PHASE II
INVESTIGATION REPORT

AREA B: PARCEL B23
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 B23 (the Site). Parcel B23 is comprised of 23.0 acres of the approximately 3,100-acre former steel making facility (**Figure 1**). The Site contains the Patapsco & Back Rivers Railroad (PBRR) Locomotive Shop, located in the southern portion of the parcel, as well as a former Carpenter Shop, Oil House, and Lumber Shed.

The Phase II Investigation was performed in accordance with procedures outlined in the approved Phase II Investigation Work Plan – Area B: Parcel B23. This Work Plan (Revision 0 dated July 24, 2018) and an associated Comment Response Letter (dated November 2, 2018) were collectively approved by the Maryland Department of the Environment (MDE) and the United States Environmental Protection Agency (USEPA) on November 27, 2018 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 B23 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.

All historical buildings at the Site remain intact, with the exception of a few minor support structures (sheds, etc.). The existing structures are all positioned in the eastern half of Parcel B23. The entire western portion of the parcel is occupied by numerous railways which run from east to west and tie into the larger property-wide rail network outside of the Site boundaries. These railways remain intact and are currently active at the Site. The existing railways divide the parcel roughly into northern and southern sections.

A Carpenter Shop was historically active in the northern portion of the Site, and a large Lumber Shed associated with the shop was positioned just to the south (but north of the main railways). A sawdust bin and dust collection bin were located to the west of the Carpenter Shop. To the east, a historical drum storage area was located outside of a large Oil House. This Oil House was later converted into a Fire Maintenance Office.

The PBRR Locomotive Shop is located in the southern portion of the parcel. There are several rail lines that tie into bays on the eastern facing side of the Locomotive Shop. This facility historically performed locomotive repair and maintenance activities, including sand blasting and painting activities. The Locomotive Shop remains active at this time. According to the Phase I Environmental Site Assessment (ESA) prepared by Weaver Boos Consultants dated May 19, 2014, antifreeze and other chemicals such as lubricating oils were observed to be stored or used for repair activities in the Locomotive Shop with no significant irregularities. As stated in the Phase I ESA, numerous drums (20 to 50 total) primarily containing lubricants were observed to be stored at the Locomotive Shop in connection with maintenance activities. However, Weaver Boos concluded that these operations appeared to be conducted in an appropriate manner, with only *de minimis* staining observed. A second, smaller Oil House is located to the west of the Locomotive Shop.

The remainder of the Site is occupied by miscellaneous open areas between the buildings, some of which are paved and designated as parking lots. Several historical features of potential concern such as tanks, drum storage areas, garages, and gas pumps were interspersed in these areas between the larger structures. A former industrial water supply well (#10 Deep Well) is also visible on several historical drawings near the southeastern corner of the parcel.

As documented in the Parcel B23 Phase II Investigation Work Plan, ARM conducted a site visit on February 1, 2018 to observe the conditions in Parcel B23. The Locomotive Shop was occupied and was performing maintenance activities at the time of the site visit. The existing structures were all being used for miscellaneous parts/equipment storage. The exterior areas were also being used for miscellaneous storage including vehicles, tanks/drums, transformers, and railroad ties. Two modern petroleum storage tanks (in good condition) were also observed adjacent to the smaller Oil House to the west of the Locomotive Shop.

1.2. OBJECTIVES

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

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 Site is at an elevation of approximately 9 to 12 feet above mean sea level (amsl). Elevations at the Site are relatively uniform across the parcel area with no clear stormwater discharge location. According to Figure B-2 of the Stormwater Pollution Prevention Plan (SWPPP) Revision 6 dated February 22, 2018, runoff waters from Parcel B23 are directed toward the Tin Mill Canal (TMC) to the north, which leads to the Humphrey Creek Wastewater Treatment Plant (HCWWTP). Surface waters which are collected and treated at the HCWWTP ultimately flow through the National Pollutant Discharge Elimination System (NPDES) permitted Outfall 014, which discharges to Bear Creek located across the boundary of the Tradepoint Atlantic property 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/HYDROGEOLOGY

Groundcover at the Site is comprised of approximately 3% natural soils and 97% slag 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 non-native fill materials (slag, gravel, and brick gravel) and natural soils, which included fine-grained sediments (clays and silts) and coarse-grained sediments (sands and gravels). Slag fill materials were encountered in most of the boring locations and at depths of up to 15 feet below the ground surface (bgs). Shallow groundwater was observed in soil cores from 4 to 14 feet bgs across the Site; however, groundwater was not encountered at every boring location. Soil boring observation logs are provided in **Appendix B**. Please note that unless otherwise indicated, all Unified Soil Classification System (USCS) group symbols provided on the attached boring logs are from visual observations, and not from laboratory testing.

Groundwater was investigated in the vicinity of the Site during the separate Area B Groundwater Investigation and Finishing Mills Groundwater Investigation. However, no groundwater data were collected from within the parcel during these preceding investigations. Seven temporary groundwater sample collection points (commonly referred to as piezometers) were installed as supplemental locations across the parcel to investigate shallow groundwater conditions. The locations of the completed piezometers are indicated on **Figure 3**. The piezometers were surveyed by a Maryland-licensed surveyor, and the supporting documentation from the survey is included in **Appendix C**.

Static groundwater elevation measurements were obtained approximately 48 hours after the installation of each piezometer. Surveyed top of casing (TOC) and ground surface elevations for all applicable locations can be found in **Table 1**, along with the static (48-hour) depth to water (DTW) measurements. The groundwater elevations calculated from the survey data and 48-hour gauging measurements are shown on **Table 1** and **Figure 3**; however, these elevations have not been contoured because they were collected on multiple dates and appear to be anomalous (with two locations registering groundwater elevations slightly below 0 feet amsl), possibly due to slow groundwater recharge at some locations. Based on the field measurements obtained during the preceding Area B Groundwater Investigation (as described in the Area B Groundwater Phase II Investigation Report dated September 30, 2016), shallow groundwater appears to flow to the north and west across the Site toward the TMC, which is the presumed discharge location.

3.0 SITE INVESTIGATION

A total of 83 soil samples (from 38 boring locations), seven groundwater samples, and nine sub-slab soil gas samples were collected for analysis between July 26, 2018 and February 15, 2019 during the Parcel B23 Phase II Investigation. This Phase II Investigation utilized methods and protocols that followed the procedures included in the Quality Assurance Project Plan (QAPP) dated April 5, 2016 which was 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, and reporting requirements are described in detail in the approved Parcel B23 Work Plan dated July 24, 2018, 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 10.6).

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. No RECs, SWMUs, or AOCs were identified in the Parcel B23 Work Plan.

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. A summary of the specific drawings covering the Site is presented in **Table 2**. 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 and historical documents (or based on direct agency guidance), non-REC sampling targets were identified at the Site that included the following: Drum Storage & Reconditioning Areas, Gas Pump, Oil Houses (and Locomotive Inspection Pit), Tanks & Basins (w/ Unknown Contents), Locomotive Shop/Garage, Dry Well Septic Tank, and Misc. Storage Area. A summary of the areas that were investigated, along with the applicable boring identification numbers and the analyses performed, has been provided as **Appendix A**. During the completion of fieldwork, it was necessary to shift some borings from the approved locations given in the Work Plan. **Table 3** 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. Parcel B23 contained a total of 18.2 acres without engineered barriers and 4.9 acres with engineered barriers. In accordance with the relevant sampling density requirements, a minimum of 15 soil borings were required to cover the areas without engineered barriers, and a minimum of 3 soil borings were required to cover the areas with engineered barriers. A total of 18 soil borings were required to meet the density specification; soil samples were collected from 38 soil borings during this Phase II Investigation.

3.2. SOIL INVESTIGATION

Continuous core soil borings were advanced at 40 locations across the Site to assess the presence or absence of soil contamination, and to assess the vertical distribution of any encountered contamination (**Figure 4**). Among these locations, 36 were originally proposed in the Phase II Investigation Work Plan and were installed to facilitate soil sampling, and four additional borings were completed following a request from the MDE (at locations B23-046-SB through B23-049-SB) to facilitate the installation of temporary piezometers. Supplemental soil samples were collected from two of the additional borings (B23-048-SB and B23-049-SB) in accordance with the procedures outlined in ARM's Comment Response Letter dated November 2, 2018.

The continuous core soil borings were advanced to total depths between 2.5 and 20 feet bgs using the Geoprobe® MC-7 Macrocore soil sampler (surface to 10 feet bgs) and the Geoprobe® D-22 Dual-Tube Sampler (depths >10 feet bgs). At each of the completed boring locations, 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 D**. 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 soil beneath this layer was collected as the surface sample. One additional set of samples was also collected

from the 9 to 10 foot depth interval if groundwater was not encountered. 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. It should be noted that soil samples were not collected from a depth that was below the water table.

Soil sampling activities were conducted in accordance with the procedures and methods referenced in **Field Standard Operating Procedure (SOP) Numbers 008, 009, 012, and 013** provided in Appendix A of the QAPP. Down-hole soil sampling equipment was decontaminated after soil sampling had been concluded at a location, according to the procedures and methods referenced in **Field SOP Number 016** provided in Appendix A of the QAPP.

Each soil sample collected during this investigation was submitted to Pace Analytical Services, Inc. (PACE) for analysis of Target Compound List (TCL) semi-volatile organic compounds (SVOCs) via USEPA Methods 8270D and 8270D SIM, Oil & Grease via USEPA Methods 1664A and 9071B, total petroleum hydrocarbon (TPH) diesel range organics (DRO) and gasoline range organics (GRO) via USEPA Methods 8015B and 5030/8015B, Target Analyte List (TAL) Metals via USEPA Methods 6010C and 7470A/7471A, hexavalent chromium via USEPA Method 7196A, and cyanide via USEPA Method 9012B. 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 also analyzed for polychlorinated biphenyls (PCBs) via USEPA Method 8082. Due to a Chain of Custody error, sample B23-034-SB-1 was not analyzed for PCBs. 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 still 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. GROUNDWATER INVESTIGATION

Seven temporary groundwater sample collection points (piezometers) were installed in the shallow hydrogeologic zone to investigate groundwater within Parcel B23. Piezometers B23-010-PZ, B23-015-PZ, and B23-021-PZ were initially installed as non-aqueous phase liquid

(NAPL) screening piezometers based on potential evidence of NAPL which was observed in the soil cores during boring installation (further discussed in Section 4.3). In accordance with ARM's Comment Response Letter dated November 2, 2018, piezometers B23-046-PZ, B23-047-PZ, B23-048-PZ, and B23-049-PZ were also installed to facilitate the collection of groundwater samples. The referenced Comment Response Letter had originally specified that B23-050-PZ would also be installed, but the existing NAPL screening piezometer B23-021-PZ was later determined to be a suitable replacement for B23-050-PZ since it was located in very close proximity. The groundwater sampling locations are displayed on **Figure 3**. Groundwater sample collection point installation activities were conducted in accordance with the procedures and methods referenced in **Field SOP Number 028**. The groundwater sample collection point construction logs have been included as part of **Appendix B**. Supplemental soil samples were collected from the borings at B23-048-PZ and B23-049-PZ in accordance with the procedures outlined in ARM's Comment Response Letter.

The groundwater sample collection points were installed at each location using the Geoprobe® DT22 Dual Tube sampling system. During the installation of each piezometer, soil types were logged and screened with a hand-held PID. Each boring was advanced to a depth approximately 7 feet below where groundwater was identified in the associated soil core, the 1.25-inch inner rod string was removed, and the temporary, 1-inch PVC groundwater sample collection point was installed through the outer casing. Following the installation of each sample collection point, the 0-hour depth to water was documented and the collection point was checked for the presence of NAPL using an oil-water interface probe in accordance with the methods referenced in **Field SOP Number 019** provided in Appendix A of the QAPP.

After the installation of each temporary groundwater sample collection point, down-hole equipment was decontaminated according to the procedures and methods referenced in **Field SOP Number 016** provided in Appendix A of the QAPP.

Groundwater samples were collected in accordance with methods referenced in **Field SOP Number 006** 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. Groundwater samples submitted for analysis of dissolved metals were filtered in the field with an in-line 0.45 micron filter. The sampling and purge logs have been included in **Appendix E**. Calibration of the multiparameter meter was performed before the start of each day of the sampling event, 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**.

Groundwater samples were submitted to PACE, and analyzed for TCL-VOCs via USEPA Method 8260B, TCL-SVOCs via USEPA Methods 8270D and 8270D SIM, TPH-DRO/GRO via USEPA Methods 8015B and 5030/8015B, Oil & Grease via USEPA Method 1664A, TAL-

Dissolved Metals via USEPA Methods 6010C and 7470A, dissolved hexavalent chromium via USEPA Method 7196A, available cyanide via USEPA Method OIA1677, and total cyanide via USEPA Method 9012B. 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. SUB-SLAB SOIL GAS INVESTIGATION

A total of nine temporary vapor monitoring probes were installed at the locations provided on **Figure 5** to collect sub-slab soil gas samples. The sub-slab soil gas samples were collected according to procedures and methods referenced in **Field SOP Number 002** provided in Appendix A of the QAPP.

A core drill was used to create a pilot-hole approximately 3-inches in diameter that extended through the concrete floor to facilitate the collection of each sub-slab soil gas sample. A hand auger and/or hammer drill was then used to create a borehole that extended through the subgrade 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 three-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 soil gas samples were collected, and to provide quantitative proof of the integrity of the surface seal. The testing involved the introduction of a gaseous tracer compound (helium) into a shroud which covered the sampling point, and then monitoring with a hand-held meter for the presence of helium in the air withdrawn from the subsurface.

While the shroud was inflated, air was purged from the monitoring point using a three-way valve and a syringe. Using the same three-way valve and a syringe, a Tedlar bag was then filled with at least 500 mL of air that was withdrawn from the monitoring point. The air inside of the Tedlar bag was then screened in the field with the meter.

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

Prior to sampling, a syringe was attached to the three-way valve and three purge volumes of air were removed. After the probe had been purged of any ambient air, an evacuated stainless steel Summa canister with a flow restrictor set for an 8-hour sampling intake time was attached to the tubing. The soil gas sample was then collected over a period of 8 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 boreholes filled, and the surface repaired. The sub-slab soil gas samples were submitted to PACE and analyzed for VOCs via USEPA Method TO-15.

3.5. MANAGEMENT OF INVESTIGATION-DERIVED WASTE (IDW)

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

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

Following the completion of field activities, a composite sample was gathered with aliquots from each of the Parcel B23 Phase II IDW soil drums for waste characterization. A list of all results from the soil waste characterization procedure can be found in **Table 4**. IDW drums containing aqueous materials (including aqueous waste generated during the Parcel B23 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 5**.

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 workday 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 6** (Organics) and **Table 7** (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 in **Table 6**, 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 6 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. Eight SVOCs, were detected above their respective PALs, including benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, bis(2-chloroethyl)ether, dibenz[a,h]anthracene, indeno[1,2,3-c,d]pyrene and naphthalene. Benzo[a]pyrene was the most common PAL exceedance and was detected above the PAL in 18 total samples, with a maximum detection of 123 mg/kg in sample B23-034-SB-1. The SVOC PAL exceedance locations and results are provided on **Figure S-1**.

Shallow soil samples collected across the Site from the 0 to 1 foot bgs interval were analyzed for PCBs. If concrete or other clean surface materials were observed at the ground surface, the shallow sample was shifted to include the first 1-foot of the underlying soil. **Table 6** provides a summary of the PCBs detected above the laboratory's MDLs. There was only one sample which exceeded the PALs for PCBs. Aroclor 1254 and total PCBs exceeded their PALs in sample B23-016-SB-1 (with detections of 22.3 mg/kg for each). These PCB PAL exceedances are provided on **Figure S-2**.

Table 6 provides a summary of the TPH/Oil & Grease detections above the laboratory's MDLs in the soil samples collected in the parcel. None of the detections of DRO or GRO exceeded the PAL of 6,200 mg/kg. Oil & Grease was detected above the PAL of 6,200 mg/kg in eight soil samples. The maximum detection of Oil & Grease in the parcel was 26,300 mg/kg (flagged with a "J-" qualifier) in sample B23-023-SB-1. The Oil & Grease PAL exceedance locations and results are provided on **Figure S-3**. In addition, there were nine boring locations where physical evidence of NAPL was identified in the soil cores (B23-002-SB, B23-004-SB, B23-006-SB, B23-010-SB, B23-011-SB, B23-014-SB, B23-015-SB, B23-021-SB, and B23-048-SB). These boring locations with evidence of NAPL are also highlighted on the exceedance figure, and the observations of NAPL are discussed in greater detail in Section 4.3.

4.1.2. Soil Conditions: Inorganic Constituents

Table 7 provides a summary of inorganic constituents detected above the laboratory's MDLs in the soil samples collected from across the Site. Five inorganic compounds (arsenic, lead, manganese, thallium, and vanadium) were detected above their respective PALs. Arsenic was by far the most common inorganic exceedance and was detected above the PAL in 69 (approximately 83%) of the soil samples analyzed for this compound. In comparison, lead, manganese, thallium, and vanadium accounted for PAL exceedances in 12 samples, nine samples, three samples, and four samples, respectively. The maximum detections of arsenic and lead were co-located in the 7-foot sample collected from B23-020-SB, with an arsenic detection of 145 mg/kg and a lead detection of 14,100 mg/kg. The maximum detections of thallium and vanadium were co-located in the 5-foot sample collected from B23-014-SB, with a thallium detection of 36.6 mg/kg and a vanadium detection of 10,600 mg/kg. The maximum detection of manganese (66,800 mg/kg) was identified in sample B23-024-SB-5. The inorganic PAL exceedance locations and results are provided on **Figure S-4**.

4.1.3. Soil Conditions: Results Summary

Table 6 and **Table 7** provide summaries of the detected organic compounds and inorganics in the soil samples submitted for laboratory analysis, and **Figure S-1** through **Figure S-4** present the soil sample locations and results that exceeded the PALs. **Table 8** provides a summary of results for all PAL exceedances in soil, including maximum values and detection frequencies. **Table 9** indicates which soil impacts (PAL exceedances) are associated with the specific targets listed in the Parcel B23 Work Plan. There were no detections of VOCs or TPH-DRO/GRO above the applicable PALs, and these compounds are not considered to be significant contaminants in soil in Parcel B23. The PAL exceedances in soil within Parcel B23 consisted of five inorganics (arsenic, lead, manganese, thallium, and vanadium), eight SVOCs (benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, bis(2-chloroethyl)ether, dibenz[a,h]anthracene, indeno[1,2,3-c,d]pyrene, and naphthalene), two PCB groups (Aroclor 1254 and total PCBs), and Oil & Grease.

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

- Concentrations of total PCBs did not exceed the specified threshold of 50 mg/kg in any soil samples collected at the Site.

- One soil sample exceeded the specified lead delineation threshold of 10,000 mg/kg, with a lead concentration of 14,100 mg/kg detected in B23-020-SB-7. A Work Plan for delineation of lead impacted soil at B23-020-SB (dated May 30, 2019) was approved on July 3, 2019 and has since been implemented to identify the extent of lead contamination in this area. The delineation activities were completed outside of the scope of this Phase II Investigation and will be reported under separate cover.

- There were no locations where detections of DRO or GRO exceeded 6,200 mg/kg. Oil & Grease was detected above the PAL of 6,200 mg/kg in eight soil sample locations: B23-003-SB-1, B23-012-SB-1.5, B23-016-SB-1, B23-018-SB-1, B23-023-SB-1, B23-030-SB-1, B23-033-SB-1, and B23-034-SB-5. In addition, there were nine boring locations where physical evidence of NAPL was identified in the soil cores (B23-002-SB, B23-004-SB, B23-006-SB, B23-010-SB, B23-011-SB, B23-014-SB, B23-015-SB, B23-021-SB, and B23-048-SB). These locations are discussed in greater detail in Section 4.3. Each identified location should be considered for proximity to proposed utilities in any future development plans.

4.2. GROUNDWATER CONDITIONS

The analytical results for the detected parameters in groundwater are summarized and compared to the PALs in **Table 10** (Organics) and **Table 11** (Inorganics). The laboratory Certificates of Analysis (including Chains 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 tables.

4.2.1. Groundwater Conditions: Organic Compounds

Table 10 provides a summary of VOCs identified in groundwater samples above the laboratory's MDLs. Two VOCs were detected in groundwater above their PALs: chloroform and tetrachloroethene. Chloroform exceeded its PAL at five groundwater sampling locations, with a maximum concentration of 6.8 µg/L at B23-015-PZ. Tetrachloroethene exceeded its PAL at only one sampling location (B23-046-PZ), with a measured concentration of 9.7 µg/L. The VOC PAL exceedance locations and results are provided on **Figure GW-1**.

Table 10 provides a summary of SVOCs identified in groundwater samples above the laboratory's MDLs. Similar to the evaluation of the soil data, the PALs for relevant PAHs have been adjusted upward based on revised toxicity data published in the USEPA RSL Resident Tapwater Table. Seven SVOCs were detected above their respective aqueous PALs. These SVOCs were 1,4-dioxane, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, dibenz[a,h]anthracene, indeno[1,2,3-c,d]pyrene, and naphthalene. Each of the SVOCs detected above the aqueous PALs were PAHs, with the exception of 1,4-dioxane. Benz[a]anthracene and naphthalene had the largest number of PAL exceedances, each with a total of four detections above the applicable PALs. The SVOC PAL exceedance locations and results are provided on **Figure GW-2**.

Table 10 provides a summary of the TPH/Oil & Grease detections in groundwater at the Site. DRO was detected above its PAL at all of the completed sample locations within Parcel B23, with a maximum detection of 1,540 µg/L (flagged with the "J" qualifier) at B23-010-PZ. GRO was not detected above the PAL. Oil & Grease was detected above the PAL at two locations (B23-010-PZ and B23-015-PZ), with a maximum detection of 1,300 µg/L (flagged with the "J" qualifier) at B23-015-PZ. The TPH/Oil & Grease PAL exceedance locations and results are provided on **Figure GW-3**. Each location was checked for the potential presence of NAPL using an oil-water interface probe prior to sampling. During these checks, NAPL was not detected in any of the groundwater sample collection locations, and no delineation or further action was warranted.

4.2.2. Groundwater Conditions: Inorganic Constituents

Table 11 provides a summary of inorganic constituents detected above the MDLs in the groundwater samples collected from across the Site. Two inorganic compounds were detected in groundwater above their PALs: dissolved hexavalent chromium and dissolved vanadium. The maximum detection of hexavalent chromium was 9.6 µg/L (flagged with the "J" qualifier) at B23-047-PZ. The maximum detection of vanadium was 544 µg/L at B23-046-PZ. The inorganic PAL exceedance locations and results are provided on **Figure GW-4**.

4.2.3. Groundwater Conditions: Results Summary

Table 10 and **Table 11** provide summaries of the detected organic compounds and inorganics in the groundwater samples submitted for laboratory analysis, and **Figure GW-1** through **Figure GW-4** present the locations and aqueous results that exceeded the PALs. Aqueous PAL exceedances among the groundwater samples collected from the Site consisted of two dissolved metals (hexavalent chromium and vanadium), two VOCs (chloroform and tetrachloroethene), seven SVOCs (1,4-dioxane, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, dibenz[a,h]anthracene, indeno[1,2,3-c,d]pyrene, and naphthalene), DRO, and Oil & Grease.

Groundwater data were screened to determine whether individual sample results 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 PALs specified in the QAPP are based upon drinking water use, which is not a potential exposure pathway for groundwater at the Site.

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 risk versus non-cancer hazard. 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 are provided in **Table 12**.

The presence and absence of groundwater impacts within the Site boundaries have been adequately described. Groundwater is not used on the Tradepoint Atlantic property (and is not proposed to be utilized). There were no concerns related to potential VI risks at the Site. Based on the relatively low-level analytical results identified during this investigation, there do not appear to be significant ongoing sources of groundwater contamination present.

4.3. SUMMARY OF NAPL OBSERVATIONS

Soil cores were screened for evidence of possible NAPL contamination during the completion of the Phase II soil borings. During the field screening, nine locations (B23-002-SB, B23-004-SB, B23-006-SB, B23-010-SB, B23-011-SB, B23-014-SB, B23-015-SB, B23-021-SB, and B23-048-SB) had observations of physical evidence of NAPL in the soil cores. These locations are highlighted on **Figure S-3**, and the specific observations are provided on the soil boring logs (**Appendix B**). Piezometers were installed at seven of the locations where NAPL was identified (those with the most significant observations of NAPL). Piezometers were not installed at locations B23-004-SB or B23-006-SB based on the judgment of field personnel and the lack of substantial evidence of NAPL in the associated soil cores. The observations were limited to "trace sheen" at each of these two locations.

Based on the observations of NAPL and in accordance with the Parcel B23 Work Plan, temporary NAPL screening piezometers were installed at B23-002-PZ, B23-010-PZ, B23-011-PZ, B23-014-PZ, B23-015-PZ, and B23-021-PZ. A piezometer was also installed at B23-048-PZ to facilitate the collection of a groundwater sample (in accordance with ARM's Comment Response Letter dated November 2, 2018), but based on the evidence of NAPL observed in the soil core, this location is also considered to be a NAPL screening piezometer. Each screening

piezometer was installed in accordance with standard specifications for temporary groundwater sample collection points. The piezometer construction logs are provided in **Appendix B**.

The piezometers were checked for the presence of NAPL using an oil-water interface probe immediately after installation, approximately 48 hours after installation, and again after at least 30 days. The groundwater sample location B23-048-PZ did not have a successful 30-day NAPL check because the location was observed to have been destroyed. NAPL was not detected in any of the screening piezometers during any of the gauging checks, and no additional installations or delineation were warranted. The water level measurements from each of the gauging events have been provided in **Appendix G**. This attachment also includes the specific installation date of each of the screening piezometers, as well as relevant construction details (screen intervals, total depths, etc.).

In addition to the boring locations with physical evidence of NAPL observed in the soil cores, the soil analytical results exceeded the Oil & Grease PAL of 6,200 mg/kg in seven shallow samples (B23-003-SB-1, B23-012-SB-1.5, B23-016-SB-1, B23-018-SB-1, B23-023-SB-1, B23-030-SB-1, and B23-033-SB-1), and one intermediate sample (B23-034-SB-5). The locations with elevated analytical detections did not correspond to the locations with physical evidence of NAPL. All but one of the identified soil samples (B23-016-SB-1) had an underlying soil sample which was also analyzed for TPH/Oil & Grease but did not have any analytical results that exceeded the PAL. The potentially impacted borings (i.e., those with physical evidence of NAPL or elevated detections of Oil & Grease) should be evaluated for proximity to proposed utilities in any future development planning for Parcel B23.

4.4. SUB-SLAB SOIL GAS CONDITIONS

The detected VOC parameters among the sub-slab soil gas samples collected from below the Locomotive Shop/Garage, Carpenter Shop, and Oil House are summarized and compared to the PALs in **Table 13**. While there were several VOCs detected, none of the detections exceeded the applicable PALs 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's Certificate of Analysis (including the Chain of Custody) and the DVR have been included as electronic attachments. The DVR contains a glossary of qualifiers for the final flags assigned to individual results in the attached summary table.

5.0 DATA USABILITY ASSESSMENT

The approved property-wide QAPP specified a process for evaluating data usability in the context of meeting project goals. Specifically, the goal of the Phase II Investigation is to determine if potentially hazardous substances or petroleum products (VOCs, SVOCs, PCBs, TAL-Metals, cyanide, or TPH/Oil & Grease) 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 H**. 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 per day
  - 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, SVOCs, Metals, TPH-DRO, TPH-GRO, Oil & Grease, hexavalent chromium, and cyanide
  - 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, SVOCs, Metals, TPH-DRO, TPH-GRO, Oil & Grease, and hexavalent chromium
- Field Blank and Equipment Blank – at a rate of one per twenty samples
  - Soil – VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, Oil & Grease, hexavalent chromium, and cyanide
  - Water – VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, Oil & Grease, hexavalent chromium, and cyanide
  - Soil Gas – VOCs only

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

5.1. DATA VERIFICATION

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

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 30% 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. **Table 14** provides a list of the analytical soil results that were rejected during data validation. **Table 15** shows a single aqueous result (3,3'-dichlorobenzidine in sample B23-047-PZ) that was rejected during validation. None of the sub-slab soil gas sampling results were rejected during validation. 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, 006, 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 I**. This evaluation of completeness includes only the representative 30% of sample results which were randomly selected for validation.

All of the sub-slab soil gas sampling results had completeness ratios of 100%. All groundwater compounds, with the exception of 3,3'-dichlorobenzidine, had completeness ratios of 100%. A single 3,3'-dichlorobenzidine result (from B23-047-PZ) was rejected during validation. The rejection of this result is not considered to be a significant data gap.

A total of 13 analytes did not meet the completeness goal of 90% for soils in Parcel B23. Among these compounds, 11 acid extractable SVOCs (2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2-chlorophenol, 2-methylphenol, 3&4-methylphenol (m&p cresol), pentachlorophenol, and phenol) had completeness values between 85% and 90%, which are not considered to be significant data gaps. Hexavalent chromium was the only metal with a soil completeness ratio below 90%, but the completeness ratio of 82% is close to the stated goal. The full dataset of 1,4-dioxane soil results which underwent the validation process was rejected. The rejection of the soil results for 1,4-dioxane has not been uncommon for data obtained from the Tradepoint Atlantic property. In addition, 1,4-dioxane had a completeness ratio of 100% in groundwater. Sufficient information is available in the groundwater dataset to evaluate the significance of 1,4-dioxane at the Site.

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

6.0 FINDINGS AND RECOMMENDATIONS

The objective of this Phase II Investigation was to characterize the nature and extent of contamination at the Site. During the Phase II Investigation, a total of 83 soil samples (all locations/depths), seven groundwater samples, and nine sub-slab soil gas samples were collected and analyzed to define the nature and extent of contamination in Parcel B23. The sampling and analysis plan for the parcel was developed to target specific features which represented a potential release of hazardous substances and/or petroleum products to the environment. Soil samples were analyzed for TCL-VOCs, TCL-SVOCs, TPH-DRO/GRO, Oil & Grease, TAL-Metals, hexavalent chromium, and cyanide. Shallow soil samples (0 to 1 foot bgs) were additionally analyzed for PCBs. Groundwater samples were analyzed for TCL-VOCs, TCL-SVOCs, TPH-DRO/GRO, Oil & Grease, TAL-Dissolved Metals, dissolved hexavalent chromium, and total and available cyanide. Sub-slab soil gas samples were analyzed for VOCs.

6.1. SOIL

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

PCB concentrations are below the levels that would warrant evaluation of a removal remedy. There were no concentrations of total PCBs identified above the mandatory delineation criterion of 50 mg/kg, indicating that further action is not needed. There was one soil sample (B23-020-SB) with a concentration of lead above 10,000 mg/kg, the designated threshold at which delineation would be required. Sample B23-020-SB-7 had a concentration of lead of 14,100 mg/kg, which was the maximum reported lead result in soil. A Work Plan for delineation of lead impacted soil at B23-020-SB (dated May 30, 2019) was approved on July 3, 2019 and has since been implemented to identify the extent of lead contamination in this area. The delineation activities were completed outside of the scope of this Phase II Investigation, and any future reporting will be covered outside of this report to avoid the need for continued updates.

There were no soil PAL exceedances of VOCs or TPH-DRO/GRO, indicating that these compounds are not significant contaminants in soil at the Site. Exceedances of the PALs in soil within Parcel B23 consisted of five inorganics (arsenic, lead, manganese, thallium, and vanadium), eight SVOCs (benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, bis(2-chloroethyl)ether, dibenz[a,h]anthracene, indeno[1,2,3-c,d]pyrene, and naphthalene), two PCB groups (Aroclor 1254 and total PCBs), and Oil & Grease. Arsenic exceeded its PAL in the largest proportion of the samples analyzed site-wide. Arsenic was detected in 93% of samples (and above the PAL in 83% of the soil samples) analyzed for this compound, with a maximum detection of 145 mg/kg in sample B23-020-SB-7. The remaining inorganic exceedances were less common in comparison. Of the eight listed SVOCs that exceeded their respective PALs, benzo[a]pyrene was the most common, with 18 total

exceedances and a maximum detection of 123 mg/kg in sample B23-034-SB-1. There was only one sample which exceeded the PALs for PCBs (B23-016-SB-1) with detections of 22.3 mg/kg for both Aroclor 1254 and total PCBs. Petroleum impacts, including a discussion of the analytical exceedances of the Oil & Grease PAL as well as borings with physical evidence of NAPL in the soil cores, are further discussed in Section 6.3.

6.2. GROUNDWATER

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

Exceedances of the aqueous PALs in groundwater below Parcel B23 consisted of two dissolved metals (hexavalent chromium and vanadium), two VOCs (chloroform and tetrachloroethene), seven SVOCs (1,4-dioxane, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, dibenz[a,h]anthracene, indeno[1,2,3-c,d]pyrene, and naphthalene), DRO, and Oil & Grease. The maximum detection of hexavalent chromium was 9.6 µg/L (at B23-047-PZ), and the maximum detection of vanadium was 544 µg/L (at B23-046-PZ). The maximum detection of chloroform was 6.8 µg/L (at B23-015-PZ). Tetrachloroethene exceeded its aqueous PAL at only one location, with a detection of 9.7 µg/L (at B23-046-PZ). The majority of the groundwater sample locations exhibited multiple SVOC exceedances, with at least five individual SVOCs detected at concentrations above their respective PALs at B23-021-PZ, B23-046-PZ, and B23-047-PZ. The maximum detections of each identified PAH, with the exception of naphthalene, were identified at sample location B23-021-PZ (the maximum detection of naphthalene was at B23-049-PZ). DRO exceeded its PAL in every groundwater sample, with a maximum detection of 1,540 µg/L (at B23-010-PZ). Oil & Grease exceeded the PAL in two samples, with a maximum detection of 1,300 µg/L (at B23-015-PZ). Each groundwater sample location was checked for the potential presence of NAPL using an oil-water interface probe prior to sampling. During these checks, NAPL was not detected in any of the groundwater sample locations in Parcel B23.

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. 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. None of the individual sample 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 were no concerns related to potential VI risks at the Site.

6.3. NAPL

There were eight soil samples with elevated detections of Oil & Grease reported above the PAL (6,200 mg/kg) at the Site: B23-003-SB-1, B23-012-SB-1.5, B23-016-SB-1, B23-018-SB-1, B23-023-SB-1, B23-030-SB-1, B23-033-SB-1, and B23-034-SB-5. These PAL exceedances could be indicative of potential NAPL impacts, although no physical evidence of NAPL was observed in the associated soil cores. All but one of the identified soil samples (B23-016-SB-1) had an underlying soil sample which was also analyzed for TPH/Oil & Grease but did not have any analytical results that exceeded the PAL.

During field screening of the soil cores installed during this investigation, borings B23-002-SB, B23-004-SB, B23-006-SB, B23-010-SB, B23-011-SB, B23-014-SB, B23-015-SB, B23-021-SB, and B23-048-SB had visible observations of NAPL and/or sheen in the soil cores. The specific observations of NAPL are provided on the soil boring logs (**Appendix B**). The potential mobility of NAPL to groundwater at the Site was evaluated via the installation and gauging of seven NAPL screening piezometers at locations B23-002-PZ, B23-010-PZ, B23-011-PZ, B23-014-PZ, B23-015-PZ, B23-021-PZ, and B23-048-PZ (those with the most significant observations of NAPL). NAPL screening piezometers were not installed at B23-004-SB or B23-006-SB based on the nature of the observations in the soil cores (with observations limited to "trace sheen" at these locations).

Based on the 0-hour, 48-hour, and 30-day gauging measurements of each screening piezometer using an oil-water interface probe (see **Appendix G**), NAPL was not detected at any location and it was determined that mobile NAPL is not present in groundwater at quantities that are likely to migrate. In addition to the NAPL screening piezometers, the other temporary groundwater sample collection points installed in Parcel B23 did not show any evidence of NAPL during the mandatory checks prior to sampling.

Since there was no NAPL detected in any groundwater location, no additional action is recommended at this time with respect to NAPL in Parcel B23, and the piezometers remaining at the Site are proposed to be abandoned. The borings identified with evidence of NAPL or elevated Oil & Grease detections should be evaluated for proximity to proposed utilities in any future development planning for Parcel B23.

6.4. SUB-SLAB SOIL GAS

The nature and extent of constituents in sub-slab soil gas have been adequately characterized by the Phase II Investigation. While there were several VOCs detected in the sub-slab soil gas samples collected during the investigation of the Locomotive Shop/Garage, Carpenter Shop, and Oil House, none of the detections exceeded the applicable PALs in any of the samples. Further investigation is not recommended based on the documentation of minimal impacts below the building slabs, and the apparent insignificant risk for vapor intrusion.

6.5. RECOMMENDATIONS

Sufficient remedial investigation data has been collected to present this evaluation of the nature and extent of possible constituents of concern in Parcel B23. The presence and absence of soil, groundwater, and sub-slab soil gas impacts within Parcel B23 have been adequately described and further site-wide investigation is not warranted to characterize overall conditions; however, additional investigation may be required to further characterize impacts identified in specific areas of the Site. Recommendations for the Site are as follows:

- Soil boring locations with physical evidence of NAPL and/or elevated Oil & Grease concentrations (B23-002-SB, B23-003-SB, B23-004-SB, B23-006-SB, B23-010-SB, B23-011-SB, B23-012-SB, B23-014-SB, B23-015-SB, B23-016-SB, B23-018-SB, B23-021-SB, B23-023-SB, B23-030-SB, B23-033-SB, B23-034-SB, and B23-048-SB) should be considered for proximity to proposed utilities in any future development plans. If future utilities are proposed in the vicinity of these borings, appropriate protocols for the mitigation of potential product (NAPL) mobility should be specified in a Response and Development Work Plan.

- The maximum lead concentration of 14,100 mg/kg detected in soil sample B23-020-SB-7 is elevated above the mandatory delineation criterion of 10,000 mg/kg. A Work Plan for the delineation of lead impacted soil at B23-020-SB (dated May 30, 2019) was approved on July 3, 2019 and has since been implemented to identify the extent of lead contamination in this area. The results of the delineation activities will determine whether further action is warranted with respect to the lead impacts in the vicinity of B23-020-SB. Any future reporting will be covered outside of this Phase II Investigation Report to avoid the need for continued updates.

7.0 REFERENCES

ARM Group Inc. (2018). *Comment Response Letter: Phase II Investigation Work Plan – Area B: Parcel B23*. November 2, 2018.

ARM Group Inc. (2019). *Delineation/Characterization of Lead Impacted Soil at B23-020-SB – Area B: Parcel B23*. May 30, 2019.

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ARM Group Inc. (2018). *Stormwater Pollution Prevention Plan (SWPPP)*. Revision 6. February 22, 2018.

Rust Environment and Infrastructure (1998). *Description of Current Conditions: Bethlehem Steel Corporation*. Final Draft. January 1998.

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

June 21, 2018

Figure 1

ARM Group Inc.
Engineers and Scientists

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

June 21, 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.
Engineers and Scientists

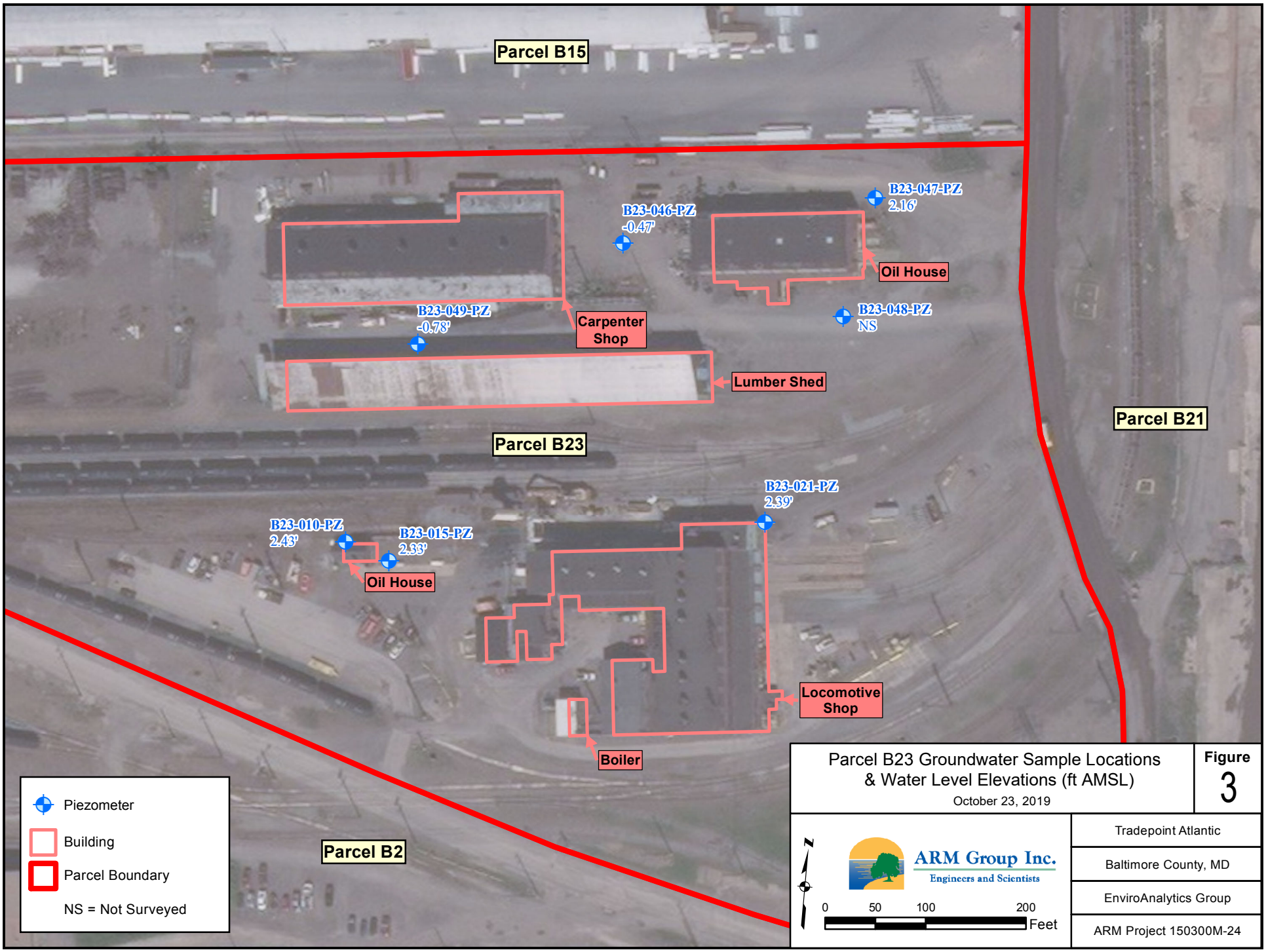
0 500 1,000 2,000 Feet

Tradepoint Atlantic

Baltimore County, MD

EnviroAnalytics Group

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



Parcel B23 Groundwater Sample Locations & Water Level Elevations (ft AMSL)

