# PHASE II
# INVESTIGATION REPORT

AREA B: PARCEL B20
TRADEPOINT ATLANTIC
SPARROWS POINT, MARYLAND

Prepared For:

**TRADEPOINT ATLANTIC**
1600 Sparrows Point Boulevard
Sparrows Point, Maryland 21219

Prepared By:

**ARM GROUP LLC**
9175 Guilford Road
Suite 310
Columbia, Maryland 21046

ARM Project No. 20010220

Respectfully Submitted,

Taylor R. Smith, P.E.
Project Manager

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

Revision 0 – January 14, 2021

# TABLE OF CONTENTS

# TABLE OF CONTENTS
# (CONT.)

## FIGURES



## TABLES

# TABLE OF CONTENTS
# (CONT.)

## APPENDICES



## ELECTRONIC ATTACHMENTS

# 1.0 INTRODUCTION

ARM Group LLC (ARM), on behalf of Tradepoint Atlantic, 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 B20 (the Site). Parcel B20 is comprised of 78.6 acres of the approximately 3,100-acre former steel making facility (**Figure 1**). The Site is bounded to the south and east by the surface water bodies of the Patapsco River and Old Road Bay, respectively, and to the north and west by historical bulk materials handling and storage areas (within Parcel B13).

The Phase II Investigation was performed in accordance with procedures outlined in the approved Phase II Investigation Work Plan for Area B: Parcel B20. This Work Plan (Revision 0 dated June 28, 2019) and an associated Comment Response Letter (dated December 26, 2019) were collectively approved by the Maryland Department of the Environment (MDE) and United States Environmental Protection Agency (USEPA) via email on February 4, 2020. The Work Plan was implemented 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 B20 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 MDE's Voluntary Cleanup Program (MDE-VCP) was submitted to the MDE and delivered on June 27, 2014. The property's current and anticipated future use is Tier 3 (Industrial), and plans for the property include demolition and redevelopment over the next several years.

## 1.1. SITE HISTORY

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

Parcel B20 is occupied by the Mill Building (which is currently being leased to Lafarge) in the central portion of the Site. Lafarge manufactures cement additives and maintains stockpiles of sand, slag, granulated slag, and various other materials for cement production. The Mill Building historically was operated by the Blue Circle Atlantic Cement Company (Blue Circle Cement). The building was historically associated with the transportation of water granulated blast furnace slag and other aggregate materials. Workers at the Blue Circle Cement facility produced dry cement and concrete mixes.

The historical Pennwood Warf building is located in the northern portion of the Site along Old Road Bay. The foundation of the Pennwood Warf building is suspended above Old Road Bay, with an open void space below approximately half of the building foundation. The Pennwood Warf was historically used as a shipping port for steel products that were produced at the Sparrows Point facility. According to the 1978 Environmental Impact Statement (EIS) submitted as part of a Slag Disposal Application, the Pennwood Warf was also used to receive construction materials and general cargo for the steel making facility. In 1965, the Bethlehem Steel Corporation applied for a permit that would allow the expansion of the area of property shoreline to the south of the Pennwood Wharf by filling in an additional portion of the Patapsco River with slag fill. The proposed slag fill area originally requested an expansion of 25 acres but was reduced to 7.3 acres. In 1978, Bethlehem Steel withdrew their Pennwood Wharf expansion permit application from their general development plans due to insufficient volumes of exports to justify expansion. The permit application and subsequent withdrawal were documented in the 1978 EIS document.

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

Ground surface elevations at the Site are reflective of the slag storage and reclamation activities that are present throughout the parcel. Various steep slopes and elevated stockpiles are distributed throughout the parcel. Elevations may exceed 50 feet above mean sea level (amsl) in some stockpiled areas, and the ground surface decreases to 0 feet amsl at the shoreline. According to Figure B-2 of the Stormwater Pollution Prevention Plan (SWPPP) Revision 8 dated April 30, 2020, surface water runoff from Parcel B20 is discharged to the east through the National Pollutant Discharge Elimination System (NPDES) permitted Outfalls 059 and 065. A gravel filter berm and vegetated buffer are located along the southern and eastern boundaries of the Site, which treat any additional overland flow that is not directed toward the permitted outfalls.

## 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 100% non-native fill materials (i.e., 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 was comprised of non-native fill materials including slag, sand, and gravel, with only minor observations of clay and other components. Shallow groundwater was observed in soil cores at depths from approximately 4 to 27 feet below ground surface (bgs) across the Site; however, groundwater was not encountered at every boring location. Soil boring observation logs are provided in **Appendix B**. 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 at the Site via the installation of nine temporary groundwater sample collection points (commonly referred to as piezometers). Sample locations where piezometers were installed within Parcel B20 included B20-006-PZ, B20-010-PZ, B20-012-PZ, B20-014-PZ, B20-027-PZ, B20-031-PZ, B20-033-PZ, B20-034-PZ, and B20-035-PZ. **Figure 3** shows an aerial view of the piezometers which were installed and sampled to characterize groundwater conditions below Parcel B20. A piezometer was originally specified to be installed at B20-028-PZ; however, this location could not be installed due to equipment refusal. B20-027-PZ was installed as a replacement for the originally planned location.

The piezometers were surveyed by a Maryland-licensed surveyor, and the supporting documentation from the survey is included in **Appendix C**. A synoptic round of groundwater level measurements was completed on October 27, 2020. Surveyed top of casing (TOC) elevations for all applicable locations can be found in **Table 1**, along with the depth to water (DTW) measurements from this date. B20-010-PZ was excluded from the survey and synoptic gauging event because of damage to the piezometer. Based on the recorded field measurements, a groundwater potentiometric surface map was constructed for the shallow hydrogeologic zone. The localized potentiometric map for shallow groundwater has been included on **Figure 3**. The elevation contours indicate that groundwater generally flows from west to east across the Site; however, it should be noted that the groundwater elevation gradient is very shallow. All of the computed groundwater elevations are between 0 and 1 foot amsl.

# 3.0 SITE INVESTIGATION

A total of 80 soil samples (from 36 boring locations), nine groundwater samples, and three sub-slab soil gas samples were collected for analysis between May 12 and October 23, 2020 as part of the Parcel B20 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 methods, and reporting requirements are described in detail in the approved Parcel B20 Work Plan 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. There were no RECs, SWMUs, or AOCs identified at the Site based on the Phase I ESA or DCC Report.

Four sets of historical drawings were also reviewed to identify potential sampling targets for the Site. These drawings included the 5000 Set (Plant Arrangement), the 5100 Set (Plant Index), the 5500 Set (Plant Sewer Lines), and a set of drawings indicating coke oven gas distribution drip leg locations. Drip legs are points throughout the distribution system where coke oven gas condensate was removed from the gas pipelines. The condensate from the drip legs was typically discharged to drums, although it is possible some spilled out of the drums and onto the ground. There were no drip legs identified within the Parcel B20 boundary. ARM also reviewed a list of former PCB-containing transformer equipment on the property via a historical PCB Inventory Map. One possible PCB-containing area (Pennwood Warf Inactive Substation) was identified on Parcel B20 from the PCB Inventory Map.

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, sampling targets were identified at the Site which included the following: Pennwood Warf, Possible PCB Containing Area (Pennwood Warf Inactive Substation), Service Building, Storage Areas, Tanks, Active Substations, and Raw Slag Pile. Additional sample locations were distributed to provide complete coverage of the Site and to fill in areas with insufficient coverage. A summary table of the investigation plan, 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, primarily due to equipment refusal and access restrictions caused by the presence of large stockpiles. **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. Two borings (B20-025-SB and B20-029-SB) were shifted significantly from the originally proposed locations. B20-025-SB targeted an historical slag pile present on plant drawings; this location was shifted approximately 300 feet southeast due to access issues caused by the presence of large material stockpiles and persistent refusal. B20-029-SB provided general site coverage along the southern shoreline; this location was shifted approximately 300 feet west due to access issues and the presence of coastal debris.

The density of soil borings met the requirements set forth in QAPP Worksheet 17 – Sampling Design and Rationale. Parcel B20 contains a total of 78.6 acres. A total of 2.9 acres consist of existing structures associated with the Mill Building (Lafarge), the Pennwood Warf building, and other historical buildings. The eastern portion of the parcel includes approximately 3.8 acres of open water, as well as the section of the Pennwood Warf building that is suspended above Old Road Bay. This area overhanging the water was excluded from the sampling plan. The total remaining area of the Site (74.8 acres) was evaluated according to the sampling density requirements for areas without engineered barriers. In accordance with the sampling density requirements, a minimum of 35 soil borings were required to cover the Site. A total of 36 soil borings were completed during the Phase II Investigation.

### 3.2. SOIL INVESTIGATION

Continuous core soil borings were advanced at 36 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**). The 36 continuous core soil borings were advanced to a maximum depth of 35 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) and/or the Terra Sonic International: TSi 150CC. The sonic drill rig was used at select borings that had previously

encountered equipment refusal when using the conventional Geoprobe®. At each of the 36 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**. The USCS group symbols provided on the attached boring logs are from visual observations.

In each boring, one shallow sample was collected from the 0 to 1 foot depth interval. If unsuitable surface cover materials (such as asphalt pavement) were present, the first 1 foot of soil beneath this layer was collected as the shallow sample. An underlying sample was collected from the 4 to 5 foot depth interval from each continuous core soil boring, but could be adjusted based on field observations. If the PID or other field observations indicated contamination to exist at a depth greater than 3 feet bgs but less than 9 feet bgs, and above the water table, the sample from the deeper 4 to 5 foot interval was shifted to the alternate depth interval. One additional set of samples was collected from the 9 to 10 foot depth interval if groundwater had not been encountered. The 10-foot bgs samples were held by the laboratory prior to analysis in accordance with the requirements given in the Parcel B20 Work Plan. These project-specific requirements for the analysis of 10-foot bgs samples are further described below. It should be noted that soil samples were not collected from a depth that was below the water table.

In one case, the top sampling interval (typ. 0 to 1 foot bgs) was adjusted downward due to planned slag reclamation activities. Approximately 14 feet of slag are proposed to be excavated and recovered at the location of boring B20-011-SB, which will bring the elevation down from 28 feet amsl to a final proposed elevation of 14 feet amsl in this area directly along the border between Parcel B20 and Parcel B13. To account for the planned slag recovery, sampling intervals were adjusted accordingly. The top sample was collected from 15 feet bgs and an underlying sample was collected from 18 feet bgs (directly above observed groundwater). The adjusted sample intervals are noted on the soil boring log. All soil collection procedures were implemented as usual, accounting for the adjusted sample depths.

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. Sample containers, preservatives, and holding times for the sample analyses are listed in the QAPP Worksheet 19 & 30 – Sample Containers, Preservation, and Holding Times. Down-hole soil sampling equipment was decontaminated after soil sampling had been concluded at each location, according to the procedures and methods referenced in **Field SOP Number 016** provided in Appendix A of the QAPP.

Each soil sample collected during this investigation was submitted to Pace Analytical Services, Inc. (PACE) for analysis. As stated above, the 10-foot bgs samples were held prior to analysis in accordance with the Parcel B20 Work Plan requirements. Excluding these deep samples, the remaining soil samples were analyzed for Target Compound List (TCL) semi-volatile organic

compounds (SVOCs) via USEPA Method 8270, Oil & Grease via USEPA Method 9071, total petroleum hydrocarbon (TPH) diesel range organics (DRO) and gasoline range organics (GRO) via USEPA Method 8015, Target Analyte List (TAL) Metals via USEPA Methods 6010 and 7471, hexavalent chromium via USEPA Method 7196, and cyanide via USEPA Method 9012. The shallow soil samples collected across the Site from the 0 to 1 foot bgs interval were analyzed for polychlorinated biphenyls (PCBs) via USEPA Method 8082. 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 8260. The soil samples were also submitted to Alpha Analytical, Inc. (Alpha) for analysis of polynuclear aromatic hydrocarbons (PAHs) via USEPA Method 8270 SIM.

If the PID reading from the deep sampling interval was less than 10 ppm, all parameters were held by the laboratory pending the analysis of the overlying 0 to 1 and 4 to 5 foot bgs (or field adjusted) samples. If the deep sampling interval exhibited a sustained PID reading of 10 ppm or greater, the 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 deep interval was then released to be analyzed for those constituents that exhibited PAL exceedances in the overlying sample.

### 3.3. GROUNDWATER INVESTIGATION

Nine shallow temporary groundwater piezometers (B20-006-PZ, B20-010-PZ, B20-012-PZ, B20-014-PZ, B20-027-PZ, B20-031-PZ, B20-033-PZ, B20-034-PZ, and B20-035-PZ) were included in the parcel-specific sampling plan to characterize groundwater below Parcel B20 and to support the definition of the groundwater potentiometric surface. A piezometer was originally specified to be installed at B20-028-PZ; however, this location could not be installed due to equipment refusal and B20-027-PZ was installed as a replacement location. The locations where shallow groundwater samples were collected are provided on **Figure 3**.

Piezometer installation activities were conducted in accordance with the procedures and methods referenced in **Field SOP Number 028**. The piezometers were installed at each location using the Geoprobe® DT22 Dual Tube sampling system and/or the Terra Sonic International: TSi 150CC. During the installation of each piezometer, soil types were logged and screened with a hand-held PID. The piezometer construction logs have been included as part of **Appendix B**. 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 non-aqueous phase liquid (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 at each location 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 sample 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. Documentation of the multiparameter meter calibration is included in **Appendix E**.

Groundwater samples collected in Parcel B20 were submitted to PACE to be analyzed for TCL-VOCs via USEPA Method 8260, TCL-SVOCs via USEPA Methods 8270 and 8270 SIM, Oil & Grease via USEPA Method 1664, TPH-DRO/GRO via USEPA Methods 5030 and 8015, TAL-Dissolved Metals via USEPA Methods 6010 and 7470, dissolved hexavalent chromium via USEPA Method 7196, and total cyanide via USEPA Method 9012. 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 three sub-slab soil gas samples were collected from within the Mill Building at the locations shown on **Figure 5**. Some minor location shifts were required due to the building layout. 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 sampling point was allowed to equilibrate for at least 24 hours.

Following this equilibration period, 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 soil gas withdrawn from the subsurface.

While the shroud was inflated, soil gas 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 approximately 500 mL of soil gas that was withdrawn from the monitoring point. The soil gas 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 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 soil gas were removed. After the probe had been purged, an evacuated stainless steel Summa canister with a flow restrictor set for an 24-hour sampling intake time was attached to the tubing. The soil gas sample was then collected over a period of 24 hours. At the completion of the sampling period, the valve of the Summa canister was closed, and an identification tag was attached to the canister. The probes were then removed, the 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, 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 groundwater sample points;
- purged groundwater;
- decontamination fluids; and
- used personal protective equipment

Following the completion of field activities, two composite samples were gathered with aliquots from the Parcel B20 Phase II IDW soil drums for waste characterization. Two composite samples were required because the investigation was performed in two distinct phases (Geoprobe® and sonic drill rig) that both generated soil waste from the Site. Following the analysis, the waste soil from both investigation phases was characterized as non-hazardous. 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 B20 Phase II Investigation) were characterized by preparing composite samples from randomly selected drums. The composite samples 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. Based on this analysis, the aqueous

waste was also 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 this 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 PAL exceedances. PALs are generally based on the USEPA's Regional Screening Levels (RSLs) for the Composite Worker exposure to soil. The Composite Worker is defined by the USEPA as a long-term receptor exposed during the 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 in soil 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

**Table 6** provides a summary of VOCs detected above the laboratory's method detection limits (MDLs) in the soil samples collected from across the Site. Only samples which exhibited PID readings greater than 10 ppm were analyzed for VOCs. 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 PAHs have been adjusted upward based on revised toxicity data published in the USEPA RSL Composite Worker Soil Table. Therefore, any soil exceedances for PAHs are based on the adjusted PALs rather than those presented in the QAPP. Three PAHs (benzo[a]pyrene, benzo[b]fluoranthene, and dibenz[a,h]anthracene) were identified at concentrations above (or equal to) their respective PALs. Benzo[a]pyrene was detected above the PAL of 2.1 mg/kg in two soil samples with a maximum detection of 15 mg/kg in B20-033-SB-1. Benzo[b]fluoranthene and dibenz[a,h]anthracene were detected above (or equal to) their PALs in only one sample (B20-033-SB-1) at concentrations of 21 mg/kg and 2.5 mg/kg, respectively. The SVOC PAL exceedances are shown on **Figure 6**.

Shallow soil samples collected across the Site from the 0 to 1 foot bgs (or field adjusted) interval were analyzed for PCBs. **Table 6** provides a summary of PCBs detected above the laboratory's MDLs. The only PCBs that exceeded their respective PALs were Aroclor 1254 and total PCBs in one sample (B20-033-SB-1); both were detected at a concentration of 3.5 mg/kg. The PCB PAL exceedances are shown on **Figure 7**.

**Table 6** provides a summary of the TPH/Oil & Grease detections above the laboratory's MDLs in the soil samples collected from across the Site. There were no PAL exceedances of TPH-DRO or TPH-GRO. There were two detections of Oil & Grease above the PAL of 6,200 mg/kg, which were identified in shallow soil samples B20-020-SB-1 (at 13,600 mg/kg) and B20-021-SB-1 (at 8,090 mg/kg). The Oil & Grease PAL exceedances are shown on **Figure 8**. Each Oil & Grease exceedance had an underlying soil sample which had a significantly lower concentration of Oil & Grease that did not exceed the PAL. Additionally, no physical evidence of NAPL was observed in any soil cores completed during this investigation.

### 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. Four inorganic constituents (arsenic, manganese, thallium, and vanadium) were detected above their respective PALs. Arsenic was detected above (or equal to) its PAL of 3 mg/kg in 37 total soil samples analyzed for this constituent with a maximum detection of 12.7 mg/kg in B20-030-SB-5. Arsenic was by far the most common PAL exceedance. Manganese was detected above the PAL of 26,000 mg/kg in 12 soil samples with a maximum detection of 65,200 mg/kg in B20-022-SB-9. Thallium was detected above the PAL of 12 mg/kg in 21 soil samples with a maximum detection of 87.3 mg/kg in B20-022-SB-9. Vanadium was detected above the PAL of 5,800 mg/kg in one soil sample (B20-022-SB-9) with a detection of 5,810 mg/kg. The inorganic PAL exceedances are shown on **Figure 9**.

### 4.1.3. Soil Conditions: Results Summary

**Table 6** and **Table 7** provide a summary of the detected organic compounds and inorganics in the soil samples submitted for laboratory analysis, while **Figure 6** through **Figure 9** present the soil sample results that exceeded the PALs. PAL exceedances in soil within Parcel B20 were limited to three PAHs (benzo[a]pyrene, benzo[b]fluoranthene, and dibenz[a,h]anthracene), two PCB groups (Aroclor 1254 and total PCBs), Oil & Grease, and four metals (arsenic, manganese, thallium, and vanadium). **Table 8** provides a summary of results for all PAL exceedances in soil, including maximum values and detection frequencies. VOCs and TPH-DRO/GRO were not detected above their respective PALs and are not considered to be significant soil contaminants in Parcel B20.

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:

- There were no locations where detections of lead exceeded 10,000 mg/kg, the designated threshold at which delineation would be required.

- There were no locations where detections of PCBs exceeded 50 mg/kg, the designated threshold at which delineation and excavation would be required.

- There were no PAL exceedances of TPH-DRO/GRO in any of the soil samples collected at the Site. Soil samples B20-020-SB-1 and B20-021-SB-1 had detected concentrations of Oil & Grease above the PAL of 6,200 mg/kg. The underlying soil samples at each location (B20-020-SB-5 and B20-021-SB-5) had Oil & Grease detections of 287 mg/kg and 1,040 mg/kg, respectively, which are significantly lower and do not exceed the PAL. However, these identified boring locations should be considered for proximity to proposed utilities in any future development plans. No physical evidence of NAPL was observed in any soil cores completed during this investigation.

## 4.2. GROUNDWATER CONDITIONS

The analytical results for the detected parameters in groundwater are summarized and compared to the PALs in **Table 9** (Organics) and **Table 10** (Inorganics). The laboratory Certificates of Analysis (including Chains of Custody) and the associated 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 9** provides a summary of VOCs identified in groundwater samples above the laboratory's MDLs. Two VOCs (benzene and chloroform) were identified above their respective PALs, both exhibiting multiple exceedances. The maximum concentrations of benzene (116 µg/L) and chloroform (13.5 µg/L) were identified in B20-027-PZ and B20-006-PZ, respectively. The VOC PAL exceedances are shown on **Figure 10**.

