11**	**0.25**	0.073 U	0.0076 U	**0.0021 J**	**0.12**
Fluorene	mg/kg	30,000	0.074 U	**0.0092 J**	**4.5**	0.073 U	0.0076 U	0.007 U	**2**
Hexachloroethane	mg/kg	8	0.073 U	0.074 U	1.5 U	0.072 U	0.076 U	0.069 U	**3.4**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.034 J**	**0.027 J**	0.073 U	0.073 U	0.0076 U	0.007 U	0.07 U
Isophorone	mg/kg	2,400	0.073 U	0.074 U	1.5 U	0.072 U	0.076 U	0.069 U	1.4 U
Naphthalene	mg/kg	17	0.074 U	0.074 U	**2.8**	0.073 U	0.0076 U	0.0056 B	**0.79**
Nitrobenzene	mg/kg	22	0.073 U	0.074 U	1.5 U	0.072 U	0.076 U	0.069 U	1.4 U
N-Nitrosodiphenylamine	mg/kg	470	0.073 U	0.074 U	1.5 U	0.072 U	0.076 U	0.069 U	**2.1**
Phenanthrene	mg/kg		**0.096**	**0.065 J**	**8.9**	0.073 U	0.0076 U	**0.0089**	**3.6**
Phenol	mg/kg	250,000	0.073 R	0.074 U	1.5 U	0.072 U	0.076 U	0.069 U	1.4 U
Pyrene	mg/kg	23,000	**0.22**	**0.11**	**1.9**	0.073 U	0.0076 U	**0.0033 J**	**0.81**
PCBs									
Aroclor 1248	mg/kg	0.94	0.092 U	N/A	N/A	0.018 U	N/A	0.017 U	N/A
Aroclor 1254	mg/kg	0.97	0.092 U	N/A	N/A	0.018 U	N/A	0.017 U	N/A
Aroclor 1260	mg/kg	0.99	0.092 U	N/A	N/A	0.018 U	N/A	0.017 U	N/A
PCBs (total)	mg/kg	0.97	0.65 U	N/A	N/A	0.13 U	N/A	0.12 U	N/A
TPH/Oil and Grease									
Diesel Range Organics	mg/kg	6,200	**162 J**	**197 J**	**9,730 J**	**9.7 J**	**8.2 J**	**137 J**	**2,830 J**
Gasoline Range Organics	mg/kg	6,200	9 B	8.1 B	**1,120**	5.3 B	6.5 B	5.7 B	**101**
Oil and Grease	mg/kg	6,200	**2,620 J-**	**373 J-**	**6,830 J-**	**234 J-**	**141 J-**	**290 J-**	**2,310 J-**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-014-SB-1.5*	B2-014-SB-7*	B2-015-SB-1	B2-015-SB-5	B2-016-SB-1	B2-016-SB-5	B2-017-SB-1
Volatile Organic Compounds									
1,2,3-Trichlorobenzene	mg/kg	930	N/A	0.0059 U	N/A	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	mg/kg	110	N/A	0.0059 U	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethane	mg/kg	2	N/A	0.0059 U	N/A	N/A	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	**0.0064 J**	N/A	N/A	N/A	N/A	N/A
Acetone	mg/kg	670,000	N/A	**0.038**	N/A	N/A	N/A	N/A	N/A
Benzene	mg/kg	5.1	N/A	0.0059 U	N/A	N/A	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	N/A	0.0059 U	N/A	N/A	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	N/A	0.012 U	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	N/A	0.0059 U	N/A	N/A	N/A	N/A	N/A
Isopropylbenzene	mg/kg	9,900	N/A	0.0059 U	N/A	N/A	N/A	N/A	N/A
Toluene	mg/kg	47,000	N/A	0.0059 U	N/A	N/A	N/A	N/A	N/A
Xylenes	mg/kg	2,800	N/A	0.018 U	N/A	N/A	N/A	N/A	N/A
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	mg/kg	200	0.072 U	1.6 U	0.071 U	0.08 U	0.071 U	**0.022 J**	0.072 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.072 U	1.6 U	0.071 U	0.08 U	0.071 U	0.075 U	0.072 U
2,4-Dimethylphenol	mg/kg	16,000	0.072 U	**0.49 J**	0.071 U	0.08 U	0.071 U	0.075 U	0.072 U
2,4-Dinitrotoluene	mg/kg	7.4	0.072 U	1.6 U	0.071 U	0.08 U	0.071 U	0.075 U	0.072 U
2-Chloronaphthalene	mg/kg	60,000	0.072 U	1.6 U	0.071 U	0.08 U	0.071 U	0.075 U	0.072 U
2-Methylnaphthalene	mg/kg	3,000	**0.01 J**	**1.5**	**0.081**	**0.0074 J**	**0.022 J**	**0.025 J**	**0.024 J**
2-Methylphenol	mg/kg	41,000	0.072 U	1.6 U	0.071 U	0.08 U	0.071 U	0.075 U	0.072 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	3.3 U	0.14 U	0.16 U	0.14 U	0.15 U	0.14 U
3,3'-Dichlorobenzidine	mg/kg	5.1	**0.024 J**	1.6 U	0.071 UJ	0.08 UJ	0.071 U	0.075 U	0.072 UJ
4-Chloroaniline	mg/kg	11	0.072 U	1.6 U	0.071 U	0.08 U	0.071 U	0.075 U	0.072 U
Acenaphthene	mg/kg	45,000	0.072 U	**0.43**	**0.015 J**	0.08 U	0.072 U	0.076 U	0.072 U
Acenaphthylene	mg/kg	45,000	0.072 U	**0.36**	**0.014 J**	**0.025 J**	**0.02 J**	**0.0084 J**	**0.013 J**
Acetophenone	mg/kg	120,000	0.072 U	1.6 U	0.071 U	0.08 U	0.071 U	0.075 U	0.072 U
Anthracene	mg/kg	230,000	**0.0066 J**	**0.6**	**0.07 J**	**0.0088 J**	**0.023 J**	**0.016 J**	**0.015 J**
Benz[a]anthracene	mg/kg	21	**0.073**	**0.99**	**0.39**	**0.081 J**	**0.23**	**0.11**	**0.091**
Benzaldehyde	mg/kg	120,000	0.072 U	1.6 U	0.071 R	0.08 R	0.071 R	0.075 R	0.072 R
Benzo[a]pyrene	mg/kg	2.1	**0.065 J**	**1.1**	**0.32**	**0.085 J**	**0.19**	**0.1**	**0.085**
Benzo[b]fluoranthene	mg/kg	21	**0.19**	**2**	**0.69**	**0.19**	**0.45**	**0.27**	**0.2**
Benzo[g,h,i]perylene	mg/kg		**0.04 J**	**0.39**	**0.17**	**0.066 J**	**0.11**	**0.081**	**0.065 J**
Benzo[k]fluoranthene	mg/kg	210	**0.15**	**0.56**	**0.54**	**0.15**	**0.36**	**0.21**	**0.16**
bis(2-Chloroethyl)ether	mg/kg	1	0.072 U	1.6 U	0.071 U	0.08 U	0.071 U	0.075 U	0.072 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	**0.2**	1.6 U	**0.13 J**	0.08 UJ	0.071 U	0.075 U	**0.36 J**
Caprolactam	mg/kg	400,000	0.18 U	4.1 U	0.18 U	0.2 U	0.18 U	**0.043 J**	0.18 U
Carbazole	mg/kg		0.072 U	1.6 U	**0.022 J**	0.08 U	0.071 U	0.075 U	0.072 U
Chrysene	mg/kg	2,100	**0.11**	**0.94**	**0.36**	**0.085 J**	**0.21**	**0.12**	**0.089**
Dibenz[a,h]anthracene	mg/kg	2.1	0.072 U	**0.12**	**0.044 J**	0.08 U	**0.032 J**	**0.017 J**	**0.015 J**
Diethylphthalate	mg/kg	660,000	**0.1**	0.6 B	0.071 U	0.08 U	0.071 U	**0.069 J**	0.072 U
Di-n-butylphthalate	mg/kg	82,000	0.07 B	1.6 U	0.071 U	0.08 U	0.071 U	0.075 U	0.072 U
Di-n-ocytlphthalate	mg/kg	8,200	0.072 U	1.6 U	0.071 UJ	0.08 UJ	**0.037 J**	0.075 U	0.072 UJ
Fluoranthene	mg/kg	30,000	**0.097**	**1.8**	**0.69**	**0.15 J**	**0.34**	**0.17**	**0.13**
Fluorene	mg/kg	30,000	0.072 U	**0.56**	**0.019 J**	0.08 U	0.072 U	0.076 U	0.072 U
Hexachloroethane	mg/kg	8	0.072 U	1.6 U	0.071 U	0.08 U	0.071 U	0.075 U	0.072 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.021 J**	**0.44**	**0.18**	**0.055 J**	**0.11**	**0.069 J**	**0.056 J**
Isophorone	mg/kg	2,400	0.072 U	**0.58 J**	0.071 U	0.08 U	0.071 U	0.075 U	0.072 U
Naphthalene	mg/kg	17	0.072 U	**0.4**	0.038 B	0.08 U	0.072 U	0.076 U	0.072 U
Nitrobenzene	mg/kg	22	0.072 U	1.6 U	0.071 U	0.08 U	0.071 U	0.075 U	0.072 U
N-Nitrosodiphenylamine	mg/kg	470	0.072 U	**3.8**	0.071 U	0.08 U	0.071 U	0.075 U	0.072 U
Phenanthrene	mg/kg		**0.022 J**	**1.8**	**0.29**	**0.044 J**	**0.07 J**	**0.072 J**	**0.068 J**
Phenol	mg/kg	250,000	0.072 U	1.6 U	0.071 U	0.08 U	0.071 U	0.075 U	0.072 U
Pyrene	mg/kg	23,000	**0.12**	**1.7**	**0.58**	**0.12 J**	**0.29**	**0.15**	**0.12**
PCBs									
Aroclor 1248	mg/kg	0.94	0.018 U	N/A	0.018 U	N/A	0.018 U	N/A	0.018 U
Aroclor 1254	mg/kg	0.97	0.018 U	N/A	0.018 U	N/A	0.018 U	N/A	0.018 U
Aroclor 1260	mg/kg	0.99	0.018 U	N/A	0.018 U	N/A	0.018 U	N/A	0.018 U
PCBs (total)	mg/kg	0.97	0.13 U	N/A	0.13 U	N/A	0.13 U	N/A	0.13 U
TPH/Oil and Grease									
Diesel Range Organics	mg/kg	6,200	**238**	**2,840**	**105 J**	**29.2 J**	**138 J**	**20.2 J**	**66.8 J**
Gasoline Range Organics	mg/kg	6,200	18.7 B	7 B	4.9 B	5.6 B	4.6 B	6 B	3.7 B
Oil and Grease	mg/kg	6,200	**10,100**	**13,600**	**133 J-**	**768 J-**	**393 J-**	**143 J-**	**140 J-**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-017-SB-5	B2-018-SB-1*	B2-018-SB-5*	B2-019-SB-1*	B2-019-SB-5*	B2-020-SB-1	B2-020-SB-4
Volatile Organic Compounds									
1,2,3-Trichlorobenzene	mg/kg	930	N/A	0.0051 U	0.0072 U	0.0048 U	0.0049 U	N/A	N/A
1,2,4-Trichlorobenzene	mg/kg	110	N/A	0.0051 U	0.0072 U	0.0048 U	0.0049 U	N/A	N/A
1,2-Dichloroethane	mg/kg	2	N/A	0.0051 U	0.0072 U	0.0048 U	0.0049 U	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	0.01 U	0.014 U	0.0095 U	0.0098 U	N/A	N/A
Acetone	mg/kg	670,000	N/A	**0.011**	**0.039**	**0.025**	**0.028**	N/A	N/A
Benzene	mg/kg	5.1	N/A	0.0051 U	**0.0059 J**	0.0048 U	0.0049 U	N/A	N/A
Carbon disulfide	mg/kg	3,500	N/A	0.0051 U	0.0072 U	0.0048 U	0.0049 U	N/A	N/A
Cyclohexane	mg/kg	27,000	N/A	0.01 U	0.014 U	0.0095 U	0.0098 U	N/A	N/A
Ethylbenzene	mg/kg	25	N/A	0.0051 U	**0.0028 J**	0.0048 U	0.0049 U	N/A	N/A
Isopropylbenzene	mg/kg	9,900	N/A	0.0051 U	0.0072 U	0.0048 U	0.0049 U	N/A	N/A
Toluene	mg/kg	47,000	N/A	0.0051 U	**0.0076**	0.0048 U	0.0049 U	N/A	N/A
Xylenes	mg/kg	2,800	N/A	0.015 U	0.022 U	0.014 U	0.015 U	N/A	N/A
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	mg/kg	200	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	**0.041 J**
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	0.072 U
2,4-Dimethylphenol	mg/kg	16,000	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	0.072 U
2,4-Dinitrotoluene	mg/kg	7.4	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	0.072 U
2-Chloronaphthalene	mg/kg	60,000	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	0.072 U
2-Methylnaphthalene	mg/kg	3,000	**0.081**	**0.013 J**	**0.044**	**0.015 J**	**0.01**	**0.01**	**0.1**
2-Methylphenol	mg/kg	41,000	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	0.072 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.16 U	0.14 U	0.15 U	0.15 U	0.15 U	0.18 U	**0.035 J**
3,3'-Dichlorobenzidine	mg/kg	5.1	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	0.072 UJ
4-Chloroaniline	mg/kg	11	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	0.072 U
Acenaphthene	mg/kg	45,000	**0.0023 J**	0.071 U	**0.035**	0.074 U	**0.0011 J**	**0.012**	**0.29**
Acenaphthylene	mg/kg	45,000	**0.023**	0.071 U	**0.019**	0.074 U	0.0076 U	**0.0023 J**	**0.079**
Acetophenone	mg/kg	120,000	0.079 U	0.07 U	**0.023 J**	0.073 U	0.077 U	0.089 U	0.072 U
Anthracene	mg/kg	230,000	**0.016**	**0.0074 J**	**0.02**	0.074 U	**0.0042 J**	**0.011**	**0.33**
Benz[a]anthracene	mg/kg	21	**0.15**	**0.03 J**	**0.11**	**0.021 J**	**0.0094**	**0.064**	**1.5**
Benzaldehyde	mg/kg	120,000	0.079 R	0.07 U	0.075 U	0.073 U	0.077 U	**0.033 J**	**0.027 J**
Benzo[a]pyrene	mg/kg	2.1	**0.28**	**0.033 J**	**0.11**	**0.014 J**	**0.0085**	**0.1**	**2.4**
Benzo[b]fluoranthene	mg/kg	21	**0.49**	**0.06 J**	**0.21**	**0.027 J**	**0.02**	**0.13**	**3.2**
Benzo[g,h,i]perylene	mg/kg		**0.17**	**0.02 J**	**0.059**	**0.045 J**	**0.004 J**	**0.11**	**2.4**
Benzo[k]fluoranthene	mg/kg	210	**0.18**	**0.019 J**	**0.055**	0.074 U	**0.015**	**0.045**	**1**
bis(2-Chloroethyl)ether	mg/kg	1	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	0.072 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.079 U	0.07 U	0.075 U	**0.044 J**	0.077 U	0.089 U	**0.13 J**
Caprolactam	mg/kg	400,000	**0.028 J**	0.18 U	0.19 U	0.18 U	0.19 U	0.22 U	0.18 U
Carbazole	mg/kg		0.079 U	0.07 U	**0.022 J**	0.073 U	0.077 U	0.089 U	**0.43 J**
Chrysene	mg/kg	2,100	**0.13**	**0.032 J**	**0.11**	**0.015 J**	**0.012**	**0.064**	**1.4**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.033**	0.071 U	**0.014**	0.074 U	0.0076 U	**0.027**	**0.54**
Diethylphthalate	mg/kg	660,000	0.079 U	**0.098**	0.063 B	**0.11**	0.053 B	0.089 U	0.072 U
Di-n-butylphthalate	mg/kg	82,000	0.079 U	0.038 B	0.025 B	**0.081**	0.042 B	0.074 B	0.083 B
Di-n-ocytlphthalate	mg/kg	8,200	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	0.072 UJ
Fluoranthene	mg/kg	30,000	**0.14**	**0.035 J**	**0.17**	**0.023 J**	**0.015**	**0.089**	**1.8**
Fluorene	mg/kg	30,000	**0.0045 J**	0.071 U	**0.028**	0.074 U	**0.0007 J**	**0.0047 J**	**0.12**
Hexachloroethane	mg/kg	8	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	0.072 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.18**	**0.018 J**	**0.053**	0.074 U	**0.0036 J**	**0.089**	**2**
Isophorone	mg/kg	2,400	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	0.072 U
Naphthalene	mg/kg	17	**0.069**	0.071 U	**0.056**	0.074 U	**0.0067 J**	**0.013**	**0.14**
Nitrobenzene	mg/kg	22	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	0.072 U
N-Nitrosodiphenylamine	mg/kg	470	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	0.072 U
Phenanthrene	mg/kg		**0.085**	**0.025 J**	**0.1**	**0.027 J**	**0.026**	**0.053**	**1.2**
Phenol	mg/kg	250,000	0.079 U	0.07 U	0.075 U	0.073 U	0.077 U	0.089 U	**0.028 J**
Pyrene	mg/kg	23,000	**0.12**	**0.031 J**	**0.13**	**0.019 J**	**0.015**	**0.072**	**1.6**
PCBs									
Aroclor 1248	mg/kg	0.94	N/A	0.017 U	N/A	0.018 U	N/A	0.022 U	N/A
Aroclor 1254	mg/kg	0.97	N/A	0.017 U	N/A	0.018 U	N/A	0.022 U	N/A
Aroclor 1260	mg/kg	0.99	N/A	0.017 U	N/A	0.018 U	N/A	0.022 U	N/A
PCBs (total)	mg/kg	0.97	N/A	0.12 U	N/A	0.13 U	N/A	0.15 U	N/A
TPH/Oil and Grease									
Diesel Range Organics	mg/kg	6,200	**19.1 J**	**68.7**	**55.4**	**119**	**16.7**	**16.5 J**	**80.6 J**
Gasoline Range Organics	mg/kg	6,200	6.9 B	5.3 B	**17.5**	**22**	6.3 B	12.2 U	3.6 B
Oil and Grease	mg/kg	6,200	**137 J-**	**322**	**176**	**336**	**168**	**356 J-**	**1,460 J-**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-021-SB-1	B2-021-SB-4	B2-022-SB-1	B2-022-SB-4	B2-023-SB-1*	B2-023-SB-4*	B2-024-SB-1*
Volatile Organic Compounds									
1,2,3-Trichlorobenzene	mg/kg	930	N/A	0.0048 U	N/A	N/A	N/A	0.0054 U	N/A
1,2,4-Trichlorobenzene	mg/kg	110	N/A	0.0048 U	N/A	N/A	N/A	0.0054 U	N/A
1,2-Dichloroethane	mg/kg	2	N/A	0.0048 U	N/A	N/A	N/A	0.0054 U	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	0.0096 U	N/A	N/A	N/A	0.011 U	N/A
Acetone	mg/kg	670,000	N/A	**0.037 J**	N/A	N/A	N/A	**0.042**	N/A
Benzene	mg/kg	5.1	N/A	0.0048 U	N/A	N/A	N/A	0.0054 U	N/A
Carbon disulfide	mg/kg	3,500	N/A	0.0048 U	N/A	N/A	N/A	**0.0074**	N/A
Cyclohexane	mg/kg	27,000	N/A	0.0096 UJ	N/A	N/A	N/A	0.011 U	N/A
Ethylbenzene	mg/kg	25	N/A	0.0048 U	N/A	N/A	N/A	0.0054 U	N/A
Isopropylbenzene	mg/kg	9,900	N/A	0.0048 U	N/A	N/A	N/A	0.0054 U	N/A
Toluene	mg/kg	47,000	N/A	0.0048 U	N/A	N/A	N/A	0.0054 U	N/A
Xylenes	mg/kg	2,800	N/A	0.014 U	N/A	N/A	N/A	0.016 U	N/A
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	mg/kg	200	0.077 U	0.079 U	0.072 U	0.086 U	0.07 U	0.079 U	0.075 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.077 U	0.079 U	0.072 U	0.086 U	0.07 U	0.079 U	0.075 U
2,4-Dimethylphenol	mg/kg	16,000	0.077 U	0.079 U	0.072 U	0.086 U	0.07 U	0.079 U	0.075 U
2,4-Dinitrotoluene	mg/kg	7.4	0.077 U	0.079 U	0.072 U	0.086 U	0.07 U	0.079 U	0.075 U
2-Chloronaphthalene	mg/kg	60,000	0.077 U	0.079 U	0.072 U	0.086 U	0.07 U	0.079 U	0.075 U
2-Methylnaphthalene	mg/kg	3,000	**0.031 J**	**0.007 J**	**0.0061 J**	**0.064 J**	0.0071 U	**0.0079 J**	**0.02 J**
2-Methylphenol	mg/kg	41,000	0.077 U	0.079 U	0.072 U	0.086 U	0.07 U	0.079 U	0.075 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.16 U	0.14 U	0.17 U	0.14 U	0.16 U	0.15 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.077 UJ	0.079 U	0.072 UJ	0.086 UJ	0.07 U	0.079 U	0.075 U
4-Chloroaniline	mg/kg	11	0.077 U	0.079 U	0.072 U	0.086 U	0.07 U	0.079 U	0.075 U
Acenaphthene	mg/kg	45,000	**0.07 J**	**0.01**	**0.012**	**0.11**	0.0071 U	**0.0015 J**	**0.031 J**
Acenaphthylene	mg/kg	45,000	**0.02 J**	**0.019**	**0.002 J**	**0.037 J**	**0.00053 J**	**0.0069 J**	**1.3**
Acetophenone	mg/kg	120,000	0.077 U	0.079 U	0.072 U	0.086 U	0.07 U	0.079 U	0.075 U
Anthracene	mg/kg	230,000	**0.074 J**	**0.05**	**0.011**	**0.2**	0.00042 B	**0.0097**	**0.33**
Benz[a]anthracene	mg/kg	21	**0.34**	**0.22**	**0.071**	**0.61**	**0.0021 J**	**0.042**	**0.85**
Benzaldehyde	mg/kg	120,000	**0.057 J**	0.079 U	0.072 U	**0.023 J**	0.07 U	**0.087**	**0.021 J**
Benzo[a]pyrene	mg/kg	2.1	**0.53**	**0.2**	**0.11**	**0.8**	**0.0013 J**	**0.053**	**1.9**
Benzo[b]fluoranthene	mg/kg	21	**0.69**	**0.4**	**0.18**	**1**	0.0071 U	**0.092**	**2.9**
Benzo[g,h,i]perylene	mg/kg		**0.49**	**0.15**	**0.1**	**0.76**	0.0071 U	**0.033**	**1.6**
Benzo[k]fluoranthene	mg/kg	210	**0.24**	**0.32**	**0.15**	**0.34**	0.0071 U	**0.022**	**0.71**
bis(2-Chloroethyl)ether	mg/kg	1	0.077 U	0.079 U	0.072 U	0.086 U	0.07 U	0.079 U	0.075 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	**0.038 J**	0.079 U	**0.024 J**	**0.037 J**	0.07 U	**0.026 J**	0.075 U
Caprolactam	mg/kg	400,000	0.19 U	0.2 U	0.18 U	0.22 U	0.18 U	0.2 U	0.19 U
Carbazole	mg/kg		**0.044 J**	**0.058 J**	**0.023 J**	**0.088**	0.07 U	**0.059 J**	**0.14**
Chrysene	mg/kg	2,100	**0.29**	**0.22**	**0.066**	**0.6**	**0.001 J**	**0.053**	**0.94**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.11**	**0.036**	**0.029**	**0.18**	0.0071 U	**0.0075 J**	**0.38**
Diethylphthalate	mg/kg	660,000	0.041 B	0.079 U	0.072 U	0.13 B	0.07 U	0.079 U	**0.016 J**
Di-n-butylphthalate	mg/kg	82,000	0.046 B	0.04 B	0.048 B	0.035 B	0.064 B	0.065 B	0.022 B
Di-n-ocytlphthalate	mg/kg	8,200	0.077 UJ	0.079 U	0.072 UJ	0.086 UJ	0.07 U	0.079 U	0.075 U
Fluoranthene	mg/kg	30,000	**0.41**	**0.43**	**0.087**	**0.84**	0.0015 B	**0.084**	**1.2**
Fluorene	mg/kg	30,000	**0.034 J**	**0.013**	**0.0025 J**	**0.062 J**	0.0071 U	**0.0019 J**	**0.057 J**
Hexachloroethane	mg/kg	8	0.077 U	0.079 U	0.072 U	0.086 U	0.07 U	0.079 U	0.075 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.39**	**0.13**	**0.092**	**0.61**	0.0071 U	**0.03**	**1.5**
Isophorone	mg/kg	2,400	0.077 U	0.079 U	0.072 U	0.086 U	0.07 U	0.079 U	0.075 U
Naphthalene	mg/kg	17	**0.035 J**	**0.016**	**0.0073 J**	**0.073 J**	0.0071 U	**0.021**	**0.076**
Nitrobenzene	mg/kg	22	0.077 U	0.079 U	0.072 U	0.086 U	0.07 U	0.079 U	0.075 U
N-Nitrosodiphenylamine	mg/kg	470	0.077 U	0.079 U	0.072 U	0.086 U	0.07 U	0.079 U	0.075 U
Phenanthrene	mg/kg		**0.22**	**0.19**	**0.039**	**0.68**	0.00092 B	**0.059**	**0.29**
Phenol	mg/kg	250,000	0.077 U	0.079 U	0.072 U	0.086 U	0.07 U	**0.18**	0.075 U
Pyrene	mg/kg	23,000	**0.36**	**0.36**	**0.078**	**0.86**	0.0013 B	**0.069**	**1.5**
PCBs									
Aroclor 1248	mg/kg	0.94	0.02 U	N/A	0.018 U	N/A	0.36 U	N/A	0.38 U
Aroclor 1254	mg/kg	0.97	0.02 U	N/A	0.018 U	N/A	0.36 U	N/A	0.38 U
Aroclor 1260	mg/kg	0.99	0.02 U	N/A	0.018 U	N/A	0.36 U	N/A	0.38 U
PCBs (total)	mg/kg	0.97	0.14 U	N/A	0.13 U	N/A	2.5 U	N/A	2.6 U
TPH/Oil and Grease									
Diesel Range Organics	mg/kg	6,200	**41.4 J**	**12.9 J**	**14.5 J**	**143 J**	**4.1**	**68.8**	**137**
Gasoline Range Organics	mg/kg	6,200	10.7 U	10.5 U	10.7 U	15.4 U	3.3 B	12 U	3.1 B
Oil and Grease	mg/kg	6,200	**526 J-**	**162 J-**	**58.9 J-**	**258 J-**	**368**	**430**	**12,400**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-025-SB-1*	B2-025-SB-4*	B2-026-SB-1	B2-026-SB-5	B2-027-SB-1	B2-028-SB-1	B2-028-SB-5
Volatile Organic Compounds									
1,2,3-Trichlorobenzene	mg/kg	930	N/A	N/A	N/A	**0.0034 J**	N/A	0.0044 U	0.0066 U
1,2,4-Trichlorobenzene	mg/kg	110	N/A	N/A	N/A	**0.011**	N/A	0.0044 U	0.0066 U
1,2-Dichloroethane	mg/kg	2	N/A	N/A	N/A	0.0053 U	N/A	0.0044 U	0.0066 U
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	0.011 U	N/A	0.0088 U	0.013 U
Acetone	mg/kg	670,000	N/A	N/A	N/A	**0.022 J**	N/A	0.0088 U	0.013 U
Benzene	mg/kg	5.1	N/A	N/A	N/A	0.0053 U	N/A	0.0044 U	0.0066 U
Carbon disulfide	mg/kg	3,500	N/A	N/A	N/A	**0.0033 J**	N/A	0.0044 UJ	0.0066 UJ
Cyclohexane	mg/kg	27,000	N/A	N/A	N/A	0.011 U	N/A	0.0088 U	0.013 U
Ethylbenzene	mg/kg	25	N/A	N/A	N/A	0.0053 U	N/A	0.0044 U	0.0066 U
Isopropylbenzene	mg/kg	9,900	N/A	N/A	N/A	0.0053 U	N/A	0.0044 U	0.0066 U
Toluene	mg/kg	47,000	N/A	N/A	N/A	0.0053 U	N/A	0.0044 U	0.0066 U
Xylenes	mg/kg	2,800	N/A	N/A	N/A	0.016 U	N/A	0.013 U	0.02 U
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	mg/kg	200	0.071 U	0.08 U	0.075 U	0.077 U	0.076 U	0.074 U	**0.019 J**
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.071 U	0.08 U	0.075 U	0.077 U	0.076 U	0.074 U	0.075 U
2,4-Dimethylphenol	mg/kg	16,000	0.071 U	0.08 U	0.075 R	0.077 R	0.076 U	0.074 U	0.075 U
2,4-Dinitrotoluene	mg/kg	7.4	0.071 U	0.08 U	0.075 U	0.077 U	0.076 U	0.074 U	0.075 U
2-Chloronaphthalene	mg/kg	60,000	0.071 U	0.08 U	0.075 U	0.077 U	0.076 U	0.074 U	0.075 U
2-Methylnaphthalene	mg/kg	3,000	**0.014**	**0.0046 J**	**0.0043 J**	**0.015**	**0.093**	**0.1**	**0.23**
2-Methylphenol	mg/kg	41,000	0.071 U	0.08 U	0.075 R	0.077 R	0.076 U	0.074 U	0.075 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	0.16 U	0.15 R	0.15 R	0.15 U	0.15 U	0.15 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.071 U	0.08 U	0.075 U	0.077 U	0.076 U	0.074 U	0.075 UJ
4-Chloroaniline	mg/kg	11	0.071 U	0.08 U	0.075 U	0.077 U	0.076 U	0.074 U	0.075 U
Acenaphthene	mg/kg	45,000	**0.0043 J**	**0.0014 J**	**0.0014 J**	**0.0011 J**	**0.0083 J**	0.075 U	0.077 U
Acenaphthylene	mg/kg	45,000	**0.0066 J**	**0.0076 J**	**0.00092 J**	**0.02**	**0.017 J**	0.075 U	**0.041 J**
Acetophenone	mg/kg	120,000	0.071 U	0.08 U	0.075 U	0.077 U	**0.021 J**	0.074 U	0.075 U
Anthracene	mg/kg	230,000	**0.014**	0.005 B	**0.0074 J**	**0.014**	**0.056 J**	0.075 U	**0.042 J**
Benz[a]anthracene	mg/kg	21	**0.054**	**0.026**	**0.03**	**0.071**	**0.11**	**0.016 J**	**0.24**
Benzaldehyde	mg/kg	120,000	0.071 U	0.08 U	0.075 U	0.077 U	**0.035 J**	0.074 R	**0.017 J**
Benzo[a]pyrene	mg/kg	2.1	**0.055**	**0.029**	**0.018**	**0.062**	**0.094**	0.075 U	**0.2**
Benzo[b]fluoranthene	mg/kg	21	**0.087**	**0.049**	**0.054**	**0.12**	**0.28**	**0.026 J**	**0.48**
Benzo[g,h,i]perylene	mg/kg		**0.036**	**0.018**	**0.0092**	**0.025**	**0.065 J**	0.075 U	**0.068 J**
Benzo[k]fluoranthene	mg/kg	210	**0.027**	**0.012**	**0.048**	**0.049**	**0.24**	**0.017 J**	**0.33**
bis(2-Chloroethyl)ether	mg/kg	1	0.071 U	0.08 U	0.075 U	0.077 U	0.076 U	0.074 U	0.075 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	**0.021 J**	0.08 U	0.015 B	0.077 U	**0.34**	0.074 U	0.075 UJ
Caprolactam	mg/kg	400,000	0.18 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U	**0.033 J**
Carbazole	mg/kg		0.071 U	0.08 U	0.075 U	0.077 U	0.076 U	0.074 U	0.075 U
Chrysene	mg/kg	2,100	**0.054**	**0.031**	**0.036**	**0.083**	**0.24**	**0.012 J**	**0.14**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.0094**	**0.0048 J**	**0.0025 J**	**0.011**	0.077 U	0.075 U	**0.017 J**
Diethylphthalate	mg/kg	660,000	0.071 U	0.08 U	0.075 U	0.077 U	0.076 U	0.074 U	0.075 U
Di-n-butylphthalate	mg/kg	82,000	0.018 B	0.047 B	0.043 B	0.026 B	0.06 B	0.074 U	0.075 U
Di-n-ocytlphthalate	mg/kg	8,200	0.071 U	0.08 U	0.075 U	0.077 U	0.076 UJ	0.074 U	0.075 UJ
Fluoranthene	mg/kg	30,000	**0.1**	**0.048**	**0.073**	**0.1**	**0.23**	**0.017 J**	**0.27**
Fluorene	mg/kg	30,000	**0.0053 J**	**0.0023 J**	**0.001 J**	**0.0024 J**	**0.018 J**	0.075 U	0.077 U
Hexachloroethane	mg/kg	8	0.071 U	0.08 U	0.075 U	0.077 U	0.076 U	0.074 U	0.075 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.032**	**0.017**	**0.0089**	**0.029**	**0.045 J**	0.075 U	**0.068 J**
Isophorone	mg/kg	2,400	0.071 U	0.08 U	0.075 U	0.077 U	0.076 U	0.074 U	0.075 U
Naphthalene	mg/kg	17	**0.019**	**0.009**	0.0046 B	**0.019**	**0.09**	0.075 UJ	**0.15 J**
Nitrobenzene	mg/kg	22	0.071 U	0.08 U	0.075 U	0.077 U	0.076 U	0.074 U	0.075 U
N-Nitrosodiphenylamine	mg/kg	470	0.071 U	0.08 U	0.075 U	0.077 U	0.076 U	0.074 U	0.075 U
Phenanthrene	mg/kg		**0.058**	**0.028**	**0.039**	**0.038**	**0.17**	**0.018 J**	**0.15**
Phenol	mg/kg	250,000	0.071 U	0.08 U	0.075 R	0.077 R	0.076 U	0.074 U	0.075 U
Pyrene	mg/kg	23,000	**0.081**	**0.041**	**0.051**	**0.1**	**0.28**	**0.012 J**	**0.24**
PCBs									
Aroclor 1248	mg/kg	0.94	0.018 U	N/A	0.019 U	N/A	0.019 U	0.019 U	N/A
Aroclor 1254	mg/kg	0.97	0.018 U	N/A	0.019 U	N/A	0.019 U	0.019 U	N/A
Aroclor 1260	mg/kg	0.99	**0.069**	N/A	0.019 U	N/A	**0.18**	0.019 U	N/A
PCBs (total)	mg/kg	0.97	**0.069 J**	N/A	0.13 U	N/A	**0.18**	0.13 U	N/A
TPH/Oil and Grease									
Diesel Range Organics	mg/kg	6,200	**17.5**	**29**	**19.8 J**	**418 J**	**85.7 J**	**12.4**	**99.8**
Gasoline Range Organics	mg/kg	6,200	4 B	2.8 B	2.2 B	3.3 B	4.7 B	**2.7 J**	**4.7 J**
Oil and Grease	mg/kg	6,200	**443**	**519**	**283 J-**	**491 J-**	**3,330 J-**	**112 J**	**2,770**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-029-SB-1*	B2-029-SB-8*	B2-030-SB-1*	B2-030-SB-5*	B2-031-SB-1*	B2-031-SB-7*	B2-032-SB-1*
Volatile Organic Compounds									
1,2,3-Trichlorobenzene	mg/kg	930	N/A	N/A	N/A	N/A	N/A	0.0062 U	N/A
1,2,4-Trichlorobenzene	mg/kg	110	N/A	N/A	N/A	N/A	N/A	0.0062 U	N/A
1,2-Dichloroethane	mg/kg	2	N/A	N/A	N/A	N/A	N/A	0.0062 U	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	N/A	N/A	0.012 U	N/A
Acetone	mg/kg	670,000	N/A	N/A	N/A	N/A	N/A	**0.024**	N/A
Benzene	mg/kg	5.1	N/A	N/A	N/A	N/A	N/A	0.0062 U	N/A
Carbon disulfide	mg/kg	3,500	N/A	N/A	N/A	N/A	N/A	0.0062 U	N/A
Cyclohexane	mg/kg	27,000	N/A	N/A	N/A	N/A	N/A	0.012 U	N/A
Ethylbenzene	mg/kg	25	N/A	N/A	N/A	N/A	N/A	0.0062 U	N/A
Isopropylbenzene	mg/kg	9,900	N/A	N/A	N/A	N/A	N/A	0.0062 U	N/A
Toluene	mg/kg	47,000	N/A	N/A	N/A	N/A	N/A	0.0062 U	N/A
Xylenes	mg/kg	2,800	N/A	N/A	N/A	N/A	N/A	0.019 U	N/A
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	mg/kg	200	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	0.076 U	0.073 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	0.076 U	0.073 U
2,4-Dimethylphenol	mg/kg	16,000	0.072 U	0.079 U	0.078 U	0.078 U	**0.032 J**	**0.057 J**	0.073 U
2,4-Dinitrotoluene	mg/kg	7.4	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	0.076 U	0.073 U
2-Chloronaphthalene	mg/kg	60,000	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	0.076 U	0.073 U
2-Methylnaphthalene	mg/kg	3,000	**0.015**	0.0081 U	**0.039**	**0.0078 J**	**0.023**	**0.86**	**0.027**
2-Methylphenol	mg/kg	41,000	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	**0.048 J**	0.073 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	0.16 U	0.16 U	0.16 U	**0.019 J**	**0.1 J**	0.15 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	0.076 U	0.073 U
4-Chloroaniline	mg/kg	11	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	0.076 U	0.073 U
Acenaphthene	mg/kg	45,000	**0.0012 J**	0.0081 U	**0.0086**	**0.0042 J**	**0.002 J**	**0.073 J**	**0.002 J**
Acenaphthylene	mg/kg	45,000	**0.0067 J**	0.0081 U	**0.033**	**0.0015 J**	**0.013**	**0.85**	**0.0097**
Acetophenone	mg/kg	120,000	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	**0.025 J**	0.073 U
Anthracene	mg/kg	230,000	**0.011**	0.0081 U	**0.061**	**0.0099**	**0.023**	**0.5**	**0.023**
Benz[a]anthracene	mg/kg	21	**0.025**	0.0081 U	**0.3**	**0.066**	0.07 U	**2.5**	**0.069**
Benzaldehyde	mg/kg	120,000	**0.059 J**	0.079 U	**0.022 J**	0.078 U	0.07 U	**0.28**	0.073 U
Benzo[a]pyrene	mg/kg	2.1	**0.019**	0.0081 U	**0.24**	**0.072**	**0.022 J**	**2.5**	**0.052**
Benzo[b]fluoranthene	mg/kg	21	**0.055**	0.0081 U	**0.54**	**0.12**	**0.092**	**4.9**	**0.094**
Benzo[g,h,i]perylene	mg/kg		**0.025**	0.0081 U	**0.2**	**0.063**	0.026 B	**1.8**	**0.037**
Benzo[k]fluoranthene	mg/kg	210	**0.042**	0.0081 U	**0.42**	**0.094**	**0.075**	**3.8**	**0.029**
bis(2-Chloroethyl)ether	mg/kg	1	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	0.076 U	0.073 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.034 B	0.079 U	0.053 B	0.078 U	0.07 U	0.076 U	0.073 U
Caprolactam	mg/kg	400,000	0.18 U	0.2 U	0.2 U	0.2 U	0.18 U	0.19 U	0.18 U
Carbazole	mg/kg		0.072 U	0.079 U	**0.035 J**	0.078 U	0.07 U	**0.33**	0.073 U
Chrysene	mg/kg	2,100	**0.034**	0.0081 U	**0.32**	**0.061**	0.07 U	**2.6**	**0.071**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.006 J**	0.0081 U	**0.057**	**0.016**	0.07 U	**0.58**	**0.009**
Diethylphthalate	mg/kg	660,000	**0.015 J**	0.079 U	0.078 U	0.078 U	0.07 U	0.076 U	0.073 U
Di-n-butylphthalate	mg/kg	82,000	0.05 B	0.023 B	0.042 B	0.043 B	0.07 U	0.076 U	0.039 B
Di-n-ocytlphthalate	mg/kg	8,200	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	0.076 U	0.073 U
Fluoranthene	mg/kg	30,000	**0.059**	0.0081 U	**0.46**	**0.063**	**0.094**	**4.1**	**0.19**
Fluorene	mg/kg	30,000	**0.0039 J**	0.0081 U	**0.0096**	**0.0026 J**	**0.0038 J**	**0.16**	**0.0032 J**
Hexachloroethane	mg/kg	8	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	**0.043 J**	0.073 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.02**	0.0081 U	**0.17**	**0.047**	0.07 U	**1.6**	**0.034**
Isophorone	mg/kg	2,400	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	0.076 U	0.073 U
Naphthalene	mg/kg	17	**0.026**	0.0081 U	**0.043**	**0.0065 J**	**0.017**	**0.79**	**0.077**
Nitrobenzene	mg/kg	22	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	0.076 U	0.073 U
N-Nitrosodiphenylamine	mg/kg	470	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	0.076 U	0.073 U
Phenanthrene	mg/kg		**0.061**	0.0081 U	**0.26**	**0.03**	**0.057**	**2.4**	**0.13**
Phenol	mg/kg	250,000	0.072 U	0.079 U	0.078 U	0.078 U	0.07 U	**0.058 J**	0.073 U
Pyrene	mg/kg	23,000	**0.056**	0.0081 U	**0.39**	**0.061**	**0.08**	**3.3**	**0.14**
PCBs									
Aroclor 1248	mg/kg	0.94	**0.15**	N/A	0.02 U	N/A	0.017 U	N/A	0.018 U
Aroclor 1254	mg/kg	0.97	**0.15**	N/A	0.02 U	N/A	0.017 U	N/A	0.018 U
Aroclor 1260	mg/kg	0.99	0.018 U	N/A	0.02 U	N/A	**0.1**	N/A	0.018 U
PCBs (total)	mg/kg	0.97	**0.3**	N/A	0.14 U	N/A	**0.1 J**	N/A	0.13 U
TPH/Oil and Grease									
Diesel Range Organics	mg/kg	6,200	**151**	3.9 B	**49.6**	**7.9**	**265**	**126**	**24.5**
Gasoline Range Organics	mg/kg	6,200	2.5 B	2.7 B	3.1 B	2.9 B	2.1 B	3.9 B	1.9 B
Oil and Grease	mg/kg	6,200	**567**	**344**	**825**	**443**	**1,480**	**743**	**456**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-032-SB-4*	B2-033-SB-1*	B2-033-SB-5*	B2-034-SB-1*	B2-035-SB-1*	B2-035-SB-4*	B2-036-SB-1
Volatile Organic Compounds									
1,2,3-Trichlorobenzene	mg/kg	930	0.0047 U	N/A	N/A	N/A	N/A	0.0065 U	0.0068 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0047 U	N/A	N/A	N/A	N/A	0.0065 U	0.0068 U
1,2-Dichloroethane	mg/kg	2	0.0047 U	N/A	N/A	N/A	N/A	0.0065 U	0.0068 U
2-Butanone (MEK)	mg/kg	190,000	0.0093 U	N/A	N/A	N/A	N/A	0.013 U	0.014 U
Acetone	mg/kg	670,000	0.0093 U	N/A	N/A	N/A	N/A	**0.036**	**0.037**
Benzene	mg/kg	5.1	0.0047 U	N/A	N/A	N/A	N/A	0.0065 U	0.0068 U
Carbon disulfide	mg/kg	3,500	0.0047 U	N/A	N/A	N/A	N/A	0.0065 U	0.0068 UJ
Cyclohexane	mg/kg	27,000	0.0093 U	N/A	N/A	N/A	N/A	0.013 U	0.014 U
Ethylbenzene	mg/kg	25	0.0047 U	N/A	N/A	N/A	N/A	0.0065 U	0.0068 U
Isopropylbenzene	mg/kg	9,900	0.0047 U	N/A	N/A	N/A	N/A	0.0065 U	0.0068 U
Toluene	mg/kg	47,000	0.0047 U	N/A	N/A	N/A	N/A	0.0065 U	0.0068 U
Xylenes	mg/kg	2,800	0.014 U	N/A	N/A	N/A	N/A	0.019 U	0.02 U
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	mg/kg	200	**0.017 J**	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
2,4-Dimethylphenol	mg/kg	16,000	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
2,4-Dinitrotoluene	mg/kg	7.4	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
2-Chloronaphthalene	mg/kg	60,000	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
2-Methylnaphthalene	mg/kg	3,000	**0.094**	**0.01**	**0.025**	**0.0095**	**0.001 J**	**0.056**	**0.099**
2-Methylphenol	mg/kg	41,000	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.16 U	0.15 U	0.15 U	0.15 U	0.16 U	0.16 U	0.14 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 UJ