October 23, 2019

Figure 3

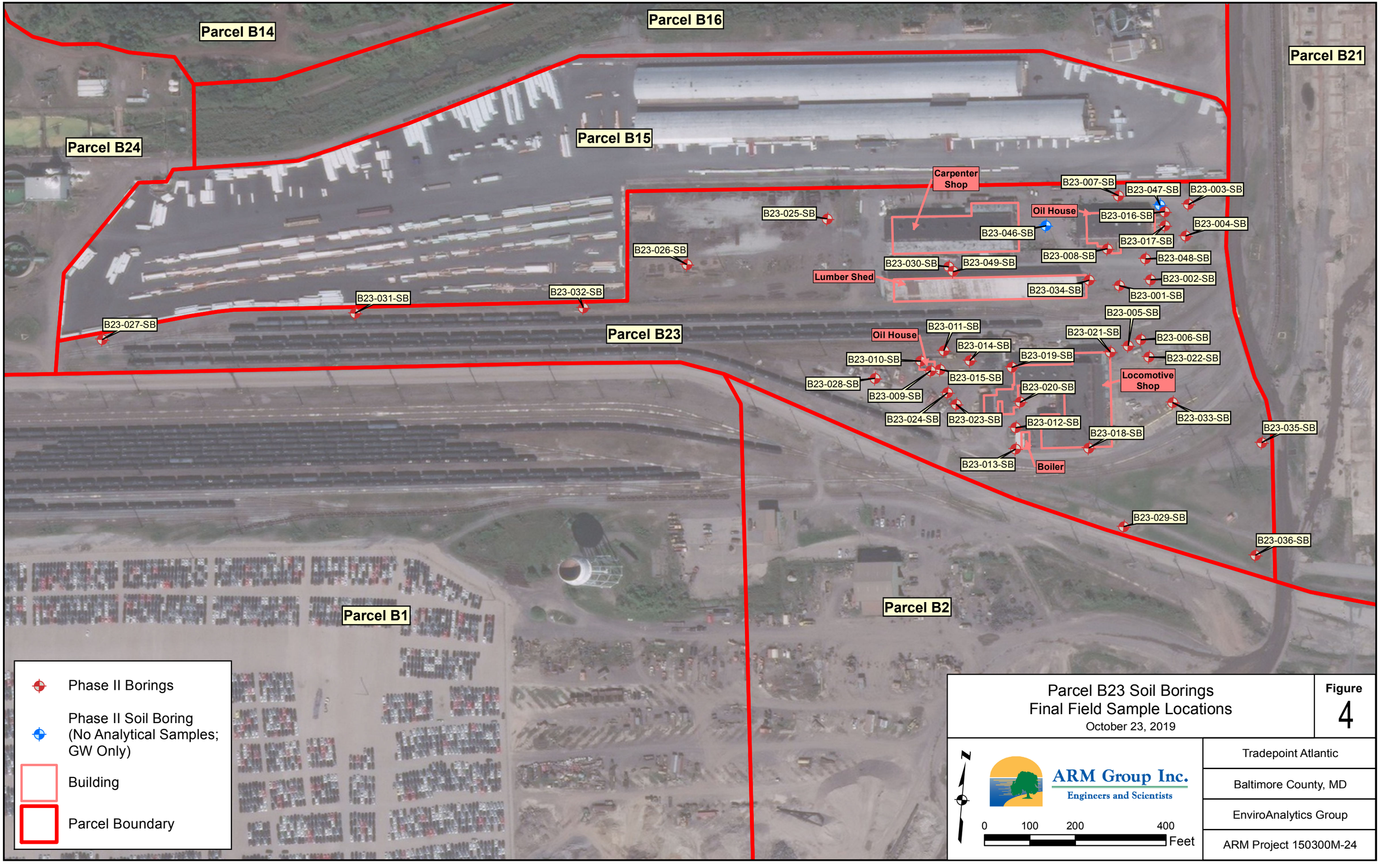
ARM Group Inc.
Engineers and Scientists

Tradepoint Atlantic

Baltimore County, MD

EnviroAnalytics Group

ARM Project 150300M-24



Parcel B23 Soil Borings
Final Field Sample Locations
October 23, 2019

Figure
4

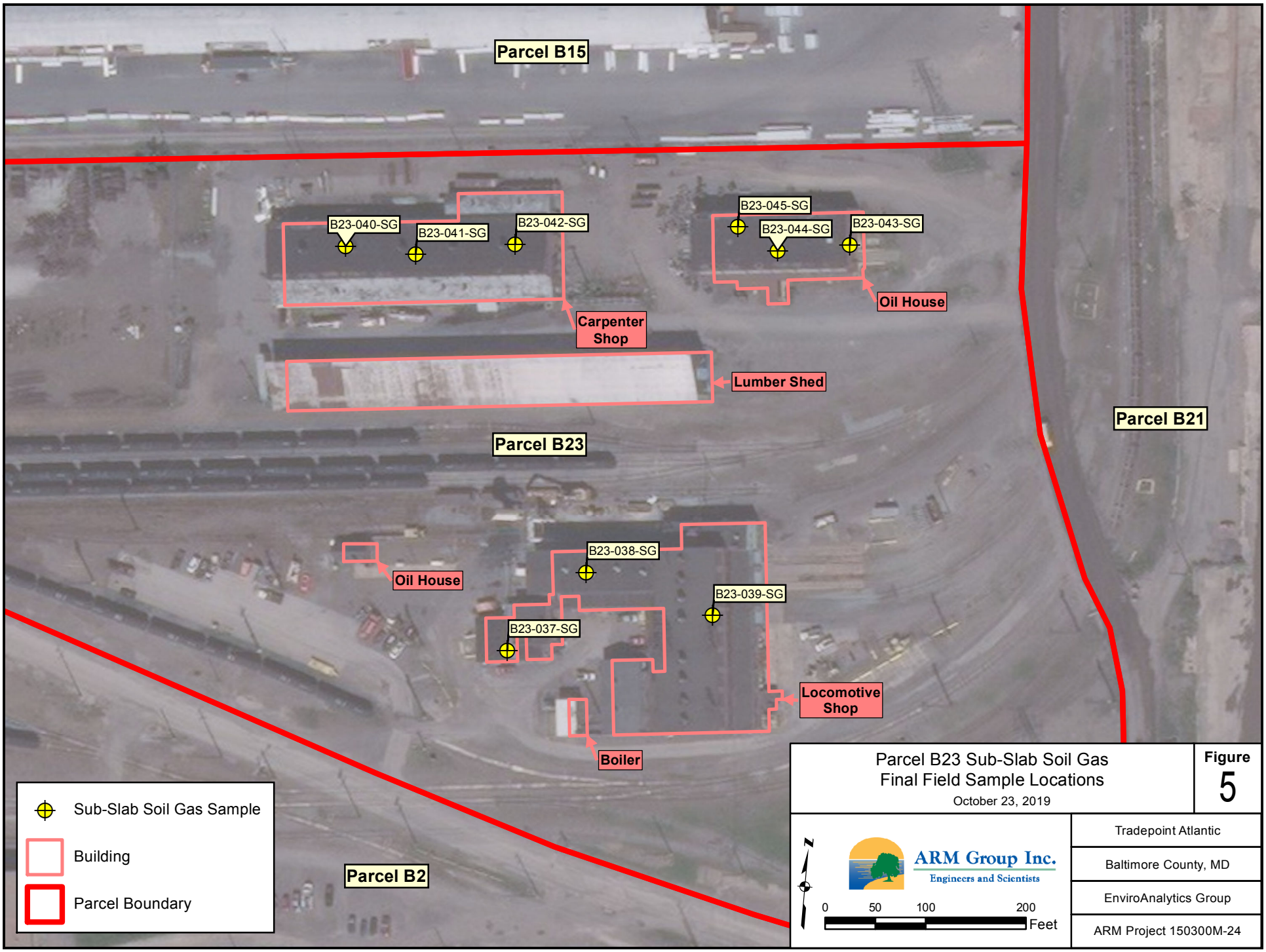
ARM Group Inc.
Engineers and Scientists

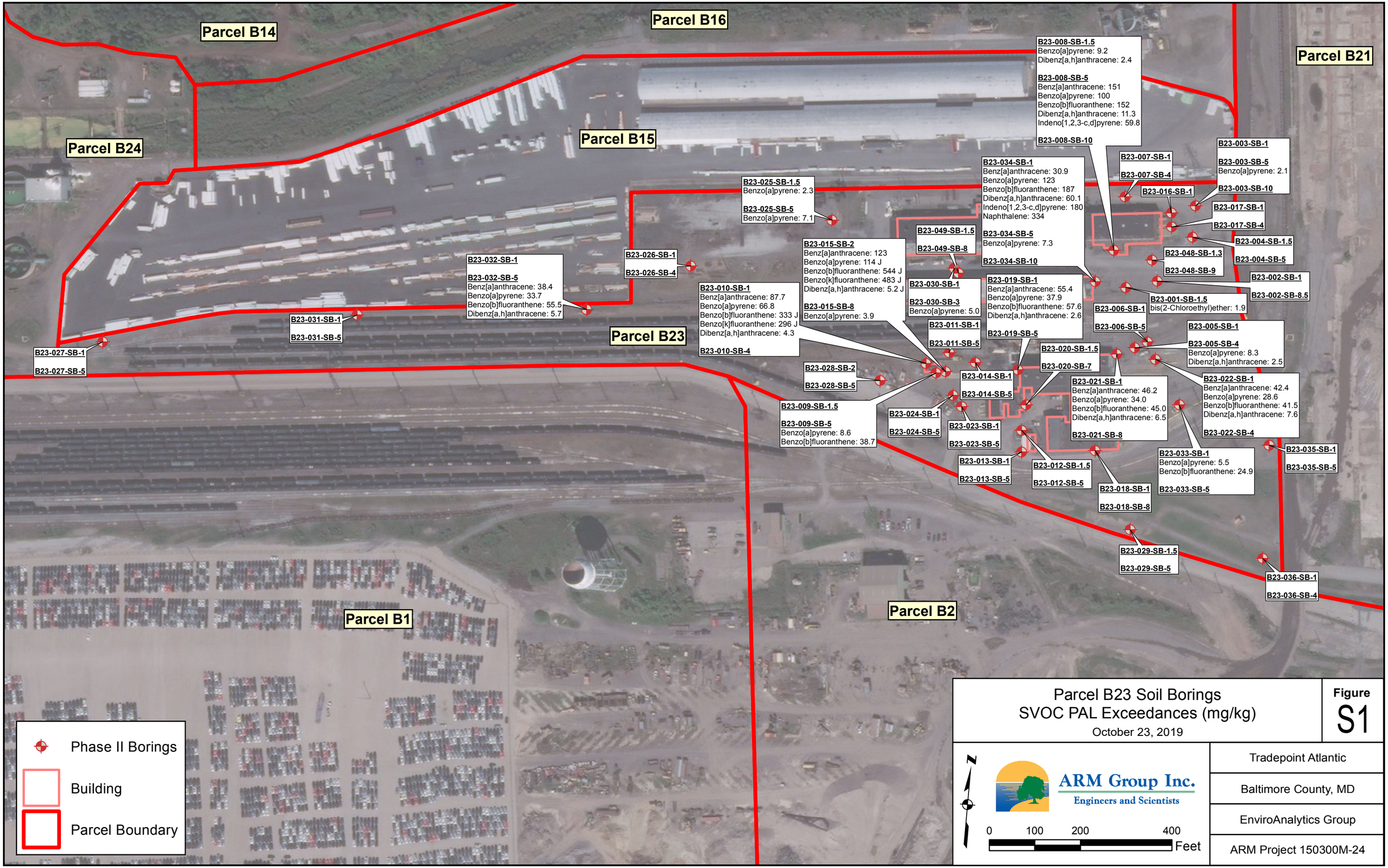
Tradepoint Atlantic

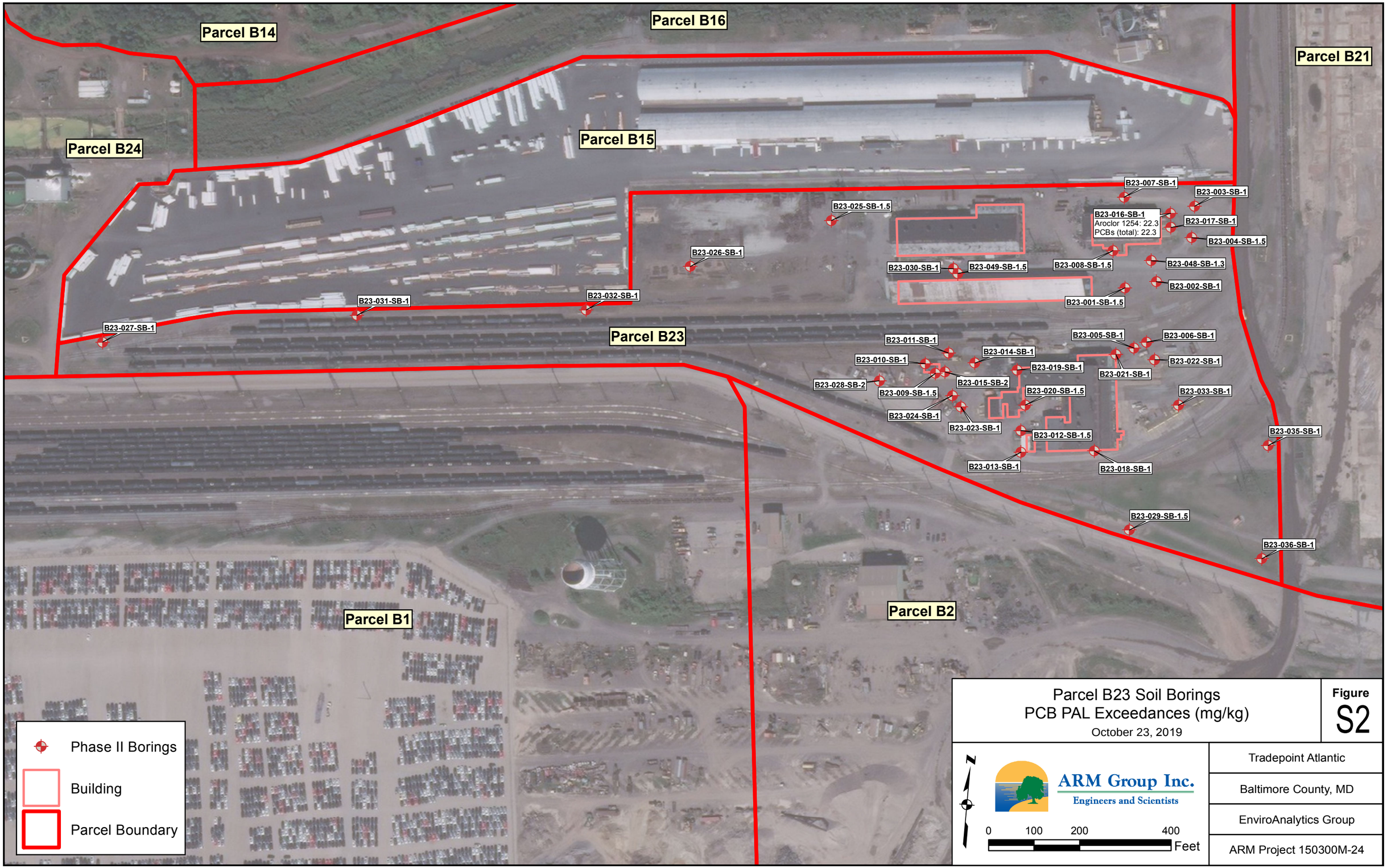
Baltimore County, MD

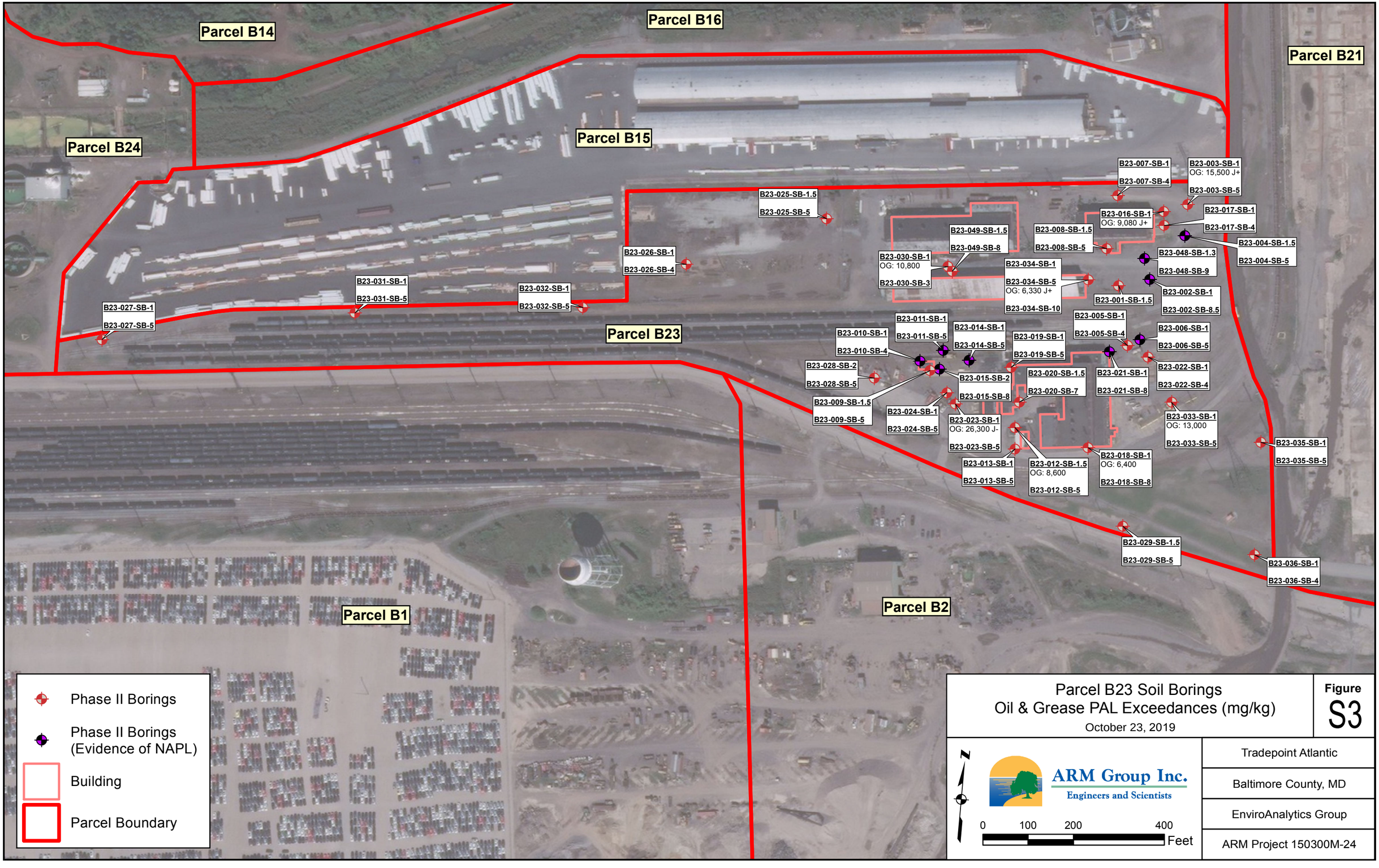
EnviroAnalytics Group

ARM Project 150300M-24


Parcel B15
B23-040-SG
B23-041-SG
B23-042-SG
B23-045-SG
B23-044-SG
B23-043-SG
Carpenter Shop
Oil House
Lumber Shed
Parcel B21
Parcel B23
Oil House
B23-038-SG
B23-039-SG
B23-037-SG
Locomotive Shop
Boiler
Parcel B2
Sub-Slab Soil Gas Sample
Building
Parcel Boundary
Parcel B23 Sub-Slab Soil Gas
Final Field Sample Locations
October 23, 2019
Figure
5
ARM Group Inc.
Engineers and Scientists
0
50
100
200
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-24


Parcel B14
Parcel B16
Parcel B21
Parcel B24
Parcel B15
Parcel B23
Parcel B1
Parcel B2
B23-008-SB-1.5
Benzo[a]pyrene: 9.2
Dibenz[a,h]anthracene: 2.4
B23-008-SB-5
Benz[a]anthracene: 151
Benzo[a]pyrene: 100
Benzo[b]fluoranthene: 152
Dibenz[a,h]anthracene: 11.3
Indeno[1,2,3-c,d]pyrene: 59.8
B23-008-SB-10
B23-034-SB-1
Benz[a]anthracene: 30.9
Benzo[a]pyrene: 123
Benzo[b]fluoranthene: 187
Dibenz[a,h]anthracene: 60.1
Indeno[1,2,3-c,d]pyrene: 180
Naphthalene: 334
B23-034-SB-5
Benzo[a]pyrene: 7.3
B23-034-SB-10
B23-007-SB-1
B23-007-SB-4
B23-003-SB-1
B23-003-SB-5
Benzo[a]pyrene: 2.1
B23-003-SB-10
B23-016-SB-1
B23-017-SB-1
B23-017-SB-4
B23-004-SB-1.5
B23-004-SB-5
B23-048-SB-1.3
B23-048-SB-9
B23-002-SB-1
B23-002-SB-8.5
B23-001-SB-1.5
bis(2-Chloroethyl)ether: 1.9
B23-025-SB-1.5
Benzo[a]pyrene: 2.3
B23-025-SB-5
Benzo[a]pyrene: 7.1
B23-049-SB-1.5
B23-049-SB-8
B23-026-SB-1
B23-026-SB-4
B23-032-SB-1
B23-032-SB-5
Benz[a]anthracene: 38.4
Benzo[a]pyrene: 33.7
Benzo[b]fluoranthene: 55.5
Dibenz[a,h]anthracene: 5.7
B23-015-SB-2
Benz[a]anthracene: 123
Benzo[a]pyrene: 114 J
Benzo[b]fluoranthene: 544 J
Benzo[k]fluoranthene: 483 J
Dibenz[a,h]anthracene: 5.2 J
B23-015-SB-8
Benzo[a]pyrene: 3.9
B23-030-SB-1
B23-030-SB-3
Benzo[a]pyrene: 5.0
B23-019-SB-1
Benz[a]anthracene: 55.4
Benzo[a]pyrene: 37.9
Benzo[b]fluoranthene: 57.6
Dibenz[a,h]anthracene: 2.6
B23-019-SB-5
B23-006-SB-1
B23-006-SB-5
B23-005-SB-1
B23-005-SB-4
Benzo[a]pyrene: 8.3
Dibenz[a,h]anthracene: 2.5
B23-010-SB-1
Benz[a]anthracene: 87.7
Benzo[a]pyrene: 66.8
Benzo[b]fluoranthene: 333 J
Benzo[k]fluoranthene: 296 J
Dibenz[a,h]anthracene: 4.3
B23-010-SB-4
B23-011-SB-1
B23-011-SB-5
B23-031-SB-1
B23-031-SB-5
B23-027-SB-1
B23-027-SB-5
B23-020-SB-1.5
B23-020-SB-7
B23-028-SB-2
B23-028-SB-5
B23-014-SB-1
B23-014-SB-5
B23-021-SB-1
Benz[a]anthracene: 46.2
Benzo[a]pyrene: 34.0
Benzo[b]fluoranthene: 45.0
Dibenz[a,h]anthracene: 6.5
B23-021-SB-8
B23-022-SB-1
Benz[a]anthracene: 42.4
Benzo[a]pyrene: 28.6
Benzo[b]fluoranthene: 41.5
Dibenz[a,h]anthracene: 7.6
B23-022-SB-4
B23-009-SB-1.5
B23-009-SB-5
Benzo[a]pyrene: 8.6
Benzo[b]fluoranthene: 38.7
B23-024-SB-1
B23-024-SB-5
B23-023-SB-1
B23-023-SB-5
B23-035-SB-1
B23-035-SB-5
B23-033-SB-1
Benzo[a]pyrene: 5.5
Benzo[b]fluoranthene: 24.9
B23-033-SB-5
B23-013-SB-1
B23-013-SB-5
B23-012-SB-1.5
B23-012-SB-5
B23-018-SB-1
B23-018-SB-8
B23-029-SB-1.5
B23-029-SB-5
B23-036-SB-1
B23-036-SB-4
Phase II Borings
Building
Parcel Boundary
Parcel B23 Soil Borings
SVOC PAL Exceedances (mg/kg)
October 23, 2019
Figure
S1
ARM Group Inc.
Engineers and Scientists
0
100
200
400
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-24


Parcel B14
Parcel B16
Parcel B21
Parcel B24
Parcel B15
Parcel B23
Parcel B1
Parcel B2
B23-025-SB-1.5
B23-026-SB-1
B23-031-SB-1
B23-032-SB-1
B23-027-SB-1
B23-007-SB-1
B23-003-SB-1
B23-016-SB-1
Aroclor 1254: 22.3
PCBs (total): 22.3
B23-017-SB-1
B23-004-SB-1.5
B23-030-SB-1
B23-049-SB-1.5
B23-008-SB-1.5
B23-048-SB-1.3
B23-002-SB-1
B23-001-SB-1.5
B23-011-SB-1
B23-005-SB-1
B23-006-SB-1
B23-010-SB-1
B23-014-SB-1
B23-022-SB-1
B23-019-SB-1
B23-021-SB-1
B23-028-SB-2
B23-015-SB-2
B23-009-SB-1.5
B23-020-SB-1.5
B23-033-SB-1
B23-024-SB-1
B23-023-SB-1
B23-012-SB-1.5
B23-035-SB-1
B23-013-SB-1
B23-018-SB-1
B23-029-SB-1.5
B23-036-SB-1
Phase II Borings
Building
Parcel Boundary
Parcel B23 Soil Borings
PCB PAL Exceedances (mg/kg)
October 23, 2019
Figure
S2
ARM Group Inc.
Engineers and Scientists
0
100
200
400
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-24



Parcel B23 Soil Borings
Oil & Grease PAL Exceedances (mg/kg)

October 23, 2019

Figure S3

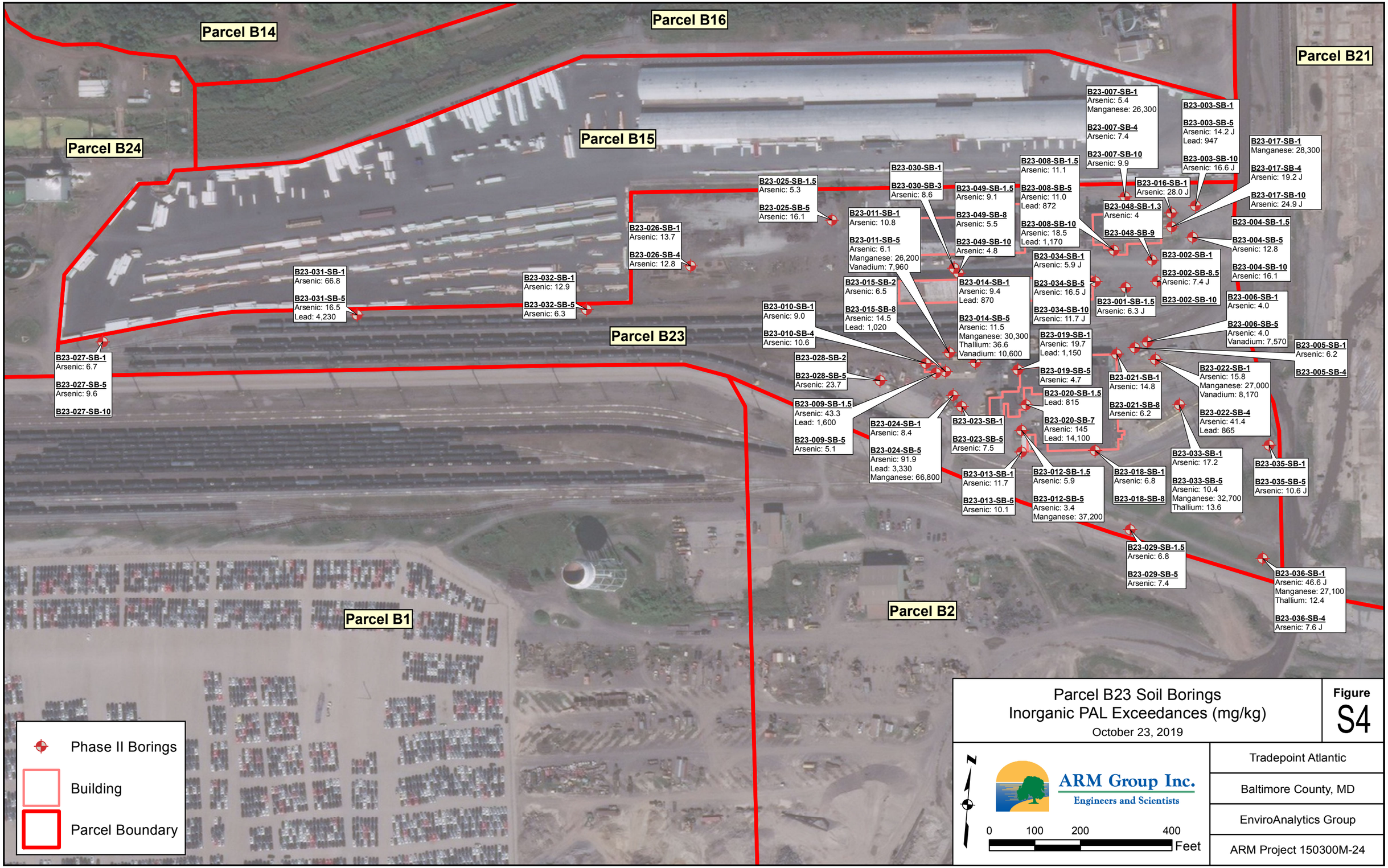
ARM Group Inc.
Engineers and Scientists

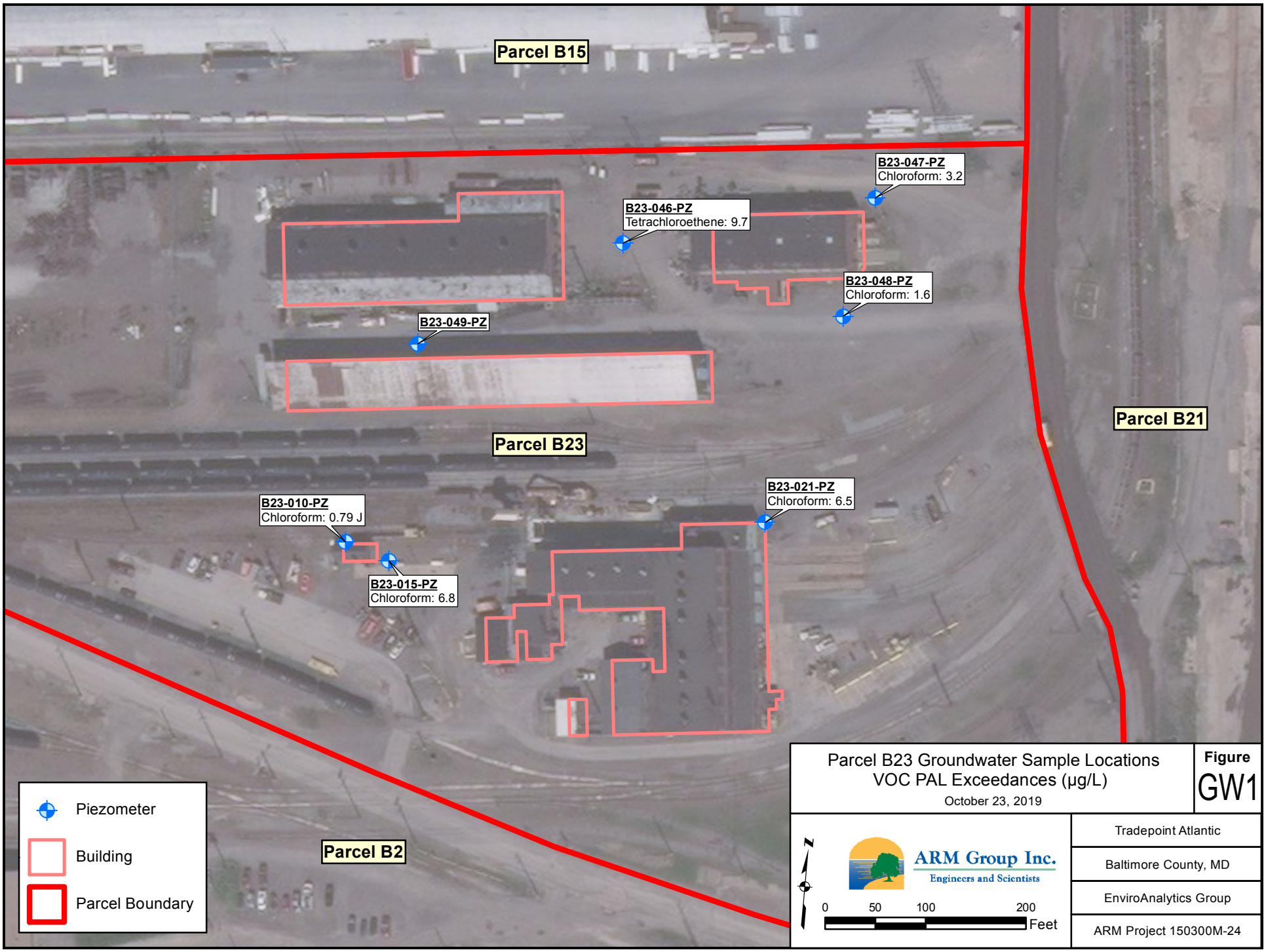
Tradepoint Atlantic

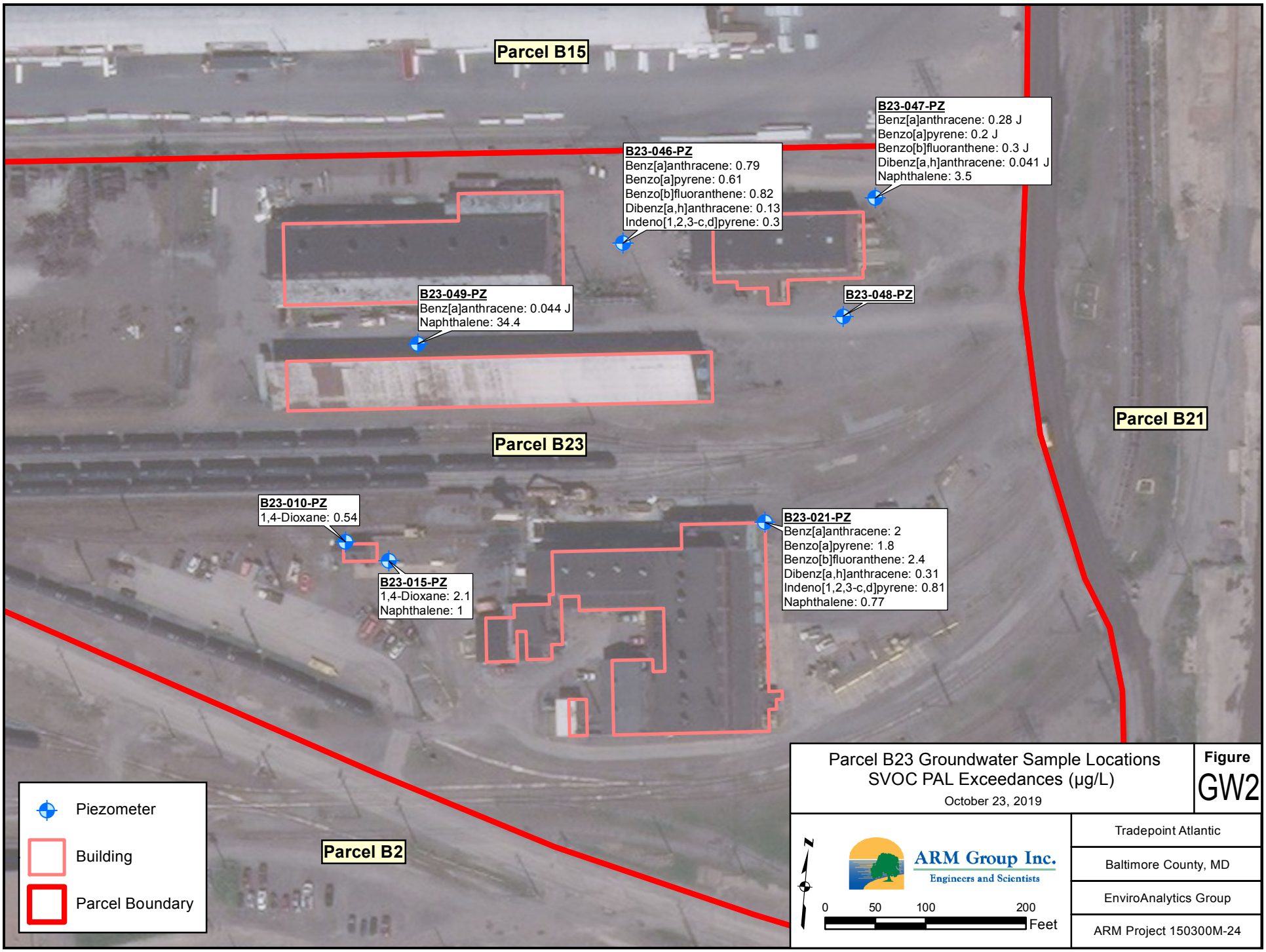
Baltimore County, MD

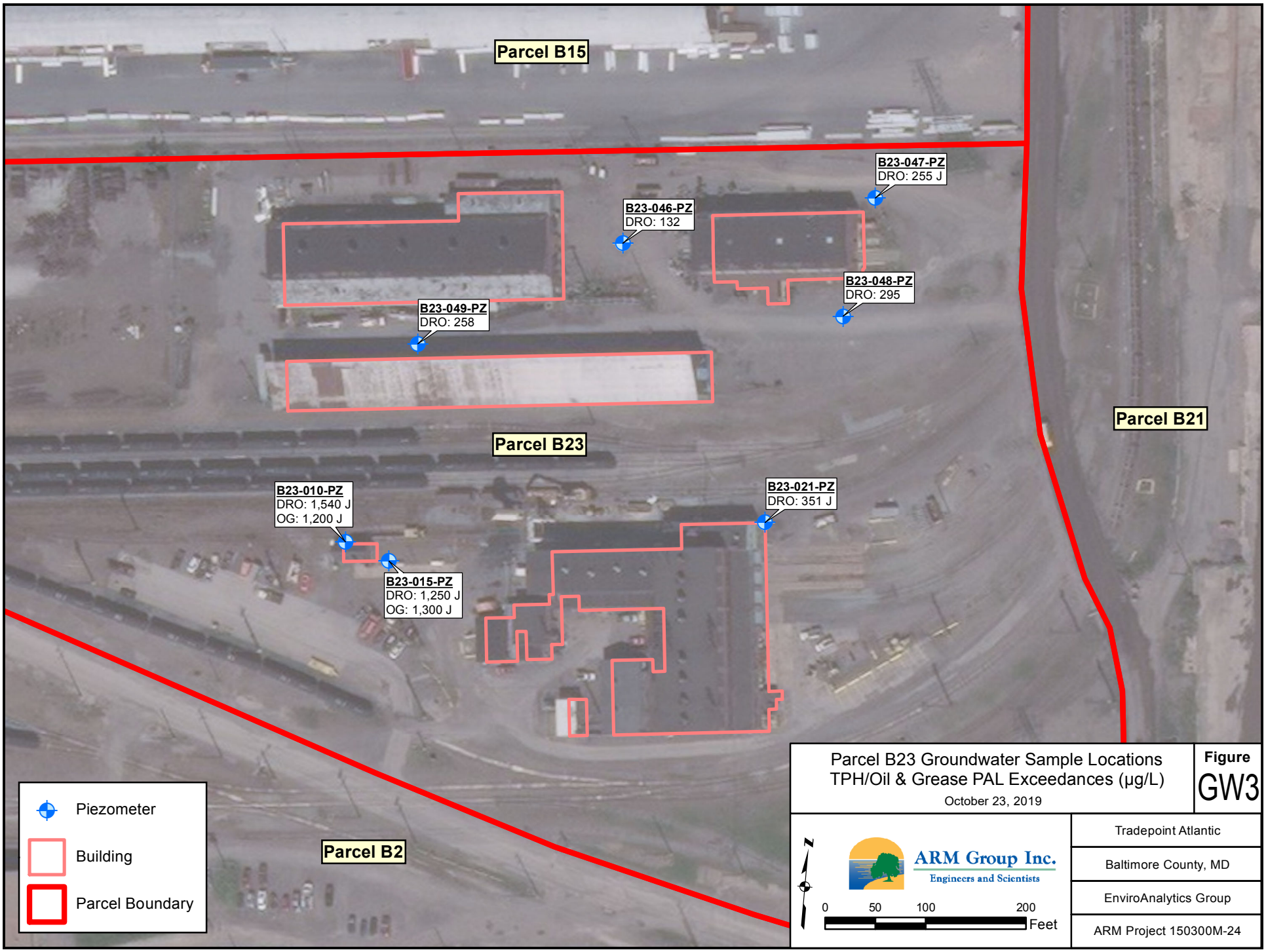
EnviroAnalytics Group

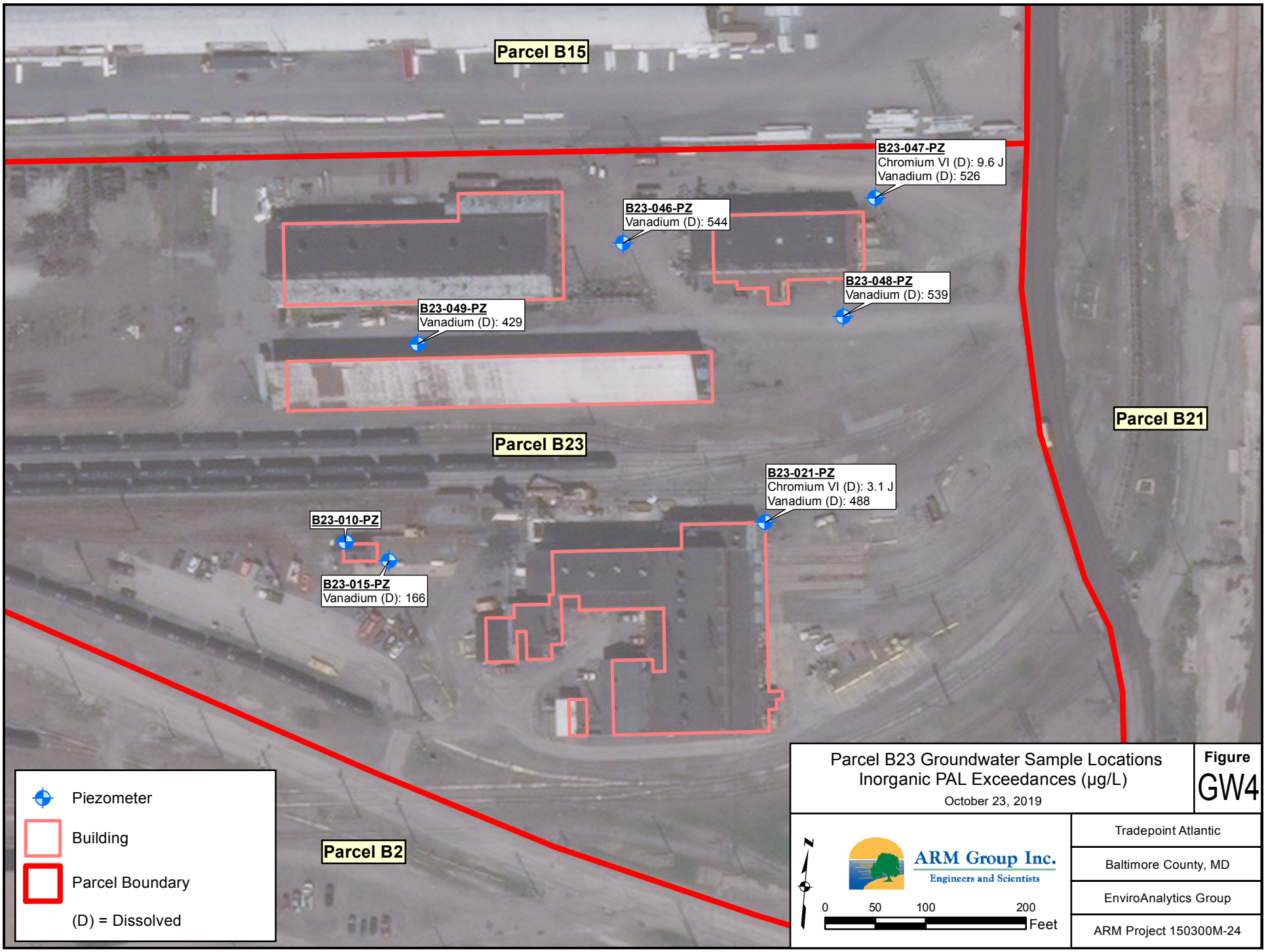
ARM Project 150300M-24


Parcel B14
Parcel B16
Parcel B21
Parcel B24
Parcel B15
Parcel B23
Parcel B1
Parcel B2
B23-027-SB-1
Arsenic: 6.7
B23-027-SB-5
Arsenic: 9.6
B23-027-SB-10
B23-031-SB-1
Arsenic: 66.8
B23-031-SB-5
Arsenic: 16.5
Lead: 4,230
B23-032-SB-1
Arsenic: 12.9
B23-032-SB-5
Arsenic: 6.3
B23-026-SB-1
Arsenic: 13.7
B23-026-SB-4
Arsenic: 12.8
B23-025-SB-1.5
Arsenic: 5.3
B23-025-SB-5
Arsenic: 16.1
B23-030-SB-1
B23-030-SB-3
Arsenic: 8.6
B23-011-SB-1
Arsenic: 10.8
B23-011-SB-5
Arsenic: 6.1
Manganese: 26,200
Vanadium: 7,960
B23-015-SB-2
Arsenic: 6.5
B23-015-SB-8
Arsenic: 14.5
Lead: 1,020
B23-010-SB-1
Arsenic: 9.0
B23-010-SB-4
Arsenic: 10.6
B23-028-SB-2
B23-028-SB-5
Arsenic: 23.7
B23-009-SB-1.5
Arsenic: 43.3
Lead: 1,600
B23-009-SB-5
Arsenic: 5.1
B23-024-SB-1
Arsenic: 8.4
B23-024-SB-5
Arsenic: 91.9
Lead: 3,330
Manganese: 66,800
B23-049-SB-1.5
Arsenic: 9.1
B23-049-SB-8
Arsenic: 5.5
B23-049-SB-10
Arsenic: 4.8
B23-014-SB-1
Arsenic: 9.4
Lead: 870
B23-014-SB-5
Arsenic: 11.5
Manganese: 30,300
Thallium: 36.6
Vanadium: 10,600
B23-008-SB-1.5
Arsenic: 11.1
B23-008-SB-5
Arsenic: 11.0
Lead: 872
B23-008-SB-10
Arsenic: 18.5
Lead: 1,170
B23-034-SB-1
Arsenic: 5.9 J
B23-034-SB-5
Arsenic: 16.5 J
B23-034-SB-10
Arsenic: 11.7 J
B23-019-SB-1
Arsenic: 19.7
Lead: 1,150
B23-019-SB-5
Arsenic: 4.7
B23-020-SB-1.5
Lead: 815
B23-020-SB-7
Arsenic: 145
Lead: 14,100
B23-023-SB-1
B23-023-SB-5
Arsenic: 7.5
B23-013-SB-1
Arsenic: 11.7
B23-013-SB-5
Arsenic: 10.1
B23-012-SB-1.5
Arsenic: 5.9
B23-012-SB-5
Arsenic: 3.4
Manganese: 37,200
B23-018-SB-1
Arsenic: 6.8
B23-018-SB-8
B23-029-SB-1.5
Arsenic: 6.8
B23-029-SB-5
Arsenic: 7.4
B23-007-SB-1
Arsenic: 5.4
Manganese: 26,300
B23-007-SB-4
Arsenic: 7.4
B23-007-SB-10
Arsenic: 9.9
B23-048-SB-1.3
Arsenic: 4
B23-048-SB-9
B23-001-SB-1.5
Arsenic: 6.3 J
B23-016-SB-1
Arsenic: 28.0 J
B23-003-SB-1
B23-003-SB-5
Arsenic: 14.2 J
Lead: 947
B23-003-SB-10
Arsenic: 16.6 J
B23-017-SB-1
Manganese: 28,300
B23-017-SB-4
Arsenic: 19.2 J
B23-017-SB-10
Arsenic: 24.9 J
B23-004-SB-1.5
B23-004-SB-5
Arsenic: 12.8
B23-004-SB-10
Arsenic: 16.1
B23-002-SB-1
B23-002-SB-8.5
Arsenic: 7.4 J
B23-002-SB-10
B23-006-SB-1
Arsenic: 4.0
B23-006-SB-5
Arsenic: 4.0
Vanadium: 7,570
B23-005-SB-1
Arsenic: 6.2
B23-005-SB-4
B23-021-SB-1
Arsenic: 14.8
B23-021-SB-8
Arsenic: 6.2
B23-022-SB-1
Arsenic: 15.8
Manganese: 27,000
Vanadium: 8,170
B23-022-SB-4
Arsenic: 41.4
Lead: 865
B23-033-SB-1
Arsenic: 17.2
B23-033-SB-5
Arsenic: 10.4
Manganese: 32,700
Thallium: 13.6
B23-035-SB-1
B23-035-SB-5
Arsenic: 10.6 J
B23-036-SB-1
Arsenic: 46.6 J
Manganese: 27,100
Thallium: 12.4
B23-036-SB-4
Arsenic: 7.6 J
Phase II Borings
Building
Parcel Boundary
Parcel B23 Soil Borings
Inorganic PAL Exceedances (mg/kg)
October 23, 2019
Figure
S4
ARM Group Inc.
Engineers and Scientists
0
100
200
400
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-24


Parcel B15
B23-047-PZ
Chloroform: 3.2
B23-046-PZ
Tetrachloroethene: 9.7
B23-048-PZ
Chloroform: 1.6
B23-049-PZ
Parcel B21
Parcel B23
B23-021-PZ
Chloroform: 6.5
B23-010-PZ
Chloroform: 0.79 J
B23-015-PZ
Chloroform: 6.8
Parcel B2
Piezometer
Building
Parcel Boundary
Parcel B23 Groundwater Sample Locations
VOC PAL Exceedances (µg/L)
October 23, 2019
Figure
GW1
ARM Group Inc.
Engineers and Scientists
0
50
100
200
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-24


Parcel B15
B23-047-PZ
Benz[a]anthracene: 0.28 J
Benzo[a]pyrene: 0.2 J
Benzo[b]fluoranthene: 0.3 J
Dibenz[a,h]anthracene: 0.041 J
Naphthalene: 3.5
B23-046-PZ
Benz[a]anthracene: 0.79
Benzo[a]pyrene: 0.61
Benzo[b]fluoranthene: 0.82
Dibenz[a,h]anthracene: 0.13
Indeno[1,2,3-c,d]pyrene: 0.3
B23-049-PZ
Benz[a]anthracene: 0.044 J
Naphthalene: 34.4
B23-048-PZ
Parcel B21
Parcel B23
B23-010-PZ
1,4-Dioxane: 0.54
B23-015-PZ
1,4-Dioxane: 2.1
Naphthalene: 1
B23-021-PZ
Benz[a]anthracene: 2
Benzo[a]pyrene: 1.8
Benzo[b]fluoranthene: 2.4
Dibenz[a,h]anthracene: 0.31
Indeno[1,2,3-c,d]pyrene: 0.81
Naphthalene: 0.77
Parcel B2
Piezometer
Building
Parcel Boundary
Parcel B23 Groundwater Sample Locations
SVOC PAL Exceedances (µg/L)
October 23, 2019
Figure
GW2
ARM Group Inc.
Engineers and Scientists
0
50
100
200
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-24


Parcel B15
B23-047-PZ
DRO: 255 J
B23-046-PZ
DRO: 132
B23-048-PZ
DRO: 295
B23-049-PZ
DRO: 258
Parcel B21
Parcel B23
B23-010-PZ
DRO: 1,540 J
OG: 1,200 J
B23-021-PZ
DRO: 351 J
B23-015-PZ
DRO: 1,250 J
OG: 1,300 J
Parcel B2
Piezometer
Building
Parcel Boundary
Parcel B23 Groundwater Sample Locations
TPH/Oil & Grease PAL Exceedances (µg/L)
October 23, 2019
Figure
GW3
ARM Group Inc.
Engineers and Scientists
0
50
100
200
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-24


Parcel B15
B23-047-PZ
Chromium VI (D): 9.6 J
Vanadium (D): 526
B23-046-PZ
Vanadium (D): 544
B23-048-PZ
Vanadium (D): 539
B23-049-PZ
Vanadium (D): 429
Parcel B21
Parcel B23
B23-021-PZ
Chromium VI (D): 3.1 J
Vanadium (D): 488
B23-010-PZ
B23-015-PZ
Vanadium (D): 166
Parcel B2
Piezometer
Building
Parcel Boundary
(D) = Dissolved
Parcel B23 Groundwater Sample Locations
Inorganic PAL Exceedances (µg/L)
October 23, 2019
Figure
GW4
ARM Group Inc.
Engineers and Scientists
0
50
100
200
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 150300M-24

TABLES

Table 1 - Parcel B23
Groundwater Elevation Data

Location Name	TOC Elevation (feet AMSL)	Ground Elevation (feet AMSL)	48-Hr Measured DTW (feet)	Groundwater Elevation (feet AMSL)
B23-010-PZ	15.58	11.53	13.15	2.43
B23-015-PZ	15.19	11.45	12.86	2.33
B23-021-PZ	15.96	12.26	13.57	2.39
B23-046-PZ	12.60	12.23	13.07	-0.47[†]
B23-047-PZ	16.05	12.59	13.89	2.16
B23-048-PZ*	-	-	13.15	-
B23-049-PZ	12.71	12.68	13.49	-0.78[†]

DTW = Depth to water
TOC = Top of casing
AMSL = Above mean sea level
*B23-048-PZ was not surveyed.
[†]Elevations appear to be anomalous (<0 feet AMSL), possibly due to slow groundwater recharge.