**Table 9** provides a summary of SVOCs identified in the groundwater samples above the laboratory's MDLs. Similar to the evaluation of soil data, the PALs for relevant PAHs have been adjusted upward based on revised toxicity data published in the USEPA RSL Resident Tapwater Table. Four SVOCs (1,1-biphenyl, 1,4-dioxane, benz[a]anthracene, and naphthalene) were identified above their respective PALs. Each of these SVOCs exhibited multiple exceedances with the exception of 1,4-dioxane. The maximum detections of each identified SVOC in groundwater were 1.7 µg/L of 1,1-biphenyl (at B20-033-PZ), 1.4 µg/L of 1,4-dioxane (at B20-031-PZ), 0.098 µg/L of benz[a]anthracene (at B20-006-PZ), and 850 µg/L of naphthalene (at B20-033-PZ). Naphthalene was identified above its PAL of 0.12 µg/L in each sample. The SVOC PAL exceedances are shown on **Figure 10**.

**Table 9** provides a summary of the TPH/Oil & Grease detections in groundwater at the Site. TPH-DRO was detected above the PAL in each sample with a maximum concentration of 3,400 µg/L. TPH-GRO was detected above the PAL in two groundwater samples with a maximum detection of 771 µg/L. Oil & Grease was detected above the PAL in five groundwater samples with a maximum detection of 1,500 µg/L. The maximum detections of TPH-DRO, TPH-GRO, and Oil & Grease were all identified in B20-033-PZ. The TPH/Oil & Grease PAL exceedances are shown on **Figure 10**. 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 sampling locations.

### 4.2.2. Groundwater Conditions: Inorganic Constituents

**Table 10** provides a summary of inorganic constituents detected above the MDLs in the groundwater samples collected from across the Site. Two dissolved metals (thallium and vanadium) were detected above their respective aqueous PALs. Thallium was detected above its PAL (2 µg/L) in one groundwater sample (B20-006-PZ) at a concentration of 8.6 µg/L. Vanadium was detected above its PAL (86 µg/L) in two groundwater samples with a maximum concentration of 577 µg/L (also at B20-006-PZ). The inorganic PAL exceedances are shown on **Figure 10**.

### 4.2.3. Groundwater Conditions: Results Summary

**Table 9** and **Table 10** provide summaries of the detected organic compounds and inorganics in the groundwater samples submitted for laboratory analysis, and **Figure 10** presents the locations and aqueous results that exceeded the PALs. Aqueous PAL exceedances among the groundwater samples collected from the Site consisted of two VOCs (benzene and chloroform), four SVOCs (1,1-biphenyl, 1,4-dioxane, benz[a]anthracene, and naphthalene), TPH-DRO, TPH-GRO, Oil & Grease, and two dissolved metals (thallium and vanadium).

Groundwater data were screened to determine whether individual sample results may exceed the USEPA's 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 (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. Benzene exceeded its VI TCR criteria (69 µg/L) at B20-027-PZ and naphthalene exceeded its VI TCR criteria (200 µg/L) at B20-033-PZ.

A cumulative VI risk assessment was performed for each individual sample location, with the results separated by cancer risk versus non-cancer hazard. All compounds with detections (and corresponding VISLs) 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. There were no cumulative non-cancer Hazard Index (HI) values above 1 at the Site. The cumulative cancer risks exceeded 1E-5 at locations B20-027-PZ and B20-033-PZ

due primarily to the carcinogenic effect of benzene and naphthalene. The results of the cumulative VI comparisons are provided in **Table 11**, with the exceedances highlighted. The locations which exceeded the cumulative VI criteria are also identified in **Figure 10**.

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). Potential VI risks were identified above the acceptable TCR criteria (1E-5) at groundwater sample locations B20-027-PZ and B20-033-PZ. Location B20-033-PZ was installed to investigate potential groundwater impacts on Parcel B20 in the area closest to the former groundwater location B13-078-PZ, which was located on the adjacent Parcel B13 and had exhibited elevated concentrations of naphthalene.

### 4.3. SUB-SLAB SOIL GAS CONDITIONS

The VOCs detected in the sub-slab soil gas samples collected from below the Mill Building are summarized in **Table 12**. The table displays the PALs established in the QAPP as well as the MDE's updated Commercial Tier 1 Target Soil Gas Screening Levels which were published in May 2019. The laboratory Certificate of Analysis (including the Chain of Custody) and the DVR have been included as electronic attachments. The DVR contains a glossary of qualifiers for the final flags assigned to individual results in the attached summary table.

While there were multiple VOCs detected in the sub-slab soil gas samples, none of the detections exceeded the PALs (or the updated MDE criteria) for any respective compound in any of the samples submitted for analysis. These sub-slab soil gas results indicate that potential impacts by VOCs below the building slab appear to be minimal, and there is an apparent insignificant VI risk due to VOCs.

# 5.0 DATA USABILITY ASSESSMENT

The approved property-wide QAPP specified a process for evaluating data usability in the context of meeting project goals. Specifically, the goal of the Phase II Investigation is to determine if potentially hazardous substances or petroleum products (VOCs, SVOCs, PCBs, metals, cyanide, 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 USEPA RSLs), or based on other direct guidance from the agencies, to identify the presence of PAL exceedances in each environmental medium.

Quality assurance and quality control (QA/QC) samples were collected during the field studies to evaluate field/laboratory variability. A summary of QA/QC samples associated with this investigation has been included as **Appendix G**. The following QA/QC samples were required by the QAPP 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 QA/QC samples were collected and analyzed in accordance with the QAPP Worksheet 12 – Measurement Performance Criteria, QAPP Worksheet 20 – Field Quality Control, and QAPP Worksheet 28 – Analytical Quality Control and Corrective Action.

## 5.1. DATA VERIFICATION

A verification review was performed on documentation generated during sample collection and analysis. The verification included a review of field log books, field data sheets, and Chains of Custody 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). Documentation of the multiparameter meter end of the day calibration check was not recorded for this parcel.

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% (minimum) of the environmental sample analyses performed by PACE and Alpha 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 property-wide 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. The analytical soil results that were rejected during data validation are provided in **Table 13**. No groundwater or sub-slab soil gas analytical results were rejected. 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 sample collection 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 H**. This evaluation of completeness includes only the representative 30% (minimum) of sample results which were randomly selected for validation.

All groundwater compounds and sub-slab soil gas compounds had an overall completeness ratio of 100%. The only soil analytes with a completeness ratio below 90% were 1,4-dioxane (0%), hexavalent chromium (48.3%), 1,1,2,2-tetrachloroethane (87.5%), and dichlorodifluoromethane (87.5%). Both 1,1,2,2-tetrachloroethane and dichlorodifluoromethane were very close to the completeness goals with only one rejected result. The rejection of the 1,4-dioxane results has not been uncommon for solid matrix data obtained from the Tradepoint Atlantic property. Sufficient information is available in the groundwater dataset to evaluate the significance of hexavalent chromium and 1,4-dioxane at the Site. Overall, the soil, groundwater, and sub-slab soil gas data can be used as intended, and no significant data gaps were identified.

# 6.0 FINDINGS AND RECOMMENDATIONS

The objective of this Parcel B20 Phase II Investigation was to characterize the nature and extent of contamination at the Site. During the Phase II Investigation, a total of 80 soil samples (from 36 boring locations), nine groundwater samples, and three sub-slab soil gas samples were collected and analyzed. The sampling and analysis plan for the parcel was developed to target specific features that represented a potential release of hazardous substances and/or petroleum products to the environment, as well as providing general site coverage. Soil samples were analyzed for VOCs, 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 VOCs, SVOCs, TPH-DRO/GRO, Oil & Grease, TAL-Dissolved Metals, dissolved hexavalent chromium, and total cyanide. Sub-slab soil gas samples collected from below the Mill Building 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 levels that would warrant delineation and evaluation of a removal remedy (50 mg/kg). Additionally, lead concentrations were below the mandatory delineation threshold (10,000 mg/kg). No further action is required with respect to PCBs or lead at the Site. There were no soil PAL exceedances identified for VOCs or TPH-DRO/GRO, indicating that these compounds are not significant contaminants in soil at the Site. No physical evidence of NAPL was observed in any soil cores completed during this investigation.

PAL exceedances in soil within Parcel B20 were limited to three PAHs (benzo[a]pyrene, benzo[b]fluoranthene, and dibenz[a,h]anthracene), two PCB groups (Aroclor 1254 and total PCBs), Oil & Grease, and four metals (arsenic, manganese, thallium, and vanadium). The maximum detections of the PAH exceedances were 15 mg/kg for benzo[a]pyrene, 21 mg/kg for benzo[b]fluoranthene, and 2.5 mg/kg for dibenz[a,h]anthracene; these maximum PAH detections were all documented in shallow sample B20-033-SB-1. The PCBs that exceeded their respective PALs (Aroclor 1254 and total PCBs) were both detected at 3.5 mg/kg in the same sample (B20-033-SB-1). There were no PCB exceedances at any other locations. The maximum detections of the metal exceedances were 12.7 mg/kg for arsenic in B20-030-SB-5, 65,200 mg/kg for manganese in B20-022-SB-9, 87.3 mg/kg for thallium in B20-022-SB-9, and 5,810 mg/kg for vanadium in B20-022-SB-9. Oil & Grease PAL exceedances were documented in only two soil borings, which should be considered for proximity to any future proposed utilities. The two shallow Oil & Grease exceedances (13,600 mg/kg in B20-020-SB-1 and 8,090 mg/kg in B20-021-SB-1) both had underlying soil samples (collected from 5 feet bgs) which had a significantly lower detections of Oil & Grease that did not exceed the PAL.

## 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 PALs in groundwater within Parcel B20 consisted of two VOCs (benzene and chloroform), four SVOCs (1,1-biphenyl, 1,4-dioxane, benz[a]anthracene, and naphthalene), TPH-DRO, TPH-GRO, Oil & Grease, and two dissolved metals (thallium and vanadium). The maximum concentrations of the VOCs benzene and chloroform were identified in B20-027-PZ (116 µg/L) and B20-006-PZ (13.5 µg/L), respectively. The maximum detections of SVOCs 1,1-biphenyl, 1,4-dioxane, benz[a]anthracene, and naphthalene were identified in B20-033-PZ (1.7 µg/L), B20-031-PZ (1.4 µg/L), B20-006-PZ (0.098 µg/L), and B20-033-PZ (850 µg/L), respectively. Naphthalene was identified above its PAL in every groundwater sample. The maximum detections of TPH-DRO, TPH-GRO, and Oil & Grease were all identified in B20-033-PZ (at concentrations of 3,400 µg/L, 771 µg/L, and 1,500 µg/L, respectively). B20-033-PZ appeared to exhibit the most significant levels of organic groundwater contamination at the Site. The maximum detections of dissolved thallium and dissolved vanadium were both identified in B20-006-PZ (at concentrations of 2 µg/L and 86 µg/L, respectively).

Each temporary groundwater sample collection point was checked for the potential presence of NAPL using an oil-water interface probe prior to sampling. During these checks, NAPL was not detected at any of the groundwater sampling locations. All temporary groundwater sample collection points remaining at the Site will be properly abandoned in accordance with COMAR 26.04.04.34 through 36. Each location will be gauged a final time on the abandonment date using the oil-water interface probe in accordance with MDE guidance.

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. When the aqueous results were summed by sample location, there were no VI non-cancer HI values that exceeded 1. The cumulative cancer risks exceeded 1E-5 at B20-027-PZ and B20-033-PZ due primarily to the carcinogenic effect of benzene and naphthalene. Further assessment or mitigation is recommended to address the potential VI risks identified at B20-027-PZ and B20-033-PZ if an enclosed structure is proposed in the vicinity. The selection of appropriate response measures, based on the specific development plan for the parcel, should be addressed in a project-specific Response and Development Work Plan.

### 6.3. SUB-SLAB SOIL GAS

The nature and extent of constituents in sub-slab soil gas below the Mill Building have been adequately characterized by the Phase II Investigation. While there were multiple VOCs detected in the sub-slab soil gas samples collected during this investigation, there were no PAL exceedances (or exceedances of the MDE's updated Commercial Tier 1 Target Soil Gas Screening Levels published in May 2019) identified during this analysis. Further investigation is not recommended based on the documentation of minimal impacts below the building slab, and the apparent insignificant VI risk from VOCs.

### 6.4. RECOMMENDATIONS

Sufficient remedial investigation data has been collected to evaluate the nature and extent of possible constituents of concern in Parcel B20. The presence and absence of soil, groundwater, and sub-slab soil gas impacts within Parcel B20 have been adequately described and further investigation at the Site 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:

- The borings with elevated concentrations of Oil & Grease (B20-020-SB and B20-021-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 project-specific Response and Development Work Plan.

- The maximum detection of naphthalene in groundwater at the Site (850 µg/L) was identified at B20-033-PZ and resulted in the highest computed VI risk (5E-5). The maximum groundwater detections of TPH-DRO, TPH-GRO, and Oil & Grease were also identified in B20-033-PZ. Location B20-033-PZ was installed to investigate potential groundwater impacts on Parcel B20 in the area closest to the former groundwater location B13-078-PZ, which was located on the adjacent Parcel B13 and had exhibited elevated concentrations of naphthalene. The agencies have indicated (via email on April 21, 2020) that additional characterization of soil/slag, NAPL, and groundwater will be required on Parcel B13 following the completion of ongoing slag reclamation efforts. The groundwater impacts identified at B20-033-PZ may originate from the same source(s). This area of Parcel B20 will be included in the future investigation of Parcel B13.

- If an enclosed structure is proposed for construction in the vicinity of B20-027-PZ or B20-033-PZ further assessment or mitigation is recommended to address the potential VI risks resulting from elevated benzene and naphthalene. The selection of appropriate response measures, based on the specific development plan for the parcel, should be addressed in a project-specific Response and Development Work Plan.

- Based on the documentation of minimal impacts below the Mill Building, and the apparent insignificant VI risk from VOCs, further sub-slab investigation is not recommended at this time. The remaining structures on the Site are not permanently occupied. If permanent occupancy of any existing structures is proposed, further assessment of mitigation of potential VI risks is recommended.

# 7.0 REFERENCES

ARM Group Inc. (2019). *Phase II Investigation Work Plan – Area B: Parcel B20.* Revision 0. June 28, 2019.

ARM Group Inc. (2019). *Phase II Investigation Work Plan Comment Response Letter – Area B: Parcel B20*. December 26, 2019.

ARM Group Inc. (2016). *Quality Assurance Project Plan – Sparrows Point Terminal Site*. Revision 3. April 5, 2016.

ARM Group LLC (2020). *Stormwater Pollution Prevention Plan (SWPPP)*. Revision 8. April 30, 2020.

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

September 22, 2020

Figure 1

ARM Group LLC
Engineers and Scientists

0 500 1,000 2,000 Feet

Tradepoint Atlantic
Sparrows Point
Baltimore County, MD

Area A: Project 200101
Area B: Project 200102

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

September 22, 2020

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 LLC
Engineers and Scientists

0 500 1,000 2,000 Feet

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

Area A: Project 200101
Area B: Project 200102


Parcel B5
Parcel B13
Parcel B20
B20-031-PZ
0.73
B20-033-PZ
0.72
B20-006-PZ
0.58
B20-034-PZ
0.66
B20-014-PZ
0.56
0.6
0.7
B20-012-PZ
0.81
0.8
B20-010-PZ
NM
B20-035-PZ
0.80
B20-027-PZ
0.74
Water Level Measurements
Recorded October 27, 2020
Phase II Piezometer
Groundwater Elevation Contour
(ft amsl)
Parcel Boundary
Parcel B20 Groundwater Samples
Potentiometric Surface Map
January 7, 2021
Figure
3
N
ARM Group LLC
Engineers and Scientists
0
150
300
600
Feet
Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 20010220