4-Chloroaniline	mg/kg	11	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
Acenaphthene	mg/kg	45,000	**0.27**	**0.0012 J**	**0.0039 J**	**0.00099 J**	0.0079 U	**0.085**	0.073 U
Acenaphthylene	mg/kg	45,000	**0.023 J**	**0.0043 J**	**0.009**	**0.0047 J**	0.0079 U	**0.019**	0.073 U
Acetophenone	mg/kg	120,000	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
Anthracene	mg/kg	230,000	**0.17**	**0.011**	**0.019**	0.0037 B	0.00055 B	**0.31**	0.073 U
Benz[a]anthracene	mg/kg	21	**0.19**	**0.029**	**0.052**	**0.021**	**0.0039 J**	**0.79**	0.073 U
Benzaldehyde	mg/kg	120,000	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 R
Benzo[a]pyrene	mg/kg	2.1	**0.12**	**0.022**	**0.046**	**0.022**	**0.0033 J**	**0.66**	0.073 U
Benzo[b]fluoranthene	mg/kg	21	**0.17**	**0.049**	**0.11**	**0.036**	**0.0052 J**	**0.96**	0.073 U
Benzo[g,h,i]perylene	mg/kg		**0.059 J**	**0.017**	**0.045**	**0.017**	**0.0027 J**	**0.37**	0.073 U
Benzo[k]fluoranthene	mg/kg	210	**0.063 J**	**0.038**	**0.086**	**0.01**	**0.002 J**	**0.3**	0.073 U
bis(2-Chloroethyl)ether	mg/kg	1	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 UJ
Caprolactam	mg/kg	400,000	0.2 U	0.18 U	0.19 U	0.19 U	0.2 U	0.2 U	0.18 U
Carbazole	mg/kg		**0.066 J**	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
Chrysene	mg/kg	2,100	**0.18**	**0.03**	**0.06**	**0.023**	**0.0039 J**	**0.76**	0.073 U
Dibenz[a,h]anthracene	mg/kg	2.1	0.079 U	**0.0034 J**	**0.011**	**0.0053 J**	0.0079 U	**0.12**	0.073 U
Diethylphthalate	mg/kg	660,000	0.078 U	0.073 U	0.074 U	**0.018 J**	**0.018 J**	**0.021 J**	0.071 U
Di-n-butylphthalate	mg/kg	82,000	0.025 B	0.073 U	0.074 U	0.039 B	0.046 B	0.058 B	0.071 U
Di-n-ocytlphthalate	mg/kg	8,200	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 UJ
Fluoranthene	mg/kg	30,000	**0.86**	**0.061**	**0.14**	**0.039**	0.0062 B	**1.8**	**0.012 J**
Fluorene	mg/kg	30,000	**0.31**	**0.0016 J**	**0.0024 J**	**0.0013 J**	0.0079 U	**0.093**	0.073 U
Hexachloroethane	mg/kg	8	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.053 J**	**0.014**	**0.037**	**0.015**	**0.002 J**	**0.35**	0.073 U
Isophorone	mg/kg	2,400	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
Naphthalene	mg/kg	17	**0.12**	**0.025**	**0.11**	**0.016**	0.0079 U	**0.08**	0.073 UJ
Nitrobenzene	mg/kg	22	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
N-Nitrosodiphenylamine	mg/kg	470	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
Phenanthrene	mg/kg		**1.2**	**0.059**	**0.13**	**0.02**	0.0032 B	**1.3**	**0.013 J**
Phenol	mg/kg	250,000	0.078 U	0.073 U	0.074 U	0.077 U	0.079 U	0.081 U	0.071 U
Pyrene	mg/kg	23,000	**0.6**	**0.047**	**0.1**	**0.032**	0.0052 B	**1.5**	**0.019 J**
PCBs									
Aroclor 1248	mg/kg	0.94	N/A	0.018 U	N/A	0.019 U	0.02 U	N/A	0.018 U
Aroclor 1254	mg/kg	0.97	N/A	0.018 U	N/A	0.019 U	0.02 U	N/A	0.018 U
Aroclor 1260	mg/kg	0.99	N/A	0.018 U	N/A	0.019 U	0.02 U	N/A	0.018 U
PCBs (total)	mg/kg	0.97	N/A	0.13 U	N/A	0.14 U	0.14 U	N/A	0.13 U
TPH/Oil and Grease									
Diesel Range Organics	mg/kg	6,200	**21.8**	**10.7**	**18**	**10.9**	**9.8**	**41.3**	**181**
Gasoline Range Organics	mg/kg	6,200	11.7 U	2.8 B	2.5 B	2.8 B	2.1 B	2.5 B	**31.8**
Oil and Grease	mg/kg	6,200	**1,280**	**355**	**428**	**343**	**368**	**387**	**3,590**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-036-SB-5	B2-037-SB-1	B2-037-SB-5	B2-038-SB-1	B2-038-SB-5	B2-039-SB-1*	B2-039-SB-5*
Volatile Organic Compounds									
1,2,3-Trichlorobenzene	mg/kg	930	0.0074 U	0.0061 U	0.014 U	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	mg/kg	110	0.0074 U	0.0061 U	0.014 U	N/A	N/A	N/A	N/A
1,2-Dichloroethane	mg/kg	2	0.0074 U	0.0061 U	0.014 U	N/A	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	0.015 U	0.012 U	0.028 U	N/A	N/A	N/A	N/A
Acetone	mg/kg	670,000	**0.04**	0.012 U	**0.023 J**	N/A	N/A	N/A	N/A
Benzene	mg/kg	5.1	0.0074 U	0.0061 U	0.014 U	N/A	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	0.0074 UJ	0.0061 UJ	0.014 UJ	N/A	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	0.015 U	0.012 U	0.028 U	N/A	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	0.0074 U	0.0061 U	0.014 U	N/A	N/A	N/A	N/A
Isopropylbenzene	mg/kg	9,900	0.0074 U	0.0061 U	0.014 U	N/A	N/A	N/A	N/A
Toluene	mg/kg	47,000	0.0074 U	0.0061 U	0.014 U	N/A	N/A	N/A	N/A
Xylenes	mg/kg	2,800	0.022 U	0.018 U	0.042 U	N/A	N/A	N/A	N/A
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	mg/kg	200	**0.052 J**	0.072 U	**0.15 J**	**0.029 J**	0.071 U	0.074 U	0.075 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.073 U	0.072 U	0.081 U	0.071 U	0.071 U	0.074 U	0.075 U
2,4-Dimethylphenol	mg/kg	16,000	**0.019 J**	0.072 U	**0.059 J**	0.071 R	0.071 U	0.074 U	0.075 U
2,4-Dinitrotoluene	mg/kg	7.4	**0.02 J**	0.072 U	**0.037 J**	0.071 U	0.071 U	0.074 U	0.075 U
2-Chloronaphthalene	mg/kg	60,000	**0.14 J**	0.072 U	**0.063 J**	0.071 U	0.071 U	0.074 U	0.075 U
2-Methylnaphthalene	mg/kg	3,000	**0.57**	**0.11**	**1.1**	**0.24**	**0.035**	**0.0063 J**	**0.0011 J**
2-Methylphenol	mg/kg	41,000	**0.018 J**	0.072 U	**0.06 J**	0.071 R	0.071 U	0.074 U	0.075 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	**0.051 J**	0.14 U	**0.15 J**	0.14 R	0.14 U	0.15 U	0.15 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.073 UJ	0.072 UJ	0.081 UJ	0.071 U	0.071 U	0.074 U	0.075 U
4-Chloroaniline	mg/kg	11	0.073 U	0.072 U	0.081 U	0.071 U	0.071 U	0.074 U	0.075 U
Acenaphthene	mg/kg	45,000	**0.023 J**	0.073 U	**0.042 J**	**0.0024 J**	**0.0078**	**0.0006 J**	0.0074 U
Acenaphthylene	mg/kg	45,000	**0.09**	**0.0076 J**	**0.13**	**0.0049 J**	**0.078**	**0.0015 J**	**0.00062 J**
Acetophenone	mg/kg	120,000	**0.024 J**	0.072 U	**0.073 J**	0.071 U	0.071 U	0.074 U	0.075 U
Anthracene	mg/kg	230,000	**0.28**	**0.015 J**	**0.32**	**0.026**	**0.1**	**0.0037 J**	**0.0011 J**
Benz[a]anthracene	mg/kg	21	**0.5**	**0.067 J**	**1.1**	**0.033 J**	**0.56 J**	**0.0092**	0.0074 U
Benzaldehyde	mg/kg	120,000	**0.041 J**	**0.018 J**	**0.14 J**	0.071 U	0.071 U	0.074 U	0.075 U
Benzo[a]pyrene	mg/kg	2.1	**0.4**	**0.047 J**	**0.96**	0.071 U	**0.57 J**	**0.0068 J**	0.0074 U
Benzo[b]fluoranthene	mg/kg	21	**1.1**	**0.12**	**2.2**	**0.14**	**1.3**	**0.02**	0.0074 U
Benzo[g,h,i]perylene	mg/kg		**0.22**	**0.045 J**	**0.68**	**0.019 J**	**0.37**	0.0057 B	0.0074 U
Benzo[k]fluoranthene	mg/kg	210	**0.73**	**0.084**	**1.5**	**0.13**	**1.1**	**0.015**	0.0074 U
bis(2-Chloroethyl)ether	mg/kg	1	0.073 U	0.072 U	0.081 U	0.071 U	0.071 U	0.074 U	0.075 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.073 UJ	**0.032 J**	0.081 UJ	0.071 U	0.053 B	0.074 U	0.075 U
Caprolactam	mg/kg	400,000	**0.093 J**	0.18 U	**0.19 J**	0.18 U	0.18 U	0.18 U	0.19 U
Carbazole	mg/kg		**0.041 J**	0.072 U	**0.083 J**	**0.021 J**	**0.058 J**	0.074 U	0.075 U
Chrysene	mg/kg	2,100	**0.6**	**0.049 J**	**1.2**	**0.17**	**0.54 J**	**0.016**	**0.00091 J**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.094**	0.073 U	**0.37**	0.071 U	**0.14**	**0.0015 J**	0.0074 U
Diethylphthalate	mg/kg	660,000	0.073 U	0.072 U	0.081 U	0.071 U	0.071 U	0.074 U	0.075 U
Di-n-butylphthalate	mg/kg	82,000	0.073 U	0.072 U	0.081 U	0.031 B	**0.52 J**	0.02 B	0.025 B
Di-n-ocytlphthalate	mg/kg	8,200	0.073 UJ	0.072 UJ	0.081 UJ	0.071 U	**0.029 J**	0.074 U	0.075 U
Fluoranthene	mg/kg	30,000	**0.53**	**0.084**	**1**	**0.52**	**0.82 J**	**0.015**	**0.0033 J**
Fluorene	mg/kg	30,000	**0.046 J**	0.073 U	**0.088**	**0.0031 J**	**0.0097**	**0.0012 J**	0.0074 U
Hexachloroethane	mg/kg	8	0.073 U	0.072 U	**0.034 J**	0.071 U	0.071 U	0.074 U	0.075 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.19**	**0.039 J**	**0.68**	**0.021 J**	**0.35 J**	**0.0045 J**	0.0074 U
Isophorone	mg/kg	2,400	0.073 U	0.072 U	0.081 U	0.071 U	0.071 U	0.074 U	0.075 U
Naphthalene	mg/kg	17	**0.31 J**	0.073 UJ	**0.46 J**	**0.28**	**0.043**	**0.0064 J**	**0.0035 J**
Nitrobenzene	mg/kg	22	0.073 U	0.072 U	0.081 U	0.071 U	0.071 U	0.074 U	0.075 U
N-Nitrosodiphenylamine	mg/kg	470	0.073 U	0.072 U	0.081 U	0.071 U	0.071 U	0.074 U	0.075 U
Phenanthrene	mg/kg		**1.9**	**0.066 J**	**2.9**	**0.54**	**0.19**	**0.014**	**0.015**
Phenol	mg/kg	250,000	**0.028 J**	0.072 U	**0.075 J**	0.071 R	0.071 U	0.074 U	0.075 U
Pyrene	mg/kg	23,000	**0.64**	**0.064 J**	**1.1**	**0.43**	**0.77 J**	**0.011**	**0.0021 J**
PCBs									
Aroclor 1248	mg/kg	0.94	N/A	0.018 U	N/A	0.018 U	N/A	0.019 U	N/A
Aroclor 1254	mg/kg	0.97	N/A	0.018 U	N/A	**0.039 J**	N/A	0.019 U	N/A
Aroclor 1260	mg/kg	0.99	N/A	**0.0095 J**	N/A	0.018 U	N/A	0.019 U	N/A
PCBs (total)	mg/kg	0.97	N/A	0.13 U	N/A	**0.039 J**	N/A	0.13 U	N/A
TPH/Oil and Grease									
Diesel Range Organics	mg/kg	6,200	**291**	**77**	**439**	**573 J**	**41.4 J**	**8.4**	**12.9**
Gasoline Range Organics	mg/kg	6,200	**9.4 J**	**5.3 J**	**13 J**	2 B	3.8 B	2.3 B	2.4 B
Oil and Grease	mg/kg	6,200	**136**	**2,430**	**117 J**	**1,610 J-**	**496 J-**	**362**	**1,190**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-040-SB-1	B2-040-SB-7	B2-041-SB-1*	B2-041-SB-5*	B2-042-SB-1	B2-042-SB-5	B2-043-SB-1
Volatile Organic Compounds									
1,2,3-Trichlorobenzene	mg/kg	930	N/A	0.0064 U	0.0046 U	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	mg/kg	110	N/A	0.0064 U	0.0046 U	N/A	N/A	N/A	N/A
1,2-Dichloroethane	mg/kg	2	N/A	0.0064 U	0.0046 U	N/A	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	**0.025 J**	0.0092 U	N/A	N/A	N/A	N/A
Acetone	mg/kg	670,000	N/A	**0.14 J**	0.0092 U	N/A	N/A	N/A	N/A
Benzene	mg/kg	5.1	N/A	0.0064 U	0.0046 U	N/A	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	N/A	0.0064 U	0.0046 U	N/A	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	N/A	0.013 UJ	0.0092 U	N/A	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	N/A	0.0064 U	0.0046 U	N/A	N/A	N/A	N/A
Isopropylbenzene	mg/kg	9,900	N/A	0.0064 U	0.0046 U	N/A	N/A	N/A	N/A
Toluene	mg/kg	47,000	N/A	0.0064 U	0.0046 U	N/A	N/A	N/A	N/A
Xylenes	mg/kg	2,800	N/A	0.019 U	0.014 U	N/A	N/A	N/A	N/A
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	mg/kg	200	0.081 U	0.1 U	0.069 U	**0.021 J**	0.073 U	0.071 U	0.072 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.081 U	0.1 U	0.069 U	0.078 U	0.073 U	0.071 U	0.072 U
2,4-Dimethylphenol	mg/kg	16,000	0.081 U	0.1 U	0.069 U	0.078 U	0.073 R	0.071 R	0.072 R
2,4-Dinitrotoluene	mg/kg	7.4	0.081 U	0.1 U	0.069 U	0.078 U	0.073 U	0.071 U	0.072 U
2-Chloronaphthalene	mg/kg	60,000	0.081 U	0.1 U	0.069 U	0.078 U	0.073 U	0.071 U	0.072 U
2-Methylnaphthalene	mg/kg	3,000	**0.0023 J**	**0.038**	**0.03 J**	**0.21**	**0.00098 J**	**0.056 J**	**0.0038 J**
2-Methylphenol	mg/kg	41,000	0.081 U	0.1 U	0.069 U	0.078 U	0.073 R	0.071 R	0.072 R
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.16 U	0.2 U	0.14 U	0.16 U	0.14 R	0.14 R	0.14 R
3,3'-Dichlorobenzidine	mg/kg	5.1	0.081 U	0.1 U	0.069 U	0.078 U	0.073 U	0.071 U	0.072 U
4-Chloroaniline	mg/kg	11	0.081 U	0.1 U	0.069 U	0.078 U	0.073 U	0.071 U	0.072 U
Acenaphthene	mg/kg	45,000	0.0081 U	**0.0067 J**	**0.0051 J**	**0.0048 J**	**0.00057 J**	**0.019 J**	0.0072 U
Acenaphthylene	mg/kg	45,000	**0.0027 J**	**0.013**	**0.031 J**	**0.015**	0.0074 U	**0.02 J**	**0.00063 J**
Acetophenone	mg/kg	120,000	0.081 U	0.1 U	0.069 U	**0.024 J**	0.073 U	0.071 U	0.072 U
Anthracene	mg/kg	230,000	**0.0017 J**	**0.02**	**0.043 J**	**0.027**	**0.0007 J**	**0.038 J**	**0.0023 J**
Benz[a]anthracene	mg/kg	21	**0.014**	**0.058**	**0.11**	**0.07**	**0.0052 J**	**0.085**	**0.0054 J**
Benzaldehyde	mg/kg	120,000	0.081 U	**0.076 J**	0.069 U	0.078 U	0.073 U	0.071 U	0.072 U
Benzo[a]pyrene	mg/kg	2.1	**0.01**	**0.053**	**0.12**	**0.062**	**0.003 J**	**0.075**	**0.0055 J**
Benzo[b]fluoranthene	mg/kg	21	**0.019**	**0.093**	**0.26**	**0.15**	**0.0059 J**	**0.11**	**0.0089**
Benzo[g,h,i]perylene	mg/kg		**0.0058 J**	**0.046**	**0.17**	**0.047**	**0.0026 J**	**0.076**	**0.003 J**
Benzo[k]fluoranthene	mg/kg	210	**0.016**	**0.03**	**0.12**	**0.11**	**0.0022 J**	**0.066 J**	**0.0045 J**
bis(2-Chloroethyl)ether	mg/kg	1	0.081 U	0.1 U	0.069 U	0.078 U	0.073 U	0.071 U	0.072 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.081 U	0.1 U	**0.026 J**	0.078 U	0.073 U	**0.028 J**	0.072 U
Caprolactam	mg/kg	400,000	0.2 U	0.25 U	0.17 U	**0.05 J**	0.18 U	0.18 U	**0.067 J**
Carbazole	mg/kg		0.081 U	**0.048 J**	0.069 U	0.078 U	0.073 U	0.071 U	0.072 U
Chrysene	mg/kg	2,100	**0.011**	**0.069**	**0.13**	**0.12**	**0.0039 J**	**0.077**	**0.0073**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.0018 J**	**0.013**	**0.027 J**	**0.014**	0.0074 U	**0.031 J**	0.0072 U
Diethylphthalate	mg/kg	660,000	0.043 B	0.053 B	0.046 B	0.054 B	0.073 U	0.02 B	0.072 U
Di-n-butylphthalate	mg/kg	82,000	0.088 B	0.081 B	0.069 U	0.078 U	0.069 B	0.13 B	0.018 B
Di-n-ocytlphthalate	mg/kg	8,200	0.081 U	0.1 U	0.069 U	0.078 U	0.073 U	0.071 U	0.072 U
Fluoranthene	mg/kg	30,000	**0.018**	**0.12**	**0.19**	**0.1**	**0.0067 J**	**0.11**	**0.0084**
Fluorene	mg/kg	30,000	0.0081 U	**0.012**	0.069 U	**0.012**	0.0074 U	**0.018 J**	**0.0011 J**
Hexachloroethane	mg/kg	8	0.081 U	0.1 U	0.069 U	0.078 U	0.073 U	0.071 U	0.072 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.0053 J**	**0.041**	**0.14**	**0.037**	**0.0023 J**	**0.06 J**	**0.0026 J**
Isophorone	mg/kg	2,400	0.081 U	0.1 U	0.069 U	0.078 U	0.073 U	0.071 U	0.072 U
Naphthalene	mg/kg	17	**0.0071 J**	**0.31**	0.069 U	**0.15**	0.0074 U	**0.078**	0.0072 U
Nitrobenzene	mg/kg	22	0.081 U	0.1 U	0.069 U	0.078 U	0.073 U	0.071 U	0.072 U
N-Nitrosodiphenylamine	mg/kg	470	0.081 U	0.1 U	0.069 U	0.078 U	0.073 U	0.071 U	0.072 U
Phenanthrene	mg/kg		**0.0077 J**	**0.082**	**0.096**	**0.25**	**0.0045 J**	**0.097**	**0.0079**
Phenol	mg/kg	250,000	0.081 U	0.1 U	0.069 U	0.078 U	0.073 R	0.071 R	0.072 R
Pyrene	mg/kg	23,000	**0.015**	**0.085**	**0.18**	**0.096**	**0.0058 J**	**0.1**	**0.011**
PCBs									
Aroclor 1248	mg/kg	0.94	0.02 U	N/A	0.017 U	N/A	0.018 U	N/A	0.018 U
Aroclor 1254	mg/kg	0.97	0.02 U	N/A	0.017 U	N/A	0.018 U	N/A	0.018 U
Aroclor 1260	mg/kg	0.99	0.02 U	N/A	0.017 U	N/A	0.018 U	N/A	0.018 U
PCBs (total)	mg/kg	0.97	0.14 U	N/A	0.12 U	N/A	0.13 U	N/A	0.12 U
TPH/Oil and Grease									
Diesel Range Organics	mg/kg	6,200	4 B	**85 J**	**46**	**71.1**	**10.6 J**	**47.2 J**	**69.8 J**
Gasoline Range Organics	mg/kg	6,200	7.9 B	15.1 U	**5.8 J**	**20.5**	4 B	3 B	2 B
Oil and Grease	mg/kg	6,200	**365 J-**	**592 J-**	**289**	**202**	**77.7 J-**	**288 J-**	**96.8 J-**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-043-SB-4	B2-044-SB-1*	B2-044-SB-7*	B2-045-SB-1*	B2-045-SB-5*	B2-046-SB-1*	B2-046-SB-4*
Volatile Organic Compounds									
1,2,3-Trichlorobenzene	mg/kg	930	0.0047 U	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	mg/kg	110	0.0047 U	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethane	mg/kg	2	0.0047 U	N/A	N/A	N/A	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	0.0095 U	N/A	N/A	N/A	N/A	N/A	N/A
Acetone	mg/kg	670,000	**0.076 J**	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	mg/kg	5.1	0.0047 U	N/A	N/A	N/A	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	0.0047 U	N/A	N/A	N/A	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	0.0095 U	N/A	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	0.0047 U	N/A	N/A	N/A	N/A	N/A	N/A
Isopropylbenzene	mg/kg	9,900	0.0047 U	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	mg/kg	47,000	0.0047 U	N/A	N/A	N/A	N/A	N/A	N/A
Xylenes	mg/kg	2,800	0.014 U	N/A	N/A	N/A	N/A	N/A	N/A
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	mg/kg	200	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	**0.38**	0.082 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	0.077 U	0.082 U
2,4-Dimethylphenol	mg/kg	16,000	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	**0.028 J**	0.082 U
2,4-Dinitrotoluene	mg/kg	7.4	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	0.077 U	0.082 U
2-Chloronaphthalene	mg/kg	60,000	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	0.077 U	0.082 U
2-Methylnaphthalene	mg/kg	3,000	0.0082 U	**0.031 J**	**0.024**	**0.046 J**	0.0084 U	**0.5**	**0.0014 J**
2-Methylphenol	mg/kg	41,000	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	**0.029 J**	0.082 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.16 U	0.16 U	0.15 U	0.16 U	0.16 U	**0.12 J**	0.16 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	0.077 U	0.082 U
4-Chloroaniline	mg/kg	11	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	0.077 U	0.082 U
Acenaphthene	mg/kg	45,000	0.0082 U	**0.13**	**0.14**	**0.077 J**	0.0084 U	**0.075 J**	0.0084 U
Acenaphthylene	mg/kg	45,000	0.0082 U	**0.067 J**	**0.0044 J**	**0.027 J**	0.0084 U	**3.2**	**0.0028 J**
Acetophenone	mg/kg	120,000	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	**0.021 J**	0.082 U
Anthracene	mg/kg	230,000	0.0082 U	**0.13**	**0.028**	**0.28**	0.00083 B	**2.2**	0.001 B
Benz[a]anthracene	mg/kg	21	**0.00098 J**	**0.69**	**0.22**	**1.8**	**0.0044 J**	**9.4**	**0.0053 J**
Benzaldehyde	mg/kg	120,000	0.079 U	**0.021 J**	0.073 U	**0.026 J**	0.083 U	**0.049 J**	0.082 U
Benzo[a]pyrene	mg/kg	2.1	0.0082 U	**0.86**	**0.51**	**1.7**	**0.0041 J**	**10.5**	**0.0049 J**
Benzo[b]fluoranthene	mg/kg	21	0.0082 U	**1.2**	**0.65**	**2.6**	**0.0065 J**	**6.7**	**0.011**
Benzo[g,h,i]perylene	mg/kg		0.0082 U	**0.67**	**0.52**	**0.95**	**0.004 J**	**5.7**	**0.022**
Benzo[k]fluoranthene	mg/kg	210	0.0082 U	**0.41**	**0.21**	**0.99**	**0.002 J**	**6**	**0.009**
bis(2-Chloroethyl)ether	mg/kg	1	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	0.077 U	0.082 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.079 U	**0.024 J**	0.073 U	**0.056 J**	**0.02 J**	**0.049 J**	0.082 U
Caprolactam	mg/kg	400,000	0.2 U	0.2 U	0.18 U	0.2 U	0.21 U	**0.065 J**	0.2 U
Carbazole	mg/kg		0.079 U	0.079 U	**0.018 J**	0.082 U	0.083 U	0.077 U	0.082 U
Chrysene	mg/kg	2,100	0.0082 U	**0.64**	**0.22**	**1.8**	**0.004 J**	**9.4**	**0.0037 J**
Dibenz[a,h]anthracene	mg/kg	2.1	0.0082 U	**0.18**	**0.15**	**0.25**	0.0084 U	**2**	**0.003 J**
Diethylphthalate	mg/kg	660,000	0.079 U	**0.02 J**	**0.016 J**	0.082 U	0.083 U	0.077 U	0.082 U
Di-n-butylphthalate	mg/kg	82,000	0.069 B	0.049 B	0.038 B	0.032 B	**0.23**	**0.18**	0.082 U
Di-n-ocytlphthalate	mg/kg	8,200	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	0.077 U	0.082 U
Fluoranthene	mg/kg	30,000	0.0082 U	**1.2**	**0.25**	**3.5**	0.0076 B	**17.6**	0.0052 B
Fluorene	mg/kg	30,000	0.0082 U	**0.032 J**	**0.012**	**0.075 J**	0.0084 U	**0.71**	0.0084 U
Hexachloroethane	mg/kg	8	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	0.077 U	0.082 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.0082 U	**0.6**	**0.48**	**0.92**	**0.0031 J**	**6.4**	**0.016**
Isophorone	mg/kg	2,400	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	0.077 U	0.082 U
Naphthalene	mg/kg	17	0.0082 U	**0.044 J**	**0.039**	**0.064 J**	0.0084 U	**1.2**	0.0084 U
Nitrobenzene	mg/kg	22	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	0.077 U	0.082 U
N-Nitrosodiphenylamine	mg/kg	470	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	**0.1**	0.082 U
Phenanthrene	mg/kg		0.0082 U	**0.43**	**0.12**	**1.4**	0.0032 B	**6.7**	0.0021 B
Phenol	mg/kg	250,000	0.079 U	0.079 U	0.073 U	0.082 U	0.083 U	**0.11**	0.082 U
Pyrene	mg/kg	23,000	0.0082 U	**0.99**	**0.22**	**2.9**	0.0062 B	**11.5**	0.004 B
PCBs									
Aroclor 1248	mg/kg	0.94	N/A	0.02 U	N/A	0.021 U	N/A	0.19 U	N/A
Aroclor 1254	mg/kg	0.97	N/A	0.02 U	N/A	0.021 U	N/A	0.19 U	N/A
Aroclor 1260	mg/kg	0.99	N/A	0.02 U	N/A	0.021 U	N/A	0.19 U	N/A
PCBs (total)	mg/kg	0.97	N/A	0.14 U	N/A	0.15 U	N/A	1.3 U	N/A
TPH/Oil and Grease									
Diesel Range Organics	mg/kg	6,200	5.9 B	**27.1**	**28.1**	**238**	6.2 B	**474**	6.5 B
Gasoline Range Organics	mg/kg	6,200	2.7 B	4.5 B	2.5 B	4.5 B	10.5 U	3.6 B	2.5 B
Oil and Grease	mg/kg	6,200	**125 J-**	**536**	**365**	**688**	**446**	**3,030**	**398**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-047-SB-1	B2-047-SB-4	B2-048-SB-1	B2-048-SB-8	B2-049-SB-1	B2-049-SB-4	B2-050-SB-1
Volatile Organic Compounds									
1,2,3-Trichlorobenzene	mg/kg	930	N/A	0.0047 U	N/A	N/A	0.0051 U	0.0044 U	N/A
1,2,4-Trichlorobenzene	mg/kg	110	N/A	0.0047 U	N/A	N/A	0.0051 U	0.0044 U	N/A
1,2-Dichloroethane	mg/kg	2	N/A	0.0047 U	N/A	N/A	0.0051 U	0.0044 U	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	0.0094 U	N/A	N/A	0.01 U	0.0088 U	N/A
Acetone	mg/kg	670,000	N/A	**0.055 J**	N/A	N/A	**0.022**	**0.0074 J**	N/A
Benzene	mg/kg	5.1	N/A	0.0047 U	N/A	N/A	0.0051 U	0.0044 U	N/A
Carbon disulfide	mg/kg	3,500	N/A	**0.0046 J**	N/A	N/A	0.0051 UJ	0.0044 UJ	N/A
Cyclohexane	mg/kg	27,000	N/A	0.0094 U	N/A	N/A	0.01 U	0.0088 U	N/A
Ethylbenzene	mg/kg	25	N/A	0.0047 U	N/A	N/A	0.0051 U	0.0044 U	N/A
Isopropylbenzene	mg/kg	9,900	N/A	0.0047 U	N/A	N/A	0.0051 U	0.0044 U	N/A
Toluene	mg/kg	47,000	N/A	0.0047 U	N/A	N/A	0.0051 U	0.0044 U	N/A
Xylenes	mg/kg	2,800	N/A	0.014 U	N/A	N/A	0.015 U	0.013 U	N/A
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	mg/kg	200	**0.067 J**	0.08 U	0.074 U	0.082 U	0.071 U	0.071 U	0.072 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.079 U	0.08 U	0.074 U	0.082 U	0.071 U	0.071 U	0.072 U
2,4-Dimethylphenol	mg/kg	16,000	0.079 U	0.08 U	0.074 R	0.082 U	0.071 R	0.071 R	0.072 U
2,4-Dinitrotoluene	mg/kg	7.4	0.079 U	0.08 U	0.074 U	0.082 U	0.071 U	0.071 U	0.072 U
2-Chloronaphthalene	mg/kg	60,000	0.079 U	0.08 U	0.074 U	0.082 U	0.071 U	0.071 U	0.072 U
2-Methylnaphthalene	mg/kg	3,000	**0.8**	**0.0042 J**	**0.15**	**0.0019 J**	**0.01**	**0.012**	**0.14**
2-Methylphenol	mg/kg	41,000	**0.023 J**	0.08 U	0.074 R	0.082 U	0.071 R	0.071 R	0.072 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	**0.045 J**	0.16 U	0.15 R	0.16 U	0.14 R	0.14 R	0.14 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.079 U	0.08 U	0.074 UJ	0.082 U	0.071 U	0.071 U	0.072 UJ
4-Chloroaniline	mg/kg	11	0.079 U	0.08 U	0.074 U	0.082 U	0.071 U	0.071 U	0.072 U
Acenaphthene	mg/kg	45,000	**0.032 J**	0.008 U	**0.0058 J**	0.0083 U	0.0072 U	0.0072 U	**0.024 J**
Acenaphthylene	mg/kg	45,000	**0.34**	0.008 U	**0.0054 J**	**0.0011 J**	0.0072 U	0.0072 U	**0.86**
Acetophenone	mg/kg	120,000	**0.032 J**	0.08 U	0.074 U	0.082 U	0.071 U	0.071 U	0.072 U
Anthracene	mg/kg	230,000	**0.45**	**0.00046 J**	**0.016 J**	**0.0018 J**	**0.0009 J**	0.0072 U	**0.4**
Benz[a]anthracene	mg/kg	21	**0.87**	0.008 U	**0.072 J**	**0.008 J**	**0.0039 J**	**0.0016 J**	**3.9**
Benzaldehyde	mg/kg	120,000	**0.21 J**	0.08 U	**0.04 J**	0.082 U	0.071 R	0.071 R	0.072 R
Benzo[a]pyrene	mg/kg	2.1	**1.1**	0.008 U	**0.044 J**	**0.0071 J**	**0.0022 J**	**0.0013 J**	**4.4 J**
Benzo[b]fluoranthene	mg/kg	21	**3.1**	0.008 U	**0.13**	**0.018**	**0.012**	**0.0038 J**	**11.3 J**
Benzo[g,h,i]perylene	mg/kg		**0.56**	0.008 U	**0.062 J**	**0.0024 J**	**0.0081**	**0.0015 J**	**1.9 J**
Benzo[k]fluoranthene	mg/kg	210	**2.7**	0.008 U	**0.12**	**0.016**	**0.008**	**0.0015 J**	**7.7 J**
bis(2-Chloroethyl)ether	mg/kg	1	0.079 U	0.08 U	0.074 U	0.082 U	0.071 U	0.071 U	0.072 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.079 U	0.08 U	0.074 UJ	0.082 U	0.071 U	0.071 U	0.072 UJ
Caprolactam	mg/kg	400,000	0.2 U	0.2 U	0.19 U	0.2 U	0.18 U	0.18 U	0.18 U
Carbazole	mg/kg		**0.11**	0.08 U	0.074 U	0.082 U	0.071 U	0.071 U	**0.032 J**
Chrysene	mg/kg	2,100	**1.3**	0.008 U	**0.16**	**0.011**	**0.011**	**0.004 J**	**2.8**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.24**	0.008 U	0.074 U	0.0083 U	0.0072 U	0.0072 U	**0.69 J**
Diethylphthalate	mg/kg	660,000	0.079 U	0.08 U	0.074 U	0.082 U	0.071 U	0.071 U	0.072 U
Di-n-butylphthalate	mg/kg	82,000	0.043 B	0.071 B	0.041 B	0.037 B	0.071 U	0.071 U	0.072 U
Di-n-ocytlphthalate	mg/kg	8,200	**0.049 J**	0.08 U	**0.16 J**	0.082 U	0.071 U	0.071 U	0.072 UJ
Fluoranthene	mg/kg	30,000	**0.98**	0.008 U	**0.12**	**0.013**	**0.01**	**0.0098**	**3.7**
Fluorene	mg/kg	30,000	**0.061 J**	0.008 U	**0.0077 J**	0.0083 U	0.0072 U	0.0072 U	**0.043 J**
Hexachloroethane	mg/kg	8	0.079 U	0.08 U	0.074 U	0.082 U	0.071 U	0.071 U	0.072 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.57**	0.008 U	**0.018 J**	**0.0025 J**	**0.0028 J**	0.0072 U	**1.8 J**
Isophorone	mg/kg	2,400	0.079 U	0.08 U	0.074 U	0.082 U	0.071 U	0.071 U	0.072 U
Naphthalene	mg/kg	17	**0.59**	0.008 U	**0.092**	0.0083 U	0.0072 UJ	**0.0037 J**	**0.07 J**
Nitrobenzene	mg/kg	22	0.079 U	0.08 U	0.074 U	0.082 U	0.071 U	0.071 U	0.072 U
N-Nitrosodiphenylamine	mg/kg	470	**0.069 J**	0.08 U	0.074 U	0.082 U	0.071 U	0.071 U	0.072 U
Phenanthrene	mg/kg		**1.3**	**0.0007 J**	**0.092**	**0.0046 J**	**0.0062 J**	**0.01**	**0.48**
Phenol	mg/kg	250,000	**0.029 J**	0.08 U	0.074 R	0.082 U	0.071 R	0.071 R	0.072 U
Pyrene	mg/kg	23,000	**1.1**	0.008 U	**0.18**	**0.011**	**0.0093**	**0.0076**	**3.9**
PCBs									
Aroclor 1248	mg/kg	0.94	0.02 U	N/A	0.019 U	N/A	0.018 U	N/A	0.018 U
Aroclor 1254	mg/kg	0.97	0.02 U	N/A	0.019 U	N/A	0.018 U	N/A	0.018 U
Aroclor 1260	mg/kg	0.99	0.02 U	N/A	**0.056**	N/A	0.018 U	N/A	0.018 U
PCBs (total)	mg/kg	0.97	0.14 U	N/A	**0.056 J**	N/A	0.13 U	N/A	0.13 U
TPH/Oil and Grease									
Diesel Range Organics	mg/kg	6,200	**135 J**	**9.4 J**	**446 J**	**9.6 J**	**30.4**	**17.4**	**342**
Gasoline Range Organics	mg/kg	6,200	3.7 B	2.4 B	2.7 B	2.3 B	**3.1 J**	**3 J**	**5.2 J**
Oil and Grease	mg/kg	6,200	**343 J-**	**90.9 J-**	**2,240 J-**	**393 J-**	**182**	**64.9 J**	**5,040**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-050-SB-5	B2-051-SB-1	B2-051-SB-5	B2-052-SB-1	B2-052-SB-5	B2-053-SB-1
Volatile Organic Compounds								
1,2,3-Trichlorobenzene	mg/kg	930	N/A	N/A	N/A	N/A	N/A	0.0063 U
1,2,4-Trichlorobenzene	mg/kg	110	N/A	N/A	N/A	N/A	N/A	0.0063 U
1,2-Dichloroethane	mg/kg	2	N/A	N/A	N/A	N/A	N/A	0.0063 U
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	N/A	N/A	0.013 U
Acetone	mg/kg	670,000	N/A	N/A	N/A	N/A	N/A	0.013 U
Benzene	mg/kg	5.1	N/A	N/A	N/A	N/A	N/A	0.0063 U
Carbon disulfide	mg/kg	3,500	N/A	N/A	N/A	N/A	N/A	0.0063 UJ
Cyclohexane	mg/kg	27,000	N/A	N/A	N/A	N/A	N/A	0.013 U
Ethylbenzene	mg/kg	25	N/A	N/A	N/A	N/A	N/A	0.0063 U
Isopropylbenzene	mg/kg	9,900	N/A	N/A	N/A	N/A	N/A	0.0063 U
Toluene	mg/kg	47,000	N/A	N/A	N/A	N/A	N/A	0.0063 U
Xylenes	mg/kg	2,800	N/A	N/A	N/A	N/A	N/A	0.019 U
Semi-Volatile Organic Compounds^								
1,1-Biphenyl	mg/kg	200	0.073 U	**0.021 J**	0.07 U	0.074 U	0.078 U	**0.018 J**
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.073 U	0.071 U	0.07 U	0.074 U	0.078 U	0.076 U
2,4-Dimethylphenol	mg/kg	16,000	0.073 U	0.071 R	0.07 R	0.074 U	0.078 U	0.076 U
2,4-Dinitrotoluene	mg/kg	7.4	0.073 U	0.071 U	0.07 U	0.074 U	0.078 U	0.076 U
2-Chloronaphthalene	mg/kg	60,000	0.073 U	0.071 U	0.07 U	0.074 U	0.078 U	0.076 U
2-Methylnaphthalene	mg/kg	3,000	**0.047**	**0.12**	**0.11**	**0.098**	**0.0041 J**	**0.28**
2-Methylphenol	mg/kg	41,000	0.073 U	0.071 R	0.07 R	0.074 U	0.078 U	0.076 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.14 R	0.14 R	0.15 U	0.16 U	0.15 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.073 UJ	0.071 U	0.07 U	0.074 U	0.078 U	0.076 U
4-Chloroaniline	mg/kg	11	0.073 U	0.071 U	0.07 U	0.074 U	0.078 U	0.076 U
Acenaphthene	mg/kg	45,000	**0.002 J**	0.071 U	**0.0083 J**	**0.059 J**	**0.035**	**0.0092 J**
Acenaphthylene	mg/kg	45,000	**0.026**	0.071 U	**0.073**	**0.17**	**0.0023 J**	**0.032 J**
Acetophenone	mg/kg	120,000	0.073 U	0.071 U	0.07 U	0.074 U	0.078 U	**0.022 J**
Anthracene	mg/kg	230,000	**0.035**	0.071 U	**0.1**	**0.28**	**0.094**	**0.082**
Benz[a]anthracene	mg/kg	21	**0.2**	**0.04 J**	**0.49**	**0.78**	**0.15**	**0.44**
Benzaldehyde	mg/kg	120,000	0.073 R	0.071 R	0.07 R	**0.018 J**	0.078 U	**0.054 J**
Benzo[a]pyrene	mg/kg	2.1	**0.15**	**0.016 J**	**0.37**	**0.75**	**0.13**	**0.42**
Benzo[b]fluoranthene	mg/kg	21	**0.35 J**	**0.063 J**	**0.92**	**1.9**	**0.23**	**0.97**
Benzo[g,h,i]perylene	mg/kg		**0.06**	**0.047 J**	**0.11**	**0.38**	**0.044**	**0.21**
Benzo[k]fluoranthene	mg/kg	210	**0.24 J**	**0.043 J**	**0.63**	**1.7**	**0.21**	**0.77**
bis(2-Chloroethyl)ether	mg/kg	1	0.073 U	0.071 U	0.07 U	0.074 U	0.078 U	0.076 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.073 UJ	0.071 U	0.07 U	**0.081**	0.016 B	0.076 U
Caprolactam	mg/kg	400,000	0.18 U	0.18 U	0.18 U	0.18 U	0.2 U	0.19 U
Carbazole	mg/kg		0.073 U	0.071 U	**0.032 J**	**0.071 J**	0.078 U	**0.037 J**
Chrysene	mg/kg	2,100	**0.14**	**0.12**	**0.32**	**0.85**	**0.14**	**0.46**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.027**	0.071 U	**0.035 J**	**0.13**	**0.015**	**0.064 J**
Diethylphthalate	mg/kg	660,000	0.073 U	0.071 U	0.07 U	0.074 U	0.078 U	0.076 U
Di-n-butylphthalate	mg/kg	82,000	0.073 U	0.071 U	0.07 U	**0.077**	**0.081**	0.076 U
Di-n-ocytlphthalate	mg/kg	8,200	0.073 UJ	0.071 UJ	0.07 U	0.074 UJ	0.078 U	0.076 UJ
Fluoranthene	mg/kg	30,000	**0.31**	**0.12**	**0.74**	**1.1**	**0.38**	**0.63**
Fluorene	mg/kg	30,000	**0.0033 J**	0.071 U	**0.0063 J**	**0.031 J**	**0.026**	**0.011 J**
Hexachloroethane	mg/kg	8	0.073 U	0.071 U	0.07 U	0.074 U	0.078 U	0.076 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.066**	0.071 U	**0.12**	**0.37**	**0.046**	**0.21**
Isophorone	mg/kg	2,400	0.073 U	0.071 U	0.07 U	0.074 U	0.078 U	0.076 U
Naphthalene	mg/kg	17	**0.037 J**	0.071 UJ	0.071 UJ	0.07 B	0.0048 B	**0.22 J**
Nitrobenzene	mg/kg	22	0.073 U	0.071 U	0.07 U	0.074 U	0.078 U	0.076 U
N-Nitrosodiphenylamine	mg/kg	470	0.073 U	0.071 U	0.07 U	0.074 U	0.078 U	0.076 U
Phenanthrene	mg/kg		**0.23**	**0.33**	**0.29**	**0.32**	**0.29**	**0.5 J**
Phenol	mg/kg	250,000	0.073 U	0.071 R	0.07 R	0.074 U	0.078 U	0.076 U
Pyrene	mg/kg	23,000	**0.24**	**0.16**	**0.61**	**1.1**	**0.32**	**0.58**
PCBs								
Aroclor 1248	mg/kg	0.94	N/A	0.018 U	N/A	0.018 U	N/A	0.019 U
Aroclor 1254	mg/kg	0.97	N/A	0.018 U	N/A	0.018 U	N/A	0.019 U
Aroclor 1260	mg/kg	0.99	N/A	0.018 U	N/A	**0.14 J**	N/A	0.019 U
PCBs (total)	mg/kg	0.97	N/A	0.13 U	N/A	**0.14**	N/A	0.13 U
TPH/Oil and Grease								
Diesel Range Organics	mg/kg	6,200	**62.3 J**	**235**	**29.3**	**86.8 J**	6.8 B	**136 J**
Gasoline Range Organics	mg/kg	6,200	**5 J**	**3 J**	**2.8 J**	2.4 B	2.5 B	**8.4 J**
Oil and Grease	mg/kg	6,200	**139**	**1,430**	**267**	**342 J-**	**437 J-**	**538**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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