Table 2 - Parcel B23
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.)	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	5134	*Unknown*	1/8/2008
		5139	*Unknown*	1/16/2008
		5140	*Unknown*	8/15/2008
Plant Sewer Lines	Same as above plus trenches, sumps, underground piping (includes pipe materials)	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
		5887	*Unknown*	Sept. 1988
		5888	*Unknown*	Sept. 1988

Table 3 - Parcel B23
Field Shifted Boring Locations

Location ID	Sample Target	Proposed Location*		Final Location*		Relocation Distance & Direction	
		Northing	Easting	Northing	Easting		
B23-002-SB	Drum Storage Area	568,876	1,459,877	568,875	1,459,879	2	SE
B23-004-SB	Drum Reconditioning Area	568,963	1,459,952	568,978	1,459,948	15	N
B23-006-SB	Gas Pump	568,736	1,459,862	568,742	1,459,870	9	NE
B23-007-SB	Oil House	569,029	1,459,781	569,054	1,459,793	28	NE
B23-011-SB	Oil House (Inspection Pit)	568,672	1,459,412	568,680	1,459,439	28	NE
B23-015-SB	Tanks & Basins	568,634	1,459,446	568,638	1,459,435	12	NW
B23-016-SB	Tanks (Unknown Contents)	569,019	1,459,900	569,027	1,459,897	9	N
B23-017-SB	Tanks (Unknown Contents)	569,000	1,459,903	568,997	1,459,901	5	SW
B23-022-SB	Locomotive Shop/Garage	568,697	1,459,900	568,705	1,459,891	13	NW
B23-024-SB	Dry Well Septic Tank	568,568	1,459,460	568,588	1,459,456	20	N
B23-026-SB	Misc. Storage Area	568,820	1,458,865	568,820	1,458,859	6	W
B23-028-SB	Parcel B23 Coverage	568,616	1,459,299	568,606	1,459,293	12	SW
B23-033-SB	Parcel B23 Coverage	568,594	1,459,944	568,610	1,459,951	17	NE

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

Table 4 - Parcel B23
Characterization Results for Solid IDW

Sample ID	Parameter	Result (mg/L)	Laboratory Flag	TCLP Limit (mg/L)	TCLP Exceedance	Laboratory LOQ (mg/L)
B23 Waste (8/17/2018)	1,1-Dichloroethene	0.05	U	0.7	no	0.05
	1,2-Dichloroethane	0.05	U	0.5	no	0.05
	1,4-Dichlorobenzene	0.1	U	7.5	no	0.1
	2,4,5-Trichlorophenol	0.25	U	400	no	0.25
	2,4,6-Trichlorophenol	0.1	U	2	no	0.1
	2,4-Dinitrotoluene	0.1	U	0.13	no	0.1
	2-Butanone (MEK)	0.1	U	200	no	0.1
	2-Methylphenol	0.1	U	200	no	0.1
	3&4-Methylphenol(m&p Cresol)	0.2	U	200	no	0.2
	Arsenic	0.025	U	5	no	0.025
	Barium	0.31		100	no	0.05
	Benzene	0.05	U	0.5	no	0.05
	Cadmium	0.015	U	1	no	0.015
	Carbon tetrachloride	0.05	U	0.5	no	0.05
	Chlorobenzene	0.05	U	100	no	0.05
	Chloroform	0.05	U	6	no	0.05
	Chromium	0.025	U	5	no	0.025
	Hexachlorobenzene	0.1	U	0.13	no	0.1
	Hexachloroethane	0.1	U	3	no	0.1
	Lead	0.05	U	5	no	0.05
	Mercury	0.001	U	0.2	no	0.001
	Nitrobenzene	0.1	U	2	no	0.1
	Pentachlorophenol	0.25	U	100	no	0.25
	Selenium	0.04	U	1	no	0.04
	Silver	0.03	U	5	no	0.03
	Tetrachloroethene	0.05	U	0.7	no	0.05
	Trichloroethene	0.05	U	0.5	no	0.05
	Vinyl chloride	0.05	U	0.2	no	0.05

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 - Parcel B23
Characterization Results for Liquid IDW

Sample ID	Parameter	Result (mg/L)	Laboratory Flag	TCLP Limit (mg/L)	TCLP Exceedance	Laboratory LOQ (mg/L)
Water Disposal (8/17/18)	1,1-Dichloroethene	0.005	U	0.7	no	0.005
	1,2-Dichloroethane	0.005	U	0.5	no	0.005
	1,4-Dichlorobenzene	0.005	U	7.5	no	0.005
	2,4,5-Trichlorophenol	0.0025	U	400	no	0.0025
	2,4,6-Trichlorophenol	0.001	U	2	no	0.001
	2,4-Dinitrotoluene	0.001	U	0.13	no	0.001
	2-Butanone (MEK)	0.151		200	no	0.05
	2-Methylphenol	0.00073	J	200	no	0.001
	3&4-Methylphenol(m&p Cresol)	0.00067	J	200	no	0.002
	Arsenic	0.0038	J	5	no	0.005
	Barium	0.101		100	no	0.01
	Benzene	0.0993		0.5	no	0.005
	Cadmium	0.0304		1	no	0.003
	Carbon tetrachloride	0.005	U	0.5	no	0.005
	Chlorobenzene	0.005	U	100	no	0.005
	Chloroform	0.005	U	6	no	0.005
	Chromium	0.0066		5	no	0.005
	Hexachlorobenzene	0.001	U	0.13	no	0.001
	Hexachloroethane	0.001	U	3	no	0.001
	Lead	0.0396		5	no	0.005
	Mercury	0.0002	U	0.2	no	0.0002
	Nitrobenzene	0.001	U	2	no	0.001
	Pentachlorophenol	0.0025	U	100	no	0.0025
	Selenium	0.008	U	1	no	0.008
	Silver	0.0013	J	5	no	0.006
	Tetrachloroethene	0.005	U	0.7	no	0.005
	Trichloroethene	0.0028	J	0.5	no	0.005
	Vinyl chloride	0.005	U	0.2	no	0.005

Table 5 - Parcel B23
Characterization Results for Liquid IDW

Sample ID	Parameter	Result (mg/L)	Laboratory Flag	TCLP Limit (mg/L)	TCLP Exceedance	Laboratory LOQ (mg/L)
Water Waste (10/31/18)	1,1-Dichloroethene	0.001	U	0.7	no	0.001
	1,2-Dichloroethane	0.0014		0.5	no	0.001
	1,4-Dichlorobenzene	0.001	U	7.5	no	0.001
	2,4,5-Trichlorophenol	0.0025	U	400	no	0.0025
	2,4,6-Trichlorophenol	0.00099	U	2	no	0.00099
	2,4-Dinitrotoluene	0.00099	U	0.13	no	0.00099
	2-Butanone (MEK)	0.01	U	200	no	0.01
	2-Methylphenol	0.00099	U	200	no	0.00099
	3&4-Methylphenol(m&p Cresol)	0.00023	J	200	no	0.002
	Arsenic	0.005	U	5	no	0.005
	Barium	0.0677		100	no	0.01
	Benzene	0.0663		0.5	no	0.001
	Cadmium	0.003	U	1	no	0.003
	Carbon tetrachloride	0.001	U	0.5	no	0.001
	Chlorobenzene	0.001	U	100	no	0.001
	Chloroform	0.001	U	6	no	0.001
	Chromium	0.0249		5	no	0.005
	Hexachlorobenzene	0.00099	U	0.13	no	0.00099
	Hexachloroethane	0.00099	U	3	no	0.00099
	Lead	0.0103		5	no	0.005
	Mercury	0.0002	U	0.2	no	0.0002
	Nitrobenzene	0.00099	U	2	no	0.00099
	Pentachlorophenol	0.0025	U	100	no	0.0025
	Selenium	0.008	U	1	no	0.008
	Silver	0.006	U	5	no	0.006
	Tetrachloroethene	0.001	U	0.7	no	0.001
	Trichloroethene	0.001	U	0.5	no	0.001
	Vinyl chloride	0.001	U	0.2	no	0.001
Water Waste 1 (6/19/19)	1,1-Dichloroethene	0.001	U	0.7	no	0.001
	1,2-Dichloroethane	0.001	U	0.5	no	0.001
	1,4-Dichlorobenzene	0.001	U	7.5	no	0.001
	2,4,5-Trichlorophenol	0.0026	U	400	no	0.0026
	2,4,6-Trichlorophenol	0.001	U	2	no	0.001
	2,4-Dinitrotoluene	0.001	U	0.13	no	0.001
	2-Butanone (MEK)	0.0046	J	200	no	0.01
	2-Methylphenol	0.001	U	200	no	0.001
	3&4-Methylphenol(m&p Cresol)	0.0021	U	200	no	0.0021
	Arsenic	0.0137		5	no	0.005
	Barium	0.108		100	no	0.01
	Benzene	0.0024		0.5	no	0.001
	Cadmium	0.0313		1	no	0.003
	Carbon tetrachloride	0.001	U	0.5	no	0.001
	Chlorobenzene	0.001	U	100	no	0.001
	Chloroform	0.001	U	6	no	0.001
	Chromium	0.0034	J	5	no	0.005
	Hexachlorobenzene	0.001	U	0.13	no	0.001

Table 5 - Parcel B23
Characterization Results for Liquid IDW

Sample ID	Parameter	Result (mg/L)	Laboratory Flag	TCLP Limit (mg/L)	TCLP Exceedance	Laboratory LOQ (mg/L)
Water Waste 1 (6/19/19) Continued	Hexachloroethane	0.001	U	3	no	0.001
	Lead	0.005	U	5	no	0.005
	Mercury	0.0002	U	0.2	no	0.0002
	Nitrobenzene	0.001	U	2	no	0.001
	Pentachlorophenol	0.0026	U	100	no	0.0026
	Selenium	0.0244		1	no	0.008
	Silver	0.006	U	5	no	0.006
	Tetrachloroethene	0.001	U	0.7	no	0.001
	Trichloroethene	0.001	U	0.5	no	0.001
	Vinyl chloride	0.001	U	0.2	no	0.001
Water Waste 2 (6/19/19)	1,1-Dichloroethene	0.001	U	0.7	no	0.001
	1,2-Dichloroethane	0.001	U	0.5	no	0.001
	1,4-Dichlorobenzene	0.001	U	7.5	no	0.001
	2,4,5-Trichlorophenol	0.0026	U	400	no	0.0026
	2,4,6-Trichlorophenol	0.001	U	2	no	0.001
	2,4-Dinitrotoluene	0.001	U	0.13	no	0.001
	2-Butanone (MEK)	0.01	U	200	no	0.01
	2-Methylphenol	0.001	U	200	no	0.001
	3&4-Methylphenol(m&p Cresol)	0.002	U	200	no	0.002
	Arsenic	0.005	U	5	no	0.005
	Barium	0.0414		100	no	0.01
	Benzene	0.0026		0.5	no	0.001
	Cadmium	0.0014	J	1	no	0.003
	Carbon tetrachloride	0.001	U	0.5	no	0.001
	Chlorobenzene	0.001	U	100	no	0.001
	Chloroform	0.001	U	6	no	0.001
	Chromium	0.0029	J	5	no	0.005
	Hexachlorobenzene	0.001	U	0.13	no	0.001
	Hexachloroethane	0.001	U	3	no	0.001
	Lead	0.005	U	5	no	0.005
	Mercury	0.0002	U	0.2	no	0.0002
	Nitrobenzene	0.001	U	2	no	0.001
	Pentachlorophenol	0.0026	U	100	no	0.0026
	Selenium	0.008	U	1	no	0.008
	Silver	0.006	U	5	no	0.006
	Tetrachloroethene	0.001	U	0.7	no	0.001
	Trichloroethene	0.001	U	0.5	no	0.001
	Vinyl chloride	0.001	U	0.2	no	0.001

U: The analyte was not detected in the sample. The numeric value represents the sample LOQ.
J: The positive result for this analyte is a quantitative estimate below the laboratory LOQ.
TCLP: Toxicity Characterization Leaching Procedure
LOQ: Limit of Quantitation

Table 6 - Parcel B23
Summary of Organics Detected in Soil

Parameter	Units	PAL	B23-001-SB-1.5 9/12/2018	B23-002-SB-1 9/12/2018	B23-002-SB-8.5 9/12/2018	B23-003-SB-1 9/12/2018	B23-003-SB-5 9/12/2018	B23-003-SB-10 9/12/2018	B23-004-SB-1.5* 9/13/2018	B23-004-SB-5* 9/13/2018	B23-005-SB-1* 9/18/2018	B23-005-SB-4* 9/18/2018	B23-006-SB-1* 9/18/2018	B23-006-SB-5* 9/18/2018	B23-007-SB-1* 9/13/2018
Volatile Organic Compounds															
1,1,1-Trichloroethane	mg/kg	36,000	N/A	N/A	**0.014**	N/A	N/A	N/A	N/A	N/A	0.006 U	0.0053 U	0.0055 U	0.0068 U	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	0.012 U	N/A	N/A	N/A	N/A	N/A	0.012 U	0.011 U	0.011 U	0.014 U	N/A
Acetone	mg/kg	670,000	N/A	N/A	0.012 U	N/A	N/A	N/A	N/A	N/A	**0.021**	0.011 U	0.011 U	0.014 U	N/A
Benzene	mg/kg	5.1	N/A	N/A	0.006 U	N/A	N/A	N/A	N/A	N/A	0.006 U	0.0053 U	0.0055 U	0.0068 U	N/A
Chloroform	mg/kg	1.4	N/A	N/A	0.006 U	N/A	N/A	N/A	N/A	N/A	0.006 U	0.0053 U	0.0055 U	0.0068 U	N/A
Cyclohexane	mg/kg	27,000	N/A	N/A	0.012 U	N/A	N/A	N/A	N/A	N/A	0.012 U	0.011 U	0.011 U	0.014 U	N/A
Ethylbenzene	mg/kg	25	N/A	N/A	0.006 U	N/A	N/A	N/A	N/A	N/A	0.006 U	0.0053 U	0.0055 U	0.0068 U	N/A
Styrene	mg/kg	35,000	N/A	N/A	0.006 U	N/A	N/A	N/A	N/A	N/A	0.006 U	0.0053 U	0.0055 U	0.0068 U	N/A
Tetrachloroethene	mg/kg	100	N/A	N/A	0.006 U	N/A	N/A	N/A	N/A	N/A	0.006 U	0.0053 U	0.0055 U	0.0068 U	N/A
Toluene	mg/kg	47,000	N/A	N/A	**0.0023 J**	N/A	N/A	N/A	N/A	N/A	0.006 U	0.0053 U	0.0055 U	0.0068 U	N/A
Xylenes	mg/kg	2,800	N/A	N/A	0.018 U	N/A	N/A	N/A	N/A	N/A	0.018 U	0.016 U	0.017 U	0.02 U	N/A
Semi-Volatile Organic Compounds^															
1,1-Biphenyl	mg/kg	200	0.73 U	0.75 U	0.074 U	0.7 U	0.76 U	N/A	0.71 U	0.71 U	0.72 U	0.69 U	0.72 U	0.07 U	0.72 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.73 U	0.75 U	0.074 U	0.7 U	0.76 U	N/A	0.71 U	0.71 U	0.72 U	0.69 U	0.72 U	0.07 U	0.72 U
2,4-Dimethylphenol	mg/kg	16,000	0.73 U	0.75 U	0.074 U	0.7 U	0.76 U	N/A	0.71 U	0.71 U	0.72 U	0.69 U	0.72 U	0.07 U	0.72 U
2,4-Dinitrophenol	mg/kg	1,600	1.8 U	1.9 U	0.19 U	1.8 U	1.9 U	N/A	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	0.17 U	1.8 U
2,4-Dinitrotoluene	mg/kg	7.4	0.73 U	0.75 U	0.074 U	0.7 U	0.76 U	N/A	0.71 U	0.71 U	0.72 U	0.69 U	0.72 U	0.07 U	0.72 U
2-Chloronaphthalene	mg/kg	60,000	0.73 U	0.75 U	0.074 U	0.7 U	0.76 U	N/A	0.71 U	0.71 U	0.72 U	0.69 U	0.72 U	0.07 U	0.72 U
2-Methylnaphthalene	mg/kg	3,000	**0.096**	**0.085**	**0.028**	**0.019 J**	**0.15**	N/A	0.07 U	**0.18**	**0.33**	**0.5**	**0.17**	**0.0024 J**	**0.021 J**
2-Methylphenol	mg/kg	41,000	0.73 U	0.75 U	0.074 U	0.7 U	0.76 U	N/A	0.71 U	0.71 U	0.72 U	0.69 U	0.72 U	0.07 U	0.72 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	**0.3 J**	1.5 U	0.15 U	1.4 U	1.5 U	N/A	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.14 U	1.4 U
Acenaphthene	mg/kg	45,000	**0.008 J**	**0.016**	**0.0077**	0.071 U	**0.04**	N/A	0.07 U	**0.018 J**	**0.022 J**	**0.081**	0.073 U	**0.0015 J**	**0.0078 J**
Acenaphthylene	mg/kg	45,000	**0.15**	**0.12**	**0.019**	**0.06 J**	**0.041**	N/A	**0.013 J**	**0.13**	**0.21**	**3.6**	**0.079**	**0.0052 J**	**0.046 J**
Acetophenone	mg/kg	120,000	0.73 U	0.75 U	0.074 U	0.7 U	0.76 U	N/A	0.71 U	0.71 U	0.72 U	0.69 U	0.72 U	0.07 U	0.72 U
Anthracene	mg/kg	230,000	**0.097**	**0.17**	**0.027**	**0.02 J**	**0.36**	N/A	**0.017 J**	**0.2**	**0.21**	**1**	**0.077**	**0.018**	**0.063 J**
Benz[a]anthracene	mg/kg	21	**0.41**	**0.42**	**0.045**	**0.076**	**2.1**	N/A	**0.075**	**1**	**1.2**	**4**	**0.11**	**0.1**	**0.29**
Benzaldehyde	mg/kg	120,000	**0.19 J**	0.75 U	0.074 U	0.7 U	0.76 U	N/A	0.71 U	0.71 U	0.72 U	0.69 U	0.72 U	0.07 U	0.72 U
Benzo[a]pyrene	mg/kg	2.1	**0.47 J**	**0.36 J**	**0.041**	**0.14 J**	**2.1**	**0.25**	**0.061 J**	**0.88**	**0.87**	**8.3**	**0.12**	**0.096**	**0.27**
Benzo[b]fluoranthene	mg/kg	21	**1.1 J**	**0.9 J**	**0.056**	**0.23 J**	**4.9**	N/A	**0.17**	**2**	**1.5**	**13.6**	**0.39**	**0.15**	**0.47**
Benzo[g,h,i]perylene	mg/kg		**0.24 J**	**0.063 J**	**0.026**	**0.028 J**	**0.76**	N/A	**0.034 J**	**0.44**	**0.37**	**6.9**	**0.074**	**0.038**	**0.13**
Benzo[k]fluoranthene	mg/kg	210	**0.41 J**	**0.79 J**	**0.022**	**0.11 J**	**4.3**	N/A	**0.15**	**1.7**	**0.65**	**4.2**	**0.35**	**0.057**	**0.17**
bis(2-Chloroethyl)ether	mg/kg	1	**1.9**	0.75 U	0.074 U	0.7 U	0.76 U	N/A	0.71 U	0.71 U	0.72 U	0.69 U	0.72 U	0.07 U	0.72 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.73 U	0.75 U	0.074 U	0.7 U	0.76 U	N/A	0.71 U	0.71 U	0.72 U	0.69 U	0.72 U	0.07 U	0.72 U
Caprolactam	mg/kg	400,000	1.8 U	1.9 U	0.19 U	1.8 U	1.9 U	N/A	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	0.17 U	1.8 U
Carbazole	mg/kg		0.73 U	0.75 U	0.074 U	0.7 U	0.76 U	N/A	0.71 U	0.71 U	**0.18 J**	**0.22 J**	0.72 U	0.07 U	0.72 U
Chrysene	mg/kg	2,100	**0.45**	**0.35**	**0.042**	**0.14**	**2.1**	N/A	**0.089**	**1**	**1.1**	**5**	**0.16**	**0.097**	**0.3**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.1 J**	**0.031 J**	**0.0086**	0.071 UJ	**0.34**	N/A	0.07 U	**0.19**	**0.19**	**2.5**	**0.026 J**	**0.02**	**0.042 J**
Di-n-butylphthalate	mg/kg	82,000	0.73 U	0.75 U	0.074 U	0.7 U	0.76 U	N/A	0.71 U	0.71 U	0.72 U	0.69 U	0.72 U	0.07 U	0.72 U
Fluoranthene	mg/kg	30,000	**0.45**	**0.74**	**0.097**	**0.076**	**3.2**	N/A	**0.1**	**1.2**	**1.3**	**5.1**	**0.15**	**0.13**	**0.36**
Fluorene	mg/kg	30,000	**0.016 J**	**0.12**	**0.023**	0.071 U	**0.027**	N/A	0.07 U	**0.021 J**	**0.035 J**	**0.15**	0.073 U	**0.002 J**	**0.013 J**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.23 J**	**0.076 J**	**0.025**	**0.026 J**	**0.87**	N/A	**0.035 J**	**0.45**	**0.43**	**7**	**0.07 J**	**0.046**	**0.12**
Naphthalene	mg/kg	17	**0.15**	**0.45**	**0.12**	**0.042 J**	**0.2**	N/A	**0.063 J**	**0.53**	**0.41**	**1.7**	**0.13**	**0.0052 J**	**0.12**
N-Nitrosodiphenylamine	mg/kg	470	0.73 U	0.75 U	0.074 U	0.7 U	0.76 U	N/A	0.71 U	0.71 U	0.72 U	0.69 U	0.72 U	0.07 U	0.72 U
Pentachlorophenol	mg/kg	4	1.8 U	1.9 U	0.19 U	1.8 U	1.9 U	N/A	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	0.17 U	1.8 U
Phenanthrene	mg/kg		**0.22**	**0.69**	**0.11**	**0.029 J**	**1.7**	N/A	**0.044 J**	**0.67**	**0.66**	**2.8**	**0.18**	**0.051**	**0.12**
Phenol	mg/kg	250,000	**0.41 J**	0.75 U	0.074 U	0.7 U	0.76 U	N/A	0.71 U	0.71 U	0.72 U	0.69 U	0.72 U	0.07 U	0.72 U
Pyrene	mg/kg	23,000	**0.43**	**0.55**	**0.071**	**0.086**	**2.5**	N/A	**0.096**	**0.95**	**1.1**	**5.2**	**0.14**	**0.098**	**0.33**
PCBs															
Aroclor 1248	mg/kg	0.94	0.09 U	0.094 U	N/A	0.18 U	N/A	N/A	0.018 U	N/A	0.18 U	N/A	0.018 U	N/A	0.18 U
Aroclor 1254	mg/kg	0.97	0.09 U	0.094 U	N/A	0.18 U	N/A	N/A	0.018 U	N/A	0.18 U	N/A	0.018 U	N/A	0.18 U
Aroclor 1260	mg/kg	0.99	0.09 U	0.094 U	N/A	**0.044 J**	N/A	N/A	0.018 U	N/A	0.18 U	N/A	0.018 U	N/A	**0.16 J**
Aroclor 1268	mg/kg		0.09 U	0.094 U	N/A	0.18 U	N/A	N/A	0.018 U	N/A	0.18 U	N/A	0.018 U	N/A	0.18 U
PCBs (total)	mg/kg	0.97	0.81 U	0.84 U	N/A	1.6 U	N/A	N/A	0.16 U	N/A	1.6 U	N/A	0.17 U	N/A	1.6 U
TPH/Oil & Grease															
Diesel Range Organics	mg/kg	6,200	**91.5 J**	**201 J**	**14.1 J**	**126 J**	**64.5 J**	N/A	**7.1 J**	**63.7**	**71.5**	**273**	**45.8**	**10.6**	**41.8**
Gasoline Range Organics	mg/kg	6,200	10 U	15.8 U	**13.3**	11 U	14.8 U	N/A	27.9 U	12.3 U	12.6 U	25.8 U	**20.1**	19 U	13.7 U
Oil & Grease	mg/kg	6,200	**2,900 J+**	**5,160 J+**	**736 J+**	**15,500 J+**	**666 J+**	N/A	**658**	**644**	**1,650**	**1,330**	**250**	**258**	**4,260**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for the sample
* Indicates non-validated data
^ PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
B: The analyte was not detected substantially above the level of the associated method blank or field blank.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

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

Table 6 - Parcel B23
Summary of Organics Detected in Soil

Parameter	Units	PAL	B23-007-SB-4* 9/13/2018	B23-008-SB-1.5* 9/13/2018	B23-008-SB-5* 9/13/2018	B23-008-SB-10* 9/13/2018	B23-009-SB-1.5 9/17/2018	B23-009-SB-5 9/17/2018	B23-010-SB-1 9/17/2018	B23-010-SB-4 9/17/2018	B23-011-SB-1 9/17/2018	B23-011-SB-5 9/17/2018	B23-012-SB-1.5* 9/18/2018	B23-012-SB-5* 9/18/2018	B23-013-SB-1* 9/18/2018
Volatile Organic Compounds															
1,1,1-Trichloroethane	mg/kg	36,000	0.0078 U	N/A	N/A	N/A	0.006 UJ	0.0062 UJ	0.0062 UJ	0.0048 UJ	N/A	0.0047 UJ	0.0044 U	0.0047 U	0.0066 U
2-Butanone (MEK)	mg/kg	190,000	0.016 U	N/A	N/A	N/A	0.012 U	0.012 U	0.012 U	0.0095 U	N/A	0.0094 U	0.0088 U	0.0094 U	0.013 U
Acetone	mg/kg	670,000	**0.02**	N/A	N/A	N/A	0.012 U	0.012 U	0.012 U	0.0095 U	N/A	0.0094 U	0.0088 U	0.0094 U	0.013 U
Benzene	mg/kg	5.1	0.0078 U	N/A	N/A	N/A	0.006 U	0.0062 U	0.0062 U	0.0048 U	N/A	0.0047 U	0.0044 U	0.0047 U	0.0066 U
Chloroform	mg/kg	1.4	0.0078 U	N/A	N/A	N/A	0.006 U	**0.003 J**	0.0062 U	0.0048 U	N/A	0.0047 U	0.0044 U	0.0047 U	0.0066 U
Cyclohexane	mg/kg	27,000	0.016 U	N/A	N/A	N/A	0.012 U	0.012 U	0.012 U	0.0095 U	N/A	0.0094 U	0.0088 U	0.0094 U	0.013 U
Ethylbenzene	mg/kg	25	0.0078 U	N/A	N/A	N/A	0.006 U	0.0062 U	0.0062 U	0.0048 U	N/A	0.0047 U	0.0044 U	0.0047 U	0.0066 U
Styrene	mg/kg	35,000	0.0078 U	N/A	N/A	N/A	0.006 U	0.0062 U	0.0062 U	0.0048 U	N/A	0.0047 U	0.0044 U	0.0047 U	0.0066 U
Tetrachloroethene	mg/kg	100	0.0078 U	N/A	N/A	N/A	0.006 U	0.0062 U	0.0062 U	0.0048 U	N/A	0.0047 U	0.0044 U	0.0047 U	0.0066 U
Toluene	mg/kg	47,000	0.0078 U	N/A	N/A	N/A	0.006 U	0.0062 U	0.0062 U	0.0048 U	N/A	0.0047 U	0.0044 U	0.0047 U	0.0066 U
Xylenes	mg/kg	2,800	0.023 U	N/A	N/A	N/A	0.018 U	0.019 U	0.019 U	0.014 U	N/A	0.014 U	0.013 U	0.014 U	0.02 U
Semi-Volatile Organic Compounds^															
1,1-Biphenyl	mg/kg	200	0.074 U	0.73 U	0.76 U	N/A	0.71 U	0.74 U	**0.58 J**	0.071 U	**0.14**	0.07 U	0.71 U	0.072 U	**0.24 J**
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.074 U	0.73 U	0.76 U	N/A	0.71 U	0.74 U	0.7 U	0.071 U	**0.049 J**	0.07 U	0.71 U	0.072 U	0.77 U
2,4-Dimethylphenol	mg/kg	16,000	0.074 U	0.73 U	0.76 U	N/A	0.71 U	0.74 U	0.7 U	0.071 U	0.074 UJ	0.07 U	0.71 U	0.072 U	0.77 U
2,4-Dinitrophenol	mg/kg	1,600	0.19 U	1.8 U	1.9 U	N/A	1.8 U	1.9 U	1.7 U	0.18 R	0.19 UJ	0.18 U	1.8 U	0.18 U	1.9 U
2,4-Dinitrotoluene	mg/kg	7.4	0.074 U	0.73 U	0.76 U	N/A	0.71 U	0.74 U	0.7 U	0.071 U	0.074 U	0.07 U	0.71 U	0.072 U	0.77 U
2-Chloronaphthalene	mg/kg	60,000	0.074 U	0.73 U	0.76 U	N/A	0.71 U	0.74 U	0.7 U	0.071 U	**0.034 J**	0.07 U	0.71 U	0.072 U	0.77 U
2-Methylnaphthalene	mg/kg	3,000	**0.092**	**0.25**	**3.8**	N/A	**0.058 J**	**0.37**	**4**	**0.02**	**0.28**	0.0071 U	**0.054 J**	**0.0024 J**	**2.8**
2-Methylphenol	mg/kg	41,000	0.074 U	0.73 U	0.76 U	N/A	0.71 U	0.74 U	0.7 U	0.071 U	0.074 UJ	0.07 U	0.71 U	0.072 U	0.77 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	1.5 U	1.5 U	N/A	1.4 U	1.5 U	**0.2 J**	0.14 U	0.15 UJ	0.14 U	1.4 U	0.14 U	1.5 U
Acenaphthene	mg/kg	45,000	**0.0041 J**	**0.14**	**7.3**	N/A	0.071 U	**1.3**	**9**	**0.0075**	0.0073 U	0.0071 U	**0.018 J**	0.0073 U	**0.043 J**
Acenaphthylene	mg/kg	45,000	**0.0049 J**	**0.73**	**1.1**	N/A	**0.047 J**	**0.074 J**	**0.75**	**0.0034 J**	**0.031**	**0.0016 J**	**0.074**	0.0073 U	**0.11**
Acetophenone	mg/kg	120,000	0.074 U	0.73 U	0.76 U	N/A	0.71 U	0.74 U	0.7 U	0.071 U	**0.029 J**	0.07 U	0.71 U	0.072 U	**0.36 J**
Anthracene	mg/kg	230,000	**0.012**	**1.3**	**67.6**	N/A	**0.042 J**	**3.4**	**49.5**	**0.023**	**0.046**	**0.0026 J**	**0.22**	**0.001 J**	**0.22**
Benz[a]anthracene	mg/kg	21	**0.022**	**10.2**	**151**	**0.15**	**0.14**	**10**	**87.7**	**0.055**	**0.051**	**0.0019 J**	**1.6**	**0.0044 J**	**0.55**
Benzaldehyde	mg/kg	120,000	0.074 U	0.73 U	0.76 U	N/A	0.71 UJ	0.74 UJ	0.7 UJ	0.071 UJ	**0.023 J**	0.07 UJ	0.71 U	0.072 U	**0.43 J**
Benzo[a]pyrene	mg/kg	2.1	**0.02**	**9.2**	**100**	**0.1**	**0.17**	**8.6**	**66.8**	**0.049**	**0.018**	**0.00062 J**	**1.3**	**0.003 J**	**0.54**
Benzo[b]fluoranthene	mg/kg	21	**0.043**	**13.7**	**152**	**0.33**	**0.45**	**38.7**	**333 J**	**0.11**	**0.12**	**0.0021 J**	**3.4**	**0.0045 J**	**0.91**
Benzo[g,h,i]perylene	mg/kg		**0.013**	**4.2**	**14.5**	N/A	**0.11**	**0.89**	**4.1**	**0.017**	**0.003 J**	0.0071 U	**0.48**	**0.0011 J**	**0.41**
Benzo[k]fluoranthene	mg/kg	210	**0.038**	**5.5**	**66.5**	N/A	**0.4**	**34.4**	**296 J**	**0.093**	**0.11**	**0.0019 J**	**3.1**	**0.0021 J**	**0.38**
bis(2-Chloroethyl)ether	mg/kg	1	0.074 U	0.73 U	0.76 U	N/A	0.71 U	0.74 U	0.7 U	0.071 U	0.074 U	0.07 U	0.71 U	0.072 U	0.77 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.074 U	0.73 U	0.76 U	N/A	0.71 U	0.74 U	0.7 U	0.071 U	0.074 U	0.07 U	0.71 U	0.072 U	0.77 U
Caprolactam	mg/kg	400,000	0.19 U	1.8 U	1.9 U	N/A	1.8 U	1.9 U	1.7 U	0.18 U	0.19 U	0.18 U	1.8 U	0.18 U	**0.34 J**
Carbazole	mg/kg		0.074 U	0.73 U	**0.35 J**	N/A	0.71 U	**1.5**	**5.6**	0.071 U	0.074 U	0.07 U	0.71 U	0.072 U	0.77 U
Chrysene	mg/kg	2,100	**0.032**	**9**	**131**	N/A	**0.17**	**8.9**	**73.5**	**0.053**	**0.13**	**0.00098 J**	**1.5**	**0.0034 J**	**0.9**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.0053 J**	**2.4**	**11.3**	**0.031**	**0.041 J**	**0.6**	**4.3**	**0.0067 J**	0.0073 U	0.0071 U	**0.25**	0.0073 U	**0.16**
Di-n-butylphthalate	mg/kg	82,000	0.074 U	0.73 U	0.76 U	N/A	0.71 U	0.74 U	0.7 U	0.071 U	0.074 U	0.07 U	0.71 U	0.072 U	0.77 U
Fluoranthene	mg/kg	30,000	**0.045**	**11.3**	**299**	N/A	**0.15**	**30.4**	**274**	**0.12**	**0.33**	**0.0025 J**	**1.6**	**0.0047 J**	**0.7**
Fluorene	mg/kg	30,000	**0.002 J**	**0.14**	**7.7**	N/A	0.071 U	**1.3**	**12.6**	**0.0076**	**0.0079**	0.0071 U	**0.017 J**	0.0073 U	**0.066 J**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.012**	**4.9**	**59.8**	**0.07**	**0.11**	**1.4**	**7.8**	**0.018**	**0.0039 J**	0.0071 U	**0.52**	0.0073 U	**0.46**
Naphthalene	mg/kg	17	**0.39**	**1.1**	**4.7**	N/A	**0.08**	**0.44**	**5.4**	**0.017**	**0.49**	**0.0022 J**	**0.07 J**	**0.0041 J**	**1.9**
N-Nitrosodiphenylamine	mg/kg	470	0.074 U	0.73 U	0.76 U	N/A	0.71 U	0.74 U	**0.23 J**	0.071 U	0.074 U	0.07 U	0.71 U	0.072 U	0.77 U
Pentachlorophenol	mg/kg	4	0.19 U	1.8 U	1.9 U	N/A	1.8 U	1.9 U	1.7 U	0.18 U	0.19 UJ	0.18 U	1.8 U	0.18 U	1.9 U
Phenanthrene	mg/kg		**0.1**	**2.9**	**259**	N/A	**0.18**	**24.9**	**264**	**0.11**	**0.91**	**0.0028 J**	**0.56**	**0.0031 J**	**2**
Phenol	mg/kg	250,000	0.074 U	0.73 U	0.76 U	N/A	0.71 U	0.74 U	0.7 U	0.071 U	0.074 UJ	0.07 U	0.71 U	0.072 U	0.77 U
Pyrene	mg/kg	23,000	**0.036**	**10.1**	**230**	N/A	**0.13**	**13.7**	**116**	**0.094**	**0.13**	**0.0017 J**	**1.3**	**0.0038 J**	**0.6**
PCBs															
Aroclor 1248	mg/kg	0.94	N/A	0.089 U	N/A	N/A	0.18 U	N/A	0.17 U	N/A	0.019 U	N/A	0.18 U	N/A	0.19 U
Aroclor 1254	mg/kg	0.97	N/A	0.089 U	N/A	N/A	0.18 U	N/A	0.17 U	N/A	0.019 U	N/A	0.18 U	N/A	0.19 U
Aroclor 1260	mg/kg	0.99	N/A	0.089 U	N/A	N/A	0.18 U	N/A	0.17 U	N/A	0.019 U	N/A	0.18 U	N/A	0.19 U
Aroclor 1268	mg/kg		N/A	0.089 U	N/A	N/A	0.18 U	N/A	0.17 U	N/A	0.019 U	N/A	0.18 U	N/A	0.19 U
PCBs (total)	mg/kg	0.97	N/A	0.8 U	N/A	N/A	1.6 U	N/A	1.6 U	N/A	0.17 U	N/A	1.6 U	N/A	1.7 U
TPH/Oil & Grease															
Diesel Range Organics	mg/kg	6,200	**5.6 J**	**231**	**285**	N/A	**63.1 J**	**181 J**	**1,200 J**	**30.7 J**	**202 J**	**33.7 J**	**244**	**12.5**	**105**
Gasoline Range Organics	mg/kg	6,200	**24.9**	10.3 U	16.6 U	N/A	11.5 U	12.3 U	24.3 U	10.2 U	17 U	10.9 U	11.3 U	9.8 U	**15.5**
Oil & Grease	mg/kg	6,200	**310**	**1,450**	**865**	N/A	**403 J-**	**663 J-**	**3,350 J-**	**515 J-**	**488 J-**	**263 J-**	**8,600**	**271**	**1,180**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for the sample
* Indicates non-validated data
^ PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
B: The analyte was not detected substantially above the level of the associated method blank or field blank.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