# Parcel B20 Soil Samples
## Aerial View

January 7, 2021

**Figure 4**

ARM Group LLC
Engineers and Scientists

Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 20010220


Parcel B20 Sub-Slab Soil Gas Samples
Aerial View
January 7, 2021

Figure 5

ARM Group LLC
Engineers and Scientists

Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 20010220


# Parcel B20 Soil Samples
# SVOC PAL Exceedances (mg/kg)

January 7, 2021

**Figure 6**

ARM Group LLC
Engineers and Scientists

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 20010220


# Parcel B20 Soil Samples
# PCB PAL Exceedances (mg/kg)

January 7, 2021

**Figure 7**

ARM Group LLC
Engineers and Scientists

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 20010220


# Parcel B20 Soil Samples
# Oil & Grease PAL Exceedances (mg/kg)

January 7, 2021

**Figure 8**

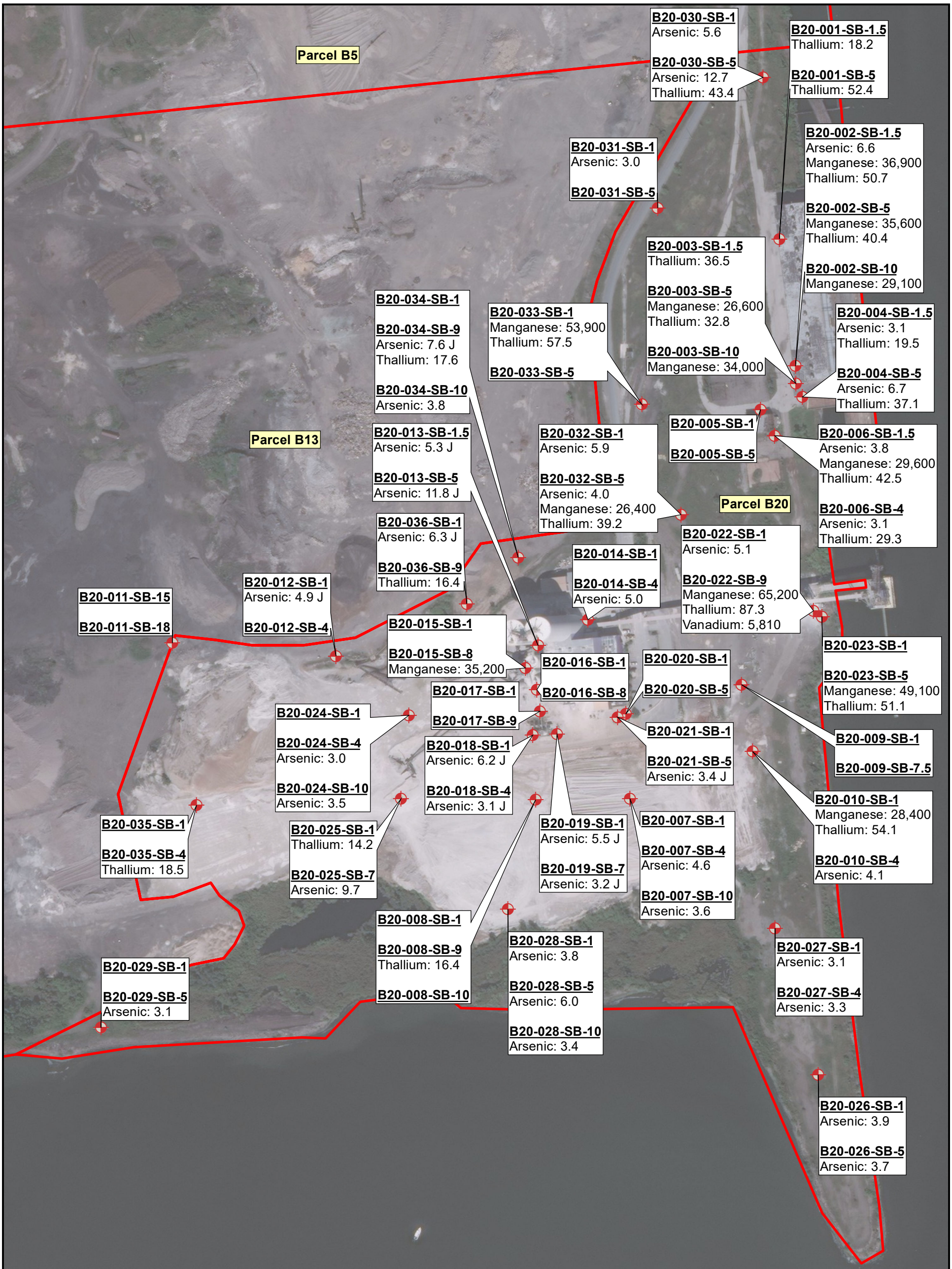
ARM Group LLC
Engineers and Scientists

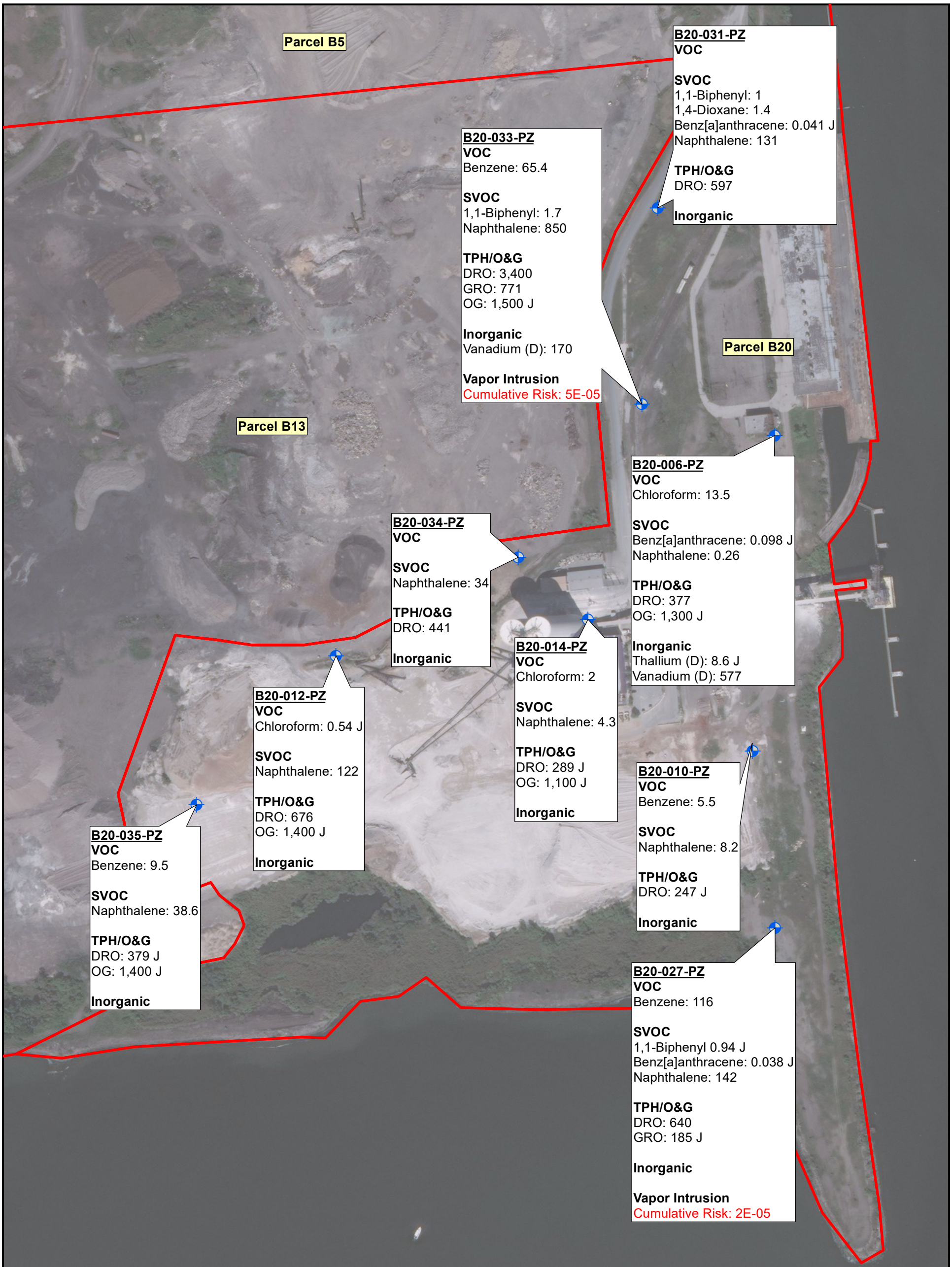
Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 20010220


Parcel B5
Parcel B13
Parcel B20
B20-030-SB-1
Arsenic: 5.6
B20-030-SB-5
Arsenic: 12.7
Thallium: 43.4
B20-001-SB-1.5
Thallium: 18.2
B20-001-SB-5
Thallium: 52.4
B20-031-SB-1
Arsenic: 3.0
B20-031-SB-5
B20-002-SB-1.5
Arsenic: 6.6
Manganese: 36,900
Thallium: 50.7
B20-002-SB-5
Manganese: 35,600
Thallium: 40.4
B20-002-SB-10
Manganese: 29,100
B20-003-SB-1.5
Thallium: 36.5
B20-003-SB-5
Manganese: 26,600
Thallium: 32.8
B20-003-SB-10
Manganese: 34,000
B20-004-SB-1.5
Arsenic: 3.1
Thallium: 19.5
B20-004-SB-5
Arsenic: 6.7
Thallium: 37.1
B20-034-SB-1
B20-034-SB-9
Arsenic: 7.6 J
Thallium: 17.6
B20-034-SB-10
Arsenic: 3.8
B20-033-SB-1
Manganese: 53,900
Thallium: 57.5
B20-033-SB-5
B20-005-SB-1
B20-005-SB-5
B20-006-SB-1.5
Arsenic: 3.8
Manganese: 29,600
Thallium: 42.5
B20-006-SB-4
Arsenic: 3.1
Thallium: 29.3
B20-013-SB-1.5
Arsenic: 5.3 J
B20-013-SB-5
Arsenic: 11.8 J
B20-032-SB-1
Arsenic: 5.9
B20-032-SB-5
Arsenic: 4.0
Manganese: 26,400
Thallium: 39.2
B20-036-SB-1
Arsenic: 6.3 J
B20-036-SB-9
Thallium: 16.4
B20-014-SB-1
B20-014-SB-4
Arsenic: 5.0
B20-022-SB-1
Arsenic: 5.1
B20-022-SB-9
Manganese: 65,200
Thallium: 87.3
Vanadium: 5,810
B20-012-SB-1
Arsenic: 4.9 J
B20-012-SB-4
B20-011-SB-15
B20-011-SB-18
B20-015-SB-1
B20-015-SB-8
Manganese: 35,200
B20-016-SB-1
B20-016-SB-8
B20-020-SB-1
B20-020-SB-5
B20-023-SB-1
B20-023-SB-5
Manganese: 49,100
Thallium: 51.1
B20-017-SB-1
B20-017-SB-9
B20-024-SB-1
B20-024-SB-4
Arsenic: 3.0
B20-024-SB-10
Arsenic: 3.5
B20-018-SB-1
Arsenic: 6.2 J
B20-018-SB-4
Arsenic: 3.1 J
B20-021-SB-1
B20-021-SB-5
Arsenic: 3.4 J
B20-009-SB-1
B20-009-SB-7.5
B20-035-SB-1
B20-035-SB-4
Thallium: 18.5
B20-025-SB-1
Thallium: 14.2
B20-025-SB-7
Arsenic: 9.7
B20-019-SB-1
Arsenic: 5.5 J
B20-019-SB-7
Arsenic: 3.2 J
B20-007-SB-1
B20-007-SB-4
Arsenic: 4.6
B20-007-SB-10
Arsenic: 3.6
B20-010-SB-1
Manganese: 28,400
Thallium: 54.1
B20-010-SB-4
Arsenic: 4.1
B20-008-SB-1
B20-008-SB-9
Thallium: 16.4
B20-008-SB-10
B20-028-SB-1
Arsenic: 3.8
B20-028-SB-5
Arsenic: 6.0
B20-028-SB-10
Arsenic: 3.4
B20-027-SB-1
Arsenic: 3.1
B20-027-SB-4
Arsenic: 3.3
B20-029-SB-1
B20-029-SB-5
Arsenic: 3.1
B20-026-SB-1
Arsenic: 3.9
B20-026-SB-5
Arsenic: 3.7
Phase II Soil Sample
Parcel Boundary
Parcel B20 Soil Samples
Inorganic PAL Exceedances (mg/kg)
January 7, 2021
Figure
9
N
ARM Group LLC
Engineers and Scientists
0
150
300
600
Feet
Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 20010220




# Parcel B20 Groundwater Samples
# PAL Exceedances (ug/L)

January 7, 2021

**Figure 10**

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 20010220

# TABLES

**Table 1 - Parcel B20**
**Groundwater Elevation Data**

| Location Name | TOC Elevation (feet AMSL) | Measured DTW (feet) | Groundwater Elevation (feet AMSL) |
|---|---|---|---|
| B20-006-PZ | 12.2 | 11.62 | 0.58 |
| B20-010-PZ | NM | NM | NM |
| B20-012-PZ | 30.9 | 30.09 | 0.81 |
| B20-014-PZ | 13.0 | 12.44 | 0.56 |
| B20-027-PZ | 8.9 | 8.16 | 0.74 |
| B20-031-PZ | 13.5 | 12.77 | 0.73 |
| B20-033-PZ | 12.8 | 12.08 | 0.72 |
| B20-034-PZ | 30.1 | 29.44 | 0.66 |
| B20-035-PZ | 7.0 | 6.20 | 0.80 |

DTW = Depth to water
TOC = Top of casing
AMSL = Above mean sea level
NM = Not measured. B20-010-PZ was damaged prior to gauging and survey.
DTW measurements recorded October 27, 2020

**Table 2 - Parcel B20**
**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.) | 5005 | 3/22/1961 | 1/8/1982 |
| | | 5006 | 7/7/1958 | 1/21/1982 |
| | | 5011 | 9/25/1961 | 3/12/1982 |
| | | 5012 | 7/7/1958 | 3/12/1982 |
| | | 5018 | 7/7/1958 | 3/12/1982 |
| Plant Index | Roads, water bodies, demolished buildings/structures, electric lines, above-ground pipelines | 5105 | *Unknown* | 3/10/2008 |
| | | 5106 | *Unknown* | 9/4/2008 |
| | | 5111 | *Unknown* | 3/10/2008 |
| | | 5112 | *Unknown* | 9/5/2008 |
| | | 5118 | *Unknown* | 8/14/2008 |
| Plant Sewer Lines | Same as above plus trenches, sumps, underground piping (includes pipe materials) | 5505 | 5/30/1975 | 1/11/1982 |
| | | 5506 | 5/30/1975 | 1/20/1982 |
| | | 5511 | 2/16/1976 | 1/7/1982 |
| | | 5512 | 2/16/1960 | 1/20/1982 |
| | | 5518 | 1/21/1957 | 2/10/1982 |
| Drip Legs | Coke Oven Gas Drip Legs Locations | 5886B | *Unknown* | Sept. 1988 |

**Table 3 - Parcel B20**
**Field Shifted Boring Locations**

| Location ID | Sample Target | Proposed Location* | | Final Location* | | Relocation Distance (ft.) & Direction | |
|---|---|---|---|---|---|---|---|
| | | Northing | Easting | Northing | Easting | | |
| B20-003-SB | Possible PCB Containing Area (Inactive Substation) | 562,829 | 1,464,681 | 562,818 | 1,464,678 | 13 | S |
| B20-004-SB | Possible PCB Containing Area (Inactive Substation) | 562,774 | 1,464,703 | 562,780 | 1,464,697 | 7 | NW |
| B20-005-SB | Service Building | 562,735 | 1,464,564 | 562,744 | 1,464,579 | 19 | NE |
| B20-011-SB | Storage Areas | 562,034 | 1,462,961 | 562,087 | 1,462,923 | 68 | NW |
| B20-012-SB | Storage Areas | 562,048 | 1,463,500 | 562,051 | 1,463,384 | 113 | W |
| B20-020-SB | Active Substations | 561,935 | 1,464,197 | 561,888 | 1,464,200 | 49 | S |
| B20-021-SB | Active Substations | 561,919 | 1,464,184 | 561,878 | 1,464,177 | 42 | SW |
| B20-023-SB | Active Substations | 562,190 | 1,464,767 | 562,162 | 1,464,752 | 31 | SW |
| B20-025-SB | Raw Slag Pile | 561,839 | 1,463,351 | 561,649 | 1,463,567 | 287 | SE |
| B20-029-SB | Parcel B20 Coverage | 561,007 | 1,463,015 | 561,005 | 1,462,722 | 292 | W |
| B20-030-SB | Parcel B20 Coverage | 563,699 | 1,464,585 | 563,680 | 1,464,586 | 19 | S |
| B20-032-SB | Parcel B20 Coverage | 562,452 | 1,464,355 | 562,449 | 1,464,355 | 5 | S |
| B20-033-SB | Parcel B20 Coverage | 562,759 | 1,464,237 | 562,758 | 1,464,245 | 7 | E |
| B20-035-SB | Parcel B20 Coverage | 561,653 | 1,462,985 | 561,631 | 1,462,991 | 20 | S |

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

**Table 4 - Parcel B20**
**Characterization Results for Solid IDW**

| Sample ID | Parameter | Result (mg/L) | TCLP Limit (mg/L) | TCLP Exceedance | Laboratory Flag | LOQ (mg/L) |
|---|---|---|---|---|---|---|
| B20 WASTE 06/04/2020 | 1,1-Dichloroethene | 0.05 | 0.7 | no | U | 0.05 |
| | 1,2-Dichloroethane | 0.05 | 0.5 | no | U | 0.05 |
| | 1,4-Dichlorobenzene | 0.5 | 7.5 | no | U | 0.5 |
| | 2,4,5-Trichlorophenol | 5 | 400 | no | U | 5 |
| | 2,4,6-Trichlorophenol | 0.1 | 2 | no | U | 0.1 |
| | 2,4-Dinitrotoluene | 0.1 | 0.13 | no | U | 0.1 |
| | 2-Butanone (MEK) | 0.1 | 200 | no | U | 0.1 |
| | 2-Methylphenol | 2 | 200 | no | U | 2 |
| | 3&4-Methylphenol | 2 | 200 | no | U | 2 |
| | Arsenic | 0.025 | 5 | no | U | 0.025 |
| | Barium | 0.19 | 100 | no | | 0.05 |
| | Benzene | 0.05 | 0.5 | no | U | 0.05 |
| | Cadmium | 0.015 | 1 | no | U | 0.015 |
| | Carbon tetrachloride | 0.05 | 0.5 | no | U | 0.05 |
| | Chlorobenzene | 0.05 | 100 | no | U | 0.05 |
| | Chloroform | 0.05 | 6 | no | U | 0.05 |
| | Chromium | 0.0033 | 5 | no | J | 0.025 |
| | Hexachlorobenzene | 0.1 | 0.13 | no | U | 0.1 |
| | Hexachloroethane | 0.2 | 3 | no | U | 0.2 |
| | Lead | 0.025 | 5 | no | U | 0.025 |
| | Mercury | 0.001 | 0.2 | no | U | 0.001 |
| | Nitrobenzene | 0.1 | 2 | no | U | 0.1 |
| | Pentachlorophenol | 5 | 100 | no | U | 5 |
| | Selenium | 0.04 | 1 | no | U | 0.04 |
| | Silver | 0.03 | 5 | no | U | 0.03 |
| | Tetrachloroethene | 0.05 | 0.7 | no | U | 0.05 |
| | Trichloroethene | 0.05 | 0.5 | no | U | 0.05 |
| | Vinyl chloride | 0.05 | 0.2 | no | U | 0.05 |

**Table 4 - Parcel B20**
**Characterization Results for Solid IDW**

| Sample ID | Parameter | Result (mg/L) | TCLP Limit (mg/L) | TCLP Exceedance | Laboratory Flag | LOQ (mg/L) |
|---|---|---|---|---|---|---|
| B20 IDW 11/20/2020 | 1,1-Dichloroethene | 0.018 | 0.7 | no | U | 0.018 |
| | 1,2-Dichloroethane | 0.018 | 0.5 | no | U | 0.018 |
| | 1,4-Dichlorobenzene | 0.018 | 7.5 | no | U | 0.018 |
| | 2,4,5-Trichlorophenol | 0.1 | 400 | no | U | 0.1 |
| | 2,4,6-Trichlorophenol | 0.1 | 2 | no | U | 0.1 |
| | 2,4-Dinitrotoluene | 0.1 | 0.13 | no | U | 0.1 |
| | 2-Butanone (MEK) | 0.035 | 200 | no | U | 0.035 |
| | 2-Methylphenol | 0.1 | 200 | no | U | 0.1 |
| | 3&4-Methylphenol | 0.2 | 200 | no | U | 0.2 |
| | Arsenic | 0.5 | 5 | no | U | 0.5 |
| | Barium | 10 | 100 | no | U | 10 |
| | Benzene | 0.018 | 0.5 | no | U | 0.018 |
| | Cadmium | 0.1 | 1 | no | U | 0.1 |
| | Carbon tetrachloride | 0.018 | 0.5 | no | U | 0.018 |
| | Chlorobenzene | 0.018 | 100 | no | U | 0.018 |
| | Chloroform | 0.018 | 6 | no | U | 0.018 |
| | Chromium | 0.5 | 5 | no | U | 0.5 |
| | Hexachlorobenzene | 0.1 | 0.13 | no | U | 0.1 |
| | Hexachloroethane | 0.1 | 3 | no | U | 0.1 |
| | Lead | 0.5 | 5 | no | U | 0.5 |
| | Mercury | 0.02 | 0.2 | no | U | 0.02 |
| | Nitrobenzene | 0.1 | 2 | no | U | 0.1 |
| | Pentachlorophenol | 0.5 | 100 | no | U | 0.5 |
| | Selenium | 0.1 | 1 | no | U | 0.1 |
| | Silver | 0.5 | 5 | no | U | 0.5 |
| | Tetrachloroethene | 0.018 | 0.7 | no | U | 0.018 |
| | Trichloroethene | 0.018 | 0.5 | no | U | 0.018 |
| | Vinyl chloride | 0.018 | 0.2 | no | U | 0.018 |

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

**Table 5 - Parcel B20**
**Characterization Results for Liquid IDW**

| Sample ID | Parameter | Result (mg/L) | TCLP Limit (mg/L) | TCLP Exceedance | Laboratory Flag | LOQ (mg/L) |
|---|---|---|---|---|---|---|
| Water IDW 05/19/2020 | 1,1-Dichloroethene | 0.001 | 0.7 | no | U | 0.001 |
| | 1,2-Dichloroethane | 0.001 | 0.5 | no | U | 0.001 |
| | 1,4-Dichlorobenzene | 0.001 | 7.5 | no | U | 0.001 |
| | 2,4,5-Trichlorophenol | 0.0025 | 400 | no | U | 0.0025 |
| | 2,4,6-Trichlorophenol | 0.00099 | 2 | no | U | 0.00099 |
| | 2,4-Dinitrotoluene | 0.00099 | 0.13 | no | U | 0.00099 |
| | 2-Butanone (MEK) | 0.01 | 200 | no | U | 0.01 |
| | 2-Methylphenol | 0.00099 | 200 | no | U | 0.00099 |
| | 3&4-Methylphenol | 0.002 | 200 | no | U | 0.002 |
| | Arsenic | 0.005 | 5 | no | U | 0.005 |
| | Barium | 0.0623 | 100 | no | | 0.01 |
| | Benzene | 0.0063 | 0.5 | no | | 0.001 |
| | Cadmium | 0.0061 | 1 | no | | 0.003 |
| | Carbon tetrachloride | 0.001 | 0.5 | no | U | 0.001 |
| | Chlorobenzene | 0.001 | 100 | no | U | 0.001 |
| | Chloroform | 0.001 | 6 | no | U | 0.001 |
| | Chromium | 0.0023 | 5 | no | J | 0.005 |
| | Hexachlorobenzene | 0.00099 | 0.13 | no | U | 0.00099 |
| | Hexachloroethane | 0.00099 | 3 | no | U | 0.00099 |
| | Lead | 0.005 | 5 | no | U | 0.005 |
| | Mercury | 0.0002 | 0.2 | no | U | 0.0002 |
| | Nitrobenzene | 0.00099 | 2 | no | U | 0.00099 |
| | Pentachlorophenol | 0.0025 | 100 | no | U | 0.0025 |
| | Selenium | 0.008 | 1 | no | U | 0.008 |
| | Silver | 0.006 | 5 | no | U | 0.006 |
| | Tetrachloroethene | 0.001 | 0.7 | no | U | 0.001 |
| | Trichloroethene | 0.00092 | 0.5 | no | J | 0.001 |
| | Vinyl chloride | 0.001 | 0.2 | no | U | 0.001 |