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

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

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Table 5
Summary of Organics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-053-SB-5.5	B2-054-SB-1	B2-054-SB-5	B2-055-SB-1	B2-055-SB-6.5
Volatile Organic Compounds							
1,2,3-Trichlorobenzene	mg/kg	930	0.25 U	0.0073 U	0.0046 U	0.0067 U	0.27 U
1,2,4-Trichlorobenzene	mg/kg	110	0.25 U	0.0073 U	0.0046 U	0.0067 U	0.27 U
1,2-Dichloroethane	mg/kg	2	0.25 U	**0.0017 J**	0.0046 U	0.0067 U	0.27 U
2-Butanone (MEK)	mg/kg	190,000	0.5 U	0.015 U	0.0092 U	0.013 U	0.54 U
Acetone	mg/kg	670,000	0.5 U	0.015 U	**0.024 J**	0.013 U	**14.6 J**
Benzene	mg/kg	5.1	0.25 U	0.0073 U	0.0046 U	0.0067 U	**0.16 J**
Carbon disulfide	mg/kg	3,500	0.25 UJ	0.0073 UJ	0.0046 UJ	**0.0033 J**	0.27 UJ
Cyclohexane	mg/kg	27,000	**19**	0.015 U	0.0092 U	0.013 U	**26.9 J**
Ethylbenzene	mg/kg	25	**1.8**	0.0073 U	0.0046 U	0.0067 U	**0.39**
Isopropylbenzene	mg/kg	9,900	**2.7**	0.0073 U	0.0046 U	0.0067 U	**5.2 J**
Toluene	mg/kg	47,000	**0.19 J**	0.0073 U	0.0046 U	0.0067 U	0.27 U
Xylenes	mg/kg	2,800	**1.4**	0.022 U	0.014 U	0.02 U	**0.44 J**
Semi-Volatile Organic Compounds^							
1,1-Biphenyl	mg/kg	200	0.079 U	0.4 U	0.082 U	1.4 U	0.39 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.079 U	0.4 U	0.082 U	1.4 U	0.39 U
2,4-Dimethylphenol	mg/kg	16,000	**0.057 J**	0.4 U	0.082 U	1.4 U	**0.14 J**
2,4-Dinitrotoluene	mg/kg	7.4	0.079 U	0.4 U	0.082 U	1.4 U	0.39 U
2-Chloronaphthalene	mg/kg	60,000	0.079 U	0.4 U	0.082 U	1.4 U	0.39 U
2-Methylnaphthalene	mg/kg	3,000	**0.7**	**0.052 J**	0.0082 U	**0.042 J**	**1.8**
2-Methylphenol	mg/kg	41,000	0.079 U	0.4 U	0.082 U	1.4 U	0.39 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.16 U	0.79 U	0.16 U	2.8 U	0.77 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.079 U	0.4 U	0.082 U	1.4 U	0.39 U
4-Chloroaniline	mg/kg	11	0.079 U	0.4 U	0.082 U	1.4 U	**0.12 J**
Acenaphthene	mg/kg	45,000	**0.0024 J**	**0.043 J**	0.0082 UJ	**0.0079 J**	**0.077 J**
Acenaphthylene	mg/kg	45,000	**0.0013 J**	**0.069 J**	0.0082 UJ	**0.59 J**	**0.032 J**
Acetophenone	mg/kg	120,000	**1.2**	0.4 U	0.082 U	1.4 U	0.39 U
Anthracene	mg/kg	230,000	**0.0031 J**	**0.22**	0.0082 U	**0.21**	**0.19**
Benz[a]anthracene	mg/kg	21	**0.013**	**1.1**	0.0082 U	**1.6**	**0.29**
Benzaldehyde	mg/kg	120,000	0.079 U	0.4 U	0.082 U	1.4 U	**0.28 J**
Benzo[a]pyrene	mg/kg	2.1	**0.012**	**1.1**	0.0082 U	**2.8**	**0.24**
Benzo[b]fluoranthene	mg/kg	21	**0.027**	**2.4**	0.0082 U	**5.5**	**0.53**
Benzo[g,h,i]perylene	mg/kg		**0.0054 J**	**0.56**	0.0082 U	**1.6**	**0.095**
Benzo[k]fluoranthene	mg/kg	210	**0.021**	**1.9**	0.0082 U	**4.4**	**0.42**
bis(2-Chloroethyl)ether	mg/kg	1	**0.087**	0.4 U	0.082 U	1.4 U	0.39 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.079 U	0.4 U	0.082 U	1.4 U	0.39 U
Caprolactam	mg/kg	400,000	0.2 U	1 U	0.2 U	3.5 U	0.97 U
Carbazole	mg/kg		0.079 U	**0.17 J**	0.082 U	1.4 U	0.39 U
Chrysene	mg/kg	2,100	**0.013**	**1**	0.0082 U	**1.6**	**0.23**
Dibenz[a,h]anthracene	mg/kg	2.1	0.0081 U	**0.18**	0.0082 U	**0.44**	**0.03 J**
Diethylphthalate	mg/kg	660,000	0.079 U	0.4 U	0.082 U	1.4 U	0.39 U
Di-n-butylphthalate	mg/kg	82,000	0.079 U	0.4 U	0.082 U	1.4 U	0.39 U
Di-n-ocytlphthalate	mg/kg	8,200	0.079 UJ	0.4 UJ	0.082 UJ	1.4 U	0.39 UJ
Fluoranthene	mg/kg	30,000	**0.02**	**2**	**0.0015 J**	**2**	**0.72**
Fluorene	mg/kg	30,000	**0.0033 J**	**0.033 J**	0.0082 UJ	**0.016 J**	**0.13 J**
Hexachloroethane	mg/kg	8	0.079 U	0.4 U	0.082 U	1.4 U	**3.7**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.0053 J**	**0.54**	0.0082 U	**1.6**	**0.1**
Isophorone	mg/kg	2,400	**0.071 J**	0.4 U	0.082 U	1.4 U	**0.19 J**
Naphthalene	mg/kg	17	**0.076 J**	**0.098 J**	0.0082 UJ	**0.13 J**	**0.16 J**
Nitrobenzene	mg/kg	22	0.079 U	0.4 U	0.082 U	1.4 U	**0.3 J**
N-Nitrosodiphenylamine	mg/kg	470	0.079 U	0.4 U	0.082 U	1.4 U	0.39 U
Phenanthrene	mg/kg		**0.017 J**	**0.76 J**	0.0082 UJ	**0.24 J**	**0.58 J**
Phenol	mg/kg	250,000	0.079 U	0.4 U	0.082 U	1.4 U	0.39 U
Pyrene	mg/kg	23,000	**0.017**	**1.7**	**0.0014 J**	**2.7**	**0.62**
PCBs							
Aroclor 1248	mg/kg	0.94	N/A	0.02 U	N/A	0.018 U	N/A
Aroclor 1254	mg/kg	0.97	N/A	0.02 U	N/A	0.018 U	N/A
Aroclor 1260	mg/kg	0.99	N/A	0.02 U	N/A	0.018 U	N/A
PCBs (total)	mg/kg	0.97	N/A	0.14 U	N/A	0.12 U	N/A
TPH/Oil and Grease							
Diesel Range Organics	mg/kg	6,200	**201 J**	**55.9 J**	**15.1 J**	**121 J**	**817 J**
Gasoline Range Organics	mg/kg	6,200	**1,130**	**16**	**355**	8.6 B	**1,270**
Oil and Grease	mg/kg	6,200	**262**	**672**	**312**	**455**	**348**

Detections in bold. **Values in red indicate exceedances of the Project Action Limit (PAL)**

*Indicates non-validated data

^PAH compounds were analyzed via SIM

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

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.

B: The compound/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.

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

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

Table 6
Summary of Inorganics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-001-SB-1	B2-001-SB-5	B2-002-SB-1	B2-002-SB-4.5	B2-003-SB-1*	B2-003-SB-4.5*	B2-004-SB-1*	B2-004-SB-5*
Metals										
Aluminum	mg/kg	1,100,000	**20,900**	**23,300**	**7,880**	**12,900**	**9,600**	**11,600**	**16,000**	**4,610**
Antimony	mg/kg	470	2.9 UJ	2.5 UJ	2.6 UJ	3 UJ	2.8 U	2.3 U	2.7 U	2.3 U
Arsenic	mg/kg	3	2.4 U	**9.8**	**4.3**	**3.2**	**13.3**	**10.3**	2.2 U	**5.6**
Barium	mg/kg	220,000	**34**	**260**	**77.6 J**	**53.6 J**	**176**	**552**	**50.2**	**45.6**
Beryllium	mg/kg	2,300	0.95 U	**3.1**	**0.62 J**	**0.75 J**	**0.64 J**	**0.56 J**	**0.13 J**	**0.17 J**
Cadmium	mg/kg	980	1.4 U	**1 J**	**0.42 J**	1.5 U	**5.9**	**2.3**	**0.59 J**	1.1 U
Chromium	mg/kg	120,000	**1,390**	**95.7**	**454**	**33.7**	**306**	**642**	**1,180**	**55.6**
Chromium VI	mg/kg	6.3	**5.6 J-**	0.6 B	0.64 B	1.1 B	0.69 B	1 B	**5.2**	0.56 B
Cobalt	mg/kg	350	**0.65 J**	**9.7**	**5.5**	**5.5**	**16.4**	**14.8**	**2.3 J**	**6.3**
Copper	mg/kg	47,000	**13.9**	**125**	**42.5 J**	**16.4 J**	**160**	**131**	**36.9**	**47.4**
Iron	mg/kg	820,000	**169,000**	**141,000**	**141,000**	**24,900**	**118,000**	**179,000**	**180,000**	**51,800**
Lead	mg/kg	800	**2.5**	**124**	**69.3**	**18**	**401**	**1,920**	**106**	**68.5**
Manganese	mg/kg	26,000	**37,400**	**4,060**	**13,700 J**	**285 J**	**7,140**	**13,400**	**24,500**	**1,220**
Mercury	mg/kg	350	0.11 U	**0.049 J**	0.12 U	**0.019 J**	**0.13**	0.044 B	0.018 B	0.044 B
Nickel	mg/kg	22,000	**14.4 J**	**34.8 J**	**23.3**	**18.6**	**49.1**	**33.1**	**19.3**	**16.7**
Selenium	mg/kg	5,800	3.8 U	3.4 U	3.5 U	4 U	3.7 U	3.1 U	3.5 U	3.1 U
Silver	mg/kg	5,800	**29.1 J**	**9.3 J**	**28.3**	**1.4 J**	**15**	**21.4**	**22.8**	**3.6**
Vanadium	mg/kg	5,800	**662**	**97.9**	**1,180**	**29.9**	**720**	**3,260**	**806**	**320**
Zinc	mg/kg	350,000	**18**	**308**	**98.2**	**54.4**	**1,070**	**752**	**121**	**207**
Other										
Cyanide	mg/kg	150	**0.4 J**	**0.37 J**	**0.36 J+**	1 U	**0.54 J**	**3.2**	**0.34 J**	**0.35 J**

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

Table 6
Summary of Inorganics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-005A-SB-1	B2-005-SB-1	B2-005-SB-5	B2-006-SB-1	B2-006-SB-4	B2-007-SB-1*	B2-007-SB-5*	B2-007-SB-10*
Metals										
Aluminum	mg/kg	1,100,000	**12,800**	**14,000**	**10,400**	**18,800**	**11,100**	**43,200**	**18,900**	N/A
Antimony	mg/kg	470	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.9 UJ	2.6 U	3 U	N/A
Arsenic	mg/kg	3	**3.3 J**	**2.9**	**3**	**8.9**	**8.9**	**1.7 J**	**14.5**	**21.3**
Barium	mg/kg	220,000	**59.7**	**98.5 J**	**39.3 J**	**174**	**125**	**472**	**602**	N/A
Beryllium	mg/kg	2,300	0.35 B	**0.88**	0.84 U	**2.8**	**1.7**	**5**	**1.5**	N/A
Cadmium	mg/kg	980	1.3 U	1.2 U	**0.5 J**	**1.7**	**0.77 J**	1.3 U	**3.1**	N/A
Chromium	mg/kg	120,000	**1,460**	**970**	**1,420**	**413**	**72.8**	**216**	**74.2**	N/A
Chromium VI	mg/kg	6.3	**4 J-**	**9.8 J-**	**3.6 J-**	0.71 B	0.61 B	0.68 B	0.81 B	N/A
Cobalt	mg/kg	350	**0.79 J**	**1.7 J**	**1.6 J**	**13**	**11.3**	**2.7 J**	**20.5**	N/A
Copper	mg/kg	47,000	**21.8**	**28.2 J**	**28 J**	**92.1**	**66**	**22.9**	**167**	N/A
Iron	mg/kg	820,000	**189,000**	**150,000**	**216,000**	**156,000**	**97,500**	**61,400**	**75,400**	N/A
Lead	mg/kg	800	**7.3**	**8.5**	**6.4**	**152**	**84.5**	**4.7**	**643**	N/A
Manganese	mg/kg	26,000	**33,400**	**24,600 J**	**34,000 J**	**10,700**	**1,730**	**14,300**	**3,460**	N/A
Mercury	mg/kg	350	**0.013 J**	0.11 U	0.097 U	**0.061 J**	**0.21**	0.1 U	**0.14**	N/A
Nickel	mg/kg	22,000	**16.7 J**	**19.9**	**21.5**	**49.2 J**	**30.8 J**	**7 J**	**58.5**	N/A
Selenium	mg/kg	5,800	3.4 U	3.3 U	3.4 U	3.3 U	3.9 U	**2.6 J**	4.1 U	N/A
Silver	mg/kg	5,800	**25 J**	**24.6**	**27.5**	**18.4 J**	**6 J**	**37.6**	**9.2**	N/A
Vanadium	mg/kg	5,800	**865**	**660**	**755**	**707**	**88.2**	**220**	**111**	N/A
Zinc	mg/kg	350,000	**64.5**	**114**	**56.8**	**433**	**224**	**24.2**	**1,030**	N/A
Other										
Cyanide	mg/kg	150	**0.23 J**	**0.29 J+**	**0.14 J+**	**1 J**	**0.86 J**	**0.97**	**1.3**	N/A

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Table 6
Summary of Inorganics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-008-SB-1*	B2-008-SB-5*	B2-009-SB-1	B2-009-SB-5	B2-010-SB-1	B2-010-SB-4	B2-011-SB-1	B2-011-SB-5
Metals										
Aluminum	mg/kg	1,100,000	**13,100**	**12,800**	**10,500**	**19,800**	**16,700**	**9,540**	**9,560**	**12,000**
Antimony	mg/kg	470	2.6 U	2.6 U	2.5 UJ	3.5 UJ	2.7 UJ	2.8 UJ	2.6 UJ	2.7 UJ
Arsenic	mg/kg	3	2.1 U	**5.2**	**10**	**5.6**	**6.8**	**6.4**	**4.6**	2.3 U
Barium	mg/kg	220,000	**110**	**318**	**171**	**286**	**242 J**	**118 J**	**73**	**108**
Beryllium	mg/kg	2,300	**0.75 J**	**0.56 J**	**0.53 J**	**1.6**	0.66 B	0.59 B	**0.58 J**	**1.2**
Cadmium	mg/kg	980	**1 J**	1.3 U	**3**	**22**	**1.9**	**0.73 J**	1.3 U	1.4 U
Chromium	mg/kg	120,000	**1,060**	**67.8**	**869 J**	**56.6 J**	**1,750**	**76.3**	**55.7 J**	**541 J**
Chromium VI	mg/kg	6.3	**2.4**	0.58 B	0.78 B	1 B	0.75 B	0.46 B	**1.2 J-**	0.77 B
Cobalt	mg/kg	350	**2.4 J**	**4.1 J**	**17**	**14.5**	**9.5**	**10.5**	**5**	**2.5 J**
Copper	mg/kg	47,000	**25.3**	**14.8**	**163 J**	**237 J**	**109 J**	**132 J**	**40.2 J**	**12.6 J**
Iron	mg/kg	820,000	**185,000**	**19,300**	**180,000**	**110,000**	**157,000**	**65,200**	**31,400**	**78,100**
Lead	mg/kg	800	**25.7**	**54.1**	**347 J**	**293 J**	**140**	**2,830**	**75.1 J**	**18.5 J**
Manganese	mg/kg	26,000	**26,300**	**1,490**	**33,500**	**13,200**	**45,600 J**	**15,700 J**	**1,140**	**12,100**
Mercury	mg/kg	350	**0.021 J**	**0.048 J**	**0.2 J+**	**0.022 J+**	**0.068 J**	**0.072 J**	**0.051 J+**	**0.018 J+**
Nickel	mg/kg	22,000	**28.6**	**8.6 J**	**60.7 J**	**16.7 J**	**25.3**	**44.6**	**13.6 J**	**7.6 J**
Selenium	mg/kg	5,800	3.4 U	3.5 U	3.4 U	4.7 U	3.7 U	3.8 U	3.5 U	3.6 U
Silver	mg/kg	5,800	**21.2**	**5**	**46.4 J**	**15.1 J**	**58.8**	**15.5**	**5.1 J**	**12.7 J**
Vanadium	mg/kg	5,800	**488**	**79.1**	**1,540 J**	**75.3 J**	**2,420**	**75**	**45.7 J**	**389 J**
Zinc	mg/kg	350,000	**477**	**131**	**937**	**8,670**	**453**	**685**	**135**	**65.7**
Other										
Cyanide	mg/kg	150	**0.46 J**	**0.22 J**	**1.1 J-**	**0.86 J-**	**0.79 J-**	**0.95 J-**	**0.4 J-**	**0.65 J-**

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Table 6
Summary of Inorganics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-011-SB-8	B2-012-SB-3.5	B2-012-SB-5	B2-013-SB-1	B2-013-SB-5	B2-014-SB-1.5*	B2-014-SB-7*	B2-015-SB-1
Metals										
Aluminum	mg/kg	1,100,000	**689**	**1,750**	**1,770**	**5,790**	**3,520**	**19,300**	**9,260**	**22,300**
Antimony	mg/kg	470	2.8 UJ	2.7 UJ	2.7 UJ	2.4 UJ	2.6 UJ	2.5 U	2.9 U	2.5 UJ
Arsenic	mg/kg	3	2.3 U	2.3 U	2.2 U	2 U	2.1 U	**2.6**	**33**	**5.3**
Barium	mg/kg	220,000	**3.3 J**	**16.4**	**12.2**	**32.5**	**9**	**244**	**124**	**356**
Beryllium	mg/kg	2,300	0.93 U	0.9 U	0.9 U	**0.23 J**	0.86 U	**1.8**	**0.56 J**	**1.7**
Cadmium	mg/kg	980	1.4 U	1.4 U	1.3 U	1.2 U	1.3 U	**1.6**	**1.2 J**	**1.3**
Chromium	mg/kg	120,000	**5.4 J**	**10 J**	**3.7 J**	**50.6 J**	**27.6 J**	**401**	**373**	**521 J**
Chromium VI	mg/kg	6.3	0.69 B	0.48 B	0.51 B	0.53 B	0.52 B	0.53 B	0.55 B	0.64 B
Cobalt	mg/kg	350	**0.59 J**	**0.66 J**	**0.68 J**	**3.2 J**	**4.1 J**	**7.2**	**18.8**	**8.6**
Copper	mg/kg	47,000	**3.9 J**	**3.4 J**	4.5 U	**8.3 J**	**5.5 J**	**49.8**	**70.6**	**46 J**
Iron	mg/kg	820,000	**2,770**	**2,110**	**1,460**	**14,100**	**11,000**	**88,500**	**45,600**	**86,800**
Lead	mg/kg	800	**2.9 J**	**2.2 J**	**1.2 J**	**11.2 J**	**3.1 J**	**108**	**645**	**100 J**
Manganese	mg/kg	26,000	**55**	**231**	**16.3**	**865**	**345**	**28,600**	**3,960**	**21,000**
Mercury	mg/kg	350	0.11 U	0.1 U	0.11 U	0.097 U	0.11 U	**0.029 J**	**0.075 J**	**0.032 J+**
Nickel	mg/kg	22,000	**1.4 J**	**1.5 J**	**1.5 J**	**8.1 J**	**6.1 J**	**24.3**	**128**	**19.8 J**
Selenium	mg/kg	5,800	3.7 U	3.6 U	3.6 U	3.2 U	3.4 U	3.4 U	3.9 U	3.3 U
Silver	mg/kg	5,800	2.8 U	**1.2 J**	**1 J**	**3.3 J**	**0.96 J**	**31.2**	**6.1**	**35.6 J**
Vanadium	mg/kg	5,800	**11.4 J**	**15.5 J**	**3.8 J**	**24.9 J**	**20.3 J**	**816**	**76.3**	**915 J**
Zinc	mg/kg	350,000	**49.3**	**7.5**	**2.8 J**	**110**	**12.6**	**538**	**410**	**400**
Other										
Cyanide	mg/kg	150	**0.17 J-**	1 UJ	1 UJ	**0.27 J-**	0.93 UJ	**1.5**	**0.8 J**	**1.2 J-**

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Summary of Inorganics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-015-SB-5	B2-016-SB-1	B2-016-SB-5	B2-017-SB-1	B2-017-SB-5	B2-018-SB-1*	B2-018-SB-5*	B2-019-SB-1*
Metals										
Aluminum	mg/kg	1,100,000	**5,110**	**15,500**	**8,200**	**10,100**	**16,300**	**38,900**	**6,370**	**23,100**
Antimony	mg/kg	470	2.9 UJ	2.6 UJ	2.8 UJ	2.7 UJ	**24.1 J**	2.5 U	2.7 U	2.7 U
Arsenic	mg/kg	3	**6.9**	**6.6**	**4**	**11.4**	**173**	**5**	**17.6**	2.2 U
Barium	mg/kg	220,000	**783**	**204**	**98**	**151**	**531**	**303**	**86.3**	**142**
Beryllium	mg/kg	2,300	**0.39 J**	**0.51 J**	**0.44 J**	**0.61 J**	**0.89 J**	**5.7**	**0.49 J**	**2.2**
Cadmium	mg/kg	980	**6.8**	**1.7**	1.4 U	**7.5**	**6.8**	**0.44 J**	**0.55 J**	**0.56 J**
Chromium	mg/kg	120,000	**91.9 J**	**1,150 J**	**56.2 J**	**455 J**	**489 J**	**155**	**261**	**1,000**
Chromium VI	mg/kg	6.3	0.71 B	0.57 B	0.78 B	0.95 B	**1.2 J-**	0.63 B	0.51 B	0.92 B
Cobalt	mg/kg	350	**4.4 J**	**7**	**8.1**	**18.6**	**24.9**	**3.7 J**	**59.1**	**1.9 J**
Copper	mg/kg	47,000	**21.4 J**	**66.1 J**	**69.9 J**	**562 J**	**1,220 J**	**23.6**	**331**	**28.1**
Iron	mg/kg	820,000	**12,100**	**127,000**	**34,900**	**174,000**	**110,000**	**113,000**	**97,100**	**176,000**
Lead	mg/kg	800	**5,660 J**	**86 J**	**80.4 J**	**1,100 J**	**12,000 J**	**12.4**	**42.5**	**14.8**
Manganese	mg/kg	26,000	**1,240**	**59,300**	**785**	**16,600**	**1,240**	**7,220**	**2,600**	**24,300**
Mercury	mg/kg	350	**0.39 J+**	**0.031 J+**	**0.082 J+**	**0.27 J+**	**1.7 J+**	0.12 U	**0.0049 J**	**0.0046 J**
Nickel	mg/kg	22,000	**10.8 J**	**27.6 J**	**29.1 J**	**61.8 J**	**131 J**	**26.3**	**398**	**24**
Selenium	mg/kg	5,800	3.9 U	3.4 U	3.7 U	3.6 U	3.8 U	3.3 U	3.6 U	3.5 U
Silver	mg/kg	5,800	**3.4 J**	**93.9 J**	**3.6 J**	**25.8 J**	**18.9 J**	**10.6**	**4.9**	**23.3**
Vanadium	mg/kg	5,800	**80.4 J**	**3,300 J**	**77.2 J**	**778 J**	**165 J**	**113**	**36.9**	**718**
Zinc	mg/kg	350,000	**2,670**	**285**	**199**	**18,800**	**10,800**	**70.2**	**180**	**103**
Other										
Cyanide	mg/kg	150	**2.6 J-**	**0.99 J-**	**0.91 J-**	**1.8 J-**	**0.17 J-**	**1.2**	**0.26 J**	**0.58 J**

Detections in bold **Values in red indicate an exceedance of the Project Action Limit (PAL)**
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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 for this analyte is a quantitative estimate.
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J-: The positive result for this analyte is a quantitative estimate but may be biased low.
B: The analyte was not detected substantially above the level of the associated method blank or field blank.

Table 6
Summary of Inorganics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-019-SB-5*	B2-020-SB-1	B2-020-SB-4	B2-021-SB-1	B2-021-SB-4	B2-022-SB-1	B2-022-SB-4	B2-023-SB-1*
Metals										
Aluminum	mg/kg	1,100,000	**6,180**	**13,300**	**11,500**	**10,800**	**16,700**	**13,800**	**26,200**	**51,000**
Antimony	mg/kg	470	**3.1**	3.1 UJ	2.4 UJ	3.3 UJ	2.6 UJ	2 UJ	2.8 UJ	2.7 U
Arsenic	mg/kg	3	**11**	**4.4 J**	**10.2 J**	**7.4 J**	**4.9 J**	**4.1 J**	**6.1 J**	2.3 U
Barium	mg/kg	220,000	**102**	**51.5**	**201**	**87.3**	**89**	**69.5**	**153**	**329**
Beryllium	mg/kg	2,300	**0.54 J**	0.4 B	**0.89**	0.7 B	0.74 B	**0.66**	**1.1**	**7.1**
Cadmium	mg/kg	980	**1.6**	1.6 U	**0.49 J**	**1 J**	1.3 U	0.99 U	1.4 U	1.4 U
Chromium	mg/kg	120,000	**66.5**	**28.9**	**1,600**	**126**	**33.1**	**34.5**	**1,170**	**8.5**
Chromium VI	mg/kg	6.3	0.56 B	0.61 B	0.64 B	0.54 B	0.64 B	0.45 B	0.59 B	0.49 B
Cobalt	mg/kg	350	**18.6**	**3.8 J**	**42.6**	**10.3**	**8.1**	**4.7**	**26.4**	4.5 U
Copper	mg/kg	47,000	**130**	**15.7**	**204**	**64.2**	**17.6**	**21.2**	**135**	**1.5 J**
Iron	mg/kg	820,000	**36,800**	**18,700**	**140,000**	**50,900**	**21,200**	**19,000**	**89,100**	**3,290**
Lead	mg/kg	800	**140**	**18.2**	**259**	**146**	**72.4**	**40**	**112**	2.3 U
Manganese	mg/kg	26,000	**2,470**	**155**	**14,800**	**2,190**	**281**	**307**	**9,480**	**2,850**
Mercury	mg/kg	350	**0.024 J**	**0.02 J**	**0.059 J**	**0.068 J**	**0.29**	**0.038 J**	**0.023 J**	0.12 U
Nickel	mg/kg	22,000	**121**	**10.7 J**	**244 J**	**31.7 J**	**17.2 J**	**11.1 J**	**145 J**	9 U
Selenium	mg/kg	5,800	3.7 U	4.1 U	3.2 U	4.4 U	3.4 U	2.6 U	3.7 U	**2.5 J**
Silver	mg/kg	5,800	**3.6**	**2.3 J**	**15.3 J**	**4.3 J**	**3.5 J**	**1.1 J**	**14 J**	**11.2**
Vanadium	mg/kg	5,800	**17.9**	**34.3**	**368**	**129**	**36.5**	**40.2**	**152**	**9.2**
Zinc	mg/kg	350,000	**633**	**59.6**	**204**	**368**	**107**	**107**	**99.5**	1.7 B
Other										
Cyanide	mg/kg	150	**0.69 J**	1.1 U	**0.77 J**	**0.39 J**	1.1 U	**0.56 J**	**0.78 J**	**0.55 J**

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

Table 6
Summary of Inorganics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-023-SB-4*	B2-024-SB-1*	B2-025-SB-1*	B2-025-SB-4*	B2-026-SB-1	B2-026-SB-5	B2-026-SB-10	B2-027-SB-1
Metals										
Aluminum	mg/kg	1,100,000	**15,700**	**42,000**	**13,400**	**5,020**	**16,800**	**26,000**	N/A	**18,100**
Antimony	mg/kg	470	2.6 U	2.6 U	2.5 U	2.7 U	2.4 UJ	2.4 UJ	N/A	3.1 UJ
Arsenic	mg/kg	3	**24.3**	**2.4**	**10.6**	**5.5**	**3.4**	**6.1**	**5.7**	**4.9**
Barium	mg/kg	220,000	**105**	**840**	**92.6**	**45.6**	**95.1**	**286**	N/A	**185**
Beryllium	mg/kg	2,300	**1.1**	**3.1**	**1.1**	**0.36 J**	0.64 B	**1.9**	N/A	**1.7**
Cadmium	mg/kg	980	**1.3 J**	**0.69 J**	**1.5**	1.4 U	1.2 U	**0.4 J**	N/A	**2.3**
Chromium	mg/kg	120,000	**346**	**171**	**28.9**	**23.3**	**1,190**	**957**	N/A	**798**
Chromium VI	mg/kg	6.3	0.65 B	0.76 B	0.58 B	0.64 B	**3.1 J-**	0.68 B	N/A	0.98 B
Cobalt	mg/kg	350	**27.2**	**5.1**	**7**	**4 J**	0.52 B	**5.1**	N/A	4.6 B
Copper	mg/kg	47,000	**71.4**	**34.6**	**27.4**	**30.9**	**19 J**	**30.6 J**	N/A	**284 J**
Iron	mg/kg	820,000	**105,000**	**28,800**	**25,500**	**17,600**	**185,000**	**132,000**	N/A	**152,000**
Lead	mg/kg	800	**213**	**46.8**	**92.6**	**55.7**	**1.7 J**	**35.8**	N/A	**87.4**
Manganese	mg/kg	26,000	**7,800**	**7,350**	**736**	**130**	**29,600**	**31,100**	**551 J**	**17,900**
Mercury	mg/kg	350	**0.19**	0.098 U	**0.17**	**0.036 J**	0.0085 B	0.024 B	N/A	0.08 B
Nickel	mg/kg	22,000	**30.4**	**14.7**	**14.3**	**10.8**	**14.7 J**	**20.8 J**	N/A	**46.7 J**
Selenium	mg/kg	5,800	3.5 U	**2.8 J**	3.3 U	3.6 U	3.1 U	3.1 U	N/A	4.1 U
Silver	mg/kg	5,800	**8.3**	**20.2**	**3.5**	**1.9 J**	**21.7 J**	**29.3 J**	N/A	**19.3 J**
Vanadium	mg/kg	5,800	**396**	**163**	**43.8**	**22.1**	**906**	**1,140**	N/A	**405**
Zinc	mg/kg	350,000	**453**	**155**	**308**	**90.7**	**55.4 J**	**70.7 J**	N/A	**462 J**
Other										
Cyanide	mg/kg	150	**0.78 J**	**1.3**	**0.34 J**	1.1 U	**0.15 J**	**1 J+**	N/A	**0.56 J**

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Table 6
Summary of Inorganics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-028-SB-1	B2-028-SB-5	B2-028-SB-10	B2-029-SB-1*	B2-029-SB-8*	B2-029-SB-10*	B2-030-SB-1*	B2-030-SB-5*
Metals										
Aluminum	mg/kg	1,100,000	**19,500**	**61,100**	N/A	**18,000**	**18,800**	N/A	21,700 B	**47,800**
Antimony	mg/kg	470	2.6 UJ	2.7 UJ	N/A	2.3 U	2.9 U	N/A	2.7 U	2.7 U
Arsenic	mg/kg	3	**2.1**	**3.4**	**19.1 J**	**10.9**	**7.7**	**8.3**	**7.2**	2.3 U
Barium	mg/kg	220,000	**114**	**933**	N/A	**212**	**31.8**	N/A	**207**	**409**
Beryllium	mg/kg	2,300	**1.1**	**5.2**	N/A	**0.76 J**	**0.79 J**	N/A	**1.7**	**8.3**
Cadmium	mg/kg	980	1.3 U	**0.58 J**	N/A	**1.7**	1.4 U	N/A	**1.3 J**	1.4 U
Chromium	mg/kg	120,000	**897 J**	**30.8 J**	**30.4**	**537**	**45.1**	N/A	**653**	**13.3**
Chromium VI	mg/kg	6.3	**2.6 J-**	0.72 B	0.91 B	**1.3**	0.6 B	N/A	0.65 B	0.52 B
Cobalt	mg/kg	350	**2.5 J**	**3 J**	N/A	**14.8**	**9.4**	N/A	**9**	**0.62 J**
Copper	mg/kg	47,000	**23.9 J**	**13.8 J**	N/A	**203**	**14.1**	N/A	**88.6**	**6.3**
Iron	mg/kg	820,000	**164,000 J**	**14,400 J**	N/A	**198,000**	**27,600**	N/A	**162,000**	**6,240**
Lead	mg/kg	800	**6.6 J**	**35.2 J**	N/A	**127**	**11.8**	N/A	**302**	2.3 U
Manganese	mg/kg	26,000	**23,400**	**8,400**	**272 J**	**17,000**	**466**	N/A	**16,400**	**2,730**
Mercury	mg/kg	350	0.093 U	**0.045 J**	N/A	0.086 B	0.01 B	N/A	**0.24**	0.0068 B
Nickel	mg/kg	22,000	**17.9 J**	**9.5 J**	N/A	**72.9**	**16.9**	N/A	**51.9**	**3.3 J**
Selenium	mg/kg	5,800	3.4 U	3.6 U	N/A	3.1 U	3.8 U	N/A	3.6 U	3.6 U
Silver	mg/kg	5,800	**23.5**	**22.8**	N/A	**13.3**	**5**	N/A	**19.4**	**10.1**
Vanadium	mg/kg	5,800	**493**	**75.4**	N/A	**313**	**55.2**	N/A	**527**	**15.2**
Zinc	mg/kg	350,000	**100 J**	**70.3 J**	N/A	**542**	**47.6**	N/A	**585**	**7.2**
Other										
Cyanide	mg/kg	150	**0.14 J-**	**0.48 J-**	N/A	**0.44 J**	1.1 U	N/A	**1 J**	**0.32 J**

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Table 6
Summary of Inorganics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-031-SB-1*	B2-031-SB-7*	B2-032-SB-1*	B2-032-SB-4*	B2-033-SB-1*	B2-033-SB-5*	B2-034-SB-1*	B2-035-SB-1*
Metals										
Aluminum	mg/kg	1,100,000	**17,200**	**15,900**	**12,500**	**16,100**	**13,600**	**12,700**	**13,400**	**21,300**
Antimony	mg/kg	470	2.3 U	2.7 U	2.5 U	2.5 U	2.7 U	2.5 U	2.7 U	3 U
Arsenic	mg/kg	3	**8**	**13.5**	**2.4**	**4.2**	2.3 U	2.1 U	**7.5**	**4**
Barium	mg/kg	220,000	**691**	**373**	**72.3**	**57.3**	**76**	**107**	**67.4**	**67.1**
Beryllium	mg/kg	2,300	**2.1**	**1.4**	0.84 U	**0.76 J**	0.9 U	**0.88**	**0.71 J**	**0.55 J**
Cadmium	mg/kg	980	**0.7 J**	**2.8**	**0.48 J**	1.2 U	**0.62 J**	**0.42 J**	**1.4**	1.5 U
Chromium	mg/kg	120,000	**348**	**94.3**	**1,270**	**59.1**	**1,160**	**1,160**	**45.6**	**25.3**
Chromium VI	mg/kg	6.3	0.62 B	0.57 B	0.74 B	0.53 B	0.76 B	0.72 B	0.72 B	0.85 B
Cobalt	mg/kg	350	**10.8**	**8.1**	**1.8 J**	**44.1**	**1.6 J**	**1.4 J**	**7.7**	**3.8 J**
Copper	mg/kg	47,000	**88.5**	**97.5**	**36.9**	**59.2**	**42**	**25.3**	**42.3**	**12.3**
Iron	mg/kg	820,000	**263,000**	**31,200**	**212,000**	**31,600**	**209,000**	**189,000**	**37,700**	**22,200**
Lead	mg/kg	800	**82.5**	**443**	**9.8**	**27.1**	**6.3**	**5.6**	**166**	**17.7**
Manganese	mg/kg	26,000	**9,320**	**4,390**	**27,800**	**862**	**31,200**	**29,600**	**620**	**49.3**
Mercury	mg/kg	350	0.036 B	**0.45**	0.11 U	**0.078 J**	0.0077 B	0.018 B	**0.12**	**0.028 J**
Nickel	mg/kg	22,000	**56.3**	**32.9**	**16**	**30.6**	**19.8**	**12.1**	**19.1**	**12.2**
Selenium	mg/kg	5,800	3.1 U	3.6 U	3.4 U	3.3 U	3.6 U	3.3 U	3.6 U	4 U
Silver	mg/kg	5,800	**16.2**	**9**	**22.9**	**2.8**	**28.6**	**29.6**	**2.9**	**2.5 J**
Vanadium	mg/kg	5,800	**492**	**141**	**608**	**75**	**712**	**689**	**55.3**	**34.3**
Zinc	mg/kg	350,000	**840**	**659**	**262**	**56**	**221**	**69.4**	**593**	**49.3**
Other										
Cyanide	mg/kg	150	**0.42 J**	**1.9**	0.24 B	0.14 B	**0.36 J**	**0.52 J**	0.13 B	1 U

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Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-035-SB-4*	B2-036-SB-1	B2-036-SB-5	B2-037-SB-1	B2-037-SB-5	B2-038-SB-1	B2-038-SB-5	B2-039-SB-1*
Metals										
Aluminum	mg/kg	1,100,000	**18,600**	**48,100**	**9,580**	**40,500**	**4,720**	**12,500**	**16,000**	**12,200**
Antimony	mg/kg	470	2.9 U	2.8 UJ	2.7 UJ	2.7 UJ	2.5 UJ	2.5 UJ	2.5 UJ	3 U
Arsenic	mg/kg	3	**4.5**	**2.3 J**	**18.6**	**5.1**	**23.7**	**3.3**	**14.4**	2.5 U
Barium	mg/kg	220,000	**103**	**670**	**328**	**742**	**43**	**56.2**	**216**	**55.5**
Beryllium	mg/kg	2,300	**0.92 J**	**5.5**	**0.37 J**	**4.4**	**0.35 J**	0.38 B	**2.3**	**0.24 J**
Cadmium	mg/kg	980	1.4 U	1.4 U	**2.9**	**1.1 J**	**3.1**	**0.83 J**	**1.9**	**0.59 J**
Chromium	mg/kg	120,000	**46.2**	**45 J**	**1,470 J**	**260 J**	**86 J**	**743**	**261**	**1,550**
Chromium VI	mg/kg	6.3	0.97 B	0.54 B	0.55 B	0.6 B	0.9 B	**5.3 J-**	0.68 B	**1.3**
Cobalt	mg/kg	350	**8.2**	**4.6 J**	**30.3 J**	**6.3 J**	**20.4 J**	2.9 B	**11.5**	**1.6 J**
Copper	mg/kg	47,000	**28.7**	**15.2 J**	**116 J**	**65.8 J**	**132 J**	**67.2 J**	**162 J**	**37.8**
Iron	mg/kg	820,000	**29,800**	**26,700 J**	**55,000 J**	**81,500 J**	**29,700 J**	**191,000**	**150,000**	**226,000**
Lead	mg/kg	800	**60.1**	**8.7 J**	**56.6 J**	**988 J**	**25.6 J**	**31.5**	**198**	**6.4**
Manganese	mg/kg	26,000	**980**	**6,590**	**16,600**	**9,220**	**1,370**	**20,100**	**6,090**	**30,400**
Mercury	mg/kg	350	**0.025 J**	0.13 U	**0.082 J**	**0.026 J**	**0.052 J**	0.041 B	**0.19 J-**	0.017 B
Nickel	mg/kg	22,000	**20.8**	**17.3 J**	**215 J**	**26.5 J**	**124 J**	**26.9 J**	**104 J**	**15.4**
Selenium	mg/kg	5,800	3.8 U	**5.1**	3.6 U	3.6 U	**2.5 J**	3.3 U	3.3 U	3.9 U
Silver	mg/kg	5,800	**3**	**30.9**	**15.9**	**23.4**	**2.1 J**	**17.5 J**	**10.9 J**	**25.9**
Vanadium	mg/kg	5,800	**71.3**	**142**	**335**	**178**	**17.4**	**472**	**336**	**870**
Zinc	mg/kg	350,000	**163**	**40.3 J**	**193 J**	**562 J**	**691 J**	**195 J**	**572 J**	**62.5**
Other										
Cyanide	mg/kg	150	**2.1**	**0.66 J-**	**1.1 J-**	**1.6 J-**	**0.3 J-**	**0.59 J+**	**0.61 J+**	**0.39 J**