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

Table 6 - Parcel B23
Summary of Organics Detected in Soil

Parameter	Units	PAL	B23-013-SB-5* 9/18/2018	B23-014-SB-1* 9/14/2018	B23-014-SB-5* 9/14/2018	B23-015-SB-2 9/17/2018	B23-015-SB-8 9/17/2018	B23-016-SB-1 9/12/2018	B23-017-SB-1 9/12/2018	B23-017-SB-4 9/12/2018	B23-018-SB-1* 9/18/2018	B23-018-SB-8* 9/18/2018	B23-019-SB-1* 9/14/2018	B23-019-SB-5* 9/14/2018	B23-020-SB-1.5* 9/18/2018
Volatile Organic Compounds															
1,1,1-Trichloroethane	mg/kg	36,000	0.0077 U	N/A	0.006 U	0.0062 UJ	0.0075 UJ	0.0055 U	N/A	0.0047 U	0.0073 U	0.01 U	N/A	N/A	0.0061 U
2-Butanone (MEK)	mg/kg	190,000	0.015 U	N/A	0.012 U	0.012 U	0.015 U	0.011 U	N/A	0.0094 U	0.015 U	0.021 U	N/A	N/A	0.012 U
Acetone	mg/kg	670,000	**0.013 J**	N/A	0.012 U	0.012 U	0.015 U	**0.068**	N/A	0.0094 U	0.015 U	0.021 U	N/A	N/A	**0.015**
Benzene	mg/kg	5.1	0.0077 U	N/A	0.006 U	0.0062 U	0.0075 U	0.0055 U	N/A	**0.013**	0.0073 U	0.01 U	N/A	N/A	0.0061 U
Chloroform	mg/kg	1.4	0.0077 U	N/A	0.006 U	0.0062 U	0.0075 U	0.0055 U	N/A	0.0047 U	0.0073 U	0.01 U	N/A	N/A	0.0061 U
Cyclohexane	mg/kg	27,000	0.015 U	N/A	0.012 U	0.012 U	0.015 U	0.011 U	N/A	0.0094 U	0.015 U	0.021 U	N/A	N/A	0.012 U
Ethylbenzene	mg/kg	25	0.0077 U	N/A	0.006 U	0.0062 U	0.0075 U	**0.0044 J**	N/A	**0.012**	0.0073 U	0.01 U	N/A	N/A	0.0061 U
Styrene	mg/kg	35,000	0.0077 U	N/A	0.006 U	0.0062 U	0.0075 U	0.0055 U	N/A	0.0047 U	0.0073 U	0.01 U	N/A	N/A	0.0061 U
Tetrachloroethene	mg/kg	100	0.0077 U	N/A	0.006 U	0.0062 U	0.0075 U	**0.012**	N/A	0.0047 U	0.0073 U	0.01 U	N/A	N/A	**0.004 J**
Toluene	mg/kg	47,000	0.0077 U	N/A	0.006 U	0.0062 U	0.0075 U	0.0055 U	N/A	**0.021**	0.0073 U	0.01 U	N/A	N/A	0.0061 U
Xylenes	mg/kg	2,800	0.023 U	N/A	0.018 U	0.019 U	0.022 U	**0.036**	N/A	**0.011 J**	0.022 U	0.031 U	N/A	N/A	0.018 U
Semi-Volatile Organic Compounds^															
1,1-Biphenyl	mg/kg	200	0.087 U	0.72 U	0.69 U	0.73 U	0.84 U	0.72 U	0.74 U	0.72 U	0.78 U	0.099 U	**0.16 J**	0.73 U	0.69 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.087 U	0.72 U	0.69 U	0.73 U	0.84 U	0.72 U	0.74 U	0.72 U	0.78 U	0.099 U	0.74 U	0.73 U	0.69 U
2,4-Dimethylphenol	mg/kg	16,000	0.087 U	0.72 U	0.69 U	0.73 U	0.84 U	0.72 U	0.74 U	0.72 U	0.78 U	0.099 U	0.74 U	0.73 U	0.69 U
2,4-Dinitrophenol	mg/kg	1,600	0.22 U	1.8 U	1.7 U	1.8 U	2.1 U	1.8 U	1.9 U	1.8 U	2 U	0.25 U	1.9 U	1.8 U	1.7 U
2,4-Dinitrotoluene	mg/kg	7.4	0.087 U	0.72 U	0.69 U	0.73 U	0.84 U	0.72 U	0.74 U	0.72 U	0.78 U	0.099 U	0.74 U	0.73 U	0.69 U
2-Chloronaphthalene	mg/kg	60,000	0.087 U	0.72 U	0.69 U	0.73 U	0.84 U	0.72 U	0.74 U	0.72 U	0.78 U	0.099 U	0.74 U	0.73 U	0.69 U
2-Methylnaphthalene	mg/kg	3,000	**0.034**	**0.22**	**0.22**	**3.4**	**0.17**	**0.5**	**0.0061 J**	**0.13**	**0.49**	**0.011**	**2.6**	**0.027 J**	**0.074**
2-Methylphenol	mg/kg	41,000	0.087 U	0.72 U	0.69 U	0.73 U	0.84 U	0.72 U	0.74 U	0.72 U	0.78 U	0.099 U	0.74 U	0.73 U	0.69 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.17 U	1.4 U	1.4 U	1.5 U	1.7 U	1.4 U	1.5 U	1.4 U	1.6 U	0.2 U	1.5 U	1.5 U	1.4 U
Acenaphthene	mg/kg	45,000	0.0088 U	**0.011 J**	**0.018 J**	**2.2**	**0.92**	**0.0079 J**	**0.00094 J**	0.073 U	**0.042 J**	**0.0061 J**	**6.8**	**0.01 J**	0.07 U
Acenaphthylene	mg/kg	45,000	0.0088 U	**0.5**	**0.96**	**35.3**	**0.049 J**	**0.048 J**	**0.0032 J**	**0.07 J**	**0.21**	**0.0041 J**	**0.59**	**0.085**	**0.067 J**
Acetophenone	mg/kg	120,000	0.087 U	0.72 U	0.69 U	0.73 U	0.84 U	0.72 U	0.74 U	0.72 U	0.78 U	0.099 U	0.74 U	0.73 U	0.69 U
Anthracene	mg/kg	230,000	**0.0029 J**	**0.21**	**0.19**	**62.3**	**2.4**	**0.027 J**	**0.0098**	**0.26**	**0.13**	**0.011**	**35.8**	**0.05 J**	**0.032 J**
Benz[a]anthracene	mg/kg	21	**0.0033 J**	**0.74**	**0.94**	**123**	**5.2**	0.073 U	**0.026**	**1.3**	**0.42**	0.0097 U	**55.4**	**0.18**	**0.13**
Benzaldehyde	mg/kg	120,000	**0.025 J**	0.72 U	0.69 U	0.73 UJ	0.84 UJ	0.72 U	0.74 U	0.72 U	0.78 U	0.099 U	0.74 U	0.73 U	0.69 U
Benzo[a]pyrene	mg/kg	2.1	**0.0019 J**	**0.81**	**1.3**	**114 J**	**3.9**	**0.061 J**	**0.024**	**1**	**0.39**	**0.0013 J**	**37.9**	**0.13**	**0.15**
Benzo[b]fluoranthene	mg/kg	21	**0.0054 J**	**1.6**	**2.6**	**544 J**	**10.2**	**0.29**	**0.064**	**2.7**	**1.2**	**0.0019 J**	**57.6**	**0.29**	**0.27**
Benzo[g,h,i]perylene	mg/kg		**0.0017 J**	**0.9**	**2.4**	**9.9 J**	**0.33**	**0.088**	**0.021**	**0.39**	**0.27**	0.0097 U	**4.4**	**0.054 J**	**0.081**
Benzo[k]fluoranthene	mg/kg	210	0.0088 U	**0.52**	**0.9**	**483 J**	**9.1**	**0.26**	**0.056**	**2.4**	**1.1**	**0.0017 J**	**11.5**	**0.26**	**0.092**
bis(2-Chloroethyl)ether	mg/kg	1	0.087 U	0.72 U	0.69 U	0.73 U	0.84 U	0.72 U	0.74 U	0.72 U	0.78 U	0.099 U	0.74 U	0.73 U	0.69 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.087 U	0.72 U	0.69 U	0.73 U	0.84 U	0.72 U	0.74 U	0.72 U	0.78 U	0.099 U	0.74 U	0.73 U	0.69 U
Caprolactam	mg/kg	400,000	0.22 U	1.8 U	1.7 U	1.8 U	2.1 U	**0.4 J**	1.9 U	**0.34 J**	2 U	0.25 U	1.9 U	1.8 U	1.7 U
Carbazole	mg/kg		0.087 U	0.72 U	0.69 U	**0.24 J**	**3.3**	0.72 U	0.74 U	0.72 U	0.78 U	0.099 U	**2**	0.73 U	0.69 U
Chrysene	mg/kg	2,100	**0.02**	**0.97**	**0.97**	**102**	**4.4**	0.073 U	**0.035**	**1.3**	**0.55**	0.0097 U	**46.5**	**0.15**	**0.15**
Dibenz[a,h]anthracene	mg/kg	2.1	0.0088 U	**0.32**	**0.58**	**5.2 J**	**0.28**	0.073 U	**0.0056 J**	**0.18**	**0.11**	0.0097 U	**2.6**	**0.023 J**	**0.032 J**
Di-n-butylphthalate	mg/kg	82,000	0.087 U	0.72 U	0.69 U	0.73 U	0.84 U	0.72 U	0.74 U	0.72 U	0.78 U	0.099 U	0.74 U	0.73 U	0.69 U
Fluoranthene	mg/kg	30,000	**0.007 J**	**1**	**1.2**	**509**	**9.8**	**0.063 J**	**0.051**	**1.8**	**0.66**	**0.011**	**99.2**	**0.27**	**0.15**
Fluorene	mg/kg	30,000	**0.002 J**	**0.022 J**	**0.037 J**	**33.4**	**1**	**0.02 J**	**0.0019 J**	**0.022 J**	**0.045 J**	**0.0057 J**	**10.2**	**0.0087 J**	0.07 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.0088 U	**0.85**	**2**	**15.1 J**	**0.53**	**0.042 J**	**0.017**	**0.46**	**0.25**	0.0097 U	**5.7**	**0.049 J**	**0.066 J**
Naphthalene	mg/kg	17	**0.049**	**0.53**	**0.61**	**10.4**	**0.19**	**0.25**	**0.013**	**0.17**	**0.51**	**0.011**	**2.8**	**0.035 J**	**0.095**
N-Nitrosodiphenylamine	mg/kg	470	0.087 U	0.72 U	0.69 U	0.73 U	0.84 U	0.72 U	0.74 U	0.72 U	0.78 U	0.099 U	0.74 U	0.73 U	0.69 U
Pentachlorophenol	mg/kg	4	0.22 U	1.8 U	1.7 U	1.8 U	2.1 U	1.8 U	1.9 U	1.8 U	2 U	0.25 U	1.9 U	1.8 U	1.7 U
Phenanthrene	mg/kg		**0.0098**	**0.31**	**0.36**	**446**	**9.8**	**0.076**	**0.045**	**0.83**	**0.8**	**0.013**	**114**	**0.17**	**0.1**
Phenol	mg/kg	250,000	0.087 U	0.72 U	0.69 U	0.73 U	0.84 U	0.72 U	0.74 U	0.72 U	0.78 U	0.099 U	0.74 U	0.73 U	0.69 U
Pyrene	mg/kg	23,000	**0.007 J**	**0.99**	**1.1**	**362**	**7.1**	**0.095**	**0.039**	**1.4**	**0.55**	**0.02**	**78.1**	**0.21**	**0.13**
PCBs															
Aroclor 1248	mg/kg	0.94	N/A	0.018 U	N/A	0.19 U	N/A	1.8 U	**0.16**	N/A	0.2 U	N/A	0.19 U	N/A	0.17 U
Aroclor 1254	mg/kg	0.97	N/A	0.018 U	N/A	0.19 U	N/A	**22.3**	0.093 U	N/A	0.2 U	N/A	0.19 U	N/A	0.17 U
Aroclor 1260	mg/kg	0.99	N/A	0.018 U	N/A	0.19 U	N/A	1.8 U	**0.43**	N/A	0.2 U	N/A	0.19 U	N/A	0.17 U
Aroclor 1268	mg/kg		N/A	0.018 U	N/A	0.19 U	N/A	1.8 UJ	0.093 UJ	N/A	0.2 U	N/A	0.19 U	N/A	0.17 U
PCBs (total)	mg/kg	0.97	N/A	0.16 U	N/A	1.7 U	N/A	**22.3**	**0.59 J**	N/A	1.8 U	N/A	1.7 U	N/A	1.6 U
TPH/Oil & Grease															
Diesel Range Organics	mg/kg	6,200	**8 J**	**82.1**	**60.7**	**208 J**	**147 J**	**1,250 J**	**184 J**	**2,160 J**	**94.6**	**354**	**163**	**28.3**	**33.2**
Gasoline Range Organics	mg/kg	6,200	17.6 U	13.2 U	**18.3**	14.3 U	14.4 U	12.2 U	15.4 U	**15.3**	18.8 U	17.4 U	12.2 U	12.1 U	14.7 U
Oil & Grease	mg/kg	6,200	**587**	**1,110**	**836**	**666 J-**	**1,570 J-**	**9,080 J+**	**998 J+**	**1,410 J+**	**6,400**	**879**	**2,230**	**1,860**	**2,900**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for the sample
* Indicates non-validated data
^ PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
B: The analyte was not detected substantially above the level of the associated method blank or field blank.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

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

Table 6 - Parcel B23
Summary of Organics Detected in Soil

Parameter	Units	PAL	B23-020-SB-7* 9/18/2018	B23-021-SB-1* 9/18/2018	B23-021-SB-8* 9/18/2018	B23-022-SB-1* 9/18/2018	B23-022-SB-4* 9/18/2018	B23-023-SB-1 9/17/2018	B23-023-SB-5 9/17/2018	B23-024-SB-1 9/17/2018	B23-024-SB-5 9/17/2018	B23-025-SB-1.5* 9/13/2018	B23-025-SB-5* 9/13/2018	B23-026-SB-1* 9/13/2018	B23-026-SB-4* 9/13/2018
Volatile Organic Compounds															
1,1,1-Trichloroethane	mg/kg	36,000	0.0054 U	0.0058 U	0.0053 U	0.0064 U	0.0047 U	0.0054 UJ	N/A	0.007 UJ	0.0048 UJ	N/A	N/A	0.0062 U	0.0074 U
2-Butanone (MEK)	mg/kg	190,000	0.011 U	0.012 U	**0.087**	0.013 U	0.0094 U	0.011 U	N/A	**0.018**	0.0096 U	N/A	N/A	0.012 U	0.015 U
Acetone	mg/kg	670,000	0.011 U	**0.014**	**0.037**	**0.34**	0.0094 U	0.011 U	N/A	**0.063**	0.0096 U	N/A	N/A	0.012 U	0.015 U
Benzene	mg/kg	5.1	0.0054 U	0.0058 U	**0.0023 J**	0.0064 U	0.0047 U	0.0054 U	N/A	0.007 U	0.0048 U	N/A	N/A	0.0062 U	0.0074 U
Chloroform	mg/kg	1.4	0.0054 U	0.0058 U	0.0053 U	0.0064 U	0.0047 U	0.0054 U	N/A	0.007 U	0.0048 U	N/A	N/A	0.0062 U	0.0074 U
Cyclohexane	mg/kg	27,000	0.011 U	0.012 U	**0.028**	0.013 U	0.0094 U	0.011 U	N/A	0.014 U	0.0096 U	N/A	N/A	0.012 U	0.015 U
Ethylbenzene	mg/kg	25	0.0054 U	0.0058 U	**0.0024 J**	**0.023**	0.0047 U	0.0054 U	N/A	0.007 U	0.0048 U	N/A	N/A	0.0062 U	0.0074 U
Styrene	mg/kg	35,000	0.0054 U	0.0058 U	0.0053 U	**0.0015 J**	0.0047 U	0.0054 U	N/A	0.007 U	0.0048 U	N/A	N/A	0.0062 U	0.0074 U
Tetrachloroethene	mg/kg	100	0.0054 U	0.0058 U	0.0053 U	0.0064 U	0.0047 U	0.0054 U	N/A	0.007 U	0.0048 U	N/A	N/A	0.0062 U	0.0074 U
Toluene	mg/kg	47,000	0.0054 U	0.0058 U	**0.0028 J**	0.0064 U	0.0047 U	0.0054 U	N/A	0.007 U	0.0048 U	N/A	N/A	0.0062 U	0.0074 U
Xylenes	mg/kg	2,800	0.016 U	0.018 U	0.016 U	**0.19**	0.014 U	0.016 U	N/A	0.021 U	0.014 U	N/A	N/A	0.018 U	0.022 U
Semi-Volatile Organic Compounds^															
1,1-Biphenyl	mg/kg	200	0.076 U	**1.2**	0.73 U	0.74 U	**0.3 J**	3.5 U	**0.4 J**	**0.39 J**	0.072 U	0.72 U	0.7 U	0.74 U	0.073 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.076 U	0.76 U	0.73 U	0.74 U	0.74 U	3.5 U	0.74 U	0.71 U	0.072 U	0.72 U	0.7 U	0.74 U	0.073 U
2,4-Dimethylphenol	mg/kg	16,000	0.076 U	**0.18 J**	0.73 U	0.74 U	0.74 U	3.5 U	0.74 U	0.71 U	0.072 R	0.72 U	0.7 U	0.74 U	0.073 U
2,4-Dinitrophenol	mg/kg	1,600	0.19 U	1.9 U	1.8 U	1.9 U	1.9 U	8.7 U	1.9 U	1.8 U	0.18 R	1.8 U	1.8 U	1.9 U	0.18 U
2,4-Dinitrotoluene	mg/kg	7.4	0.076 U	0.76 U	0.73 U	0.74 U	0.74 U	3.5 U	**0.18 J**	0.71 U	0.072 U	0.72 U	0.7 U	0.74 U	0.073 U
2-Chloronaphthalene	mg/kg	60,000	0.076 U	0.76 U	0.73 U	0.74 U	0.74 U	3.5 U	0.74 U	0.71 U	0.072 U	0.72 U	0.7 U	0.74 U	0.073 U
2-Methylnaphthalene	mg/kg	3,000	**0.06**	**2.1**	**0.15**	**1.3**	**1.3**	0.35 U	**0.19**	**1.1**	0.0037 B	**0.045 J**	**0.18**	**0.058 J**	**0.013**
2-Methylphenol	mg/kg	41,000	0.076 U	**0.19 J**	0.73 U	0.74 U	0.74 U	3.5 U	**0.15 J**	0.71 U	0.072 R	0.72 U	0.7 U	0.74 U	0.073 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	**0.63 J**	1.5 U	1.5 U	1.5 U	6.9 U	**0.31 J**	1.4 U	0.14 R	1.4 U	1.4 U	1.5 U	0.14 U
Acenaphthene	mg/kg	45,000	**0.0021 J**	**0.92**	**0.014 J**	**2.2**	**0.028 J**	0.35 U	**0.0081 J**	**0.099**	0.0074 U	**0.047 J**	**0.23**	**0.011 J**	**0.002 J**
Acenaphthylene	mg/kg	45,000	**0.0085**	**7**	**0.076**	**0.72**	**0.35**	**0.078 J**	**0.056 J**	**0.14**	**0.0017 J**	**0.047 J**	**0.062 J**	**0.23**	**0.023**
Acetophenone	mg/kg	120,000	0.076 U	0.76 U	0.73 U	0.74 U	0.74 U	3.5 U	**0.37 J**	0.71 U	0.072 U	0.72 U	0.7 U	0.74 U	0.073 U
Anthracene	mg/kg	230,000	**0.01**	**14.7**	**0.12**	**8.9**	**0.18**	**0.061 J**	**0.093**	**0.2**	**0.0032 J**	**0.39**	**0.97**	**0.18**	**0.043**
Benz[a]anthracene	mg/kg	21	**0.036**	**46.2**	**0.44**	**42.4**	**0.41**	**0.13 J**	**0.39**	**0.37**	**0.02**	**2.4**	**6.3**	**0.46**	**0.22**
Benzaldehyde	mg/kg	120,000	0.076 U	0.76 U	0.73 U	0.74 U	0.74 U	3.5 UJ	**0.49 J**	0.71 UJ	0.072 UJ	0.72 U	0.7 U	0.74 U	0.073 U
Benzo[a]pyrene	mg/kg	2.1	**0.027**	**34**	**0.43**	**28.6**	**0.46**	**0.1 J**	**0.45**	**0.31**	**0.018**	**2.3**	**7.1**	**0.6**	**0.22**
Benzo[b]fluoranthene	mg/kg	21	**0.065**	**45**	**1.1**	**41.5**	**1.1**	**0.24 J**	**1.6**	**1.1**	**0.048**	**4**	**11.3**	**1.6**	**0.38**
Benzo[g,h,i]perylene	mg/kg		**0.016**	**18.9**	**0.24**	**15.4**	**0.28**	0.35 U	**0.11**	**0.065 J**	**0.0028 J**	**0.87**	**2.6**	**0.35**	**0.11**
Benzo[k]fluoranthene	mg/kg	210	**0.059**	**19.1**	**1**	**16.1**	**1**	**0.082 J**	**1.4**	**1**	**0.043**	**1.6**	**5.4**	**1.4**	**0.17**
bis(2-Chloroethyl)ether	mg/kg	1	0.076 U	0.76 U	0.73 U	0.74 U	0.74 U	3.5 U	0.74 U	0.71 U	0.072 U	0.72 U	0.7 U	0.74 U	0.073 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.076 U	**0.16 J**	0.73 U	0.74 U	0.74 U	3.5 U	0.74 U	0.3 B	0.072 U	0.72 U	0.7 U	0.74 U	0.073 U
Caprolactam	mg/kg	400,000	**0.024 J**	1.9 U	1.8 U	1.9 U	1.9 U	8.7 U	**0.5 J**	**2.8**	0.18 U	1.8 U	1.8 U	1.9 U	0.18 U
Carbazole	mg/kg		0.076 U	**5.6**	0.73 U	**0.79**	0.74 U	3.5 U	**0.41 J**	0.71 U	0.072 U	0.72 U	0.7 U	0.74 U	0.073 U
Chrysene	mg/kg	2,100	**0.044**	**34.3**	**0.46**	**35.9**	**0.44**	**0.12 J**	**0.6**	**0.46**	**0.019**	**2.3**	**5.7**	**0.51**	**0.22**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.0058 J**	**6.5**	**0.082**	**7.6**	**0.1**	0.35 U	**0.07 J**	**0.033 J**	0.0074 U	**0.33**	**1.2**	**0.13**	**0.042**
Di-n-butylphthalate	mg/kg	82,000	0.076 U	0.76 U	0.73 U	0.74 U	0.74 U	3.5 U	0.74 U	0.71 U	0.072 U	0.72 U	0.7 U	0.74 U	**0.021 J**
Fluoranthene	mg/kg	30,000	**0.037**	**96.1**	**0.68**	**59.4**	**0.65**	**0.15 J**	**0.54**	**0.56**	**0.025**	**3.3**	**5.9**	**0.58**	**0.34**
Fluorene	mg/kg	30,000	**0.003 J**	**8.8**	**0.021 J**	**3.1**	**0.065 J**	0.35 U	**0.012 J**	**0.21**	0.0074 U	**0.036 J**	**0.22**	**0.016 J**	**0.0047 J**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.014**	**18.6**	**0.23**	**15.8**	**0.27**	0.35 U	**0.15**	**0.085**	**0.0036 J**	**0.9**	**2.8**	**0.33**	**0.12**
Naphthalene	mg/kg	17	**0.038**	**14.9**	**0.17**	**3.2**	**5.4**	0.35 U	**0.29**	**0.33**	**0.0039 J**	**0.071 J**	**0.42**	**0.1**	**0.022**
N-Nitrosodiphenylamine	mg/kg	470	0.076 U	0.76 U	0.73 U	0.74 U	0.74 U	3.5 U	0.74 U	**0.29 J**	0.072 U	0.72 U	0.7 U	0.74 U	0.073 U
Pentachlorophenol	mg/kg	4	0.19 U	1.9 U	1.8 U	1.9 U	1.9 U	8.7 U	1.9 U	1.8 U	0.18 R	1.8 U	1.8 U	1.9 U	0.18 U
Phenanthrene	mg/kg		**0.063**	**87.6**	**0.32**	**39.6**	**0.56**	**0.11 J**	**0.57**	**0.8**	**0.011**	**1.1**	**2.8**	**0.24**	**0.16**
Phenol	mg/kg	250,000	0.076 U	**0.54 J**	0.73 U	0.74 U	0.74 U	3.5 U	**0.2 J**	0.71 U	0.072 R	0.72 U	0.7 U	0.74 U	0.073 U
Pyrene	mg/kg	23,000	**0.029**	**67.6**	**0.54**	**47.2**	**0.59**	**0.13 J**	**0.39**	**0.92**	**0.022**	**2.9**	**4.9**	**0.54**	**0.25**
PCBs															
Aroclor 1248	mg/kg	0.94	N/A	0.019 U	N/A	0.18 U	N/A	0.86 U	N/A	0.18 U	N/A	0.089 U	N/A	0.092 U	N/A
Aroclor 1254	mg/kg	0.97	N/A	0.019 U	N/A	0.18 U	N/A	0.86 U	N/A	0.18 U	N/A	0.089 U	N/A	0.092 U	N/A
Aroclor 1260	mg/kg	0.99	N/A	0.019 U	N/A	0.18 U	N/A	0.86 U	N/A	0.18 U	N/A	0.089 U	N/A	0.092 U	N/A
Aroclor 1268	mg/kg		N/A	0.019 U	N/A	0.18 U	N/A	0.86 U	N/A	0.18 U	N/A	0.089 U	N/A	0.092 U	N/A
PCBs (total)	mg/kg	0.97	N/A	0.17 U	N/A	1.7 U	N/A	7.8 U	N/A	1.6 U	N/A	0.8 U	N/A	0.83 U	N/A
TPH/Oil & Grease															
Diesel Range Organics	mg/kg	6,200	**116**	**698**	**76**	**390**	**57.3**	**151 J**	**65.6 J**	**3,300 J**	**15.2 J**	**36.4**	**67**	**42.1**	**15.2**
Gasoline Range Organics	mg/kg	6,200	8.7 U	14.7 U	**56.4**	17.1 U	9.8 U	13.3 U	11.6 U	11.5 U	11.2 U	13.9 U	13.1 U	14.5 U	18.7 U
Oil & Grease	mg/kg	6,200	**530**	**2,770**	**264**	**964**	**280**	**26,300 J-**	**457 J-**	**3,090 J-**	**615 J-**	**461**	**413**	**672**	**340**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for the sample
* Indicates non-validated data
^ PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
B: The analyte was not detected substantially above the level of the associated method blank or field blank.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

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

Table 6 - Parcel B23
Summary of Organics Detected in Soil

Parameter	Units	PAL	B23-027-SB-1* 9/14/2018	B23-027-SB-5* 9/14/2018	B23-028-SB-2 9/17/2018	B23-028-SB-5 9/17/2018	B23-029-SB-1.5* 9/14/2018	B23-029-SB-5* 9/14/2018	B23-030-SB-1* 9/13/2018	B23-030-SB-3* 9/13/2018	B23-031-SB-1* 9/14/2018	B23-031-SB-5* 9/14/2018	B23-032-SB-1* 9/14/2018	B23-032-SB-5* 9/14/2018	B23-033-SB-1* 9/14/2018
Volatile Organic Compounds															
1,1,1-Trichloroethane	mg/kg	36,000	N/A	N/A	N/A	N/A	N/A	N/A	0.0068 U	0.0078 U	N/A	N/A	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	N/A	N/A	N/A	0.014 U	0.016 U	N/A	N/A	N/A	N/A	N/A
Acetone	mg/kg	670,000	N/A	N/A	N/A	N/A	N/A	N/A	0.014 U	**0.013 J**	N/A	N/A	N/A	N/A	N/A
Benzene	mg/kg	5.1	N/A	N/A	N/A	N/A	N/A	N/A	0.0068 U	0.0078 U	N/A	N/A	N/A	N/A	N/A
Chloroform	mg/kg	1.4	N/A	N/A	N/A	N/A	N/A	N/A	0.0068 U	0.0078 U	N/A	N/A	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	N/A	N/A	N/A	N/A	N/A	N/A	0.014 U	0.016 U	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	N/A	N/A	N/A	N/A	N/A	N/A	0.0068 U	0.0078 U	N/A	N/A	N/A	N/A	N/A
Styrene	mg/kg	35,000	N/A	N/A	N/A	N/A	N/A	N/A	0.0068 U	0.0078 U	N/A	N/A	N/A	N/A	N/A
Tetrachloroethene	mg/kg	100	N/A	N/A	N/A	N/A	N/A	N/A	**0.011**	**0.01**	N/A	N/A	N/A	N/A	N/A
Toluene	mg/kg	47,000	N/A	N/A	N/A	N/A	N/A	N/A	0.0068 U	**0.0029 J**	N/A	N/A	N/A	N/A	N/A
Xylenes	mg/kg	2,800	N/A	N/A	N/A	N/A	N/A	N/A	0.02 U	0.023 U	N/A	N/A	N/A	N/A	N/A
Semi-Volatile Organic Compounds^															
1,1-Biphenyl	mg/kg	200	0.07 U	0.071 U	0.7 U	**0.032 J**	0.074 U	0.079 U	0.7 U	0.71 U	**0.035 J**	0.73 U	**0.023 J**	0.72 U	0.73 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.07 U	0.071 U	0.7 U	0.075 U	**0.02 J**	**0.073 J**	0.7 U	0.71 U	**0.016 J**	0.73 U	**0.027 J**	0.72 U	0.73 U
2,4-Dimethylphenol	mg/kg	16,000	0.07 U	0.071 U	0.7 U	0.075 R	0.074 U	0.079 U	0.7 U	0.71 U	0.072 U	0.73 U	0.073 U	0.72 U	0.73 U
2,4-Dinitrophenol	mg/kg	1,600	0.17 U	0.18 U	1.8 U	0.19 R	**0.071 J**	0.2 U	1.7 U	1.8 U	0.18 U	1.8 U	0.18 U	1.8 U	1.8 U
2,4-Dinitrotoluene	mg/kg	7.4	0.07 U	0.071 U	0.7 U	0.075 U	0.074 U	0.079 U	0.7 U	0.71 U	0.072 U	0.73 U	0.073 U	0.72 U	0.73 U
2-Chloronaphthalene	mg/kg	60,000	0.07 U	0.071 U	0.7 U	0.075 U	**0.043 J**	**0.049 J**	0.7 U	0.71 U	0.072 U	0.73 U	**0.021 J**	0.72 U	0.73 U
2-Methylnaphthalene	mg/kg	3,000	**0.026**	0.0072 U	**0.081**	**0.079**	**0.26**	**0.16**	0.07 U	**0.1**	**0.22**	**0.47**	**0.14**	**0.41**	**0.3**
2-Methylphenol	mg/kg	41,000	0.07 U	0.071 U	0.7 U	0.075 R	0.074 U	0.079 U	0.7 U	0.71 U	0.072 U	0.73 U	0.073 U	0.72 U	0.73 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	0.14 U	1.4 U	0.15 R	0.15 U	0.16 U	1.4 U	1.4 U	0.14 U	1.5 U	0.15 U	1.4 U	1.5 U
Acenaphthene	mg/kg	45,000	**0.024**	0.0072 U	**0.0067 J**	0.0075 U	**0.023**	**0.013**	0.07 U	**0.25**	**0.0081**	**0.078**	**0.019**	**0.62**	**0.14**
Acenaphthylene	mg/kg	45,000	**0.012**	**0.0012 J**	**0.016 J**	**0.0054 J**	**0.17**	**0.15**	**0.0088 J**	**0.099**	**0.14**	**0.44**	**0.57**	**0.26**	**2.9**
Acetophenone	mg/kg	120,000	0.07 U	0.071 U	0.7 U	**0.02 J**	**0.019 J**	**0.021 J**	0.7 U	0.71 U	**0.045 J**	0.73 U	0.073 U	0.72 U	0.73 U
Anthracene	mg/kg	230,000	**0.027**	**0.0017 J**	**0.027 J**	**0.017**	**0.13**	**0.12**	0.07 U	**1.9**	**0.13**	**0.51**	**0.27**	**4.9**	**3.6**
Benz[a]anthracene	mg/kg	21	**0.78**	**0.007 J**	**0.29**	**0.042**	**0.37**	**0.44**	**0.013 J**	**7.4**	**0.29**	**2.4**	**2.1**	**38.4**	**5.6**
Benzaldehyde	mg/kg	120,000	0.07 U	0.071 U	0.7 UJ	**0.019 J**	**0.039 J**	**0.046 J**	0.7 U	0.71 U	**0.076**	0.73 U	**0.048 J**	0.72 U	0.73 U
Benzo[a]pyrene	mg/kg	2.1	**1.7**	**0.0073**	**0.42**	**0.033**	**0.42**	**0.41**	**0.017 J**	**5**	**0.28**	**1.9**	**1.9**	**33.7**	**5.5**
Benzo[b]fluoranthene	mg/kg	21	**1.9**	**0.02**	**1.2**	**0.15**	**0.66**	**1.3**	**0.059 J**	**9.2**	**0.77**	**3.1**	**3**	**55.5**	**24.9**
Benzo[g,h,i]perylene	mg/kg		**0.77**	**0.01**	**0.083**	**0.0077**	**0.34**	**0.16**	**0.034 J**	**1.7**	**0.15**	**0.98**	**0.8**	**8.4**	**3.3**
Benzo[k]fluoranthene	mg/kg	210	**0.68**	**0.018**	**1.1**	**0.13**	**0.26**	**1.2**	**0.052 J**	**3.9**	**0.7**	**0.96**	**0.86**	**8.3**	**4.7**
bis(2-Chloroethyl)ether	mg/kg	1	0.07 U	0.071 U	0.7 U	0.075 U	0.074 U	0.079 U	0.7 U	0.71 U	0.072 U	0.73 U	0.073 U	0.72 U	0.73 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	**0.016 J**	0.071 U	0.7 U	0.075 U	0.074 U	0.079 U	0.7 U	0.71 U	**0.028 J**	0.73 U	**0.016 J**	0.72 U	0.73 U
Caprolactam	mg/kg	400,000	0.17 U	0.18 U	1.8 U	0.19 U	**0.029 J**	**0.036 J**	1.7 U	1.8 U	**0.067 J**	1.8 U	**0.038 J**	1.8 U	1.8 U
Carbazole	mg/kg		0.07 U	0.071 U	0.7 U	**0.019 J**	**0.021 J**	**0.031 J**	0.7 U	0.71 U	**0.028 J**	0.73 U	**0.06 J**	**1.9**	**0.36 J**
Chrysene	mg/kg	2,100	**0.95**	**0.0073**	**0.37**	**0.14**	**0.44**	**0.46**	**0.044 J**	**6.3**	**0.43**	**2.2**	**1.5**	**35.4**	**9.6**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.26**	**0.0025 J**	**0.034 J**	**0.0052 J**	**0.14**	**0.08**	0.07 U	**1**	**0.072**	**0.43**	**0.43**	**5.7**	**1.3**
Di-n-butylphthalate	mg/kg	82,000	0.07 U	0.071 U	0.7 U	0.075 U	0.074 U	0.079 U	0.7 U	0.71 U	0.072 U	0.73 U	0.073 U	0.72 U	0.73 U
Fluoranthene	mg/kg	30,000	**0.45**	**0.0076**	**0.33**	**0.2**	**0.41**	**0.47**	**0.018 J**	**8.9**	**0.4**	**3.2**	**2.8**	**35.8**	**9.6**
Fluorene	mg/kg	30,000	**0.0049 J**	0.0072 U	0.07 U	0.0075 U	**0.031**	**0.018**	0.07 U	**0.31**	**0.014**	**0.12**	**0.04**	**0.64**	**0.17**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.81**	**0.0096**	**0.087**	**0.0095**	**0.33**	**0.19**	0.07 U	**1.9**	**0.18**	**1.1**	**1**	**10.8**	**3.7**
Naphthalene	mg/kg	17	**0.036**	**0.0031 J**	**0.035 J**	**0.33**	**0.31**	**0.11**	0.07 U	**0.11**	**0.19**	**0.42**	**0.26**	**0.56**	**0.47**
N-Nitrosodiphenylamine	mg/kg	470	0.07 U	0.071 U	0.7 U	0.075 U	0.074 U	0.079 U	0.7 U	0.71 U	0.072 U	0.73 U	0.073 U	0.72 U	0.73 U
Pentachlorophenol	mg/kg	4	0.17 U	0.18 U	1.8 U	0.19 R	0.19 U	0.2 U	1.7 U	1.8 U	0.18 U	1.8 U	0.18 U	1.8 U	1.8 U
Phenanthrene	mg/kg		**0.11**	**0.0048 J**	**0.092**	**0.31**	**0.4**	**0.33**	**0.02 J**	**4.3**	**0.32**	**2**	**0.83**	**12**	**1.4**
Phenol	mg/kg	250,000	0.07 U	0.071 U	0.7 U	0.075 R	0.074 U	0.079 U	0.7 U	0.71 U	0.072 U	0.73 U	**0.018 J**	0.72 U	0.73 U
Pyrene	mg/kg	23,000	**0.57**	**0.0063 J**	**0.37**	**0.12**	**0.37**	**0.42**	**0.024 J**	**7.3**	**0.36**	**2.5**	**2.4**	**28.7**	**9.2**
PCBs															
Aroclor 1248	mg/kg	0.94	**0.079 J**	N/A	0.18 U	N/A	0.018 U	N/A	0.18 U	N/A	0.018 U	N/A	0.018 U	N/A	0.19 U
Aroclor 1254	mg/kg	0.97	0.089 U	N/A	**0.22**	N/A	0.018 U	N/A	0.18 U	N/A	**0.071**	N/A	0.018 U	N/A	0.19 U
Aroclor 1260	mg/kg	0.99	**0.5**	N/A	0.18 U	N/A	0.018 U	N/A	0.18 U	N/A	0.018 U	N/A	0.018 U	N/A	0.19 U
Aroclor 1268	mg/kg		0.089 U	N/A	0.18 U	N/A	0.018 U	N/A	0.18 U	N/A	0.018 U	N/A	0.018 U	N/A	0.19 U
PCBs (total)	mg/kg	0.97	**0.58 J**	N/A	1.6 U	N/A	0.16 U	N/A	1.6 U	N/A	**0.071 J**	N/A	0.16 U	N/A	1.7 U
TPH/Oil & Grease															
Diesel Range Organics	mg/kg	6,200	**43.6**	**3 J**	**56.5 J**	**39.8 J**	**54.5**	**51**	**104**	**221**	**54.6**	**77**	**61.8**	**359**	**320**
Gasoline Range Organics	mg/kg	6,200	10.7 U	16.2 U	9.6 U	14.5 U	16.7 U	15.8 U	15 U	10.5 U	12.2 U	21.2 U	18.5 U	11 U	11.8 U
Oil & Grease	mg/kg	6,200	**558**	**451**	**4,130 J-**	**365 J-**	**331**	**361**	**10,800**	**801**	**394**	**596**	**457**	**1,380**	**13,000**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for the sample
* Indicates non-validated data
^ PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
B: The analyte was not detected substantially above the level of the associated method blank or field blank.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

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

Table 6 - Parcel B23
Summary of Organics Detected in Soil

Parameter	Units	PAL	B23-033-SB-5* 9/14/2018	B23-034-SB-1 9/12/2018	B23-034-SB-5 9/12/2018	B23-034-SB-10 9/12/2018	B23-035-SB-1 7/26/2018	B23-035-SB-5 7/26/2018	B23-036-SB-1 7/26/2018	B23-036-SB-4 7/26/2018	B23-048-SB-1.3* 11/6/2018	B23-048-SB-9* 11/6/2018	B23-049-SB-1.5* 11/5/2018	B23-049-SB-8* 11/5/2018
Volatile Organic Compounds														
1,1,1-Trichloroethane	mg/kg	36,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0079 U	N/A	0.0053 U
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.016 U	N/A	0.011 U
Acetone	mg/kg	670,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.023**	N/A	**0.0076 J**
Benzene	mg/kg	5.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0079 U	N/A	0.0053 U
Chloroform	mg/kg	1.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0079 U	N/A	0.0053 U
Cyclohexane	mg/kg	27,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.016 U	N/A	0.011 U
Ethylbenzene	mg/kg	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0079 U	N/A	0.0053 U
Styrene	mg/kg	35,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0079 U	N/A	0.0053 U
Tetrachloroethene	mg/kg	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0079 U	N/A	**0.0053 J**
Toluene	mg/kg	47,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0079 U	N/A	0.0053 U
Xylenes	mg/kg	2,800	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.024 U	N/A	0.016 U
Semi-Volatile Organic Compounds^														
1,1-Biphenyl	mg/kg	200	0.07 U	0.72 U	**4.9**	N/A	0.071 U	0.087 U	0.071 U	**0.032 J**	**0.018 J**	**0.027 J**	**0.022 J**	0.07 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.07 U	0.72 U	0.84 U	N/A	0.071 U	0.087 U	0.071 U	0.08 U	0.072 U	0.071 U	0.076 U	0.07 U
2,4-Dimethylphenol	mg/kg	16,000	0.07 U	0.72 U	0.84 U	N/A	0.071 U	0.087 R	0.071 U	0.08 U	0.072 U	0.071 U	0.076 U	0.07 U
2,4-Dinitrophenol	mg/kg	1,600	0.18 U	1.8 U	2.1 U	N/A	0.18 U	0.22 R	0.18 U	0.2 U	0.18 U	0.18 U	0.19 U	0.18 U
2,4-Dinitrotoluene	mg/kg	7.4	0.07 U	0.72 U	0.84 U	N/A	0.071 U	0.087 U	0.071 U	**0.022 J**	0.072 U	0.071 U	0.076 U	0.07 U
2-Chloronaphthalene	mg/kg	60,000	0.07 U	0.72 U	0.84 U	N/A	0.071 U	0.087 U	0.071 U	**0.052 J**	0.072 U	0.071 U	0.076 U	0.07 U
2-Methylnaphthalene	mg/kg	3,000	**0.0092**	**20.6**	**0.11**	N/A	**0.0092**	**0.022**	**0.11**	**0.1**	**0.15**	**0.27**	**0.17**	**0.028**
2-Methylphenol	mg/kg	41,000	0.07 U	0.72 U	0.84 U	N/A	0.071 U	0.087 R	0.071 U	0.08 U	0.072 U	0.071 U	0.076 U	0.07 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	1.4 U	**0.32 J**	N/A	0.14 U	0.17 R	0.14 U	0.16 U	0.14 U	0.14 U	0.15 U	0.14 U
Acenaphthene	mg/kg	45,000	**0.0023 J**	**1.3**	**0.059**	N/A	**0.0017 J**	**0.0021 J**	**0.0082**	**0.0058 J**	**0.042 J**	**0.018 J**	**0.019**	**0.0052 J**
Acenaphthylene	mg/kg	45,000	**0.0037 J**	**76.2**	**0.94**	N/A	**0.0045 J**	**0.0036 J**	**0.059**	**0.012**	**0.22**	**0.12 J**	**0.16**	**0.029**
Acetophenone	mg/kg	120,000	0.07 U	0.72 U	**1.1**	N/A	0.071 U	0.087 U	0.071 U	**0.073 J**	0.072 U	0.071 U	**0.02 J**	0.07 U
Anthracene	mg/kg	230,000	**0.0093**	**10.7**	**1**	N/A	**0.011**	**0.0063 J**	**0.075**	**0.014**	**0.26**	**0.046 J**	**0.16**	**0.017**
Benz[a]anthracene	mg/kg	21	**0.0079**	**30.9**	**8.7**	**0.89**	**0.042**	**0.044**	**0.2**	**0.073**	**1.4**	**0.11 J**	**1**	**0.052**
Benzaldehyde	mg/kg	120,000	0.07 U	0.72 U	**1.1**	N/A	0.071 UJ	0.087 UJ	**0.027 J**	**0.055 J**	0.072 U	0.071 U	**0.018 J**	0.07 U
Benzo[a]pyrene	mg/kg	2.1	**0.0049 J**	**123**	**7.3**	**0.43 J**	**0.046**	**0.056**	**0.27**	**0.072**	**1.3**	**0.09 J**	**1.2**	**0.028**
Benzo[b]fluoranthene	mg/kg	21	**0.014**	**187**	**11**	**1.7 J**	**0.11**	**0.11**	**0.84**	**0.2**	**1.9**	**0.21**	**2.8**	**0.082**
Benzo[g,h,i]perylene	mg/kg		**0.0029 J**	**203**	**4.9**	N/A	**0.018**	**0.041**	**0.077**	**0.021**	**0.38**	**0.037 J**	**0.25**	**0.023**
Benzo[k]fluoranthene	mg/kg	210	**0.012**	**83.2**	**3.6**	N/A	**0.096**	**0.094**	**0.72**	**0.17**	**0.86**	**0.18**	**2.4**	**0.027**
bis(2-Chloroethyl)ether	mg/kg	1	0.07 U	0.72 U	0.84 U	N/A	0.071 U	0.087 U	0.071 U	0.08 U	0.072 U	0.071 U	0.076 U	0.07 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.07 U	0.72 U	0.84 U	N/A	0.024 B	0.02 B	0.03 B	**0.12**	0.072 U	0.071 U	**0.019 J**	**0.017 J**
Caprolactam	mg/kg	400,000	0.18 U	1.8 U	2.1 U	N/A	0.18 U	0.22 U	0.18 U	**0.69**	0.18 U	0.18 U	**0.038 J**	0.18 U
Carbazole	mg/kg		0.07 U	**0.36 J**	**1.2**	N/A	0.071 U	0.087 U	**0.023 J**	**0.025 J**	**0.025 J**	0.071 U	**0.043 J**	0.07 U
Chrysene	mg/kg	2,100	**0.013**	**31.2**	**7.5**	N/A	**0.052**	**0.052**	**0.28**	**0.084**	**1.2**	**0.09 J**	**0.96**	**0.072**
Dibenz[a,h]anthracene	mg/kg	2.1	0.0069 U	**60.1**	**1.7**	**0.048 J**	**0.0064 J**	**0.012**	**0.032**	**0.009**	**0.2**	0.14 U	**0.12**	**0.012**
Di-n-butylphthalate	mg/kg	82,000	0.07 U	0.72 U	0.84 U	N/A	0.071 U	0.087 U	0.071 U	0.08 U	0.072 U	0.071 U	0.076 U	0.07 U
Fluoranthene	mg/kg	30,000	**0.017**	**52.6**	**15.2**	N/A	**0.089**	**0.063**	**0.38**	**0.11**	**1.6**	**0.19**	**1.3**	**0.13**
Fluorene	mg/kg	30,000	**0.0038 J**	**3**	**0.18**	N/A	**0.0015 J**	**0.0014 J**	**0.012**	**0.0045 J**	**0.05 J**	**0.074 J**	**0.022**	**0.007 J**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.0023 J**	**180**	**4.8**	**0.074 J**	**0.019**	**0.034**	**0.089**	**0.021**	**0.5**	**0.039 J**	**0.26**	**0.024**
Naphthalene	mg/kg	17	**0.01**	**334**	**0.28**	**7.2**	**0.01**	**0.019**	**0.12**	**0.044**	**2.2**	**0.45**	**0.28**	**0.1**
N-Nitrosodiphenylamine	mg/kg	470	0.07 U	0.72 U	0.84 U	N/A	0.071 U	0.087 U	0.071 U	**0.021 J**	0.072 U	0.071 U	0.076 U	0.07 U
Pentachlorophenol	mg/kg	4	0.18 U	1.8 U	2.1 U	N/A	0.18 U	0.22 R	**0.21**	**0.064 J**	0.18 U	0.18 U	0.19 U	0.18 U
Phenanthrene	mg/kg		**0.036**	**41.4**	**5.8**	N/A	**0.03**	**0.04**	**0.24**	**0.087**	**0.7**	**0.27**	**0.57**	**0.12**
Phenol	mg/kg	250,000	0.07 U	0.72 U	**0.38 J**	N/A	0.071 U	0.087 R	0.071 U	0.08 U	0.072 U	0.071 U	0.076 U	0.07 U
Pyrene	mg/kg	23,000	**0.011**	**40.7**	**11.5**	N/A	**0.074**	**0.058**	**0.34**	**0.092**	**1.3**	**0.13 J**	**0.98**	**0.078**
PCBs														
Aroclor 1248	mg/kg	0.94	N/A	N/A	N/A	N/A	0.018 U	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	N/A	N/A	N/A	0.018 U	N/A	0.018 U	N/A	0.018 U	N/A	0.019 U	N/A
Aroclor 1260	mg/kg	0.99	N/A	N/A	N/A	N/A	**0.018 J**	N/A	**0.032 J**	N/A	0.018 U	N/A	0.019 U	N/A
Aroclor 1268	mg/kg		N/A	N/A	N/A	N/A	**0.013 J**	N/A	**0.03 J**	N/A	0.018 U	N/A	0.019 U	N/A
PCBs (total)	mg/kg	0.97	N/A	N/A	N/A	N/A	**0.031 J**	N/A	**0.062 J**	N/A	0.16 U	N/A	0.17 U	N/A
TPH/Oil & Grease														
Diesel Range Organics	mg/kg	6,200	**10.8**	**118 J**	**1,680 J**	N/A	**23.8 J**	**17.3 J**	**63.5 J**	**191 J**	**33**	**18.3**	**141**	**26.2**
Gasoline Range Organics	mg/kg	6,200	12 U	13.3 U	16.4 UJ	N/A	10.2 U	14.1 U	9.3 U	9.4 U	12.9 U	15.3 U	**4.4 J**	13.9 U
Oil & Grease	mg/kg	6,200	**257**	**1,020 J+**	**6,330 J+**	**379**	**200**	**127 J**	**210**	**1,790**	**524**	**334**	**401**	**307**