**Table 5 - Parcel B20**
**Characterization Results for Liquid IDW**

| Sample ID | Parameter | Result (mg/L) | TCLP Limit (mg/L) | TCLP Exceedance | Laboratory Flag | LOQ (mg/L) |
|---|---|---|---|---|---|---|
| Water IDW 07/01/2020 | 1,1-Dichloroethene | 0.001 | 0.7 | no | U | 0.001 |
| | 1,2-Dichloroethane | 0.001 | 0.5 | no | U | 0.001 |
| | 1,4-Dichlorobenzene | 0.001 | 7.5 | no | U | 0.001 |
| | 2,4,5-Trichlorophenol | 0.0025 | 400 | no | U | 0.0025 |
| | 2,4,6-Trichlorophenol | 0.00098 | 2 | no | U | 0.00098 |
| | 2,4-Dinitrotoluene | 0.00098 | 0.13 | no | U | 0.00098 |
| | 2-Butanone (MEK) | 0.01 | 200 | no | U | 0.01 |
| | 2-Methylphenol | 0.00098 | 200 | no | U | 0.00098 |
| | 3&4-Methylphenol | 0.002 | 200 | no | U | 0.002 |
| | Arsenic | 0.005 | 5 | no | U | 0.005 |
| | Benzene | 0.00069 | 0.5 | no | J | 0.001 |
| | Cadmium | 0.0293 | 1 | no | | 0.003 |
| | Carbon tetrachloride | 0.001 | 0.5 | no | U | 0.001 |
| | Chlorobenzene | 0.001 | 100 | no | U | 0.001 |
| | Chloroform | 0.001 | 6 | no | U | 0.001 |
| | Chromium | 0.0047 | 5 | no | J | 0.005 |
| | Hexachlorobenzene | 0.00098 | 0.13 | no | U | 0.00098 |
| | Hexachloroethane | 0.00098 | 3 | no | U | 0.00098 |
| | Lead | 0.005 | 5 | no | U | 0.005 |
| | Mercury | 0.0002 | 0.2 | no | U | 0.0002 |
| | Nitrobenzene | 0.00098 | 2 | no | U | 0.00098 |
| | Pentachlorophenol | 0.0025 | 100 | no | U | 0.0025 |
| | Selenium | 0.008 | 1 | no | U | 0.008 |
| | Silver | 0.006 | 5 | no | U | 0.006 |
| | Tetrachloroethene | 0.001 | 0.7 | no | U | 0.001 |
| | Trichloroethene | 0.00038 | 0.5 | no | J | 0.001 |
| | Vinyl chloride | 0.001 | 0.2 | no | U | 0.001 |

**Table 5 - Parcel B20**
**Characterization Results for Liquid IDW**

| Sample ID | Parameter | Result (mg/L) | TCLP Limit (mg/L) | TCLP Exceedance | Laboratory Flag | LOQ (mg/L) |
|---|---|---|---|---|---|---|
| Liquid IDW 10/08/2020 | 1,1-Dichloroethene | 0.005 | 0.7 | no | U | 0.005 |
| | 1,2-Dichloroethane | 0.005 | 0.5 | no | U | 0.005 |
| | 1,4-Dichlorobenzene | 0.005 | 7.5 | no | U | 0.005 |
| | 2,4,5-Trichlorophenol | 0.001 | 400 | no | U | 0.001 |
| | 2,4,6-Trichlorophenol | 0.001 | 2 | no | U | 0.001 |
| | 2,4-Dinitrotoluene | 0.001 | 0.13 | no | U | 0.001 |
| | 2-Butanone (MEK) | 0.025 | 200 | no | U | 0.025 |
| | 2-Methylphenol | 0.001 | 200 | no | U | 0.001 |
| | 4-Methylphenol | 0.001 | 200 | no | U | 0.001 |
| | Arsenic | 0.005 | 5 | no | U | 0.005 |
| | Benzene | 0.001 | 0.5 | no | U | 0.001 |
| | Cadmium | 0.038 | 1 | no | | 0.005 |
| | Carbon tetrachloride | 0.005 | 0.5 | no | U | 0.005 |
| | Chlorobenzene | 0.005 | 100 | no | U | 0.005 |
| | Chloroform | 0.005 | 6 | no | U | 0.005 |
| | Chromium | 0.005 | 5 | no | U | 0.005 |
| | Hexachlorobenzene | 0.001 | 0.13 | no | U | 0.001 |
| | Hexachloroethane | 0.001 | 3 | no | U | 0.001 |
| | Lead | 0.005 | 5 | no | U | 0.005 |
| | Mercury | 0.001 | 0.2 | no | U | 0.001 |
| | Nitrobenzene | 0.001 | 2 | no | U | 0.001 |
| | Pentachlorophenol | 0.005 | 100 | no | U | 0.005 |
| | Selenium | 0.005 | 1 | no | U | 0.005 |
| | Silver | 0.005 | 5 | no | U | 0.005 |
| | Tetrachloroethene | 0.005 | 0.7 | no | U | 0.005 |
| | Trichloroethene | 0.005 | 0.5 | no | U | 0.005 |
| | Vinyl chloride | 0.001 | 0.2 | no | U | 0.001 |

**Table 5 - Parcel B20**
**Characterization Results for Liquid IDW**

| Sample ID | Parameter | Result (mg/L) | TCLP Limit (mg/L) | TCLP Exceedance | Laboratory Flag | LOQ (mg/L) |
|---|---|---|---|---|---|---|
| Liquid IDW 11/20/2020 | 1,1-Dichloroethene | 0.005 | 0.7 | no | U | 0.005 |
| | 1,2-Dichloroethane | 0.005 | 0.5 | no | U | 0.005 |
| | 1,4-Dichlorobenzene | 0.005 | 7.5 | no | U | 0.005 |
| | 2,4,5-Trichlorophenol | 0.001 | 400 | no | U | 0.001 |
| | 2,4,6-Trichlorophenol | 0.001 | 2 | no | U | 0.001 |
| | 2,4-Dinitrotoluene | 0.001 | 0.13 | no | U | 0.001 |
| | 2-Butanone (MEK) | 0.025 | 200 | no | U | 0.025 |
| | 2-Methylphenol | 0.001 | 200 | no | U | 0.001 |
| | 4-Methylphenol | 0.001 | 200 | no | U | 0.001 |
| | Arsenic | 0.005 | 5 | no | U | 0.005 |
| | Benzene | 0.001 | 0.5 | no | U | 0.001 |
| | Cadmium | 0.022 | 1 | no | | 0.005 |
| | Carbon tetrachloride | 0.005 | 0.5 | no | U | 0.005 |
| | Chlorobenzene | 0.005 | 100 | no | U | 0.005 |
| | Chloroform | 0.005 | 6 | no | U | 0.005 |
| | Chromium | 0.018 | 5 | no | | 0.005 |
| | Hexachlorobenzene | 0.001 | 0.13 | no | U | 0.001 |
| | Hexachloroethane | 0.001 | 3 | no | U | 0.001 |
| | Lead | 0.015 | 5 | no | | 0.005 |
| | Mercury | 0.001 | 0.2 | no | U | 0.001 |
| | Nitrobenzene | 0.001 | 2 | no | U | 0.001 |
| | Pentachlorophenol | 0.005 | 100 | no | U | 0.005 |
| | Selenium | 0.005 | 1 | no | U | 0.005 |
| | Silver | 0.005 | 5 | no | U | 0.005 |
| | Tetrachloroethene | 0.005 | 0.7 | no | U | 0.005 |
| | Trichloroethene | 0.005 | 0.5 | no | U | 0.005 |
| | Vinyl chloride | 0.001 | 0.2 | no | U | 0.001 |

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

**Table 6 - Parcel B20**
**Summary of Organics Detected in Soil**

| Parameter | Units | PAL | B20-001-SB-1.5 5/13/2020 | B20-001-SB-5 5/13/2020 | B20-002-SB-1.5 5/13/2020 | B20-002-SB-5 5/13/2020 | B20-003-SB-1.5* 5/15/2020 | B20-003-SB-5* 5/15/2020 | B20-004-SB-1.5 5/13/2020 | B20-004-SB-5* 10/14/2020 | B20-005-SB-1 5/13/2020 | B20-005-SB-5 5/13/2020 | B20-006-SB-1.5 5/13/2020 | B20-006-SB-4 5/13/2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | | |
| 2-Butanone (MEK) | mg/kg | 190,000 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | **0.0024 J** | N/A | N/A | N/A | N/A |
| Acetone | mg/kg | 670,000 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | **0.0048 J** | 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 | N/A | 0.0046 U | N/A | N/A | N/A | N/A |
| Carbon disulfide | mg/kg | 3,500 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | **0.0015 J** | 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 | N/A | 0.0046 U | N/A | N/A | N/A | N/A |
| Chloromethane | mg/kg | 460 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 0.0046 U | 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 | N/A | 0.0091 U | N/A | N/A | N/A | N/A |
| Ethylbenzene | mg/kg | 25 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 0.0046 U | 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 | N/A | **0.0011 J** | N/A | N/A | N/A | N/A |
| **Semi-Volatile Organic Compounds^** | | | | | | | | | | | | | | |
| 1,1-Biphenyl | mg/kg | 200 | 0.74 U | 0.089 U | 0.71 U | 0.069 U | 0.7 U | 0.078 U | 0.75 U | 7.2 U | 0.068 U | 0.071 U | 0.72 U | 0.73 U |
| 1,2,4,5-Tetrachlorobenzene | mg/kg | 350 | 0.74 U | 0.089 U | 0.71 U | 0.069 U | 0.7 U | 0.078 U | 0.75 U | 7.2 U | 0.068 U | 0.071 U | 0.72 U | 0.73 U |
| 2-Methylnaphthalene | mg/kg | 3,000 | **0.0086** | 0.0079 U | **0.11** | **0.043** | **0.02** | **0.056** | **0.0027 J** | **0.047** | **0.0079** | **0.0036 J** | 0.0087 U | **0.01** |
| 3&4-Methylphenol(m&p Cresol) | mg/kg | 41,000 | 1.5 U | 0.18 U | 1.4 U | 0.14 R | 1.4 U | 0.16 U | 1.5 U | 14.5 U | 0.14 U | 0.14 U | 1.4 U | 1.5 U |
| Acenaphthene | mg/kg | 45,000 | **0.024** | 0.0079 U | **0.066** | **0.31** | **0.099** | **0.0036 J** | 0.0085 U | **0.0034 J** | **0.0049 J** | **0.0017 J** | **0.006 J** | **0.026** |
| Acenaphthylene | mg/kg | 45,000 | **0.0074** | 0.0079 U | **0.015** | **0.0064 J** | **0.0024 J** | **0.011** | 0.0085 U | **0.013** | **0.0043 J** | **0.0023 J** | **0.0034 J** | **0.0075** |
| Acetophenone | mg/kg | 120,000 | 0.74 U | 0.089 U | 0.71 U | 0.069 U | 0.7 U | 0.078 U | 0.75 U | 7.2 U | 0.068 U | 0.071 U | 0.72 U | 0.73 U |
| Anthracene | mg/kg | 230,000 | **0.13** | 0.0079 U | **0.018** | **0.047** | **0.016** | **0.029** | **0.00081 J** | **0.02** | **0.0042 J** | **0.0068 J** | **0.0027 J** | **0.009** |
| Benz[a]anthracene | mg/kg | 21 | **1.2** | 0.0079 U | **0.14** | **0.38** | **0.12** | **0.14** | 0.0085 U | **0.063** | **0.033** | **0.023** | **0.036** | **0.084** |
| Benzaldehyde | mg/kg | 120,000 | 0.74 UJ | 0.089 UJ | 0.71 UJ | 0.069 UJ | 0.7 U | 0.078 U | 0.75 UJ | 7.2 U | 0.068 UJ | 0.071 UJ | 0.72 UJ | 0.73 UJ |
| Benzo[a]pyrene | mg/kg | 2.1 | **0.6** | 0.0079 UJ | **0.22** | **0.56** | **0.28** | **0.11** | 0.0085 UJ | **0.05** | **0.037** | **0.017** | **0.034** | **0.12** |
| Benzo[b]fluoranthene | mg/kg | 21 | **0.94** | 0.0079 UJ | **0.25** | **0.56** | **0.3** | **0.19** | 0.0085 UJ | **0.096** | **0.05** | **0.024** | **0.052** | **0.15** |
| Benzo[g,h,i]perylene | mg/kg | | **0.23** | 0.0079 U | **0.12** | **0.45** | **0.2** | **0.067** | 0.0085 U | **0.03** | **0.024** | **0.0088** | **0.016** | **0.049** |
| Benzo[k]fluoranthene | mg/kg | 210 | **0.34** | 0.0079 U | **0.069** | **0.25** | **0.074** | **0.045** | 0.0085 U | **0.031** | **0.014** | **0.0075** | **0.017** | **0.055** |
| bis(2-Ethylhexyl)phthalate | mg/kg | 160 | 0.74 U | 0.089 U | 0.71 U | **0.016 J** | 0.7 U | **0.023 J** | 0.75 U | 7.2 U | **0.017 J** | 0.071 U | 0.72 U | 0.73 U |
| Caprolactam | mg/kg | 400,000 | 1.9 U | 0.22 U | 1.8 U | 0.17 U | 1.8 U | **0.025 J** | 1.9 U | 18.2 U | 0.17 U | 0.18 U | 1.8 U | 1.8 U |
| Carbazole | mg/kg | | 0.74 U | 0.089 U | 0.71 U | **0.023 J** | 0.7 U | 0.078 U | 0.75 U | 7.2 U | 0.068 U | 0.071 U | 0.72 U | 0.73 U |
| Chrysene | mg/kg | 2,100 | **0.97** | 0.0079 U | **0.12** | **0.29** | **0.11** | **0.14** | 0.0085 U | **0.1** | **0.035** | **0.021** | **0.035** | **0.071** |
| Dibenz[a,h]anthracene | mg/kg | 2.1 | **0.09** | 0.0079 UJ | **0.03** | **0.13** | **0.058** | **0.021** | 0.0085 UJ | **0.0093** | **0.0072** | **0.0027 J** | **0.0038 J** | **0.014** |
| Diethylphthalate | mg/kg | 660,000 | 0.74 U | 0.089 U | 0.71 U | 0.069 U | 0.7 U | 0.078 U | 0.75 U | 7.2 U | 0.068 U | 0.071 U | 0.72 U | 0.73 U |
| Di-n-butylphthalate | mg/kg | 82,000 | 0.74 U | 0.041 B | 0.71 U | 0.055 B | 0.7 U | **0.095** | 0.75 U | 7.2 U | 0.06 B | 0.052 B | 0.72 U | 0.73 U |
| Fluoranthene | mg/kg | 30,000 | **3** | **0.00067 J** | **0.12** | **0.26** | **0.1** | **0.3** | **0.0062 J** | **0.18** | **0.035** | **0.05** | **0.034** | **0.075** |
| Fluorene | mg/kg | 30,000 | **0.006 J** | 0.0079 U | 0.0092 U | **0.035** | **0.01** | **0.0038 J** | 0.0085 U | 0.0072 U | **0.002 J** | **0.0027 J** | **0.0019 J** | **0.004 J** |
| Indeno[1,2,3-c,d]pyrene | mg/kg | 21 | **0.28** | 0.0079 UJ | **0.14** | **0.52** | **0.25** | **0.083** | 0.0085 UJ | **0.034** | **0.026** | **0.011** | **0.017** | **0.062** |
| Naphthalene | mg/kg | 8.6 | **0.0086** | 0.0079 U | **0.12** | **0.086** | **0.024** | **0.41** | **0.0015 J** | **0.15** | **0.011** | **0.016** | **0.0044 J** | **0.021** |
| Phenanthrene | mg/kg | | **0.56** | 0.0079 U | **0.095** | **0.15** | **0.058** | **0.13** | **0.011** | **0.1** | **0.019** | **0.029** | **0.0094** | **0.028** |
| Phenol | mg/kg | 250,000 | 0.74 U | 0.089 U | 0.71 U | 0.069 R | 0.7 U | 0.078 U | 0.75 U | 7.2 U | 0.068 U | 0.071 U | 0.72 U | 0.73 U |
| Pyrene | mg/kg | 23,000 | **2.4** | 0.0079 U | **0.12** | **0.29** | **0.1** | **0.25** | **0.0089** | **0.12** | **0.036** | **0.043** | **0.037** | **0.076** |
| **PCBs** | | | | | | | | | | | | | | |
| Aroclor 1248 | mg/kg | 0.94 | 0.095 U | N/A | 0.089 U | N/A | 0.18 U | N/A | 0.094 U | N/A | 0.085 U | N/A | 0.09 U | N/A |
| Aroclor 1254 | mg/kg | 0.97 | **0.12** | N/A | 0.089 U | N/A | 0.18 U | N/A | 0.081 B | N/A | 0.085 U | N/A | 0.05 B | N/A |
| Aroclor 1260 | mg/kg | 0.99 | 0.042 U | N/A | 0.089 U | N/A | 0.18 U | N/A | 0.038 U | N/A | 0.085 U | N/A | 0.029 U | N/A |
| PCBs (total) | mg/kg | 0.97 | 0.85 U | N/A | 0.8 U | N/A | 1.6 U | N/A | 0.84 U | N/A | 0.77 U | N/A | 0.81 U | N/A |
| **TPH/Oil & Grease** | | | | | | | | | | | | | | |
| Diesel Range Organics | mg/kg | 6,200 | **50.5 J** | **16 J** | **119 J** | **123 J** | **110** | **125** | **78.5 J** | **438** | **10.2 J** | **18.4 J** | **116 J** | **45.3 J** |
| Gasoline Range Organics | mg/kg | 6,200 | 14.5 UJ | 15.2 UJ | 13 UJ | 11.6 UJ | 12.5 U | 12.8 U | 14.7 UJ | 10.5 U | 9.6 UJ | 13.8 UJ | 11.5 UJ | 12 UJ |
| Oil & Grease | mg/kg | 6,200 | **383 J-** | **87.9 J-** | **1,050 J-** | **225 J-** | **1,110** | **216** | **655 J-** | **1,890** | **131 J-** | **115 J-** | **1,130 J-** | **426 J-** |