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

Table 6
Summary of Inorganics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-039-SB-5*	B2-040-SB-1	B2-040-SB-7	B2-040-SB-10*	B2-041-SB-1*	B2-041-SB-5*	B2-042-SB-1	B2-042-SB-5
Metals										
Aluminum	mg/kg	1,100,000	**26,000**	**14,400**	**20,500**	N/A	**9,640**	**34,100**	**9,530**	**6,660**
Antimony	mg/kg	470	2.5 U	2.8 UJ	3.9 UJ	N/A	2.6 U	2.9 U	2.4 UJ	2.4 UJ
Arsenic	mg/kg	3	2.1 U	**4.6 J**	**18.3 J**	**8.8**	**5.1**	**9.6**	**4.3 J**	**22.1 J**
Barium	mg/kg	220,000	**53.5**	**52.7**	**133**	N/A	**80.9**	**334**	**36.5**	**74.5**
Beryllium	mg/kg	2,300	0.85 U	0.73 B	0.8 B	N/A	**0.14 J**	**1.8**	0.11 B	**0.96**
Cadmium	mg/kg	980	**0.49 J**	1.4 U	1.9 U	N/A	**0.52 J**	**1.1 J**	1.2 U	**15.8**
Chromium	mg/kg	120,000	**2,480**	**25.3**	**72.7**	N/A	**2,970**	**302**	**1,340**	**267**
Chromium VI	mg/kg	6.3	**16.9**	0.55 B	0.96 B	N/A	0.67 B	1.1 B	**5.4 J-**	0.47 B
Cobalt	mg/kg	350	4.2 U	**4 J**	**8.1**	N/A	**2.3 J**	**22.7**	**1.3 J**	**14.6**
Copper	mg/kg	47,000	**14.6**	**10**	**71.4**	N/A	**25.4**	**167**	**15.1**	**213**
Iron	mg/kg	820,000	**179,000**	**20,800**	**39,200**	N/A	**178,000**	**41,900**	**197,000**	**318,000**
Lead	mg/kg	800	2.1 U	**14.1**	**248**	N/A	**11.1**	**167**	**1.6 J**	**1,310**
Manganese	mg/kg	26,000	**44,900**	**130**	**257**	N/A	**33,500**	**1,710**	**35,800**	**5,230**
Mercury	mg/kg	350	0.0044 B	0.11 U	**0.52**	N/A	**0.048 J**	**0.048 J**	0.099 U	**0.059 J**
Nickel	mg/kg	22,000	**10.9**	**11.1 J**	**23.4 J**	N/A	**17.1**	**167**	**17.7 J**	**77.8 J**
Selenium	mg/kg	5,800	3.4 U	3.8 U	5.2 U	N/A	3.4 U	**2 J**	3.2 U	3.3 U
Silver	mg/kg	5,800	**26.8**	**2.1 J**	**2.8 J**	N/A	**20.6**	**11.2**	**26.7 J**	**13.2 J**
Vanadium	mg/kg	5,800	**946**	**43.1**	**69**	N/A	**576**	**86.5**	**623**	**244**
Zinc	mg/kg	350,000	**16.4**	**61.9**	**237**	N/A	**70**	**507**	**19.1**	**13,300**
Other										
Cyanide	mg/kg	150	**0.29 J**	**0.21 J**	**0.24 J**	N/A	**0.66 J**	**1.1**	1 U	**0.51 J**

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

Table 6
Summary of Inorganics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-043-SB-1	B2-043-SB-4	B2-044-SB-1*	B2-044-SB-7*	B2-045-SB-1*	B2-045-SB-5*	B2-045-SB-10	B2-046-SB-1*
Metals										
Aluminum	mg/kg	1,100,000	**8,920**	**17,700**	**24,700**	**7,810**	**19,700**	**15,900**	N/A	**22,700**
Antimony	mg/kg	470	2.6 UJ	2.6 UJ	3 U	2.8 U	**3 J**	3 U	N/A	2.9 U
Arsenic	mg/kg	3	**5.7**	**7.1**	**5.9**	**3.2**	**18.4**	**3.2**	**5.1**	**6.7**
Barium	mg/kg	220,000	**33.9**	**82.1**	**331**	**60**	**308**	**52.8**	N/A	**369**
Beryllium	mg/kg	2,300	0.15 B	0.7 B	**3.1**	0.93 U	**1.5**	**0.39 J**	N/A	**1.2**
Cadmium	mg/kg	980	1.3 U	1.3 U	**2.3**	1.4 U	**2.4**	1.5 U	N/A	**1.6**
Chromium	mg/kg	120,000	**1,750**	**32.6**	**313**	**1,160**	**31.6**	**25.5**	N/A	**72.4**
Chromium VI	mg/kg	6.3	**3 J-**	0.71 B	0.64 B	**1.2**	0.67 B	0.62 B	N/A	0.61 B
Cobalt	mg/kg	350	4.3 U	**4.6**	**4.3 J**	**5.6**	**8.2**	**4.8 J**	N/A	**9.6**
Copper	mg/kg	47,000	**21.8 J**	**11.8 J**	**116**	**45.6**	**95.6**	**12**	N/A	**124**
Iron	mg/kg	820,000	**183,000**	**27,800**	**60,700**	**162,000**	**67,900**	**18,100**	N/A	**55,200**
Lead	mg/kg	800	**3**	**10.2**	**153**	**23.8**	**361**	**20.4**	N/A	**241**
Manganese	mg/kg	26,000	**37,500**	**285**	**12,900**	**29,500**	**5,590**	**162**	N/A	**3,110**
Mercury	mg/kg	350	0.0094 B	0.022 B	**0.19**	0.14 U	**0.045 J**	**0.039 J**	N/A	**0.043 J**
Nickel	mg/kg	22,000	**15.8 J**	**12.2 J**	**16.4**	**18.8**	**13.1**	**13.6**	N/A	**26.3**
Selenium	mg/kg	5,800	3.4 U	3.4 U	4 U	3.7 U	4.1 U	4 U	N/A	3.9 U
Silver	mg/kg	5,800	**26.1 J**	**3.4 J**	**41.1**	**77.2**	**9.3**	**3.6**	N/A	**11.4**
Vanadium	mg/kg	5,800	**744**	**39.8**	**1,100**	**2,800**	**57.7**	**29.9**	N/A	**95.1**
Zinc	mg/kg	350,000	**30 J**	**41.2 J**	**3,490**	**129**	**417**	**46**	N/A	**335**
Other										
Cyanide	mg/kg	150	**0.2 J**	1 U	**1.3**	0.61 B	**0.44 J**	1.3 U	N/A	**1.2**

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Table 6
Summary of Inorganics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-046-SB-4*	B2-046-SB-10	B2-047-SB-1	B2-047-SB-4	B2-048-SB-1	B2-048-SB-8	B2-049-SB-1	B2-049-SB-4
Metals										
Aluminum	mg/kg	1,100,000	**19,700**	N/A	**22,800**	**18,300**	**18,000**	**17,500**	**24,200**	**13,200**
Antimony	mg/kg	470	2.4 U	N/A	2.9 UJ	2.9 UJ	3.2 UJ	3.5 UJ	2.4 UJ	2.6 UJ
Arsenic	mg/kg	3	**3.7**	**19.3**	**10.5**	**3.4**	**3.3**	**11.3**	**2.8**	**5**
Barium	mg/kg	220,000	**55.7**	N/A	**390**	**115**	**74**	**67.8**	**184**	**36.3**
Beryllium	mg/kg	2,300	**0.46 J**	N/A	**2.3**	0.87 B	0.89 B	0.83 B	**2.6**	0.87 U
Cadmium	mg/kg	980	1.2 U	N/A	**2.3**	1.4 U	1.6 U	1.7 U	**0.38 J**	**0.48 J**
Chromium	mg/kg	120,000	**25.9**	N/A	**123**	**21.5**	**1,380**	**36.9**	**680 J**	**1,390 J**
Chromium VI	mg/kg	6.3	1 B	N/A	0.53 B	0.44 B	**1.8 J-**	0.71 B	**2.2 J-**	**8.5 J-**
Cobalt	mg/kg	350	**3.9 J**	N/A	**10.9**	3.6 B	0.7 B	4.4 B	**2 J**	**1.4 J**
Copper	mg/kg	47,000	**8.9**	N/A	**86.1 J**	4.7 B	**21.1 J**	**16.8 J**	**23.3 J**	**15.7 J**
Iron	mg/kg	820,000	**19,700**	N/A	**54,300**	**9,860**	**207,000**	**29,000**	**129,000 J**	**207,000 J**
Lead	mg/kg	800	**11.9**	N/A	**170**	**10.8**	**1.5 J**	**14**	**3.5 J**	2.2 UJ
Manganese	mg/kg	26,000	**71.9**	N/A	**3,070**	**70.5**	**32,900**	**519**	**16,500**	**33,900**
Mercury	mg/kg	350	**0.015 J**	N/A	**0.62 J-**	0.066 B	0.012 B	0.021 B	0.097 U	0.096 U
Nickel	mg/kg	22,000	**11.7**	N/A	**44.6 J**	**9 J**	**18 J**	**12 J**	**14.2 J**	**19.2 J**
Selenium	mg/kg	5,800	3.2 U	N/A	3.9 U	3.8 U	4.3 U	4.6 U	3.2 U	3.5 U
Silver	mg/kg	5,800	**3.6**	N/A	**12.5 J**	**1.2 J**	**25.3 J**	**2 J**	**16.6**	**25.1**
Vanadium	mg/kg	5,800	**35.9**	N/A	**142**	**28.2**	**905**	**42.5**	**416**	**563**
Zinc	mg/kg	350,000	**33.4**	N/A	**595 J**	**17.6 J**	**31.7 J**	**41.3 J**	**48 J**	**13.7 J**
Other										
Cyanide	mg/kg	150	**0.16 J**	N/A	**7**	1.2 U	**0.55 J+**	**0.42 J+**	**0.11 J-**	**0.089 J-**

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Table 6
Summary of Inorganics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-049-SB-10	B2-050-SB-1	B2-050-SB-5	B2-051-SB-1	B2-051-SB-5	B2-052-SB-1	B2-052-SB-5	B2-052-SB-10
Metals										
Aluminum	mg/kg	1,100,000	N/A	**39,000**	**38,200**	**18,300**	**14,900**	**21,300**	**16,900**	N/A
Antimony	mg/kg	470	N/A	2.6 UJ	2.6 UJ	2.5 UJ	2.6 UJ	2.3 UJ	2.4 UJ	N/A
Arsenic	mg/kg	3	**13.8 J**	**5.2**	**3.3**	**2.5**	**16.3**	**8.2**	**6**	**3.7**
Barium	mg/kg	220,000	N/A	**743**	**798**	**127**	**90.2**	**672**	**70.9**	N/A
Beryllium	mg/kg	2,300	N/A	**4.1**	**3.3**	**1.8**	**0.18 J**	**2.6**	**0.57 J**	N/A
Cadmium	mg/kg	980	N/A	**1.9**	**0.44 J**	1.3 U	**0.55 J**	**1.6**	**0.45 J**	N/A
Chromium	mg/kg	120,000	N/A	**114 J**	**227 J**	**1,210 J**	**1,440 J**	**220**	**38.6**	N/A
Chromium VI	mg/kg	6.3	1 B	0.65 B	0.71 B	**1.7 J-**	**2.6 J-**	0.6 B	0.63 B	N/A
Cobalt	mg/kg	350	N/A	**4.3 J**	**4.6 J**	**0.55 J**	**1.9 J**	**9.8**	**6.6**	N/A
Copper	mg/kg	47,000	N/A	**44 J**	**20.4 J**	**13.2 J**	**30.8 J**	**1,220 J**	**9.6 J**	N/A
Iron	mg/kg	820,000	N/A	**33,700 J**	**29,000 J**	**151,000 J**	**184,000 J**	**116,000**	**25,600**	N/A
Lead	mg/kg	800	N/A	**225 J**	**33.5 J**	2.1 UJ	**36.9 J**	**198**	**10.3**	N/A
Manganese	mg/kg	26,000	N/A	**9,710**	**7,310**	**27,700**	**37,400**	**14,400**	**588**	N/A
Mercury	mg/kg	350	N/A	**0.014 J**	0.11 U	0.097 U	0.089 U	**0.25 J-**	0.081 B	N/A
Nickel	mg/kg	22,000	N/A	**15.9 J**	**10.2 J**	**12.3 J**	**25.7 J**	**53.2 J**	**13.1 J**	N/A
Selenium	mg/kg	5,800	N/A	3.5 U	3.5 U	3.3 U	3.5 U	3.1 U	3.2 U	N/A
Silver	mg/kg	5,800	N/A	**26**	**14.9**	**25.3**	**29.3**	**13.7 J**	**3.7 J**	N/A
Vanadium	mg/kg	5,800	N/A	**334**	**757**	**778**	**837**	**152**	**50.5**	N/A
Zinc	mg/kg	350,000	N/A	**568 J**	**51.5 J**	**37.5 J**	**95 J**	**653 J**	**125 J**	N/A
Other										
Cyanide	mg/kg	150	N/A	**3.4 J-**	**0.92 J-**	**0.22 J-**	**0.33 J-**	**0.58 J**	**0.84 J**	N/A

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Table 6
Summary of Inorganics Detected in Soil
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-053-SB-1	B2-053-SB-5.5	B2-054-SB-1	B2-054-SB-5	B2-055-SB-1	B2-055-SB-6.5
Metals								
Aluminum	mg/kg	1,100,000	**14,800**	**23,100**	**44,500**	**15,100**	**49,000**	**14,600**
Antimony	mg/kg	470	2.6 UJ	2.7 UJ	2.8 UJ	3.1 UJ	2.8 UJ	2.9 UJ
Arsenic	mg/kg	3	**8**	**3.2**	**2.6**	**3.4**	**2.2 J**	2.4 U
Barium	mg/kg	220,000	**145 J**	**63 J**	**259 J**	**37.6 J**	**408 J**	**62.7 J**
Beryllium	mg/kg	2,300	**0.81 J**	**0.5 J**	**2.8**	**0.5 J**	**8**	**0.76 J**
Cadmium	mg/kg	980	1.3 U	1.4 U	1.4 U	1.6 U	1.4 U	1.5 U
Chromium	mg/kg	120,000	**288**	**24.8**	**6.3**	**23.1**	**53.7**	**15.9**
Chromium VI	mg/kg	6.3	0.57 B	0.88 B	0.65 B	0.44 B	0.49 B	0.54 B
Cobalt	mg/kg	350	**15.3**	**2.7 J**	**0.79 J**	**4.3 J**	**0.86 J**	**4 J**
Copper	mg/kg	47,000	**43.6 J**	**11.9 J**	**37 J**	**9.2 J**	**7.4 J**	**5.6 J**
Iron	mg/kg	820,000	**26,300**	**15,500**	**6,960**	**23,600**	**10,700**	**8,800**
Lead	mg/kg	800	**135**	**12.4**	**5.4**	**8.6**	**22.4**	**8.9**
Manganese	mg/kg	26,000	**4,350 J**	**76.8 J**	**1,010 J**	**101 J**	**3,970 J**	**217 J**
Mercury	mg/kg	350	**0.036 J**	**0.036 J**	**0.019 J**	**0.019 J**	0.11 U	**0.025 J**
Nickel	mg/kg	22,000	**121**	**10.6**	**1.8 J**	**12.5**	**4.1 J**	**8.9 J**
Selenium	mg/kg	5,800	1.7 B	3.6 U	**6.2**	2.7 B	3.2 B	3.9 U
Silver	mg/kg	5,800	**5.6**	**2.1 J**	**11.9**	**3.7**	**9.4**	**1.7 J**
Vanadium	mg/kg	5,800	**27.8**	**29.3**	**7.3**	**32.3**	**20.9**	**17.8**
Zinc	mg/kg	350,000	**152**	**18.6**	**15.3**	**32.5**	**53.9**	**24.3**
Other								
Cyanide	mg/kg	150	**1.3 J+**	1.1 U	**3.1 J+**	1.3 U	**1.7 J+**	**0.13 J+**

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TABLE 7
SUMMARY OF SOIL PAL EXCEEDANCES

Parameter	CAS#	Frequency of Detections (%)	Sample ID of Max Result	Max Result	PAL Solid	Units
Arsenic	7440-38-2	86	B2-017-SB-5	173	3	mg/kg
Benzo[a]pyrene	50-32-8	88	B2-046-SB-1	10.5	2.1	mg/kg
Chromium VI	18540-29-9	20	B2-039-SB-5	16.9	6.3	mg/kg
Diesel Range Organics	DRO	94	B2-011-SB-8	9,730	6,200	mg/kg
Lead	7439-92-1	95	B2-017-SB-5	12,000	800	mg/kg
Manganese	7439-96-5	100	B2-016-SB-1	59,300	26,000	mg/kg
Oil & Grease	O&G	100	B2-014-SB-7	13,600	6,200	mg/kg

TABLE 8
SOIL PAL EXCEEDANCES FOR SPECIFIC TARGETS

Target Feature	Boring ID	Sample Depth (ft)	Parameter	PAL	Result (mg/kg)	Final Flag
Tank (unknown contents)	B2-001-SB	1	Manganese	26,000	37,400	
		5	Arsenic	3	9.8	
	B2-002-SB	1	Arsenic	3	4.3	
		4.5	Arsenic	3	3.2	
Former Diesel Fuel UST Area	B2-003-SB	1	Arsenic	3	13.3	
		4.5	Arsenic	3	10.3	
		4.5	Lead	800	1,920	
	B2-004-SB	5	Arsenic	3	5.6	
Slab Hauler Repair Shop	B2-005A-SB	1	Arsenic	3	3.3	J
		1	Manganese	26,000	33,400	
	B2-005-SB	1	Chromium VI	6.3	9.8	J-
		5	Arsenic	3	3	
		5	Manganese	26,000	34,000	J
	B2-006-SB	1	Arsenic	3	8.9	
		4	Arsenic	3	8.9	
ASTs	B2-007-SB	5	Arsenic	3	14.5	
		10	Arsenic	3	21.3	
	B2-008-SB	1	Manganese	26,000	26,300	
		5	Arsenic	3	5.2	
Mason's [Plant] Garage Drums	B2-009-SB	1	Arsenic	3	10	
		1	Manganese	26,000	33,500	
		5	Arsenic	3	5.6	
	B2-010-SB	1	Arsenic	3	6.8	
		1	Manganese	26,000	45,600	J
		4	Arsenic	3	6.4	
		4	Lead	800	2,830	

TABLE 8
SOIL PAL EXCEEDANCES FOR SPECIFIC TARGETS

Target Feature	Boring ID	Sample Depth (ft)	Parameter	PAL	Result (mg/kg)	Final Flag
Mason's [Plant] Garage Former USTs and Gas Pumps	B2-011-SB	1	Arsenic	3	4.8	
		8	Diesel Range Organics	6,200	9,730	J
		8	Oil and Grease	6,200	6,830	J-
	B2-014-SB	1.5	Manganese	26,000	28,600	
		1.5	Oil and Grease	6,200	10,100	
		7	Arsenic	3	33	
		7	Oil and Grease	6,200	13,600	
	B2-015-SB	1	Arsenic	3	5.3	
		5	Arsenic	3	6.9	
		5	Lead	800	5,660	J
Possible USTs	B2-016-SB	1	Arsenic	3	6.6	
		1	Manganese	26,000	59,300	
		5	Arsenic	3	4	
	B2-017-SB	1	Arsenic	3	11.4	
		1	Lead	800	1,100	J
		5	Arsenic	3	173	
		5	Lead	800	12,000	J
Sludge and Acid Trailers	B2-018-SB	1	Arsenic	3	5	
		5	Arsenic	3	17.6	
	B2-019-SB	5	Arsenic	3	11	
Residential Town Tanks	B2-020-SB	1	Arsenic	3	4.4	J
		4	Arsenic	3	10.2	J
		4	Benzo[a]pyrene	2.1	2.4	
	B2-021-SB	1	Arsenic	3	7.4	J
		4	Arsenic	3	4.9	J
	B2-022-SB	1	Arsenic	3	4.1	J
		4	Arsenic	3	6.1	J
	B2-023-SB	4	Arsenic	3	24.3	
	B2-024-SB	1	Oil and Grease	6,200	12,400	
	B2-025-SB	1	Arsenic	3	10.6	
		4	Arsenic	3	5.5	
	B2-026-SB	1	Arsenic	3	3.4	
		1	Manganese	26,000	29,600	
		5	Arsenic	3	6.1	
		5	Manganese	26,000	31,100	
		10	Arsenic	3	5.7	
	B2-027-SB	1	Arsenic	3	4.9	
	B2-028-SB	5	Arsenic	3	3.4	
		10	Arsenic	3	19.1	J

TABLE 8
SOIL PAL EXCEEDANCES FOR SPECIFIC TARGETS

Target Feature	Boring ID	Sample Depth (ft)	Parameter	PAL	Result (mg/kg)	Final Flag
Scrap Processing Facility and Bulk Petroleum Storage	B2-029-SB	1	Arsenic	3	10.9	
		8	Arsenic	3	7.7	
		10	Arsenic	3	8.3	
	B2-030-SB	1	Arsenic	3	7.2	
	B2-031-SB	1	Arsenic	3	8	
		7	Arsenic	3	13.5	
		7	Benzo[a]pyrene	2.1	2.5	
Steelside Electronics Building	B2-032-SB	1	Manganese	26,000	27,800	
		4	Arsenic	3	4.2	
	B2-033-SB	1	Manganese	26,000	31,200	
		5	Manganese	26,000	29,600	
Sub-stations	B2-034-SB	1	Arsenic	3	7.5	
	B2-035-SB	1	Arsenic	3	4	
		4	Arsenic	3	4.5	
	B2-036-SB	5	Arsenic	3	18.6	
	B2-037-SB	1	Arsenic	3	5.1	
		1	Lead	800	988	J
		5	Arsenic	3	23.7	
Mason's Garage	B2-053-SB	1	Arsenic	3	8	
		5.5	Arsenic	3	3.2	
	B2-054-SB	5	Arsenic	3	3.4	
	B2-055-SB	1	Benzo[a]pyrene	2.1	2.8	

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.

Table 9
Summary of Organics and Inorganics Detected in Groundwater
Supplemental Sampling at B2-051-PZ
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-051-PZ*
Volatile Organic Compounds			
Toluene	µg/L	1,000	**0.84 J**
Semi-Volatile Organic Compounds^			
1,4-Dioxane	µg/L	0.46	**0.025 J**
2,4-Dimethylphenol	µg/L	360	**0.52 J**
2-Methylnaphthalene	µg/L	36	**0.55**
2-Methylphenol	µg/L	930	**0.31 J**
3&4-Methylphenol(m&p Cresol)	µg/L	930	**0.85 J**
Acenaphthene	µg/L	530	**0.49**
Acenaphthylene	µg/L	530	**0.42**
Anthracene	µg/L	1,800	**0.27**
Benz[a]anthracene	µg/L	0.03	**0.056 J**
Carbazole	µg/L		**1.6**
Fluoranthene	µg/L	800	**0.45**
Fluorene	µg/L	290	**0.99**
Phenanthrene	µg/L		**1.8**
Pyrene	µg/L	120	**0.28**
TPH/Oil and Grease			
Diesel Range Organics	µg/L	47	**198**
Dissolved Metals			
Aluminum, Dissolved	µg/L	20,000	**1,130**
Arsenic, Dissolved	µg/L	10	**5.1**
Barium, Dissolved	µg/L	2,000	**100**
Chromium, Dissolved	µg/L	100	**1 J**
Iron, Dissolved	µg/L	14,000	**121**
Manganese, Dissolved	µg/L	430	**5.6**
Vanadium, Dissolved	µg/L	86	**110**
Other			
Cyanide	µg/L	200	**0.016**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
*Indicates non-validated data
^PAH compounds were analyzed via SIM
J: The positive result reported for this analyte is a quantitative estimate.

Table 10
Summary of VOCs, TPH, and Lead Detected in Groundwater
Supplemental Sampling at the Plant Garage
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-007-PZ	B2-011-PZ	B2-013-PZ	B2-014-PZ	B2-015-PZ	SW-055-MWS
Volatile Organic Compounds								
2-Butanone (MEK)	µg/L	5,600	10 U	**10.1 J**	**3.7 J**	10 U	10 U	10 U
Acetone	µg/L	14,000	**35.8 J**	**29.9 J**	19.4 B	**22.2 J**	15.8 B	10 U
Benzene	µg/L	5	1 UJ	**3.9 J**	**17.5 J**	1 UJ	1 UJ	**7.7**
Cyclohexane	µg/L	13,000	10 U	**19.4 J**	**6.4 J**	10 U	10 U	**7.9 J**
Ethylbenzene	µg/L	700	1 U	**6.4**	**7.8**	1 U	1 U	**20.3**
Isopropylbenzene	µg/L	450	1 U	**43.5**	**10.9**	1 U	1 U	**2.3**
Methyl tert-butyl ether (MTBE)	µg/L	14	**8.3**	**1.6 J**	**3.6**	**11.3**	**0.89 J**	**1.4**
Toluene	µg/L	1,000	1 UJ	**2.5 J**	**0.32 J**	1 UJ	1 UJ	**29.8**
Xylenes	µg/L	10,000	3 U	**10.2**	**2.6 J**	3 U	3 U	**79.6**
TPH/Oil and Grease								
Diesel Range Organics	µg/L	47	**2,250 J**	**24,900 J**	**8,170 J**	**2,050 J**	**2,550 J**	**700 J**
Gasoline Range Organics	µg/L	47	**95.5 J**	**1,350 J**	**445**	**146 J**	**105 J**	**545**
Total Metal								
Lead	µg/L	15	**171**	5 U	**5.3**	**337**	**804**	5 U

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.

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: The analyte was not detected substantially above the level of the associated method blank or field blank.

Table 11
Cumulative Vapor Intrusion Criteria Comparison

				B2-007-PZ		B2-011-PZ		B2-013-PZ	
Parameter	Type	Organ Systems	VI Screening Criteria	Conc. (ug/L)	Risk/ Hazard	Conc. (ug/L)	Risk/ Hazard	Conc. (ug/L)	Risk/ Hazard
Cancer Risk									
1,4-Dioxane	SVOC		130,000	NA	-	NA	-	NA	-
Naphthalene	SVOC		200	NA	-	NA	-	NA	-
Benzene	VOC		69	1 UJ	0	3.9 J	5.7E-07	17.5 J	2.5E-06
Ethylbenzene	VOC		150	1 U	0	6.4	4.3E-07	7.9	5.2E-07
Methyl tert-butyl ether (MTBE)	VOC		20,000	8	4.2E-09	1.6 J	8.0E-10	3.6	1.8E-09
Cumulative Vapor Intrusion Cancer Risk					4E-09		1E-06		3E-06
Non-Cancer Hazard									
Cumulative Vapor Intrusion Non-Cancer Hazard					0		0		0

				B2-014-PZ		B2-015-PZ		B2-051-PZ*	
Parameter	Type	Organ Systems	VI Screening Criteria	Conc. (ug/L)	Risk/ Hazard	Conc. (ug/L)	Risk/ Hazard	Conc. (ug/L)	Risk/ Hazard
Cancer Risk									
1,4-Dioxane	SVOC		130,000	NA	-	NA	-	0.025 J	1.9E-12
Naphthalene	SVOC		200	NA	-	NA	-	4.1 B	0
Benzene	VOC		69	1 UJ	0	1 UJ	0	1 U	0
Ethylbenzene	VOC		150	1 U	0	1 U	0	1 U	0
Methyl tert-butyl ether (MTBE)	VOC		20,000	11.3	5.7E-09	0.89 J	4.5E-10	1 U	0
Cumulative Vapor Intrusion Cancer Risk					6E-09		4E-10		2E-12
Non-Cancer Hazard									
Cumulative Vapor Intrusion Non-Cancer Hazard					0		0		0

Highlighted values indicate exceedances of the cumulative vapor intrusion criteria:
TCR>1E-05 THI>1
Conc. = Concentration
NA = Not analyzed
*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.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

Table 12
Summary of VOCs Detected in Sub-Slab Soil Gas
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B2-056-SG	B2-057-SG	B2-058-SG	B2-059-SG*	B2-060-SG*	B2-061-SG*
Volatile Organic Compound								
1,1,1-Trichloroethane	µg/m3	2,200,000	**5.6**	**16.2**	**6.64**	**6.73**	**4.8**	**26.6**
1,2,4-Trimethylbenzene	µg/m3	3,100	**1.44**	**1.5**	**1.96**	**2.38**	**4.53**	**3.03**
1,2-Dichloroethene (Total)	µg/m3	2,700	0.79 U	**2.99**	0.79 U	0.79 U	0.79 U	0.79 U
1,4-Dichlorobenzene	µg/m3	1,200	1.2 U	1.2 U	**3.24**	1.2 U	1.2 U	1.2 U
1,4-Dioxane	µg/m3	250	**0.74**	**1.17**	0.72 U	**0.98**	0.72 U	**1.42**
2-Butanone (MEK)	µg/m3	2,200,000	**4**	**18.8**	**8.03**	**15**	**13.3**	**30.1**
Acetone	µg/m3	14,000,000	**20.4**	**49.3**	**25.1**	**219**	**176**	**278**
Benzene	µg/m3	1,600	0.64 U	0.64 U	0.64 U	**3.64**	**4.71**	**8.27**
Bromodichloromethane	µg/m3		1.34 U	**3.69**	1.34 U	**21.9**	**18.9**	**35.3**
Carbon disulfide	µg/m3	310,000	**27.5**	**2.44**	**2.59**	**112**	**71.2**	**193**
Chloroform	µg/m3	540	**4.33**	**25.1**	**2.55**	**192**	**154**	**236**
Chloromethane	µg/m3	40,000	0.41 U	0.41 U	0.41 U	**0.98**	**1.14**	**1.33**
Cyclohexane	µg/m3	2,700,000	1.72 U	1.72 U	1.72 U	**2.72**	**4.34**	**5.69**
Dibromochloromethane	µg/m3	460	1.7 U	1.7 U	1.7 U	1.7 U	**1.73**	**2.15**
Dichlorodifluoromethane	µg/m3	44,000	**1,200**	**89.6**	**48.2**	**2.81**	**3.02**	**2.93**
Ethylbenzene	µg/m3	5,000	0.87 U	0.87 U	0.87 U	**1.08**	**3.87**	**1.55**
Methylene Chloride	µg/m3	270,000	0.78 U	0.78 U	0.78 U	**1.81**	**1.81**	**1.92**
Naphthalene	µg/m3	370	2.62 U	2.62 U	2.62 U	**5.1**	2.62 U	**8.88**
Tetrachloroethene	µg/m3	18,000	1.36 U	**2.6**	1.36 U	**5.46**	1.36 U	1.36 U
Toluene	µg/m3	2,200,000	**2.01**	**3.63**	**1.93**	**10.1**	**44.8**	**17.7**
trans-1,2-Dichloroethene	µg/m3	27,000	0.79 U	**2.98**	0.79 U	0.79 U	0.79 U	0.79 U
Trichlorofluoromethane	µg/m3	310,000	**1.53**	**1.38**	**1.51**	**2.17**	**1.79**	**2.21**
Vinyl chloride	µg/m3	2,800	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	**0.71**
Xylenes	µg/m3	44,000	**1.5**	**1.8**	**1.58**	**4.59**	**15.4**	**7**

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

*Indicates non-validated data

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

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

EnviroAnalytics Group

Parcel B2 - Table 13

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample: *B2-001-SB-1*					
2,3,4,6-Tetrachlorophenol	0.076	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.19	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.076	mg/kg	210	no	R
2,4-Dichlorophenol	0.076	mg/kg	2,500	no	R
2,4-Dinitrophenol	0.19	mg/kg	1,600	no	R
2-Chlorophenol	0.076	mg/kg	5,800	no	R
2-Methylphenol	0.076	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Pentachlorophenol	0.19	mg/kg	4	no	R
Phenol	0.076	mg/kg	250,000	no	R
Sample: *B2-001-SB-5*					
1,4-Dioxane	0.086	mg/kg	24	no	R
Sample: *B2-005-SB-1*					
2,3,4,6-Tetrachlorophenol	0.074	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.19	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.074	mg/kg	210	no	R
2,4-Dichlorophenol	0.074	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.074	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.19	mg/kg	1,600	no	R
2-Chlorophenol	0.074	mg/kg	5,800	no	R
2-Methylphenol	0.074	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Pentachlorophenol	0.19	mg/kg	4	no	R
Phenol	0.074	mg/kg	250,000	no	R
Sample: *B2-005-SB-5*					
2,3,4,6-Tetrachlorophenol	0.073	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample:	***B2-005-SB-5***				
2,4,6-Trichlorophenol	0.073	mg/kg	210	no	R
2,4-Dichlorophenol	0.073	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.073	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.073	mg/kg	5,800	no	R
2-Methylphenol	0.073	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.073	mg/kg	250,000	no	R
Sample:	***B2-009-SB-1***				
Benzaldehyde	0.07	mg/kg	120,000	no	R
Sample:	***B2-009-SB-5***				
Benzaldehyde	0.093	mg/kg	120,000	no	R
Sample:	***B2-011-SB-1***				
2,3,4,6-Tetrachlorophenol	0.073	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.073	mg/kg	210	no	R
2,4-Dichlorophenol	0.073	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.073	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.073	mg/kg	5,800	no	R
2-Methylphenol	0.073	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Benzaldehyde	0.073	mg/kg	120,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.073	mg/kg	250,000	no	R
Sample:	***B2-011-SB-5***				
Benzaldehyde	0.074	mg/kg	120,000	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample: ***B2-011-SB-8***					
1,4-Dioxane	5.5	mg/kg	24	no	R
Benzaldehyde	1.5	mg/kg	120,000	no	R
Sample: ***B2-012-SB-3.5***					
Benzaldehyde	0.072	mg/kg	120,000	no	R
Sample: ***B2-012-SB-5***					
Benzaldehyde	0.076	mg/kg	120,000	no	R
Sample: ***B2-013-SB-1***					
1,4-Dioxane	0.098	mg/kg	24	no	R
Benzaldehyde	0.069	mg/kg	120,000	no	R
Sample: ***B2-013-SB-5***					
1,4-Dioxane	0.087	mg/kg	24	no	R
Benzaldehyde	1.4	mg/kg	120,000	no	R
Sample: ***B2-015-SB-1***					
Benzaldehyde	0.071	mg/kg	120,000	no	R
Sample: ***B2-015-SB-5***					
Benzaldehyde	0.08	mg/kg	120,000	no	R
Sample: ***B2-016-SB-1***					
Benzaldehyde	0.071	mg/kg	120,000	no	R
Sample: ***B2-016-SB-5***					
Benzaldehyde	0.075	mg/kg	120,000	no	R
Sample: ***B2-017-SB-1***					
Benzaldehyde	0.072	mg/kg	120,000	no	R
Sample: ***B2-017-SB-5***					
Benzaldehyde	0.079	mg/kg	120,000	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample:	***B2-021-SB-4***				
1,4-Dioxane	0.096	mg/kg	24	no	R
Sample:	***B2-026-SB-1***				
2,3,4,6-Tetrachlorophenol	0.075	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.19	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.075	mg/kg	210	no	R
2,4-Dichlorophenol	0.075	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.075	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.19	mg/kg	1,600	no	R
2-Chlorophenol	0.075	mg/kg	5,800	no	R
2-Methylphenol	0.075	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Pentachlorophenol	0.19	mg/kg	4	no	R
Phenol	0.075	mg/kg	250,000	no	R
Sample:	***B2-026-SB-5***				
1,4-Dioxane	0.11	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.077	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.19	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.077	mg/kg	210	no	R
2,4-Dichlorophenol	0.077	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.077	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.19	mg/kg	1,600	no	R
2-Chlorophenol	0.077	mg/kg	5,800	no	R
2-Methylphenol	0.077	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Pentachlorophenol	0.19	mg/kg	4	no	R
Phenol	0.077	mg/kg	250,000	no	R
Sample:	***B2-028-SB-1***				
1,4-Dioxane	0.088	mg/kg	24	no	R
Benzaldehyde	0.074	mg/kg	120,000	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample: ***B2-028-SB-5***					
1,4-Dioxane	0.13	mg/kg	24	no	R
Sample: ***B2-036-SB-1***					
1,4-Dioxane	0.14	mg/kg	24	no	R
Benzaldehyde	0.071	mg/kg	120,000	no	R
Sample: ***B2-036-SB-5***					
1,4-Dioxane	0.15	mg/kg	24	no	R
Sample: ***B2-037-SB-1***					
1,4-Dioxane	0.12	mg/kg	24	no	R
Sample: ***B2-037-SB-5***					
1,4-Dioxane	0.28	mg/kg	24	no	R
Sample: ***B2-038-SB-1***					
2,3,4,6-Tetrachlorophenol	0.071	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.071	mg/kg	210	no	R
2,4-Dichlorophenol	0.071	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.071	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.071	mg/kg	5,800	no	R
2-Methylphenol	0.071	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.071	mg/kg	250,000	no	R
Sample: ***B2-038-SB-5***					
Pentachlorophenol	0.18	mg/kg	4	no	R
Sample: ***B2-040-SB-7***					
1,4-Dioxane	0.13	mg/kg	24	no	R

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample:	***B2-042-SB-1***				
2,3,4,6-Tetrachlorophenol	0.073	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.073	mg/kg	210	no	R
2,4-Dichlorophenol	0.073	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.073	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.073	mg/kg	5,800	no	R
2-Methylphenol	0.073	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.073	mg/kg	250,000	no	R
Sample:	***B2-042-SB-5***				
2,3,4,6-Tetrachlorophenol	0.071	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.071	mg/kg	210	no	R
2,4-Dichlorophenol	0.071	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.071	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.071	mg/kg	5,800	no	R
2-Methylphenol	0.071	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.071	mg/kg	250,000	no	R
Sample:	***B2-043-SB-1***				
2,3,4,6-Tetrachlorophenol	0.072	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.072	mg/kg	210	no	R
2,4-Dichlorophenol	0.072	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.072	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.072	mg/kg	5,800	no	R
2-Methylphenol	0.072	mg/kg	41,000	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample:	***B2-043-SB-1***				
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.072	mg/kg	250,000	no	R
Sample:	***B2-043-SB-4***				
1,4-Dioxane	0.095	mg/kg	24	no	R
Sample:	***B2-047-SB-4***				
1,4-Dioxane	0.094	mg/kg	24	no	R
Sample:	***B2-048-SB-1***				
2,3,4,6-Tetrachlorophenol	0.074	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.19	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.074	mg/kg	210	no	R
2,4-Dichlorophenol	0.074	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.074	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.19	mg/kg	1,600	no	R
2-Chlorophenol	0.074	mg/kg	5,800	no	R
2-Methylphenol	0.074	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Pentachlorophenol	0.19	mg/kg	4	no	R
Phenol	0.074	mg/kg	250,000	no	R
Sample:	***B2-049-SB-1***				
1,4-Dioxane	0.1	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.071	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.071	mg/kg	210	no	R
2,4-Dichlorophenol	0.071	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.071	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.071	mg/kg	5,800	no	R
2-Methylphenol	0.071	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample:	***B2-049-SB-1***				
Benzaldehyde	0.071	mg/kg	120,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.071	mg/kg	250,000	no	R
Sample:	***B2-049-SB-4***				
1,4-Dioxane	0.088	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.071	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.071	mg/kg	210	no	R
2,4-Dichlorophenol	0.071	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.071	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.071	mg/kg	5,800	no	R
2-Methylphenol	0.071	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Benzaldehyde	0.071	mg/kg	120,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.071	mg/kg	250,000	no	R
Sample:	***B2-050-SB-1***				
Benzaldehyde	0.072	mg/kg	120,000	no	R
Sample:	***B2-050-SB-5***				
2,3,4,6-Tetrachlorophenol	0.073	mg/kg	25,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
Benzaldehyde	0.073	mg/kg	120,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Sample:	***B2-051-SB-1***				
2,3,4,6-Tetrachlorophenol	0.071	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.071	mg/kg	210	no	R
2,4-Dichlorophenol	0.071	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.071	mg/kg	16,000	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample:	***B2-051-SB-1***				
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.071	mg/kg	5,800	no	R
2-Methylphenol	0.071	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Benzaldehyde	0.071	mg/kg	120,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.071	mg/kg	250,000	no	R
Sample:	***B2-051-SB-5***				
2,3,4,6-Tetrachlorophenol	0.07	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.07	mg/kg	210	no	R
2,4-Dichlorophenol	0.07	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.07	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.07	mg/kg	5,800	no	R
2-Methylphenol	0.07	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Benzaldehyde	0.07	mg/kg	120,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.07	mg/kg	250,000	no	R
Sample:	***B2-053-SB-1***				
1,4-Dioxane	0.13	mg/kg	24	no	R
Sample:	***B2-053-SB-5.5***				
1,4-Dioxane	5	mg/kg	24	no	R
Sample:	***B2-054-SB-1***				
1,4-Dioxane	0.15	mg/kg	24	no	R
Sample:	***B2-054-SB-5***				
1,4-Dioxane	0.092	mg/kg	24	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample: ***B2-055-SB-1***					
1,4-Dioxane	0.13	mg/kg	24	no	R
Sample: ***B2-055-SB-6.5***					
1,4-Dioxane	5.4	mg/kg	24	no	R

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Parcel B2 - Table 14

Rejected Results for Groundwater

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample: ***B2-007-PZ***					
Bromomethane	1	µg/L	7.5	no	R
Sample: ***B2-011-PZ***					
Bromomethane	1	µg/L	7.5	no	R
Sample: ***B2-013-PZ***					
Bromomethane	1	µg/L	7.5	no	R
Sample: ***B2-014-PZ***					
Bromomethane	1	µg/L	7.5	no	R
Sample: ***B2-015-PZ***					
Bromomethane	1	µg/L	7.5	no	R

ARM Group Inc.
Earth Resource Engineers and Consultants

Table 15 - Parcel B2
COPC Screen 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	B2-013-SB-5	1.4	J	0.016	0.13	109	17.43	410	20	no
1,2,3-Trichlorobenzene	87-61-6	B2-026-SB-5	0.0034	J	0.0034	0.003	35	2.86		93	no
1,2,4,5-Tetrachlorobenzene	95-94-3	B2-006-SB-4	0.019	J	0.019	0.02	109	0.92		35	no
1,2,4-Trichlorobenzene	120-82-1	B2-026-SB-5	0.011		0.011	0.01	35	2.86	110	26	no
1,2-Dichloroethane	107-06-2	B2-054-SB-1	0.0017	J	0.0013	0.002	35	5.71	2	14	no
2,4-Dimethylphenol	105-67-9	B2-011-SB-8	1	J	0.019	0.19	95	12.63		1,600	no
2,4-Dinitrotoluene	121-14-2	B2-037-SB-5	0.037	J	0.02	0.03	109	1.83	7.4	160	no
2-Butanone (MEK)	78-93-3	B2-040-SB-7	0.025	J	0.0033	0.01	35	14.29		19,000	no
2-Chloronaphthalene	91-58-7	B2-036-SB-5	0.14	J	0.063	0.11	109	2.75		6,000	no
2-Methylnaphthalene	91-57-6	B2-013-SB-5	10.2		0.00075	0.26	109	93.58		300	no
2-Methylphenol	95-48-7	B2-037-SB-5	0.06	J	0.018	0.04	94	7.45		4,100	no
3,3'-Dichlorobenzidine	91-94-1	B2-014-SB-1.5	0.024	J	0.024	0.02	109	0.92	5.1		no
4-Chloroaniline	106-47-8	B2-007-SB-5	0.47		0.12	0.30	109	1.83	11	330	no
Acenaphthene	83-32-9	B2-011-SB-8	3		0.00057	0.09	109	68.81		4,500	no
Acenaphthylene	208-96-8	B2-046-SB-1	3.2		0.00053	0.14	109	78.90			no
Acetone	67-64-1	B2-055-SB-6.5	14.6	J	0.0074	0.62	35	71.43		67,000	no
Acetophenone	98-86-2	B2-053-SB-5.5	1.2		0.02	0.10	109	16.51		12,000	no
Aluminum	7429-90-5	B2-028-SB-5	61,100		689	18,020	109	99.08		110,000	no
Anthracene	120-12-7	B2-011-SB-8	2.4		0.00046	0.16	109	85.32		23,000	no
Antimony	7440-36-0	B2-017-SB-5	24.1	J	3	10.1	109	2.75		47	no
Aroclor 1248	12672-29-6	B2-029-SB-1	0.15		0.15	0.15	56	1.79	0.95		no
Aroclor 1254	11097-69-1	B2-029-SB-1	0.15		0.025	0.08	56	7.14	0.97	1.5	no
Aroclor 1260	11096-82-5	B2-027-SB-1	0.18		0.0095	0.09	56	10.71	0.99		no
Arsenic	7440-38-2	B2-017-SB-5	173		1.7	9.52	118	85.59	3	48	YES (C/NC)
Barium	7440-39-3	B2-028-SB-5	933		3.3	203	109	100.00		22,000	no
Benz[a]anthracene	56-55-3	B2-046-SB-1	9.4		0.00098	0.43	109	90.83	21		no
Benzaldehyde	100-52-7	B2-031-SB-7 & B2-055-SB-6.5	0.28	- J	0.017	0.06	86	37.21	820	12,000	no
Benzene	71-43-2	B2-055-SB-6.5	0.16	J	0.0022	0.06	35	8.57	5.1	42	no
Benzo[a]pyrene	50-32-8	B2-046-SB-1	10.5		0.0013	0.49	109	88.07	2.1	22	YES (C)
Benzo[b]fluoranthene	205-99-2	B2-050-SB-1	11.3	J	0.0038	0.81	109	89.91	21		no
Benzo[g,h,i]perylene	191-24-2	B2-046-SB-1	5.7		0.00084	0.31	109	88.07			no
Benzo[k]fluoranthene	207-08-9	B2-050-SB-1	7.7	J	0.0015	0.52	109	88.99	210		no