Detections in bold
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* Indicates non-validated data
^ PAH compounds were analyzed via SIM

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UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
B: The analyte was not detected substantially above the level of the associated method blank or field blank.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

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

Table 7 - Parcel B23
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B23-001-SB-1.5	B23-002-SB-1	B23-002-SB-8.5	B23-002-SB-10	B23-003-SB-1	B23-003-SB-5	B23-003-SB-10
			9/12/2018	9/12/2018	9/12/2018	9/12/2018	9/12/2018	9/12/2018	9/12/2018
Metals									
Aluminum	mg/kg	1,100,000	**22,900**	**44,100**	**4,340**	N/A	**16,600**	**8,900**	N/A
Antimony	mg/kg	470	2.6 UJ	2.6 UJ	2.6 UJ	N/A	2.5 UJ	2.7 UJ	N/A
Arsenic	mg/kg	3	**6.3 J**	**2.6 J**	**7.4 J**	2.2 U	**2.1 J**	**14.2 J**	**16.6 J**
Barium	mg/kg	220,000	**396 J**	**748 J**	**35.2 J**	N/A	**294 J**	**147 J**	N/A
Beryllium	mg/kg	2,300	**2.2**	**5**	0.85 U	N/A	**1.7**	**0.44 J**	N/A
Cadmium	mg/kg	980	**0.53 J**	**0.38 J**	**0.3 J**	N/A	**0.85 J**	**8.7**	N/A
Chromium	mg/kg	120,000	**68.9 J**	**27.8 J**	**1,080 J**	N/A	**53.9 J**	**861 J**	N/A
Chromium VI	mg/kg	6.3	1.1 R	1.1 R	1.1 R	N/A	1.1 R	**0.64 J-**	N/A
Cobalt	mg/kg	350	**9.3**	**1.3 J**	**15.4**	N/A	**5.5**	**17.1**	N/A
Copper	mg/kg	47,000	**300 J**	**11.1 J**	**106 J**	N/A	**21.4 J**	**259 J**	N/A
Iron	mg/kg	820,000	**54,000**	**9,060**	**125,000**	N/A	**15,600**	**153,000**	N/A
Lead	mg/kg	800	**72.7**	**11.7**	**77.5**	N/A	**42.2**	**947**	**433**
Manganese	mg/kg	26,000	**5,610**	**8,780**	**15,700**	N/A	**2,930**	**14,500**	N/A
Mercury	mg/kg	350	**0.12 J-**	**0.051 J-**	**0.0087 J-**	N/A	**0.019 J-**	**1.5 J-**	N/A
Nickel	mg/kg	22,000	**19.6**	**4.4 J**	**29.8**	N/A	**15.5**	**56.6**	N/A
Selenium	mg/kg	5,800	**2.6 J**	**4.5**	3.4 U	N/A	3.3 U	3.6 U	N/A
Silver	mg/kg	5,800	**13.4**	**33.4**	**26.1**	N/A	**9.3**	**11.8**	N/A
Thallium	mg/kg	12	8.7 U	8.7 U	**7.3 J**	N/A	8.2 U	**3.5 J**	N/A
Vanadium	mg/kg	5,800	**262 J**	**61 J**	**5,060 J**	N/A	**116 J**	**266 J**	N/A
Zinc	mg/kg	350,000	**121 J**	**22.8 J**	**68.1 J**	N/A	**124 J**	**2,340 J**	N/A
Other									
Cyanide	mg/kg	150	**0.19 J+**	**0.29 J+**	0.94 U	N/A	**0.6 J+**	**1.8 J+**	N/A

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B: The analyte was not detected substantially above the level of the associated method blank or field blank.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 7 - Parcel B23
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B23-004-SB-1.5* 9/13/2018	B23-004-SB-5* 9/13/2018	B23-004-SB-10* 9/13/2018	B23-005-SB-1* 9/18/2018	B23-005-SB-4* 9/18/2018	B23-006-SB-1* 9/18/2018	B23-006-SB-5* 9/18/2018
Metals									
Aluminum	mg/kg	1,100,000	**40,200**	**9,080**	N/A	**9,900**	**585**	**33,000**	**7,600**
Antimony	mg/kg	470	2.5 U	2.5 U	N/A	2.6 U	2.5 U	2.6 U	2.4 U
Arsenic	mg/kg	3	**2.8**	**12.8**	**16.1**	**6.2**	2.1 U	**4**	**4**
Barium	mg/kg	220,000	**391**	**112**	N/A	**160**	**12.7**	**487**	**91.4**
Beryllium	mg/kg	2,300	**6.8**	0.82 U	N/A	**0.77 J**	0.83 U	**3.6**	**1.3**
Cadmium	mg/kg	980	**0.52 J**	**2.2**	N/A	**0.59 J**	1.2 U	**1.2 J**	1.2 U
Chromium	mg/kg	120,000	**14.9**	**660**	N/A	**298**	**33.9**	**96.9**	**1,740**
Chromium VI	mg/kg	6.3	1.1 U	**0.59 J**	N/A	1.1 U	1 U	1.1 U	**3.4**
Cobalt	mg/kg	350	**0.98 J**	**16.7**	N/A	**8.7**	**0.47 J**	**3.8 J**	**3.5 J**
Copper	mg/kg	47,000	**5.6**	**133**	N/A	**157**	**6.4**	**45**	**29.6**
Iron	mg/kg	820,000	**12,800**	**113,000**	N/A	**55,000**	**18,100**	**29,400**	**65,400**
Lead	mg/kg	800	**38.1**	**612**	N/A	**359**	**62.2**	**73.9**	**54.4**
Manganese	mg/kg	26,000	**2,290**	**9,050**	N/A	**5,860**	**514**	**8,970**	**24,000**
Mercury	mg/kg	350	0.1 U	**0.065 J**	N/A	**0.094 J**	0.1 U	**0.011 J**	0.11 U
Nickel	mg/kg	22,000	**2.4 J**	**31.4**	N/A	**34.2**	**1.9 J**	**11.5**	**11.1**
Selenium	mg/kg	5,800	**5.5**	**2.9 J**	N/A	3.4 U	3.3 U	3.5 U	3.3 U
Silver	mg/kg	5,800	**11.6**	**15.4**	N/A	2.6 U	2.5 U	2.6 U	2.4 U
Thallium	mg/kg	12	8.2 U	**4.7 J**	N/A	8.5 U	8.3 U	8.7 U	8.1 U
Vanadium	mg/kg	5,800	**35.9**	**2,360**	N/A	**554**	**173**	**74.3**	**7,570**
Zinc	mg/kg	350,000	**45.3**	**1,090**	N/A	**309**	**50.1**	**191**	**132**
Other									
Cyanide	mg/kg	150	**0.39 J**	**0.5 J**	N/A	**0.46 J**	**1.6**	**0.22 J**	0.88 U

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Table 7 - Parcel B23
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B23-007-SB-1*	B23-007-SB-4*	B23-007-SB-10*	B23-008-SB-1.5*	B23-008-SB-5*	B23-008-SB-10*	B23-009-SB-1.5
			9/13/2018	9/13/2018	9/13/2018	9/13/2018	9/13/2018	9/13/2018	9/17/2018
Metals									
Aluminum	mg/kg	1,100,000	**29,400**	**12,100**	N/A	**17,300**	**5,360**	N/A	**13,700**
Antimony	mg/kg	470	2.5 U	2.6 U	N/A	2.5 U	2.7 U	N/A	**10.7**
Arsenic	mg/kg	3	**5.4**	**7.4**	**9.9**	**11.1**	**11**	**18.5**	**43.3**
Barium	mg/kg	220,000	**395**	**194**	N/A	**204**	**77.9**	N/A	**127**
Beryllium	mg/kg	2,300	**2.6**	**1.2**	N/A	**0.48 J**	0.89 U	N/A	**0.29 J**
Cadmium	mg/kg	980	**0.81 J**	**0.4 J**	N/A	**1.3**	**7.5**	N/A	**15.7**
Chromium	mg/kg	120,000	**769**	**50.3**	N/A	**757**	**572**	N/A	**1,400**
Chromium VI	mg/kg	6.3	1.1 U	1.1 U	N/A	1.1 U	**0.9 J**	N/A	**0.58 J-**
Cobalt	mg/kg	350	**2.7 J**	**11.4**	N/A	**18**	**22.6**	N/A	**16.2**
Copper	mg/kg	47,000	**31**	**39.5**	N/A	**205**	**229**	N/A	**446**
Iron	mg/kg	820,000	**59,200**	**53,400**	N/A	**117,000**	**129,000**	N/A	**75,800**
Lead	mg/kg	800	**37.9**	**47.8**	N/A	**439**	**872**	**1,170**	**1,600**
Manganese	mg/kg	26,000	**26,300**	**2,650**	N/A	**12,300**	**8,100**	N/A	**11,500**
Mercury	mg/kg	350	**0.013 J**	**0.011 J**	N/A	**0.11 J**	**0.12**	N/A	**0.038 J**
Nickel	mg/kg	22,000	**12.5**	**16.6**	N/A	**42.2**	**44.8**	N/A	**51.2**
Selenium	mg/kg	5,800	**4.9**	3.5 U	N/A	3.4 U	3.6 U	N/A	3.4 U
Silver	mg/kg	5,800	**19.2**	**4.2**	N/A	**15.8**	**13.7**	N/A	**9.6**
Thallium	mg/kg	12	**7.2 J**	8.6 U	N/A	**3.9 J**	**3.5 J**	N/A	8.4 U
Vanadium	mg/kg	5,800	**410**	**31**	N/A	**2,550**	**2,630**	N/A	**3,480**
Zinc	mg/kg	350,000	**105**	**77.8**	N/A	**801**	**25,300**	N/A	**9,660**
Other									
Cyanide	mg/kg	150	**0.45 J**	**1.4**	N/A	**0.8 J**	**1.9**	N/A	**0.18 J-**

Detections in bold
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B: The analyte was not detected substantially above the level of the associated method blank or field blank.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 7 - Parcel B23
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B23-009-SB-5	B23-010-SB-1	B23-010-SB-4	B23-011-SB-1	B23-011-SB-5	B23-012-SB-1.5*	B23-012-SB-5*
			9/17/2018	9/17/2018	9/17/2018	9/17/2018	9/17/2018	9/18/2018	9/18/2018
Metals									
Aluminum	mg/kg	1,100,000	**6,270**	**8,840**	**4,540**	**6,170**	**7,730**	**18,900**	**5,210**
Antimony	mg/kg	470	2.5 U	2.5 U	2.4 U	2.6 U	2.5 U	2.5 U	2.5 U
Arsenic	mg/kg	3	**5.1**	**9**	**10.6**	**10.8**	**6.1**	**5.9**	**3.4**
Barium	mg/kg	220,000	**69.1**	**106**	**137**	**116**	**217**	**358**	**96**
Beryllium	mg/kg	2,300	**0.39 J**	**0.49 J**	**0.22 J**	**0.34 J**	**0.61 J**	**1.3**	**0.43 J**
Cadmium	mg/kg	980	1.3 U	1.2 U	**2.4**	**0.6 J**	**0.67 J**	**3**	1.3 U
Chromium	mg/kg	120,000	**223**	**710**	**587**	**668**	**2,340**	**181**	**3,020**
Chromium VI	mg/kg	6.3	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	**0.54 J-**	1.1 U	1.1 U
Cobalt	mg/kg	350	**13.5**	**19.2**	**14.6**	**19.5**	**3.8 J**	**7.5**	**2.2 J**
Copper	mg/kg	47,000	**84.9**	**142**	**162**	**1,950**	**515**	**136**	**69**
Iron	mg/kg	820,000	**104,000**	**119,000**	**111,000**	**177,000**	**125,000**	**43,000**	**188,000**
Lead	mg/kg	800	**102**	**130**	**580**	**515**	**212**	**250**	**8.4**
Manganese	mg/kg	26,000	**4,190**	**12,100**	**16,700**	**10,700**	**26,200**	**6,350**	**37,200**
Mercury	mg/kg	350	**0.034 J**	**0.074 J**	**0.023 J**	**0.2**	**0.043 J**	**0.05 J**	0.11 U
Nickel	mg/kg	22,000	**24**	**34.7**	**50**	**48.1**	**13.8**	**20.5**	**11.1**
Selenium	mg/kg	5,800	3.4 U	3.3 UJ	3.2 UJ	3.5 UJ	3.4 UJ	3.3 U	3.4 U
Silver	mg/kg	5,800	2.5 U	2.5 U	**0.5 J**	2.6 U	2.5 U	2.5 U	2.5 U
Thallium	mg/kg	12	8.5 U	8.2 U	8.1 U	8.7 U	8.4 U	8.4 U	8.4 U
Vanadium	mg/kg	5,800	**975**	**2,320**	**2,250**	**2,090**	**7,960**	**512**	**3,190**
Zinc	mg/kg	350,000	**153**	**660**	**776**	**963**	**1,360**	**670**	**5.7**
Other									
Cyanide	mg/kg	150	**0.57 J-**	**0.57 J-**	**0.25 J-**	**0.16 J-**	**0.12 J-**	**0.67 J**	**1.4**

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

Table 7 - Parcel B23
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B23-013-SB-1* 9/18/2018	B23-013-SB-5* 9/18/2018	B23-014-SB-1* 9/14/2018	B23-014-SB-5* 9/14/2018	B23-015-SB-2 9/17/2018	B23-015-SB-8 9/17/2018	B23-016-SB-1 9/12/2018
Metals									
Aluminum	mg/kg	1,100,000	**14,800**	**62,400**	**12,300**	**5,940**	**14,500**	**15,000**	**25,600**
Antimony	mg/kg	470	2.7 U	3.1 U	**2.9**	2.5 U	2.6 U	2.9 U	2.6 UJ
Arsenic	mg/kg	3	**11.7**	**10.1**	**9.4**	**11.5**	**6.5**	**14.5**	**28 J**
Barium	mg/kg	220,000	**488**	**204**	**340**	**73.3**	**281**	**442**	**699 J**
Beryllium	mg/kg	2,300	**1.7**	**2.2**	0.85 U	0.82 U	**0.85 J**	**0.97 J**	**3.4**
Cadmium	mg/kg	980	**0.48 J**	1.6 U	**5.9**	**0.42 J**	1.3 U	**53.8**	**2.2**
Chromium	mg/kg	120,000	**27.7**	**173**	**571**	**1,230**	**1,330**	**882**	**188 J**
Chromium VI	mg/kg	6.3	1.2 U	1.3 U	1.1 U	**1.1**	**0.56 J-**	**1.1 J-**	**0.61 J-**
Cobalt	mg/kg	350	**14**	**7.6**	**8.8**	**11.3**	**10.2**	**21.2**	**6.8**
Copper	mg/kg	47,000	**101**	**12.7**	**113**	**118**	**298**	**179**	**118 J**
Iron	mg/kg	820,000	**46,700**	**10,800**	**76,800**	**107,000**	**128,000**	**174,000**	**60,400**
Lead	mg/kg	800	**99.2**	**2.8**	**870**	**207**	**189**	**1,020**	**129**
Manganese	mg/kg	26,000	**12,800**	**1,290**	**10,100**	**30,300**	**18,500**	**12,600**	**8,150**
Mercury	mg/kg	350	**0.11 J**	0.13 U	**0.94**	**0.23**	**0.025 J**	**0.0077 J**	**0.15 J-**
Nickel	mg/kg	22,000	**45.7**	**53.2**	**35.2**	**91.2**	**37.3**	**38.8**	**41.5**
Selenium	mg/kg	5,800	3.6 U	4.2 U	3.4 U	**3.8**	3.4 UJ	3.9 UJ	**3.6**
Silver	mg/kg	5,800	2.7 U	3.1 U	**19.9**	**58**	2.6 U	**28**	**20.4**
Thallium	mg/kg	12	9.1 U	10.4 U	**4.8 J**	**36.6**	8.6 U	9.7 U	8.6 U
Vanadium	mg/kg	5,800	**165**	**44.8**	**1,010**	**10,600**	**4,540**	**3,740**	**398 J**
Zinc	mg/kg	350,000	**307**	1.1 B	**2,180**	**380**	**300**	**9,430**	**467 J**
Other									
Cyanide	mg/kg	150	**0.27 J**	**1.7**	**1.9**	**2.4**	**0.63 J-**	**17.9 J-**	**0.18 J+**

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Table 7 - Parcel B23
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B23-017-SB-1	B23-017-SB-4	B23-017-SB-10	B23-018-SB-1*	B23-018-SB-8*	B23-019-SB-1*	B23-019-SB-5*
			9/12/2018	9/12/2018	9/12/2018	9/18/2018	9/18/2018	9/14/2018	9/14/2018
Metals									
Aluminum	mg/kg	1,100,000	**7,390**	**11,400**	N/A	**10,400**	**53,800**	**15,700**	**20,800**
Antimony	mg/kg	470	2.6 UJ	2.6 UJ	N/A	2.8 U	3.5 U	**2.3 J**	2.6 U
Arsenic	mg/kg	3	2.2 U	**19.2 J**	**24.9 J**	**6.8**	**2.9 J**	**19.7**	**4.7**
Barium	mg/kg	220,000	**33 J**	**101 J**	N/A	**229**	**198**	**225**	**256**
Beryllium	mg/kg	2,300	0.87 U	0.85 U	N/A	**0.95**	**2.2**	**1**	**3.1**
Cadmium	mg/kg	980	**0.62 J**	**12.1**	N/A	**0.54 J**	1.8 U	**5.1**	**1.5**
Chromium	mg/kg	120,000	**1,210 J**	**777 J**	N/A	**63.1**	**81.1**	**269**	**143**
Chromium VI	mg/kg	6.3	**1.8 J-**	**0.74 J-**	N/A	1.2 U	1.5 U	**0.57 J**	1.1 U
Cobalt	mg/kg	350	**1.3 J**	**18.3**	N/A	**6.9**	5.8 U	**22.9**	**7**
Copper	mg/kg	47,000	**6.9 J**	**131 J**	N/A	**54.3**	**8.4**	**742**	**465**
Iron	mg/kg	820,000	**135,000**	**155,000**	N/A	**34,800**	**1,720**	**109,000**	**49,200**
Lead	mg/kg	800	**12.9**	**590**	N/A	**54.8**	2.9 U	**1,150**	**164**
Manganese	mg/kg	26,000	**28,300**	**20,200**	N/A	**1,830**	**992**	**10,600**	**3,920**
Mercury	mg/kg	350	**0.017 J-**	**0.13 J-**	N/A	**0.046 J**	0.14 U	**0.68**	**0.13**
Nickel	mg/kg	22,000	**12.8**	**45.8**	N/A	**21.4**	**7.7 J**	**60.7**	**17.6**
Selenium	mg/kg	5,800	**4.6**	**4.3**	N/A	3.7 U	**8.5**	**3.1 J**	3.4 U
Silver	mg/kg	5,800	**27.1**	**25.4**	N/A	2.8 U	3.5 U	**17.7**	**18.4**
Thallium	mg/kg	12	**7.2 J**	**7 J**	N/A	9.3 U	11.7 U	**5.5 J**	8.5 U
Vanadium	mg/kg	5,800	**678 J**	**2,130 J**	N/A	**102**	**41.4**	**1,170**	**554**
Zinc	mg/kg	350,000	**44.8 J**	**1,650 J**	N/A	**170**	1.2 B	**2,560**	**736**
Other									
Cyanide	mg/kg	150	**0.64 J+**	**0.56 J+**	N/A	**0.29 J**	**11.4**	**1.3**	**0.37 J**

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Table 7 - Parcel B23
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B23-020-SB-1.5*	B23-020-SB-7*	B23-021-SB-1*	B23-021-SB-8*	B23-022-SB-1*	B23-022-SB-4*	B23-023-SB-1
			9/18/2018	9/18/2018	9/18/2018	9/18/2018	9/18/2018	9/18/2018	9/17/2018
Metals									
Aluminum	mg/kg	1,100,000	**21,600**	**14,700**	**9,420**	**22,400**	**8,410**	**6,420**	**28,700**
Antimony	mg/kg	470	2.4 U	**23.9**	2.7 U	**4**	2.6 U	**15.3**	2.4 U
Arsenic	mg/kg	3	**2.8**	**145**	**14.8**	**6.2**	**15.8**	**41.4**	**2.1**
Barium	mg/kg	220,000	**504**	**135**	**185**	**515**	**138**	**92.4**	**660**
Beryllium	mg/kg	2,300	**1.9**	**0.4 J**	**0.67 J**	**2.1**	**1.4**	**0.49 J**	**2.2**
Cadmium	mg/kg	980	**0.83 J**	**51.1**	1.3 U	**1.6**	**1.6**	**6**	**0.76 J**
Chromium	mg/kg	120,000	**38.1**	**597**	**475**	**288**	**2,170**	**801**	**20.4**
Chromium VI	mg/kg	6.3	1.1 U	**5.7**	1.1 U	1.1 U	**0.61 J**	**0.99 J**	1.1 UJ
Cobalt	mg/kg	350	**3 J**	**32.8**	**15.8**	**7.6**	**17.3**	**34.5**	**2.1 J**
Copper	mg/kg	47,000	**43.7**	**1,200**	**91.1**	**12,400**	**135**	**390**	**36**
Iron	mg/kg	820,000	**16,300**	**133,000**	**115,000**	**57,000**	**155,000**	**127,000**	**9,630**
Lead	mg/kg	800	**815**	**14,100**	**15.8**	**754**	**483**	**865**	**46.5**
Manganese	mg/kg	26,000	**4,920**	**7,950**	**5,460**	**6,930**	**27,000**	**5,720**	**6,670**
Mercury	mg/kg	350	**0.026 J**	**0.03 J**	**0.035 J**	**0.1 J**	**0.14**	**0.29**	**0.18**
Nickel	mg/kg	22,000	**9**	**193**	**27**	**90.6**	**41.7**	**106**	**9.4**
Selenium	mg/kg	5,800	3.3 U	3.5 U	3.6 U	3.5 U	3.5 U	3.5 U	3.2 UJ
Silver	mg/kg	5,800	2.4 U	**12.6**	2.7 U	**0.64 J**	2.6 U	**9.6**	2.4 U
Thallium	mg/kg	12	8.2 U	8.8 U	9 U	8.8 U	8.7 U	8.6 U	8 U
Vanadium	mg/kg	5,800	**121**	**801**	**417**	**419**	**8,170**	**1,990**	**148**
Zinc	mg/kg	350,000	**250**	**22,300**	**46**	**819**	**854**	**9,220**	**216**
Other									
Cyanide	mg/kg	150	**0.36 J**	**0.56 J**	**0.45 J**	**0.15 J**	**0.68 J**	**1.8**	**0.3 J-**

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Table 7 - Parcel B23
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B23-023-SB-5	B23-024-SB-1	B23-024-SB-5	B23-025-SB-1.5*	B23-025-SB-5*	B23-026-SB-1*	B23-026-SB-4*
			9/17/2018	9/17/2018	9/17/2018	9/13/2018	9/13/2018	9/13/2018	9/13/2018
Metals									
Aluminum	mg/kg	1,100,000	**4,270**	**10,900**	**7,340**	**16,100**	**7,340**	**22,600**	**7,040**
Antimony	mg/kg	470	2.6 U	2.5 U	**8.3**	2.5 U	2.5 U	2.6 U	2.6 U
Arsenic	mg/kg	3	**7.5**	**8.4**	**91.9**	**5.3**	**16.1**	**13.7**	**12.8**
Barium	mg/kg	220,000	**104**	**132**	**203**	**250**	**133**	**393**	**107**
Beryllium	mg/kg	2,300	**0.26 J**	**0.9**	**0.38 J**	**1.1**	0.83 U	**2.1**	0.86 U
Cadmium	mg/kg	980	**0.61 J**	**1.1 J**	**12.1**	**3.3**	**2.3**	**4**	**6.7**
Chromium	mg/kg	120,000	**167**	**368**	**689**	**586**	**1,130**	**43.2**	**973**
Chromium VI	mg/kg	6.3	1.1 UJ	1.1 UJ	1.1 UJ	1 U	1 U	1.1 U	**0.85 J**
Cobalt	mg/kg	350	**15.1**	**8.1**	**78.6**	**8.5**	**38.3**	**10**	**12.1**
Copper	mg/kg	47,000	**102**	**139**	**778**	**81**	**240**	**68**	**184**
Iron	mg/kg	820,000	**50,900**	**76,800**	**121,000**	**78,600**	**202,000**	**52,500**	**99,700**
Lead	mg/kg	800	**123**	**628**	**3,330**	**207**	**103**	**543**	**753**
Manganese	mg/kg	26,000	**2,480**	**6,930**	**66,800**	**14,900**	**22,000**	**4,630**	**20,400**
Mercury	mg/kg	350	**0.092 J**	**0.16**	0.11 U	**0.025 J**	**0.3**	**0.06 J**	**0.042 J**
Nickel	mg/kg	22,000	**81.7**	**29.2**	**339**	**28.6**	**82.1**	**26.5**	**47.4**
Selenium	mg/kg	5,800	3.5 UJ	3.4 UJ	3.5 UJ	**3.8**	**3.9**	3.4 U	3.4 U
Silver	mg/kg	5,800	2.6 U	2.5 U	**6.4**	**18.1**	**16**	**18.4**	**40.4**
Thallium	mg/kg	12	8.8 U	8.4 U	8.8 U	**2.8 J**	**6.2 J**	8.6 U	**6.3 J**
Vanadium	mg/kg	5,800	**255**	**659**	**1,290**	**432**	**2,070**	**133**	**5,020**
Zinc	mg/kg	350,000	**285**	**702**	**8,840**	**526**	**573**	**1,000**	**3,880**
Other									
Cyanide	mg/kg	150	**0.69 J-**	**1.2 J-**	**0.47 J-**	**0.44 J**	**0.28 J**	**1.3**	**0.32 J**

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Table 7 - Parcel B23
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B23-027-SB-1*	B23-027-SB-5*	B23-027-SB-10	B23-028-SB-2	B23-028-SB-5	B23-029-SB-1.5*	B23-029-SB-5*
			9/14/2018	9/14/2018	9/14/2018	9/17/2018	9/17/2018	9/14/2018	9/14/2018
Metals									
Aluminum	mg/kg	1,100,000	**7,420**	**4,340**	N/A	**23,100**	**8,620**	**7,610**	**10,500**
Antimony	mg/kg	470	2.5 U	2.6 U	N/A	2.4 U	2.6 U	2.6 U	2.9 U
Arsenic	mg/kg	3	**6.7**	**9.6**	2.1 U	2 U	**23.7**	**6.8**	**7.4**
Barium	mg/kg	220,000	**121**	**28.4**	N/A	**901**	**206**	**91.4**	**144**
Beryllium	mg/kg	2,300	0.83 U	**0.14 J**	N/A	**1.9**	**0.47 J**	**0.6 J**	**1.1**
Cadmium	mg/kg	980	**1 J**	**0.47 J**	N/A	**0.58 J**	1.3 U	**0.32 J**	**0.35 J**
Chromium	mg/kg	120,000	**780**	**70.5**	N/A	**36.4**	**847**	**28.1**	**21.2**
Chromium VI	mg/kg	6.3	1.1 U	1.1 U	N/A	1.1 UJ	1.1 UJ	1.1 U	1.2 U
Cobalt	mg/kg	350	**7.4**	**7.4**	N/A	**2.7 J**	**26.5**	**16**	**8.7**
Copper	mg/kg	47,000	**127**	**73.4**	N/A	**27.3**	**209**	**64**	**49.8**
Iron	mg/kg	820,000	**184,000**	**54,100**	N/A	**15,600**	**200,000**	**31,900**	**24,300**
Lead	mg/kg	800	**73.3**	**18.7**	N/A	**39.5**	**116**	**33.9**	**27.2**
Manganese	mg/kg	26,000	**17,100**	**1,050**	N/A	**5,800**	**20,700**	**389**	**524**
Mercury	mg/kg	350	**0.029 J**	0.1 U	N/A	0.099 U	**0.037 J**	**0.1 J**	**0.17**
Nickel	mg/kg	22,000	**118**	**15.2**	N/A	**7.1 J**	**113**	**44.7**	**23.1**
Selenium	mg/kg	5,800	3.3 U	3.5 U	N/A	3.2 UJ	3.5 UJ	3.5 U	3.8 U
Silver	mg/kg	5,800	**27**	1.7 B	N/A	2.4 U	2.6 U	**5**	**6.9**
Thallium	mg/kg	12	**6.1 J**	8.6 U	N/A	8.1 U	8.8 U	8.8 U	9.6 U
Vanadium	mg/kg	5,800	**1,430**	**98.9**	N/A	**160**	**1,070**	**65.1**	**48.9**
Zinc	mg/kg	350,000	**684**	**114**	N/A	**186**	**112**	**54.6**	**47.8**
Other									
Cyanide	mg/kg	150	**0.56 J**	1.1 U	N/A	**0.23 J-**	**0.44 J-**	**0.46 J**	**5.4**

Detections in bold
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B: The analyte was not detected substantially above the level of the associated method blank or field blank.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 7 - Parcel B23
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B23-030-SB-1* 9/13/2018	B23-030-SB-3* 9/13/2018	B23-031-SB-1* 9/14/2018	B23-031-SB-5* 9/14/2018	B23-032-SB-1* 9/14/2018	B23-032-SB-5* 9/14/2018	B23-033-SB-1* 9/14/2018
Metals									
Aluminum	mg/kg	1,100,000	**42,300**	**8,440**	**6,750**	**4,990**	**15,200**	**4,220**	**13,600**
Antimony	mg/kg	470	2.5 U	2.5 U	2.5 U	**46.8**	2.5 U	**3.4**	2.6 U
Arsenic	mg/kg	3	2.1 U	**8.6**	**66.8**	**16.5**	**12.9**	**6.3**	**17.2**
Barium	mg/kg	220,000	**475**	**101**	**97.8**	**103**	**201**	**78.5**	**319**
Beryllium	mg/kg	2,300	**3.8**	0.85 U	**0.7 J**	**0.3 J**	**1.1**	0.84 U	**0.59 J**
Cadmium	mg/kg	980	**0.71 J**	**0.42 J**	**1.7**	**12.2**	**7.6**	**0.67 J**	**11.8**
Chromium	mg/kg	120,000	**22.7**	**512**	**89.3**	**169**	**157**	**146**	**338**
Chromium VI	mg/kg	6.3	1.1 U	**0.8 J**	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Cobalt	mg/kg	350	**0.92 J**	**26.6**	**16.5**	**13**	**17.3**	**6.5**	**16.5**
Copper	mg/kg	47,000	**8.6**	**363**	**204**	**150**	**466**	**72**	**309**
Iron	mg/kg	820,000	**7,100**	**106,000**	**113,000**	**86,700**	**58,100**	**39,300**	**102,000**
Lead	mg/kg	800	**22.3**	**352**	**120**	**4,230**	**403**	**194**	**692**
Manganese	mg/kg	26,000	**7,120**	**6,560**	**2,130**	**2,560**	**2,150**	**5,180**	**7,780**
Mercury	mg/kg	350	0.1 U	**0.023 J**	**0.046 J**	**0.056 J**	**0.14**	**0.011 J**	**0.13**
Nickel	mg/kg	22,000	**3.5 J**	**94.3**	**95.7**	**64.8**	**76.3**	**14.8**	**44.3**
Selenium	mg/kg	5,800	3.3 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U
Silver	mg/kg	5,800	**12.4**	**15.3**	**5.7**	**62.1**	**13.8**	**5.3**	**12.9**
Thallium	mg/kg	12	8.3 U	8.5 U	8.4 U	8.5 U	8.4 U	8.4 U	**3.2 J**
Vanadium	mg/kg	5,800	**123**	**1,880**	**49.2**	**251**	**266**	**555**	**515**
Zinc	mg/kg	350,000	**85.1**	**222**	**229**	**662**	**810**	**154**	**1,430**
Other									
Cyanide	mg/kg	150	**0.25 J**	**0.44 J**	**0.57 J**	**0.47 J**	**0.57 J**	0.91 U	**1.3**

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B: The analyte was not detected substantially above the level of the associated method blank or field blank.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 7 - Parcel B23
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B23-033-SB-5*	B23-034-SB-1	B23-034-SB-5	B23-034-SB-10	B23-035-SB-1	B23-035-SB-5	B23-036-SB-1
			9/14/2018	9/12/2018	9/12/2018	9/12/2018	7/26/2018	7/26/2018	7/26/2018
Metals									
Aluminum	mg/kg	1,100,000	**9,280**	**12,100**	**17,200**	N/A	**23,200**	**54,500**	**8,660**
Antimony	mg/kg	470	2.5 U	**2.1 J**	**5.8 J**	N/A	**3.4 J**	3.1 UJ	2.5 UJ
Arsenic	mg/kg	3	**10.4**	**5.9 J**	**16.5 J**	**11.7 J**	**2.7 J**	**10.6 J**	**46.6 J**
Barium	mg/kg	220,000	**269**	**159 J**	**133 J**	N/A	**213 J**	**359 J**	**132 J**
Beryllium	mg/kg	2,300	0.84 U	0.84 U	**1.5**	N/A	**3.3**	**3.5**	**0.57 J**
Cadmium	mg/kg	980	**0.82 J**	**2.6**	**4.6**	N/A	1.3 U	**0.34 J**	**1.8**
Chromium	mg/kg	120,000	**1,260**	**786 J**	**79.4 J**	N/A	**315**	**205**	**894**
Chromium VI	mg/kg	6.3	**0.58 J**	1.1 R	**0.88 J-**	N/A	1.1 U	1.3 U	1.1 U
Cobalt	mg/kg	350	**19.9**	**11.4**	**4.3 J**	N/A	**2.8 J**	**9.6**	**8**
Copper	mg/kg	47,000	**112**	**238 J**	**48.3 J**	N/A	**37.1 J**	**45.8 J**	**95.8 J**
Iron	mg/kg	820,000	**147,000**	**84,900**	**20,800**	N/A	**78,700 J**	**14,700 J**	**112,000 J**
Lead	mg/kg	800	**103**	**716**	**554**	N/A	**69.3 J**	**36 J**	**169 J**
Manganese	mg/kg	26,000	**32,700**	**13,700**	**1,340**	N/A	**9,060**	**2,300**	**27,100**
Mercury	mg/kg	350	0.099 U	**0.064 J-**	**2.5 J-**	N/A	**0.0065 J**	**0.043 J**	**0.076**
Nickel	mg/kg	22,000	**61.5**	**33.4**	**13.3**	N/A	**18.9**	**71.6**	**32.2**
Selenium	mg/kg	5,800	**4.9**	3.4 U	4 U	N/A	3.4 U	4.1 U	3.3 U
Silver	mg/kg	5,800	**28**	**21.1**	**6.6**	N/A	**0.83 J**	3.1 U	**2.1 J**
Thallium	mg/kg	12	**13.6**	**6.8 J**	9.9 U	N/A	8.5 U	10.2 U	**12.4**
Vanadium	mg/kg	5,800	**3,130**	**3,100 J**	**130 J**	N/A	**221**	**29.3**	**1,260**
Zinc	mg/kg	350,000	**144**	**930 J**	**1,390 J**	N/A	**121 J**	**123 J**	**989 J**
Other									
Cyanide	mg/kg	150	**0.19 J**	**0.79 J+**	**5 J+**	N/A	**1.1**	**1.9**	**0.66 J**

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Table 7 - Parcel B23
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B23-036-SB-4	B23-048-SB-1.3*	B23-048-SB-9*	B23-049-SB-1.5*	B23-049-SB-8*	B23-049-SB-10*
			7/26/2018	11/6/2018	11/6/2018	11/5/2018	11/5/2018	11/5/2018
Metals								
Aluminum	mg/kg	1,100,000	**2,960**	**38,600**	**44,500**	**8,440**	**4,460**	N/A
Antimony	mg/kg	470	**6.6 J**	2.6 U	2.5 U	2.6 U	2.4 U	N/A
Arsenic	mg/kg	3	**7.6 J**	**4**	**2.6**	**9.1**	**5.5**	**4.8**
Barium	mg/kg	220,000	**99.5 J**	**361**	**422**	**73.6**	**26.8**	N/A
Beryllium	mg/kg	2,300	**0.19 J**	**6.4**	**7.1**	**0.7 J**	**0.32 J**	N/A
Cadmium	mg/kg	980	1.4 U	1.3 U	1.2 U	**0.72 J**	1.2 U	N/A
Chromium	mg/kg	120,000	**112**	**57.6**	**31.7**	**422**	**455**	N/A
Chromium VI	mg/kg	6.3	**1.3**	1.1 U	1.1 U	**0.74 J**	**0.63 J**	N/A
Cobalt	mg/kg	350	**30.3**	**2.5 J**	**0.66 J**	**12.6**	**26.7**	N/A
Copper	mg/kg	47,000	**246 J**	**28.2**	**6.9**	**135**	**113**	N/A
Iron	mg/kg	820,000	**146,000 J**	**24,800**	**10,500**	**79,000**	**75,000**	N/A
Lead	mg/kg	800	**433 J**	**91.5**	**27.6**	**291**	**150**	N/A
Manganese	mg/kg	26,000	**1,760**	**2,710**	**2,390**	**6,530**	**4,840**	N/A
Mercury	mg/kg	350	**0.15**	**0.1**	**0.018 J**	**0.18**	0.1 U	N/A
Nickel	mg/kg	22,000	**38.1**	**5.2 J**	**1.4 J**	**30.4**	**133**	N/A
Selenium	mg/kg	5,800	3.7 U	**2.5 J**	**4.5**	3.5 U	3.3 U	N/A
Silver	mg/kg	5,800	2.7 U	2.6 U	2.5 U	2.6 U	2.4 U	N/A
Thallium	mg/kg	12	**4.8 J**	8.5 U	8.2 U	8.7 U	8.2 U	N/A
Vanadium	mg/kg	5,800	**276**	**258**	**142**	**1,490**	**844**	N/A
Zinc	mg/kg	350,000	**136 J**	**131**	**32.6**	**617**	**202**	N/A
Other								
Cyanide	mg/kg	150	1 U	**0.69 J**	**0.79 J**	**0.36 J**	**1.5**	N/A

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Table 8 - Parcel B23
Summary of Soil PAL Exceedances

Parameter	CAS#	Frequency of Detections (%)*	Frequency of Exceedances (%)*	Sample ID of Max Result	Max Result	PAL Solid	Unit
Aroclor 1254	11097-69-1	8	3	B23-016-SB-1	22.3	0.97	mg/kg
Arsenic	7440-38-2	93	83	B23-020-SB-7	145	3	mg/kg
Benz[a]anthracene	56-55-3	97	11	B23-008-SB-5	151	21	mg/kg
Benzo[a]pyrene	50-32-8	100	23	B23-034-SB-1	123	2.1	mg/kg
Benzo[b]fluoranthene	205-99-2	100	13	B23-015-SB-2	544	21	mg/kg
Benzo[k]fluoranthene	207-08-9	99	3	B23-015-SB-2	483	210	mg/kg
bis(2-Chloroethyl)ether	111-44-4	1	1	B23-001-SB-1.5	1.9	1	mg/kg
Dibenz[a,h]anthracene	53-70-3	83	13	B23-034-SB-1	60.1	2.1	mg/kg
Indeno[1,2,3-c,d]pyrene	193-39-5	92	3	B23-034-SB-1	180	21	mg/kg
Lead	7439-92-1	99	16	B23-020-SB-7	14,100	800	mg/kg
Manganese	7439-96-5	100	12	B23-024-SB-5	66,800	26,000	mg/kg
Naphthalene	91-20-3	97	1	B23-034-SB-1	334	17	mg/kg
Oil & Grease	O&G	100	11	B23-023-SB-1	26,300	6,200	mg/kg
PCBs (total)	1336-36-3	16	3	B23-016-SB-1	22.3	0.97	mg/kg
Thallium	7440-28-0	27	4	B23-014-SB-5	36.6	12	mg/kg
Vanadium	7440-62-2	100	5	B23-014-SB-5	10,600	5,800	mg/kg

*Frequency of detections and exceedances calculated as a percentage based on the total number of samples analyzed for the parameter (excluding any rejected data results).