**Detections in bold**
**Values in red indicate an exceedance of the Project Action Limit (PAL)**
N/A indicates that the parameter was not analyzed for this sample
*indicates non-validated data
^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.
J: The positive result reportred for this analyte is a quantitative estimate.
J-: The positive result reported for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 6 - Parcel B20**
**Summary of Organics Detected in Soil**

| Parameter | Units | PAL | B20-007-SB-1* 5/18/2020 | B20-007-SB-4* 10/13/2020 | B20-007-SB-10* 10/13/2020 | B20-008-SB-1* 5/18/2020 | B20-008-SB-9* 10/12/2020 | B20-008-SB-10* 10/12/2020 | B20-009-SB-1* 5/18/2020 | B20-009-SB-7.5* 5/18/2020 | B20-010-SB-1* 5/18/2020 | B20-010-SB-4* 5/18/2020 | B20-011-SB-15* 5/14/2020 | B20-011-SB-18* 5/14/2020 | B20-012-SB-1 5/19/2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| 2-Butanone (MEK) | mg/kg | 190,000 | N/A | 0.011 U | 0.011 U | N/A | 0.0091 U | **0.0073 J** | N/A | N/A | N/A | 0.011 U | N/A | N/A | N/A |
| Acetone | mg/kg | 670,000 | N/A | **0.007 J** | 0.011 U | N/A | **0.0073 J** | **0.046** | N/A | N/A | N/A | **0.012** | N/A | N/A | N/A |
| Benzene | mg/kg | 5.1 | N/A | 0.0056 U | 0.0055 U | N/A | **0.0083** | **0.0044 J** | N/A | N/A | N/A | 0.0053 U | N/A | N/A | N/A |
| Carbon disulfide | mg/kg | 3,500 | N/A | **0.002 J** | **0.002 J** | N/A | **0.0018 J** | **0.0029 J** | N/A | N/A | N/A | **0.0042 J** | N/A | N/A | N/A |
| Chloroform | mg/kg | 1.4 | N/A | 0.0056 U | 0.0055 U | N/A | 0.0046 U | 0.0051 U | N/A | N/A | N/A | 0.0053 U | N/A | N/A | N/A |
| Chloromethane | mg/kg | 460 | N/A | 0.0056 U | 0.0055 U | N/A | 0.0046 U | 0.0051 U | N/A | N/A | N/A | 0.0053 U | N/A | N/A | N/A |
| Cyclohexane | mg/kg | 27,000 | N/A | 0.011 U | 0.011 U | N/A | 0.0091 U | 0.01 U | N/A | N/A | N/A | 0.011 U | N/A | N/A | N/A |
| Ethylbenzene | mg/kg | 25 | N/A | 0.0056 U | 0.0055 U | N/A | **0.0011 J** | 0.0051 U | N/A | N/A | N/A | 0.0053 U | N/A | N/A | N/A |
| Toluene | mg/kg | 47,000 | N/A | 0.0056 U | 0.0055 U | N/A | **0.0046** | **0.0026 J** | N/A | N/A | N/A | 0.0053 U | N/A | N/A | N/A |
| **Semi-Volatile Organic Compounds^** | | | | | | | | | | | | | | | |
| 1,1-Biphenyl | mg/kg | 200 | 0.08 U | 0.7 U | 0.075 U | 0.079 U | **0.017 J** | 0.085 U | 0.068 U | 0.074 U | 0.07 U | 0.075 U | 0.072 U | 0.071 U | 0.071 U |
| 1,2,4,5-Tetrachlorobenzene | mg/kg | 350 | 0.08 U | 0.7 U | 0.075 U | 0.079 U | 0.073 U | 0.085 U | 0.068 U | 0.074 U | 0.07 U | 0.075 U | 0.072 U | 0.071 U | 0.071 U |
| 2-Methylnaphthalene | mg/kg | 3,000 | 0.0093 U | **0.05** | **0.02** | 0.01 U | **0.13** | **0.068** | **0.0049 J** | 0.0072 U | **0.0046 J** | **0.008** | 0.0072 U | 0.0074 U | **0.014** |
| 3&4-Methylphenol(m&p Cresol) | mg/kg | 41,000 | 0.16 U | 1.4 U | 0.15 U | 0.16 U | 0.15 U | 0.17 U | 0.14 U | 0.15 U | 0.14 U | 0.15 U | 0.14 U | 0.14 U | 0.14 U |
| Acenaphthene | mg/kg | 45,000 | 0.0093 U | **0.024** | **0.0047 J** | 0.01 U | **0.018** | **0.008** | **0.0091** | **0.0022 J** | **0.0053 J** | **0.028** | 0.0072 U | 0.0074 U | **0.0021 J** |
| Acenaphthylene | mg/kg | 45,000 | 0.0093 U | **0.2** | **0.0029 J** | 0.01 U | **0.017** | **0.0076 J** | **0.00093 J** | 0.0072 U | 0.0072 U | **0.0014 J** | **0.0053 J** | **0.0039 J** | **0.0064 J** |
| Acetophenone | mg/kg | 120,000 | 0.08 U | 0.7 U | 0.075 U | 0.079 U | 0.073 U | 0.085 U | 0.068 U | 0.074 U | 0.07 U | 0.075 U | 0.072 U | 0.071 U | 0.071 U |
| Anthracene | mg/kg | 230,000 | **0.0012 J** | **0.1** | **0.0044 J** | 0.01 U | **0.072** | **0.017** | **0.0033 J** | **0.00083 J** | **0.0019 J** | **0.008** | **0.002 J** | 0.0074 U | **0.018** |
| Benz[a]anthracene | mg/kg | 21 | **0.0021 J** | **0.37** | **0.013** | **0.0013 J** | **0.11** | **0.028** | **0.016** | **0.0076** | **0.012** | **0.082** | **0.0044 J** | **0.0022 J** | **0.021** |
| Benzaldehyde | mg/kg | 120,000 | 0.08 U | 0.7 U | 0.075 U | 0.079 U | 0.073 U | 0.085 U | 0.068 U | 0.074 U | 0.07 U | 0.075 U | 0.072 U | 0.071 U | 0.071 UJ |
| Benzo[a]pyrene | mg/kg | 2.1 | 0.0093 U | **0.42** | **0.019** | 0.01 U | **0.086** | **0.026** | **0.034** | **0.015** | **0.023** | **0.22** | **0.0025 J** | **0.0017 J** | **0.017** |
| Benzo[b]fluoranthene | mg/kg | 21 | **0.0017 J** | **0.52** | **0.024** | **0.0014 J** | **0.17** | **0.037** | **0.033** | **0.015** | **0.027** | **0.22** | **0.0037 J** | **0.0018 J** | **0.034** |
| Benzo[g,h,i]perylene | mg/kg | | **0.0013 J** | **0.27** | **0.015** | **0.0012 J** | **0.061** | **0.017** | **0.027** | **0.012** | **0.02** | **0.18** | **0.0036 J** | **0.00074 J** | **0.023** |
| Benzo[k]fluoranthene | mg/kg | 210 | 0.0093 U | **0.15** | **0.0069 J** | 0.01 U | **0.059** | **0.014** | **0.012** | **0.0058 J** | **0.0091** | **0.071** | **0.001 J** | 0.0074 U | **0.007 J** |
| bis(2-Ethylhexyl)phthalate | mg/kg | 160 | **0.025 J** | 0.7 U | **0.043 J** | **0.024 J** | **0.043 J** | **0.038 J** | **0.046 J** | 0.074 U | **0.016 J** | **0.02 J** | 0.072 U | 0.071 U | 0.02 B |
| Caprolactam | mg/kg | 400,000 | 0.2 U | 1.8 U | 0.19 U | 0.2 U | 0.18 U | 0.21 U | 0.17 U | 0.18 U | 0.18 U | 0.19 U | 0.18 U | 0.18 U | 0.18 U |
| Carbazole | mg/kg | | 0.08 U | 0.7 U | 0.075 U | 0.079 U | 0.073 U | 0.085 U | 0.068 U | 0.074 U | 0.07 U | 0.075 U | 0.072 U | 0.071 U | 0.071 U |
| Chrysene | mg/kg | 2,100 | **0.0021 J** | **0.3** | **0.015** | **0.0012 J** | **0.15** | **0.035** | **0.014** | **0.0071 J** | **0.011** | **0.077** | **0.0032 J** | **0.0015 J** | **0.023** |
| Dibenz[a,h]anthracene | mg/kg | 2.1 | 0.0093 U | **0.071** | **0.0037 J** | 0.01 U | **0.016** | **0.0038 J** | **0.0058 J** | **0.0029 J** | **0.0047 J** | **0.042** | 0.0072 U | 0.0074 U | **0.0046 J** |
| Diethylphthalate | mg/kg | 660,000 | 0.08 U | 0.7 U | 0.075 U | 0.079 U | 0.073 U | 0.085 U | 0.068 U | 0.074 U | 0.07 U | 0.075 U | 0.072 U | 0.071 U | 0.071 U |
| Di-n-butylphthalate | mg/kg | 82,000 | **0.1** | 0.7 U | **0.1** | **0.086** | **0.053 J** | **0.059 J** | **0.12** | **0.05 J** | **0.045 J** | **0.066 J** | **0.045 J** | **0.025 J** | 0.065 B |
| Fluoranthene | mg/kg | 30,000 | 0.0093 U | **0.63** | **0.029** | 0.01 U | **0.44** | **0.1** | **0.019** | **0.0081** | **0.012** | **0.076** | **0.0064 J** | **0.0019 J** | **0.041** |
| Fluorene | mg/kg | 30,000 | **0.0013 J** | **0.032** | **0.0018 J** | 0.01 U | **0.0099** | **0.0085** | **0.003 J** | 0.0072 U | 0.0072 U | **0.0033 J** | 0.0072 U | 0.0074 U | **0.0013 J** |
| Indeno[1,2,3-c,d]pyrene | mg/kg | 21 | **0.0012 J** | **0.35** | **0.019** | 0.01 U | **0.079** | **0.023** | **0.03** | **0.013** | **0.024** | **0.21** | **0.0023 J** | **0.00099 J** | **0.023** |
| Naphthalene | mg/kg | 8.6 | **0.0017 J** | **0.2** | **0.017** | 0.01 U | **0.13** | **0.1** | **0.0077** | **0.002 J** | **0.0045 J** | **0.013** | 0.0072 U | **0.0022 J** | **0.019** |
| Phenanthrene | mg/kg | | **0.0071 J** | **0.29** | **0.022** | **0.0016 J** | **0.18** | **0.066** | **0.013** | **0.0036 J** | **0.009** | **0.03** | **0.0026 J** | 0.0074 U | **0.023** |
| Phenol | mg/kg | 250,000 | 0.08 U | 0.7 U | 0.075 U | 0.079 U | 0.073 U | 0.085 U | 0.068 U | 0.074 U | 0.07 U | 0.075 U | 0.072 U | 0.071 U | 0.071 U |
| Pyrene | mg/kg | 23,000 | 0.0093 U | **0.52** | **0.028** | 0.01 U | **0.41** | **0.093** | **0.017** | **0.0076** | **0.011** | **0.07** | **0.0077** | **0.0022 J** | **0.037** |
| **PCBs** | | | | | | | | | | | | | | | |
| Aroclor 1248 | mg/kg | 0.94 | 0.02 U | N/A | N/A | 0.019 U | N/A | N/A | 0.017 U | N/A | 0.018 U | N/A | 0.018 U | N/A | 0.018 U |
| Aroclor 1254 | mg/kg | 0.97 | 0.02 U | N/A | N/A | **0.0041 J** | N/A | N/A | 0.017 U | N/A | **0.0041 J** | N/A | 0.018 U | N/A | 0.018 U |
| Aroclor 1260 | mg/kg | 0.99 | 0.02 U | N/A | N/A | 0.019 U | N/A | N/A | 0.017 U | N/A | **0.0029 J** | N/A | 0.018 U | N/A | 0.018 U |
| PCBs (total) | mg/kg | 0.97 | 0.18 U | N/A | N/A | 0.18 U | N/A | N/A | 0.16 U | N/A | 0.16 U | N/A | 0.16 U | N/A | 0.16 U |
| **TPH/Oil & Grease** | | | | | | | | | | | | | | | |
| Diesel Range Organics | mg/kg | 6,200 | **18.3** | **148** | **58.4** | **18.9** | **143** | **52.8** | **14.8** | **7.6** | **44.6** | **39.4** | **6.6 J** | **8.5** | **13.6 J** |
| Gasoline Range Organics | mg/kg | 6,200 | 17.8 U | 10.3 U | 10.8 U | 15.5 U | 10.4 U | 13.5 U | 11.6 U | 14.6 U | 10.2 U | 15.2 U | 16.5 U | 14.7 U | 11.9 UJ |
| Oil & Grease | mg/kg | 6,200 | **42.2 J** | **490** | **163 J** | **53.1 J** | **220 J** | 514 U | **78.5 J** | **111 J** | **43.4 J** | **183** | **71.8 J** | **91.3 J** | **123** |

**Detections in bold**
**Values in red indicate an exceedance of the Project Action Limit (PAL)**
N/A indicates that the parameter was not analyzed for this sample
*indicates non-validated data
^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.
J: The positive result reportred for this analyte is a quantitative estimate.
J-: The positive result reported for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 6 - Parcel B20**
**Summary of Organics Detected in Soil**

| Parameter | Units | PAL | B20-012-SB-4 5/19/2020 | B20-013-SB-1.5 5/28/2020 | B20-013-SB-5 5/28/2020 | B20-014-SB-1* 5/21/2020 | B20-014-SB-4* 5/21/2020 | B20-015-SB-1 5/28/2020 | B20-015-SB-8 5/28/2020 | B20-016-SB-1 5/28/2020 | B20-016-SB-8 5/28/2020 | B20-017-SB-1 5/28/2020 | B20-017-SB-9* 10/15/2020 | B20-018-SB-1 5/28/2020 | B20-018-SB-4 5/28/2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| 2-Butanone (MEK) | mg/kg | 190,000 | 0.012 U | **0.056** | N/A | N/A | 0.014 U | N/A | 0.016 U | N/A | **0.038** | N/A | 0.011 U | N/A | 0.0097 U |
| Acetone | mg/kg | 670,000 | 0.012 UJ | 0.014 U | N/A | N/A | **0.0079 J** | N/A | 0.0092 B | N/A | **0.026** | N/A | **0.022** | N/A | 0.011 B |
| Benzene | mg/kg | 5.1 | 0.0061 U | **0.0014 J** | N/A | N/A | **0.0072** | N/A | **0.0025 J** | N/A | **0.018** | N/A | 0.0057 U | N/A | 0.0049 U |
| Carbon disulfide | mg/kg | 3,500 | **0.0054 J** | 0.0068 U | N/A | N/A | **0.0027 J** | N/A | **0.0071 J** | N/A | **0.0025 J** | N/A | **0.0038 J** | N/A | **0.0084** |
| Chloroform | mg/kg | 1.4 | 0.0061 U | 0.0068 U | N/A | N/A | **0.004 J** | N/A | 0.0078 U | N/A | 0.0064 U | N/A | 0.0057 U | N/A | 0.0049 U |
| Chloromethane | mg/kg | 460 | 0.0061 U | **0.022** | N/A | N/A | 0.0069 U | N/A | 0.0078 U | N/A | 0.0064 U | N/A | 0.0057 U | N/A | 0.0049 U |
| Cyclohexane | mg/kg | 27,000 | 0.012 U | **0.02** | N/A | N/A | **0.012 J** | N/A | 0.016 U | N/A | **0.015** | N/A | 0.011 U | N/A | 0.0097 U |
| Ethylbenzene | mg/kg | 25 | 0.0061 U | 0.0068 U | N/A | N/A | 0.0069 U | N/A | 0.0078 U | N/A | **0.0021 J** | N/A | 0.0057 U | N/A | 0.0049 U |
| Toluene | mg/kg | 47,000 | 0.0061 U | **0.0026 J** | N/A | N/A | **0.0044 J** | N/A | 0.0078 U | N/A | **0.0095** | N/A | 0.0057 U | N/A | 0.0049 U |
| **Semi-Volatile Organic Compounds^** | | | | | | | | | | | | | | | |
| 1,1-Biphenyl | mg/kg | 200 | 0.073 U | 0.074 U | 0.076 U | 0.087 U | 0.074 U | 0.075 U | 0.074 U | 0.074 U | 0.071 U | 0.071 U | 0.09 U | **0.026 J** | 0.066 U |
| 1,2,4,5-Tetrachlorobenzene | mg/kg | 350 | 0.073 U | 0.074 U | 0.076 U | 0.087 U | 0.074 U | 0.075 U | 0.074 U | 0.074 U | 0.071 U | 0.071 U | 0.09 U | **0.04 J** | 0.066 U |
| 2-Methylnaphthalene | mg/kg | 3,000 | **0.024** | **0.0085** | **0.0022 J** | 0.011 U | **0.0052 J** | **0.02** | 0.0074 U | **0.0043 J** | 0.0072 U | 0.0072 U | 0.0076 U | **0.07** | **0.0055 J** |
| 3&4-Methylphenol(m&p Cresol) | mg/kg | 41,000 | 0.15 U | 0.15 U | 0.15 U | 0.17 U | 0.15 U | 0.15 U | 0.15 R | 0.15 U | 0.14 U | 0.14 U | 0.18 U | **0.029 J** | 0.13 U |
| Acenaphthene | mg/kg | 45,000 | **0.0081** | 0.0084 U | 0.0076 U | 0.011 U | 0.0076 U | **0.014** | 0.0074 U | **0.0088** | **0.0077** | 0.0072 U | **0.0033 J** | **0.0064 J** | 0.0068 U |
| Acenaphthylene | mg/kg | 45,000 | **0.0065 J** | **0.0039 J** | **0.00098 J** | 0.011 U | **0.0027 J** | **0.0058 J** | 0.0074 U | **0.0023 J** | 0.0072 U | 0.0072 U | 0.0076 U | **0.016** | 0.0068 U |
| Acetophenone | mg/kg | 120,000 | 0.073 U | 0.074 U | 0.076 U | 0.087 U | 0.074 U | 0.075 U | 0.074 U | 0.074 U | 0.071 U | 0.071 U | 0.09 U | **0.022 J** | 0.066 U |
| Anthracene | mg/kg | 230,000 | **0.011** | **0.005 J** | **0.00072 J** | 0.011 U | **0.0024 J** | **0.008** | 0.0074 U | **0.0095** | **0.001 J** | 0.0072 U | 0.0076 U | **0.033** | **0.00088 J** |
| Benz[a]anthracene | mg/kg | 21 | **0.048** | **0.028** | **0.0043 J** | **0.0021 J** | **0.011** | **0.042** | 0.0074 U | **0.046** | **0.0098** | **0.00097 J** | **0.0033 J** | **0.092** | **0.0026 J** |
| Benzaldehyde | mg/kg | 120,000 | 0.073 UJ | 0.074 U | 0.076 U | 0.087 U | 0.074 U | 0.075 U | 0.074 U | 0.074 U | 0.071 U | 0.071 U | 0.09 U | **0.031 J** | 0.066 U |
| Benzo[a]pyrene | mg/kg | 2.1 | **0.053** | **0.034** | **0.0052 J** | **0.0019 J** | **0.012** | **0.078** | 0.0074 U | **0.088** | **0.024** | **0.0009 J** | **0.0075 J** | **0.14** | **0.003 J** |
| Benzo[b]fluoranthene | mg/kg | 21 | **0.079** | **0.039** | **0.0068 J** | **0.0026 J** | **0.016** | **0.087** | 0.0074 U | **0.096** | **0.023** | **0.0011 J** | **0.0074 J** | **0.17** | **0.0045 J** |
| Benzo[g,h,i]perylene | mg/kg | | **0.049** | **0.016** | **0.0027 J** | **0.0013 J** | **0.0076** | **0.043** | **0.00074 J** | **0.042** | **0.015** | **0.00068 J** | **0.0059 J** | **0.068** | **0.0031 J** |
| Benzo[k]fluoranthene | mg/kg | 210 | **0.025** | **0.016** | **0.0024 J** | **0.001 J** | **0.0053 J** | **0.038** | 0.0074 U | **0.039** | **0.0086** | 0.0072 U | **0.0026 J** | **0.064** | **0.0015 J** |
| bis(2-Ethylhexyl)phthalate | mg/kg | 160 | 0.015 B | 0.028 B | 0.027 B | **0.036 J** | **0.027 J** | 0.025 B | 0.024 B | 0.031 B | 0.028 B | 0.02 B | **0.071 J** | 0.041 B | 0.036 B |
| Caprolactam | mg/kg | 400,000 | 0.18 U | 0.19 U | 0.19 U | 0.22 U | 0.19 U | 0.19 U | 0.19 U | 0.18 U | 0.18 U | 0.18 U | 0.23 U | 0.064 B | 0.17 U |
| Carbazole | mg/kg | | 0.073 U | 0.074 U | 0.076 U | 0.087 U | 0.074 U | 0.075 U | 0.074 U | 0.074 U | 0.071 U | 0.071 U | 0.09 U | **0.037 J** | 0.066 U |
| Chrysene | mg/kg | 2,100 | **0.047** | **0.024** | **0.0042 J** | **0.002 J** | **0.0098** | **0.044** | 0.0074 U | **0.051** | **0.0084** | **0.00093 J** | **0.0028 J** | **0.1** | **0.0037 J** |
| Dibenz[a,h]anthracene | mg/kg | 2.1 | **0.014** | **0.0042 J** | 0.0076 U | 0.011 U | **0.0021 J** | **0.01** | 0.0074 U | **0.01** | **0.0037 J** | 0.0072 U | **0.0013 J** | **0.017** | 0.0068 U |
| Diethylphthalate | mg/kg | 660,000 | 0.073 U | 0.074 U | 0.076 U | 0.087 U | **0.016 J** | 0.075 U | 0.074 U | 0.074 U | 0.071 U | 0.071 U | 0.09 U | 0.07 U | 0.066 U |
| Di-n-butylphthalate | mg/kg | 82,000 | 0.05 B | **0.098** | **0.096** | **0.19** | **0.21** | 0.067 B | **0.081** | **0.083** | **0.097** | 0.069 B | **0.19** | **0.096** | **0.1** |
| Fluoranthene | mg/kg | 30,000 | **0.078** | **0.038** | **0.0057 J** | **0.0035 J** | **0.014** | **0.045** | 0.0074 U | **0.04** | **0.0074** | **0.00093 J** | **0.0035 J** | **0.093** | **0.0046 J** |
| Fluorene | mg/kg | 30,000 | **0.0028 J** | **0.0012 J** | 0.0076 U | 0.011 U | 0.0076 U | **0.0028 J** | 0.0074 U | **0.0014 J** | **0.001 J** | 0.0072 U | 0.0076 U | **0.0046 J** | 0.0068 U |
| Indeno[1,2,3-c,d]pyrene | mg/kg | 21 | **0.054** | **0.018** | **0.0029 J** | **0.0018 J** | **0.0091** | **0.051** | 0.0074 U | **0.052** | **0.016** | 0.0072 U | **0.0071 J** | **0.076** | **0.0023 J** |
| Naphthalene | mg/kg | 8.6 | **0.031** | **0.0095** | **0.0021 J** | 0.011 U | **0.0044 J** | **0.018** | 0.0074 U | **0.004 J** | **0.0018 J** | 0.0072 U | **0.0014 J** | **0.042** | **0.0041 J** |
| Phenanthrene | mg/kg | | **0.065** | **0.019** | **0.0025 J** | **0.0028 J** | **0.009** | **0.024** | 0.0074 U | **0.015** | **0.0035 J** | **0.00086 J** | **0.0019 J** | **0.11** | **0.005 J** |
| Phenol | mg/kg | 250,000 | 0.073 U | 0.074 U | 0.076 U | 0.087 U | 0.074 U | 0.075 U | 0.074 R | 0.074 U | 0.071 U | 0.071 U | 0.09 U | **0.02 J** | 0.066 U |
| Pyrene | mg/kg | 23,000 | **0.063** | **0.033** | **0.0054 J** | **0.0031 J** | **0.012** | **0.046** | 0.0074 U | **0.052** | **0.0077** | **0.00079 J** | **0.0038 J** | **0.1** | **0.0038 J** |
| **PCBs** | | | | | | | | | | | | | | | |
| Aroclor 1248 | mg/kg | 0.94 | N/A | 0.018 U | N/A | 0.11 U | N/A | 0.019 U | N/A | 0.018 U | N/A | 0.018 U | N/A | 0.087 U | N/A |
| Aroclor 1254 | mg/kg | 0.97 | N/A | 0.018 U | N/A | 0.11 U | N/A | 0.019 U | N/A | 0.018 U | N/A | 0.018 U | N/A | 0.087 U | N/A |
| Aroclor 1260 | mg/kg | 0.99 | N/A | 0.018 U | N/A | 0.11 U | N/A | 0.019 U | N/A | 0.014 U | N/A | 0.018 U | N/A | 0.087 U | N/A |
| PCBs (total) | mg/kg | 0.97 | N/A | 0.17 U | N/A | 0.97 U | N/A | 0.17 U | N/A | 0.17 U | N/A | 0.16 U | N/A | 0.78 U | N/A |
| **TPH/Oil & Grease** | | | | | | | | | | | | | | | |
| Diesel Range Organics | mg/kg | 6,200 | **35.8 J** | **45.5** | **25** | **39.7** | **27.9** | **44.8** | **8.8 J** | **83.5** | **10.8** | **9.9** | **17** | **123** | **37.9** |
| Gasoline Range Organics | mg/kg | 6,200 | 13.5 UJ | 11.6 UJ | **19.8** | 22.9 U | 12.6 U | 16.8 UJ | 13.7 UJ | 11.4 UJ | **15 J** | 13.2 UJ | 13.4 U | 11.7 UJ | 11.7 UJ |
| Oil & Grease | mg/kg | 6,200 | **155** | 226 UJ | 464 UJ | **104 J** | **174** | 227 UJ | 224 UJ | **145 J-** | **97.8 J-** | 213 UJ | **323 J** | **191 J-** | **184 J-** |