Table 15 - Parcel B2
COPC Screen 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?
Beryllium	7440-41-7	B2-030-SB-5	8.3		0.13	1.67	109	75.23	6,900	230	no
bis(2-Chloroethyl)ether	111-44-4	B2-053-SB-5.5	0.087		0.087	0.09	109	0.92	1		no
bis(2-Ethylhexyl)phthalate	117-81-7	B2-001-SB-5	0.67	J	0.02	0.12	109	24.77	160	1,600	no
Cadmium	7440-43-9	B2-009-SB-5	22		0.38	2.18	109	56.88	9,300	98	no
Caprolactam	105-60-2	B2-011-SB-8	37.9		0.022	2.73	109	15.60		40,000	no
Carbazole	86-74-8	B2-020-SB-4 & B2-004-SB-5	0.43	J -	0.018	0.10	109	30.28			no
Carbon disulfide	75-15-0	B2-023-SB-4	0.0074		0.0026	0.004	35	14.29		350	no
Chromium	7440-47-3	B2-041-SB-1	2,970		3.7	490	110	100.00		180,000	no
Chromium VI	18540-29-9	B2-039-SB-5	16.9		1.2	4.09	111	19.82	6.3	350	YES (C)
Chrysene	218-01-9	B2-046-SB-1	9.4		0.00091	0.43	109	91.74	2,100		no
Cobalt	7440-48-4	B2-018-SB-5	59.1		0.55	8.78	109	91.74	1,900	35	YES (NC)
Copper	7440-50-8	B2-052-SB-1 & B2-017-SB-5	1,220	J	1.5	86.7	109	98.17		4,700	no
Cyanide	57-12-5	B2-047-SB-1	7		0.089	0.84	109	82.57		120	no
Cyclohexane	110-82-7	B2-055-SB-6.5	26.9	J	0.075	15.3	35	8.57		2,700	no
Dibenz[a,h]anthracene	53-70-3	B2-046-SB-1	2		0.0015	0.13	109	63.30	2.1		no
Diethylphthalate	84-66-2	B2-013-SB-5	1	J	0.015	0.11	109	15.60		66,000	no
Di-n-butylphthalate	84-74-2	B2-038-SB-5	0.52	J	0.077	0.23	109	7.34		8,200	no
Di-n-ocytlphthalate	117-84-0	B2-048-SB-1	0.16	J	0.029	0.07	109	3.67		820	no
Ethylbenzene	100-41-4	B2-053-SB-5.5	1.8		0.0028	0.55	35	14.29	25	2,000	no
Fluoranthene	206-44-0	B2-046-SB-1	17.6		0.0015	0.70	109	90.83		3,000	no
Fluorene	86-73-7	B2-011-SB-8	4.5		0.0007	0.14	109	66.97		3,000	no
Hexachloroethane	67-72-1	B2-055-SB-6.5	3.7		0.031	1.21	109	5.50	8	46	no
Indeno[1,2,3-c,d]pyrene	193-39-5	B2-046-SB-1	6.4		0.002	0.32	109	82.57	21		no
Iron	7439-89-6	B2-042-SB-5	318,000		1,460	92,574	109	100.00		82,000	YES (NC)
Isophorone	78-59-1	B2-014-SB-7	0.58	J	0.071	0.24	109	3.67	2,400	16,000	no
Isopropylbenzene	98-82-8	B2-011-SB-8	9.3		0.025	4.31	35	11.43		990	no
Lead^	7439-92-1	B2-017-SB-5	12,000	J	1.2	333	109	95.41		800	YES (NC)
Manganese	7439-96-5	B2-016-SB-1	59,300		16.3	12,000	111	100.00		2,600	YES (NC)
Mercury	7439-97-6	B2-017-SB-5	1.7	J+	0.0046	0.13	109	57.80		35	no
Naphthalene	91-20-3	B2-011-SB-8	2.8		0.0035	0.18	109	64.22	17	59	no
Nickel	7440-02-0	B2-018-SB-5	398		1.4	37.3	109	99.08	64,000	2,200	no

Table 15 - Parcel B2
COPC Screen 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?
Nitrobenzene	98-95-3	B2-055-SB-6.5	0.3	J	0.3	0.30	109	0.92	22	130	no
N-Nitrosodiphenylamine	86-30-6	B2-014-SB-7	3.8		0.017	0.98	109	7.34	470		no
PCBs (total)*	1336-36-3	B2-029-SB-1	0.3		0.039	0.12	56	14.29	0.94		no
Phenanthrene	85-01-8	B2-011-SB-8	8.9		0.0007	0.53	109	91.74			no
Phenol	108-95-2	B2-023-SB-4	0.18		0.028	0.07	94	9.57		25,000	no
Pyrene	129-00-0	B2-046-SB-1	11.5		0.0014	0.61	109	91.74		2,300	no
Selenium	7782-49-2	B2-054-SB-1	6.2		2	3.39	109	6.42		580	no
Silver	7440-22-4	B2-016-SB-1	93.9	J	0.96	16.0	109	99.08		580	no
Toluene	108-88-3	B2-053-SB-5.5	0.19	J	0.0076	0.10	35	5.71		4,700	no
Vanadium	7440-62-2	B2-016-SB-1	3,300	J	3.8	422	109	100.00		580	YES (NC)
Xylenes	1330-20-7	B2-053-SB-5.5	1.4		0.44	0.80	35	8.57		250	no
Zinc	7440-66-6	B2-017-SB-1	18,800		2.8	758	109	99.08		35,000	no

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

COPC = Constituent of Potential Concern
TR = Target Risk C = Comound was identified as a cancer COPC
HQ = Hazard Quotient NC = Compound was identified as a non-cancer COPC

*PCBs (total) include the sum of all detected aroclor mixtures, including those without regional screening levels (e.g. Aroclor 1262, Aroclor 1268) which are not displayed.
^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 16 - Parcel B2
Assessment of Lead

Exposure Unit	Surface/Sub-Surface	Arithmetic Mean (mg/kg)
EU1 (25.3 ac.)	Surface	202
	Sub-Surface	1,127
	Pooled	702
EU2 (46.4 ac.)	Surface	75.7
	Sub-Surface	73.6
	Pooled	74.7
EU3 (51.0 ac.)	Surface	85.4
	Sub-Surface	248
	Pooled	163

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

Table 17 - Parcel B2
Soil Exposure Point Concentrations

			EU1 (25.3 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 EU1	EPC EU1 (mg/kg)	EPC Type EU1	EPC EU1 (mg/kg)	EPC Type EU1	EPC EU1 (mg/kg)
Arsenic	3.00	48.0	95% KM (t) UCL	**6.61**	95% KM (BCA) UCL	**33.7**	95% KM (BCA) UCL	**21.6**
Chromium VI	6.30	350	Maximum Value	3.00	Maximum Value	1.20	95% KM (t) UCL	0.77
Cobalt	1,900	35.0	95% KM (t) UCL	9.20	95% KM (Percentile Bootstrap) UCL	18.3	95% KM (Chebyshev) UCL	18.1
Iron		82,000	95% Student's-t UCL	**131,312**	95% Student's-t UCL	56,087	95% Student's-t UCL	**87,378**
Manganese		2,600	95% Student's-t UCL	**27,089**	95% Adjusted Gamma UCL	**7,926**	95% Adjusted Gamma UCL	**17,869**
Vanadium		580	95% Adjusted Gamma UCL	**1,385**	95% Adjusted Gamma UCL	136	95% Chebyshev (Mean, Sd) UCL	**887**
Benzo[a]pyrene	2.10	22.0	99% KM (Chebyshev) UCL	**6.90**	95% KM (Chebyshev) UCL	0.49	99% KM (Chebyshev) UCL	**3.29**

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

Table 17 - Parcel B2
Soil Exposure Point Concentrations

			EU2 (46.4 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 EU2	EPC EU2 (mg/kg)	EPC Type EU2	EPC EU2 (mg/kg)	EPC Type EU2	EPC EU2 (mg/kg)
Arsenic	3.00	48.0	95% Adjusted Gamma KM-UCL	**7.39**	95% KM (Chebyshev) UCL	**14.2**	95% KM (Chebyshev) UCL	**10.7**
Chromium VI	6.30	350	95% KM (t) UCL	1.28	Maximum Value	**8.50**	95% Adjusted Gamma KM-UCL	1.58
Cobalt	1,900	35.0	95% KM (t) UCL	6.00	95% H-UCL	17.6	95% KM (Chebyshev) UCL	13.5
Iron		82,000	95% Adjusted Gamma UCL	**105,692**	95% Adjusted Gamma UCL	**128,169**	95% H-UCL	**126,025**
Manganese		2,600	95% Student's-t UCL	**13,271**	99% Chebyshev (Mean, Sd) UCL	**41,483**	95% Adjusted Gamma UCL	**15,621**
Vanadium		580	95% Adjusted Gamma UCL	542	95% Adjsuted Gamma UCL	**1,008**	95% Chebyshev (Mean, Sd) UCL	**774**
Benzo[a]pyrene	2.10	22.0	95% KM (Chebyshev) UCL	2.03	95% KM (Chebyshev) UCL	0.97	95% KM (Chebyshev) UCL	1.31

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

Table 17 - Parcel B2
Soil Exposure Point Concentrations

			EU3 (51.0 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 EU3	EPC EU3 (mg/kg)	EPC Type EU3	EPC EU3 (mg/kg)	EPC Type EU3	EPC EU3 (mg/kg)
Arsenic	3.00	48.0	95% KM (t) UCL	**6.55**	95% KM (t) UCL	**9.61**	95% KM (t) UCL	**7.62**
Chromium VI	6.30	350	95% KM (t) UCL	3.37	Maximum Value	**16.9**	95% Adjusted Gamma KM-UCL	3.29
Cobalt	1,900	35.0	95% KM (Chebyshev) UCL	10.4	95% GROS Adjusted Gamma UCL	19.5	95% GROS Adjusted Gamma UCL	10.5
Iron		82,000	95% Student's-t UCL	**188,724**	95% Chebyshev (Mean, Sd) UCL	**190,113**	95% Chebyshev (Mean, Sd) UCL	**191,450**
Manganese		2,600	95% Student's-t UCL	**25,593**	95% Adjusted Gamma UCL	**17,268**	95% Adjusted Gamma UCL	**22,075**
Vanadium		580	95% Student's-t UCL	**709**	95% Chebyshev (Mean, Sd) UCL	**1,191**	95% Adjusted Gamma UCL	**700**
Benzo[a]pyrene	2.10	22.0	99% KM (Chebyshev) UCL	0.96	95% KM (Chebyshev) UCL	1.14	99% KM (Chebyshev) UCL	1.18

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

Table 18 - Parcel B2
Surface Soils
Composite Worker Risk Ratios

		EU1 (25.3 ac.)					EU2 (46.4 ac.)					EU3 (51.0 ac.)				
			Composite Worker					Composite Worker					Composite Worker			
			RSLs		Risk Estimates			RSLs		Risk Estimates			RSLs		Risk Estimates	
Parameter	Target Organ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ
Arsenic	Cardiovascular; Dermal	6.61	3.00	480	2.2E-06	0.01	7.39	3.00	480	2.5E-06	0.02	6.55	3.00	480	2.2E-06	0.01
Chromium VI	Respiratory	**3.00**	6.30	3,500	4.8E-07	0.0009	1.28	6.30	3,500	2.0E-07	0.0004	3.37	6.30	3,500	5.3E-07	0.001
Cobalt	Thyroid	9.20	1,900	350	4.8E-09	0.03	6.00	1,900	350	3.2E-09	0.02	10.4	1,900	350	5.5E-09	0.03
Iron	Gastrointestinal	131,312		820,000		0.2	105,692		820,000		0.1	188,724		820,000		0.2
Manganese	Nervous	27,089		26,000		1	13,271		26,000		0.5	25,593		26,000		1
Vanadium	Dermal	1,385		5,800		0.2	542		5,800		0.09	709		5,800		0.1
Benzo[a]pyrene	Developmental	6.90	2.10	220	3.3E-06	0.03	2.03	2.10	220	9.7E-07	0.009	0.96	2.10	220	4.6E-07	0.004
					6E-06	↓				**4E-06**	↓				**3E-06**	↓

Bold indicates maximum value
RSLs were obtained from the EPA Regional Screening Levels at https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search

Total HI	EU1	EU2	EU3
Cardiovascular	0	0	0
Dermal	0	0	0
Respiratory	0	0	0
Thyroid	0	0	0
Gastrointestinal	0	0	0
Nervous	1	1	1
Developmental	0	0	0

Table 19 - Parcel B2
Sub-Surface Soils
Composite Worker Risk Ratios

		EU1 (25.3 ac.)					EU2 (46.4 ac.)					EU3 (51.0 ac.)				
			Composite Worker					Composite Worker					Composite Worker			
			RSLs		Risk Estimates			RSLs		Risk Estimates			RSLs		Risk Estimates	
Parameter	Target Organ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ
Arsenic	Cardiovascular; Dermal	33.7	3.00	480	1.1E-05	0.07	14.2	3.00	480	4.7E-06	0.03	9.61	3.00	480	3.2E-06	0.02
Chromium VI	Respiratory	**1.20**	6.30	3,500	1.9E-07	0.0003	**8.50**	6.30	3,500	1.3E-06	0.002	**16.9**	6.30	3,500	2.7E-06	0.005
Cobalt	Thyroid	18.3	1,900	350	9.6E-09	0.05	17.6	1,900	350	9.3E-09	0.05	19.5	1,900	350	1.0E-08	0.06
Iron	Gastrointestinal	56,087		820,000		0.07	128,169		820,000		0.2	190,113		820,000		0.2
Manganese	Nervous	7,926		26,000		0.3	41,483		26,000		2	17,268		26,000		0.7
Vanadium	Dermal	136		5,800		0.02	1,008		5,800		0.2	1,191		5,800		0.2
Benzo[a]pyrene	Developmental	0.49	2.10	220	2.3E-07	0.002	0.97	2.10	220	4.6E-07	0.004	1.14	2.10	220	5.4E-07	0.005
					1E-05	↓				**7E-06**	↓				**6E-06**	↓

Bold indicates maximum value
RSLs were obtained from the EPA Regional Screening Levels at https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	0
	Developmental	0

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	2
	Developmental	0

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	1
	Developmental	0

Table 20 - Parcel B2
Pooled Soils
Composite Worker Risk Ratios

		EU1 (25.3 ac.)					EU2 (46.4 ac.)					EU3 (51.0 ac.)				
			Composite Worker					Composite Worker					Composite Worker			
			RSLs		Risk Estimates			RSLs		Risk Estimates			RSLs		Risk Estimates	
Parameter	Target Organ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ
Arsenic	**Cardiovascular; Dermal**	21.6	3.00	480	7.2E-06	0.05	10.7	3.00	480	3.6E-06	0.02	7.62	3.00	480	2.5E-06	0.02
Chromium VI	**Respiratory**	0.77	6.30	3,500	1.2E-07	0.0002	1.58	6.30	3,500	2.5E-07	0.0005	3.29	6.30	3,500	5.2E-07	0.0009
Cobalt	**Thyroid**	18.1	1,900	350	9.5E-09	0.05	13.5	1,900	350	7.1E-09	0.04	10.5	1,900	350	5.5E-09	0.03
Iron	**Gastrointestinal**	87,378		820,000		0.1	126,025		820,000		0.2	191,450		820,000		0.2
Manganese	**Nervous**	17,869		26,000		0.7	15,621		26,000		0.6	22,075		26,000		0.8
Vanadium	**Dermal**	887		5,800		0.2	774		5,800		0.1	700		5,800		0.1
Benzo[a]pyrene	**Developmental**	3.29	2.10	220	1.6E-06	0.01	1.31	2.10	220	6.2E-07	0.006	1.18	2.10	220	5.6E-07	0.005
					9E-06	↓				**4E-06**	↓				**4E-06**	↓

RSLs were obtained from the EPA Regional Screening Levels at https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search

EU1:

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	1
	Developmental	0

EU2:

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	1
	Developmental	0

EU3:

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	1
	Developmental	0

Table 21 - Parcel B2
Surface Soils
Construction Worker Risk Ratios

		EU1 - 55 days (25.3 ac.)					EU2 - 35 days (46.4 ac.)					EU3 - 60 days (51.0 ac.)				
		EPC	Construction Worker				EPC	Construction Worker				EPC	Construction Worker			
			SSLs		Risk Estimates			SSLs		Risk Estimates			SSLs		Risk Estimates	
Parameter	**Target Organ**	**mg/kg**	**Cancer**	**Non-Cancer**	**Risk**	**HQ**	**mg/kg**	**Cancer**	**Non-Cancer**	**Risk**	**HQ**	**mg/kg**	**Cancer**	**Non-Cancer**	**Risk**	**HQ**
Arsenic	**Cardiovascular; Dermal**	6.61	68.8	437	9.6E-08	0.02	7.39	108	689	6.8E-08	0.01	6.55	63.1	402	1.0E-07	0.02
Chromium VI	**Respiratory**	**3.00**	97.2	3,637	3.1E-08	0.0008	1.28	155	5,723	8.3E-09	0.0002	3.37	90.3	3,339	3.7E-08	0.001
Cobalt	**Thyroid**	9.20	18,093	4,257	5.1E-10	0.002	6.00	37,095	6,836	1.6E-10	0.0009	10.4	22,576	3,999	4.6E-10	0.003
Iron	**Gastrointestinal**	131,312		1,093,370		0.1	105,692		1,718,152		0.06	188,724		1,002,256		0.2
Manganese	**Nervous**	27,089		18,546		1	13,271		30,271		0.4	25,593		17,751		1
Vanadium	**Dermal**	1,385		7,237		0.2	542		11,456		0.05	709		6,689		0.1
Benzo[a]pyrene	**Developmental**	6.90	76.6	22.3	9.0E-08	0.3	2.03	118	26.0	1.7E-08	0.08	0.96	69.9	19.3	1.4E-08	0.05
					2E-07	↓				**9E-08**	↓				**2E-07**	↓

Bold indicates maximum value
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
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	1
	Developmental	0

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	0
	Developmental	0

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	1
	Developmental	0

Table 22 - Parcel B2
Sub-Surface Soils
Construction Worker Risk Ratios

		EU1 - 55 days (25.3 ac.)					EU2 - 35 days (46.4 ac.)					EU3 - 60 days (51.0 ac.)				
			Construction Worker					Construction Worker					Construction Worker			
		EPC	SSLs		Risk Estimates		EPC	SSLs		Risk Estimates		EPC	SSLs		Risk Estimates	
Parameter	Target Organ	mg/kg	Cancer	Non-Cancer	Risk	HQ	mg/kg	Cancer	Non-Cancer	Risk	HQ	mg/kg	Cancer	Non-Cancer	Risk	HQ
Arsenic	Cardiovascular; Dermal	33.7	68.8	437	4.9E-07	0.08	14.2	108	689	1.3E-07	0.02	9.61	63.1	402	1.5E-07	0.02
Chromium VI	Respiratory	**1.20**	97.2	3,637	1.2E-08	0.0003	**8.50**	155	5,723	5.5E-08	0.001	**16.9**	90.3	3,339	1.9E-07	0.005
Cobalt	Thyroid	18.3	18,093	4,257	1.0E-09	0.004	17.6	37,095	6,836	4.7E-10	0.003	19.5	22,576	3,999	8.6E-10	0.005
Iron	Gastrointestinal	56,087		1,093,370		0.05	128,169		1,718,152		0.07	190,113		1,002,256		0.2
Manganese	Nervous	7,926		18,546		0.4	41,483		30,271		1	17,268		17,751		1
Vanadium	Dermal	136		7,237		0.02	1,008		11,456		0.09	1,191		6,689		0.2
Benzo[a]pyrene	Developmental	0.49	76.6	22.3	6.4E-09	0.02	0.97	118	26.0	8.2E-09	0.04	1.14	69.9	19.3	1.6E-08	0.06
					5E-07	↓				**2E-07**	↓				**4E-07**	↓

Bold indicates maximum value
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
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	0
	Developmental	0

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	1
	Developmental	0

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	1
	Developmental	0

Table 23 - Parcel B2
Pooled Soils
Construction Worker Risk Ratios

		EU1 - 55 days (25.3 ac.)					EU2 - 35 days (46.4 ac.)					EU3 - 60 days (51.0 ac.)				
		EPC mg/kg	Construction Worker				EPC mg/kg	Construction Worker				EPC mg/kg	Construction Worker			
			SSLs		Risk Estimates			SSLs		Risk Estimates			SSLs		Risk Estimates	
Parameter	**Target Organ**		**Cancer**	**Non-Cancer**	**Risk**	**HQ**		**Cancer**	**Non-Cancer**	**Risk**	**HQ**		**Cancer**	**Non-Cancer**	**Risk**	**HQ**
Arsenic	**Cardiovascular; Dermal**	21.6	68.8	437	3.1E-07	0.05	10.7	108	689	9.9E-08	0.02	7.62	63.1	402	1.2E-07	0.02
Chromium VI	**Respiratory**	0.77	97.2	3,637	7.9E-09	0.0002	1.58	155	5,723	1.0E-08	0.0003	3.29	90.3	3,339	3.6E-08	0.001
Cobalt	**Thyroid**	18.1	18,093	4,257	1.0E-09	0.004	13.5	37,095	6,836	3.6E-10	0.002	10.5	22,576	3,999	4.7E-10	0.003
Iron	**Gastrointestinal**	87,378		1,093,370		0.08	126,025		1,718,152		0.07	191,450		1,002,256		0.2
Manganese	**Nervous**	17,869		18,546		1	15,621		30,271		0.5	22,075		17,751		1
Vanadium	**Dermal**	887		7,237		0.1	774		11,456		0.07	700		6,689		0.1
Benzo[a]pyrene	**Developmental**	3.29	76.6	22.3	4.3E-08	0.1	1.31	118	26.0	1.1E-08	0.05	1.18	69.9	19.3	1.7E-08	0.06
					4E-07	↓				**1E-07**	↓				**2E-07**	↓

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
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	1
	Developmental	0

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	1
	Developmental	0

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	1
	Developmental	0

APPENDIX A

Parcel B2 Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Table 1 - Soil Borings

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
Tank (unknown contents)	N/A	Drawing 5133 and Drawing 5134	Investigate potential impacts related to the tank with unknown contents (potential leaks or releases).	2	B2-001 and B2-002	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 Diesel Fuel UST Area	HREC, Finding 236, AOC Q	DCC Report	The Phase I ESA included information regarding a steel 1,000-gallon No. 2 fuel oil tank that was removed on December 6, 1989 from near the eastern end of Slab Haul Road. Corrosion pitting was observed on the outer tank surface, but soil BTEX concentrations were at or below minimum detectable levels. Contaminated soil was removed and the remediation was approved by MDE. The DCC Report recommended that no further action was needed for this area.	2	B2-003 and B2-004	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')
Slab Hauler Repair Shop	N/A	DCC Report	Investigate potential impacts related to the slab hauler repair shop (potential leaks or releases).	2	B2-005 and B2-006	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')
ASTs	REC 15A-15B, Findings 252, AOC H	Drawing 5128	During the Phase I ESA site visit, the Plant Garage (replaced the Mason's Garage) was observed to be conducting refueling and maintenance activities for the vehicles currently operating at the Plant Property. Weaver Boos observed several ASTs, fuel dispensers, and drums. The ASTs appeared to be in fair to good conditions with either secondary containment or of a double-walled construction. However, overfill leaks and staining near the tanks, dispensers and connection piping was observed on the ground surface. These leaks appeared to have occurred over time which may have impacted surface soils, subsurface soils, or groundwater.	2	B2-007 and B2-008	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 B2 Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Table 1 - Soil Borings

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
Mason's [Plant] Garage Drums	REC 15A - 15B, Finding 253, AOC H, SWMU 197	DCC Report	During the Phase I ESA site visit, the Plant Garage (replaced the Mason's Garage) was observed to be conducting refueling and maintenance activities for the vehicles currently operating at the Plant Property. Weaver Boos observed several ASTs, fuel dispensers, and drums. The drums in this storage area appeared to be in good condition. The DCC Report indicated that these drums were a no further action item.	2	B2-009 and B2-010	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')
Mason's [Plant] Garage Former USTs and Gas Pumps	REC 15A - 15B, Finding 254, AOC H	DCC Report	According to the Phase I ESA and the DCC Report, USTs previously containing gasoline, diesel fuel, and waste oil products were closed without assessment sampling at the Plant Garage.	5	B2-011 through B2-015	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')
Possible USTs	REC 15A - 15B, Finding 254, AOC H	UST Closure Report Sketch	According to the Phase I ESA and the DCC Report, USTs previously containing gasoline, diesel fuel, and waste oil products were closed without assessment sampling at the Plant Garage.	2	B2-016 and B2-017	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')
Sludge and Acid Trailers	N/A	Drawing 5028 and Drawing 5128	Investigate potential impacts related to sludge trailers and acid trailers (potential leaks or releases).	2	B2-018 and B2-019	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')
Residential Town Tanks (3)	REC 21, Finding 271	REC Location Map	According to the Weaver Boos review of *fire insurance maps* , at least three buildings located in the Sparrows Point residential town were identified to have boiler rooms. Weaver Boos noted their experience which indicated that boiler rooms are often supplied fuel oil from tanks located within or along the exterior to the building. There is no further information of these tanks currently available regarding their locality (UST or AST), contents, use, removal, or spill/leaks history.	9	B2-020 through B2-028	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 B2 Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Table 1 - Soil Borings

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
Scrap Processing Facility and Bulk Petroleum Storage	REC 9C, Finding 239	REC Location Map and Drawing 5534	According to FOIA documents provided by Baltimore County, bulk petroleum storage area was located northwest of the town in the former rolling mills area. The extent of how many petroleum products, storage area conditions, or conditions of the storage containers remain unknown. Therefore, a release to the environment may have occurred in this area.	3	B2-029 through B2-031	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')
Steelside Electronics Building	N/A	Drawing 5127	Investigate potential impacts related to Steelside Electronics Building (potential leaks or releases).	2	B2-032 and B2-033	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')
Sub-station (2)	N/A	Drawing 5127 and Drawing 5128	Investigate potential impacts related to sub-stations (potential leaks or releases).	4	B2-034 through B2-037	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 B2 Coverage	N/A	N/A	Investigate potential impacts related to unknown historical activities, and characterize soil and groundwater in areas not previously sampled.	15	B2-038 through B2-052	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')
Mason's Garage	N/A	Drawing 5128 and UST Closure Report Sketch	MDE Request. USTs previously containing gasoline, diesel fuel, and/or waste oil may have been present at the former Mason's Garage.	3	B2-053 through B2-055	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')
			Total	55				

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

No Engineered Barrier (71-100 acres): 1 boring per 2.5 acres with no less than 35.

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

No Engineered Barrier (90.1 acres) = **37 borings required, 40 proposed**

Engineered Barrier (32.5 acres) = **11 borings required, 15 proposed**

Parking/Roads (30.7 acres)

Buildings (1.8 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 B2 Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Table 2 - Sub-Slab Soil Gas

Source Area/ Description	REC & Finding/ SWMU/ AOC	Figure or Drawing of Reference	RATIONALE	Number of Locations	Sample Locations	Boring Depth	Sample Depth	Analytical Parameters: Sub-Slab Soil Gas
Railroad Office	N/A	Aerial Images	Investigate potential impacts related to any historical activities which may have occurred within or adjacent to the Railroad Office (potential leaks or releases).	3	B2-056 through B2-058	6 inches below bottom of concrete slab	6 inches below bottom of concrete slab	VOC
Slab Hauler Repair Shop	N/A	Aerial Images	Investigate potential impacts related to any historical activities which may have occurred within or adjacent to the Slab Hauler Repair Shop (potential leaks or releases).	3	B2-059 through B2-061	6 inches below bottom of concrete slab	6 inches below bottom of concrete slab	VOC
			Total	6				

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

Soil Gas: 1 sample collected per 20,000 ft^2, with a minimum of 3 per building

Railroad Office (2,880 ft^2) = **3 samples required, 3 proposed**

Slab Hauler Repair Shop (9,260 ft^2) = **3 samples required, 3 proposed**

Table 3 - Supplemental Groundwater Samples

Source Area/ Description	REC & Finding/ SWMU/ AOC	Figure or Drawing of Reference	Condition of Existing Well	Number of Locations	Sample Locations	Boring Depth	Screen Interval	Analytical Parameters: Groundwater Samples†
Plant Garage	REC 15A - 15B	Multiple Sources	*N/A*	5	B2-007, B2-011, B2-013, B2-014, and B2-015	Total depth of 7 feet below water table.	7 feet below water table to 3 feet above water table.	VOC, Total Lead, DRO/GRO
Parcel B2 Coverage	N/A	N/A	*N/A*	1	B2-051	Total depth of 7 feet below water table.	7 feet below water table to 3 feet above water table.	VOC, SVOC, Dissolved Metals, Total Cyanide, Oil & Grease, DRO/GRO
			Total	6				

† Field measurements include pH, DO, ORP, conductivity, temperature.
Dissolved metals analysis includes dissolved hexavalent chromium.

APPENDIX B

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-001-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/2/17
Weather	: Sunny, 70s
Northing (US ft)	: 568,121.05
Easting (US ft)	: 1,459,143.96

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	76	-	B2-001-SB-1	(0-3.7') GRAVELLY SAND with SILT, medium dense to dense, brown with gray, dry to moist, no plasticity, no cohesion	SW/GW	
		6.1				
		50.9				
		6.5				
				(3.7-4') ASPHALT, hard, gray	NA	
		24.3	B2-001-SB-5	(4-6.2') GRAVELLY SAND with SILT, medium dense to dense, brown with gray, dry then moist from 5-6.2' bgs, no plasticity, no cohesion	SW/GW	
5		7.5				
		10.6		(6.2-8.2') SILT, very firm to hard, brown, reddish yellow, and grayish brown, dry, low plasticity, cohesive	ML	
	94	6.4				
		0.5		(8.2-10') SAND, fine to medium grained, brownish yellow, wet, no plasticity, no cohesion	SW	Wet at 8.2' bgs
		0.3				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-002-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/27/17
Weather	: Sunny, 80s
Northing (US ft)	: 568,191.79
Easting (US ft)	: 1,459,178.84

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0				(0-0.2') ORGANIC SILT, soft, brown, dry, no plasticity, no cohesion	OL	
		0.0	B2-002-SB-1	(0.2-0.7') ASPHALT, hard, gray, dry, no plasticity, no cohesion	NA	
				(0.7-0.8') SLAG, SAND and GRAVEL-sized, loose, gray, dry, no plasticity, no cohesion	SW/GW	
		0.0		(0.8-2.8') Non-native GRAVELLY SAND with trace SILT, medium dense, very dark brown with trace gray, dry to moist, no plasticity, no cohesion	SW/GW	
	92	0.0				
				(2.8-4.5') SILT, hard, reddish brown, yellowish red, and gray, dry, low plasticity, cohesive	ML	Trace shells
		0.0	B2-002-SB-4.5			
		0.0		(4.5-9') Intermittent SAND with SILT lenses, fine to very coarse grained, medium dense, reddish brown, wet, no plasticity, no cohesion	SW	Wet at 4.5' bgs Abundant shells
5		-				
	90	-				
		-				
		-		(9-9.5') SILT, very firm, gray, moist, low plasticity, cohesive	ML	
		-		(9.5-10') SILTY SAND, medium dense, gray, wet, no plasticity, no cohesion	SM	
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-003-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/30/17
Weather	: Drizzle, 60s
Northing (US ft)	: 566,860.17
Easting (US ft)	: 1,459,363.98

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	78	-	B2-003-SB-1	(0-0.5') SAND with SILT and GRAVEL, medium dense, brown, dry, no plasticity, no cohesion	SM/GW	
		0.1		(0.5-3') Non-native SANDY GRAVEL, possible cinder ballast, medium dense, very dark brown to black, dry, no plasticity, no cohesion	SW/GW	
		0.0				
		0.7		(3-4.1') Non-native GRAVELLY SAND, loose, strong brown and brown, dry, no plasticity, no cohesion	SW/GW	
			B2-003-SB-4.5			
		0.0		(4.1-4.7') CLAY, firm to soft, yellowish brown, moist, low plasticity, cohesive	CL	
5				(4.7-6') SAND with GRAVEL, medium dense to dense, yellowish brown, wet, no plasticity, no cohesion	SW/GW	Wet at 4.7' bgs
		-				
		-		(6-8') Non-native SANDY GRAVEL with SILT, loose, brown and yellowish brown, wet, no plasticity, no cohesion	SW-GM	
	60	4.9				
		0.0		(8-8.7') SILT, very soft, gray, very moist, low plasticity, cohesive	ML	
		0.0		(8.7-9.5') SAND, medium dense, gray, wet, no plasticity, no cohesion	SW	
		0.0		(9.5-10') SANDY SILT, soft, gray, very moist, low plasticity, cohesion	ML	
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-004-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/30/17
Weather	: Cloudy, 60s
Northing (US ft)	: 566,761.84
Easting (US ft)	: 1,459,325.35

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	60	-	B2-004-SB-1	(0-3') SAND with SILT and GRAVEL, fine to coarse grained, medium dense, brown, dry, no plasticity, no cohesion	SW-SM	
		-				
		2.2				
		0.0		(3-4.3') SANDY GRAVEL, medium dense, dark brown, moist, no plasticity, no cohesion	SW/GW	
		5.7	B2-004-SB-5	(4.3-4.5') SAND, fine to medium grained, very light gray then reddish yellow, very moist, no plasticity, no cohesion	SW	
5				(4.5-6.5') CLAY, firm, light brown and brown, moist, low plasticity, cohesive	CL	
		-				
		-		(6.5-9') SILTY GRAVEL with SAND, very pale brown, wet, no plasticity, no cohesion	GW/SW	Wet at 8' bgs
	56	-				
		0.0				
		0.0		(9-10') SILTY CLAY, soft, light grayish brown, very moist, low plasticity, cohesive	CL	
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-005-SB

(page 1 of 1)

Client	: EnviroAnalytics Group	Date (A)	: 6/1/18
ARM Project No.	: 150300M-6-3	Date	: 6/27/17
Project Description	: Sparrows Point - Parcel B2	Weather	: Sunny, 80s
Site Location	: Sparrows Point, MD		
ARM Representative	: L. Perrin	Northing (US ft) (A)	: 568,104.12
Checked by	: M. Replogle, E.I.T.	Easting (US ft) (A)	: 1,459,369.48
Drilling Company	: Allied Drilling Co.		
Driller	: Rick Miller	Northing (US ft)	: 568,095.39
Drilling Equipment	: Geoprobe 7822DT	Easting (US ft)	: 1,459,390.62

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-005-SB-1	(0-0.2') GRAVEL, coarse grained, loose, light grayish brown, dry, no plasticity, no cohesion	GP	
				(0.2-5') GRAVELLY SAND with some SILT, medium dense, brown with some gray, dry no plasticity, no cohesion		
		0.0				
	84	0.0			SW	No water encountered
		0.3				
		4.0	B2-005-SB-5			
5				End of boring		

Total Borehole Depth: 5' bgs.
Boring terminated at 5' bgs due to refusal.

Analytical data is from samples collected from both B2-005A-SB (6/1/17) and B2-005-SB (6/27/17). B2-005-SB was completed due to refusal and utility restrictions at original location.

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-006-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/2/17
Weather	: Sunny, 70s
Northing (US ft)	: 568,235.46
Easting (US ft)	: 1,459,326.61

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-006-SB-1	(0-1') SANDY SILT with small CLAY lenses and GRAVEL, dark brown, dry, no plasticity, no cohesion	ML	Light organic matter
		0.3		(1-3.5') Non-native SANDY GRAVEL, brown and light brown grading to dark brown, dry, no plasticity, no cohesion	SW/GW	
	80	2.7				
		0.4	B2-006-SB-4	(3.5-4.2') SILTY SAND grading to SANDY GRAVEL, strong brown and brown, dry to moist, no plasticity, no cohesion	SM-GW	
		0.0		(4.2-6') Non-native RUBBLE GRAVEL, medium dense, brown, yellow, and red, wet, no plasticity, no cohesion	GW	Wet at 4.2' bgs
5		-				
		-		(6-8.8') SAND with some SILT lenses, fine to medium grained, medium dense, gray, wet, no plasticity, no cohesion	SW	
	82	-				
		-				
		-		(8.8-10') SILT, soft to firm, gray, moist, low plasticity, cohesive	ML	
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-007-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/23/17
Weather	: Sunny, 80s
Northing (US ft)	: 565,953.27
Easting (US ft)	: 1.461,400.67

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	80	-	B2-007-SB-1	(0-2') SAND with GRAVEL grading to SANDY GRAVEL, loose, brown and dark brown with trace gray and yellow, dry, no plasticity, no cohesion	SW/GW	
		19.9				
		42.8		(2-2.4') CLAYEY SILT with SAND, very firm to hard, yellowish brown and brown, dry, low plasticity, cohesive	ML	
		36.3		(2.4-4') SILTY SAND with GRAVEL, medium dense, brown and yellowish brown with trace gray and yellowish red, trace moisture, no plasticity, no cohesion	SM/GW	
		88.1	B2-007-SB-5	(4-5') SANDY SILT with trace GRAVEL, soft, dark grayish brown, very moist, low plasticity, cohesive	ML	Moderate sheen with fuel-like odor from 4-5' bgs
5		107.8		(5-8') SILTY CLAY, soft to stiff, gray grading to yellowish brown, very moist, low plasticity, cohesive	CL	
	96	0.4				
		0.6				
		12.7		(8-20') CLAY, stiff, light brownish gray with yellowish red, trace moisture, no plasticity, no cohesion		
		4.0	B2-007-SB-10			
10		-				No water encountered
	100	-				
		-			CL	
		-				
15		-				
	80	-				
		-				
		-				
20				End of boring		

Total Borehole Depth: 20' bgs.
Boring terminated at 20' bgs due to maximum allowable depth and piezometer installation.

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-008-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/23/17
Weather	: Cloudy, 80s
Northing (US ft)	: 565,952.31
Easting (US ft)	: 1,461,349.50

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-008-SB-1	(0-3.9') SAND with GRAVEL and trace SILT, loose, brown, dry, no plasticity, no cohesion		
		0.6			SW/GW	
	78	1.0				
		0.5				
		0.5	B2-008-SB-5	(3.9-7.8') SILTY GRAVEL with SAND, dense, light brown with trace yellowish red, moist then wet at 6.5' bgs, no plasticity, no cohesion		
5		-			GM	
		3.8				Wet at 6.5' bgs
	90	2.6				
				(7.8-8.2') SILTY CLAY, hard, light brown with traces of yellowish red, very moist, low plasticity, cohesion	CL	Trace shells
		-		(8.2-10') SILTY GRAVEL with SAND and large CONCRETE AGGREGATE from 9-10' bgs, dense, light brown with trace yellowish red, moist, no plasticity, no cohesion		Light amount of unknown fibers
		75.9			GM	
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-009-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/26/17
Weather	: Sunny, 80s
Northing (US ft)	: 566,053.70
Easting (US ft)	: 1,461,163.04

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-009-SB-1	(0-1.5') GRAVELLY SAND, medium dense, brown with light gray, dry, no plasticity, no cohesion	SW/GW	
		0.0		(1.5-3.5') SILTY SAND with GRAVEL, medium dense to dense, dark brown with red and trace gray and yellow, moist, no plasticity, no cohesion	SM	
	80	0.0				
		0.0		(3.5-4.2') SLAG GRAVEL to COBBLE-sized, medium dense, purple and gray, dry, no plasticity, no cohesion	GW	
		0.0	B2-009-SB-5	(4.2-6') SILTY SAND, very fine to medium grained, medium dense, white, moist, no plasticity, no cohesion	SM	
5		-				
		-		(6-8.1') SANDY GRAVEL, medium dense, brown with reddish yellow, moist, no plasticity, no cohesion	SW/GW	
	60	0.0				
		0.0		(8.1-9') CLAY, soft, brownish gray, very moist, low plasticity, cohesive	CL	
		0.0		(9-10') Non-native GRAVEL with SAND and BRICK, very small sized, loose, dark brown and yellow, wet, no plasticity, no cohesion	GW/SW	Wet at 9' bgs
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-010-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/27/17
Weather	: Sunny, 80s
Northing (US ft)	: 566,139.78
Easting (US ft)	: 1,461,066.98

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-010-SB-1	(0-3') SAND with GRAVEL and SILT at depth, fine to coarse grained, medium dense, brown with gray and trace yellow, dry, no plasticity, no cohesion		
		0.4			SW/GW	
	84	2.2				
		6.4	B2-010-SB-4	(3-3.8') SILT, hard, grayish brown with trace reddish yellow and gray, dry, no plasticity, no cohesion	ML	
		0.7		(3.8-8') SAND with GRAVEL, fine to coarse grained, medium dense, brown with gray and trace yellow with purple GRAVEL at 4.5' bgs, dry then wet at 7.5' bgs, no plasticity, no cohesion		
5		-			SW/GW	
		1.7				
	70	0.0				Wet at 7.5' bgs
		0.0		(8-10') SILTY CLAY, soft, brownish gray grading to grayish brown with trace reddish yellow mottling, very moist, low plasticity, cohesive		
		0.0			CL	
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-011-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/26/17
Weather	: Sunny, 80s
Northing (US ft)	: 566,017.95
Easting (US ft)	: 1,461,361.10

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-011-SB-1	(0-0.4') ASPHALT, hard, dark gray, dry, no plasticity, no cohesion	NA	
		0.0		(0.4-6.5') SAND with GRAVEL to GRAVELLY SAND, medium dense to loose, brown and light olive brown, dry, no plasticity, no cohesion		
	76	0.0				
		0.0			SW/GW	
		6.9	B2-011-SB-5			
5		-				
		3.4		(6.5-7') SAND, fine to medium grained, medium dense, very light brown, very moist, no plasticity, no cohesion	SW	Wet at 7' bgs
	80	8.2	B2-011-SB-8	(7-8') SAND with trace GRAVEL, fine to medium grained, brown and dark gray, wet, no plasticity, no cohesion	SW	Light amount of visible NAPL and strong fuel-like odor from 7-9' bgs
		291.2		(8-10.5') CLAY, soft, gray, moist, low plasticity to medium plasticity, cohesive		
		69.9			CL	
10		-		(10.5-13') CLAY, very firm to hard, light grayish brown and reddish yellow mottling, dry, low plasticity, cohesive		
	67	-			CL	
				End of boring		
15						

Total Borehole Depth: 13' bgs.
Boring terminated at 13' bgs due to water and piezometer installation.