Table 9 - Parcel B23
Soil PAL Exceedances for Specific Targets

Target Feature	Boring ID	Sample Depth	Parameter	PAL (mg/kg)	Result (mg/kg)	Final Flag
Drum Storage & Reconditioning Areas	B23-001-SB	1.5	Arsenic	3	6.3	J
		1.5	bis(2-Chloroethyl)ether	1	1.9	
	B23-002-SB	8.5	Arsenic	3	7.4	J
	B23-003-SB	1	Oil & Grease	6,200	15,500	J+
		5	Arsenic	3	14.2	J
		5	Benzo[a]pyrene	2.1	2.1	
		5	Lead	800	947	
		10	Arsenic	3	16.6	J
	B23-004-SB	5	Arsenic	3	12.8	
		10	Arsenic	3	16.1	
Gas Pump	B23-005-SB	1	Arsenic	3	6.2	
		4	Benzo[a]pyrene	2.1	8.3	
		4	Dibenz[a,h]anthracene	2.1	2.5	
	B23-006-SB	1	Arsenic	3	4	
		5	Arsenic	3	4	
		5	Vanadium	5,800	7,570	
Oil Houses (and Locomotive Inspection Pit)	B23-007-SB	1	Arsenic	3	5.4	
		1	Manganese	26,000	26,300	
		4	Arsenic	3	7.4	
		10	Arsenic	3	9.9	
	B23-008-SB	1.5	Arsenic	3	11.1	
		1.5	Benzo[a]pyrene	2.1	9.2	
		1.5	Dibenz[a,h]anthracene	2.1	2.4	
		5	Arsenic	3	11	
		5	Benz[a]anthracene	21	151	
		5	Benzo[a]pyrene	2.1	100	
		5	Benzo[b]fluoranthene	21	152	
		5	Dibenz[a,h]anthracene	2.1	11.3	
		5	Indeno[1,2,3-c,d]pyrene	21	59.8	
		5	Lead	800	872	
		10	Arsenic	3	18.5	
		10	Lead	800	1,170	
	B23-009-SB	1.5	Arsenic	3	43.3	
		1.5	Lead	800	1,600	
		5	Arsenic	3	5.1	
		5	Benzo[a]pyrene	2.1	8.6	
		5	Benzo[b]fluoranthene	21	38.7	

Table 9 - Parcel B23
Soil PAL Exceedances for Specific Targets

Target Feature	Boring ID	Sample Depth	Parameter	PAL (mg/kg)	Result (mg/kg)	Final Flag
Oil Houses (and Locomotive Inspection Pit) Continued	B23-010-SB	1	Arsenic	3	9	
		1	Benz[a]anthracene	21	87.7	
		1	Benzo[a]pyrene	2.1	66.8	
		1	Benzo[b]fluoranthene	21	333	J
		1	Benzo[k]fluoranthene	210	296	J
		1	Dibenz[a,h]anthracene	2.1	4.3	
		4	Arsenic	3	10.6	
	B23-011-SB	1	Arsenic	3	10.8	
		5	Arsenic	3	6.1	
		5	Manganese	26,000	26,200	
		5	Vanadium	5,800	7,960	
	B23-048-SB	1.3	Arsenic	3	4	
Tanks & Basins (w/ Unknown Contents)	B23-012-SB	1.5	Arsenic	3	5.9	
		1.5	Oil & Grease	6,200	8,600	
		5	Arsenic	3	3.4	
		5	Manganese	26,000	37,200	
	B23-013-SB	1	Arsenic	3	11.7	
		5	Arsenic	3	10.1	
	B23-014-SB	1	Arsenic	3	9.4	
		1	Lead	800	870	
		5	Arsenic	3	11.5	
		5	Manganese	26,000	30,300	
		5	Thallium	12	36.6	
		5	Vanadium	5,800	10,600	
	B23-015-SB	2	Arsenic	3	6.5	
		2	Benz[a]anthracene	21	123	
		2	Benzo[a]pyrene	2.1	114	J
		2	Benzo[b]fluoranthene	21	544	J
		2	Benzo[k]fluoranthene	210	483	J
		2	Dibenz[a,h]anthracene	2.1	5.2	J
		8	Arsenic	3	14.5	
		8	Benzo[a]pyrene	2.1	3.9	
		8	Lead	800	1,020	
	B23-016-SB	1	Aroclor 1254	0.97	22.3	
		1	Arsenic	3	28	J
		1	Oil & Grease	6,200	9,080	J+
		1	PCBs (total)	0.97	22.3	
	B23-017-SB	1	Manganese	26,000	28,300	
		4	Arsenic	3	19.2	J
		10	Arsenic	3	24.9	J

Table 9 - Parcel B23
Soil PAL Exceedances for Specific Targets

Target Feature	Boring ID	Sample Depth	Parameter	PAL (mg/kg)	Result (mg/kg)	Final Flag
Locomotive Shop/Garage	B23-018-SB	1	Arsenic	3	6.8	
		1	Oil & Grease	6,200	6,400	
	B23-019-SB	1	Arsenic	3	19.7	
		1	Benz[a]anthracene	21	55.4	
		1	Benzo[a]pyrene	2.1	37.9	
		1	Benzo[b]fluoranthene	21	57.6	
		1	Dibenz[a,h]anthracene	2.1	2.6	
		1	Lead	800	1,150	
		5	Arsenic	3	4.7	
	B23-020-SB	1.5	Lead	800	815	
		7	Arsenic	3	145	
		7	Lead	800	14,100	
	B23-021-SB	1	Arsenic	3	14.8	
		1	Benz[a]anthracene	21	46.2	
		1	Benzo[a]pyrene	2.1	34	
		1	Benzo[b]fluoranthene	21	45	
		1	Dibenz[a,h]anthracene	2.1	6.5	
		8	Arsenic	3	6.2	
	B23-022-SB	1	Arsenic	3	15.8	
		1	Benz[a]anthracene	21	42.4	
		1	Benzo[a]pyrene	2.1	28.6	
		1	Benzo[b]fluoranthene	21	41.5	
		1	Dibenz[a,h]anthracene	2.1	7.6	
		1	Manganese	26,000	27,000	
		1	Vanadium	5,800	8,170	
		4	Arsenic	3	41.4	
		4	Lead	800	865	

Table 9 - Parcel B23
Soil PAL Exceedances for Specific Targets

Target Feature	Boring ID	Sample Depth	Parameter	PAL (mg/kg)	Result (mg/kg)	Final Flag
Dry Well Septic Tank	B23-023-SB	1	Oil & Grease	6,200	26,300	J-
		5	Arsenic	3	7.5	
	B23-024-SB	1	Arsenic	3	8.4	
		5	Arsenic	3	91.9	
		5	Lead	800	3,330	
		5	Manganese	26,000	66,800	
Misc. Storage Area	B23-025-SB	1.5	Arsenic	3	5.3	
		1.5	Benzo[a]pyrene	2.1	2.3	
		5	Arsenic	3	16.1	
		5	Benzo[a]pyrene	2.1	7.1	
	B23-026-SB	1	Arsenic	3	13.7	
		4	Arsenic	3	12.8	

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

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

Table 10 - Parcel B23
Summary of Organics Detected in Groundwater

Parameter	Units	PAL	B23-010-PZ 11/27/2018	B23-015-PZ 11/27/2018	B23-021-PZ 11/27/2018	B23-046-PZ* 11/26/2018	B23-047-PZ 11/27/2018	B23-048-PZ* 11/26/2018	B23-049-PZ* 11/26/2018
Volatile Organic Compounds									
Acetone	µg/L	14,000	3.9 B	4.5 B	5.5 B	**3.6 J**	4.1 B	**3.3 J**	**3.3 J**
Benzene	µg/L	5	1 U	**0.4 J**	**2**	1 U	1 U	1 U	**0.75 J**
Chloroform	µg/L	0.22	**0.79 J**	**6.8**	**6.5**	1 U	**3.2**	**1.6**	1 U
Ethylbenzene	µg/L	700	1 U	1 U	**0.32 J**	1 U	1 U	1 U	1 U
Tetrachloroethene	µg/L	5	1 U	1 U	1 U	**9.7**	**0.96 J**	1 U	**0.55 J**
Toluene	µg/L	1,000	1 U	1 U	**1.3**	1 U	1 U	1 U	1 U
Trichloroethene	µg/L	5	1 U	1 U	1 U	**0.78 J**	1 U	1 U	1 U
Xylenes	µg/L	10,000	3 U	3 U	**2 J**	3 U	3 U	3 U	3 U
Semi-Volatile Organic Compounds^									
1,1-Biphenyl	µg/L	0.83	0.98 U	0.99 U	**0.77 J**	0.99 U	0.99 U	0.98 U	0.99 U
1,4-Dioxane	µg/L	0.46	**0.54**	**2.1**	0.099 U	0.099 U	**0.088 J**	0.098 U	0.099 U
2,4-Dimethylphenol	µg/L	360	0.98 U	0.99 U	**0.68 J**	0.99 U	0.99 U	0.98 U	**0.42 J**
2-Methylnaphthalene	µg/L	36	**0.035 J**	**0.57**	**0.23**	**0.05 J**	**0.6**	0.098 U	**0.94**
2-Methylphenol	µg/L	930	0.98 U	0.99 U	0.99 U	0.99 U	0.99 U	0.98 U	**0.37 J**
4-Chloroaniline	µg/L	0.36	0.98 U	0.99 U	0.99 U	0.99 U	0.99 U	0.98 U	**0.24 J**
Acenaphthene	µg/L	530	**0.085 J**	**0.11**	**4.7**	**0.24**	**1.3**	0.098 U	**0.59**
Acenaphthylene	µg/L	530	0.098 U	**0.2**	**1.5**	**0.039 J**	**0.15**	**0.035 J**	**0.81**
Anthracene	µg/L	1,800	**0.038 J**	**0.062 J**	**2.4**	**0.47**	**0.55**	0.098 U	**0.11**
Benz[a]anthracene	µg/L	0.03	0.098 U	0.099 U	**2**	**0.79**	**0.28 J**	0.098 U	**0.044 J**
Benzo[a]pyrene	µg/L	0.2	0.098 U	0.099 U	**1.8**	**0.61**	**0.2 J**	0.098 U	**0.022 J**
Benzo[b]fluoranthene	µg/L	0.25	0.098 U	0.099 U	**2.4**	**0.82**	**0.3 J**	0.098 U	**0.034 J**
Benzo[g,h,i]perylene	µg/L		0.098 U	0.099 U	**0.84**	**0.31**	**0.11**	0.098 U	0.099 U
Benzo[k]fluoranthene	µg/L	2.5	0.098 U	0.099 U	**0.86**	**0.37**	**0.11 J**	0.098 U	0.099 U
Caprolactam	µg/L	9,900	2.5 U	**0.24 J**	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Carbazole	µg/L		0.98 U	0.99 U	**5.8**	0.99 U	**0.68 J**	0.98 U	**1**
Chrysene	µg/L	25	0.098 U	0.099 U	**1.7**	**0.66**	**0.26 J**	0.098 U	0.099 U
Dibenz[a,h]anthracene	µg/L	0.025	0.098 U	0.099 U	**0.31**	**0.13**	**0.041 J**	0.098 U	0.099 U
Fluoranthene	µg/L	800	0.098 U	**0.1**	**7**	**1.6**	**1.2 J**	**0.039 J**	**0.2**
Fluorene	µg/L	290	0.098 U	**0.12**	**5.7**	**0.18**	**0.68**	0.098 U	**0.24**
Indeno[1,2,3-c,d]pyrene	µg/L	0.25	0.098 U	0.099 U	**0.81**	**0.3**	**0.11**	0.098 U	0.099 U
Naphthalene	µg/L	0.17	0.48 B	**1**	**0.77**	**0.11**	**3.5**	0.098 U	**34.4**
Phenanthrene	µg/L		0.098 U	**0.13**	**6.9**	**1.2**	**1.3 J**	0.098 U	**0.36**
Pyrene	µg/L	120	0.098 U	**0.046 J**	**5**	**1.2**	**1.2 J**	**0.18**	**0.14**
TPH/Oil & Grease									
Diesel Range Organics	µg/L	47	**1,540 J**	**1,250 J**	**351 J**	**132**	**255 J**	**295**	**258**
Oil & Grease	µg/L	47	**1,200 J**	**1,300 J**	4,750 U	4,750 U	4,770 U	4,750 U	4,750 U

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 quantitation/detection limit.
J: The positive result 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.
^ PAH compounds were analyzed via SIM

Table 11 - Parcel B23
Summary of Inorganics Detected in Groundwater

Parameter	Units	PAL	B23-010-PZ	B23-015-PZ	B23-021-PZ	B23-046-PZ*	B23-047-PZ	B23-048-PZ*	B23-049-PZ*
			11/27/2018	11/27/2018	11/27/2018	11/26/2018	11/27/2018	11/26/2018	11/26/2018
Dissolved Metals									
Aluminum, Dissolved	µg/L	20,000	50 U	**29.5 J**	**40.6 J**	**17.2 J**	**208**	**24.9 J**	**15.8 J**
Arsenic, Dissolved	µg/L	10	**3.7 J**	5 U	5 U	5 U	**4.6 J**	**2.7 J**	**4.3 J**
Barium, Dissolved	µg/L	2,000	**48**	**31.2**	**35.4**	**11.9**	**30.1**	**13**	**7 J**
Chromium, Dissolved	µg/L	100	5 U	5 U	**8**	**4.3 J**	**12.5**	**5.7**	**0.99 J**
Chromium VI, Dissolved	µg/L	0.035	10 U	10 U	**3.1 J**	10 U	**9.6 J**	10 U	10 U
Iron, Dissolved	µg/L	14,000	**71.9**	**18 J**	**80.4**	**12.3 J**	70 U	**13.9 J**	**19.5 J**
Manganese, Dissolved	µg/L	430	**100**	**15**	**53.4**	**7.4**	5 U	**14.4**	**21.9**
Nickel, Dissolved	µg/L	390	10 U	10 U	10 U	10 U	**1.3 J**	10 U	10 U
Vanadium, Dissolved	µg/L	86	**19.2**	**166**	**488**	**544**	**526**	**539**	**429**
Zinc, Dissolved	µg/L	6,000	10 U	**3.3 J**	10 U	**2.3 J**	10 U	**1.5 J**	**1.3 J**
Other									
Cyanide, Available	µg/L	200	**0.71 J**	**0.33 J**	2.0 U	2.0 U	2.0 U	2.0 U	**0.32 J**
Cyanide, Total	µg/L	200	10 U	**11**	**23**	**15**	**5.5 J**	**18**	**28**

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 actual quantitation/detection limit may be higher than reported.
J: The positive result for this analyte is a quantitative estimate.

Table 12 - Parcel B23
Cumulative Vapor Intrusion Criteria Comparison

				B23-010-PZ		B23-015-PZ		B23-021-PZ		B23-046-PZ	
Parameter	Type	Organ Systems	VI Screening Criteria	Conc. (µg/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard
Cancer Risk											
1,4-Dioxane	SVOC		130,000	0.54	4.2E-11	2.1	1.6E-10	0.099 U	0	0.099 U	0
Naphthalene	SVOC		200	0.48 B	0	1	5.0E-08	0.77	3.9E-08	0.11	5.5E-09
Benzene	VOC		69	1 U	0	0.4 J	5.8E-08	2	2.9E-07	1 U	0
Chloroform	VOC		36	0.79 J	2.2E-07	6.8	1.9E-06	6.5	1.8E-06	1 U	0
Ethylbenzene	VOC		150	1 U	0	1 U	0	0.32 J	2.1E-08	1 U	0
Cumulative Vapor Intrusion Cancer Risk					2E-07		2E-06		2E-06		6E-09
Non-Cancer Hazard											
Cumulative Vapor Intrusion Non-Cancer Hazard					0		0		0		0

				B23-047-PZ		B23-048-PZ		B23-049-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	0.088 J	6.8E-12	0.098 U	0	0.099 U	0
Naphthalene	SVOC		200	3.5	1.8E-07	0.098 U	0	34.4	1.7E-06
Benzene	VOC		69	1 U	0	1 U	0	0.75 J	1.1E-07
Chloroform	VOC		36	3.2	8.9E-07	1.6	4.4E-07	1 U	0
Ethylbenzene	VOC		150	1 U	0	1 U	0	1 U	0
Cumulative Vapor Intrusion Cancer Risk					1E-06		4E-07		2E-06
Non-Cancer Hazard									
Cumulative Vapor Intrusion Non-Cancer Hazard					0		0		0

Highlighted values indicate an exceedance of the cumulative vapor intrusion criteria:
TCR>1E-05
THI>1
Conc. = Concentration

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank or field blank.

Table 13 - Parcel B23
Summary of VOCs Detected in Sub-Slab Soil Gas

Parameter	Units	PAL	B23-037-SG	B23-038-SG	B23-039-SG	B23-040-SG	B23-041-SG	B23-042-SG	B23-043-SG	B23-044-SG	B23-045-SG
Volatile Organic Compounds											
1,1,1-Trichloroethane	µg/m3	2,200,000	1.6 U	**5.3**	**4.8**	**2.7**	**6.1**	**18.9**	**61.6**	**37.2**	**23.3**
1,1-Dichloroethane	µg/m3	7,700	1.2 U	1.2 U	**1.3**	1.1 U	1.2 U	1.2 U	**10.5**	**13.2**	**4.7**
1,2,4-Trimethylbenzene	µg/m3	3,100	1.4 U	**4**	**3.9**	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
2-Butanone (MEK)	µg/m3	2,200,000	7.1 B	**14**	**52.7**	8.5 B	4.8 B	**35.8**	5.6 B	**9.8**	**11.6**
Acetone	µg/m3	14,000,000	**29.1**	**51.2**	**145**	**79.6**	**83.8**	**93.2**	**32**	**32.3**	**41.4**
Benzene	µg/m3	1,600	**2.9**	**4.3**	**3.3**	1.6 B	1.1 B	2.3 B	1.6 B	0.85 B	**2.7**
Carbon disulfide	µg/m3	310,000	**42.3**	**17.2**	**18.6**	**20.3**	**3.5**	**28.7**	**18.1**	**4.9**	**10.4**
Chloroform	µg/m3	540	**80.1**	**153**	**167**	**1.6**	0.71 U	**16.9**	**31.4**	**38.2**	**20.6**
Chloromethane	µg/m3	40,000	**1.3**	0.61 U	0.63 U	0.57 U	0.6 U	**4.4**	**0.67**	0.59 U	0.6 U
Cyclohexane	µg/m3	2,700,000	2.6 B	2.6 B	**7.3**	2.7 B	2.5 U	**6.2**	**5.5**	2.5 U	2.9 B
Dichlorodifluoromethane	µg/m3	44,000	2.9 B	2.8 B	2.7 B	2.4 B	2.7 B	2.8 B	**3**	**3**	2.7 B
Methylene Chloride	µg/m3	270,000	5.1 U	**10.3**	5.3 U	4.8 U	5.1 U	5 U	4.9 U	5 U	5.1 U
Tetrachloroethene	µg/m3	18,000	0.99 U	1 U	1 U	**5.1**	**3.8**	**2.9**	0.96 U	**2.3**	**2.4**
Toluene	µg/m3	2,200,000	4.7 B	9.9 B	6.2 B	**13.5**	**15.9**	**17.6**	1.1 U	1.2 B	2.1 B
Trichloroethene	µg/m3	880	**0.84**	0.8 U	0.81 U	0.74 U	0.79 U	0.77 U	**21.5**	**1.5**	**1.5**
Trichlorofluoromethane	µg/m3	310,000	1.6 U	1.7 U	1.7 U	**1.6**	1.6 U	1.6 U	**1.8**	**1.7**	1.6 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 quantitation/detection limit.

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

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Parcel B23 - Table 14

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample: *B23-001-SB-1.5*					
Chromium VI	1.1	mg/kg	6.3	no	R
Sample: *B23-002-SB-1*					
Chromium VI	1.1	mg/kg	6.3	no	R
Sample: *B23-002-SB-8.5*					
1,4-Dioxane	0.12	mg/kg	24	no	R
Chromium VI	1.1	mg/kg	6.3	no	R
Sample: *B23-003-SB-1*					
Chromium VI	1.1	mg/kg	6.3	no	R
Sample: *B23-009-SB-1.5*					
1,4-Dioxane	0.12	mg/kg	24	no	R
Sample: *B23-009-SB-5*					
1,4-Dioxane	0.12	mg/kg	24	no	R
Sample: *B23-010-SB-1*					
1,4-Dioxane	0.12	mg/kg	24	no	R
Sample: *B23-010-SB-4*					
1,4-Dioxane	0.095	mg/kg	24	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
Sample: *B23-011-SB-5*					
1,4-Dioxane	0.094	mg/kg	24	no	R
Sample: *B23-015-SB-2*					
1,4-Dioxane	0.12	mg/kg	24	no	R

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample: *B23-015-SB-8*					
1,4-Dioxane	0.15	mg/kg	24	no	R
Sample: *B23-016-SB-1*					
1,4-Dioxane	0.11	mg/kg	24	no	R
Sample: *B23-017-SB-4*					
1,4-Dioxane	0.094	mg/kg	24	no	R
Sample: *B23-023-SB-1*					
1,4-Dioxane	0.11	mg/kg	24	no	R
Sample: *B23-024-SB-1*					
1,4-Dioxane	0.14	mg/kg	24	no	R
Sample: *B23-024-SB-5*					
1,4-Dioxane	0.096	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.072	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.072	mg/kg	210	no	R
2,4-Dichlorophenol	0.072	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.072	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.072	mg/kg	5,800	no	R
2-Methylphenol	0.072	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.072	mg/kg	250,000	no	R
Sample: *B23-028-SB-5*					
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

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample:	***B23-028-SB-5***				
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:	***B23-034-SB-1***				
Chromium VI	1.1	mg/kg	6.3	no	R
Sample:	***B23-035-SB-5***				
2,3,4,6-Tetrachlorophenol	0.087	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.22	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.087	mg/kg	210	no	R
2,4-Dichlorophenol	0.087	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.087	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.22	mg/kg	1,600	no	R
2-Chlorophenol	0.087	mg/kg	5,800	no	R
2-Methylphenol	0.087	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.17	mg/kg	41,000	no	R
Pentachlorophenol	0.22	mg/kg	4	no	R
Phenol	0.087	mg/kg	250,000	no	R

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Parcel B23 - Table 15

Rejected Results for Groundwater

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample: *B23-047-PZ*					
3,3'-Dichlorobenzidine	0.99	µg/L	0.12	**YES**	R

APPENDIX A

Parcel B23 Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Table 1 - Soil Boring Samples

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
Drum Storage & Reconditioning Areas		Drawings 5040 & 5140	Investigate potential impacts related to any historical activities which may have occurred in the drum storage and/or reconditioning areas (potential leaks or releases).	4	B23-001 through B23-004	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')
Gas Pump		Drawing 5040	Investigate potential impacts related to any historical activities which may have occurred in the vicinity of the gas pump (potential leaks or releases).	2	B23-005 and B23-006	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')
Oil Houses (and Locomotive Inspection Pit)		Drawing 5040 & Aerials	Investigate potential impacts related to any historical activities which may have occurred in the vicinity of the oil houses and/or outdoor locomotive inspection pit (potential leaks or releases).	5	B23-007 through B23-011	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')
Tanks & Basins (w/ Unknown Contents)		Drawing 5040 & Aerials	Investigate potential impacts related to any historical activities which may have occurred in the vicinity of the tanks and/or basins containing unknown contents (potential leaks or releases).	6	B23-012 through B23-017	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')
Locomotive Shop/Garage		Drawing 5040	Investigate potential impacts related to any historical activities which may have occurred in the vicinity of the locomotive shop/garage (potential leaks or releases).	5	B23-018 through B23-022	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 B23 Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Table 1 - Soil Boring Samples

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
Dry Well Septic Tank		Drawing 5040 & Aerials	Investigate potential impacts related to any historical activities which may have occurred in the vicinity of the dry well septic tank (potential leaks or releases).	2	B23-023 and B23-024	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')
Misc. Storage Area		Site-Walk	Investigate potential impacts related to materials stockpiled in the large storage area in the northwest portion of the parcel (potential leaks or releases).	2	B23-025 and B23-026	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 B23 Coverage			Investigate potential impacts related to any historical activities which may have occurred on the Site (potential leaks or releases). These include temporary storage areas observed at the parcel as documented in the photograph log.	10	B23-027 through B23-036	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')
Supplemental GW Sample Points (see GW Table)			Samples collected due to elevated PID readings during the installation of two supplemental groundwater sample locations (requested by MDE).	2	B23-048 and B23-049	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:	38				

Sampling Density Requirements (from **Worksheet 17 - Sampling Design and Rationale**)
No Engineered Barrier (16-40 acres): 1 boring per 1.5 acre with no less than 15.
Engineered Barrier (1-15 acres): 0.5 boring per acre with no less than 2.
No Engineered Barrier (18.2 acres) = **15 borings required, 28 completed**
Engineered Barrier (4.9 acres) = **3 borings required, 10 completed**
Parking/Roads (2.6 acres)
Buildings (2.2 acres)

VOC - Volatile Organic Compounds (Target Compound List)
SVOCs - Semivolatile Organic Compounds (Target Compound List)
Metals - (Target Analyte List plus Hexavalent Chromium and Cyanide)
PCBs - Polychlorinated Biphenyls
DRO/GRO - Diesel Range Organics/Gasoline Range Organics
O&G - Oil & Grease
^VOCs are collected/analyzed if the PID reading exceeds 10 ppm
bgs - Below Ground Surface

Parcel B23 Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Table 2 - Groundwater Samples

Source Area/ Description	REC & Finding/ SWMU/ AOC	Figure or Drawing of Reference	Condition of Existing Well	Number of Locations	Sample Locations	Well Depth	Screen Interval	Analytical Parameters: Groundwater Samples[†]
Locomotive Shop/Garage (close to Gas Pump)		Drawing 5040	N/A	1	B23-021 (replaced B23-050)	Total Depth of 7 feet below water table.	7 feet below water table to 3 feet above water table.	VOC, SVOC, Metals (dissolved), Cyanide (total/available), DRO/GRO, Oil & Grease
Oil Houses		Drawing 5040	N/A	3	B23-010, B23-046, and B23-048	Total Depth of 7 feet below water table.	7 feet below water table to 3 feet above water table.	VOC, SVOC, Metals (dissolved), Cyanide (total/available), DRO/GRO, Oil & Grease
Tanks & Basins (w/ Unknown Contents)		Drawing 5040 & Aerials	N/A	2	B23-015 and B23-047	Total Depth of 7 feet below water table.	7 feet below water table to 3 feet above water table.	VOC, SVOC, Metals (dissolved), Cyanide (total/available), DRO/GRO, Oil & Grease
Parcel B23 Coverage			N/A	1	B23-049	Total Depth of 7 feet below water table.	7 feet below water table to 3 feet above water table.	VOC, SVOC, Metals (dissolved), Cyanide (total/available), DRO/GRO, Oil & Grease
			Total:	7				

[†]Field measurements include pH, DO, ORP, conductivity, temperature

Metals analysis will include dissolved hexavalent chromium

Parcel B23 Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Table 3 - Sub-Slab Soil Gas Samples

Source Area/ Description	RATIONALE	Number of Locations	Sample Locations	Boring Depth	Sample Depth	Analytical Parameters: Sub-Slab Soil Gas
Locomotive Shop/Garage	Investigate potential impacts related to any historical activities which may have occurred in the vicinity of the locomotive shop/garage (potential leaks or releases).	3	B23-037 through B23-039	6 inches below bottom of concrete slab	6 inches below bottom of concrete slab	VOC
Carpenter Shop	Investigate potential impacts related to any historical activities which may have occurred in the vicinity of the carpenter shop (potential leaks or releases).	3	B23-040 through B23-042	6 inches below bottom of concrete slab	6 inches below bottom of concrete slab	VOC
Oil House	Investigate potential impacts related to any historical activities which may have occurred in the vicinity of the oil house (potential leaks or releases).	3	B23-043 through B23-045	6 inches below bottom of concrete slab	6 inches below bottom of concrete slab	VOC
	Total	9				

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

Sub-Slab: 1 sample collected per 20,000 ft^2, with a minimum of 3 per building

Locomotive Shop/Garage (34,600 ft^2) = **3 samples required, 3 completed**

Carpenter Shop (26,400 ft^2) = **3 samples required, 3 completed**

Oil House (12,200 ft^2) = **3 samples required, 3 completed**

APPENDIX B

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-001-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/12/18
Weather	: Overcast 70s
Northing (US ft)	: 568856.06
Easting (US ft)	: 1459812.01

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0.0				(0-0.5') ASPHALT	NA	
0.5	100	1.7	B23-001-SB-1.5	(0.5-2.5') SAND with SLAG GRAVEL, coarse to fine, loose, dark brown to black, no plasticity, no cohesion	SW	No water encountered
1.0						
1.5		5.8				
2.0		2.3				BRICK at 2.5' bgs
2.5				End of boring		
3.0						

Boring terminated at 2.5' bgs due to refusal

ARM Group Inc.
Engineers and Scientists

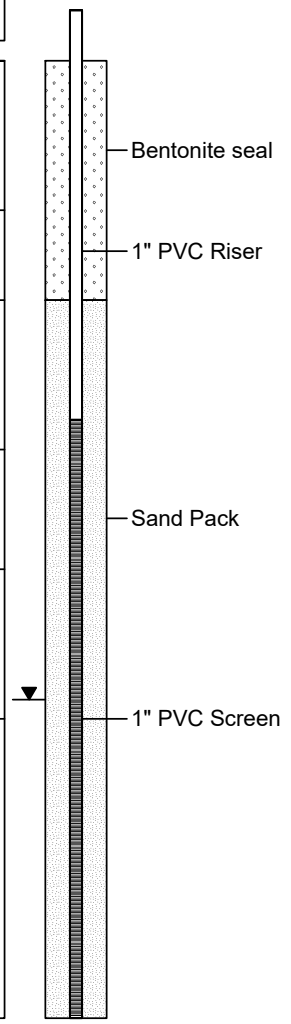
Boring ID: B23-002-SB/PZ

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Soil Boring Installation Date	: 9/12/18
Piezometer Installation Date	: 9/12/18
Casing/Riser/Screen Type	: PVC
Borehole Diameter	: 2.25"
Riser/Screen Diameter	: 1"
Northing (US ft)	: 568869.53
Easting (US ft)	: 1459880.61
0-Hr DTW	: 13.20' TOC
48-Hr DTW	: 13.27' TOC
No LNAPL or DNAPL at 0 or 48 hours	

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS
0		-	B23-002-SB-1	(0-2.5') GRAVEL with SAND, medium, moist, dark brown, dense, no plasticity, no cohesion	GP
	80	2.2			
		4.1		(2.5-4') SAND, medium, black, moist, dense, no plasticity, no cohesion	SP
		1.3			
		0.2		(4-6.5') GRAVEL with SAND, medium, moist, dark brown, dense, no plasticity, no cohesion	GP
5		-			
		-		(6.5-8.5') GRAVEL with SAND, medium, moist, dark brown, dense, no plasticity, no cohesion	GP
	50	70.3	B23-002-SB-8.5		
		5.1		(8.5-11') SAND, medium, pale brown, moist, medium firm, no plasticity, no cohesion	SP
		0.8	B23-002-SB-10		
10		-			
		-		(11-16') SAND with GRAVEL, coarse to medium, dense, black to dark gray, wet, no plasticity, no cohesion	SW
	40	-			
		76.5			
		0.4			
15	100	-			
				End of boring	
20					



SHELLS from 8-10' bgs

Wet at 13' bgs
Petroleum-like odor from 13-14' bgs

Black, dry, stringy substance from 13.5-14.5' bgs

Trace sheen at 13.5' bgs

Boring terminated at 16' bgs due to water and piezometer installation
TOC: Top of PVC casing
DTW: Depth to water
bgs: Below ground surface
AMSL: Above mean sea level

Riser Stickup: 2.52'
Riser: 0 - 6' bgs
Screen: 6 - 16' bgs [Slot Size: 0.010"]
Sand Pack: 4-16' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 4' bgs [Grain Size: 3/8" chips]

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-003-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/12/18
Weather	: Overcast, 70s
Northing (US ft)	: 569048.05
Easting (US ft)	: 1459948.52

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0	80	-	B23-003-SB-1	(0-6') SAND with GRAVEL, fine to medium, medium dense, brown to black, moist to dry, no plasticity, no cohesion	SW	
		0.0				
		3.3				
		8.2				
		1.4	B23-003-SB-5			
5	60	-				BRICK at 2.5 and 7' bgs
		-		(6-11') SAND with GRAVEL, fine to medium, medium dense, brown to black, moist to dry, no plasticity, no cohesion	SW	
		1.5				
		10.6				
		0.1	B23-003-SB-10			
10	60	-				
		-		(11-13.5') SAND with GRAVEL, fine to medium, medium dense, brown to black, moist to dry, no plasticity, no cohesion	SW	
		1815				
		178.2		(13.5-15') SAND with CLAY and GRAVEL, fine to medium, medium dense, dark brown to black, no plasticity, no cohesion	SW	Wet at 14' bgs
		10.8				
15				End of boring		

Boring terminated at 15' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-004-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/13/18
Weather	: Overcast, 70s
Northing (US ft)	: 568978.01
Easting (US ft)	: 1459948.05

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0				(0-0.5') ASPHALT	NA	
	60	-	B23-004-SB-1.5	(0.5-5') GRAVEL with SAND, medium, loose, pale gray to dark brown, slightly moist, no plasticity, no cohesion	GP	
		-				
		2.3				
		4.6				
		0.1	B23-004-SB-5			
5	80	-		(5-10.5') GRAVEL with SAND and SLAG GRAVEL, medium, loose, black to dark brown, slightly moist, no plasticity, no cohesion	GP	
		1.9				
		2.0				
		1.7				
		0.5	B23-004-SB-10			
10	60	-		(10.5-13') GRAVEL with SAND, medium, loose, pale gray to dark brown, slightly moist, no plasticity, no cohesion	GP	
		-				
		42.7				
		0.4		(13-15') SAND with GRAVEL and CLAY, coarse to fine, dense, dark brown to black, wet, no plasticity, no cohesion	SW	Wet at 13.5' bgs Trace sheen from 14-15' bgs
		0.3				
15				End of boring		

Boring terminated at 15' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-005-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/18/18
Weather	: Overcast, 70s
Northing (US ft)	: 568726.53
Easting (US ft)	: 1459843.21

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	70	-	B23-005-SB-1	(0-2') Non-native SAND with some SILT, fine to medium, with some SLAG GRAVEL, fine to coarse, loose to medium dense, brown to dark brown, dry, no plasticity, no cohesion	SW/GW	
		-				
		0.0		(2-3') SAND, medium to coarse, loose, yellowish red, dry, no plasticity, no cohesion	SW	
		29.4	B23-005-SB-4	(3-4.5') Non-native SAND with trace fine SLAG GRAVEL and some COAL granules, medium dense, black, dry no plasticity, no cohesion	SW	
		10.5		(4.5-8.5') Non-native SAND and SLAG and BRICK GRAVEL, medium dense, brown and dark brown with trace reddish yellow, dry, no plasticity, no cohesion	SW/GW	
5		-				
		-				
	60	7.6				
		2.9		(8.5-10') Non-native GRAVEL with some SAND, fine to coarse, medium dense, black, moist then wet at 9.5', no plasticity, no cohesion	GW	
		2.5				Wet at 10' bgs
10				End of boring		

Boring terminated at 10' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-006-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/18/18
Weather	: Partly Cloudy 80s
Northing (US ft)	: 568742.02
Easting (US ft)	: 1459869.76

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B23-006-SB-1	(1-10') Non-native SAND, fine to coarse, with BRICK and SLAG GRAVEL, fine to coarse, medium dense, brown to dark brown and yellow, dry then moist at 8.5', then wet at 9', no plasticity, no cohesion		
		7.6				
	80	9.2				
		3.5				
		1.1	B23-006-SB-5			
5					SW/GW	
		-				
		-				
	60	0.0				
		0.0				
		1.1				Wet at 9' bgs Light sweet odor and trace sheen from 9.5-10' bgs
10				End of boring		

Boring terminated at 10' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-007-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/13/18
Weather	: Overcast 70s
Northing (US ft)	: 569053.93
Easting (US ft)	: 1459792.75

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B23-007-SB-1	(0-11') SAND with SLAG GRAVEL, coarse to fine, dense, dark brown to pale gray to black, moist, no plasticity, no cohesion		
		1.2				
	80	18.5				
		109.5	B23-007-SB-4			
		0.3				
5		-			SW	
		22.4				
	80	29.6				
		70.3				
		0.6	B23-007-SB-10			
10		-				
		-		(11-15') SAND with GRAVEL and CLAY, coarse to fine, dense, dark brown to black, wet, no plasticity, no cohesion		
	40	-			SW	Wet at 13' bgs
		0.6				
		0.3				
15				End of boring		

Boring terminated at 15' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-008-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/13/18
Weather	: Overcast 70s
Northing (US ft)	: 568935.02
Easting (US ft)	: 1459778.72

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0				(0-0.5') ASPHALT	NA	
	80	-	B23-008-SB-1.5	(0.5-6') SAND with GRAVEL, coarse to fine, dense, dark brown to black, moist, no plasticity, no cohesion	SW	
		4.0				
		16.5				
		2.9				
		0.1	B23-008-SB-5			
5						BRICK fragments from 2.5-5' bgs
	60	-		(6-9') SAND with GRAVEL, coarse to fine, dense, dark brown to black, moist, no plasticity, no cohesion	SW	
		-				
		1.0				
		9.4				
		1.4	B23-008-SB-10	(9-9.5') CONCRETE	NA	
10				(9.5-15') SLAG GRAVEL with SAND, medium, loose, pale gray, moist, no plasticity, no cohesion	GP	Wet at 12' bgs
	60	-				
		-				
		2.4				
		0.2				
		0.3				
15				End of boring		

Boring terminated at 15' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-009-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/17/18
Weather	: Cloudy 80s
Northing (US ft)	: 568633.34
Easting (US ft)	: 1459414.30

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0				(0-0.5') CONCRETE	NA	
		-	B23-009-SB-1.5	(0.5-3') Non-native SAND, medium to coarse grading to fine to medium, with some SLAG GRAVEL, medium dense, dark brown grading to black, dry, no plasticity, no cohesion	SW	
	50	-				
		15000				
		7.4		(3.8-7') Non-native SAND with BRICK and SLAG GRAVEL, medium dense, brown with yellow, no plasticity, no cohesion		
		136.2	B23-009-SB-5			
5					SW/GW	
		-				
		126.0				Metallic grains from 7-10' bgs
	78	40.7		(7-10') Non-native SAND, very fine to medium with trace coarse SLAG GRAVEL, medium dense to dense, dark brown to very dark brown, dry then wet at 8.5', no plasticity, no cohesion		
		2.1			SW	Wet at 8.5' bgs
		0.1				
10				End of boring		

Boring terminated at 10' bgs due to water

ARM Group Inc.
Engineers and Scientists

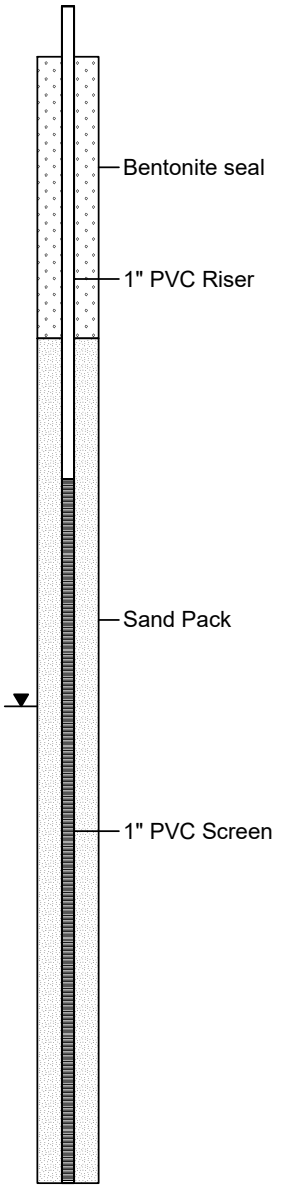
Boring ID: B23-010-SB/PZ

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Soil Boring Installation Date	: 9/17/18
Piezometer Installation Date	: 9/17/18
Casing/Riser/Screen Type	: PVC
Borehole Diameter	: 2.25"
Riser/Screen Diameter	: 1"
Northing (US ft)	: 568653.67
Easting (US ft)	: 1459384.85
0-Hr DTW	: 13.11' TOC
48-Hr DTW	: 13.15' TOC
No LNAPL or DNAPL at 0 or 48 hours	

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS
0		-	B23-010-SB-1	(0-4') Non-native SAND, medium to very coarse, with fine to coarse SLAG and BRICK GRAVEL	SW/GW
		109.4			
	80	15000			
		319.6	B23-010-SB-4		
		24.6		(4-6.5') SLAG GRAVEL with trace SAND-sized, fine to coarse, loose, dark gray, dry, no plasticity, no cohesion	GW
5		-			
		-		(6.5-14') Non-native SAND and GRAVEL, medium to coarse, medium dense to dense, very dark brown then yellow at 13.6' bgs, wet at 9.5' bgs, no plasticity, no cohesion	SW/GW
	40	-			
		41.3			
		4.7			
10		-			
		-			
	50	-			
		-			
		-		(14-15') CLAYEY SILT, soft to firm, gray, very moist to moist, low plasticity, cohesive	ML
15				End of boring	



Large metal fragment at 5.5' bgs

Wet at 9.5' bgs

Slippery feel from 9.5-14' bgs

Light sheen from 9.5-13.7' bgs

Light to moderate fuel-like odor from 9.5-14' bgs

Thin SAND layer at 14.5' bgs

Boring terminated at 16' bgs due to water and piezometer installation
TOC: Top of PVC casing
DTW: Depth to water
bgs: Below ground surface
AMSL: Above mean sea level

Riser Stickup: 3.92'
Riser: 0 - 6' bgs
Screen: 6- 16' bgs [Slot Size: 0.010"]
Sand Pack: 4 -16' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 4' bgs [Grain Size: 3/8" chips]

ARM Group Inc.
Engineers and Scientists

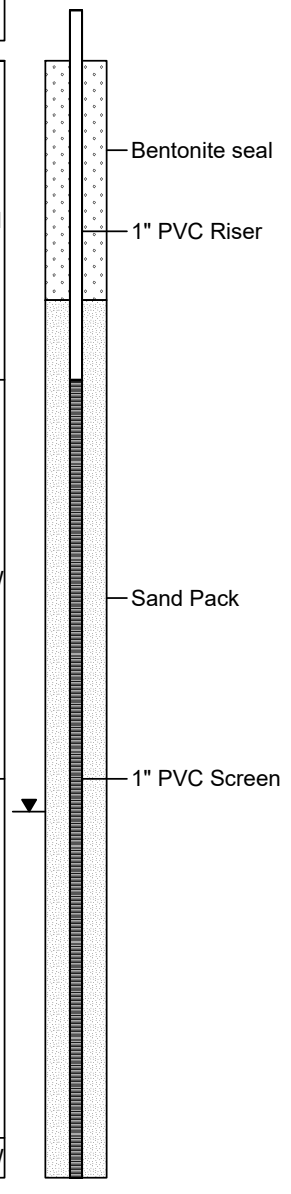
Boring ID: B23-011-SB/PZ

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Soil Boring Installation Date	: 9/17/18
Piezometer Installation Date	: 9/17/18
Casing/Riser/Screen Type	: PVC
Borehole Diameter	: 2.25"
Riser/Screen Diameter	: 1"
Northing (US ft)	: 568680.13
Easting (US ft)	: 1459439.01
0-Hr DTW	: 11.54' TOC
48-Hr DTW	: 11.57' TOC
No LNAPL or DNAPL at 0 or 48 hours	

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS
0		-	B23-011-SB-1	(0-4') Non-native SAND with SILT and trace coarse GRAVEL, medium dense, very dark brown with yellowish red at depth, dry, no plasticity, no cohesion	SW/SM
	74	7.0			
		1.0			
		0.7			
		48.9	B23-011-SB-5	(4-9') Non-native SAND and SLAG/BRICK GRAVEL, medium dense, dark brown and yellowish red, dry to moist, no plasticity, no cohesion	SW/GW
5		-			
		-			
	59	25.0			
		28.4			
		224.3		(9-13') SLAG GRAVEL with some SILT, coarse, dark gray to black, loose, moist then wet at 9.5' bgs, no plasticity, no cohesion	GP
10		-			
		10.6			
	75	7.9			
		13.5		(13.5-14') SLAG SAND and GRAVEL, dense, gray, wet, no plasticity, no cohesion	GW/SW
				End of boring	
15					



Wet at 9.5' bgs

Light to moderate sheen and moderate odor from 9.5-14' bgs

Boring terminated at 14' bgs due to refusal and piezometer installation
TOC: Top of PVC casing
DTW: Depth to water
bgs: Below ground surface
AMSL: Above mean sea level

Riser Stickup: 2.16'
Riser: 0 - 4' bgs
Screen: 4- 14' bgs [Slot Size: 0.010"]
Sand Pack: 3 - 14' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 3' bgs [Grain Size: 3/8" chips]

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-012-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/18/18
Weather	: Cloudy 80s
Northing (US ft)	: 568524.49
Easting (US ft)	: 1459611.49

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0				(0-0.3') ASPHALT	NA	
		-		(0.3-10') Non-native SAND with some SILT, fine to coarse, and SLAG and BRICK GRAVEL, fine to coarse, medium dense, to dense, very dark brown, yellow, light gray, light brown with red, dry then wet at 8.5' bgs, no plasticity, no cohesion		
			B23-012-SB-1.5			
		0.1				
	80	1.1				
		0.5				
		1.0	B23-012-SB-5			
5					SW/GW	
		0.1				
		2.1				
	90	0.3				
		4.2				Wet at 8.5' bgs
		0.9				
10				End of boring		

Boring terminated at 10' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-013-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/18/18
Weather	: Cloudy 80s
Northing (US ft)	: 568477.64
Easting (US ft)	: 1459615.89

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B23-013-SB-1	(0-0.6') SILTY SAND, dense, brown, wet, no plasticity, no cohesion	SM	
		0.0		(0.6-2.5') Non-native SAND, fine to coarse, with fine GRAVEL, very dark brown to black, dry then moist at 2.5' bgs, no plasticity, no cohesion	SW/GP	
	74	0.0				
		0.4		(2.5-10') SLAG SAND and GRAVEL, medium dense to dense, light gray, very pale brown, pale yellow and white, very moist then wet at 9' bgs, no plasticity, no cohesion		
		0.0	B23-013-SB-5			
5		-				
		0.1			SW/GW	
	70	0.1				
		0.9				Wet at 8.5' bgs
		3.6				
10				End of boring		

Boring terminated at 10' bgs due to water

ARM Group Inc.
Engineers and Scientists

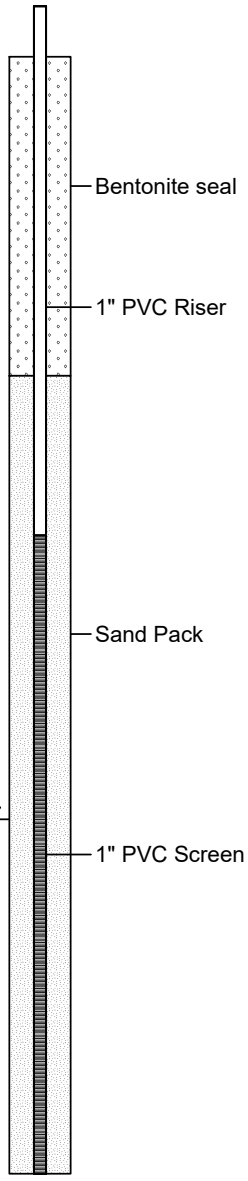
Boring ID: B23-014-SB/PZ

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Soil Boring Installation Date	: 9/14/18
Piezometer Installation Date	: 9/14/18
Casing/Riser/Screen Type	: PVC
Borehole Diameter	: 2.25"
Riser/Screen Diameter	: 1"
Northing (US ft)	: 568662.98
Easting (US ft)	: 1459498.09
0-Hr DTW	: 11.86' TOC
48-Hr DTW	: 11.96' TOC
No LNAPL or DNAPL at 0 or 48 hours	

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS
0		-	B23-014-SB-1	(0-1.5') Non-native SAND with SLAG GRAVEL, loose, brown, dry, no plasticity, no cohesion	SW/GP
		0.0		(1.5-9') BRICK and SLAG GRAVEL with SAND, medium dense, red, brown, and yellow, dry then moist at 4.5-5' then wet at 7', no plasticity, no cohesion	
	70	0.0			
		0.1			
		0.4	B23-014-SB-5		
5		-			GW/SW
		-			
	60	0.8			
		8.9			
		20.6		(9-9.5') SANDY SILT, soft, black, wet, low plasticity, cohesive	ML
10		-		(9.5-13.5') BRICK and SLAG GRAVEL with SAND and SILT, dense to medium dense, very dark brown and red with yellow, wet, no plasticity, no cohesion	
		0.0			GW/SW
	60				
		0.2			
		0.0		(13.5-14') SLAG SAND-sized, dense, very light gray and gray, wet, no plasticity, no cohesion	SW
15				End of boring	



Wet at 7' bgs

Sheen from 11-13.5' bgs and from 9-9.5' bgs

Heavy fuel-like odor from 8-13.5' bgs

Boring terminated at 14' bgs due to refusal and piezometer installation
TOC: Top of PVC casing
DTW: Depth to water
bgs: Below ground surface
AMSL: Above mean sea level

Riser Stickup: 2.40'
Riser: 0 - 6' bgs
Screen: 6- 14' bgs [Slot Size: 0.010"]
Sand Pack: 4 - 14' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 4' bgs [Grain Size: 3/8" chips]

ARM Group Inc.
Engineers and Scientists

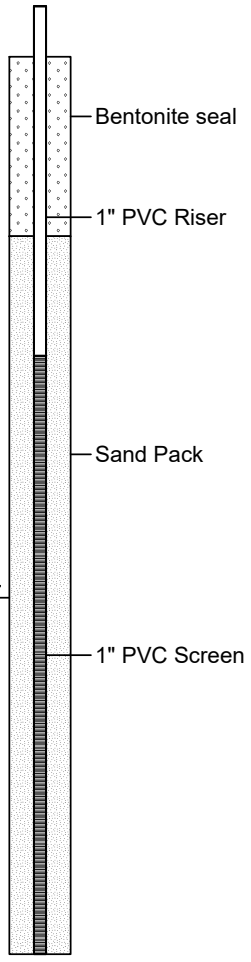
Boring ID: B23-015-SB/PZ

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Soil Boring Installation Date	: 9/17/18
Piezometer Installation Date	: 9/17/18
Casing/Riser/Screen Type	: PVC
Borehole Diameter	: 2.25"
Riser/Screen Diameter	: 1"
Northing (US ft)	: 568629.40
Easting (US ft)	: 1459436.49
0-Hr DTW	: 12.83' TOC
48-Hr DTW	: 12.86' TOC
No LNAPL or DNAPL at 0 or 48 hours	