**Detections in bold**
**Values in red indicate an exceedance of the Project Action Limit (PAL)**
N/A indicates that the parameter was not analyzed for this sample
*indicates non-validated data
^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.
J: The positive result reportred for this analyte is a quantitative estimate.
J-: The positive result reported for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 6 - Parcel B20**
**Summary of Organics Detected in Soil**

| Parameter | Units | PAL | B20-019-SB-1 5/28/2020 | B20-019-SB-7 5/28/2020 | B20-020-SB-1* 5/21/2020 | B20-020-SB-5* 5/21/2020 | B20-021-SB-1 5/19/2020 | B20-021-SB-5 5/19/2020 | B20-022-SB-1* 5/15/2020 | B20-022-SB-9* 10/14/2020 | B20-023-SB-1* 5/15/2020 | B20-023-SB-5* 5/15/2020 | B20-024-SB-1* 5/21/2020 | B20-024-SB-4* 10/13/2020 | B20-025-SB-1* 10/13/2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| 2-Butanone (MEK) | mg/kg | 190,000 | N/A | 0.011 U | N/A | N/A | N/A | N/A | N/A | 0.0078 U | N/A | N/A | N/A | 0.011 U | **0.0067 J** |
| Acetone | mg/kg | 670,000 | N/A | 0.0043 B | N/A | N/A | N/A | N/A | N/A | **0.0031 J** | N/A | N/A | N/A | **0.0049 J** | **0.013** |
| Benzene | mg/kg | 5.1 | N/A | 0.0054 U | N/A | N/A | N/A | N/A | N/A | 0.0039 U | N/A | N/A | N/A | **0.0019 J** | **0.0021 J** |
| Carbon disulfide | mg/kg | 3,500 | N/A | **0.0036 J** | N/A | N/A | N/A | N/A | N/A | 0.0039 U | N/A | N/A | N/A | 0.0057 U | **0.0045** |
| Chloroform | mg/kg | 1.4 | N/A | 0.0054 U | N/A | N/A | N/A | N/A | N/A | 0.0039 U | N/A | N/A | N/A | 0.0057 U | 0.0041 U |
| Chloromethane | mg/kg | 460 | N/A | 0.0054 U | N/A | N/A | N/A | N/A | N/A | 0.0039 U | N/A | N/A | N/A | 0.0057 U | 0.0041 U |
| Cyclohexane | mg/kg | 27,000 | N/A | 0.011 U | N/A | N/A | N/A | N/A | N/A | 0.0078 U | N/A | N/A | N/A | 0.011 U | **0.0024 J** |
| Ethylbenzene | mg/kg | 25 | N/A | 0.0054 U | N/A | N/A | N/A | N/A | N/A | 0.0039 U | N/A | N/A | N/A | 0.0057 U | **0.001 J** |
| Toluene | mg/kg | 47,000 | N/A | 0.0054 U | N/A | N/A | N/A | N/A | N/A | 0.0039 U | N/A | N/A | N/A | **0.0011 J** | 0.0027 B |
| **Semi-Volatile Organic Compounds^** | | | | | | | | | | | | | | | |
| 1,1-Biphenyl | mg/kg | 200 | 0.69 U | 0.079 U | 0.69 U | 0.069 U | 0.67 U | 0.076 U | 0.072 U | 0.07 U | 0.68 U | 0.071 U | 0.075 U | 0.07 U | 0.073 U |
| 1,2,4,5-Tetrachlorobenzene | mg/kg | 350 | 0.69 U | 0.079 U | 0.69 U | 0.069 U | 0.67 U | 0.076 U | 0.072 U | 0.07 U | 0.68 U | 0.071 U | 0.075 U | 0.07 U | 0.073 U |
| 2-Methylnaphthalene | mg/kg | 3,000 | **0.045** | **0.0034 J** | 0.071 U | 0.0088 U | 0.068 U | **0.023** | **0.025** | **0.005 J** | **0.017** | **0.037** | **0.0067 J** | **0.0046 J** | **0.0036 J** |
| 3&4-Methylphenol(m&p Cresol) | mg/kg | 41,000 | 1.4 U | 0.16 U | 1.4 U | 0.14 U | 1.3 U | 0.15 U | 0.14 U | 0.14 U | 1.4 U | 0.14 U | 0.15 U | 0.14 U | 0.15 U |
| Acenaphthene | mg/kg | 45,000 | **0.0026 J** | **0.0018 J** | 0.071 U | **0.0058 J** | 0.068 U | **0.0027 J** | **0.028** | 0.007 U | **0.0048 J** | **0.042** | **0.0019 J** | 0.0075 U | 0.0074 U |
| Acenaphthylene | mg/kg | 45,000 | **0.0051 J** | **0.0066 J** | 0.071 U | **0.0015 J** | 0.068 U | **0.027** | **0.0031 J** | **0.0019 J** | **0.0058 J** | **0.012** | **0.013** | **0.0018 J** | **0.00097 J** |
| Acetophenone | mg/kg | 120,000 | 0.69 U | 0.079 U | 0.69 U | 0.069 U | 0.67 U | 0.076 U | 0.072 U | 0.07 U | 0.68 U | 0.071 U | 0.075 U | 0.07 U | 0.073 U |
| Anthracene | mg/kg | 230,000 | **0.01** | **0.07** | 0.071 U | **0.0028 J** | **0.0075 J** | **0.019** | **0.019** | **0.0019 J** | **0.0076** | **0.031** | **0.01** | **0.002 J** | **0.0012 J** |
| Benz[a]anthracene | mg/kg | 21 | **0.033** | **0.032** | **0.023 J** | **0.02** | **0.04 J** | **0.089** | **0.089** | **0.005 J** | **0.031** | **0.28** | **0.035** | **0.0082** | **0.0068 J** |
| Benzaldehyde | mg/kg | 120,000 | 0.69 U | 0.079 U | 0.69 U | 0.069 U | 0.67 UJ | 0.076 UJ | 0.072 U | 0.07 U | 0.68 U | 0.071 U | 0.075 U | 0.07 U | 0.073 U |
| Benzo[a]pyrene | mg/kg | 2.1 | **0.044** | **0.011** | **0.067 J** | **0.042** | **0.069** | **0.066** | **0.16** | **0.0057 J** | **0.046** | **0.51** | **0.029** | **0.0094** | **0.01** |
| Benzo[b]fluoranthene | mg/kg | 21 | **0.057** | **0.076** | **0.064 J** | **0.043** | **0.086** | **0.15** | **0.2** | **0.0066 J** | **0.066** | **0.51** | **0.051** | **0.012** | **0.012** |
| Benzo[g,h,i]perylene | mg/kg | | **0.021** | **0.02** | **0.09** | **0.032** | **0.07** | **0.07** | **0.14** | **0.028** | **0.041** | **0.41** | **0.023** | **0.0069 J** | **0.0074** |
| Benzo[k]fluoranthene | mg/kg | 210 | **0.02** | **0.02** | **0.018 J** | **0.014** | **0.02 J** | **0.046** | **0.054** | **0.0022 J** | **0.02** | **0.15** | **0.017** | **0.004 J** | **0.0042 J** |
| bis(2-Ethylhexyl)phthalate | mg/kg | 160 | 0.69 U | 0.05 B | 0.69 U | **0.032 J** | 0.67 UJ | 0.044 B | **0.029 J** | **0.046 J** | 0.68 U | **0.024 J** | **0.025 J** | **0.039 J** | **0.032 J** |
| Caprolactam | mg/kg | 400,000 | 1.7 U | 0.2 U | 1.7 U | 0.17 U | 1.7 U | 0.19 U | **0.031 J** | 0.17 U | 1.7 U | **0.025 J** | 0.19 U | 0.17 U | 0.18 U |
| Carbazole | mg/kg | | 0.69 U | 0.079 U | 0.69 U | 0.069 U | 0.67 U | 0.076 U | **0.017 J** | 0.07 U | 0.68 U | 0.071 U | 0.075 U | 0.07 U | 0.073 U |
| Chrysene | mg/kg | 2,100 | **0.049** | **0.078** | **0.04 J** | **0.017** | **0.05 J** | **0.092** | **0.11** | **0.0056 J** | **0.034** | **0.25** | **0.036** | **0.007 J** | **0.0073 J** |
| Dibenz[a,h]anthracene | mg/kg | 2.1 | 0.0072 U | **0.0037 J** | **0.017 J** | **0.008 J** | 0.068 U | **0.019** | **0.035** | **0.0034 J** | **0.012** | **0.1** | **0.007 J** | **0.0017 J** | **0.002 J** |
| Diethylphthalate | mg/kg | 660,000 | 0.69 U | 0.079 U | 0.69 U | **0.014 J** | 0.67 U | 0.076 U | 0.072 U | 0.07 U | 0.68 U | 0.071 U | 0.075 U | 0.07 U | 0.073 U |
| Di-n-butylphthalate | mg/kg | 82,000 | 0.69 U | **0.083** | 0.69 U | **0.2** | 0.67 U | **0.11** | **0.11** | **0.12** | 0.68 U | **0.091** | 0.15 B | **0.1** | **0.099** |
| Fluoranthene | mg/kg | 30,000 | **0.04** | **0.02** | **0.028 J** | **0.018** | **0.033 J** | **0.096** | **0.1** | **0.0087** | **0.043** | **0.3** | **0.058** | **0.013** | **0.01** |
| Fluorene | mg/kg | 30,000 | 0.0072 U | **0.0013 J** | 0.071 U | **0.001 J** | 0.068 U | **0.0094** | **0.0048 J** | **0.0019 J** | **0.0036 J** | **0.0089** | 0.0093 U | 0.0075 U | **0.0012 J** |
| Indeno[1,2,3-c,d]pyrene | mg/kg | 21 | **0.026** | **0.03** | **0.055 J** | **0.04** | **0.05 J** | **0.08** | **0.15** | **0.02** | **0.048** | **0.46** | **0.03** | **0.0085** | **0.0088** |
| Naphthalene | mg/kg | 8.6 | **0.027** | **0.0022 J** | 0.071 U | 0.0088 U | 0.068 U | **0.075** | **0.049** | **0.046** | **0.017** | **0.16** | **0.014** | **0.0066 J** | **0.0081** |
| Phenanthrene | mg/kg | | **0.046** | **0.01** | **0.01 J** | **0.0075 J** | **0.021 J** | **0.044** | **0.073** | **0.0071** | **0.035** | **0.18** | **0.035** | **0.0086** | **0.0056 J** |
| Phenol | mg/kg | 250,000 | 0.69 U | 0.079 U | 0.69 U | 0.069 U | 0.67 U | 0.076 U | 0.072 U | 0.07 U | 0.68 U | 0.071 U | 0.075 U | 0.07 U | 0.073 U |
| Pyrene | mg/kg | 23,000 | **0.043** | **0.11** | **0.03 J** | **0.019** | **0.039 J** | **0.12** | **0.098** | **0.012** | **0.038** | **0.25** | **0.075** | **0.011** | **0.01** |
| **PCBs** | | | | | | | | | | | | | | | |
| Aroclor 1248 | mg/kg | 0.94 | 0.17 U | N/A | 0.35 U | N/A | 0.17 U | N/A | 0.018 U | N/A | 0.088 U | N/A | 0.092 U | N/A | 0.018 U |
| Aroclor 1254 | mg/kg | 0.97 | 0.17 U | N/A | 0.35 U | N/A | 0.17 U | N/A | 0.018 U | N/A | 0.088 U | N/A | 0.092 U | N/A | 0.018 U |
| Aroclor 1260 | mg/kg | 0.99 | 0.17 U | N/A | 0.35 U | N/A | 0.17 U | N/A | 0.018 U | N/A | 0.088 U | N/A | 0.092 U | N/A | 0.018 U |
| PCBs (total) | mg/kg | 0.97 | 1.5 U | N/A | 3.1 U | N/A | 1.5 U | N/A | 0.16 U | N/A | 0.8 U | N/A | 0.83 U | N/A | 0.018 U |
| **TPH/Oil & Grease** | | | | | | | | | | | | | | | |
| Diesel Range Organics | mg/kg | 6,200 | **236** | **273** | **192** | **48.9** | **136 J** | **270 J** | **42.6** | **37.2** | **12.6** | **128** | **72.8** | **22.5** | **44.7** |
| Gasoline Range Organics | mg/kg | 6,200 | 11.6 UJ | 11.9 U | 11.8 U | 13 U | 10.1 UJ | 12.7 UJ | 11.1 U | 7.4 U | 11.5 U | 10.2 U | 15.3 U | 12.9 U | 8.2 U |
| Oil & Grease | mg/kg | 6,200 | **3,250 J-** | **608 J-** | **13,600** | **287** | **8,090** | **1,040** | **49 J** | 213 U | **175** | **203** | **159** | **153 J** | **370 J** |

**Detections in bold**
**Values in red indicate an exceedance of the Project Action Limit (PAL)**
N/A indicates that the parameter was not analyzed for this sample
*indicates non-validated data
^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.
J: The positive result reportred for this analyte is a quantitative estimate.
J-: The positive result reported for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 6 - Parcel B20**
**Summary of Organics Detected in Soil**