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-012-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/26/17
Weather	: Sunny, 80s
Northing (US ft)	: 566,018.91
Easting (US ft)	: 1,461,336.21

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	84	-		(0-3.5') ASPHALT, hard, dark gray, dry, no plasticity, no cohesion	NA	
		1.3				
		1.9	B2-012-SB-3.5			
		0.0		(3.5-5.2') SAND, fine to coarse grained, light brown grading to yellow, dry grading to very moist then wet at 5' bgs, no plasticity, no cohesion	SW	
		0.0	B2-012-SB-5			
5						Wet at 5' bgs
	100	33.9		(5.2-10') SAND, find to medium grained, medium dense, light grayish brown, wet, no plasticity, no cohesion	SW	Black with solvent odor from 5.2-5.4' bgs
		0.0				
		5.2				
		4.8				
		31.5				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-013-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/26/17
Weather	: Sunny, 80s
Northing (US ft)	: 566,033.29
Easting (US ft)	: 1,461,331.43

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	50	-	B2-013-SB-1	(0-0.7') SAND with GRAVEL grading to GRAVEL with SAND, medium dense, light grayish brown with very pale brown, dry, no plasticity, no cohesion	SW/GW	
		-		(0.7-9') SAND with CLAY and some GRAVEL, fine to medium grained, medium dense to dense, light brown to reddish yellow, dry to moist then wet at 8' bgs, no plasticity, no cohesion		
		-				
		30.5				
		161.0	B2-013-SB-5		SW-SC	Moderate grading to heavy fuel-like odor from 4.5-10' bgs
5		-				
		-				
	70	4.1				
		3.0				Wet at 8' bgs
		2.0				Light to trace sheen from 8.5-9.5' bgs
10				(9-10.7') SAND, medium grained with some coarse grained, medium dense, dark gray, wet, no plasticity	SP	
		-		(10.7-15') CLAY, hard, light gray and reddish yellow to yellowish red mottling, dry, low plasticity, cohesive		
		-				
	86	-			CL	
		-				
		-				
15				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-014-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/23/17
Weather	: Sunny, 80s
Northing (US ft)	: 566,035.19
Easting (US ft)	: 1,461,384.47

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0				(0-0.5') ASPHALT, hard, gray and black, dry, no plasticity, no cohesion	NA	
		-	B2-014-SB-1.5	(0.5-1.5') SAND with GRAVEL and trace SILT, medium dense, brown, dry, no plasticity, no cohesion	SW/GW	
		0.9		(1.5-2.7') SAND, fine to medium grained, loose to medium dense, yellow, dry, no plasticity, no cohesion	SW	
	90	0.3		(2.7-3.1') SANDY GRAVEL, loose, dark brown, dry, no plasticity, no cohesion	GW	
		1.5		(3.1-7.3') GRAVELLY SAND, fine to very coarse grained, medium dense, brown, dry, no plasticity, no cohesion	SW/GW	
		4.7				
5		-				
		84.3	B2-014-SB-7			Wet at 6' bgs Strong fuel-like odor from 6-7.3' bgs; no visible sheen
	80	26.4		(7.3-11') CLAYEY SILT, soft, gray, very moist, low plasticity, cohesive	ML	
		1.5				
		0.0				
10		-				
	33	-		(11-13') CLAY, hard, light grayish brown and reddish yellow mottling, dry, low plasticity, cohesive	CL	
		-				
				End of boring		
15						

Total Borehole Depth: 13' bgs.
Boring terminated at 13' bgs due to water and piezometer installation.

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-015-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/26/17
Weather	: Sunny, 80s
Northing (US ft)	: 566,074.31
Easting (US ft)	: 1,461,396.64

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	68	-	B2-015-SB-1	(0-4') GRAVELLY SAND, fine to very coarse grained, medium dense, grayish brown, gray, and white, dry, no plasticity, no cohesion	SW/GW	
		-				
		4.2				
		1.8				
		0.0	B2-015-SB-5	(4-6.3') SILTY SAND grading to SAND, dense to medium dense, brown grading to light brown, dry to moist, no plasticity, no cohesion	SM-SW	
5		-				
		37.8		(6.3-6.5') SANDY SILT, soft, dark gray, brown, and reddish yellow, very moist, low plasticity, cohesive	ML	Wet at 6.5' bgs
					SW/GW	Light odor and moderate sheen with trace shells
	84	78.3		(6.5-7') GRAVELLY SAND, loose to medium dense, black and greenish brown, wet, no plasticity, no cohesion		
				(7-9') SILTY CLAY, soft, dark gray, low plasticity, cohesive	CL	
		0.0				
		0.0		(9-10.5') CLAY with trace SAND, very firm to hard, dark grayish brown and reddish yellow, low plasticity, cohesive	CL	
10		-				
	67	-		(10.5-13') SANDY CLAY, very firm, gray and yellowish red, moist, low plasticity, cohesive	CL	
		-				
				End of boring		
15						

Total Borehole Depth: 13' bgs.
Boring terminated at 13' bgs due to water and piezometer installation.

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-016-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/26/17
Weather	: Sunny, 80s
Northing (US ft)	: 566,208.87
Easting (US ft)	: 1,461,247.64

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-016-SB-1	(0-6.8') Non-native SANDY GRAVEL to GRAVELLY SAND, medium dense, brown with gray and trace yellow, dry then moist at 5.8' bgs, no plasticity, no cohesion		
		0.0				
	80	0.6				
		0.9			GW/SW	
		0.0	B2-016-SB-5			
5						
		-				
		0.0				
				(6.8-7.5') CLAY, very firm to firm, yellowish brown, moist, low plasticity, cohesive	CL	
	80	0.0		(7.5-7.9') SAND, coarse, and very small GRAVEL, medium dense, brown, wet, no plasticity, no cohesion	SW/GW	Wet at 7.5' bgs
		0.0		(7.9-10') CLAY, soft, grayish brown, very moist, low plasticity, cohesive		
					CL	
		0.0				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-017-SB

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Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/26/17
Weather	: Sunny, 80s
Northing (US ft)	: 566,216.85
Easting (US ft)	: 1,461,312.99

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0					NA	
		-	B2-017-SB-1	(0-0.1') ASPHALT, hard, black, dry, no plasticity, no cohesion		
		0.0		(0.1-2') SAND with GRAVEL and trace BRICK, loose to medium dense, brown with light gray and yellow, dry, no plasticity, no cohesion	SW/GW	
	78	0.3		(2-4') SILTY SAND, medium dense, dark brown, dry, no plasticity, no cohesion	SM	
		0.8				
		0.0	B2-017-SB-5	(4-4.5') SILTY SAND, dense, red, moist, no plasticity, no cohesion	SM	
5				(4.5-8') GRAVELLY SAND, loose, dark brown and brown, dry, no plasticity, no cohesion	SW/GW	
		-				
		-				
	56	0.0				
		0.0		(8-9.2') GRAVEL with SAND, medium dense, dark brown, brown, and yellowish red, wet, no plasticity, no cohesion	GW/SW	Wet at 8.5' bgs
		0.0		(9.2-10') CLAYEY SILT, soft, grayish brown, very moist, low plasticity, cohesive	ML	
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-018-SB

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Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/23/17
Weather	: Cloudy, 80s
Northing (US ft)	: 565,862.51
Easting (US ft)	: 1,461,339.81

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	80	-	B2-018-SB-1	(0-2.5') SAND with GRAVEL, fine to medium grained, medium dense, very dark grayish brown, dry, no plasticity, no cohesion	SW	
		333.3				
		64.2		(2.5-4.5') GRAVEL with SAND, fine to very coarse grained, medium dense, black with trace yellowish red at depth, dry, no plasticity, no cohesion	GW	
		363.9				
		368.2	B2-018-SB-5	(4.5-5.5') GRAVEL with SAND, fine to very coarse grained, loose, yellowish red, dry, no plasticity, no cohesion	GW	
5						
	86	-		(5.5-7') SAND with SILT and some GRAVEL, fine to medium grained with some coarse grained, dense, very dark brown, wet, no plasticity, no cohesion	SW-SM	
		73.8				
		8.4		(7-9') SILTY CLAY, very soft to dense, light brown, very moist, low plasticity, cohesive	CL	
		0.0				
		0.0		(9-10') SAND with SILT, fine to medium grained, dense, light brown, very moist then wet at 9.8' bgs, no plasticity, no cohesion	SW	Wet at 9.8' bgs
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-019-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/23/17
Weather	: Cloudy, 80s
Northing (US ft)	: 565,870.10
Easting (US ft)	: 1,461,392.08

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-019-SB-1	(0-2.5') GRAVELLY SAND, medium dense to loose, brown with trace gray, dry, no plasticity, no cohesion	SW/GW	
		131.5				
	76	69.5		(2.5-2.6') SILT, stiff, yellowish brown, dry, no plasticity, no cohesion	ML	
				(2.6-4.6') SANDY GRAVEL, loose to medium dense, black, moist, no plasticity, no cohesion	SW/GW	
		16.7				
		12.7	B2-019-SB-5	(4.6-7.8') CLAY with trace BRICK, soft to stiff, yellowish brown, moist, low plasticity, cohesive	CL	
5		-				
		4.0				
	84	0.0				
				(7.8-8.4') SAND with CLAY, dense, light grayish brown, wet, no plasticity, no cohesion	SW-SC	Wet at 7.8' bgs
		0.0		(8.4-8.9') SAND, fine to medium grained, medium dense to loose, yellowish brown, wet, no plasticity, no cohesion	SW	
				(8.9-9.1') SANDY CLAY, stiff, yellowish brown with trace light gray and reddish yellow, very moist, low plasticity, cohesion	CL	
		0.0			CL	
10				(9.1-10') CLAY, dense, light brownish gray and reddish yellow, moist, low plasticity, cohesive		
				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-020-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/1/17
Weather	: Sunny, 70s
Northing (US ft)	: 566,270.25
Easting (US ft)	: 1,460,642.29

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-020-SB-1	(0-1') SILT, soft grading to very firm, dark brown grading to brown, dry, low plasticity, cohesive	ML	Moderate organic matter
		-		(1-8') Non-native SAND with GRAVEL and SILT grading to GRAVEL with COBBLES, brown, very pale brown and yellow, moist the wet at 4' bgs, no plasticity, no cohesion		
	64	0.5				
		0.1	B2-020-SB-4			
		0.1			SW/GW	Wet at 4' bgs
5						
		-				
		-				
	60	0.1				
		0.3		(8-10') CLAYEY SILT, firm, light brownish gray and yellowish red, low plasticity, cohesive	ML	
		0.3				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-021-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/1/17
Weather	: Sunny, 70s
Northing (US ft)	: 566,267.17
Easting (US ft)	: 1,460,618.18

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-021-SB-1	(0-1') SILT, soft, dark brown, dry, low plasticity, cohesive	ML	Moderate organic matter
		0.5		(1-3.2') Non-native SANDY GRAVEL, medium dense to dense, dark brown, yellowish red, and strong brown, dry grading to very moist, no plasticity, no cohesion	GW/SW	
	78	15.1				
		27.3	B2-021-SB-4	(3.2-5.5') CLAY with trace SAND, firm then soft from 5-5.5' bgs, yellowish brown, dry then very moist from 5-5.5' bgs, low plasticity, cohesive	CL	
		3.9				
5		0.0		(5.5-6.1') SANDY CLAY, very firm, yellowish brown, moist, low plasticity, cohesive	CL	Wet at 6.1' bgs
		0.4		(6.1-7.2') CLAYEY SAND, soft, yellowish brown, wet, no plasticity, no cohesion	SC	
	100	1.6		(7.2-10') CLAY with SAND, firm, yellowish brown, light brownish gray, and reddish yellow, moist, low plasticity, cohesive	CL	
		0.0				
		0.0				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-022-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/1/17
Weather	: Sunny, 70s
Northing (US ft)	: 566,285.78
Easting (US ft)	: 1,460,643.56

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-022-SB-1	(0-2.1') SILT grading to CLAYEY SILT, soft, brown grading to yellowish brown, moist, low plasticity, cohesive	ML	
		1.2				
	72	4.0		(2.1-3.2') SILTY SAND with GRAVEL, medium dense to dense, dark brown, moist to very moist, no plasticity, no cohesion	SM/GW	Probable storm water from 2.9-5' bgs
		0.3	B2-022-SB-4	(3.2-6.8') GRAVELLY SAND grading to SANDY GRAVEL with COBBLES, dense, brown, strong brown, yellowish red, and very light gray, very moist, no plasticity, no cohesion	SW/GW	
		0.0				
5		-				
		-				
	64	0.5		(6.8-8.5') Non-native GRAVEL with SAND, medium dense, brownish gray with trace yellow and red, wet, no plasticity, no cohesion	GW/SW	Wet at 6.8' bgs Trace wood fragments
		1.9		(8.5-10') CLAY, firm, light gray and very light brown with trace reddish yellow mottling, moist, low plasticity, cohesive	CL	
		1.8				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-023-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/31/17
Weather	: Sunny, 70s
Northing (US ft)	: 566,223.08
Easting (US ft)	: 1,460,166.55

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	70	-	B2-023-SB-1	(0-3.8') Non-native GRAVELLY SAND, medium dense to dense, light brown and gray, dry, no plasticity, no cohesion	SW/GW	
		0.5				
		5.8				
		30.4	B2-023-SB-4			
				(3.8-4.8') SILT, hard, brown and yellowish brown, dry, low plasticity, cohesive	ML	
		1.4				
5				(4.8-6.1') SAND with GRAVEL, fine to medium grained, dense, dark grayish brown, moist then wet at 5' bgs, no plasticity, no cohesion	SW	Wet at 5' bgs
		-				
		-		(6.1-6.6') SILT, soft to very soft, gray, very moist, low plasticity, cohesive	ML	
				(6.6-7.1') SAND with GRAVEL, fine to medium grained, dense, dark grayish brown, moist then wet at 5' bgs, no plasticity, no cohesion	SW	
	100	-		(7.1-8.2') SILT, soft to very soft, gray, very moist, low plasticity, cohesive	ML	
		-		(8.2-10') SAND, fine to medium grained, gray, wet, no plasticity, no cohesion	SW	
		-				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-024-SB

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Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/31/17
Weather	: Sunny, 70s
Northing (US ft)	: 566,214.08
Easting (US ft)	: 1,460,099.15

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-024-SB-1	(0-0.2') ASPHALT, hard, black, dry, no plasticity, no cohesion	NA	
				(0.2-2.5') Non-native GRAVELLY SAND, brown, dry, no plasticity, no cohesion	SW/GW	
		-				
	76	4.3		(2.5-3.4') SLAG, SAND and GRAVEL-sized, medium dense to dense, light gray and gray, dry, no plasticity, no cohesion	SW/GW	
		2.6		(3.4-3.8') SANDY SILT with some GRAVEL, soft to firm, brown and strong brown, moist, low plasticity, cohesive	ML	Wet at 3.8' bgs
		0.2		(3.8-7') SANDY GRAVEL, medium dense, reddish yellow and strong brown, wet, no plasticity, no cohesion	GW/SW	
5		-				
		-				
				(7-7.2') CLAY, soft, red, moist, medium plasticity, cohesive	CL	
	80	-		(7.2-8.1') SILTY SAND, very fine to medium grained, medium dense, dark brownish gray, wet, no plasticity, no cohesion	SM	
		-		(8.1-10') GRAVEL with SILT, medium dense, dark brownish gray with trace reddish yellow and pale brown, wet, no plasticity, no cohesion	GW-GM	
		-				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-025-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/31/17
Weather	: Sunny, 70s
Northing (US ft)	: 566,241.54
Easting (US ft)	: 1,460,162.91

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	74	-	B2-025-SB-1	(0-1.5') SANDY GRAVEL, loose to medium dense, gray and brown, dry, no plasticity, no cohesion	SW/GW	
		0.3		(1.5-4') CLAY, hard, reddish yellow, dry, low plasticity, cohesion	CL	
		0.9				
		0.7	B2-025-SB-4			
		0.4		(4-4.8') SAND, fine to medium grained, brown, wet, no plasticity, no cohesion	SW	Wet at 4' bgs
5				(4.8-5') SANDY SILT, very soft, gray, low plasticity, cohesion	ML	
		-		(5-5.7') SAND, fine to medium grained, brown, wet, no plasticity, no cohesion	SW	
		-		(5.7-6.9') SILT, very soft, gray, very moist, low plasticity, cohesive	ML	
	100	-		(6.9-8') SAND, fine to medium grained, gray, wet, no plasticity, no cohesion	SW	
		-		(8-8.8') SILT, very soft, gray, very moist, low plasticity, cohesive	ML	
		-		(8.8-9.4') SAND, fine to medium grained, gray, wet, no plasticity, no cohesion	SW	
		-		(9.4-9.7') SILT, very soft, gray, very moist, low plasticity, cohesive	ML	
10				(9.7-10') SAND, fine to medium grained, gray, wet, no plasticity, no cohesion	SW	
				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-026-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/26/17
Weather	: Sunny and Windy, 60s
Northing (US ft)	: 567,675.58
Easting (US ft)	: 1,460,454.06

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	84	0.5	B2-026-SB-1	(0-0.6') SILTY SAND with GRAVEL, medium dense, brown, moist, no plasticity, no cohesion	SM/GW	
		1.3		(0.6-5') SLAG GRAVEL and non-native SAND with SILT, medium dense, brown and light gray, dry, no plasticity, no cohesion	GW/SM	
		3.5				
		1.1				
		365.8	B2-026-SB-5			
5	100	10.4		(5-6.5') SILT with SLAG GRAVEL, very firm to hard, brown and grayish brown, dry, low plasticity, cohesive	ML	
		46.9		(6.5-10') SILTY CLAY with some GRAVEL SLAG, hard, brown and grayish brown, dry, low plasticity, cohesive	CL	
		4.0				
		5.7				
		4.9	B2-026-SB-10			
10	96	6.4		(10-19.2') CLAY, soft, gray, very moist, medium plasticity, cohesive	CL	No water encountered
		3.2				
		5.7				
		12.2				
		3.8				
15	100	-				
		-				
		-				
		-				
		-				
20				(19.2-20') CLAY with trace SAND, firm, very pale brown and reddish yellow, moist, medium plasticity, cohesive	CL	
				End of boring		

Total Borehole Depth: 20' bgs.
Boring terminated at 20' bgs due to the maximum allowable depth.

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-027-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/26/17
Weather	: Cloudy, 50s
Northing (US ft)	: 567,315.61
Easting (US ft)	: 1,460,229.17

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B2-027-SB-1	(0-8') SLAG GRAVEL with SILTY SAND with a soft SILT layer from 7.4-7.5' bgs, medium dense, brown and gray, dry then wet at 3.5' bgs, no plasticity, no cohesion	GM/SM	Wet at 3.5' bgs
		2.7				
	68	0.0				
		0.1				
		0.0				
5		-				
		-				
	70	-				
		-		(8-8.4') SAND, fine to coarse grained, yellow, wet, no plasticity, no cohesion	SW	
		-		(8.4-9.7') SLAG, SAND and GRAVEL-sized, dark gray, medium dense, wet, no plasticity, no cohesion	SW/GW	
10				(9.7-10') SANDY SILT with GRAVEL, soft, gray, very moist, low plasticity, cohesion	ML/GW	
				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-028-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/22/17
Weather	: Sunny, 90s
Northing (US ft)	: 567,405.79
Easting (US ft)	: 1,460,562.33

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B2-028-SB-1	(0-2') SILT with SLAG GRAVEL and SAND, soft, brown, dry, no plasticity, no cohesion	ML	
		21.7				
	86	0.2		(2-2.3') CONCRETE, gray, dry, no plasticity, no cohesion	NA	
		5.2		(2.3-3.5') Non-native GRAVELLY SAND SLAG, medium dense, light gray and brown, dry, no plasticity, no cohesion	SW/GW	
		95.9	B2-028-SB-5	(3.5-3.9') ASPHALT, hard, black, dry, no plasticity, no cohesion	NA	
5		-		(3.9-5') SLAG GRAVEL with non-native SAND, medium dense, dark brown, brown, and light gray, dry, no plasticity, no cohesion	GW/SW	
		0.0		(5-6.5') SILT, very firm to hard, gray and brown, dry, low plasticity, cohesive	ML	
	90	0.0		(6.5-7.5') SILTY CLAY, soft, yellowish brown, moist, low plasticity, cohesive	CL	
		0.0		(7.5-20') CLAY, hard to firm, brown, light grayish brown, and reddish yellow, dry, low plasticity, cohesive		
		0.0	B2-028-SB-10			No water encountered
10		-				
		-				
	30	-				
		-			CL	
		0.0				
15		-				
		-				
	30	-				
		-				
		0.0				
20				End of boring		

Total Borehole Depth: 20' bgs.
Boring terminated at 20' bgs due to the maximum allowable depth.

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-029-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/30/17
Weather	: Cloudy, 50s
Northing (US ft)	: 567,279.86
Easting (US ft)	: 1,459,918.02

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	90	-	B2-029-SB-1	(0-3.5') Non-native GRAVELLY SAND with SILT grading to SILTY SAND with GRAVEL, medium dense, brown, dry to moist, no plasticity, no cohesion	SW-GM	
		0.0				
		0.0				
		0.0				
		0.0				
5		0.0		(3.5-5.1') GRAVELLY SAND with SILT, medium dense to dense, brownish gray, wet, no plasticity, no cohesion	SW-GM	
		0.0		(5.1-13') SILTY CLAY grading to CLAY, very firm, dry, grayish brown from 5-6' bgs then reddish yellow and pale brown mottling, low plasticity, cohesive		
	100	2.1	B2-029-SB-8			
		0.0			CL	
		0.0	B2-029-SB-10			
10		-				
		-				
	80	-				
		-				
		-		(13-14.6') SANDY CLAY, very firm, grayish brown with reddish yellow mottling, very moist, low plasticity, cohesive	CL	
		-		(14.6-15.5') CLAYEY SAND, medium dense, yellowish red and grayish brown, wet, no plasticity, no cohesion	SC	Wet at 14.6' bgs
15		-		(15.5-20') CLAY, soft to firm, reddish yellow and grayish brown, moist to very moist, low plasticity, cohesive		
		-				
	84	-			SC	
		-				
		-				
20				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-030-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/30/17
Weather	: Cloudy, 50s
Northing (US ft)	: 567,138.83
Easting (US ft)	: 1,459,879.08

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	84	-	B2-030-SB-1	(0-3') GRAVELLY SAND with SILT, medium dense, brown, very moist from 0-1.3' bgs then dry, no plasticity, no cohesion	SW-GM	
		0.0				
		0.2				
		0.0		(3-3.5') SAND SILT, very firm, yellow and brown, dry, low plasticity, cohesive	ML	
		0.0	B2-030-SB-5	(3.5-6') SANDY GRAVEL, medium dense, dark grayish brown, wet, no plasticity, no cohesion	SW/GW	
5		0.0				
	98	0.0		(6-9') SILTY CLAY grading to CLAY, firm from 6-7' bgs then hard, dark grayish brown from 6-7' bgs then pale brown and reddish yellow, moist from 6-7' bgs then dry, low plasticity, cohesive	CL	
		0.0				
		0.0				
		0.0		(9-9.5') SANDY CLAY, firm, brown to strong brown, very moist, low plasticity, cohesive	CL	Wet at 9.5' bgs
		0.0		(9.5-10') SAND with CLAY, medium dense, reddish yellow and brown, wet, no plasticity, no cohesion	SW-SC	
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-031-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/30/17
Weather	: Cloudy, 60s
Northing (US ft)	: 567,396.43
Easting (US ft)	: 1,459,989.33

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		0.5	B2-031-SB-1	(0-1') SAND with SILT and some GRAVEL and large metal shards, loose, dark brown, dry, no plasticity, no cohesion	SW-SM	
		0.0		(1-3.7') GRAVELLY SAND grading to SANDY GRAVEL, medium dense to dense, brown, dark gray, black, and light gray, dry then wet at 2.5' bgs, no plasticity, no cohesion	SW/GW	
	94	7.8				
		1.3				
		0.0		(3.7-5') SILT, hard, brownish gray with some reddish yellow mottling, dry, low plasticity, cohesive	ML	
5						
		0.1		(5-6.2') SANDY SILT, hard, brown, dry, no plasticity, no cohesion	ML	
		13.0	B2-031-SB-7	(6.2-6.4') BRICK, large, red	NA	Trace glass
				(6.4-7.5') SILTY SAND with GRAVEL, dry to moist, medium dense, dark brown, no plasticity, no cohesion	SM	
	92	0.3		(7.5-8.2') SILTY GRAVEL with SAND, loose, dark grayish brown, wet, no plasticity, no cohesion	GM	Wet at 7.5' bgs
		-		(8.2-10') SANDY GRAVEL with SILT, medium dense, brown, wet, no plasticity, no cohesion	SW/GW	
		-				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-032-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/31/17
Weather	: Sunny, 70s
Northing (US ft)	: 565,915.30
Easting (US ft)	: 1,459,455.92

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		0.4	B2-032-SB-1	(0-2') SAND with SILT and GRAVEL, medium dense, brown, dry then very moist from 1.2-2' bgs, no plasticity, no cohesion	SW-GM	
		3.0				
	84	6.1		(2-4.6') SILTY CLAY with GRAVEL, hard, reddish yellow, dry, low plasticity, cohesive	CL	
		13.4	B2-032-SB-4			
		0.6				
5		-		(4.6-6') SAND with SILT and GRAVEL, medium dense, brown, dry, no plasticity, no cohesion	SW-GM	
		-		(6-8') GRAVEL SLAG, loose, brown and gray, wet	GW	Wet at 7' bgs Trace wood Copper wires present
	60	-				
		-		(8-10') GRAVELLY SAND grading to SAND with GRAVEL, medium dense, brown to dark brown, wet, no plasticity, no cohesion	SW/GW	
		-				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-033-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/30/17
Weather	: Cloudy, 60s
Northing (US ft)	: 565,924.31
Easting (US ft)	: 1,459,516.20

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-033-SB-1	(0-2') SILTY SAND with GRAVEL, medium dense, brown, moist to dry, no plasticity, no cohesion	SM/GW	
		0.0				
				(2-4.1') SILTY CLAY with some GRAVEL and BRICK GRAVEL, hard, red and reddish yellow, dry, low plasticity, cohesive	CL	
	90	0.0				No water encountered
		0.0				
				(4.1-5') SILTY SAND with GRAVEL, medium dense, brown, dry, no plasticity, no cohesion	SM/GW	
		0.0	B2-033-SB-5			
5				End of boring		

Total Borehole Depth: 5' bgs.
Boring terminated at 5' bgs due to refusal.

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-034-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/31/17
Weather	: Cloudy, 70s
Northing (US ft)	: 565,769.20
Easting (US ft)	: 1,459,625.96

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	80	-	B2-034-SB-1	(0-3') CLAY, hard, reddish yellow, dry, low plasticity, cohesive	CL	
		0.3				
		13.7				
		0.8		(3-4') SILTY SAND, medium dense, dark brown, wet, no plasticity, no cohesion	SM	Wet at 3.5' bgs
		55.3		(4-7') SANDY GRAVEL, medium dense, dark brown, wet, no plasticity, no cohesion	GW/SW	
5		-				
		-				
	72	-		(7-7.5') SILTY SAND, medium dense, dark brown, wet, no plasticity, no cohesion	SM	
				(7.5-8.2') SANDY GRAVEL, medium dense, dark brown, wet, no plasticity, no cohesion	GW/SW	
		-		(8.2-8.5') SANDY SILT, soft, gray, very moist, low plasticity, cohesive	ML	
				(8.5-10') Non-native GRAVEL, fine to coarse grained, medium dense to dense, brown, gray, and red, wet, no plasticity, no cohesion	GW	
		-				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-035-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/31/17
Weather	: Cloudy, 70s
Northing (US ft)	: 565,764.84
Easting (US ft)	: 1,459,593.68

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	82	-	B2-035-SB-1	(0-4') CLAY with some layers of CLAY with GRAVEL, very firm, yellowish brown, dry to moist, low plasticity, cohesive	CL	
		0.2				
		27.8				
		15.2	B2-035-SB-4			
		0.8		(4-10') SANDY GRAVEL, medium dense, dark brown with trace red and yellow, wet, no plasticity, no cohesion	GW/SW	Wet at 4' bgs
5		-				
	60	-				
		-				
		-				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-036-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/22/17
Weather	: Sunny, 70s
Northing (US ft)	: 565,911.72
Easting (US ft)	: 1,460,846.11

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-036-SB-1	(0-0.3') ASHPALT, hard, gray, dry, no plasticity, no cohesion	NA	
				(0.3-1.5') Non-native SAND with SLAG GRAVEL, fine to very coarse grained, medium dense, brown and light gray, dry, no plasticity, no cohesion	SW/GW	
		-		(1.5-2.5') SANDY SILT, hard, brown, dry, no plasticity, no cohesion	ML	
	60	109.6		(2.5-10') Non-native GRAVELLY SAND grading to SANDY GRAVEL, medium dense, black and dark brown with trace yellowish red and yellow, dry then moist from 7.5-7.8' bgs, wet at 7.8' bgs, no plasticity, no cohesion		
		0.3				
		13.2	B2-036-SB-5			
5						
		-				
		-			SW/GW	
	50	7.0				Wet at 7.8' bgs
		1.6				
		0.0				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-037-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
Site Location	: Sparrows Point, MD
ARM Representative	: L. Glumac
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Allied Drilling Co.
Driller	: Rick Miller
Drilling Equipment	: Geoprobe 7822DT

Date	: 6/22/17
Weather	: Overcast, 70s
Northing (US ft)	: 565,874.23
Easting (US ft)	: 1,460,849.84

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	80	-	B2-037-SB-1	(0-0.75') SILT, soft, dark brown, dry, no plasticity, no cohesion	ML	Trace organics
		508.8		(0.75-2.5') SILT with GRAVEL, COBBLE-sized SLAG, very loose, dark brown SILT and gray SLAG, dry, no plasticity, no cohesion	GW/GM	
		668.7		(2.5-3') SLAG, COBBLE-sized, loose, dry, no plasticity, no cohesion	GW	
		576.1		(3-5.5') SANDY SILT, fine grained sand, loose, dry, no plasticity, no cohesion	SW/SM	
		628.4	B2-037-SB-5			
5		91.3		(5.5-6.5') SAND, coarse grained, loose, tan, wet, no plasticity, no cohesion	SP	Wet at 6' bgs
		-		(6.5-7.5') SAND and GRAVEL, medium dense, tan to dark brown, wet, no plasticity, no cohesion	SW/GW	
	80	-		(7.5-10') GRAVEL, medium coarse grading to coarse grained, medium dense grading to dense, dark brown, wet, no plasticity, no cohesion	GW	
		-				
		-				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-038-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/26/17
Weather	: Cloudy, Windy, 60s
Northing (US ft)	: 566,403.46
Easting (US ft)	: 1,459,423.67

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	94	0.2	B2-038-SB-1	(0-5.5') Non-native GRAVELLY SAND with SILT, medium dense, brown with gray, dry then wet at 5' bgs, no plasticity, no cohesion	SW-GM	
		1.9				
		3.8				
		0.1				
		0.0	B2-038-SB-5			
5						Wet at 5' bgs
	100	0.5		(5.5-8') SILTY CLAY with some GRAVEL, hard, dark brownish gray with reddish yellow mottling, low plasticity, cohesive	CL	
		2.1				
		0.0				
		0.0		(8-8.5') SLAG COBBLES, dense, gray, wet, no plasticity, no cohesion	GP	
		0.0		(8.5-11') SILTY CLAY with some GRAVEL, hard, dark brownish gray with reddish yellow mottling, low plasticity, cohesive	CL	
10		-				
	50	-		(11-15') CLAY, firm, gray, moist, low plasticity, cohesive	CL	
		-				
		-				
		-				
15				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-039-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/30/17
Weather	: Cloudy, 60s
Northing (US ft)	: 567,385.63
Easting (US ft)	: 1,459,503.50

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	78	-	B2-039-SB-1	(0-5') SILTY SAND with GRAVEL, medium dense to dense, very moist then moist, no plasticity, no cohesion	SM/GW	
		0.0				
		0.0				
		0.0				
		0.0	B2-039-SB-5			
5						
		0.0		(5-6.2') SILTY CLAY, very firm, brownish yellow, dry, low plasticity, cohesive	CL	
		0.0		(6.2-8') Non-native SANDY GRAVEL, medium dense, black, wet, no plasticity, no cohesion	SW/GW	Wet at 6.2' bgs
	94	11.1				
		0.1		(8-10') Non-native GRAVEL with SAND, medium dense, light gray and brownish gray, wet, no plasticity, no cohesion	GW	
		0.0				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-040-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/1/17
Weather	: Sunny, 70s
Northing (US ft)	: 566,043.44
Easting (US ft)	: 1,460,493.56

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	92	0.4	B2-040-SB-1	(0-0.5') SANDY SILT, soft, dark brown, moist, no plasticity, no cohesion	ML	
		0.3		(0.5-1.8') SILTY CLAY with some GRAVEL, hard, reddish yellow and brownish yellow, dry, low plasticity, cohesive	CL	
		13.3		(1.8-2.7') GRAVELLY SAND, medium dense, very dark brown, very moist, no plasticity, no cohesion	SW/GW	
		11.4		(2.7-5') SILTY CLAY with some GRAVEL, hard, reddish yellow and brownish yellow, dry, low plasticity, cohesive	CL	
		2.9				
5		1.8		(5-8') CLAYEY SILT with some GRAVEL, hard, grayish brown, moist, low plasticity, cohesive		
	100	17.8	B2-040-SB-7		ML	
		0.7				
		0.3		(8-13.5') SILT, soft, gray, very moist, low plasticity, cohesive		
		0.2	B2-040-SB-10			
10		-			ML	No water encountered
	80	-				
		-				
		-		(13.5-20') CLAY, firm to soft, light brownish gray and reddish yellow mottling, moist, medium plasticity, cohesive		
15		-				
		-			CL	
	100	-				
		-				
		-				
20				End of boring		

Total Borehole Depth: 20' bgs.
Boring terminated at 20' bgs due to maximum allowable depth.

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-041-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/28/17
Weather	: Sunny, 80s
Northing (US ft)	: 568,388.44
Easting (US ft)	: 1,459,214.13

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	78	-	B2-041-SB-1	(0-3.5') GRAVELLY SAND with SILT, medium dense, light brown grading to brown and dark brown, dry, no plasticity, no cohesion	SW/GW	
		11.3				
		1.5				
		5.4		(3.5-3.9') SLAG GRAVEL with SAND-sized SLAG, medium dense, gray, wet, no plasticity, no cohesion	GW	
		0.0	B2-041-SB-5	(3.9-9.7') SAND with some GRAVEL, medium to very coarse grained, medium dense to loose, dark brown them yellow at 7' bgs, dry then moist from 6.4-7' bgs, wet at 7' bgs, no plasticity, no cohesion	SW	Wet at 7' bgs
5		-				
		1.4				
	72	0.0				
		0.0				
		0.0				
10				(9.7-10') GRAVELLY SAND, loose, brown and yellow, wet, no plasticity, no cohesion	SW/GW	
				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-042-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/1/17
Weather	: Sunny, 70s
Northing (US ft)	: 567,712.13
Easting (US ft)	: 1,459,221.77

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	92	0.0	B2-042-SB-1	(0-3.9') SILTY SAND with some GRAVEL grading to SAND with SILT and GRAVEL, medium dense, brown grading to grayish brown, dry then moist from 3.1-3.5' bgs, no plasticity, no cohesion	SM-GW	
		0.3				
		0.4				
		0.7				
				(3.9-4.5') SANDY SILT, very firm, reddish brown, dry, no plasticity, no cohesion	ML	
		0.1	B2-042-SB-5	(4.5-6.2') SLAG, SAND and GRAVEL-sized, loose, gray and brownish gray, dry, no plasticity, no cohesion	SW/GW	
5		0.4				
		0.7		(6.2-6.7') Non-native SANDY GRAVEL with SILT, dense, dark brown to black, wet, no plasticity, no cohesion	SW-GM	
				(6.7-8') SILT, hard, gray, dry, low plasticity, cohesive	ML	
	100	1.0				Wet at 8' bgs
		0.5		(8-10') SLAG, SAND and GRAVEL-sized grading to non-native GRAVELLY SAND, medium dense, gray and light gray then black and gray from 9.2-10' bgs, wet, no plasticity, no cohesion	SW/GW	Sewage-like odor from 9.2-10' bgs
		1.1				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-043-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/26/17
Weather	: Cloudy, 50s
Northing (US ft)	: 566,577.40
Easting (US ft)	: 1,461,225.30

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	94	3.4	B2-043-SB-1	(0-0.5') SILT, soft, brown, very moist, low plasticity, cohesive	ML	
		78.7		(0.5-1.9') SLAG GRAVEL, medium dense, brown, very moist to wet, no plasticity, no cohesion	SW	Slight odor at 1' bgs
		236.8		(1.9-3.5') SILT grading to CLAYEY SILT, hard, grayish brown, dry, low plasticity, cohesive	ML	
		92.0	B2-043-SB-4	(3.5-5') SILTY CLAY to CLAY, hard to firm, yellowish brown, dry grading to moist, low plasticity, cohesive	CL	
		26.2				
5				(5-5.5') SANDY CLAY, soft, brown, very moist to wet, low plasticity, cohesive	CL	
		0.9		(5.5-7.5') SAND, very fine to coarse grained, medium dense to dense, very light brown, very pale brown, and reddish yellow, wet, no plasticity, no cohesion	SW	Wet at 5.5' bgs
		0.0				
	100	1.7		(7.5-10') CLAY, firm grading to soft, very pale brown with reddish yellow mottling, very moist, low plasticity, cohesive	CL	
		0.0				
		0.0				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-044-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/31/17
Weather	: Sunny, 70s
Northing (US ft)	: 565,958.13
Easting (US ft)	: 1,460,028.14

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B2-044-SB-1	(0-0.5') SILT, soft, brown, dry, no plasticity, no cohesion	ML	Moderate organics
		0.6		(0.5-5.5') SAND with SILT and GRAVEL, medium dense, brown and gray, dry, no plasticity, no cohesion		
	80	10.7			SW-GM	
		2.1				
		0.4				
5		-		(5.5-7.5') Non-native SAND with some very large GRAVEL, medium dense, brown to brownish red, dry, no plasticity, no cohesion	SW	Gravel has metallic luster
		5.1	B2-044-SB-7			
	78	1.1		(7.5-11.5') Non-native SANDY GRAVEL, medium dense to dense, brown, dry then wet at 7.9' bgs, no plasticity, no cohesion	SW/GW	Wet at 7.9' bgs
		-				
		-				
10		-				
		-				
		-		(11.5-15') SILT, very firm, grayish brown, low plasticity, cohesive	ML	
	50	-				
		-				
		-				
15				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-045-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/31/17
Weather	: Sunny, 70s
Northing (US ft)	: 566,506.74
Easting (US ft)	: 1,460,549.29

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	80	-	B2-045-SB-1	(0-1.5') SILTY SAND with GRAVEL, medium dense, brown, moist, no plasticity, no cohesion	SM	Light organic matter
		0.4		(1.5-6') CLAYEY SILT, hard then soft from 4.5-6' bgs, dry then very moist from 4.5-6' bgs, low plasticity, cohesive	ML	
		0.4				
		0.0				
		0.0	B2-045-SB-5			
5		0.0				
	100	0.0		(6-6.8') SAND, fine to medium grained, dense, pale brown, moist, no plasticity, no cohesion	SW	
		0.0		(6.8-11.8') CLAY with trace SAND, hard, reddish yellow and brownish yellow, dry then moist at 11.2' bgs, low plasticity, cohesive	CL	
		0.0				
		0.0	B2-045-SB-10			
10		-				
	76	-		(11.8-15') CLAYEY SAND, medium dense, yellowish red to reddish yellow, wet, no plasticity, no cohesion	SC	
		-				
		-				
15		-				
	90	-		(15-16.3') SAND, fine to medium grained, dense, reddish yellow, wet, no plasticity, no cohesion	SW	Wet at 15.5' bgs
		-				
		-				
		-				
20				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-046-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/31/17
Weather	: Sunny, 70s
Northing (US ft)	: 566,956.89
Easting (US ft)	: 1,460,673.93

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-046-SB-1	(0-0.5') WOOD FRAGMENTS, wet	NA	
				(0.5-1.1') ASPHALT, gray, dry	NA	
		4.5		(1.1-1.8') Non-native SANDY GRAVEL, medium dense, dark brown, non plastic, non cohesive	SW/GW	
	84	16.9		(1.8-5.8') CLAYEY SILT, firm then soft at 5-5.8', gray and grayish brown, moist then very moist at 5-5.8', low plasticity, cohesive		
		7.8	B2-046-SB-4		ML	
		0.1				
5		0				
		0		(5.8-15') CLAY, very firm, pale brown, light grayish brown and reddish yellow mottling, low plasticity, cohesive		
	100	0				
		0				
		0	B2-046-SB-10			
10		-			CL	
		-				Water in liners from 10-15' bgs
	70	-				
		-				
		-				
15		-		(15-20') No Recovery		No water encountered
		-				
	0	-			CL	
		-				
		-				
20				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-047-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/26/17
Weather	: Cloudy, Windy, 60s
Northing (US ft)	: 567,200.62
Easting (US ft)	: 1,461,416.25

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	94	0	B2-047-SB-1	(0-0.5') SILT, soft, dark brown, very moist, low plasticity, cohesive	ML	Light organic matter
				(0.5-1.5') Non-native SANDY GRAVEL, medium dense, dark brown, very moist, non plastic, non cohesive	SW/GW	
		0		(1.5-2.4') CLAYEY SILT, hard then soft from 4.5-6' bgs, dry then very moist from 4.5-6' bgs, low plasticity, cohesive	ML	
		6		(2.4-5') SILT, hard, greenish gray, moist, low plasticity, cohesive	ML	
		35.4	B2-047-SB-4			
		9.4				
5						
	100	0		(5-6.5') SILTY CLAY, soft, very pale brown with reddish yellow mottling, very moist, low plsticity, cohesive	CL	
		0		(6.5-8.2') SAND, fine to medium grained, dense, pale brown, moist, no plasticity, no cohesion	SW/SM	Wet at 6.5' bgs
		0				
		0		(8.2-9') SILT, very soft, grayish brown, wet, non plastic, non cohesive	ML	
		0		(9-9.8') CLAYEY SILT, hard, greenish gray, moist, low plasticity, cohesive	ML	
10				(9.8-10') SILTY SAND, loose, grayish brwon, wet, non plastic, non cohesive	SM	
				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-048-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/26/17
Weather	: Cloudy, Windy, 60s
Northing (US ft)	: 567,765.06
Easting (US ft)	: 1,459,834.85

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-048-SB-1	(0-1.5') GRAVEL with SAND, loose, gray and brown, dry, non plastic, non cohesive	GW	
		0		(1.5-4') Non-native GRAVELLY SAND with SILT, medium dense, brown, dry, non plastic, non cohesive	SW/GW	
	74	0				
		0				
		0		(4-6') GRAVEL with SAND and some SILT at 5.8' bgs, loose to medium dense, gray and brown, dry, non plastic, non cohesive	GW	
5		-				
		0		(6-8.5') CLAY, very firm, light grayish brown and reddish yellow, moist low plasticity, cohesive	CL	
	84	0.6	B2-048-SB-8			
		11.4		(8.5-10') SAND, fine to medium, dense, reddish yellow, wet, non plastic, non cohesive	SW/GW	Wet at 8.5' bgs
		0				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-049-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/22/17
Weather	: Sunny, 90s
Northing (US ft)	: 567,526.84
Easting (US ft)	: 1,460,856.55

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		96.3	B2-049-SB-1	(0-0.7') SANDY SILT, medium dense to dense, red, dry, non plastic, non cohesive	ML	
		15.2		(0.7-4.3') SAND, fine to very coarse, with SILT and GRAVEL grading to GRAVELLY SAND with SILT, medium dense, brown and dark brown with trace gray, dry then wet from 4.1-4.3', non plastic, non cohesive	ML	
	90	20.4				
		23.6				
		12.8	B2-049-SB-4	(4.3-5') SANDY SILT, medium dense, black, dry, non plastic, non cohesive	ML	
5		0		(5-8.6') CLAY, hard, light brownish gray and reddish yellow mottling, dry, low plasticity, cohesive	CL	
	100	0				
		0				
		0				
		0		(8.6-9.1') SAND, dense, reddish yellow, wet, non plastic, non cohesive	SW	
		0	B2-049-SB-10	(9.1-20') CLAY with trace intermittent SAND, hard to firm at 18-20', light brownish gray and reddish yellow mottling, dry, low plasticity, cohesive		
10		-				
		0				
	74	0				
		0				
		0			CL	
15		-				No water encountered
		0				
	84	0				
		0				
		0				
20				End of boring		

Total Borehole Depth: 20' bgs.
Boring terminated at 20' bgs due to maximum allowable depth.