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS
0		-		(0-7.5') Non-native SAND and BRICK/SLAG GRAVEL, medium dense, brown with yellow, dry, no plasticity, no cohesion	
		-	B23-015-SB-2		
	60	35.5			SW/GW
		27.4			
		3.5			
5		-			
		-			
	70	303.2	B23-015-SB-8	(7.5-8.5') Non-native SAND with some SILT, fine to medium, dark brown, dry, no plasticity, no cohesion	SW
		53.1		(8.5-11') Non-native SAND and BRICK/SLAG GRAVEL, medium dense, brown with yellow, dry then wet at 9.5', no plasticity, no cohesion	SW/GW
		168.4			
10		-			
		-		(11-16') BRICK SAND and GRAVEL, loose to medium dense, yellow and brown, wet, no plasticity, no cohesion	
	60	7.3			GW
		6.6			
		13.7			
15				End of boring	
20					



Brick cobbles from 7-7.5' bgs

Slippery feel from 9-10' bgs

Wet at 9' bgs

Moderate fuel-like odor and light to moderate sheen from 9-16' bgs

Boring terminated at 16' bgs due to refusal and piezometer installation
TOC: Top of PVC casing
DTW: Depth to water
bgs: Below ground surface
AMSL: Above mean sea level

Riser Stickup: 3.82'
Riser: 0 - 5' bgs
Screen: 5 - 15' bgs [Slot Size: 0.010"]
Sand Pack: 3 -15' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 3' bgs [Grain Size: 3/8" chips]

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-016-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/12/18
Weather	: Overcast 70s
Northing (US ft)	: 569027.40
Easting (US ft)	: 1459896.85

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0	100	18.3	B23-016-SB-1	(0-2.5') SAND with GRAVEL, fine to coarse, moist, dense, dark brown to pale gray, no plasticity, no cohesion	SW	Black GRAVEL lens at 1' bgs
		123.2				BRICK at 2' bgs
		66.8				No water encountered
				End of boring		
5						

Boring terminated at 2.5' bgs due to refusal

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-017-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/12/18
Weather	: Overcast 70s
Northing (US ft)	: 568996.64
Easting (US ft)	: 1459900.65

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		2.8	B23-017-SB-1	(0-9.5') SAND with GRAVEL, medium to coarse, pale gray to black, moist, dense, no plasticity, no cohesion		
		14.9				
	90	35.7				
		110.8	B23-017-SB-4		SW	BRICK at 4' and 9' bgs
		5.3				
5		-				
		-				
	60	16.8		(7-9.5') SAND with GRAVEL, medium to coarse, pale gray to black, moist, dense, no plasticity, no cohesion		
		10.4			SW	
		2.3	B23-017-SB-10			
10				(9.5-10') BRICK	NA	
		-		(10-14') No recovery		
		-				
	20	-			-	
		-				
		1.8		(14-15') SAND with CLAY and GRAVEL, fine to coarse, dark brown, dense, wet, no plasticity	SW	Wet at 14' bgs
15				End of boring		

Boring terminated at 15' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-018-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/18/18
Weather	: Cloudy 70s
Northing (US ft)	: 568493.70
Easting (US ft)	: 1459776.02

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B23-018-SB-1	(0-0.5') SILTY SAND, medium dense, dark brown, wet, no plasticity, no cohesion	SM	
		-		(0.5-2.5') Non-native SAND, fine to coarse, with trace SLAG GRAVEL, very dark brown, dry, no plasticity, no cohesion	SW	
	52	0.5		(2.5-10') SLAG and BRICK GRAVEL with some SAND and SILT, very pale brown, very pale yellow, light gray, white, dry to moist then very moist from 4-8' bgs, no plasticity, no cohesion		
		1.0				
		5.2				
5		1.8				
		3.9			GW	
	100	39.9	B23-018-SB-8			Wet at 8' bgs
		43.1				
		18.9				
10				End of boring		

Boring terminated at 10' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-019-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/14/18
Weather	: Cloudy 70s
Northing (US ft)	: 568656.16
Easting (US ft)	: 1459591.98

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B23-019-SB-1	(0-2.5') Non-native SAND with SLAG GRAVEL, fine, loose to medium dense, light brown and dark brown, dry, no plasticity, no cohesion	SW/GW	
		0.1				
	60	10.6		(2.5-2.9') ASPHALT COBBLES, gray, dry, no plasticity, no cohesion	-	
		0.0		(2.9'-5') Non-native SAND with SLAG GRAVEL and some BRICK, fine, loose to medium dense, light brown and dark brown, dry then moist from 4-4.5' bgs, no plasticity, no cohesion	SW/GW	
		0.0	B23-019-SB-5			
5						
	87	2.9		(5-6.5') SLAG GRAVEL, with SAND, loose, brown and gray with trace very dark brown, very moist then wet at 5.5' bgs, no plasticity, no cohesion	GW	Wet at 5.5' bgs
		0.2				
				End of boring		
10						

Boring terminated at 6.5' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-020-SB

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Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/18/18
Weather	: Rainy 80s
Northing (US ft)	: 568581.02
Easting (US ft)	: 1459616.71

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0				(0-0.4') ASPHALT	NA	
		-		(0.4-1.5') SAND, fine to medium, light yellowish brown, medium dense, dry, no plasticity, no cohesion	SW/GW	
			B23-020-SB-1.5			
		0.2		(1.5-4') SLAG GRAVEL with SAND, medium dense, light gray and dark brown, dry, no plasticity, no cohesion	GW/SW	Some BRICK COBBLES at 3' bgs
	60	0.0				
		0.1				
		0.7		(4-5') SANDY SILT with trace SLAG GRAVEL, soft, very moist, low plasticity, cohesive	ML	
5		-				
		5.1	B23-020-SB-7	(6.2-6.5') SLAG GRAVEL with SAND, medium dense, light gray and dark brown, dry, no plasticity, no cohesion	GW/SW	
				(6.5-7') SILTY SAND, medium dense, black, dry, no plasticity, no cohesion	SM	
	76	1.5		(7-9') SLAG GRAVEL with SAND, medium dense, dark brown with gray, dry then wet at 9' bgs, no plasticity, no cohesion	GW/SW	Wet at 9.5' bgs
		2.9				
		18.6				
10				End of boring		

Boring terminated at 10' bgs due to water

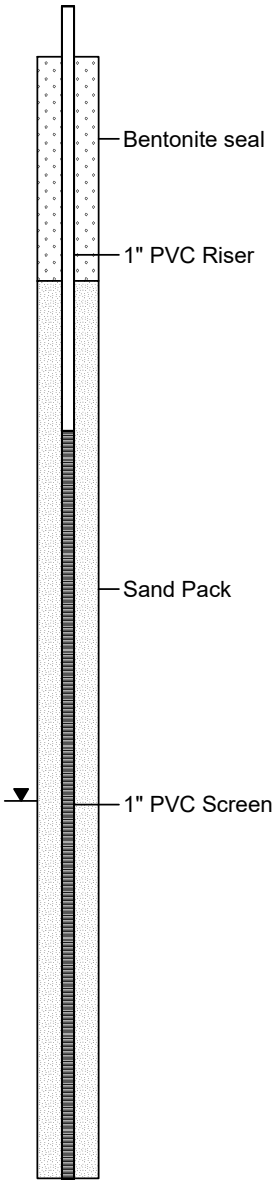
ARM Group Inc.
Engineers and Scientists

Boring ID: B23-021-SB/PZ

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Soil Boring Installation Date	: 9/18/18
Piezometer Installation Date	: 9/18/18
Casing/Riser/Screen Type	: PVC
Borehole Diameter	: 2.25"
Riser/Screen Diameter	: 1"
Northing (US ft)	: 568717.57
Easting (US ft)	: 1459805.69
0-Hr DTW	: 13.56' TOC
48-Hr DTW	: 13.57' TOC
No LNAPL or DNAPL at 0 or 48 hours	

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS
0		-	B23-021-SB-1	(0-6') Non-native SAND with BRICK and SLAG GRAVEL, medium dense to dense, dark brown with yellow, no plasticity, no cohesion	SW/GW
		0.2			
		7.2			
		1.4			
		2.4			
5		-			
		3.4		(6-8') Non-native SILTY SAND with some SLAG GRAVEL, dense, reddish brown, moist, no plasticity, no cohesion	SM
		99.7	B23-021-SB-8		
		30.2		(8-10.5') SAND and SLAG GRAVEL, dense, black, wet, no plasticity, no cohesion	SW/GW
		62.7			
10		-		(10.5-15') GRAVEL with SAND, dense, reddish brown with trace yellow and dark brown at depth, wet, no plasticity, no cohesion	GW
		0.0			
		0.0			
		0.0			
		0.0			
15				End of boring	



Wet at 8' bgs

Dry, thick, and sticky product with odor and heavy sheen from 8-10' bgs

Boring terminated at 15' bgs due to water and piezometer installation
TOC: Top of PVC casing
DTW: Depth to water
bgs: Below ground surface
AMSL: Above mean sea level

Riser Stickup: 3.62'
Riser: 0 - 5' bgs
Screen: 5- 15' bgs [Slot Size: 0.010"]
Sand Pack: 3 - 15' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 3' bgs [Grain Size: 3/8" chips]

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-022-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/18/18
Weather	: Cloudy 70s
Northing (US ft)	: 568705.16
Easting (US ft)	: 1459890.62

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B23-022-SB-1	(0-7.2') Non-native SAND with some BRICK and SLAG GRAVEL, fine to coarse, loose to medium dense, dark brown, dry, no plasticity, no cohesion		
		195.9				
	70	49.4				
		8.1	B23-022-SB-4		SW/GW	Some BRICK COBBLES at 3' bgs
		2.2				
5		-				
		0.7				
	70	0.0		(7.2-7.8') SAND with SILT and trace SLAG GRAVEL, loose, black, dry, no plasticity, no cohesion	SW-SM	
		5.4		(7.8-10') Non-native SAND with some SLAG GRAVEL, fine to coarse, medium dense, brown to dark brown, dry to moist then wet at 9.5' bgs, no plasticity, no cohesion	SW/GW	Wet at 9.5' bgs
		8.4				
10				End of boring		

Boring terminated at 10' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-023-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/17/18
Weather	: Cloudy 70s
Northing (US ft)	: 568564.23
Easting (US ft)	: 1459476.65

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B23-023-SB-1	(0-2.5') Non-native SAND with SILT and trace fine to coarse SLAG GRAVEL, fine to coarse, medium dense to loose, dark brown with gray, dry, no plasticity, no cohesion	SW	
		-				
	50	25.0		(2.5-10') Non-native SAND and BRICK and SLAG GRAVEL with trace SILT, fine to coarse, medium dense, dark brown with yellow, dry to moist then wet at 9.8' bgs, no plasticity, no cohesion		
		6.1				
		0.8	B23-023-SB-5			
5					SW/GW	
		-				
		-				
	30	-				
		-				Light odor from 9.5-10' bgs
						Wet at 9.8' bgs
		25.9				
10				End of boring		

Boring terminated at 10' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-024-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/17/18
Weather	: Rainy 70s
Northing (US ft)	: 568587.95
Easting (US ft)	: 1459455.55

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B23-024-SB-1	(0-2') Non-native SAND with SILT and some GRAVEL, loose and medium dense, brown and black with some gray and yellow, dry, no plasticity, no cohesion	SW-SM	
		-				
				(2-10') SLAG and BRICK GRAVEL with SAND and some SILT, medium dense to dense, gray, very dark brown with yellow, dry to moist then wet at 8.5' bgs, no plasticity, no cohesion		
	60	43.0				
		36.4				Some green staining at 3.5' bgs
		115.1	B23-024-SB-5			
5						
		19.4			GW/SW	
		27.6				
	100	11.2				
		22.2				Trace fuel-like odor from 8.5-10' bgs
		39.9				Wet at 8.5' bgs
10				End of boring		

Boring terminated at 10' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-025-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/13/18
Weather	: Overcast 70s
Northing (US ft)	: 568947.14
Easting (US ft)	: 1459157.99

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0				(0-0.5') ASPHALT	-	
		-	B23-25-SB-1.5	(0.5-10') SAND with GRAVEL, coarse to fine, dense, pale gray to dark brown, moist to wet at 9.5', no plasticity, no cohesion		
		2.1				
	80	4.3				Brick at 2.5', 7', and 9.5' bgs
		7.1				
		0.2	B23-025-SB-5			
5					SW	
		-				
		-				
	60	2.3				
		4.7				Wet at 9.5' bgs
		13.2				
10				End of boring		

Boring terminated at 10' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-026-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/13/18
Weather	: Overcast 70s
Northing (US ft)	: 568819.73
Easting (US ft)	: 1458858.51

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0	80	-	B23-26-SB-1	(0-8.5') SAND with GRAVEL and trace SILT, coarse to fine, loose, dark brown to white to black, moist, no plasticity, no cohesion	SW	Brick at 1.5', 7', and 9.5' bgs
		32.5				
		192.7				
		40.7	B23-26-SB-4			
		1.5				
5		-				
		-				
	60	2.2				
		26.7		(8.5-10') GRAVEL with SAND, coarse, wet, brownish red to dark brown, loose, no plasticity, no cohesion	GP	Wet at 9' bgs
		0.5				
10				End of boring		

Boring terminated at 10' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-027-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/14/18
Weather	: Cloudy 70s
Northing (US ft)	: 568542.03
Easting (US ft)	: 1457589.08

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	80	-	B23-027-SB-1	(0-2.5') Non-native SAND with GRAVEL and some SILT, fine to coarse, medium dense, dark brown, dry, no plasticity, no cohesion	SW/GP	
		0.0				
		0.0				
		0.0		(2.5-5.5') BRICK SAND and GRAVEL, medium dense, yellow and trace brown, dry, no plasticity, no cohesion	SW/GP	
		0.0	B23-027-SB-5			
5	78	-		(5.5-9.1') GRAVEL with SAND, fine to coarse, medium dense to dense, gray with brown, dry, no plasticity, no cohesion	GW/SW	
		0.0				
		0.0				
		2.0				
		0.0	B23-027-SB-10	(9.1-11.3') Non-native SAND with GRAVEL and SAND-sized BRICK and some SILT, fine to coarse, medium dense, dark brown, dry, no plasticity, no cohesion	SW/GP	
10	75	-		(11.3-14') SLAG SAND and GRAVEL with SILT, white and very light gray, wet, no plasticity, no cohesion	SW/GW	Wet at 11.5' bgs
		-				
		-				
		-				
				End of boring		
15						

Boring terminated at 14' due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-028-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/17/18
Weather	: Cloudy 70s
Northing (US ft)	: 568606.08
Easting (US ft)	: 1459293.05

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-		(0-1') ASPHALT	-	
				(1-1.4') SAND, fine to medium, loose, pale yellow, dry, no plasticity, no cohesion	SW	
		2.4	B23-028-SB-2	(1.4-8') Non-native SAND and SLAG and BRICK GRAVEL, medium dense to dense, dark brown and brown with yellow and red, dry, no plasticity, no cohesion		
	80	3.7				
		1.5				
		1.0	B23-028-SB-5		SW/GW	
5		-				
		-				
	60	5.1				
		16.6		(8-10') BRICK and SLAG GRAVEL, coarse, loose to medium dense, yellow and brown, wet, no plasticity, no cohesion	GP	Wet at 8' bgs
		43.6				
10				End of boring		

Boring terminated at 10' due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-029-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/14/18
Weather	: Cloudy 70s
Northing (US ft)	: 568328.18
Easting (US ft)	: 1459867.78

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-		(0-0.5') CONCRETE	-	
			B23-029-SB-1.5	(0.5-3') Non-native SAND, medium to coarse, with SLAG GRAVEL, fine, loose to medium dense, dark brown, dry, no plasticity, no cohesion	SW/GP	
		0.0				
	80	0.0				
		0.0		(3-4.5') Non-native SAND, medium to coarse, with trace large quartz-like rock and trace pale green SLAG and SLAG GRAVEL, fine, medium dense, dark brown with gray, dry, no plasticity, no cohesion	SW/GP	
		0.0	B23-029-SB-5			
5				(4.5-10') SLAG and BRICK GRAVEL with some SAND-sized and some SILT 8-10' bgs, medium dense to dense, light gray, gray, and very pale brown, moist then wet at 5' bgs, no plasticity, no cohesion		Wet at 5' bgs
		0.0				
		0.0				
	90	0.0			GW	
		0.0				
		0.0				
10				End of boring		

Boring terminated at 10' due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-030-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/13/18
Weather	: Cloudy 70s
Northing (US ft)	: 568865.08
Easting (US ft)	: 1459433.76

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B23-030-SB-1	(0-9') SAND with GRAVEL, coarse to fine, dark brown to black, moist, dense, no plasticity, no cohesion		
		-				
	60	28.3	B23-030-SB-3			
		52.4				
		1.8			SW	
5						No water encountered
		-				
		2.2				
	75					
		14.2				
		5.7				
				End of boring		
10						

Boring terminated at 9' due to refusal

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-031-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/14/18
Weather	: Cloudy 70s
Northing (US ft)	: 568649.25
Easting (US ft)	: 1458139.80

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	36	-	B23-031-SB-1	(0-5') Non-native SAND with fine to coarse SLAG and BRICK GRAVEL, medium to coarse, loose, dark brown with trace yellow and purple, dry, no plasticity, no cohesion	SW/GW	
		-				
		-				
		0.0				
		0.0	B23-031-SB-5			
5						
	40	-		(5-10') BRICK SAND and GRAVEL with SILT, loose to medium dense, yellow and brown, dry then wet at 8.8' bgs, no plasticity, no cohesion	GW/SW	Wet at 8.8' bgs
		-				
		-				
		0.0				
		0.0				
10				End of boring		

Boring terminated at 10' due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-032-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/14/18
Weather	: Cloudy 70s
Northing (US ft)	: 568705.28
Easting (US ft)	: 1458639.35

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	74	-	B23-032-SB-1	(0-5') Non-native SAND and GRAVEL (fine to coarse), medium to very coarse, loose to medium dense, dark brown and black grading to brown with reddish yellow, dry, no plasticity, no cohesion	SW/GW	
		0.0				
		0.6				
		0.6				Trace large SLAG COBBLES at 3.5' bgs
		2.3	B23-032-SB-5			
5				(5-6.5') BRICK GRAVEL with SAND, medium dense, yellow and brown, moist, no plasticity, no cohesion	GP	
		-				
		1.7		(6.5-8.2') SILTY SAND, fine, medium dense, black, very moist then wet at 7' bgs, no plasticity, no cohesion	SM	Wet at 7' bgs
	94	1.5				
		0.7		(8.2-9.4') BRICK GRAVEL with SAND and SILT, medium dense, yellow and brown, wet, no plasticity, no cohesion	GP-GW	
		1.4		(9.4-10') SANDY CLAY with trace GRAVEL, soft, pale brown, very moist to wet, low plasticity, cohesive	CL	
10				End of boring		

Boring terminated at 10' due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-033-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/14/18
Weather	: Cloudy 70s
Northing (US ft)	: 568609.96
Easting (US ft)	: 1459951.05

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	80	-	B23-033-SB-1	(0-7.5') Non-native SAND and SLAG GRAVEL, loose to medium dense, brown to dark brown, dry, no plasticity, no cohesion	SW/GW	Several WOOD fragments at 2' bgs
		0.0				
		0.1				
		0.0				
		0.0	B23-033-SB-5			
5		-				Wet at 7.5' bgs
		1.8				
	74	3.9		(7.5-10') SLAG and BRICK GRAVEL and COBBLES with some SAND, loose, gray, dark brown and yellow, wet, no plasticity, no cohesion	GP	
		0.3				
		0.0				
10				End of boring		

Boring terminated at 10' due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-034-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 9/12/18
Weather	: Overcast 70s
Northing (US ft)	: 568862.34
Easting (US ft)	: 1459744.64

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	B23-034-SB-1	(0-2') SAND with GRAVEL, coarse to fine, moist, pale gray to dark brown, dense, no plasticity, no cohesion	SW	
		-				
	60	22.6		(2-3') SILT with SAND, firm, moist, dark brown, low plasticity, low cohesion	ML	
		8.3		(3-6') SAND with GRAVEL and CLAY, coarse to fine, dark brown to pale yellow, moist, dense, no plasticity, no cohesion		
		1.2	B23-034-SB-5		SW	
5		-				Thin fine SAND lens at 4.7' bgs
		-		(6-8') GRAVEL with SAND, coarse, pale gray, moist, loose, no plasticity, no cohesion	GP	
	50	7.3				
		0.2		(8-11') SAND with GRAVEL, fine to coarse, moist, loose, black, no plasticity, no cohesion		
		0.0	B23-034-SB-10		SW	
10		-				
		-		(11-15') GRAVEL with SAND, medium, wet, loose, dark gray to pale brown, no plasticity, no cohesion		
	40	-			GP	Wet at 13' bgs
		0.1				
		1.3				WOOD at 15'
15				End of boring		

Boring terminated at 15' due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-035-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 7/26/17
Weather	: Sunny, 90s
Northing (US ft)	: 568538.90
Easting (US ft)	: 1460155.11

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
	84	-	B23-035-SB-1	(0-1') Non-native SAND, fine to coarse with some fine GRAVEL, medium dense to loose, dark brown, slightly moist, no plasticity, no cohesion	SW	
		0.1		(1-5') Non-native SAND, fine to very coarse with SLAG GRAVEL and some COBBLES, medium dense, light grayish brown with white, dry, no plasticity, no cohesion	SW/GW	
		0.0				
		0.1				
		0.0	B23-035-SB-5			
5	80	-		(5-7') Non-native SAND, fine to very coarse with SLAG GRAVEL and some COBBLES, medium dense, light grayish brown with white, dry, no plasticity, no cohesion	SW/GW	
		0.0				
		0.0		(7-10') SLAG GRAVEL, fine to coarse, dense, light brownish gray and white, wet, no plasticity, no cohesion	GW	Wet at 8' bgs
		0.0				
		0.0				
10				End of boring		

Boring terminated at 14' bgs due to water

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-036-SB

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: L. Perrin
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Green Services, Inc.
Driller	: Don Marchese
Drilling Equipment	: Geoprobe 7822DT

Date	: 7/26/17
Weather	: Sunny, 90s
Northing (US ft)	: 568290.42
Easting (US ft)	: 1460163.01

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0						
		-	B23-036-SB-1	(0-0.5') SILTY SAND with ORGANIC matter, medium dense, dark brown, moist, no plasticity, no cohesion	SW	
				(0.5-1') Non-native SAND, fine to coarse, medium dense, dark brown, dry, no plasticity, no cohesion	SW	
		1.0		(1-5.7') Fine to coarse GRAVEL with some BRICK COBBLES at depth, dark brown to black with trace red, dry grading to very moist, then wet at 4' bgs, no plasticity, no cohesion		
	76	1.1				
		5.8	B23-036-SB-4		GW	Soil sticky with petroleum-like odor
						Wet at 4'
		2.2				Thin plastic sheeting present from 4-5' bgs
5						
		0.0				
				(5.7-10') CLAYEY SAND, medium dense, brownish yellow, wet, no plasticity, no cohesion		
		0.0				
	100	0.0			SC	
		0.0				Trace dense CLAY lenses present
		0.0				
10				End of boring		

Boring terminated at 10' bgs due to water

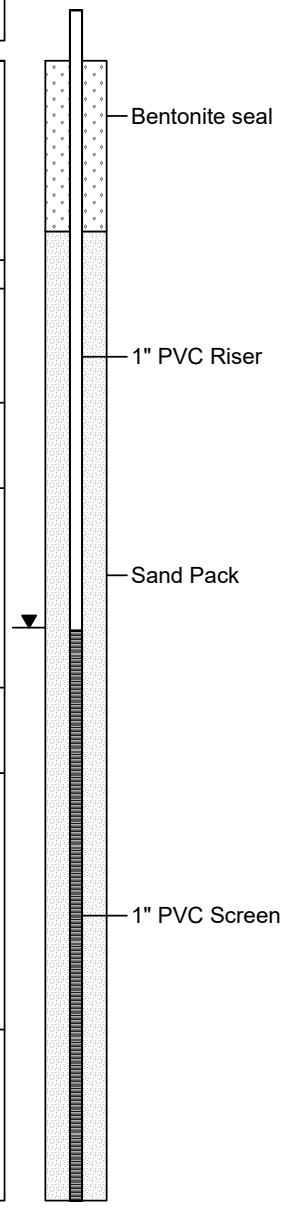
ARM Group Inc.
Engineers and Scientists

Boring ID: B23-046-SB/PZ

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Allied
Driller	: Tim Moyer
Drilling Equipment	: Geoprobe 77DT

Soil Boring Installation Date	: 11/5/18
Piezometer Installation Date	: 11/5/18
Casing/Riser/Screen Type	: PVC
Borehole Diameter	: 2.25"
Riser/Screen Diameter	: 1"
Northing (US ft)	: 568972.61
Easting (US ft)	: 1459655.91
0-Hr DTW	: 13.42' TOC
48-Hr DTW	: 13.07' TOC
No LNAPL or DNAPL at 0 or 48 hours	

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS
0		-	No Samples Collected	(0-3.5') GRAVEL with SAND, medium to coarse, dense, pale gray to black, moist, no plasticity, no cohesion	GW
	50	-			
		1.6			
		1.9			
				(3.5-4') BRICK	-
		3.3		(4-6') GRAVEL with SAND, medium to coarse, dense, pale gray to black, moist, no plasticity, no cohesion	GW
5		-			
		-		(6-7.5') SAND with CLAY and SILT, medium dense, pale yellow to pale reddish yellow, slightly moist, no plasticity, no cohesion	SP
	60	2.4		(7.5-11') GRAVEL with SAND, medium to coarse, dense, pale gray to black, moist, no plasticity, no cohesion	GW
		1.3			
		5.7			
10		-			
		-		(11-12.5') GRAVEL, coarse, loose, pale yellow, wet, no plasticity, no cohesion	GP
	70	3.2		(12.5-17') GRAVEL with SAND, medium to coarse, dense, pale gray to black, moist, no plasticity, no cohesion	GW
		7.7			
		6.9			
15		-			
		-			
	20	-		(17-20') SAND, medium, dense, pale yellow to black, wet, no plasticity, no cohesion	SP
		-			
		0.3			
20				End of boring	



BRICK at 3.5' bgs

Wet at 12' bgs

Slight petroleum-like odor from 19-20' bgs

Boring terminated at 20' bgs due to water and piezometer installation
TOC: Top of PVC casing
DTW: Depth to water
bgs: Below ground surface
AMSL: Above mean sea level

Riser Stickup: 3.12'
Riser: 0 - 10' bgs
Screen: 10- 20' bgs [Slot Size: 0.010"]
Sand Pack: 3 - 20' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 3' bgs [Grain Size: 3/8" chips]

ARM Group Inc.
Engineers and Scientists

Boring ID: B23-047-SB/PZ

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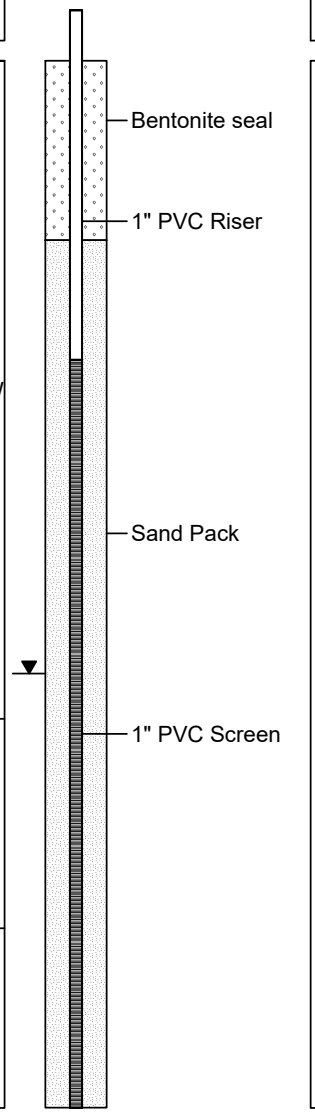
Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Allied
Driller	: Tim Moyer
Drilling Equipment	: Geoprobe 77DT

Soil Boring Installation Date	: 11/5/18
Piezometer Installation Date	: 11/5/18
Casing/Riser/Screen Type	: PVC
Borehole Diameter	: 2.25"
Riser/Screen Diameter	: 1"
Northing (US ft)	: 569038.74
Easting (US ft)	: 1459885.96
0-Hr DTW	: 14.52' TOC
48-Hr DTW	: 13.89' TOC
No LNAPL or DNAPL at 0 or 48 hours	

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS
0		-	No Samples	(0-11') GRAVEL with SAND, medium to coarse, dense, dark brown to black to pale gray, moist, no plasticity, no cohesion	
		-	Collected		
	50	0.1			
		2.2			
		2.6			
5		1.7			SW/GW
		2.3			
	100	2.9			
		2.2			
		6.4			
10		-			
		0.7		(11-14.5') SAND with trace GRAVEL, coarse to fine, dense, dark brown, moist to wet at 13' bgs, no plasticity, no cohesion	
	80	3.8			SW
		1.5			
		7.7			
15		0.5		(14.5-17.5') SAND with CLAY and trace GRAVEL, medium to fine, medium dense to dense, dark brown, wet no plasticity, no cohesion	
	100	0.3			SW
		0.4			
				End of boring	
20					



BRICK at 3 and 5' bgs

Wet at 13' bgs

Boring terminated at 17.5' bgs due to water and piezometer installation
TOC: Top of PVC casing
DTW: Depth to water
bgs: Below ground surface
AMSL: Above mean sea level

Riser Stickup: 3.35'
Riser: 0 - 5' bgs
Screen: 5- 17.5' bgs [Slot Size: 0.010"]
Sand Pack: 3 -17.5' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 3' bgs [Grain Size: 3/8" chips]

ARM Group Inc.
Engineers and Scientists

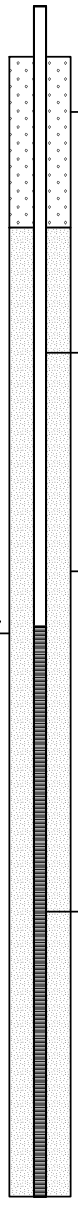
Boring ID: B23-048-SB/PZ

(page 1 of 1)

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Allied
Driller	: Tim Moyer
Drilling Equipment	: Geoprobe 77DT

Soil Boring Installation Date	: 11/6/18
Piezometer Installation Date	: 11/6/18
Casing/Riser/Screen Type	: PVC
Borehole Diameter	: 2.25"
Riser/Screen Diameter	: 1"
Northing (US ft)	: 568920.26
Easting (US ft)	: 1459864.29
0-Hr DTW	: 13.32' TOC
48-Hr DTW	: 13.15' TOC
No LNAPL or DNAPL at 0 or 48 hours	

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS
0				(0-0.3') ASPHALT	NA
		-	B23-048-SB-1.3	(0.3-12') SAND with GRAVEL, coarse to fine, medium dense, pale brown to black, slightly moist to moist at 11' bgs, no plasticity, no cohesion	
		0.1			
	70	0.9			
		7.6			
		8.4			
5		-			SW
		-			
	60	7.1			
		12.9	B23-048-SB-9		
		3.4			
10		0.3			
		0.1			
	100	0.0		(12-12.5') SAND, coarse, dense, pale yellow with trace black, wet, no plasticity, no cohesion	SP
		0.0		(12.5-13') SILT with trace CLAY, firm, black to dark blackish red, wet, low plasticity, cohesive	ML
		0.0			
15		0.2		(13-19') SAND with SILT and GRAVEL, coarse to fine, dense, black, wet, no plasticity, no cohesion	SW
		0.3			
	100	1.9			
		8.5			
		0.5		(19-20') CLAY, firm, black, wet, low plasticity, cohesive	CL
20				End of boring	



SMALL GRAVEL lens at 8' bgs

Wet at 12' bgs

Petroleum-like odor from 17.5-20' bgs

Trace sheen from 17-19' bgs

Boring terminated at 20' bgs due to water and piezometer installation
TOC: Top of PVC casing
DTW: Depth to water
bgs: Below ground surface
AMSL: Above mean sea level

Riser Stickup: 3.03'
Riser: 0 - 10' bgs
Screen: 10- 20' bgs [Slot Size: 0.010"]
Sand Pack: 3 - 20' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 3' bgs [Grain Size: 3/8" chips]

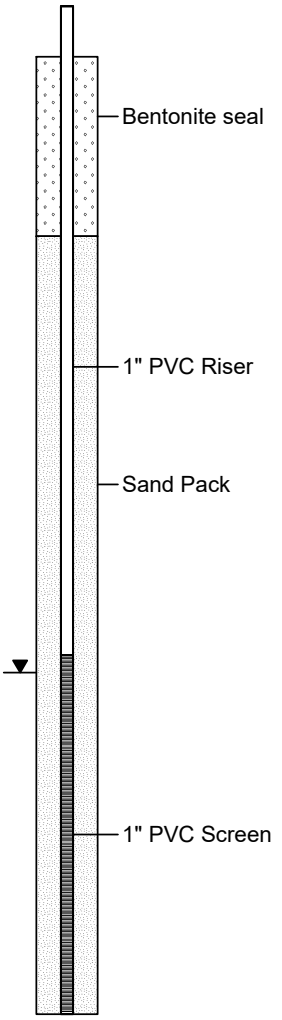
ARM Group Inc.
Engineers and Scientists

Boring ID: B23-049-SB/PZ

Client	: EnviroAnalytics Group
ARM Project No.	: 150300M-24-3
Project Description	: Sparrows Point - Parcel B23
Site Location	: Sparrows Point, MD
ARM Representative	: M. Kedenburg
Checked by	: M. Replogle, E.I.T.
Drilling Company	: Allied
Driller	: Tim Moyer
Drilling Equipment	: Geoprobe 77DT

Soil Boring Installation Date	: 11/5/18
Piezometer Installation Date	: 11/5/18
Casing/Riser/Screen Type	: PVC
Borehole Diameter	: 2.25"
Riser/Screen Diameter	: 1"
Northing (US ft)	: 568855.31
Easting (US ft)	: 1459446.24
0-Hr DTW	: 13.84' TOC
48-Hr DTW	: 13.49' TOC
No LNAPL or DNAPL at 0 or 48 hours	

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS
0		-		(0-0.5') ASPHALT	NA
		-	B23-049-SB-1.5	(0.5-3') SAND, medium, dense, pale blackish red, moist, no plasticity, no cohesion	SP
	60	2.0			
		1.3		(3-6') GRAVEL with SAND, coarse, dense, black, moist, no plasticity, no cohesion	GP
5		5.4			
		-			
		-		(6-8') SAND with GRAVEL, coarse to fine, dense, pale brown to yellowish red, moist, no plasticity, no cohesion	SW
	60	50.5	B23-049-SB-8		
		3.4		(8-11') SAND, medium to coarse, dense, black, moist, no plasticity, no cohesion	SW
		1.1	B23-049-SB-10		
10		-			
		-		(11-16') SAND with GRAVEL, medium to coarse, dense, black, moist to wet at 13', no plasticity, no cohesion	SW
	80	44.3			
		2.4			
		9.7			
15	100	-			
				End of boring	
20					



Wet at 13' bgs

Boring terminated at 16' bgs due to refusal and piezometer installation
TOC: Top of PVC casing
DTW: Depth to water
bgs: Below ground surface
AMSL: Above mean sea level

Riser Stickup: 3.20'
Riser: 0 - 10' bgs
Screen: 10- 16' bgs [Slot Size: 0.010"]
Sand Pack: 3 -16' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 3' bgs [Grain Size: 3/8" chips]

APPENDIX C

December 18, 2018

Mr. James Calenda
EnviroAnalytis Group, LLC
1650 Des Peres Road, Suite 303
St. Louis, MO 63131

Re: Sparrows Point Well Survey
Sparrows Point, MD
Triad Engineering Job No. 03-15-0343

Mr. Calenda:
Below are the specified surveyed wells, date of last field work completed on December 11-13, 2018. The coordinate values shown were derived from G.P.S. observations based on National Geodetic Surveys stations “GIS 1”, PID AC7684 and “GIS 2”, PID AC7685 which purport to be on NAD83(2011) Maryland Grid coordinate system with NAVD88 (AMSL) elevations.

DESCRIPTION	NORTHING	EASTING	TOP CASING ELEVATION	GROUND AT WELL ELEVATION
B23-010-PZ	568653.668	1459384.850	15.58	11.53
B23-015-PZ	568629.399	1459436.491	15.19	11.45
B23-021-PZ	568717.572	1459805.687	15.96	12.26
B23-046-PZ	568972.610	1459655.914	12.60	12.23
B23-047-PZ	569038.742	1459885.961	16.05	12.59
B23-048-PZ**	-	-	-	-
B23-049-PZ	568855.314	1459446.236	12.71	12.68

** Location B23-048-PZ was not surveyed.

APPENDIX D

PID CALIBRATION LOG

PROJECT NAME: Area B: Parcel B23 Phase II	SAMPLER NAME: M. Kedenburg	
PROJECT NUMBER: 150300M-24	DATE: July 26, 2018	PAGE__1__of __1__

DATE/TIME	SAMPLER INITIALS	PID SERIAL #	FRESH AIR CAL	STANDARD	STANDARD CONCENTRATION	METER READING	COMMENTS
7/26/2018 8:40	MK	592-913262	0.0	Isobutylene	100 ppm	100.0	
9/12/2018 8:30	MK	592-913262	0.0	Isobutylene	100 ppm	99.9	
9/13/2018 8:20	MK	592-913262	0.0	Isobutylene	100 ppm	100.0	
9/14/2018 8:30	MK	592-913262	0.0	Isobutylene	100 ppm	100.0	
9/17/2018 8:30	MK	592-913262	0.0	Isobutylene	100 ppm	101.6	
9/18/2018 8:20	MK	592-913262	0.0	Isobutylene	100 ppm	99.9	
11/5/2018 10:00	MK	12673	0.0	Isobutylene	100 ppm	100.0	
11/6/2018 8:45	MK	592-913262	0.0	Isobutylene	100 ppm	100.0	

APPENDIX E

Low Flow Sampling
Temporary Piezometers

ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: A&B Parcel B23	Project Number: 150300m-24-3
Piezometer Number: B23-010-P2	Date: 11/27/18
Piezometer Diameter (in): 1	One Well Volume (gal): 0.20
Depth to Product (ft): NA	QED Controller Settings: ——
Depth to Water (ft): 12.32	Flow Rate (mL/min)
Product Thickness (ft): NA	Length of time Purged (min)
Depth to Bottom (ft): 17.11	

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	0.75	12.32	12.08	10.87	0.310	0.00	-119	89.2	
1520	1.05	12.32	11.74	10.55	0.314	0.0	-120	55.7	
1525	1.35	12.32	11.42	10.42	0.324	0.0	-124	30.1	
1530	1.65	12.32	11.14	10.30	0.326	0.0	-131	12.3	
1535	1.95	12.32	10.85	10.26	0.328	0.0	-139	6.8	
1540	1.265	12.32	10.66	10.24	0.331	0.0	-147	4.9	
1545	1.55	12.32	10.48	10.22	0.333	0.0	-156	4.3	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
B23-010-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	Y
		Oil & Grease	2 - 1 L Amber	HCl	Y
		Total Cyanide	1 - 250 mL Plastic	NaOH	Y
		TAL-Metals & Mercury (Dissolved) **Field Filtered**	1 - 250 mL Plastic	HNO3	Y
		Hexavalent Chromium (Dissolved) **Field Filtered**	1 - 250 mL Plastic	None	Y
Matrix Spike					N
Duplicate					N

Sampled By: LVP

Comments: Purged 0.75 gallons prior

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 B23	Project Number: 150300m-2.4-3
Piezometer Number: B23-015-P2	Date: 11-22-18
Piezometer Diameter (in): 1	One Well Volume (gal): 0.75
Depth to Product (ft): NA	QED Controller Settings: —
Depth to Water (ft): 12.02	Flow Rate (mL/min) 284
Product Thickness (ft): NA	Length of time Purged (min) 50
Depth to Bottom (ft): 19.22	

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
1400	2.25	12.02	18.58	12.97	0.346	1.96	-46	277	
1405	2.50	12.02	18.51	13.24	0.361	0.0	-89	158	
1410	2.75	12.03	18.18	13.32	0.378	0.0	-118	65.1	
1415	3.00	12.03	17.97	13.34	0.382	0.0	-128	26.8	
1420	3.25	12.03	17.40	13.34	0.385	0.0	-130	13.8	
1425	3.50	12.03	16.89	13.34	0.390	0.0	-133	14.3	
1430	3.75	12.03	16.43	13.36	0.394	0.0	-135	15.7	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
B23-015-P2	1445	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	Y
		Oil & Grease	2 - 1 L Amber	HCl	Y
		Total Cyanide	1 - 250 mL Plastic	NaOH	Y
		TAL-Metals & Mercury (Dissolved) **Field Filtered**	1 - 250 mL Plastic	HNO3	Y
*Avail cyanide also		Hexavalent Chromium (Dissolved) **Field Filtered**	1 - 250 mL Plastic	None	Y
		Matrix Spike			N
		Duplicate			N

Sampled By: CLP

Comments: purged 2.25 gallons prior

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 B23	Project Number: 150300m-24-3
Piezometer Number: B23-021-PZ	Date: 11/27/18
Piezometer Diameter (in): 1	One Well Volume (gal): ~~0.16~~ 0.15
Depth to Product (ft): N/A	QED Controller Settings: —
Depth to Water (ft): 12.83	Flow Rate (mL/min) 238
Product Thickness (ft): N/A	Length of time Purged (min) 30
Depth to Bottom (ft): 16.50	

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
1120	0.5	12.84	14.24	8.15	0.393	3.19	-107	22.9	
1125	0.85	12.84	14.45	8.38	0.370	0.00?	-93	5.1	
1130	1.20	12.84	14.41	8.60	0.363	0.0	-94	2.5	
1135	1.55	12.84	14.14	8.77	0.357	0.0	-99	1.9	
1140	1.~~85~~90	12.84	13.91	8.86	0.357	0.0	-105	1.7	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
B23-050-PZ	1200	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	Y
		Oil & Grease	2 - 1 L Amber	HCl	Y
		Total Cyanide	1 - 250 mL Plastic	NaOH	Y
		TAL-Metals & Mercury (Dissolved) **Field Filtered**	1 - 250 mL Plastic	HNO3	Y
#avail cyanide also		Hexavalent Chromium (Dissolved) **Field Filtered**	1 - 250 mL Plastic	None	Y
		Matrix Spike			N
		Duplicate			Y

Sampled By: LLP

Comments: Purged 0.5 gal prior

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 B23	Project Number: 150300M-24-3
Piezometer Number: B23-046-P2	Date: 11-26-18
Piezometer Diameter (in): 1	One Well Volume (gal): 0.40
Depth to Product (ft): N/A	QED Controller Settings: —
Depth to Water (ft): 12.93	Flow Rate (mL/min) 227
Product Thickness (ft): N/A	Length of time Purged (min) 40
Depth to Bottom (ft): 22.60	

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
1135	1.20	12.93	13.69	7.34	0.0	4.88	182	244	
1140	1.45	13.01	13.77	7.29	0.0	3.67	182	245	
1145	1.70	13.01	13.76	7.32	0.0	3.33	181	258	
1150	1.95	13.01	13.71	7.35	0.0	3.17	180	258	
1155	2.20	13.02	13.57	7.41	0.0	2.98	177	254	
1200	2.45	13.02	13.52	7.47	0.0	2.93	175	254	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
B23-046-P2	1205	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	Y
		Oil & Grease	2 - 1 L Amber	HCl	Y
		Total Cyanide	1 - 250 mL Plastic	NaOH	Y
		TAL-Metals & Mercury (Dissolved) **Field Filtered**	1 - 250 mL Plastic	HNO3	Y
* Avail cyanide also		Hexavalent Chromium (Dissolved) **Field Filtered**	1 - 250 mL Plastic	None	Y
		Matrix Spike			N
		Duplicate			N

Sampled By: LLP

Comments: Purged 1.20 gallons

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 B23	Project Number: 150300m-24-3
Piezometer Number: B23-047-P2	Date: 11/27/18
Piezometer Diameter (in): 1	One Well Volume (gal): 0.15
Depth to Product (ft): NA	QED Controller Settings: —
Depth to Water (ft): ~~12.36~~ 13.80	Flow Rate (mL/min) 189
Product Thickness (ft): NA	Length of time Purged (min) 45
Depth to Bottom (ft): 17.36	

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
846	0.5	13.81	15.71	13.29	0.569	0.0	64	110	
851	0.75	13.81	16.21	13.35	0.576	0.0	26	96.1	
856	1.00	13.81	16.06	13.34	0.587	0.0	7	81.8	
901	1.25	13.81	15.64	13.41	0.596	0.0	-8	36.3	
906	1.50	13.81	15.14	13.38	0.598	0.0	-19	26.5	
911	1.75	13.81	14.98	13.36	0.599	0.0	-22	20.2	
916	2.00	13.81	14.53	13.34	0.602	0.0	-27	16.8	
921	2.25	13.81	13.83	13.25	0.606	0.0	-31	15.3	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
B23-047-P2	925	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	Y
		Oil & Grease	2 - 1 L Amber	HCl	Y
		Total Cyanide	1 - 250 mL Plastic	NaOH	Y
		TAL-Metals & Mercury (Dissolved) **Field Filtered**	1 - 250 mL Plastic	HNO3	Y
		Hexavalent Chromium (Dissolved) **Field Filtered**	1 - 250 mL Plastic	None	Y
		Matrix Spike / Dup.			Y
		Duplicate			N

* Analyze cyanide as SD

Sampled By: LP

Comments: Purged 0.5 gal prior

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 B23	Project Number: 150300m-24-3
Piezometer Number: B23-048-P2	Date: 11/26/19
Piezometer Diameter (in): 1	One Well Volume (gal): 0.36
Depth to Product (ft): NA	QED Controller Settings: —
Depth to Water (ft): NA See Note	Flow Rate (mL/min) 178
Product Thickness (ft): NA	Length of time Purged (min) 45
Depth to Bottom (ft): NA	

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
1012	1.10	—	12.96	9.56	0541	0.0	144	144	
1017	1.30	—	12.98	9.56	0.541	0.0	143	123	
1022	1.50	—	13.34	9.59	0.542	0.0	129	22.2	
1027	1.70	—	13.46	9.59	0.541	0.0	127	6.6	
1032	1.90	—	13.56	9.59	0.545	0.0	126	3.9	
1037	2.10	—	13.64	9.60	0.543	0.0	126	2.6	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
B23-048-P2	1040	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	Y
		Oil & Grease	2 - 1 L Amber	HCl	Y
		Total Cyanide	1 - 250 mL Plastic	NaOH	Y
		TAL-Metals & Mercury (Dissolved) **Field Filtered**	1 - 250 mL Plastic	HNO3	Y
** Avail cyanide also		Hexavalent Chromium (Dissolved) **Field Filtered**	1 - 250 mL Plastic	None	Y
		Matrix Spike			N
		Duplicate			N

Sampled By: LLP

Comments: est. purge amt. from previous water level, well broken 1" above surface and bent 2" below ground. could not gauge.