| Parameter | Units | PAL | B20-025-SB-7* 10/13/2020 | B20-026-SB-1 5/12/2020 | B20-026-SB-5 5/12/2020 | B20-027-SB-1* 5/18/2020 | B20-027-SB-4* 5/18/2020 | B20-028-SB-1* 5/18/2020 | B20-028-SB-5* 10/12/2020 | B20-029-SB-1* 5/15/2020 | B20-029-SB-5* 5/15/2020 | B20-030-SB-1* 5/15/2020 | B20-030-SB-5* 5/15/2020 | B20-031-SB-1* 5/14/2020 | B20-031-SB-5* 5/14/2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| 2-Butanone (MEK) | mg/kg | 190,000 | **0.02** | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Acetone | mg/kg | 670,000 | **0.11** | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Benzene | mg/kg | 5.1 | **0.002 J** | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Carbon disulfide | mg/kg | 3,500 | **0.0036 J** | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Chloroform | mg/kg | 1.4 | 0.0044 U | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Chloromethane | mg/kg | 460 | 0.0044 U | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Cyclohexane | mg/kg | 27,000 | 0.0089 U | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Ethylbenzene | mg/kg | 25 | 0.0044 U | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Toluene | mg/kg | 47,000 | **0.0025 J** | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Semi-Volatile Organic Compounds^** | | | | | | | | | | | | | | | |
| 1,1-Biphenyl | mg/kg | 200 | 0.072 U | 0.07 U | 0.072 U | 0.07 U | 0.07 U | 0.076 U | 0.083 U | **0.016 J** | 0.072 U | 0.7 U | 0.073 U | 0.08 U | 0.083 U |
| 1,2,4,5-Tetrachlorobenzene | mg/kg | 350 | 0.072 U | 0.07 U | 0.072 U | 0.07 U | 0.07 U | 0.076 U | 0.083 U | 0.071 U | 0.072 U | 0.7 U | 0.073 U | 0.08 U | 0.083 U |
| 2-Methylnaphthalene | mg/kg | 3,000 | **0.0085** | **0.038** | 0.0071 U | **0.0089** | 0.0071 U | **0.096** | **0.013** | **0.2** | 0.0084 U | **0.039** | 0.0091 U | **0.022** | 0.0082 U |
| 3&4-Methylphenol(m&p Cresol) | mg/kg | 41,000 | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.15 U | 0.17 U | 0.14 U | 0.14 U | 1.4 U | 0.15 U | 0.16 U | 0.17 U |
| Acenaphthene | mg/kg | 45,000 | **0.0047 J** | **0.16** | 0.0071 U | **0.012** | 0.0071 U | 0.01 U | **0.008 J** | **0.0084** | 0.0084 U | **0.03** | 0.0091 U | 0.0075 U | 0.0082 U |
| Acenaphthylene | mg/kg | 45,000 | 0.0078 U | **0.0028 J** | 0.0071 U | **0.0021 J** | 0.0071 U | **0.047** | **0.0014 J** | **0.0069 J** | 0.0084 U | **0.011** | **0.0017 J** | **0.0047 J** | 0.0082 U |
| Acetophenone | mg/kg | 120,000 | 0.072 U | 0.07 U | 0.072 U | 0.07 U | 0.07 U | 0.076 U | 0.083 U | 0.071 U | 0.072 U | 0.7 U | 0.073 U | 0.08 U | 0.083 U |
| Anthracene | mg/kg | 230,000 | **0.018** | **0.078** | 0.0071 U | **0.0064 J** | 0.0071 U | **0.027** | **0.0061 J** | **0.049** | **0.001 J** | **0.062** | **0.0026 J** | **0.0053 J** | **0.0012 J** |
| Benz[a]anthracene | mg/kg | 21 | **0.008** | **1.1** | 0.0023 B | **0.055** | **0.00086 J** | **0.27** | **0.0052 J** | **0.11** | **0.0034 J** | **0.33** | **0.019** | **0.014** | **0.0012 J** |
| Benzaldehyde | mg/kg | 120,000 | 0.072 U | 0.07 U | 0.072 U | 0.07 U | 0.07 U | 0.076 U | 0.083 U | **0.036 J** | 0.072 U | 0.7 U | 0.073 U | 0.08 U | 0.083 U |
| Benzo[a]pyrene | mg/kg | 2.1 | **0.0025 J** | **2** | **0.0028 J** | **0.096** | **0.00086 J** | **0.2** | **0.0044 J** | **0.13** | **0.0027 J** | **0.52** | **0.015** | **0.015** | 0.0082 U |
| Benzo[b]fluoranthene | mg/kg | 21 | **0.0032 J** | **2.5** | 0.0036 B | **0.1** | **0.00093 J** | **0.27** | **0.0054 J** | **0.1** | **0.0039 J** | **0.55** | **0.024** | **0.031** | 0.0082 U |
| Benzo[g,h,i]perylene | mg/kg | | **0.0012 J** | **1.5** | 0.0021 B | **0.065** | **0.00064 J** | **0.13** | **0.0028 J** | **0.12** | **0.0026 J** | **0.38** | **0.0082 J** | **0.015** | 0.0082 U |
| Benzo[k]fluoranthene | mg/kg | 210 | **0.00089 J** | **0.51** | **0.0011 J** | **0.034** | 0.0071 U | **0.078** | **0.0024 J** | **0.021** | **0.001 J** | **0.19** | **0.0076 J** | **0.0078** | 0.0082 U |
| bis(2-Ethylhexyl)phthalate | mg/kg | 160 | **0.054 J** | 0.015 B | 0.016 B | **0.014 J** | **0.015 J** | **0.018 J** | **0.03 J** | **0.027 J** | **0.016 J** | 0.7 U | **0.026 J** | **0.02 J** | 0.083 U |
| Caprolactam | mg/kg | 400,000 | 0.18 U | 0.18 U | 0.18 U | 0.17 U | 0.18 U | 0.19 U | 0.21 U | 0.18 U | 0.18 U | 1.8 U | **0.029 J** | 0.2 U | 0.21 U |
| Carbazole | mg/kg | | 0.072 U | **0.019 J** | 0.072 U | 0.07 U | 0.07 U | 0.076 U | 0.083 U | **0.02 J** | 0.072 U | 0.7 U | 0.073 U | 0.08 U | 0.083 U |
| Chrysene | mg/kg | 2,100 | **0.0064 J** | **1.2** | 0.0021 B | **0.051** | 0.0071 U | **0.15** | **0.0066 J** | **0.13** | **0.0032 J** | **0.28** | **0.017** | **0.016** | **0.0007 J** |
| Dibenz[a,h]anthracene | mg/kg | 2.1 | 0.0078 U | **0.42** | 0.0071 U | **0.015** | 0.0071 U | **0.036** | 0.0084 U | **0.047** | 0.0084 U | **0.083** | **0.0027 J** | **0.0039 J** | 0.0082 U |
| Diethylphthalate | mg/kg | 660,000 | 0.072 U | 0.07 U | 0.072 U | 0.07 U | 0.07 U | 0.076 U | 0.083 U | 0.071 U | 0.072 U | 0.7 U | **0.015 J** | 0.08 U | 0.083 U |
| Di-n-butylphthalate | mg/kg | 82,000 | **0.13** | 0.043 B | 0.066 B | **0.05 J** | **0.06 J** | **0.063 J** | **0.055 J** | **0.078** | **0.058 J** | 0.7 U | **0.11** | **0.068 J** | **0.03 J** |
| Fluoranthene | mg/kg | 30,000 | **0.049** | **1.3** | 0.0026 B | **0.095** | **0.00071 J** | **0.18** | **0.017** | **0.097** | **0.0092** | **0.37** | **0.016** | **0.018** | **0.0013 J** |
| Fluorene | mg/kg | 30,000 | **0.0064 J** | **0.031** | 0.0071 U | **0.0029 J** | 0.0071 U | **0.0054 J** | **0.0064 J** | **0.014** | 0.0084 U | **0.011** | 0.0091 U | **0.0025 J** | 0.0082 U |
| Indeno[1,2,3-c,d]pyrene | mg/kg | 21 | **0.0013 J** | **1.7** | **0.0021 J** | **0.078** | 0.0071 U | **0.15** | **0.0033 J** | **0.072** | **0.0028 J** | **0.37** | **0.011** | **0.014** | 0.0082 U |
| Naphthalene | mg/kg | 8.6 | **0.0083** | **0.044** | 0.0014 B | **0.015** | 0.0071 U | **0.2** | **0.29** | **0.18** | **0.002 J** | **0.043** | **0.003 J** | **0.02** | 0.0082 U |
| Phenanthrene | mg/kg | | **0.042** | **0.33** | 0.002 B | **0.036** | 0.0071 U | **0.086** | **0.026** | **0.21** | **0.0094** | **0.23** | **0.0056 J** | **0.028** | **0.0021 J** |
| Phenol | mg/kg | 250,000 | 0.072 U | 0.07 U | 0.072 U | 0.07 U | 0.07 U | 0.076 U | 0.083 U | 0.071 U | 0.072 U | 0.7 U | 0.073 U | 0.08 U | 0.083 U |
| Pyrene | mg/kg | 23,000 | **0.043** | **1.4** | 0.0026 B | **0.081** | **0.00061 J** | **0.2** | **0.016** | **0.13** | **0.0062 J** | **0.36** | **0.014** | **0.015** | **0.0012 J** |
| **PCBs** | | | | | | | | | | | | | | | |
| Aroclor 1248 | mg/kg | 0.94 | N/A | 0.018 U | N/A | 0.018 U | N/A | **0.023** | N/A | **0.013 J** | N/A | 0.088 U | N/A | 0.02 U | N/A |
| Aroclor 1254 | mg/kg | 0.97 | N/A | 0.018 U | N/A | 0.018 U | N/A | **0.014 J** | N/A | **0.029** | N/A | 0.088 U | N/A | 0.02 U | N/A |
| Aroclor 1260 | mg/kg | 0.99 | N/A | 0.018 U | N/A | **0.054** | N/A | 0.019 U | N/A | 0.018 U | N/A | 0.088 U | N/A | 0.02 U | N/A |
| PCBs (total) | mg/kg | 0.97 | N/A | 0.16 U | N/A | **0.054 J** | N/A | 0.17 U | N/A | 0.16 U | N/A | 0.79 U | N/A | 0.18 U | N/A |
| **TPH/Oil & Grease** | | | | | | | | | | | | | | | |
| Diesel Range Organics | mg/kg | 6,200 | **41.7** | **39.1** | **10.2** | **12.6** | **7.4** | **29.6** | **10** | **96.4** | **43.8** | **44.3** | **10.7** | **12.1** | **10.3** |
| Gasoline Range Organics | mg/kg | 6,200 | **5.8 J** | 11.4 UJ | 13.8 UJ | 12.5 U | 14.6 U | 14.9 U | 9.7 U | 13.9 U | 10.8 U | 15.3 U | 12.2 U | 18.8 U | 21.1 U |
| Oil & Grease | mg/kg | 6,200 | **104 J** | **161** | **174** | **153** | **76 J** | **63.4 J** | 498 U | **108** | 109 U | **63.2 J** | **49.8 J** | 123 U | 127 U |

**Detections in bold**
**Values in red indicate an exceedance of the Project Action Limit (PAL)**
N/A indicates that the parameter was not analyzed for this sample
*indicates non-validated data
^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.
J: The positive result reportred for this analyte is a quantitative estimate.
J-: The positive result reported for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 6 - Parcel B20**
**Summary of Organics Detected in Soil**

| Parameter | Units | PAL | B20-032-SB-1* 5/14/2020 | B20-032-SB-5* 5/14/2020 | B20-033-SB-1* 5/14/2020 | B20-033-SB-5* 5/14/2020 | B20-034-SB-1 5/19/2020 | B20-034-SB-9 5/19/2020 | B20-035-SB-1* 5/15/2020 | B20-035-SB-4* 5/15/2020 | B20-036-SB-1 5/19/2020 | B20-036-SB-9* 10/14/2020 | B20-036-SB-10* 10/14/2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| 2-Butanone (MEK) | mg/kg | 190,000 | N/A | N/A | N/A | 0.012 U | 0.012 U | 0.011 U | N/A | N/A | N/A | **0.002 J** | 0.012 U |
| Acetone | mg/kg | 670,000 | N/A | N/A | N/A | 0.012 U | 0.012 UJ | 0.011 UJ | N/A | N/A | N/A | 0.011 U | **0.0042 J** |
| Benzene | mg/kg | 5.1 | N/A | N/A | N/A | 0.0058 U | 0.006 U | 0.0056 U | N/A | N/A | N/A | 0.0055 U | 0.0058 U |
| Carbon disulfide | mg/kg | 3,500 | N/A | N/A | N/A | **0.0043 J** | 0.006 U | 0.0056 U | N/A | N/A | N/A | **0.002 J** | **0.0033 J** |
| Chloroform | mg/kg | 1.4 | N/A | N/A | N/A | 0.0058 U | 0.006 U | 0.0056 U | N/A | N/A | N/A | 0.0055 U | 0.0058 U |
| Chloromethane | mg/kg | 460 | N/A | N/A | N/A | 0.0058 U | 0.006 U | 0.0056 U | N/A | N/A | N/A | 0.0055 U | 0.0058 U |
| Cyclohexane | mg/kg | 27,000 | N/A | N/A | N/A | 0.012 U | 0.012 U | 0.011 U | N/A | N/A | N/A | 0.011 U | 0.012 U |
| Ethylbenzene | mg/kg | 25 | N/A | N/A | N/A | 0.0058 U | 0.006 U | 0.0056 U | N/A | N/A | N/A | 0.0055 U | 0.0058 U |
| Toluene | mg/kg | 47,000 | N/A | N/A | N/A | 0.0058 U | 0.006 U | 0.0056 U | N/A | N/A | N/A | 0.0055 U | 0.0058 U |
| **Semi-Volatile Organic Compounds^** | | | | | | | | | | | | | |
| 1,1-Biphenyl | mg/kg | 200 | **0.017 J** | 0.71 U | 0.67 U | 0.074 U | 0.078 U | 0.074 U | 0.091 U | 0.078 U | **0.018 J** | 0.075 U | 0.075 U |
| 1,2,4,5-Tetrachlorobenzene | mg/kg | 350 | 0.078 U | 0.71 U | 0.67 U | 0.074 U | 0.078 U | 0.074 U | 0.091 U | 0.078 U | 0.073 U | 0.075 U | 0.075 U |
| 2-Methylnaphthalene | mg/kg | 3,000 | **0.027** | **0.028** | 0.14 U | **0.0029 J** | **0.027** | **0.083** | **0.003 J** | **0.015** | **0.26** | **0.017** | 0.037 U |
| 3&4-Methylphenol(m&p Cresol) | mg/kg | 41,000 | 0.15 U | 1.4 U | 1.3 U | 0.15 U | 0.16 U | 0.15 U | 0.18 U | 0.15 U | 0.15 U | 0.15 U | 0.15 U |
| Acenaphthene | mg/kg | 45,000 | **0.13** | **0.063** | **0.042 J** | 0.0073 U | **0.0098** | **0.025** | 0.011 U | **0.016** | **0.024** | **0.15** | **0.018 J** |
| Acenaphthylene | mg/kg | 45,000 | **0.03** | **0.98** | **0.061 J** | 0.0073 U | **0.01** | **0.068** | 0.011 U | **0.014** | **0.048** | **0.029** | **0.11** |
| Acetophenone | mg/kg | 120,000 | 0.078 U | 0.71 U | 0.67 U | 0.074 U | 0.078 U | 0.074 U | 0.091 U | 0.078 U | 0.073 U | 0.075 U | 0.075 U |
| Anthracene | mg/kg | 230,000 | **0.1** | **0.36** | **0.42** | **0.0016 J** | **0.019** | **0.052** | 0.011 U | **0.038** | **0.074** | **0.051** | **0.11** |
| Benz[a]anthracene | mg/kg | 21 | **0.48** | **3.7** | **17** | **0.0082** | **0.1** | **0.27** | **0.0019 J** | **0.081** | **0.34** | **0.32** | **0.81** |
| Benzaldehyde | mg/kg | 120,000 | 0.078 U | 0.71 U | 0.67 U | 0.074 U | 0.078 UJ | 0.074 UJ | 0.091 U | 0.078 U | 0.073 UJ | 0.075 U | 0.075 U |
| Benzo[a]pyrene | mg/kg | 2.1 | **0.45** | **2.5** | **15** | **0.003 J** | **0.14** | **0.28** | 0.011 U | **0.11** | **0.34** | **0.63** | **0.62** |
| Benzo[b]fluoranthene | mg/kg | 21 | **0.61** | **3.8** | **21** | **0.0034 J** | **0.14** | **0.37** | **0.0016 J** | **0.21** | **0.4** | **0.78** | **0.9** |
| Benzo[g,h,i]perylene | mg/kg | | **0.27** | **1.4** | **6.6** | **0.0011 J** | **0.12** | **0.23** | **0.0012 J** | **0.067** | **0.25** | **0.53** | **0.34** |
| Benzo[k]fluoranthene | mg/kg | 210 | **0.2** | **1.2** | **6** | **0.00094 J** | **0.036** | **0.12** | 0.011 U | **0.05** | **0.13** | **0.24** | **0.29** |
| bis(2-Ethylhexyl)phthalate | mg/kg | 160 | **0.13** | 0.71 U | 0.67 U | **0.016 J** | 0.018 B | 0.03 B | **0.03 J** | **0.06 J** | 0.02 B | **0.32** | **0.17** |
| Caprolactam | mg/kg | 400,000 | 0.19 U | 1.8 U | 1.7 U | **0.031 J** | 0.2 U | 0.19 U | 0.23 U | **0.024 J** | 0.18 U | 0.19 U | 0.19 U |
| Carbazole | mg/kg | | **0.028 J** | **0.17 J** | 0.67 U | 0.074 U | 0.078 U | **0.02 J** | 0.091 U | 0.078 U | **0.021 J** | **0.029 J** | 0.075 U |
| Chrysene | mg/kg | 2,100 | **0.44** | **2.6** | **13** | **0.0021 J** | **0.1** | **0.23** | **0.0013 J** | **0.11** | **0.28** | **0.44** | **0.71** |
| Dibenz[a,h]anthracene | mg/kg | 2.1 | **0.08** | **0.37** | **2.5** | 0.0073 U | **0.028** | **0.062** | 0.011 U | **0.018** | **0.067** | **0.14** | **0.11** |
| Diethylphthalate | mg/kg | 660,000 | 0.078 U | 0.71 U | 0.67 U | 0.074 U | 0.078 U | 0.074 U | 0.091 U | 0.078 U | 0.073 U | 0.075 U | 0.075 U |
| Di-n-butylphthalate | mg/kg | 82,000 | **0.088** | 0.71 U | 0.67 U | **0.069 J** | 0.049 B | 0.072 B | **0.11** | **0.12** | 0.055 B | **0.15** | **0.16** |
| Fluoranthene | mg/kg | 30,000 | **0.94** | **5** | **11** | **0.0025 J** | **0.1** | **0.28** | **0.0015 J** | **0.1** | **0.46** | **0.42** | **1.5** |
| Fluorene | mg/kg | 30,000 | **0.074** | **0.06** | **0.12 J** | **0.003 J** | **0.0084** | **0.0084** | 0.011 U | **0.003 J** | **0.012** | **0.018** | **0.02 J** |
| Indeno[1,2,3-c,d]pyrene | mg/kg | 21 | **0.32** | **1.8** | **7.7** | **0.0014 J** | **0.1** | **0.25** | 0.011 U | **0.078** | **0.26** | **0.68** | **0.51** |
| Naphthalene | mg/kg | 8.6 | **0.023** | **0.1** | **0.032 J** | **0.0089** | **0.061** | **0.22** | **0.0032 J** | **0.022** | **0.2** | **0.037** | **0.013 J** |
| Phenanthrene | mg/kg | | **0.5** | **1.2** | **0.61** | **0.0018 J** | **0.058** | **0.16** | **0.0016 J** | **0.049** | **0.29** | **0.14** | **0.49** |
| Phenol | mg/kg | 250,000 | 0.078 U | 0.71 U | 0.67 U | 0.074 U | 0.078 U | 0.074 U | 0.091 U | 0.078 U | 0.073 U | 0.075 U | 0.075 U |
| Pyrene | mg/kg | 23,000 | **0.74** | **5.2** | **15** | **0.0031 J** | **0.11** | **0.33** | **0.0015 J** | **0.21** | **0.44** | **0.67** | **1.3** |
| **PCBs** | | | | | | | | | | | | | |
| Aroclor 1248 | mg/kg | 0.94 | 0.099 U | N/A | 0.34 U | N/A | 0.019 U | N/A | 0.023 U | N/A | 0.093 U | N/A | N/A |
| Aroclor 1254 | mg/kg | 0.97 | **0.32** | N/A | **3.5** | N/A | 0.019 U | N/A | 0.023 U | N/A | 0.093 U | N/A | N/A |
| Aroclor 1260 | mg/kg | 0.99 | **0.34** | N/A | 0.34 U | N/A | 0.019 U | N/A | 0.023 U | N/A | 0.093 U | N/A | N/A |
| PCBs (total) | mg/kg | 0.97 | **0.65 J** | N/A | **3.5** | N/A | 0.18 U | N/A | 0.21 U | N/A | 0.83 U | N/A | N/A |
| **TPH/Oil & Grease** | | | | | | | | | | | | | |
| Diesel Range Organics | mg/kg | 6,200 | **48** | **130** | **151** | **21.7** | **17.1 J** | **80.9 J** | **11.9** | **134** | **52.5 J** | **304** | **244** |
| Gasoline Range Organics | mg/kg | 6,200 | 12.7 U | 9.6 U | 12.4 U | **100** | 13.8 UJ | 14.2 UJ | 18.7 U | 14.9 U | 13.8 UJ | 11.1 U | 13 U |
| Oil & Grease | mg/kg | 6,200 | **131** | **182** | **265** | **107 J** | **83.2 J** | **108 J** | 139 U | **200** | **102 J** | **480** | **299** |