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-050-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/22/17
Weather	: Sunny, 90s
Northing (US ft)	: 568,140.53
Easting (US ft)	: 1,460,868.93

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-050-SB-1	(0-1') ASPHALT, hard, gray, dry, non plastic, non cohesive	NA	
		0		(1-2') SANDY GRAVEL, medium dense, light gray and brown, dry, non plastic, non cohesive	GW/SW	
				(2-2.4') CLAY, firm, yellowish brown, moist, low plasticity, cohesive	CL	
	80	2		(2.4-7.5') SANDY GRAVEL, medium dense, trace yellowish red and black, dry, non plastic, non cohesive		
		0.3				
		0	B2-050-SB-5		GW/SW	
5		-				
		0.0				
	66	0.0		(7.5-8.5') SLAG and BRICK GRAVEL, very small to large, medium dense to dense, light gray and dark brown, and brown, wet, non plastic, non cohesive	GW	Wet at 7.5' bgs
		0.0		(8.5-10') SILT, soft, dark gray, very moist, low plasticity, cohesive	ML	
		0.0				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-051-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/22/17
Weather	: Sunny, 90s
Northing (US ft)	: 568,050.85
Easting (US ft)	: 1,460,179.34

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	90	-	B2-051-SB-1	(0-5.5') GRAVELLY SAND with SILT and SLAG GRAVEL, medium dense, light gray and brown, dry, non plastic, non cohesive	SW/GW	
		0.4				
		0.4				
		0.0				
		0.0	B2-051-SB-5			
5		0.0				
	90	0.0		(5.5-8') SANDY GRAVEL with SLAG and BRICK, medium dense, dark brown, with trace yellow, wet, non plastic, non cohesive	SW/GW	Wet at 6' bgs Trace to light tar with solvent odor from 6-6.2' bgs
		0.0				
		0.0		(8-12') SLAG with CEMENT, medium dense, light gray and white, wet, non plastic, non cohesive	GW/GM	
		0.0				
10		-				
	66	-				
		-		(12-13) SILT, soft, dark gray, very moist, low plasticity, cohesive	ML	
				End of boring		

Total Borehole Depth: 13' bgs.
Boring terminated at 13' bgs due to water and piezometer installation.

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-052-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 5/26/17
Weather	: Cloudy, 50s
Northing (US ft)	: 566,692.17
Easting (US ft)	: 1,459,851.70

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0	80	-	B2-052-SB-1	(0-1.5') SLAG GRAVEL with SAND and WOOD FRAGMENTS, brown, very moist to wet, non plastic, non cohesive	GW/SW	
		0		(1.5-2.5') SANDY SILT, hard, dark grayish brown, dry to moist	ML	
		0		(2.5-3.2') SLAG GRAVEL with SAND and WOOD FRAGMENTS and GLASS, brown, very moist to wet, non plastic, non cohesive	GW/SW	
		0		(3.2-5') SANDY SILT, hard, dark grayish brown, dry to moist, non plastic, non cohesive	ML	
		0	B2-052-SB-5			
5	100	0		(5-12') CLAY, firm to very firm, light brownish gray and reddish yellow mottling, moist to dry, medium plasticity to high plasticity, cohesive	CL	
		0.5				
		2.5				
		0				
		0	B2-052-SB-10			
10	14	-		(12-15') CLAY soft, very pale brown, moist, medium plasticity, cohesive	CL	
		-				
		-				
		-				
		0				
15	70	-		(16.5-19.5') CLAY with trace SAND and GRAVEL, firm to soft, very pale brown and reddish yellow, moist, medium plasticity, cohesive	CL	Wet at 19.5' bgs
		-				
		-				
		-				
		-				
20				(19.5-20') CLAYEY GRAVEL with SAND, loose, yellowish red, wet, non plastic, non cohesive	GW/SW	
				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-053-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/27/17
Weather	: Cloudy, 80s
Northing (US ft)	: 566,428.98
Easting (US ft)	: 1,460,658.92

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B2-053-SB-1	(0-1.5') GRAVELLY SAND, loose, yellow, dry, non plastic, non cohesive	SW/GW	Light organic matter
		42.6		(1.5-5.5') SILT and CLAYEY SILT, soft, gray, moist, low plasticity, cohesive		
	80	8.7				
		150.3			ML	
		154.4	B2-053-SB-5.5			Fuel type odor, light from 3-5.5' bgs, moderate from 5.5-6.2' bgs
5		241.8		(5.5-6.2') SAND with SILT, medium dense to dense, gray, wet, non plastic, non cohesive	SW/SM	Wet at 5.5' bgs
		876.6		(6.2-13') CLAY, very firm, yellowish brown, reddish yellow and light grayish brown, moist, low plasticity, cohesive		
	100	1111				
		1168				
		61.1			CL	
10		-				
	100	-				
		-				
				End of boring		

Total Borehole Depth: 13' bgs.
Boring terminated at 13' bgs due to water and piezometer installation.

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-054-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/27/17
Weather	: Sunny, 80s
Northing (US ft)	: 566,435.05
Easting (US ft)	: 1,460,621.19

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	74	-	B2-054-SB-1	(0-1.5') ORGANIC SILT, soft, brown, dry, non plastic, non cohesive	SW/GW	
		0				
		33.2				
		0.7		(3-6') CLAY, soft to firm, brown grading to reddish yellow, moist, low plasticity, cohesive		
		123.3	B2-054-SB-5		CL	
5						Very light fuel type odor from 4.8-5.3' bgs
		33.2				
		216.6		(6-6.9') SAND, medium dense to dense, light brownish gray, wet, non plastic, non cohesive	SW	Wet at 6' bgs
	98	598.8		(6.9-10') CLAY, hard, light brown, light brownish gray and reddish yellow, dry, low plasticity, cohesive		
		79.6			CL	
		0				
10				End of boring		

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

ARM Group Inc.
Earth Resource Engineers and Consultants

Boring ID: B2-055-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-6-3
Project Description	: Sparrows Point - Parcel B2
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	: 6/27/17
Weather	: Sunny, 80s
Northing (US ft)	: 566,459.61
Easting (US ft)	: 1,460,618.17

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	74	-	B2-055-SB-1	(0-0.7') ORGANIC SILT, soft, browning, dry, non plastic, non cohesive	OL	Heavy organic matter
		20.5		(0.7-2.5') GRAVELLY SAND, medium dense, light brown, dry, non plastic, non cohesive	SW/GW	
		44.5		(2.5-3.5') GRAVELLY SAND. medium dense, brown and dark brown, dry, non plastic, non cohesive	SW/GW	
		187.8		(3.4-5.7') SILTY CLAY, firm to soft, gray to brownish gray, low plasticity, cohesive	CL	Very strong fuel type odor from 3.5-7.2' bgs
5		101.0				
	96	13.9	B2-055-SB-6.5	(5.7-7.2') SILTY SAND grading to SAND, very firm, moist then wet at 6.5', non plastic, non cohesive	SM-SW	Wet at 6.5' bgs
		961.5				
		648.5		(7.2-10') CLAY, hard, yellowish brown with yellowish red, dry to moist, low plasticity, cohesive	CL	
		158.4				
		82.1				
10	0	-		(10-14') No Recovery		
		-				
		-				
		-				
				End of boring		
15						

Total Borehole Depth: 14' bgs.
Boring terminated at 14' bgs due to water and piezometer installation.

APPENDIX C

PID CALIBRATION LOG

PROJECT NAME: Area B, Parcel B2 Phase II	SAMPLER NAME: L. Perrin, L. Glumac	
PROJECT NUMBER: 150300M-6	DATE: May 2017	PAGE 1 of 1

DATE/TIME	SAMPLER INITIALS	PID SERIAL #	FRESH AIR CAL	STANDARD	STANDARD CONCENTRATION	METER READING	COMMENTS
5/26/2017 8:17	LP	592-907529	0.0	Isobutylene	100 ppm	101.1	-
5/30/2017 7:45	LP	592-907529	0.0	Isobutylene	100 ppm	100.4	-
5/31/2017 7:53	LP	592-907529	0.0	Isobutylene	100 ppm	100.0	-
6/1/2017 8:38	LP	592-907529	0.0	Isobutylene	100 ppm	101.8	-
6/2/2017 13:13	LP	592-907529	0.0	Isobutylene	100 ppm	100.3	-
6/22/2017 8:12	LG	592-901073	0.0	Isobutylene	100 ppm	100.5	-
6/23/2017 8:46	LP	592-901073	2.4	Isobutylene	100 ppm	100.4	-
6/26/2017 8:33	LP	592-901073	0.0	Isobutylene	100 ppm	99.9	-
6/27/2017 8:12	LP	592-901073	0.0	Isobutylene	100 ppm	100.4	-
6/28/2017 8:30	LP	592-901073	0.0	Isobutylene	100 ppm	99.6	-
11/3/2017 9:30	LP	592-919897	0.0	Isobutylene	100 ppm	100.0	-
				Isobutylene	100 ppm		
				Isobutylene	100 ppm		
				Isobutylene	100 ppm		
				Isobutylene	100 ppm		
				Isobutylene	100 ppm		
				Isobutylene	100 ppm		
				Isobutylene	100 ppm		
				Isobutylene	100 ppm		
				Isobutylene	100 ppm		
				Isobutylene	100 ppm		
				Isobutylene	100 ppm		

APPENDIX D

ARM Group Inc.
Earth Resource Engineers and Consultants

LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: B2-007-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Parcel B2
Sparrows Point, MD
ARM Project No.: 150300M-6-3

Date Installed	: 06/23/2017	Drilling Company	: Allied
Casing/Riser Type	: PVC	TOC Elevation	:
Borehole Diameter	: 2.25"	0-Hr DTW	: 7.42' TOC
Drilling Method	: 7822DT Geoprobe	48-Hr DTW	: 7.47' TOC
Driller	: Rick Miller	ARM Representative	: L. Perrin

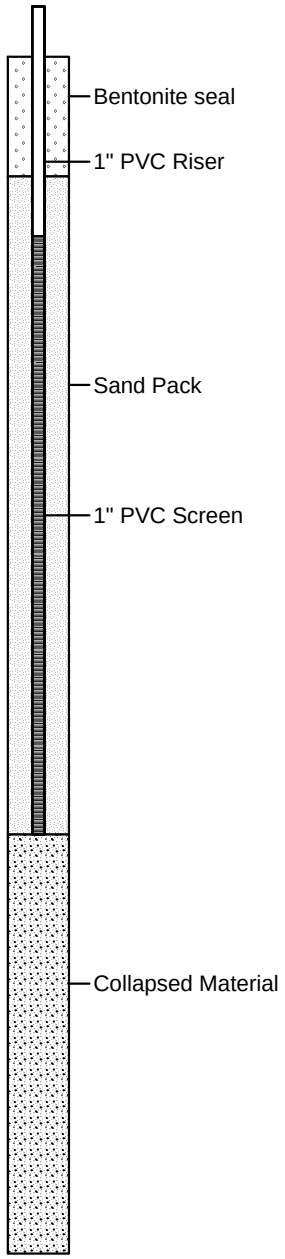
Depth in Feet | Surf. Elev. | DESCRIPTION | REMARKS

Riser Type: PVC
Riser Diameter: 1"
Riser Stickup: 3.1'
Riser Amount: 3'

Screen Type: PVC
Screen Diameter: 1"
Screen Amount: 10'
Slot Size: 0.010"

Filter (sand) Pack:
Top: 2' bgs
Bottom: 13' bgs
Grain Size: WG #2

Bentonite Seal:
Top: 0 (surface)
Bottom: 2' bgs
Grain Size: Granular (30/50 mesh)



Northing (US ft): 565953.27
Easting (US ft): 1461400.67

No LNAPL or DNAPL detected at 48 hours

Total Depth: 20'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
amsl: Above mean sea level

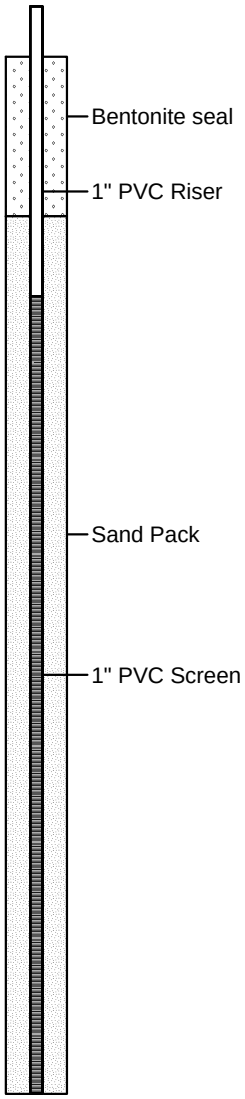
ARM Group Inc.
Earth Resource Engineers and Consultants

LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: B2-011-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Parcel B2
Sparrows Point, MD
ARM Project No.: 150300M-6-3

Date Installed	: 06/26/2017	Drilling Company	: Allied
Casing/Riser Type	: PVC	TOC Elevation	:
Borehole Diameter	: 2.25"	0-Hr DTW	: 8.90' TOC
Drilling Method	: 7822DT Geoprobe	48-Hr DTW	: 8.42' TOC
Driller	: Rick Miller	ARM Representative	: L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION	REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 2.3' Riser Amount: 3'	Northing (US ft): 566017.95 Easting (US ft): 1461361.10
5		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"	No LNAPL or DNAPL detected at 48 hours
		Filter (sand) Pack: Top: 2' bgs Bottom: 13' bgs Grain Size: WG #2	
10		Bentonite Seal: Top: 0 (surface) Bottom: 2' bgs Grain Size: Granular (30/50 mesh)	
		End of Boring	
15			



Total Depth: 13'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
amsl: Above mean sea level

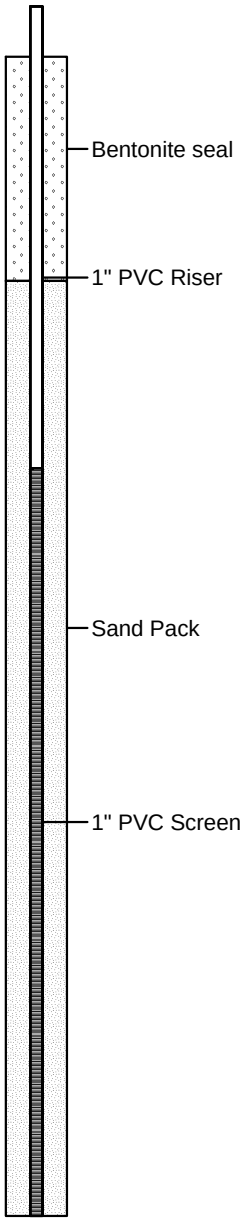
ARM Group Inc.
Earth Resource Engineers and Consultants

LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: B2-013-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Parcel B2
Sparrows Point, MD
ARM Project No.: 150300M-6-3
Page 1 of 1

Date Installed	: 06/26/2017	Drilling Company	: Allied
Casing/Riser Type	: PVC	TOC Elevation	:
Borehole Diameter	: 2.25"	0-Hr DTW	: 9.36' TOC
Drilling Method	: 7822DT Geoprobe	48-Hr DTW	: 9.20' TOC
Driller	: Mike Garvine	ARM Representative	: L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION	REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 3.0' Riser Amount: 5.5'	Northing (US ft): 566033.29 Easting (US ft): 1461331.43
5		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"	No LNAPL or DNAPL detected at 48 hours
		Filter (sand) Pack: Top: 3' bgs Bottom: 15.5' bgs Grain Size: WG #2	
10		Bentonite Seal: Top: 0 (surface) Bottom: 3' bgs Grain Size: Granular (30/50 mesh)	
15		End of Boring	



Total Depth: 15.5'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
amsl: Above mean sea level

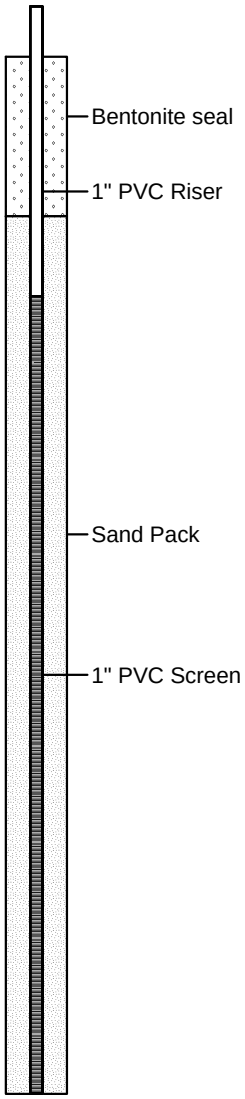
ARM Group Inc.
Earth Resource Engineers and Consultants

LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: B2-014-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Parcel B2
Sparrows Point, MD
ARM Project No.: 150300M-6-3

Date Installed	: 06/23/2017	Drilling Company	: Allied
Casing/Riser Type	: PVC	TOC Elevation	:
Borehole Diameter	: 2.25"	0-Hr DTW	: 8.88' TOC
Drilling Method	: 7822DT Geoprobe	48-Hr DTW	: 9.00' TOC
Driller	: Rick Miller	ARM Representative	: L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION	REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 3.2' Riser Amount: 3'	Northing (US ft): 566035.19 Easting (US ft): 1461384.47
5		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"	No LNAPL or DNAPL detected at 48 hours
		Filter (sand) Pack: Top: 2' bgs Bottom: 13' bgs Grain Size: WG #2	
10		Bentonite Seal: Top: 0 (surface) Bottom: 2' bgs Grain Size: Granular (30/50 mesh)	
		End of Boring	
15			



Total Depth: 13'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
amsl: Above mean sea level

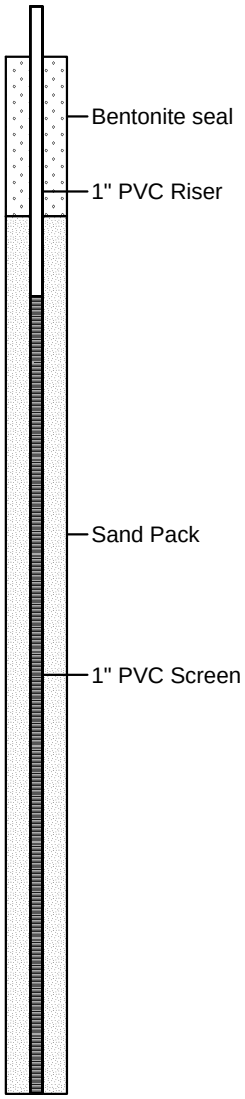
ARM Group Inc.
Earth Resource Engineers and Consultants

LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: B2-015-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Parcel B2
Sparrows Point, MD
ARM Project No.: 150300M-6-3

Date Installed	: 06/26/2017	Drilling Company	: Allied
Casing/Riser Type	: PVC	TOC Elevation	:
Borehole Diameter	: 2.25"	0-Hr DTW	: 7.65' TOC
Drilling Method	: 7822DT Geoprobe	48-Hr DTW	: 7.61' TOC
Driller	: Rick Miller	ARM Representative	: L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION	REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 2.4' Riser Amount: 3'	Northing (US ft): 566074.31 Easting (US ft): 1461396.64
5		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"	No LNAPL or DNAPL detected at 48 hours
		Filter (sand) Pack: Top: 2' bgs Bottom: 13' bgs Grain Size: WG #2	
10		Bentonite Seal: Top: 0 (surface) Bottom: 2' bgs Grain Size: Granular (30/50 mesh)	
		End of Boring	
15			



Total Depth: 13'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
amsl: Above mean sea level

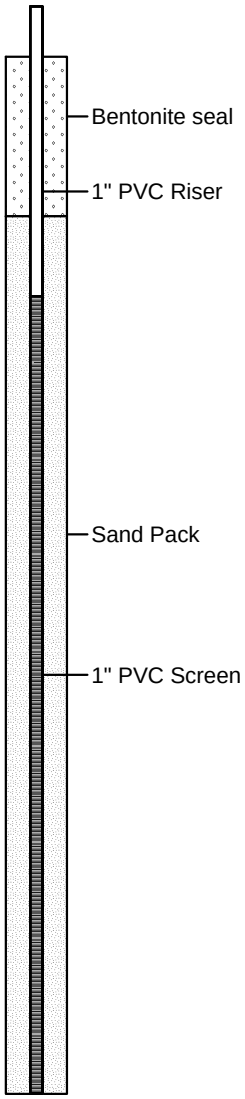
ARM Group Inc.
Earth Resource Engineers and Consultants

LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: B2-051-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Parcel B2
Sparrows Point, MD
ARM Project No.: 150300M-6-3

Date Installed	: 06/22/2017	Drilling Company	: Allied
Casing/Riser Type	: PVC	TOC Elevation	:
Borehole Diameter	: 2.25"	0-Hr DTW	: 8.49' TOC
Drilling Method	: 7822DT Geoprobe	48-Hr DTW	: 8.59' TOC
Driller	: Rick Miller	ARM Representative	: L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION	REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 2.6' Riser Amount: 3'	Northing (US ft): 568050.85 Easting (US ft): 1460179.34
5		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"	No LNAPL or DNAPL detected at 48 hours
		Filter (sand) Pack: Top: 2' bgs Bottom: 13' bgs Grain Size: WG #2	
10		Bentonite Seal: Top: 0 (surface) Bottom: 2' bgs Grain Size: Granular (30/50 mesh)	
		End of Boring	
15			



Total Depth: 13'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
amsl: Above mean sea level

APPENDIX E

Low Flow Sampling
Temporary Piezometers

ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: Area B Parcel B2	Project Number: 150300M
Piezometer Number: B2-007-P2	Date: 7/17/17
Piezometer Diameter (in): 1	One Well Volume (gal): —
Depth to Product (ft): —	QED Controller Settings: —
Depth to Water (ft): 8.10	Flow Rate (mL/min) 264.03
Product Thickness (ft): —	Length of time Purged (min) 46
Depth to Bottom (ft): 16.00	

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1515	0.31	8.10	26.1	6.05	1.086	0.75	11.4		Very turbid
1520	0.62	8.10	26.3	6.06	1.095	0.58	11.1		Very turbid
1525	0.93	8.07	26.2	6.14	1.111	0.30	-12.4		Very turbid
1530	1.24	8.11	26.0	6.14	1.192	0.23	-16.5		Very turbid
1535	1.55	8.20	26.6	6.15	1.219	0.20	-25.4		Very turbid
1540	1.86	8.27	26.7	6.15	1.238	0.21	-29.1		Very turbid
1545	2.17	8.32	27.0	6.14	1.246	0.24	-33.0		Very turbid
1550	2.48	8.35	27.0	6.16	1.285	0.25	-33.5		Very turbid
1555	2.79	8.40	26.4	6.17	1.255	0.27	-34.2		Very turbid

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
B2-007-P2	1600	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	Y
		TPH-DRO	2 - 1 L Amber	none	Y
		TCL-SVOCs	2- 1 L Amber	none	N
		Oil & Grease	2 - 1 L Amber	HCl	N
		Total Cyanide	1 - 250 mL Plastic	NaOH	N
		TAL-Metals & Mercury (Dissolved) **Field Filtered**	Total lead 1 - 250 mL Plastic	HNO3	Y
		Hexavalent Chromium (Dissolved) **Field Filtered**	1 - 250 mL Plastic	None	N
		Matrix Spike			
		Duplicate			

Sampled By: BB

Comments: Very turbid

Casing Volume: **1" I.D.** = 0.041 gal/ft - **2" I.D.** = 0.163 gal/ft - **4" I.D.** = 0.653 gal/ft - **6" I.D.** = 1.47 gal/ft

_____ft x _____gal/ft = _____(gal)

Low Flow Sampling
Temporary Piezometers

ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: Area B Parcel B2	Project Number: 150300M
Piezometer Number: B2-011-PZ	Date: 7/17/17
Piezometer Diameter (in): 1	One Well Volume (gal):
Depth to Product (ft): no LNAPL/DNAPL	QED Controller Settings:
Depth to Water (ft): 8.47 TOC	Flow Rate (mL/min) 264.03
Product Thickness (ft): —	Length of time Purged (min) 40
Depth to Bottom (ft): 15.00 TOC	

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1010	0.31	8.74	25.8	7.49	1.709	0.56	-296.0	90.6	
1015	0.62	8.80	25.7	7.32	1.843	0.26	-311.1	13.1	
1020	0.93	8.80	25.7	7.30	1.921	0.23	-321.2	5.5	
1025	1.24	8.80	25.8	7.24	1.921	0.20	-339.0	30.0	
1030	1.55	8.80	24.0	7.21	1.953	0.19	-345.2	2.0	
1035	1.86	8.80	25.7	7.19	1.975	0.18	-348.5	1.9	
1040	2.17	8.85	25.7	7.18	1.961	0.17	-347.8	3.7	
1045	2.48	8.85	25.8	7.18	1.983	0.17	-350.1	2.5	
1050	2.79	8.85	26.0	7.16	2.089	0.17	-354.7	2.2	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
B2-011-PZ	1055	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	Y
		TPH-DRO	2 - 1 L Amber	none	Y
		TCL-SVOCs	2- 1 L Amber	none	N
		Oil & Grease	2 - 1 L Amber	HCl	N
		Total Cyanide	1 - 250 mL Plastic	NaOH	N
		~~TAL-Metals & Mercury (Dissolved)~~ **Field Filtered**	1 - 250 mL Plastic	HNO3	Y
		Hexavalent Chromium (Dissolved) **Field Filtered**	1 - 250 mL Plastic	None	N
		Matrix Spike / Duplicate			

Sampled By: BB

Comments:

Casing Volume: **1" I.D.** = 0.041 gal/ft - **2" I.D.** = 0.163 gal/ft - **4" I.D.** = 0.653 gal/ft - **6" I.D.** = 1.47 gal/ft
_____ft x _____gal/ft = _____(gal)

Low Flow Sampling
Temporary Piezometers

ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: Area B Parcel B2 Phase II	Project Number: 150300M
Piezometer Number: B2-013-PZ	Date: 7/12/17
Piezometer Diameter (in): 1	One Well Volume (gal): —
Depth to Product (ft): no LNAPL/DNAPL	QED Controller Settings: —
Depth to Water (ft): 9.36' TOC	Flow Rate (mL/min) 270
Product Thickness (ft): ——	Length of time Purged (min) 40
Depth to Bottom (ft): 17.60' TOC	

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0753	~~0~~ 0.1		24.9	9.52	0.647	0.51	16.9		very turbid
0758	0.32	9.61	24.9	9.26	0.611	0.38	-45.7		very turbid
0803	0.64		25.1	7.44	0.814	0.29	-183.0		very turbid
0808	0.96		25.0	6.99	0.791	0.26	-169.4		very turbid
0813	1.27	9.81	24.8	7.32	0.721	0.21	-190.9		very turbid
0818	1.58	~~9.81~~	24.8	8.79	0.646	0.20	-295.1		very turbid
0823	1.89	9.81	24.7	8.89	0.638	0.23	-268.9		very turbid
0828	2.2	9.55	25.4	8.53	0.664	0.24	-238.0		very turbid
0833	2.51	9.60	24.8	8.66	0.669	0.24	-221.96		very turbid

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
B2-013-PZ	0835	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	Y
		TPH-DRO	2 - 1 L Amber	none	Y
		TCL-SVOCs	2- 1 L Amber	none	N
		Oil & Grease	2 - 1 L Amber	HCl	N
		Total Cyanide	1 - 250 mL Plastic	NaOH	N
		~~TAL-Metals & Mercury~~ total lead (Dissolved) **Field Filtered**	1 - 250 mL Plastic	HNO3	Y
		Hexavalent Chromium (Dissolved) **Field Filtered**	1 - 250 mL Plastic	None	N
		Matrix Spike			
		(Duplicate)			

Sampled By: BB

Comments: orpand PH is not stablized. Probe wasnt working Could not get all DTW

Casing Volume: **1" I.D.** = 0.041 gal/ft - **2" I.D.** = 0.163 gal/ft - **4" I.D.** = 0.653 gal/ft - **6" I.D.** = 1.47 gal/ft

_____ft x _____gal/ft = _____(gal)

Low Flow Sampling
Temporary Piezometers

ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: Area B Parcel B2	Project Number: 150300m
Piezometer Number: B2-014-P2	Date: 7/17/17
Piezometer Diameter (in): 1	One Well Volume (gal): —
Depth to Product (ft): —	QED Controller Settings: —
Depth to Water (ft): 8.97	Flow Rate (mL/min) 264.03
Product Thickness (ft): —	Length of time Purged (min) 40
Depth to Bottom (ft): 16.00	

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1235	0.31	8.97	26.6	6.22	3.139	0.63	-130.1		very turbid
1240	0.62	8.97	28.8	6.38	2.999	0.39	-115.1	89.5	
1245	0.93	8.97	28.9	6.53	2.843	0.36	-131.4	50.9	
1250	1.24	8.99	29.0	6.59	2.761	0.35	-133.6	48.8	
1255	1.55	8.99	29.4	6.66	2.652	0.30	-135.6	84.6	
1300	1.86	9.00	29.5	6.70	2.591	0.29	-139.4	80.4	
1305	2.17	9.00	29.6	6.72	2.505	0.29	-134.8	95.1	
1310	2.48	9.00	29.6	6.74	2.474	0.26	-142.0	122.6	
1315	2.79	9.00	29.6	6.81	2.426	0.25	-146.3	122.9	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
B2-014-P2	1320	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	Y
		TPH-DRO	2 - 1 L Amber	none	Y
		TCL-SVOCs	2- 1 L Amber	none	N
		Oil & Grease	2 - 1 L Amber	HCl	N
		Total Cyanide	1 - 250 mL Plastic	NaOH	N
		TAL-Metals & Mercury (Dissolved) **Field Filtered**	Total lead 1 - 250 mL Plastic	HNO3	* Y
		Hexavalent Chromium (Dissolved) **Field Filtered**	1 - 250 mL Plastic	None	N
		Matrix Spike			
		Duplicate			

Sampled By: RB

Comments:

Casing Volume: **1" I.D.** = 0.041 gal/ft - **2" I.D.** = 0.163 gal/ft - **4" I.D.** = 0.653 gal/ft - **6" I.D.** = 1.47 gal/ft
_____ft x _____gal/ft = _____(gal)

Low Flow Sampling
Temporary Piezometers

ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: Area 6 Parcel B2	Project Number: 150360M
Piezometer Number: B2-015-P2	Date: 7/17/17
Piezometer Diameter (in): 1	One Well Volume (gal): —
Depth to Product (ft): —	QED Controller Settings: ~
Depth to Water (ft): ~~5.60~~ 7.60	Flow Rate (mL/min) 264.03
Product Thickness (ft): —	Length of time Purged (min) 40
Depth to Bottom (ft): 14.95	

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1355	0.31	7.60	26.2	5.84	2.955	0.74	-21.0		very turbid
1400	0.67	7.60	27.6	5.93	2.859	0.47	-31.5		Very turb.
1405	0.93	7.60	28.7	6.19	2.627	0.50	-63.0		Very turbid
1410	1.24	7.61	28.8	6.40	2.410	0.45	-77.3	49.7	
1415	1.55	7.62	28.7	6.47	2.315	0.39	-83.6	160.4	
1420	1.86	7.62	28.9	6.56	2.258	0.35	-91.0	82.9	
1425	2.17	7.63	29.1	6.57	2.248	0.35	-92.4	72.0	
1430	2.48	7.64	29.5	6.59	2.237	0.33	-94.9	107.6	
1435	2.79	7.65	29.6	6.60	2.240	0.32	-94.9	83.9	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
B2-015-P2	1440	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	Y
		TPH-DRO	2 - 1 L Amber	none	Y
		TCL-SVOCs	2- 1 L Amber	none	N
		Oil & Grease	2 - 1 L Amber	HCl	N
		Total Cyanide	1 - 250 mL Plastic	NaOH	N
		TAL-Metals (& Mercury (Dissolved) **Field Filtered**	Total lead 1 - 250 mL Plastic	HNO3	Y
		Hexavalent Chromium (Dissolved) **Field Filtered**	1 - 250 mL Plastic	None	N
Matrix Spike					
Duplicate					

Sampled By: BB

Comments: Very turbid at start of purge

Casing Volume: **1" I.D.** = 0.041 gal/ft - **2" I.D.** = 0.163 gal/ft - **4" I.D.** = 0.653 gal/ft - **6" I.D.** = 1.47 gal/ft

_____ft x _____gal/ft = _____(gal)

Low Flow Sampling
Temporary Piezometers

ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: Area B Parcel B2 Phase II	Project Number: 150300M-6-3
Piezometer Number: B2-051-PZ	Date: 10/23/17
Piezometer Diameter (in): 1	One Well Volume (gal):
Depth to Product (ft): no LNAPL/DNAPL	QED Controller Settings:
Depth to Water (ft): 8.51	Flow Rate (mL/min): ~~400~~ 350
Product Thickness (ft): n/a	Length of time Purged (min) 45
Depth to Bottom (ft): 15.02	

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
14.09	2.0	8.51	19.0	11.36	1.183	0.29	-239.2	16.3	
1414	2.4	8.51	19.1	11.39	1.180	0.27	-242.7	26.0	
1419	2.8	8.51	19.3	11.40	1.178	0.24	-240.9	34.0	
1424	3.2	8.51	19.2	11.42	1.177	0.24	-246.6	47.1	
1429									

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
B2-051-PZ	1429	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	
		TPH-DRO	2 - 1 L Amber	none	
		TCL-SVOCs	2- 1 L Amber	none	
		Oil & Grease	2 - 1 L Amber	HCl	
		Total Cyanide	1 - 250 mL Plastic	NaOH	
		TAL-Metals & Mercury (Dissolved) **Field Filtered**	1 - 250 mL Plastic	HNO3	
		Hexavalent Chromium (Dissolved) **Field Filtered**	1 - 250 mL Plastic	None	
		Matrix Spike			
		Duplicate			

Sampled By: LMG

Comments:

Casing Volume: **1" I.D.** = 0.041 gal/ft - **2" I.D.** = 0.163 gal/ft - **4" I.D.** = 0.653 gal/ft - **6" I.D.** = 1.47 gal/ft

_____ft x _____gal/ft = _____(gal)

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name 150300M-6 Parcel B2 Phase II Date 6/23/17
Weather 70s, Rainy
Calibrated by LMG and DEN Instrument YSI Pro DDS
Serial Number 17E101949

Parameters	Morning Calibration	Morning Temperature	End of Day Calibration Check	End of Day Temperature
Specific Conductance Standard #1 (1.413mS/cm)	1.413	77 °F	1.256¥	90 °F
Specific Conductance Standard #2	--		--	
pH (7)	7.01		--	
pH (4)	4.00		3.89	
pH(10)	10.03		--	
ORP Zobel Solution (240.0 mV)	240.0		235.1	
Dissolved Oxygen 100% water saturated air mg/L	--		--	
Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L	8.80¥		8.47¥	
Barometric Pressure mm Hg	758.95		755.14	
Turbidity #1 (0 NTU)				
Turbidity #2 (1 NTU)				
Turbidity Standard #3 (10 NTU)				

¥ Specific conductance is outside of the post-calibration acceptance criteria. DO is outside of the calibration and post-calibration acceptance criteria. Values displayed on purge logs may be inaccurate.

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name 150300M-6 Parcel B2 Phase II Date 7/17/17
Weather 70s
Calibrated by BB Instrument YSI Pro DDS
Serial Number 17E101949

Parameters	Morning Calibration	Morning Temperature	End of Day Calibration Check	End of Day Temperature
Specific Conductance Standard #1 (1.413mS/cm)	1.413	78 °F	1.414	76 °F
Specific Conductance Standard #2	--		--	
pH (7)	7.00		7.00	
pH (4)	4.01		4.00	
pH(10)	10.00		10.03	
ORP Zobel Solution (240.0 mV)	240.0		240.1	
Dissolved Oxygen 100% water saturated air mg/L	100.6¥		100.3¥	
Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L	--		--	
Barometric Pressure mm Hg	762.20		762.20	
Turbidity #1 (0 NTU)				
Turbidity #2 (1 NTU)				
Turbidity Standard #3 (10 NTU)				

¥ DO was recorded as % water saturated air rather than mg/L.

APPENDIX F

Parcel B2 - IDW Drum Log

Drum ID	Designation	Activity/Phase	Contents	Open Date
836-PPE-5/26/17-B2	Non-haz.	Area B: Parcel B2 Phase II	PPE	5/26/2017
837-Decon Water-5/26/17-B2	Non-haz.	Area B: Parcel B2 Phase II	Water	5/26/2017
838-S-5/26/17-B2	Non-haz.	Area B: Parcel B2 Phase II	Soil	5/26/2017
839-Liners-5/26/17-B2	Non-haz.	Area B: Parcel B2 Phase II	Liners	5/26/2017
840-Soil-5/31/17-B2	Non-haz.	Area B: Parcel B2 Phase II	Soil	5/31/2017
846-Purge Water-6/23/17-B2	Non-haz.	Area B: Parcel B2 Phase II	Water	6/23/2017
847-PPE-6/23/17-B2	Non-haz.	Area B: Parcel B2 Phase II	PPE	6/23/2017
848-Soil-6/23/17-B2	Non-haz.	Area B: Parcel B2 Phase II	Soil	6/23/2017
849-Decon Water-6/23/17-B2	Non-haz.	Area B: Parcel B2 Phase II	Water	6/23/2017
850-Liners-6/27/17-B2	Non-haz.	Area B: Parcel B2 Phase II	Liners	6/27/2017
851-Soil-6/27/17-B2	Non-haz.	Area B: Parcel B2 Phase II	Soil	6/27/2017
896-Tubing/Bentonite-7/28/17-B2	Non-haz.	Area B: Parcel B2 Phase II	Tubing/Bentonite	7/28/2017

APPENDIX G

NAPL Gauging Activities
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Sample ID	Installation Date	Abandonment Date	Well Total Depth (Feet bgs)	Screen Interval (Feet bgs)	Riser Stick-Up (Feet)	6/22/2017			6/23/2017			6/26/2017		
						Depth to NAPL (Feet TOC)	Depth to Water (Feet TOC)	NAPL Thickness (Feet)	Depth to NAPL (Feet TOC)	Depth to Water (Feet TOC)	NAPL Thickness (Feet)	Depth to NAPL (Feet TOC)	Depth to Water (Feet TOC)	NAPL Thickness (Feet)
B2-007-PZ	6/23/2017	NA	13	3-13	3.11	NA	NA	NA	-	7.42	-	-	7.47	-
B2-011-PZ	6/26/2017	NA	13	3-13	2.30	NA	NA	NA	NA	NA	NA	-	8.90	-
B2-013-PZ	6/26/2017	NA	15	5-15	3.04	NA	NA	NA	NA	NA	NA	-	9.36	-
B2-014-PZ	6/23/2017	NA	13	3-13	3.21	NA	NA	NA	-	8.88	-	-	9.00	-
B2-015-PZ	6/26/2017	NA	13	3-13	2.40	NA	NA	NA	NA	NA	NA	-	7.65	-
B2-024-PZ	11/3/2017	NA	12	3-12	3.63	NA	NA	NA	NA	NA	NA	NA	NA	NA
B2-051-PZ	6/22/2017	7/10/2017	13	3-13	2.60	-	8.49	-	-	8.51	-	-	8.59	-
B2-053-PZ	6/27/2017	NA	13	3-13	3.30	NA	NA	NA	NA	NA	NA	NA	NA	NA
B2-055-PZ	6/27/2017	NA	14	4-14	3.55	NA	NA	NA	NA	NA	NA	NA	NA	NA

Sample ID	Installation Date	Abandonment Date	Well Total Depth (Feet bgs)	Screen Interval (Feet bgs)	Riser Stick-Up (Feet)	6/27/2017			6/28/2017			6/29/2017		
						Depth to NAPL (Feet TOC)	Depth to Water (Feet TOC)	NAPL Thickness (Feet)	Depth to NAPL (Feet TOC)	Depth to Water (Feet TOC)	NAPL Thickness (Feet)	Depth to NAPL (Feet TOC)	Depth to Water (Feet TOC)	NAPL Thickness (Feet)
B2-007-PZ	6/23/2017	NA	13	3-13	3.11	NM	NM	NM	NM	NM	NM	NM	NM	NM
B2-011-PZ	6/26/2017	NA	13	3-13	2.30	NM	NM	NM	-	8.42	-	NM	NM	NM
B2-013-PZ	6/26/2017	NA	15	5-15	3.04	NM	NM	NM	-	9.20	-	NM	NM	NM
B2-014-PZ	6/23/2017	NA	13	3-13	3.21	NM	NM	NM	NM	NM	NM	NM	NM	NM
B2-015-PZ	6/26/2017	NA	13	3-13	2.40	NM	NM	NM	-	7.61	-	NM	NM	NM
B2-024-PZ	11/3/2017	NA	12	3-12	3.63	NA	NA	NA	NA	NA	NA	NA	NA	NA
B2-051-PZ	6/22/2017	7/10/2017	13	3-13	2.60	NM	NM	NM	NM	NM	NM	NM	NM	NM
B2-053-PZ	6/27/2017	NA	13	3-13	3.30	-	9.07	-	NM	NM	NM	-	6.90	-
B2-055-PZ	6/27/2017	NA	14	4-14	3.55	-	7.13	-	NM	NM	NM	-	7.20	-

NA = Not Applicable
NM = Not Measured
SHADED = NAPL Detection
bgs = below ground surface
TOC = Top of Casing

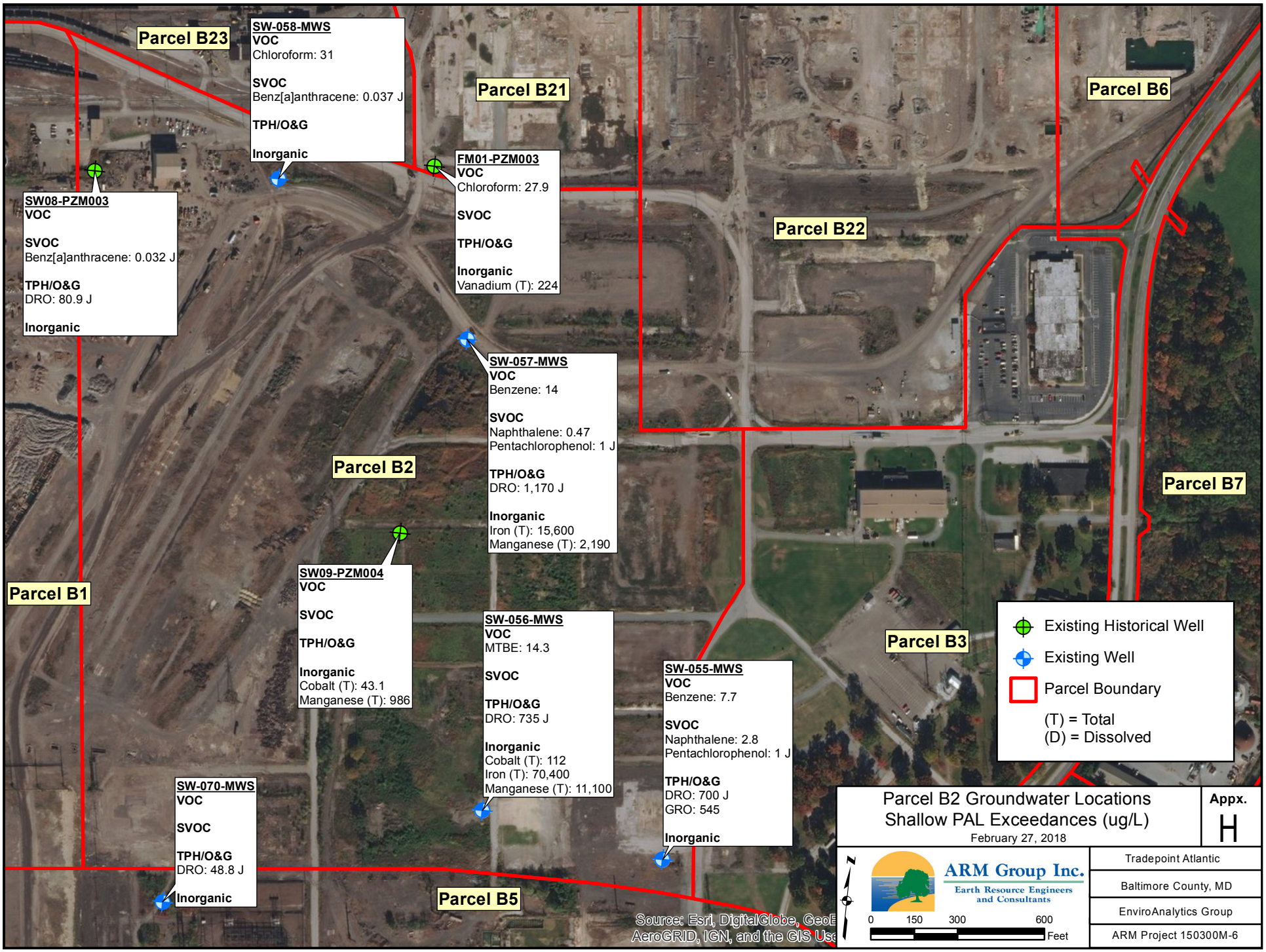
NAPL Gauging Activities
Parcel B2
Tradepoint Atlantic
Sparrows Point, Maryland