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)

previous DTW: 13.15' TOC DTB: 21.81' TOC

Low Flow Sampling
Temporary Piezometers

ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: Area B Parcel B23	Project Number: 150300m-24-3
Piezometer Number: B23-049-PZ	Date: 11/26/18
Piezometer Diameter (in): 1	One Well Volume (gal): 0.18
Depth to Product (ft): NA	QED Controller Settings: ____
Depth to Water (ft): 10.14 bgs *	Flow Rate (mL/min) 185
Product Thickness (ft): NA	Length of time Purged (min) 35
Depth to Bottom (ft): 14.65 bgs *	

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
1407	0.5	10.17	18.02	11.05	0.266	0.0	-144	164	
1412	0.7	10.20	17.68	11.08	0.266	0.0	-173	47.3	
1417	0.9	10.21	17.14	11.07	0.270	0.0	-179	14.0	
1422	1.10	10.21	16.71	11.07	0.270	0.0	-180	9.0	
1427	1.30	10.21	16.39	11.06	0.272	0.0	-179	7.3	
1432	1.50	10.22	15.88	11.07	0.275	0.0	-179	3.5	
1437	1.70	10.22	15.34	11.06	0.279	0.0	-178	1.9	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
B23-049-PZ	1445	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	Y
		Oil & Grease	2 - 1 L Amber	HCl	Y
		Total Cyanide	1 - 250 mL Plastic	NaOH	Y
		TAL-Metals & Mercury (Dissolved) **Field Filtered**	1 - 250 mL Plastic	HNO3	Y
* Avail. cyanide		Hexavalent Chromium (Dissolved) **Field Filtered**	1 - 250 mL Plastic	None	Y
		Matrix Spike			N
		Duplicate			N

Sampled By: LCP

Comments: purged 0.5 gallons

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 Area B Parcel B23 Phase II Date 11-26-18
Weather 50s, Cloudy
Calibrated by L. Perrin Instrument Horiba
Serial Number 2B0MSAX4

Parameters	Morning Calibration	Morning Temperature	End of Day Calibration Check	End of Day Temperature
Specific Conductance Standard 4.49 mS/cm	4.49	48 F¥	4.69	50 F¥
Specific Conductance Standard #2	-		-	
pH (7)	-		-	
pH (4)	4.00		4.00	
pH(10)	-		-	
ORP Zobel Solution	-		-	
Dissolved Oxygen 100% water saturated air mg/L	-		-	
Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L	9.21¥		9.18¥	
Barometric Pressure in. Hg	755.396		748.030	
Turbidity #1 (0 NTU)	0.0		0.2¥	
Turbidity #2 (1 NTU)	-		-	
Turbidity #3 (10 NTU)	-		-	

¥ Turbidity and Dissolved Oxygen were outside of the calibration acceptance criteria. Temperature is an estimate. Values displayed on field purge logs may be inaccurate.

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name Area B Parcel B23 Phase II Date 11-27-18
Weather 30s, Sunny
Calibrated by L. Perrin Instrument Horiba
Serial Number 2B0MSAX4

Parameters	Morning Calibration	Morning Temperature	End of Day Calibration Check	End of Day Temperature
Specific Conductance Standard 4.49 mS/cm	4.41	41 F¥	4.49	38 F¥
Specific Conductance Standard #2	-		-	
pH (7)	-		-	
pH (4)	4.00		3.98	
pH(10)	-		-	
ORP Zobel Solution	-		-	
Dissolved Oxygen 100% water saturated air mg/L	-		-	
Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L	9.63¥		Not Stable	
Barometric Pressure in. Hg	752.856		752.602	
Turbidity #1 (0 NTU)	0.0		3.6¥	
Turbidity #2 (1 NTU)	-		-	
Turbidity #3 (10 NTU)	-		-	

¥ Turbidity and Dissolved Oxygen were outside of the calibration acceptance criteria. Temperature is an estimate. Values displayed on field purge logs may be inaccurate.

APPENDIX F

Parcel B23 - IDW Drum Log

Drum Identification Number	Designation	Activity/Phase	Contents	Open Date
1046-Soil-7/26/18-B23	Non-Haz	Parcel B23 Phase II Investigation	Soil	7/26/2018
1068-PPE-9/12/18-B23	Non-Haz	Parcel B23 Phase II Investigation	PPE	9/12/2018
1069-Liners-9/12/18-B23	Non-Haz	Parcel B23 Phase II Investigation	Liners	9/12/2018
1070-Liners-9/18/18-B23	Non-Haz	Parcel B23 Phase II Investigation	Liners	9/18/2018
1071-Soil-9/18/18-B23	Non-Haz	Parcel B23 Phase II Investigation	Soil	9/18/2018
1079-Decon Water-10/11/18-B14-B23	Non-Haz	Parcel B23 Phase II Investigation	Water	10/11/2018
1114-PPE-11/6/18-B23	Non-Haz	Parcel B23 Phase II Investigation	PPE	11/6/2018
1130-Purge Water-11/15/18-B23	Non-Haz	Parcel B23 Phase II Investigation	Water	11/15/2018

APPENDIX G

NAPL Gauging Activities
Parcel B23
Tradepoint Atlantic
Sparrows Point, Maryland

Sample ID	Installation Date	Well Total Depth (Feet bgs)	Screen Interval (Feet bgs)	Riser Stick-Up (Feet)	9/12/2018			9/14/2018		
					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)
B23-002-PZ	9/12/2018	16	6-16	2.52	-	13.20	-	-	13.27	-
B23-010-PZ	9/17/2018	16	6-16	3.92	NA	NA	NA	NA	NA	NA
B23-011-PZ	9/17/2018	14	4-14	2.16	NA	NA	NA	NA	NA	NA
B23-014-PZ	9/14/2018	14	6-14	2.40	NA	NA	NA	-	11.86	-
B23-015-PZ	9/17/2018	15	5-15	3.82	NA	NA	NA	NA	NA	NA
B23-021-PZ	9/18/2018	15	5-15	3.62	NA	NA	NA	NA	NA	NA
B23-048-PZ	11/6/2018	20	10-20	3.03	NA	NA	NA	NA	NA	NA

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

NAPL Gauging Activities
Parcel B23
Tradepoint Atlantic
Sparrows Point, Maryland

Sample ID	Installation Date	Well Total Depth (Feet bgs)	Screen Interval (Feet bgs)	Riser Stick-Up (Feet)	9/17/2018			9/18/2018		
					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)
B23-002-PZ	9/12/2018	16	6-16	2.52	NM	NM	NM	NM	NM	NM
B23-010-PZ	9/17/2018	16	6-16	3.92	-	13.11	-	NM	NM	NM
B23-011-PZ	9/17/2018	14	4-14	2.16	-	11.54	-	NM	NM	NM
B23-014-PZ	9/14/2018	14	6-14	2.40	-	15.79	-	NM	NM	NM
B23-015-PZ	9/17/2018	15	5-15	3.82	-	12.83	-	NM	NM	NM
B23-021-PZ	9/18/2018	15	5-15	3.62	NA	NA	NA	-	13.56	-
B23-048-PZ	11/6/2018	20	10-20	3.03	NA	NA	NA	NA	NA	NA

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

NAPL Gauging Activities
Parcel B23
Tradepoint Atlantic
Sparrows Point, Maryland

Sample ID	Installation Date	Well Total Depth (Feet bgs)	Screen Interval (Feet bgs)	Riser Stick-Up (Feet)	9/19/2018			9/20/2018		
					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)
B23-002-PZ	9/12/2018	16	6-16	2.52	NM	NM	NM	NM	NM	NM
B23-010-PZ	9/17/2018	16	6-16	3.92	-	13.15	-	NM	NM	NM
B23-011-PZ	9/17/2018	14	4-14	2.16	-	11.57	-	NM	NM	NM
B23-014-PZ	9/14/2018	14	6-14	2.40	NM	NM	NM	NM	NM	NM
B23-015-PZ	9/17/2018	15	5-15	3.82	-	12.86	-	NM	NM	NM
B23-021-PZ	9/18/2018	15	5-15	3.62	NM	NM	NM	-	13.57	-
B23-048-PZ	11/6/2018	20	10-20	3.03	NA	NA	NA	NA	NA	NA

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

NAPL Gauging Activities
Parcel B23
Tradepoint Atlantic
Sparrows Point, Maryland

Sample ID	Installation Date	Well Total Depth (Feet bgs)	Screen Interval (Feet bgs)	Riser Stick-Up (Feet)	11/6/2018			11/8/2018		
					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)
B23-002-PZ	9/12/2018	16	6-16	2.52	NM	NM	NM	NM	NM	NM
B23-010-PZ	9/17/2018	16	6-16	3.92	NM	NM	NM	NM	NM	NM
B23-011-PZ	9/17/2018	14	4-14	2.16	NM	NM	NM	NM	NM	NM
B23-014-PZ	9/14/2018	14	6-14	2.40	NM	NM	NM	NM	NM	NM
B23-015-PZ	9/17/2018	15	5-15	3.82	NM	NM	NM	NM	NM	NM
B23-021-PZ	9/18/2018	15	5-15	3.62	NM	NM	NM	NM	NM	NM
B23-048-PZ	11/6/2018	20	10-20	3.03	-	13.32	-	-	13.15	-

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

NAPL Gauging Activities
Parcel B23
Tradepoint Atlantic
Sparrows Point, Maryland

Sample ID	Installation Date	Well Total Depth (Feet bgs)	Screen Interval (Feet bgs)	Riser Stick-Up (Feet)	11/9/2018			8/16/2019		
					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)
B23-002-PZ	9/12/2018	16	6-16	2.52	-	12.86	-	Destroyed		
B23-010-PZ	9/17/2018	16	6-16	3.92	-	12.68	-	-	15.37	-
B23-011-PZ	9/17/2018	14	4-14	2.16	-	11.18	-	-	13.66	-
B23-014-PZ	9/14/2018	14	6-14	2.40	-	11.64	-	-	14.82	-
B23-015-PZ	9/17/2018	15	5-15	3.82	-	12.43	-	Destroyed		
B23-021-PZ	9/18/2018	15	5-15	3.62	-	13.14	-	-	17.50	-
B23-048-PZ	11/6/2018	20	10-20	3.03	NM	NM	NM	Destroyed		

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

APPENDIX H

QA/QC Tracking Log

Trip Blank:	Date:	Sample IDs:		
	7/26/2018	1) B23-036-SB-1		
		2) B23-036-SB-4		
		3) B23-035-SB-1		
		4) B23-035-SB-5		
	9/12/2018	5) B23-003-SB-1		
		6) B23-003-SB-5		
		7) B23-003-SB-10	Duplicate:	B23-001-SB-1
X		8) B23-016-SB-1	Date:	9/12/2019
		9) B23-017-SB-1	MS/MSD:	B23-034-SB-5
X		10) B23-017-SB-4	Date:	9/12/2018
		11) B23-017-SB-10	Field Blank:	
		12) B23-002-SB-1	Date:	9/12/2018
X		13) B23-002-SB-8.5	Eq. Blank:	
		14) B23-002-SB-10	Date:	9/12/2018
		15) B23-001-SB-15		
X		16) B23-034-SB-1		
		17) B23-034-SB-5		
		18) B23-034-SB-10		
	9/13/2018	19) B23-008-SB-1.5		
		20) B23-008-SB-5		

Trip Blank:	Date:	Sample IDs:		
	9/14/2018	1) B23-033-SB-1		
		2) B23-033-SB-5		
		3) B23-029-SB-1.5		
		4) B23-029-SB-5		
		5) B23-019-SB-1		
		6) B23-019-SB-5		
X		7) B23-014-SB-1	Duplicate:	B23-033-SB-5
		8) B23-014-SB-5	Date:	9/14/2018
X	9/17/2018	9) B23-009-SB-1.5	MS/MSD:	B23-029-SB-5
X		10) B23-009-SB-5	Date:	9/14/2018
X		11) B23-010-SB-1	Field Blank:	
X		12) B23-010-SB-4	Date:	9/17/2018
X		13) B23-015-SB-2	Eq. Blank:	
X		14) B23-015-SB-8	Date:	9/17/2018
		15) B23-011-SB-1		
X		16) B23-011-SB-5		
X		17) B23-023-SB-1		
		18) B23-023-SB-5		
X		19) B23-024-SB-1		
X		20) B23-024-SB-5		

Trip Blank:	Date:	Sample IDs:		
	9/13/2018	1) B23-008-SB-10		
		2) B23-007-SB-1		
X		3) B23-007-SB-4		
		4) B23-007-SB-10		
		5) B23-004-SB-1.5		
		6) B23-004-SB-5		
		7) B23-004-SB-10	Duplicate:	B23-007-SB-1
X		8) B23-030-SB-1	Date:	9/13/2018
X		9) B23-030-SB-3	MS/MSD:	B23-004-SB-1.5
		10) B23-025-SB-1.5	Date:	9/13/2018
		11) B23-025-SB-5	Field Blank:	
X		12) B23-026-SB-1	Date:	9/13/2018
X		13) B23-026-SB-4	Eq. Blank:	
	9/14/2018	14) B23-032-SB-1	Date:	9/13/2018
		15) B23-032-SB-5		
		16) B23-031-SB-1		
		17) B23-031-SB-5		
		18) B23-027-SB-1		
		19) B23-027-SB-5		
		20) B23-027-SB-10		

Trip Blank:	Date:	Sample IDs:		
	9/17/2018	1) B23-028-SB-2		
		2) B23-028-SB-5		
	9/18/2018	3) B23-013-SB-1		
		4) B23-013-SB-5		
		5) B23-012-SB-1.5		
		6) B23-012-SB-5		
		7) B23-020-SB-1.5	Duplicate:	B23-013-SB-1
		8) B23-020-SB-7	Date:	9/18/2018
		9) B23-018-SB-1	MS/MSD:	B23-006-SB-1
X		10) B23-008-SB-8	Date:	9/18/2018
		11) B23-006-SB-1	Field Blank:	
		12) B23-006-SB-5	Date:	9/18/2018
		13) B23-005-SB-1	Eq. Blank:	
X		14) B23-0058-SB-4	Date:	9/18/2018
		15) B23-021-SB-1		
X		16) B23-021-SB-8		
X		17) B23-022-SB-1		
		18) B23-022-SB-4		
		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.

QA/QC Tracking Log

Trip Blank:	Date:	Sample IDs:	
TB1	11/26/2018	1) B23-048-PZ	
		2) B23-046-PZ	
		3) B23-049-PZ	
TB1	11/27/2019	4) B23-047-PZ	
		5) B23-021-PZ	
		6) B23-015-PZ	
		7) B23-010-PZ	Duplicate: B23-021-PZ
		8)	Date: 11/27/2018
		9)	MS/MSD: B23-047-PZ
		10)	Date: 11/27/2018
		11)	Field Blank:
		12)	Date: 11/27/2018
		13)	Eq. Blank:
		14)	Date:
		15)	
		16)	
		17)	
		18)	
		19)	
		20)	

Trip Blank:	Date:	Sample IDs:	
N/A	2/14/2019	1) B23-037-SG	
		2) B23-038-SG	
		3) B23-039-SG	
		4) B23-040-SG	
		5) B23-041-SG	
		6) B23-042-SG	
		7) B23-043-SG	Duplicate: B23-037-SG
		8) B23-044-SG	Date: 2/14/2019
		9) B23-045-SG	MS/MSD: N/A
		10)	Date:
		11)	Field Blank:
		12)	Date: 2/14/2019
		13)	Eq. Blank:
		14)	Date: 2/14/2019
		15)	
		16)	
		17)	
		18)	
		19)	
		20)	

	11/5/2018	1) B23-049-SB-1.5	
X		2) B23-049-SB-8	
		3) B23-049-SB-10	
	11/6/2018	4) B23-048-SB-1.3	
X		5) B23-048-SB-9	
		6) B23-048-SB-10	
		7)	Duplicate: B23-049-SB-1.5
		8)	Date: 11/5/2018
		9)	MS/MSD: B23-049-SB-8
		10)	Date: 11/5/2018
		11)	Field Blank:
		12)	Date: 11/6/2018
		13)	Eq. Blank:
		14)	Date: 11/6/2018
		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 I

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
Cyanide	CN	Soil	mg/kg	28	26	0	28	100.00%
Aluminum	Metal	Soil	mg/kg	28	28	0	28	100.00%
Antimony	Metal	Soil	mg/kg	28	6	0	28	100.00%
Arsenic	Metal	Soil	mg/kg	33	29	0	33	100.00%
Barium	Metal	Soil	mg/kg	28	28	0	28	100.00%
Beryllium	Metal	Soil	mg/kg	28	24	0	28	100.00%
Cadmium	Metal	Soil	mg/kg	28	22	0	28	100.00%
Chromium	Metal	Soil	mg/kg	28	28	0	28	100.00%
Chromium VI	Metal	Soil	mg/kg	28	10	5	23	82.14%
Cobalt	Metal	Soil	mg/kg	28	28	0	28	100.00%
Copper	Metal	Soil	mg/kg	28	28	0	28	100.00%
Iron	Metal	Soil	mg/kg	28	28	0	28	100.00%
Lead	Metal	Soil	mg/kg	29	29	0	29	100.00%
Manganese	Metal	Soil	mg/kg	28	28	0	28	100.00%
Mercury	Metal	Soil	mg/kg	28	26	0	28	100.00%
Nickel	Metal	Soil	mg/kg	28	28	0	28	100.00%
Selenium	Metal	Soil	mg/kg	28	5	0	28	100.00%
Silver	Metal	Soil	mg/kg	28	16	0	28	100.00%
Thallium	Metal	Soil	mg/kg	28	7	0	28	100.00%
Vanadium	Metal	Soil	mg/kg	28	28	0	28	100.00%
Zinc	Metal	Soil	mg/kg	28	28	0	28	100.00%
Aroclor 1016	PCB	Soil	mg/kg	14	0	0	14	100.00%
Aroclor 1221	PCB	Soil	mg/kg	14	0	0	14	100.00%
Aroclor 1232	PCB	Soil	mg/kg	14	0	0	14	100.00%
Aroclor 1242	PCB	Soil	mg/kg	14	0	0	14	100.00%
Aroclor 1248	PCB	Soil	mg/kg	14	1	0	14	100.00%
Aroclor 1254	PCB	Soil	mg/kg	14	2	0	14	100.00%
Aroclor 1260	PCB	Soil	mg/kg	14	4	0	14	100.00%
Aroclor 1262	PCB	Soil	mg/kg	14	0	0	14	100.00%
Aroclor 1268	PCB	Soil	mg/kg	14	2	0	14	100.00%
PCBs (total)	PCB	Soil	mg/kg	14	4	0	14	100.00%
1,1-Biphenyl	SVOC	Soil	mg/kg	28	7	0	28	100.00%
1,2,4,5-Tetrachlorobenzene	SVOC	Soil	mg/kg	28	1	0	28	100.00%
2,3,4,6-Tetrachlorophenol	SVOC	Soil	mg/kg	28	0	3	25	89.29%
2,4,5-Trichlorophenol	SVOC	Soil	mg/kg	28	0	3	25	89.29%
2,4,6-Trichlorophenol	SVOC	Soil	mg/kg	28	0	3	25	89.29%
2,4-Dichlorophenol	SVOC	Soil	mg/kg	28	0	3	25	89.29%
2,4-Dimethylphenol	SVOC	Soil	mg/kg	28	0	3	25	89.29%
2,4-Dinitrophenol	SVOC	Soil	mg/kg	28	0	4	24	85.71%
2,4-Dinitrotoluene	SVOC	Soil	mg/kg	28	2	0	28	100.00%
2,6-Dinitrotoluene	SVOC	Soil	mg/kg	28	0	0	28	100.00%
2-Chloronaphthalene	SVOC	Soil	mg/kg	28	2	0	28	100.00%
2-Chlorophenol	SVOC	Soil	mg/kg	28	0	3	25	89.29%
2-Methylnaphthalene	SVOC	Soil	mg/kg	28	25	0	28	100.00%
2-Methylphenol	SVOC	Soil	mg/kg	28	1	3	25	89.29%
2-Nitroaniline	SVOC	Soil	mg/kg	28	0	0	28	100.00%
3&4-Methylphenol(m&p Cresol)	SVOC	Soil	mg/kg	28	4	3	25	89.29%

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	28	0	0	28	100.00%
4-Chloroaniline	SVOC	Soil	mg/kg	28	0	0	28	100.00%
4-Nitroaniline	SVOC	Soil	mg/kg	28	0	0	28	100.00%
Acenaphthene	SVOC	Soil	mg/kg	28	20	0	28	100.00%
Acenaphthylene	SVOC	Soil	mg/kg	28	28	0	28	100.00%
Acetophenone	SVOC	Soil	mg/kg	28	5	0	28	100.00%
Anthracene	SVOC	Soil	mg/kg	28	28	0	28	100.00%
Benz[a]anthracene	SVOC	Soil	mg/kg	29	28	0	29	100.00%
Benzaldehyde	SVOC	Soil	mg/kg	28	7	0	28	100.00%
Benzo[a]pyrene	SVOC	Soil	mg/kg	30	30	0	30	100.00%
Benzo[b]fluoranthene	SVOC	Soil	mg/kg	29	29	0	29	100.00%
Benzo[g,h,i]perylene	SVOC	Soil	mg/kg	28	26	0	28	100.00%
Benzo[k]fluoranthene	SVOC	Soil	mg/kg	28	28	0	28	100.00%
bis(2-chloroethoxy)methane	SVOC	Soil	mg/kg	28	0	0	28	100.00%
bis(2-Chloroethyl)ether	SVOC	Soil	mg/kg	28	1	0	28	100.00%
bis(2-Chloroisopropyl)ether	SVOC	Soil	mg/kg	28	0	0	28	100.00%
bis(2-Ethylhexyl)phthalate	SVOC	Soil	mg/kg	28	1	0	28	100.00%
Caprolactam	SVOC	Soil	mg/kg	28	5	0	28	100.00%
Carbazole	SVOC	Soil	mg/kg	28	10	0	28	100.00%
Chrysene	SVOC	Soil	mg/kg	28	27	0	28	100.00%
Dibenz[a,h]anthracene	SVOC	Soil	mg/kg	29	23	0	29	100.00%
Diethylphthalate	SVOC	Soil	mg/kg	28	0	0	28	100.00%
Di-n-butylphthalate	SVOC	Soil	mg/kg	28	0	0	28	100.00%
Di-n-ocytlphthalate	SVOC	Soil	mg/kg	28	0	0	28	100.00%
Fluoranthene	SVOC	Soil	mg/kg	28	28	0	28	100.00%
Fluorene	SVOC	Soil	mg/kg	28	21	0	28	100.00%
Hexachlorobenzene	SVOC	Soil	mg/kg	28	0	0	28	100.00%
Hexachlorobutadiene	SVOC	Soil	mg/kg	28	0	0	28	100.00%
Hexachlorocyclopentadiene	SVOC	Soil	mg/kg	28	0	0	28	100.00%
Hexachloroethane	SVOC	Soil	mg/kg	28	0	0	28	100.00%
Indeno[1,2,3-c,d]pyrene	SVOC	Soil	mg/kg	29	27	0	29	100.00%
Isophorone	SVOC	Soil	mg/kg	28	0	0	28	100.00%
Naphthalene	SVOC	Soil	mg/kg	29	28	0	29	100.00%
Nitrobenzene	SVOC	Soil	mg/kg	28	0	0	28	100.00%
N-Nitroso-di-n-propylamine	SVOC	Soil	mg/kg	28	0	0	28	100.00%
N-Nitrosodiphenylamine	SVOC	Soil	mg/kg	28	3	0	28	100.00%
Pentachlorophenol	SVOC	Soil	mg/kg	28	2	3	25	89.29%
Phenanthrene	SVOC	Soil	mg/kg	28	28	0	28	100.00%
Phenol	SVOC	Soil	mg/kg	28	3	3	25	89.29%
Pyrene	SVOC	Soil	mg/kg	28	28	0	28	100.00%
Diesel Range Organics	TPH	Soil	mg/kg	28	28	0	28	100.00%
Gasoline Range Organics	TPH	Soil	mg/kg	28	2	0	28	100.00%
Oil & Grease	TPH	Soil	mg/kg	29	29	0	29	100.00%
1,1,1-Trichloroethane	VOC	Soil	mg/kg	13	1	0	13	100.00%
1,1,2,2-Tetrachloroethane	VOC	Soil	mg/kg	13	0	0	13	100.00%
1,1,2-Trichloro-1,2,2-Trifluoroethane	VOC	Soil	mg/kg	13	0	0	13	100.00%
1,1,2-Trichloroethane	VOC	Soil	mg/kg	13	0	0	13	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
1,1-Dichloroethane	VOC	Soil	mg/kg	13	0	0	13	100.00%
1,1-Dichloroethene	VOC	Soil	mg/kg	13	0	0	13	100.00%
1,2,3-Trichlorobenzene	VOC	Soil	mg/kg	13	0	0	13	100.00%
1,2,4-Trichlorobenzene	VOC	Soil	mg/kg	13	0	0	13	100.00%
1,2-Dibromo-3-chloropropane	VOC	Soil	mg/kg	13	0	0	13	100.00%
1,2-Dibromoethane	VOC	Soil	mg/kg	13	0	0	13	100.00%
1,2-Dichlorobenzene	VOC	Soil	mg/kg	13	0	0	13	100.00%
1,2-Dichloroethane	VOC	Soil	mg/kg	13	0	0	13	100.00%
1,2-Dichloroethene (Total)	VOC	Soil	mg/kg	13	0	0	13	100.00%
1,2-Dichloropropane	VOC	Soil	mg/kg	13	0	0	13	100.00%
1,3-Dichlorobenzene	VOC	Soil	mg/kg	13	0	0	13	100.00%
1,4-Dichlorobenzene	VOC	Soil	mg/kg	13	0	0	13	100.00%
2-Butanone (MEK)	VOC	Soil	mg/kg	13	1	0	13	100.00%
2-Hexanone	VOC	Soil	mg/kg	13	0	0	13	100.00%
4-Methyl-2-pentanone (MIBK)	VOC	Soil	mg/kg	13	0	0	13	100.00%
Acetone	VOC	Soil	mg/kg	13	2	0	13	100.00%
Benzene	VOC	Soil	mg/kg	13	1	0	13	100.00%
Bromodichloromethane	VOC	Soil	mg/kg	13	0	0	13	100.00%
Bromoform	VOC	Soil	mg/kg	13	0	0	13	100.00%
Bromomethane	VOC	Soil	mg/kg	13	0	0	13	100.00%
Carbon disulfide	VOC	Soil	mg/kg	13	0	0	13	100.00%
Carbon tetrachloride	VOC	Soil	mg/kg	13	0	0	13	100.00%
Chlorobenzene	VOC	Soil	mg/kg	13	0	0	13	100.00%
Chloroethane	VOC	Soil	mg/kg	13	0	0	13	100.00%
Chloroform	VOC	Soil	mg/kg	13	1	0	13	100.00%
Chloromethane	VOC	Soil	mg/kg	13	0	0	13	100.00%
cis-1,2-Dichloroethene	VOC	Soil	mg/kg	13	0	0	13	100.00%
cis-1,3-Dichloropropene	VOC	Soil	mg/kg	13	0	0	13	100.00%
Cyclohexane	VOC	Soil	mg/kg	13	0	0	13	100.00%
Dibromochloromethane	VOC	Soil	mg/kg	13	0	0	13	100.00%
Dichlorodifluoromethane	VOC	Soil	mg/kg	13	0	0	13	100.00%
Ethylbenzene	VOC	Soil	mg/kg	13	2	0	13	100.00%
Isopropylbenzene	VOC	Soil	mg/kg	13	0	0	13	100.00%
Methyl Acetate	VOC	Soil	mg/kg	13	0	0	13	100.00%
Methyl tert-butyl ether (MTBE)	VOC	Soil	mg/kg	13	0	0	13	100.00%
Methylene Chloride	VOC	Soil	mg/kg	13	0	0	13	100.00%
Styrene	VOC	Soil	mg/kg	13	0	0	13	100.00%
Tetrachloroethene	VOC	Soil	mg/kg	13	1	0	13	100.00%
Toluene	VOC	Soil	mg/kg	13	2	0	13	100.00%
trans-1,2-Dichloroethene	VOC	Soil	mg/kg	13	0	0	13	100.00%
trans-1,3-Dichloropropene	VOC	Soil	mg/kg	13	0	0	13	100.00%
Trichloroethene	VOC	Soil	mg/kg	13	0	0	13	100.00%
Trichlorofluoromethane	VOC	Soil	mg/kg	13	0	0	13	100.00%
Vinyl chloride	VOC	Soil	mg/kg	13	0	0	13	100.00%
Xylenes	VOC	Soil	mg/kg	13	2	0	13	100.00%
1,4-Dioxane	VOC/SVOC	Soil	mg/kg	13	0	13	0	0.00%
Available Cyanide	CN	Water	ug/L	4	2	0	4	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
Total Cyanide	CN	Water	ug/L	4	3	0	4	100.00%
Aluminum	Metal	Water	ug/L	4	3	0	4	100.00%
Antimony	Metal	Water	ug/L	4	0	0	4	100.00%
Arsenic	Metal	Water	ug/L	4	2	0	4	100.00%
Barium	Metal	Water	ug/L	4	4	0	4	100.00%
Beryllium	Metal	Water	ug/L	4	0	0	4	100.00%
Cadmium	Metal	Water	ug/L	4	0	0	4	100.00%
Chromium	Metal	Water	ug/L	4	2	0	4	100.00%
Chromium VI	Metal	Water	ug/L	4	2	0	4	100.00%
Cobalt	Metal	Water	ug/L	4	0	0	4	100.00%
Copper	Metal	Water	ug/L	4	0	0	4	100.00%
Iron	Metal	Water	ug/L	4	3	0	4	100.00%
Lead	Metal	Water	ug/L	4	0	0	4	100.00%
Manganese	Metal	Water	ug/L	4	3	0	4	100.00%
Mercury	Metal	Water	ug/L	4	0	0	4	100.00%
Nickel	Metal	Water	ug/L	4	1	0	4	100.00%
Selenium	Metal	Water	ug/L	4	0	0	4	100.00%
Silver	Metal	Water	ug/L	4	0	0	4	100.00%
Thallium	Metal	Water	ug/L	4	0	0	4	100.00%
Vanadium	Metal	Water	ug/L	4	4	0	4	100.00%
Zinc	Metal	Water	ug/L	4	1	0	4	100.00%
1,1-Biphenyl	SVOC	Water	ug/L	4	1	0	4	100.00%
1,2,4,5-Tetrachlorobenzene	SVOC	Water	ug/L	4	0	0	4	100.00%
2,3,4,6-Tetrachlorophenol	SVOC	Water	ug/L	4	0	0	4	100.00%
2,4,5-Trichlorophenol	SVOC	Water	ug/L	4	0	0	4	100.00%
2,4,6-Trichlorophenol	SVOC	Water	ug/L	4	0	0	4	100.00%
2,4-Dichlorophenol	SVOC	Water	ug/L	4	0	0	4	100.00%
2,4-Dimethylphenol	SVOC	Water	ug/L	4	1	0	4	100.00%
2,4-Dinitrophenol	SVOC	Water	ug/L	4	0	0	4	100.00%
2,4-Dinitrotoluene	SVOC	Water	ug/L	4	0	0	4	100.00%
2,6-Dinitrotoluene	SVOC	Water	ug/L	4	0	0	4	100.00%
2-Chloronaphthalene	SVOC	Water	ug/L	4	0	0	4	100.00%
2-Chlorophenol	SVOC	Water	ug/L	4	0	0	4	100.00%
2-Methylnaphthalene	SVOC	Water	ug/L	4	4	0	4	100.00%
2-Methylphenol	SVOC	Water	ug/L	4	0	0	4	100.00%
2-Nitroaniline	SVOC	Water	ug/L	4	0	0	4	100.00%
3&4-Methylphenol(m&p Cresol)	SVOC	Water	ug/L	4	0	0	4	100.00%
3,3'-Dichlorobenzidine	SVOC	Water	ug/L	4	0	1	3	75.00%
4-Chloroaniline	SVOC	Water	ug/L	4	0	0	4	100.00%
4-Nitroaniline	SVOC	Water	ug/L	4	0	0	4	100.00%
Acenaphthene	SVOC	Water	ug/L	4	4	0	4	100.00%
Acenaphthylene	SVOC	Water	ug/L	4	3	0	4	100.00%
Acetophenone	SVOC	Water	ug/L	4	0	0	4	100.00%
Anthracene	SVOC	Water	ug/L	4	4	0	4	100.00%
Benz[a]anthracene	SVOC	Water	ug/L	4	2	0	4	100.00%
Benzaldehyde	SVOC	Water	ug/L	4	0	0	4	100.00%
Benzo[a]pyrene	SVOC	Water	ug/L	4	2	0	4	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
Benzo[b]fluoranthene	SVOC	Water	ug/L	4	2	0	4	100.00%
Benzo[g,h,i]perylene	SVOC	Water	ug/L	4	2	0	4	100.00%
Benzo[k]fluoranthene	SVOC	Water	ug/L	4	2	0	4	100.00%
bis(2-chloroethoxy)methane	SVOC	Water	ug/L	4	0	0	4	100.00%
bis(2-Chloroethyl)ether	SVOC	Water	ug/L	4	0	0	4	100.00%
bis(2-Chloroisopropyl)ether	SVOC	Water	ug/L	4	0	0	4	100.00%
bis(2-Ethylhexyl)phthalate	SVOC	Water	ug/L	4	0	0	4	100.00%
Caprolactam	SVOC	Water	ug/L	4	1	0	4	100.00%
Carbazole	SVOC	Water	ug/L	4	2	0	4	100.00%
Chrysene	SVOC	Water	ug/L	4	2	0	4	100.00%
Dibenz[a,h]anthracene	SVOC	Water	ug/L	4	2	0	4	100.00%
Diethylphthalate	SVOC	Water	ug/L	4	0	0	4	100.00%
Di-n-butylphthalate	SVOC	Water	ug/L	4	0	0	4	100.00%
Di-n-ocytlphthalate	SVOC	Water	ug/L	4	0	0	4	100.00%
Fluoranthene	SVOC	Water	ug/L	4	3	0	4	100.00%
Fluorene	SVOC	Water	ug/L	4	3	0	4	100.00%
Hexachlorobenzene	SVOC	Water	ug/L	4	0	0	4	100.00%
Hexachlorobutadiene	SVOC	Water	ug/L	4	0	0	4	100.00%
Hexachlorocyclopentadiene	SVOC	Water	ug/L	4	0	0	4	100.00%
Hexachloroethane	SVOC	Water	ug/L	4	0	0	4	100.00%
Indeno[1,2,3-c,d]pyrene	SVOC	Water	ug/L	4	2	0	4	100.00%
Isophorone	SVOC	Water	ug/L	4	0	0	4	100.00%
Naphthalene	SVOC	Water	ug/L	4	3	0	4	100.00%
Nitrobenzene	SVOC	Water	ug/L	4	0	0	4	100.00%
N-Nitroso-di-n-propylamine	SVOC	Water	ug/L	4	0	0	4	100.00%
N-Nitrosodiphenylamine	SVOC	Water	ug/L	4	0	0	4	100.00%
Pentachlorophenol	SVOC	Water	ug/L	4	0	0	4	100.00%
Phenanthrene	SVOC	Water	ug/L	4	3	0	4	100.00%
Phenol	SVOC	Water	ug/L	4	0	0	4	100.00%
Pyrene	SVOC	Water	ug/L	4	3	0	4	100.00%
Diesel Range Organics	TPH	Water	ug/L	4	4	0	4	100.00%
Gasoline Range Organics	TPH	Water	ug/L	4	0	0	4	100.00%
Oil & Grease	TPH	Water	ug/L	2	0	0	2	100.00%
1,1,1-Trichloroethane	VOC	Water	ug/L	4	0	0	4	100.00%
1,1,2,2-Tetrachloroethane	VOC	Water	ug/L	4	0	0	4	100.00%
1,1,2-Trichloro-1,2,2-Trifluoroethane	VOC	Water	ug/L	4	0	0	4	100.00%
1,1,2-Trichloroethane	VOC	Water	ug/L	4	0	0	4	100.00%
1,1-Dichloroethane	VOC	Water	ug/L	4	0	0	4	100.00%
1,1-Dichloroethene	VOC	Water	ug/L	4	0	0	4	100.00%
1,2,3-Trichlorobenzene	VOC	Water	ug/L	4	0	0	4	100.00%
1,2,4-Trichlorobenzene	VOC	Water	ug/L	4	0	0	4	100.00%
1,2-Dibromo-3-chloropropane	VOC	Water	ug/L	4	0	0	4	100.00%
1,2-Dibromoethane	VOC	Water	ug/L	4	0	0	4	100.00%
1,2-Dichlorobenzene	VOC	Water	ug/L	4	0	0	4	100.00%
1,2-Dichloroethane	VOC	Water	ug/L	4	0	0	4	100.00%
1,2-Dichloroethene (Total)	VOC	Water	ug/L	4	0	0	4	100.00%
1,2-Dichloropropane	VOC	Water	ug/L	4	0	0	4	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
1,3-Dichlorobenzene	VOC	Water	ug/L	4	0	0	4	100.00%
1,4-Dichlorobenzene	VOC	Water	ug/L	4	0	0	4	100.00%
2-Butanone (MEK)	VOC	Water	ug/L	4	0	0	4	100.00%
2-Hexanone	VOC	Water	ug/L	4	0	0	4	100.00%
4-Methyl-2-pentanone (MIBK)	VOC	Water	ug/L	4	0	0	4	100.00%
Acetone	VOC	Water	ug/L	4	0	0	4	100.00%
Benzene	VOC	Water	ug/L	4	2	0	4	100.00%
Bromodichloromethane	VOC	Water	ug/L	4	0	0	4	100.00%
Bromoform	VOC	Water	ug/L	4	0	0	4	100.00%
Bromomethane	VOC	Water	ug/L	4	0	0	4	100.00%
Carbon disulfide	VOC	Water	ug/L	4	0	0	4	100.00%
Carbon tetrachloride	VOC	Water	ug/L	4	0	0	4	100.00%
Chlorobenzene	VOC	Water	ug/L	4	0	0	4	100.00%
Chloroethane	VOC	Water	ug/L	4	0	0	4	100.00%
Chloroform	VOC	Water	ug/L	4	4	0	4	100.00%
Chloromethane	VOC	Water	ug/L	4	0	0	4	100.00%
cis-1,2-Dichloroethene	VOC	Water	ug/L	4	0	0	4	100.00%
cis-1,3-Dichloropropene	VOC	Water	ug/L	4	0	0	4	100.00%
Cyclohexane	VOC	Water	ug/L	4	0	0	4	100.00%
Dibromochloromethane	VOC	Water	ug/L	4	0	0	4	100.00%
Dichlorodifluoromethane	VOC	Water	ug/L	4	0	0	4	100.00%
Ethylbenzene	VOC	Water	ug/L	4	1	0	4	100.00%
Isopropylbenzene	VOC	Water	ug/L	4	0	0	4	100.00%
Methyl Acetate	VOC	Water	ug/L	4	0	0	4	100.00%
Methyl tert-butyl ether (MTBE)	VOC	Water	ug/L	4	0	0	4	100.00%
Methylene Chloride	VOC	Water	ug/L	4	0	0	4	100.00%
Styrene	VOC	Water	ug/L	4	0	0	4	100.00%
Tetrachloroethene	VOC	Water	ug/L	4	1	0	4	100.00%
Toluene	VOC	Water	ug/L	4	1	0	4	100.00%
trans-1,2-Dichloroethene	VOC	Water	ug/L	4	0	0	4	100.00%
trans-1,3-Dichloropropene	VOC	Water	ug/L	4	0	0	4	100.00%
Trichloroethene	VOC	Water	ug/L	4	0	0	4	100.00%
Trichlorofluoromethane	VOC	Water	ug/L	4	0	0	4	100.00%
Vinyl chloride	VOC	Water	ug/L	4	0	0	4	100.00%
Xylenes	VOC	Water	ug/L	4	1	0	4	100.00%
1,4-Dioxane	VOC/SVOC	Water	ug/L	4	3	0	4	100.00%
Hexachlorobutadiene	SVOC	Air	ug/m^3	9	0	0	9	100.00%
Naphthalene	SVOC	Air	ug/m^3	9	0	0	9	100.00%
1,1,1-Trichloroethane	VOC	Air	ug/m^3	9	8	0	9	100.00%
1,1,2,2-Tetrachloroethane	VOC	Air	ug/m^3	9	0	0	9	100.00%
1,1,2-Trichloro-1,2,2-Trifluoroethane	VOC	Air	ug/m^3	9	0	0	9	100.00%
1,1,2-Trichloroethane	VOC	Air	ug/m^3	9	0	0	9	100.00%
1,1-Dichloroethane	VOC	Air	ug/m^3	9	4	0	9	100.00%
1,1-Dichloroethene	VOC	Air	ug/m^3	9	0	0	9	100.00%
1,2,3-Trimethylbenzene	VOC	Air	ug/m^3	9	0	0	9	100.00%
1,2,4-Trichlorobenzene	VOC	Air	ug/m^3	9	0	0	9	100.00%
1,2,4-Trimethylbenzene	VOC	Air	ug/m^3	9	2	0	9	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-Dibromoethane	VOC	Air	ug/m^3	9	0	0	9	100.00%
1,2-Dichlorobenzene	VOC	Air	ug/m^3	9	0	0	9	100.00%
1,2-Dichloroethane	VOC	Air	ug/m^3	9	0	0	9	100.00%
1,2-Dichloroethene (Total)	VOC	Air	ug/m^3	9	0	0	9	100.00%
1,2-Dichloropropane	VOC	Air	ug/m^3	9	0	0	9	100.00%
1,3,5-Trimethylbenzene	VOC	Air	ug/m^3	9	0	0	9	100.00%
1,3-Dichlorobenzene	VOC	Air	ug/m^3	9	0	0	9	100.00%
1,4-Dichlorobenzene	VOC	Air	ug/m^3	9	0	0	9	100.00%
2-Butanone (MEK)	VOC	Air	ug/m^3	9	5	0	9	100.00%
2-Hexanone	VOC	Air	ug/m^3	9	0	0	9	100.00%
4-Methyl-2-pentanone (MIBK)	VOC	Air	ug/m^3	9	0	0	9	100.00%
Acetone	VOC	Air	ug/m^3	9	9	0	9	100.00%
Benzene	VOC	Air	ug/m^3	9	4	0	9	100.00%
Bromodichloromethane	VOC	Air	ug/m^3	9	0	0	9	100.00%
Bromoform	VOC	Air	ug/m^3	9	0	0	9	100.00%
Bromomethane	VOC	Air	ug/m^3	9	0	0	9	100.00%
Carbon disulfide	VOC	Air	ug/m^3	9	9	0	9	100.00%
Carbon tetrachloride	VOC	Air	ug/m^3	9	0	0	9	100.00%
Chlorobenzene	VOC	Air	ug/m^3	9	0	0	9	100.00%
Chloroethane	VOC	Air	ug/m^3	9	0	0	9	100.00%
Chloroform	VOC	Air	ug/m^3	9	8	0	9	100.00%
Chloromethane	VOC	Air	ug/m^3	9	3	0	9	100.00%
cis-1,2-Dichloroethene	VOC	Air	ug/m^3	9	0	0	9	100.00%
cis-1,3-Dichloropropene	VOC	Air	ug/m^3	9	0	0	9	100.00%
Cyclohexane	VOC	Air	ug/m^3	9	3	0	9	100.00%
Dibromochloromethane	VOC	Air	ug/m^3	9	0	0	9	100.00%
Dichlorodifluoromethane	VOC	Air	ug/m^3	9	2	0	9	100.00%
Ethylbenzene	VOC	Air	ug/m^3	9	0	0	9	100.00%
Isopropylbenzene	VOC	Air	ug/m^3	9	0	0	9	100.00%
Methyl tert-butyl ether (MTBE)	VOC	Air	ug/m^3	9	0	0	9	100.00%
Methylene Chloride	VOC	Air	ug/m^3	9	1	0	9	100.00%
Styrene	VOC	Air	ug/m^3	9	0	0	9	100.00%
Tetrachloroethene	VOC	Air	ug/m^3	9	5	0	9	100.00%
Toluene	VOC	Air	ug/m^3	9	3	0	9	100.00%
trans-1,2-Dichloroethene	VOC	Air	ug/m^3	9	0	0	9	100.00%
trans-1,3-Dichloropropene	VOC	Air	ug/m^3	9	0	0	9	100.00%
Trichloroethene	VOC	Air	ug/m^3	9	4	0	9	100.00%
Trichlorofluoromethane	VOC	Air	ug/m^3	9	3	0	9	100.00%
Vinyl chloride	VOC	Air	ug/m^3	9	0	0	9	100.00%
Xylenes	VOC	Air	ug/m^3	9	0	0	9	100.00%
1,4-Dioxane	VOC/SVOC	Air	ug/m^3	9	0	0	9	100.00%

Data validation has been completed for a representative 30% of all samples