Sample ID	Installation Date	Abandonment Date	Well Total Depth (Feet bgs)	Screen Interval (Feet bgs)	Riser Stick-Up (Feet)	7/10/2017			7/17/2017			7/31/2017		
						Depth to NAPL (Feet TOC)	Depth to Water (Feet TOC)	NAPL Thickness (Feet)	Depth to NAPL (Feet TOC)	Depth to Water (Feet TOC)	NAPL Thickness (Feet)	Depth to NAPL (Feet TOC)	Depth to Water (Feet TOC)	NAPL Thickness (Feet)
B2-007-PZ	6/23/2017	NA	13	3-13	3.11	NM	NM	NM	-	8.10	-	NM	NM	NM
B2-011-PZ	6/26/2017	NA	13	3-13	2.30	NM	NM	NM	-	8.47	-	NM	NM	NM
B2-013-PZ	6/26/2017	NA	15	5-15	3.04	NM	NM	NM	-	9.36	-	NM	NM	NM
B2-014-PZ	6/23/2017	NA	13	3-13	3.21	NM	NM	NM	-	8.97	-	NM	NM	NM
B2-015-PZ	6/26/2017	NA	13	3-13	2.40	NM	NM	NM	-	7.60	-	NM	NM	NM
B2-024-PZ	11/3/2017	NA	12	3-12	3.63	NA	NA	NA	NA	NA	NA	NA	NA	NA
B2-051-PZ	6/22/2017	7/10/2017	13	3-13	2.60	Abandoned								
B2-053-PZ	6/27/2017	NA	13	3-13	3.30	NM	NM	NM	NM	NM	NM	-	4.02	-
B2-055-PZ	6/27/2017	NA	14	4-14	3.55	NM	NM	NM	NM	NM	NM	-	4.93	-

Sample ID	Installation Date	Abandonment Date	Well Total Depth (Feet bgs)	Screen Interval (Feet bgs)	Riser Stick-Up (Feet)	11/3/2017			11/6/2017			12/4/2017		
						Depth to NAPL (Feet TOC)	Depth to Water (Feet TOC)	NAPL Thickness (Feet)	Depth to NAPL (Feet TOC)	Depth to Water (Feet TOC)	NAPL Thickness (Feet)	Depth to NAPL (Feet TOC)	Depth to Water (Feet TOC)	NAPL Thickness (Feet)
B2-007-PZ	6/23/2017	NA	13	3-13	3.11	NM	NM	NM	NM	NM	NM	NM	NM	NM
B2-011-PZ	6/26/2017	NA	13	3-13	2.30	NM	NM	NM	NM	NM	NM	NM	NM	NM
B2-013-PZ	6/26/2017	NA	15	5-15	3.04	NM	NM	NM	NM	NM	NM	NM	NM	NM
B2-014-PZ	6/23/2017	NA	13	3-13	3.21	NM	NM	NM	NM	NM	NM	NM	NM	NM
B2-015-PZ	6/26/2017	NA	13	3-13	2.40	NM	NM	NM	NM	NM	NM	NM	NM	NM
B2-024-PZ	11/3/2017	NA	12	3-12	3.63	-	5.99	-	-	5.69	-	-	6.56	-
B2-051-PZ	6/22/2017	7/10/2017	13	3-13	2.60	Abandoned								
B2-053-PZ	6/27/2017	NA	13	3-13	3.30	NM	NM	NM	NM	NM	NM	NM	NM	NM
B2-055-PZ	6/27/2017	NA	14	4-14	3.55	NM	NM	NM	NM	NM	NM	NM	NM	NM

NA = Not Applicable
NM = Not Measured
SHADED = NAPL Detection
bgs = below ground surface
TOC = Top of Casing

APPENDIX H



Parcel B2 Groundwater Locations
Shallow PAL Exceedances (ug/L)
February 27, 2018

Appx.
H

ARM Group Inc.
Earth Resource Engineers and Consultants

Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-6

APPENDIX I

QA/QC Tracking Log

Trip Blank:	Date:	Sample IDs:		
	5/26/2017	1) B2-047-SB-1		
TB		2) B2-047-SB-4		
		3) B2-042-SB-1		
TB		4) B2-042-SB-4		
		5) B2-052-SB-1		
		6) B2-052-SB-5		
		7) B2-052-SB-10	Duplicate:	B2-042-SB-4
		8) B2-027-SB-1	Date:	5/26/2017
		9) B2-026-SB-1	MS/MSD:	B2-038-SB-5
TB		10) B2-026-SB-5	Date:	5/26/2017
		11) B2-026-SB-10	Field Blank:	
		12) B2-048-SB-1	Date:	5/26/2017
		13) B2-048-SB-8	Eq. Blank:	
		14) B2-038-SB-1	Date:	5/26/2017
		15) B2-038-SB-5		
	5/30/2017	16) B2-030-SB-1		
		17) B2-030-SB-5		
		18) B2-029-SB-1		
		19) B2-029-SB-8		
		20) B2-029-SB-10		

Trip Blank:	Date:	Sample IDs:		
	5/31/2017	1) B2-023-SB-1		
TB		2) B2-023-SB-4		
		3) B2-045-SB-1		
		4) B2-045-SB-5		
		5) B2-045-SB-10		
		6) B2-046-SB-1		
		7) B2-046-SB-4	Duplicate:	B2-040-SB-7
		8) B2-046-SB-10	Date:	6/1/2017
	6/1/2017	9) B2-040-SB-1	MS/MSD:	B2-042-SB-5
TB		10) B2-040-SB-7	Date:	6/1/2017
		11) B2-040-SB-10	Field Blank:	
		12) B2-021-SB-1	Date:	5/31/2017
TB		13) B2-021-SB-4	Eq. Blank:	
		14) B2-022-SB-1	Date:	5/31/2017
		15) B2-022-SB-4		
		16) B2-020-SB-1		
		17) B2-020-SB-4		
		18) B2-042-SB-1		
		19) B2-042-SB-5		
		20) B2-005-SB-1		

	5/30/2017	1) B2-031-SB-1		
TB		2) B2-031-SB-7		
		3) B2-004-SB-1		
		4) B2-004-SB-5		
		5) B2-003-SB-1		
		6) B2-003-SB-4.5		
		7) B2-039-SB-1	Duplicate:	B2-003-SB-4.5
		8) B2-039-SB-5	Date:	5/30/2017
		9) B2-033-SB-1	MS/MSD:	B2-035-SB-4
		10) B2-033-SB-5	Date:	5/31/2017
	5/31/2017	11) B2-032-SB-1	Field Blank:	
TB		12) B2-032-SB-4	Date:	5/30/2017
		13) B2-035-SB-1	Eq. Blank:	
TB		14) B2-035-SB-4	Date:	5/30/2017
		15) B2-034-SB-1		
		16) B2-044-SB-1		
		17) B2-044-SB-7		
		18) B2-024-SB-1		
		19) B2-025-SB-1		
		20) B2-025-SB-4		

	6/2/2017	1) B2-006-SB-1		
		2) B2-006-SB-4		
		3) B2-001-SB-1		
TB		4) B2-001-SB-5		
TB	6/22/2017	5) B2-037-SB-1		
TB		6) B2-037-SB-5		
TB		7) B2-036-SB-1	Duplicate:	B2-001-SB-5
TB		8) B2-036-SB-5	Date:	6/2/2017
TB		9) B2-049-SB-1	MS/MSD:	B2-050-SB-5
TB		10) B2-049-SB-4	Date:	6/22/2017
		11) B2-049-SB-10	Field Blank:	
TB		12) B2-028-SB-1	Date:	6/2/2017
TB		13) B2-028-SB-5	Eq. Blank:	
		14) B2-028-SB-10	Date:	6/2/2017
		15) B2-050-SB-1		
		16) B2-050-SB-5		
		17) B2-051-SB-1		
		18) B2-051-SB-5		
TB	6/23/2017	19) B2-018-SB-1		
TB		20) B2-018-SB-5		

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:	
TB	6/23/2017	1) B2-019-SB-1	
TB		2) B2-019-SB-5	
		3) B2-008-SB-1	
		4) B2-008-SB-5	
TB		5) B2-007-SB-1	
TB		6) B2-007-SB-5	
		7) B2-007-SB-10	Duplicate: B2-007-SB-5
		8) B2-014-SB-1.5	Date: 6/23/2017
TB		9) B2-014-SB-7	MS/MSD: B2-015-SB-5
	6/26/2017	10) B2-011-SB-1	Date: 6/23/2017
		11) B2-011-SB-5	Field Blank:
		12) B2-012-SB-3.5	Date: 6/23/2017
		13) B2-012-SB-5	Eq. Blank:
TB		14) B2-013-SB-1	Date: 6/23/2017
TB		15) B2-013-SB-5	
		16) B2-015-SB-1	
		17) B2-015-SB-5	
		18) B2-017-SB-1	
		19) B2-017-SB-5	
		20) B2-016-SB-1	

Trip Blank:	Date:	Sample IDs:	
TB	6/23/2017	1) B2-051-PZ	
TB	7/17/2017	2) B2-013-PZ	
		3) B2-011-PZ	
		4) B2-014-PZ	
		5) B1-015-PZ	
		6) B2-007-PZ	
		7)	Duplicate: B2-013-PZ
		8)	Date: 7/17/2017
		9)	MS/MSD: B2-011-PZ
		10)	Date: 7/17/2017
		11)	Field Blank:
		12)	Date: 7/17/2017
		13)	Eq. Blank:
		14)	Date:
		15)	
		16)	
		17)	
		18)	
		19)	
		20)	

	6/26/2017	1) B2-016-SB-5	
		2) B2-009-SB-1	
		3) B2-009-SB-5	
	6/27/2017	4) B2-010-SB-1	
		5) B2-010-SB-4	
		6) B2-005-SB-1	
		7) B2-005-SB-5	Duplicate: B2-054-SB-5
		8) B2-002-SB-1	Date: 6/27/2017
		9) B2-002-SB-4.5	MS/MSD: B2-055-SB-6.5
TB		10) B2-055-SB-1	Date: 6/27/2017
TB		11) B2-055-SB-6.5	Field Blank:
TB		12) B2-054-SB-1	Date: 6/26/2017
TB		13) B2-054-SB-5	Eq. Blank:
TB		14) B2-053-SB-1	Date: 6/26/2017
TB		15) B2-053-SB-5.5	
TB		16) B2-041-SB-1	
		17) B2-041-SB-5	
		18)	
		19)	
		20)	

	7/27/2017	1) B2-056-SG	
		2) B2-057-SG	
		3) B2-058-SG	
	7/28/2017	4) B2-059-SG	
		5) B2-060-SG	
		6) B2-061-SG	
		7)	Duplicate: B2-057-SG
		8)	Date: 7/27/2017
		9)	MS/MSD:
		10)	Date:
		11)	Field Blank:
		12)	Date: 7/27/2017
		13)	Eq. Blank:
		14)	Date:
		15)	
		16)	
		17)	
		18)	
		19)	
		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.

APPENDIX J

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	3	0	0	3	100.00%
Naphthalene	SVOC	Air	ug/m3	3	0	0	3	100.00%
1,1,1-Trichloroethane	VOC	Air	ug/m3	3	3	0	3	100.00%
1,1,2,2-Tetrachloroethane	VOC	Air	ug/m3	3	0	0	3	100.00%
1,1,2-Trichloro-1,2,2-Trifluoroethane	VOC	Air	ug/m3	3	0	0	3	100.00%
1,1,2-Trichloroethane	VOC	Air	ug/m3	3	0	0	3	100.00%
1,1-Dichloroethane	VOC	Air	ug/m3	3	0	0	3	100.00%
1,1-Dichloroethene	VOC	Air	ug/m3	3	0	0	3	100.00%
1,2,3-Trichlorobenzene	VOC	Air	ug/m3	3	0	0	3	100.00%
1,2,3-Trimethylbenzene	VOC	Air	ug/m3	3	0	0	3	100.00%
1,2,4-Trichlorobenzene	VOC	Air	ug/m3	3	0	0	3	100.00%
1,2,4-Trimethylbenzene	VOC	Air	ug/m3	3	3	0	3	100.00%
1,2-Dibromo-3-chloropropane	VOC	Air	ug/m3	3	0	0	3	100.00%
1,2-Dibromoethane	VOC	Air	ug/m3	3	0	0	3	100.00%
1,2-Dichlorobenzene	VOC	Air	ug/m3	3	0	0	3	100.00%
1,2-Dichloroethane	VOC	Air	ug/m3	3	0	0	3	100.00%
1,2-Dichloroethene (Total)	VOC	Air	ug/m3	3	1	0	3	100.00%
1,2-Dichloropropane	VOC	Air	ug/m3	3	0	0	3	100.00%
1,3,5-Trimethylbenzene	VOC	Air	ug/m3	3	0	0	3	100.00%
1,3-Dichlorobenzene	VOC	Air	ug/m3	3	0	0	3	100.00%
1,4-Dichlorobenzene	VOC	Air	ug/m3	3	1	0	3	100.00%
2-Butanone (MEK)	VOC	Air	ug/m3	3	3	0	3	100.00%
2-Hexanone	VOC	Air	ug/m3	3	0	0	3	100.00%
4-Methyl-2-pentanone (MIBK)	VOC	Air	ug/m3	3	0	0	3	100.00%
Acetone	VOC	Air	ug/m3	3	3	0	3	100.00%
Benzene	VOC	Air	ug/m3	3	0	0	3	100.00%
Bromodichloromethane	VOC	Air	ug/m3	3	1	0	3	100.00%
Bromoform	VOC	Air	ug/m3	3	0	0	3	100.00%
Bromomethane	VOC	Air	ug/m3	3	0	0	3	100.00%
Carbon disulfide	VOC	Air	ug/m3	3	3	0	3	100.00%
Carbon tetrachloride	VOC	Air	ug/m3	3	0	0	3	100.00%
Chlorobenzene	VOC	Air	ug/m3	3	0	0	3	100.00%
Chloroethane	VOC	Air	ug/m3	3	0	0	3	100.00%
Chloroform	VOC	Air	ug/m3	3	3	0	3	100.00%
Chloromethane	VOC	Air	ug/m3	3	0	0	3	100.00%
cis-1,2-Dichloroethene	VOC	Air	ug/m3	3	0	0	3	100.00%
cis-1,3-Dichloropropene	VOC	Air	ug/m3	3	0	0	3	100.00%
Cyclohexane	VOC	Air	ug/m3	3	3	0	3	100.00%
Dibromochloromethane	VOC	Air	ug/m3	3	0	0	3	100.00%
Dichlorodifluoromethane	VOC	Air	ug/m3	3	3	0	3	100.00%
Ethylbenzene	VOC	Air	ug/m3	3	0	0	3	100.00%
Isopropylbenzene	VOC	Air	ug/m3	3	0	0	3	100.00%
Methyl Acetate	VOC	Air	ug/m3	3	0	0	3	100.00%
Methyl tert-butyl ether (MTBE)	VOC	Air	ug/m3	3	0	0	3	100.00%
Methylene Chloride	VOC	Air	ug/m3	3	0	0	3	100.00%
Styrene	VOC	Air	ug/m3	3	0	0	3	100.00%
Tetrachloroethene	VOC	Air	ug/m3	3	1	0	3	100.00%
Toluene	VOC	Air	ug/m3	3	3	0	3	100.00%
trans-1,2-Dichloroethene	VOC	Air	ug/m3	3	1	0	3	100.00%
trans-1,3-Dichloropropene	VOC	Air	ug/m3	3	0	0	3	100.00%
Trichloroethene	VOC	Air	ug/m3	3	0	0	3	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	3	3	0	3	100.00%
Vinyl chloride	VOC	Air	ug/m3	3	0	0	3	100.00%
Xylenes	VOC	Air	ug/m3	3	3	0	3	100.00%
1,4-Dioxane	VOC/SVOC	Air	ug/m3	3	2	0	3	100.00%
Cyanide	CN	Soil	mg/kg	67	56	0	67	100.00%
Aluminum	Metal	Soil	mg/kg	67	67	0	67	100.00%
Antimony	Metal	Soil	mg/kg	67	1	0	67	100.00%
Arsenic	Metal	Soil	mg/kg	73	65	0	73	100.00%
Barium	Metal	Soil	mg/kg	67	67	0	67	100.00%
Beryllium	Metal	Soil	mg/kg	67	44	0	67	100.00%
Cadmium	Metal	Soil	mg/kg	67	33	0	67	100.00%
Chromium	Metal	Soil	mg/kg	68	68	0	68	100.00%
Chromium VI	Metal	Soil	mg/kg	69	16	0	69	100.00%
Cobalt	Metal	Soil	mg/kg	67	60	0	67	100.00%
Copper	Metal	Soil	mg/kg	67	65	0	67	100.00%
Iron	Metal	Soil	mg/kg	67	67	0	67	100.00%
Lead	Metal	Soil	mg/kg	67	65	0	67	100.00%
Manganese	Metal	Soil	mg/kg	69	69	0	69	100.00%
Mercury	Metal	Soil	mg/kg	67	38	0	67	100.00%
Nickel	Metal	Soil	mg/kg	67	67	0	67	100.00%
Selenium	Metal	Soil	mg/kg	67	3	0	67	100.00%
Silver	Metal	Soil	mg/kg	67	66	0	67	100.00%
Thallium	Metal	Soil	mg/kg	67	0	0	67	100.00%
Vanadium	Metal	Soil	mg/kg	67	67	0	67	100.00%
Zinc	Metal	Soil	mg/kg	67	67	0	67	100.00%
Aroclor 1016	PCB	Soil	mg/kg	34	0	0	34	100.00%
Aroclor 1221	PCB	Soil	mg/kg	34	0	0	34	100.00%
Aroclor 1232	PCB	Soil	mg/kg	34	0	0	34	100.00%
Aroclor 1242	PCB	Soil	mg/kg	34	0	0	34	100.00%
Aroclor 1248	PCB	Soil	mg/kg	34	0	0	34	100.00%
Aroclor 1254	PCB	Soil	mg/kg	34	1	0	34	100.00%
Aroclor 1260	PCB	Soil	mg/kg	34	4	0	34	100.00%
Aroclor 1262	PCB	Soil	mg/kg	34	0	0	34	100.00%
Aroclor 1268	PCB	Soil	mg/kg	34	0	0	34	100.00%
PCBs (total)	PCB	Soil	mg/kg	34	4	0	34	100.00%
1,1-Biphenyl	SVOC	Soil	mg/kg	67	13	0	67	100.00%
1,2,4,5-Tetrachlorobenzene	SVOC	Soil	mg/kg	67	1	0	67	100.00%
2,3,4,6-Tetrachlorophenol	SVOC	Soil	mg/kg	67	0	16	51	76.12%
2,4,5-Trichlorophenol	SVOC	Soil	mg/kg	67	0	15	52	77.61%
2,4,6-Trichlorophenol	SVOC	Soil	mg/kg	67	0	15	52	77.61%
2,4-Dichlorophenol	SVOC	Soil	mg/kg	67	0	15	52	77.61%
2,4-Dimethylphenol	SVOC	Soil	mg/kg	67	8	14	53	79.10%
2,4-Dinitrophenol	SVOC	Soil	mg/kg	67	0	16	51	76.12%
2,4-Dinitrotoluene	SVOC	Soil	mg/kg	67	2	0	67	100.00%
2,6-Dinitrotoluene	SVOC	Soil	mg/kg	67	0	0	67	100.00%
2-Chloronaphthalene	SVOC	Soil	mg/kg	67	3	0	67	100.00%
2-Chlorophenol	SVOC	Soil	mg/kg	67	0	15	52	77.61%
2-Methylnaphthalene	SVOC	Soil	mg/kg	67	63	0	67	100.00%
2-Methylphenol	SVOC	Soil	mg/kg	67	5	15	52	77.61%
2-Nitroaniline	SVOC	Soil	mg/kg	67	0	0	67	100.00%
3&4-Methylphenol(m&p Cresol)	SVOC	Soil	mg/kg	67	6	15	52	77.61%

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	67	0	0	67	100.00%
4-Chloroaniline	SVOC	Soil	mg/kg	67	1	0	67	100.00%
4-Nitroaniline	SVOC	Soil	mg/kg	67	0	0	67	100.00%
Acenaphthene	SVOC	Soil	mg/kg	67	44	0	67	100.00%
Acenaphthylene	SVOC	Soil	mg/kg	67	51	0	67	100.00%
Acetophenone	SVOC	Soil	mg/kg	67	10	0	67	100.00%
Anthracene	SVOC	Soil	mg/kg	67	59	0	67	100.00%
Benz[a]anthracene	SVOC	Soil	mg/kg	67	61	0	67	100.00%
Benzaldehyde	SVOC	Soil	mg/kg	67	21	23	44	65.67%
Benzo[a]pyrene	SVOC	Soil	mg/kg	67	57	0	67	100.00%
Benzo[b]fluoranthene	SVOC	Soil	mg/kg	67	59	0	67	100.00%
Benzo[g,h,i]perylene	SVOC	Soil	mg/kg	67	59	0	67	100.00%
Benzo[k]fluoranthene	SVOC	Soil	mg/kg	67	59	0	67	100.00%
bis(2-chloroethoxy)methane	SVOC	Soil	mg/kg	67	0	0	67	100.00%
bis(2-Chloroethyl)ether	SVOC	Soil	mg/kg	67	1	0	67	100.00%
bis(2-Chloroisopropyl)ether	SVOC	Soil	mg/kg	67	0	0	67	100.00%
bis(2-Ethylhexyl)phthalate	SVOC	Soil	mg/kg	67	17	0	67	100.00%
Caprolactam	SVOC	Soil	mg/kg	67	14	0	67	100.00%
Carbazole	SVOC	Soil	mg/kg	67	21	0	67	100.00%
Chrysene	SVOC	Soil	mg/kg	67	61	0	67	100.00%
Dibenz[a,h]anthracene	SVOC	Soil	mg/kg	67	40	0	67	100.00%
Diethylphthalate	SVOC	Soil	mg/kg	67	4	0	67	100.00%
Di-n-butylphthalate	SVOC	Soil	mg/kg	67	5	0	67	100.00%
Di-n-ocytlphthalate	SVOC	Soil	mg/kg	67	4	0	67	100.00%
Fluoranthene	SVOC	Soil	mg/kg	67	63	0	67	100.00%
Fluorene	SVOC	Soil	mg/kg	67	42	0	67	100.00%
Hexachlorobenzene	SVOC	Soil	mg/kg	67	0	0	67	100.00%
Hexachlorobutadiene	SVOC	Soil	mg/kg	67	0	0	67	100.00%
Hexachlorocyclopentadiene	SVOC	Soil	mg/kg	67	0	0	67	100.00%
Hexachloroethane	SVOC	Soil	mg/kg	67	5	0	67	100.00%
Indeno[1,2,3-c,d]pyrene	SVOC	Soil	mg/kg	67	54	0	67	100.00%
Isophorone	SVOC	Soil	mg/kg	67	3	0	67	100.00%
Naphthalene	SVOC	Soil	mg/kg	67	39	0	67	100.00%
Nitrobenzene	SVOC	Soil	mg/kg	67	1	0	67	100.00%
N-Nitroso-di-n-propylamine	SVOC	Soil	mg/kg	67	0	0	67	100.00%
N-Nitrosodiphenylamine	SVOC	Soil	mg/kg	67	4	0	67	100.00%
Pentachlorophenol	SVOC	Soil	mg/kg	67	0	17	50	74.63%
Phenanthrene	SVOC	Soil	mg/kg	67	63	0	67	100.00%
Phenol	SVOC	Soil	mg/kg	67	6	15	52	77.61%
Pyrene	SVOC	Soil	mg/kg	67	63	0	67	100.00%
Diesel Range Organics	TPH	Soil	mg/kg	67	63	0	67	100.00%
Gasoline Range Organics	TPH	Soil	mg/kg	67	20	0	67	100.00%
Oil and Grease	TPH	Soil	mg/kg	67	67	0	67	100.00%
1,1,1-Trichloroethane	VOC	Soil	mg/kg	23	0	0	23	100.00%
1,1,2,2-Tetrachloroethane	VOC	Soil	mg/kg	23	0	0	23	100.00%
1,1,2-Trichloro-1,2,2-Trifluoroethane	VOC	Soil	mg/kg	23	0	0	23	100.00%
1,1,2-Trichloroethane	VOC	Soil	mg/kg	23	0	0	23	100.00%
1,1-Dichloroethane	VOC	Soil	mg/kg	23	0	0	23	100.00%
1,1-Dichloroethene	VOC	Soil	mg/kg	23	0	0	23	100.00%
1,2,3-Trichlorobenzene	VOC	Soil	mg/kg	23	1	0	23	100.00%
1,2,4-Trichlorobenzene	VOC	Soil	mg/kg	23	1	0	23	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	23	0	0	23	100.00%
1,2-Dibromoethane	VOC	Soil	mg/kg	23	0	0	23	100.00%
1,2-Dichlorobenzene	VOC	Soil	mg/kg	23	0	0	23	100.00%
1,2-Dichloroethane	VOC	Soil	mg/kg	23	1	0	23	100.00%
1,2-Dichloroethene (Total)	VOC	Soil	mg/kg	23	0	0	23	100.00%
1,2-Dichloropropane	VOC	Soil	mg/kg	23	0	0	23	100.00%
1,3-Dichlorobenzene	VOC	Soil	mg/kg	23	0	0	23	100.00%
1,4-Dichlorobenzene	VOC	Soil	mg/kg	23	0	0	23	100.00%
2-Butanone (MEK)	VOC	Soil	mg/kg	23	2	0	23	100.00%
2-Hexanone	VOC	Soil	mg/kg	23	0	0	23	100.00%
4-Methyl-2-pentanone (MIBK)	VOC	Soil	mg/kg	23	0	0	23	100.00%
Acetone	VOC	Soil	mg/kg	23	15	0	23	100.00%
Benzene	VOC	Soil	mg/kg	23	2	0	23	100.00%
Bromodichloromethane	VOC	Soil	mg/kg	23	0	0	23	100.00%
Bromoform	VOC	Soil	mg/kg	23	0	0	23	100.00%
Bromomethane	VOC	Soil	mg/kg	23	0	0	23	100.00%
Carbon disulfide	VOC	Soil	mg/kg	23	4	0	23	100.00%
Carbon tetrachloride	VOC	Soil	mg/kg	23	0	0	23	100.00%
Chlorobenzene	VOC	Soil	mg/kg	23	0	0	23	100.00%
Chloroethane	VOC	Soil	mg/kg	23	0	0	23	100.00%
Chloroform	VOC	Soil	mg/kg	23	0	0	23	100.00%
Chloromethane	VOC	Soil	mg/kg	23	0	0	23	100.00%
cis-1,2-Dichloroethene	VOC	Soil	mg/kg	23	0	0	23	100.00%
cis-1,3-Dichloropropene	VOC	Soil	mg/kg	23	0	0	23	100.00%
Cyclohexane	VOC	Soil	mg/kg	23	3	0	23	100.00%
Dibromochloromethane	VOC	Soil	mg/kg	23	0	0	23	100.00%
Dichlorodifluoromethane	VOC	Soil	mg/kg	23	0	0	23	100.00%
Ethylbenzene	VOC	Soil	mg/kg	23	4	0	23	100.00%
Isopropylbenzene	VOC	Soil	mg/kg	23	4	0	23	100.00%
Methyl Acetate	VOC	Soil	mg/kg	23	0	0	23	100.00%
Methyl tert-butyl ether (MTBE)	VOC	Soil	mg/kg	23	0	0	23	100.00%
Methylene Chloride	VOC	Soil	mg/kg	23	0	0	23	100.00%
Styrene	VOC	Soil	mg/kg	23	0	0	23	100.00%
Tetrachloroethene	VOC	Soil	mg/kg	23	0	0	23	100.00%
Toluene	VOC	Soil	mg/kg	23	1	0	23	100.00%
trans-1,2-Dichloroethene	VOC	Soil	mg/kg	23	0	0	23	100.00%
trans-1,3-Dichloropropene	VOC	Soil	mg/kg	23	0	0	23	100.00%
Trichloroethene	VOC	Soil	mg/kg	23	0	0	23	100.00%
Trichlorofluoromethane	VOC	Soil	mg/kg	23	0	0	23	100.00%
Vinyl chloride	VOC	Soil	mg/kg	23	0	0	23	100.00%
Xylenes	VOC	Soil	mg/kg	23	3	0	23	100.00%
1,4-Dioxane	VOC/SVOC	Soil	mg/kg	23	0	23	0	0.00%
Lead	Metal	Water	ug/L	5	4	0	5	100.00%
Diesel Range Organics	TPH	Water	ug/L	5	5	0	5	100.00%
Gasoline Range Organics	TPH	Water	ug/L	5	5	0	5	100.00%
1,1,1-Trichloroethane	VOC	Water	ug/L	5	0	0	5	100.00%
1,1,2,2-Tetrachloroethane	VOC	Water	ug/L	5	0	0	5	100.00%
1,1,2-Trichloro-1,2,2-Trifluoroethane	VOC	Water	ug/L	5	0	0	5	100.00%
1,1,2-Trichloroethane	VOC	Water	ug/L	5	0	0	5	100.00%
1,1-Dichloroethane	VOC	Water	ug/L	5	0	0	5	100.00%
1,1-Dichloroethene	VOC	Water	ug/L	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
1,2,3-Trichlorobenzene	VOC	Water	ug/L	5	0	0	5	100.00%
1,2,4-Trichlorobenzene	VOC	Water	ug/L	5	0	0	5	100.00%
1,2-Dibromo-3-chloropropane	VOC	Water	ug/L	5	0	0	5	100.00%
1,2-Dibromoethane	VOC	Water	ug/L	5	0	0	5	100.00%
1,2-Dichlorobenzene	VOC	Water	ug/L	5	0	0	5	100.00%
1,2-Dichloroethane	VOC	Water	ug/L	5	0	0	5	100.00%
1,2-Dichloroethene (Total)	VOC	Water	ug/L	5	0	0	5	100.00%
1,2-Dichloropropane	VOC	Water	ug/L	5	0	0	5	100.00%
1,3-Dichlorobenzene	VOC	Water	ug/L	5	0	0	5	100.00%
1,4-Dichlorobenzene	VOC	Water	ug/L	5	0	0	5	100.00%
2-Butanone (MEK)	VOC	Water	ug/L	5	2	0	5	100.00%
2-Hexanone	VOC	Water	ug/L	5	0	0	5	100.00%
4-Methyl-2-pentanone (MIBK)	VOC	Water	ug/L	5	0	0	5	100.00%
Acetone	VOC	Water	ug/L	5	3	0	5	100.00%
Benzene	VOC	Water	ug/L	5	2	0	5	100.00%
Bromodichloromethane	VOC	Water	ug/L	5	0	0	5	100.00%
Bromoform	VOC	Water	ug/L	5	0	0	5	100.00%
Bromomethane	VOC	Water	ug/L	5	0	5	0	0.00%
Carbon disulfide	VOC	Water	ug/L	5	0	0	5	100.00%
Carbon tetrachloride	VOC	Water	ug/L	5	0	0	5	100.00%
Chlorobenzene	VOC	Water	ug/L	5	0	0	5	100.00%
Chloroethane	VOC	Water	ug/L	5	0	0	5	100.00%
Chloroform	VOC	Water	ug/L	5	0	0	5	100.00%
Chloromethane	VOC	Water	ug/L	5	0	0	5	100.00%
cis-1,2-Dichloroethene	VOC	Water	ug/L	5	0	0	5	100.00%
cis-1,3-Dichloropropene	VOC	Water	ug/L	5	0	0	5	100.00%
Cyclohexane	VOC	Water	ug/L	5	2	0	5	100.00%
Dibromochloromethane	VOC	Water	ug/L	5	0	0	5	100.00%
Dichlorodifluoromethane	VOC	Water	ug/L	5	0	0	5	100.00%
Ethylbenzene	VOC	Water	ug/L	5	2	0	5	100.00%
Isopropylbenzene	VOC	Water	ug/L	5	2	0	5	100.00%
Methyl Acetate	VOC	Water	ug/L	5	0	0	5	100.00%
Methyl tert-butyl ether (MTBE)	VOC	Water	ug/L	5	5	0	5	100.00%
Methylene Chloride	VOC	Water	ug/L	5	0	0	5	100.00%
Styrene	VOC	Water	ug/L	5	0	0	5	100.00%
Tetrachloroethene	VOC	Water	ug/L	5	0	0	5	100.00%
Toluene	VOC	Water	ug/L	5	2	0	5	100.00%
trans-1,2-Dichloroethene	VOC	Water	ug/L	5	0	0	5	100.00%
trans-1,3-Dichloropropene	VOC	Water	ug/L	5	0	0	5	100.00%
Trichloroethene	VOC	Water	ug/L	5	0	0	5	100.00%
Trichlorofluoromethane	VOC	Water	ug/L	5	0	0	5	100.00%
Vinyl chloride	VOC	Water	ug/L	5	0	0	5	100.00%
Xylenes	VOC	Water	ug/L	5	2	0	5	100.00%

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

APPENDIX K

Construction Worker Soil Screening Levels
Maximum Allowable Work Day Exposures
Calculation Spreadsheet - Parcel B2

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/cm2)	AF	0.3
Skin surface exposed (cm2)	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/cm3)	Ps	2.65
Total soil porosity	Lpore/Lsoil	0.43
Air-filled soil porosity	Lair/Lsoil	0.28

Construction Worker Soil Screening Levels
Maximum Allowable Work Day Exposures
Calculation Spreadsheet - Parcel B2

Area of site (ac)	Ac	25.3	→ EU1
Overall duration of construction (wk/yr)	EW	11	
Exposure frequency (day/yr)	EF	**55**	
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/m2-s per kg/m3)	Q/Csr	**14.1**	
Overall duration of traffic (s)	Tt	**1,584,000**	
Surface area (m2)	AR	**102,386**	
Length (m)	LR	**320**	
Distance traveled (km)	ΣVKT	**176**	
Particulate emission factor (m3/kg)	PEFsc	**116,841,755**	
Derivation of dispersion factor - volatilization (g/m2-s per kg/m3)	Q/Csa	**7.28**	
Total time of construction (s)	Tcv	**1,584,000**	

Input
Calculation

Chemical	Toxicity Criteria Source	^Ingestion SF $(mg/kg\text{-}day)^{-1}$	^Inhalation Unit Risk $(ug/m^3)^{-1}$	^Subchronic RfD (mg/kg-day)	^Subchronic RfC (mg/m^3)	^GIABS	Dermally Adjusted RfD (mg/kg-day)	^ABS	^RBA	*Dia	*Diw	*Henry's Law Constant (unitless)	*Kd	*Koc	DA	Volatilization Factor - Unlimited Reservoir (m^3/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				68.9	37,869	68.8	443	34,893	437
Chromium(VI)	A/C/I	5.00E-01	8.40E-02	5.00E-03	3.00E-04	0.025	1.25E-04	**0.01**	1			-	1.90E+01				102	1,939	97.2	3,656	697,864	3,637
Cobalt	P	-	9.00E-03	3.00E-03	2.00E-05	1	3.00E-03	**0.01**	1			-	4.50E+01					18,093	18,093	4,686	46,524	4,257
Iron	P	-	-	7.00E-01	-	1	7.00E-01	**0.01**	1			-	2.50E+01							1,093,370		1,093,370
Manganese (Non-diet)	I	-	-	2.40E-02	5.00E-05	0.04	9.60E-04	**0.01**	1			-	6.50E+01							22,064	116,311	18,546
Vanadium and Compounds	A	-	-	1.00E-02	1.00E-04	0.026	2.60E-04	**0.01**	1			-	1.00E+03							7,470	232,621	7,237
Benzo[a]pyrene	I	1.00E+00	6.00E-04	3.00E-04	2.00E-06	1	3.00E-04	0.13	1	4.80E-02	5.60E-06	1.87E-05	3.54E+03	5.90E+05	2.37E-11	6.01E+5	81.0	1,389	76.6	347	23.8	22.3

*chemical specific parameters found in Chemical Specific Parameters Spreadsheet at https://www.epa.gov/risk/regional-screening-levels-rsls
^chemical specific parameters found in Unpaved Road Traffic calculator at 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
P: chemical specific parameters found in the Database of EPA PPRTVs at https://hhpprtv.ornl.gov/quickview/pprtv.php

Construction Worker Soil Screening Levels
Maximum Allowable Work Day Exposures
Calculation Spreadsheet - Parcel B2

Area of site (ac)	Ac	46.4	→ EU2
Overall duration of construction (wk/yr)	EW	7	
Exposure frequency (day/yr)	EF	**35**	
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/m2-s per kg/m3)	Q/Csr	**13.6**	
Overall duration of traffic (s)	Tt	**1,008,000**	
Surface area (m2)	AR	**187,774**	
Length (m)	LR	**433**	
Distance traveled (km)	ΣVKT	**152**	
Particulate emission factor (m3/kg)	PEFsc	**152,446,610**	
Derivation of dispersion factor - volatilization (g/m2-s per kg/m3)	Q/Csa	**6.65**	
Total time of construction (s)	Tcv	**1,008,000**	

Input
Calculation

Chemical	Toxicity Criteria Source	^Ingestion SF $(mg/kg\text{-}day)^{-1}$	^Inhalation Unit Risk $(ug/m^3)^{-1}$	^Subchronic RfD (mg/kg-day)	^Subchronic RfC (mg/m^3)	^GIABS	Dermally Adjusted RfD (mg/kg-day)	^ABS	^RBA	*Dia	*Diw	*Henry's Law Constant (unitless)	*Kd	*Koc	DA	Volatilization Factor - Unlimited Reservoir (m^3/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				108	77,641	108	696	71,541	689
Chromium(VI)	A/C/I	5.00E-01	8.40E-02	5.00E-03	3.00E-04	0.025	1.25E-04	**0.01**	1			-	1.90E+01				161	3,975	155	5,746	1,430,820	5,723
Cobalt	P	-	9.00E-03	3.00E-03	2.00E-05	1	3.00E-03	**0.01**	1			-	4.50E+01					37,095	37,095	7,364	95,388	6,836
Iron	P	-	-	7.00E-01	-	1	7.00E-01	**0.01**	1			-	2.50E+01							1,718,152		1,718,152
Manganese (Non-diet)	I	-	-	2.40E-02	5.00E-05	0.04	9.60E-04	**0.01**	1			-	6.50E+01							34,672	238,470	30,271
Vanadium and Compounds	A	-	-	1.00E-02	1.00E-04	0.026	2.60E-04	**0.01**	1			-	1.00E+03							11,738	476,940	11,456
Benzo[a]pyrene	I	1.00E+00	6.00E-04	3.00E-04	2.00E-06	1	3.00E-04	0.13	1	4.80E-02	5.60E-06	1.87E-05	3.54E+03	5.90E+05	2.37E-11	4.38E+5	127	1,595	118	546	27.3	26.0

*chemical specific parameters found in Chemical Specific Parameters Spreadsheet at https://www.epa.gov/risk/regional-screening-levels-rsls
^chemical specific parameters found in Unpaved Road Traffic calculator at 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
P: chemical specific parameters found in the Database of EPA PPRTVs at https://hhpprtv.ornl.gov/quickview/pprtv.php

Construction Worker Soil Screening Levels
Maximum Allowable Work Day Exposures
Calculation Spreadsheet - Parcel B2

Area of site (ac)	Ac	51.0	→ EU3
Overall duration of construction (wk/yr)	EW	12	
Exposure frequency (day/yr)	EF	**60**	
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/m2-s per kg/m3)	Q/Csr	**13.5**	
Overall duration of traffic (s)	Tt	**1,728,000**	
Surface area (m2)	AR	**206,390**	
Length (m)	LR	**454**	
Distance traveled (km)	ΣVKT	**273**	
Particulate emission factor (m3/kg)	PEFsc	**159,046,179**	
Derivation of dispersion factor - volatilization (g/m2-s per kg/m3)	Q/Csa	**6.56**	
Total time of construction (s)	Tcv	**1,728,000**	

Input
Calculation

Chemical	Toxicity Criteria Source	^Ingestion SF $(mg/kg\text{-}day)^{-1}$	^Inhalation Unit Risk $(ug/m^3)^{-1}$	^Subchronic RfD (mg/kg-day)	^Subchronic RfC (mg/m^3)	^GIABS	Dermally Adjusted RfD (mg/kg-day)	^ABS	^RBA	*Dia	*Diw	*Henry's Law Constant (unitless)	*Kd	*Koc	DA	Volatilization Factor - Unlimited Reservoir (m^3/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				63.1	47,252	63.1	406	43,539	402
Chromium(VI)	A/C/I	5.00E-01	8.40E-02	5.00E-03	3.00E-04	0.025	1.25E-04	**0.01**	1			-	1.90E+01				93.8	2,419	90.3	3,352	870,778	3,339
Cobalt	P	-	9.00E-03	3.00E-03	2.00E-05	1	3.00E-03	**0.01**	1			-	4.50E+01					22,576	22,576	4,295	58,052	3,999
Iron	P	-	-	7.00E-01	-	1	7.00E-01	**0.01**	1			-	2.50E+01							1,002,256		1,002,256
Manganese (Non-diet)	I	-	-	2.40E-02	5.00E-05	0.04	9.60E-04	**0.01**	1			-	6.50E+01							20,225	145,130	17,751
Vanadium and Compounds	A	-	-	1.00E-02	1.00E-04	0.026	2.60E-04	**0.01**	1			-	1.00E+03							6,847	290,259	6,689
Benzo[a]pyrene	I	1.00E+00	6.00E-04	3.00E-04	2.00E-06	1	3.00E-04	0.13	1	4.80E-02	5.60E-06	1.87E-05	3.54E+03	5.90E+05	2.37E-11	5.66E+5	74.3	1,201	69.9	318	20.6	19.3

*chemical specific parameters found in Chemical Specific Parameters Spreadsheet at https://www.epa.gov/risk/regional-screening-levels-rsls
^chemical specific parameters found in Unpaved Road Traffic calculator at 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
P: chemical specific parameters found in the Database of EPA PPRTVs at https://hhpprtv.ornl.gov/quickview/pprtv.php