**Detections in bold**
**Values in red indicate an exceedance of the Project Action Limit (PAL)**
N/A indicates that the parameter was not analyzed for this sample
*indicates non-validated data
^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.
J: The positive result reportred for this analyte is a quantitative estimate.
J-: The positive result reported for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 B20**
**Summary of Inorganics Detected in Soil**

| Parameter | Units | PAL | B20-001-SB-1.5 | B20-001-SB-5 | B20-002-SB-1.5 | B20-002-SB-5 | B20-002-SB-10* | B20-003-SB-1.5* | B20-003-SB-5* |
|---|---|---|---|---|---|---|---|---|---|
| | | | 5/13/2020 | 5/13/2020 | 5/13/2020 | 5/13/2020 | 5/13/2020 | 5/15/2020 | 5/15/2020 |
| **Metals** | | | | | | | | | |
| Aluminum | mg/kg | 1,100,000 | **31,000** | **19,900** | **11,100** | **12,300** | N/A | **13,000** | **12,900** |
| Antimony | mg/kg | 470 | 2.8 UJ | 3.2 UJ | 2.7 UJ | 2.5 UJ | N/A | 2.5 U | 2.9 U |
| Arsenic | mg/kg | 3 | **2.8** | 2.7 U | **6.6** | 2.1 U | N/A | 2.1 U | **2.5** |
| Barium | mg/kg | 220,000 | **468 J** | **532 J** | **134 J** | **148 J** | N/A | **172** | **171** |
| Beryllium | mg/kg | 2,300 | **4.4 J** | **1.9 J** | **1.2 J** | **0.64 J** | N/A | **1.9** | **0.8 J** |
| Cadmium | mg/kg | 980 | **0.48 J** | 1.6 U | **1.1 J** | **0.55 J** | N/A | **0.57 J** | **1.6** |
| Chromium | mg/kg | 120,000 | **362 J** | **397 J** | **955 J** | **1,410 J** | N/A | **782** | **979** |
| Chromium VI | mg/kg | 6.3 | 0.86 B | **2.2 J-** | 0.7 B | 0.88 B | N/A | 1.1 U | **0.83 J** |
| Cobalt | mg/kg | 350 | **2.8 J** | **1.2 J** | **4.9** | **5.8** | N/A | **2.7 J** | **7.5** |
| Copper | mg/kg | 47,000 | **25.1** | **8.3** | **47.2** | **64.3** | N/A | **48.8** | **88.6** |
| Iron | mg/kg | 820,000 | **66,700 J** | **26,200 J** | **139,000 J** | **164,000 J** | N/A | **110,000** | **138,000** |
| Lead | mg/kg | 800 | **19.3 J** | 2.7 U | **91 J** | **53.7 J** | N/A | **33** | **707** |
| Manganese | mg/kg | 26,000 | **12,600** | **4,030** | **36,900** | **35,600** | **29,100** | **24,900** | **26,600** |
| Mercury | mg/kg | 350 | **0.0072 J-** | 0.12 UJ | **0.015 J-** | **0.0062 J-** | N/A | 0.11 U | **0.065 J** |
| Nickel | mg/kg | 22,000 | **9.1 J** | **1.8 J** | **17.5** | **24.5** | N/A | **10.5** | **26.9** |
| Selenium | mg/kg | 5,800 | 3.8 U | 4.3 U | 3.6 U | 3.4 U | N/A | 3.4 U | 3.8 U |
| Thallium | mg/kg | 12 | **18.2** | **52.4** | **50.7** | **40.4** | **5.5 J** | **36.5** | **32.8** |
| Vanadium | mg/kg | 5,800 | **1,170 J** | **3,760 J** | **3,180 J** | **2,570 J** | N/A | **2,500** | **2,270** |
| Zinc | mg/kg | 350,000 | **75.1 J** | **2.4 J** | **290 J** | **139 J** | N/A | **134** | **440** |
| **Other** | | | | | | | | | |
| Cyanide | mg/kg | 150 | **1.4 J+** | **0.41 J+** | **0.76 J+** | **0.69 J+** | N/A | **0.33 J** | **0.67 J** |

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

U: This analyte was not detected in the sample. The numeric value represents the sample quantiation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reportred for this analyte is a quantitative estimate.
J+: The positive result reportred for this analyte is a quantitative estimate, but may be biased high.
J-: The positive result reportred for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 B20**
**Summary of Inorganics Detected in Soil**

| Parameter | Units | PAL | B20-003-SB-10* | B20-004-SB-1.5 | B20-004-SB-5* | B20-005-SB-1 | B20-005-SB-5 | B20-006-SB-1.5 | B20-006-SB-4 | B20-007-SB-1* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 5/15/2020 | 5/13/2020 | 10/14/2020 | 5/13/2020 | 5/13/2020 | 5/13/2020 | 5/13/2020 | 5/18/2020 |
| **Metals** | | | | | | | | | | |
| Aluminum | mg/kg | 1,100,000 | N/A | **27,000** | **9,950** | **41,500** | **41,400** | **18,700** | **22,900** | **43,200** |
| Antimony | mg/kg | 470 | N/A | 2.7 UJ | 2.7 U | 2.5 UJ | 2.6 UJ | 2.6 UJ | 2.7 UJ | 2.8 U |
| Arsenic | mg/kg | 3 | N/A | **3.1** | **6.7** | **2.1** | **2.1 J** | **3.8** | **3.1** | 2.3 U |
| Barium | mg/kg | 220,000 | N/A | **354 J** | **137** | **328 J** | **304 J** | **294 J** | **315 J** | **496** |
| Beryllium | mg/kg | 2,300 | N/A | **4.1 J** | **1.2** | **8.6 J** | **8 J** | **3 J** | **3.9 J** | **3.4** |
| Cadmium | mg/kg | 980 | N/A | **1.4** | **4.3** | 1.3 U | **0.32 J** | **1.4** | **1.1 J** | 1.4 U |
| Chromium | mg/kg | 120,000 | N/A | **471 J** | **1,000** | **15.2 J** | **17.2 J** | **724 J** | **673 J** | **16.1** |
| Chromium VI | mg/kg | 6.3 | N/A | 0.74 B | 1.1 U | 1 R | 1.1 R | 1.1 R | 1.1 R | **0.84 J** |
| Cobalt | mg/kg | 350 | N/A | **4.3 J** | **12.3** | **0.45 J** | **0.54 J** | **4.3** | **4.8** | **0.88 J** |
| Copper | mg/kg | 47,000 | N/A | **44.2** | **122** | 4.2 U | 4.4 U | **36.9** | **35.8** | 4.6 U |
| Iron | mg/kg | 820,000 | N/A | **68,200 J** | **162,000** | **5,080 J** | **6,250 J** | **106,000 J** | **96,300 J** | **1,770** |
| Lead | mg/kg | 800 | N/A | **87.1 J** | **441** | **2.6 J** | **17.6 J** | **80.8 J** | **67.1 J** | 2.3 U |
| Manganese | mg/kg | 26,000 | **34,000** | **16,900** | **25,100** | **3,840** | **4,010** | **29,600** | **22,400** | **1,830** |
| Mercury | mg/kg | 350 | N/A | **0.0068 J-** | **0.092 J** | 0.11 UJ | 0.1 UJ | **0.042 J-** | **0.03 J-** | 0.12 U |
| Nickel | mg/kg | 22,000 | N/A | **17.6** | **61.7** | 8.5 U | **1.1 J** | **15.6** | **15.9** | 9.3 U |
| Selenium | mg/kg | 5,800 | N/A | 3.6 U | 3.5 U | 3.4 U | 3.5 U | 3.4 U | 3.6 U | 3.7 U |
| Thallium | mg/kg | 12 | 8.6 U | **19.5** | **37.1** | 8.5 U | 8.7 U | **42.5** | **29.3** | 9.3 U |
| Vanadium | mg/kg | 5,800 | N/A | **1,260 J** | **2,660** | **20.7 J** | **29.7 J** | **2,680 J** | **1,870 J** | **19** |
| Zinc | mg/kg | 350,000 | N/A | **192 J** | **528** | **2.2 J** | **19.1 J** | **330 J** | **232 J** | **8.2** |
| **Other** | | | | | | | | | | |
| Cyanide | mg/kg | 150 | N/A | **0.36 J+** | **0.94 J** | **0.28 J+** | **0.31 J+** | **0.49 J+** | **0.36 J+** | **10.2** |

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

U: This analyte was not detected in the sample. The numeric value represents the sample quantiation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reportred for this analyte is a quantitative estimate.
J+: The positive result reportred for this analyte is a quantitative estimate, but may be biased high.
J-: The positive result reportred for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 B20**
**Summary of Inorganics Detected in Soil**

| Parameter | Units | PAL | B20-007-SB-4* | B20-007-SB-10* | B20-008-SB-1* | B20-008-SB-9* | B20-008-SB-10* | B20-009-SB-1* | B20-009-SB-7.5* |
|---|---|---|---|---|---|---|---|---|---|
| | | | 10/13/2020 | 10/13/2020 | 5/18/2020 | 10/12/2020 | 10/12/2020 | 5/18/2020 | 5/18/2020 |
| **Metals** | | | | | | | | | |
| Aluminum | mg/kg | 1,100,000 | **33,800** | N/A | **48,100** | **26,700** | N/A | **28,300** | **30,400** |
| Antimony | mg/kg | 470 | 2.5 U | N/A | 2.8 U | 2.6 U | N/A | 2.5 U | 2.7 U |
| Arsenic | mg/kg | 3 | **4.6** | **3.6** | **2.3 J** | **2.8** | N/A | **2.6** | 2.3 U |
| Barium | mg/kg | 220,000 | **388** | N/A | **564** | **255** | N/A | **312** | **291** |
| Beryllium | mg/kg | 2,300 | **4.8** | N/A | **4.2** | **3.7** | N/A | **5.4** | **5.3** |
| Cadmium | mg/kg | 980 | **0.61 J** | N/A | 1.4 U | **0.63 J** | N/A | 1.3 U | 1.4 U |
| Chromium | mg/kg | 120,000 | **249** | N/A | **14.2** | **745** | N/A | **33.4** | **18.8** |
| Chromium VI | mg/kg | 6.3 | 1.1 U | N/A | 1.2 U | 1.1 U | N/A | 1.1 U | 1.1 U |
| Cobalt | mg/kg | 350 | **5.2** | N/A | **0.82 J** | **2.3 J** | N/A | **2.6 J** | **0.84 J** |
| Copper | mg/kg | 47,000 | **30.6** | N/A | 4.6 U | **31.2** | N/A | **7.5** | 4.5 U |
| Iron | mg/kg | 820,000 | **54,000** | N/A | **1,990** | **114,000** | N/A | **32,500** | **9,650** |
| Lead | mg/kg | 800 | **44.2** | N/A | 2.3 U | **33.5** | N/A | **7.4** | 2.3 U |
| Manganese | mg/kg | 26,000 | **10,300** | N/A | **1,540** | **13,800** | N/A | **2,500** | **2,130** |
| Mercury | mg/kg | 350 | **0.017 J** | N/A | 0.11 U | 0.11 U | N/A | 0.097 U | 0.11 U |
| Nickel | mg/kg | 22,000 | **11.1** | N/A | 9.3 U | **10.4** | N/A | **4.8 J** | 9.1 U |
| Selenium | mg/kg | 5,800 | 3.3 U | N/A | 3.7 U | 3.4 U | N/A | **3 J** | 3.6 U |
| Thallium | mg/kg | 12 | **9.1** | N/A | 9.3 U | **16.4** | 10.5 U | 8.4 U | 9.1 U |
| Vanadium | mg/kg | 5,800 | **685** | N/A | **18.8** | **1,130** | N/A | **69.5** | **36.2** |
| Zinc | mg/kg | 350,000 | **289** | N/A | 2.9 B | **72** | N/A | **16.6** | 2.3 B |
| **Other** | | | | | | | | | |
| Cyanide | mg/kg | 150 | **15.6** | N/A | **13.4** | **0.64 J** | N/A | **1 J** | **1.6** |

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

U: This analyte was not detected in the sample. The numeric value represents the sample quantiation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reportred for this analyte is a quantitative estimate.
J+: The positive result reportred for this analyte is a quantitative estimate, but may be biased high.
J-: The positive result reportred for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 B20**
**Summary of Inorganics Detected in Soil**

| Parameter | Units | PAL | B20-010-SB-1* | B20-010-SB-4* | B20-011-SB-15* | B20-011-SB-18* | B20-012-SB-1 | B20-012-SB-4 | B20-013-SB-1.5 | B20-013-SB-5 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 5/18/2020 | 5/18/2020 | 5/14/2020 | 5/14/2020 | 5/19/2020 | 5/19/2020 | 5/28/2020 | 5/28/2020 |
| **Metals** | | | | | | | | | | |
| Aluminum | mg/kg | 1,100,000 | **12,600** | **32,500** | **41,400** | **46,800** | **32,200** | **29,700** | **30,500** | **25,200** |
| Antimony | mg/kg | 470 | **6.5** | 2.9 U | 2.6 U | 2.5 U | 2.6 UJ | 2.6 UJ | 2.8 UJ | 2.8 UJ |
| Arsenic | mg/kg | 3 | 2.1 U | **4.1** | **2.3** | **2.2** | **4.9 J** | **2.7 J** | **5.3 J** | **11.8 J** |
| Barium | mg/kg | 220,000 | **76.9** | **269** | **1,020** | **863** | **274** | **361** | **278 J** | **238 J** |
| Beryllium | mg/kg | 2,300 | **0.52 J** | **4.4** | **2.3** | **3.4** | **4.4 J** | **3.7 J** | **5.1** | **4.4** |
| Cadmium | mg/kg | 980 | **0.35 J** | 1.4 U | **0.29 J** | **0.3 J** | **0.29 J** | 1.3 UJ | **0.32 J** | 1.4 U |
| Chromium | mg/kg | 120,000 | **2,100** | **141** | **13.4** | **26.1** | **78.2 J** | **117 J** | **88.2** | **78.6** |
| Chromium VI | mg/kg | 6.3 | **0.87 J** | 1.2 U | 1.1 U | 1.1 U | 1.1 U | 0.78 B | 1.1 R | 1.1 R |
| Cobalt | mg/kg | 350 | **1.4 J** | **2.9 J** | **0.82 J** | **0.97 J** | **2.8 J** | **2.8 J** | **8.4** | **7.7** |
| Copper | mg/kg | 47,000 | **17.5** | **21.8** | 4.4 U | **3.8 J** | **20.9 J** | **11.2 J** | **21.5** | **20.6** |
| Iron | mg/kg | 820,000 | **183,000** | **53,200** | **2,290** | **4,140** | **53,700 J** | **50,100 J** | **126,000** | **180,000** |
| Lead | mg/kg | 800 | **8.8** | **19.9** | **2.6** | **2.7** | **8.8 J** | **8.7 J** | **17.8** | **4.6** |
| Manganese | mg/kg | 26,000 | **28,400** | **5,390** | **6,620** | **6,610** | **3,890** | **3,420** | **2,870** | **2,310** |
| Mercury | mg/kg | 350 | 0.1 U | **0.012 J** | 0.11 U | 0.1 U | 0.1 UJ | 0.099 UJ | **0.0063 J** | 0.11 U |
| Nickel | mg/kg | 22,000 | **6.6 J** | **7 J** | 8.8 U | 8.3 U | **17.2 J** | **21 J** | **35.6** | **19.8** |
| Selenium | mg/kg | 5,800 | 3.3 U | 3.8 U | 3.5 U | 3.3 U | 3.4 UJ | 3.5 UJ | 3.7 UJ | 3.8 UJ |
| Thallium | mg/kg | 12 | **54.1** | **3.7 J** | 8.8 U | 8.3 U | 8.5 U | 8.7 U | 9.2 UJ | 9.5 UJ |
| Vanadium | mg/kg | 5,800 | **3,150** | **271** | **135** | **119** | **73.5 J** | **174 J** | **77.9** | **54.5** |
| Zinc | mg/kg | 350,000 | **17.6** | **83.8** | 4.4 U | **1.6 J** | **21.8 J** | **23.5 J** | **38.2** | **9.4** |
| **Other** | | | | | | | | | | |
| Cyanide | mg/kg | 150 | **0.49 J** | **1.4** | **0.48 J** | **0.37 J** | **0.85 J+** | **7.7 J+** | **0.79 J-** | **1.2 J-** |

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

U: This analyte was not detected in the sample. The numeric value represents the sample quantiation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reportred for this analyte is a quantitative estimate.
J+: The positive result reportred for this analyte is a quantitative estimate, but may be biased high.
J-: The positive result reportred for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 B20**
**Summary of Inorganics Detected in Soil**

| Parameter | Units | PAL | B20-014-SB-1* | B20-014-SB-4* | B20-015-SB-1 | B20-015-SB-8 | B20-016-SB-1 | B20-016-SB-8 | B20-017-SB-1 | B20-017-SB-9* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 5/21/2020 | 5/21/2020 | 5/28/2020 | 5/28/2020 | 5/28/2020 | 5/28/2020 | 5/28/2020 | 10/15/2020 |
| **Metals** | | | | | | | | | | |
| Aluminum | mg/kg | 1,100,000 | **37,000** | **33,500** | **30,500** | **13,500** | **24,100** | **45,000** | **49,900** | **40,900** |
| Antimony | mg/kg | 470 | 3.2 U | 2.8 U | 2.8 UJ | 2.7 UJ | 2.8 UJ | 2.7 UJ | 2.5 UJ | 3.3 U |
| Arsenic | mg/kg | 3 | 2.7 U | **5** | 2.3 UJ | 2.3 UJ | 2.3 UJ | 2.3 UJ | **2.6 J** | 2.8 U |
| Barium | mg/kg | 220,000 | **446** | **401** | **283 J** | **86.3 J** | **285 J** | **333 J** | **449 J** | **454** |
| Beryllium | mg/kg | 2,300 | **6.3** | **5.3** | **4.7** | **1.1** | **3.4** | **5.6** | **6.1** | **7.4** |
| Cadmium | mg/kg | 980 | 1.6 U | **0.39 J** | **0.36 J** | **0.63 J** | **0.53 J** | **0.29 J** | 1.3 U | 1.7 U |
| Chromium | mg/kg | 120,000 | **22.1** | **35.9** | **155** | **1,990** | **662** | **13** | **17.7** | **4.8** |
| Chromium VI | mg/kg | 6.3 | 1.3 U | 1.2 U | 1.1 R | 1.1 B | 0.81 B | 1.1 R | 1.1 R | 1.4 U |
| Cobalt | mg/kg | 350 | 5.4 U | **5.2** | **3.9 J** | 4.6 U | **2.8 J** | **1.3 J** | **0.63 J** | 5.5 U |
| Copper | mg/kg | 47,000 | **3.3 J** | **15.6** | **14** | **12.4** | **28.4** | **3.9 J** | 4.2 U | 5.5 U |
| Iron | mg/kg | 820,000 | **5,540** | **86,000** | **26,200** | **180,000** | **98,700** | **25,200** | **12,100** | **3,060** |
| Lead | mg/kg | 800 | 2.7 U | **15.4** | **15.7** | **8.6** | **27.4** | **2.8** | 2.1 U | 2.8 U |
| Manganese | mg/kg | 26,000 | **2,560** | **2,720** | **5,220** | **35,200** | **14,200** | **2,080** | **2,170** | **1,970** |
| Mercury | mg/kg | 350 | 0.13 U | 0.11 U | **0.028 J** | 0.1 U | **0.034 J** | 0.1 U | 0.11 U | 0.14 U |
| Nickel | mg/kg | 22,000 | **2 J** | **11** | **3.8 J** | **3.8 J** | **6.5 J** | **1.4 J** | **3 J** | 11.1 U |
| Selenium | mg/kg | 5,800 | 4.3 U | 3.7 U | 3.7 UJ | 3.7 UJ | 3.7 UJ | 3.6 UJ | 3.3 UJ | 4.4 U |
| Thallium | mg/kg | 12 | 10.7 U | 9.2 U | 9.2 UJ | **8.7 J** | 9.3 UJ | 9 UJ | 8.4 UJ | 11.1 U |
| Vanadium | mg/kg | 5,800 | **17.4** | **37.7** | **190** | **3,060** | **1,160** | **43.1** | **20.5** | **18.4** |
| Zinc | mg/kg | 350,000 | **18.6** | **29.7** | **56.4** | **3.5 J** | **63.8** | **16.7** | **15.3** | **1.5 J** |
| **Other** | | | | | | | | | | |
| Cyanide | mg/kg | 150 | **4.6** | **0.81 J** | **3.9 J-** | **0.38 J-** | **0.46 J-** | **0.84 J-** | **15.9 J-** | N/A |

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

U: This analyte was not detected in the sample. The numeric value represents the sample quantiation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reportred for this analyte is a quantitative estimate.
J+: The positive result reportred for this analyte is a quantitative estimate, but may be biased high.
J-: The positive result reportred for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 B20**
**Summary of Inorganics Detected in Soil**

| Parameter | Units | PAL | B20-018-SB-1 | B20-018-SB-4 | B20-019-SB-1 | B20-019-SB-7 | B20-020-SB-1* | B20-020-SB-5* | B20-021-SB-1 | B20-021-SB-5 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 5/28/2020 | 5/28/2020 | 5/28/2020 | 5/28/2020 | 5/21/2020 | 5/21/2020 | 5/19/2020 | 5/19/2020 |
| **Metals** | | | | | | | | | | |
| Aluminum | mg/kg | 1,100,000 | **14,600** | **47,500** | **21,900** | **38,200** | **8,330** | **16,000** | **22,800** | **17,400** |
| Antimony | mg/kg | 470 | 2.5 UJ | 2.5 UJ | 2.5 UJ | 3 UJ | 2.5 U | 2.6 U | 2.5 UJ | 2.6 UJ |
| Arsenic | mg/kg | 3 | **6.2 J** | **3.1 J** | **5.5 J** | **3.2 J** | 2.1 U | 2.2 U | **2.1 J** | **3.4 J** |
| Barium | mg/kg | 220,000 | **138 J** | **434 J** | **199 J** | **343 J** | **81.7** | **127** | **269** | **199** |
| Beryllium | mg/kg | 2,300 | **2.8** | **4.9** | **3.4** | **5.9** | **0.93** | **2.8** | **3.1 J** | **3 J** |
| Cadmium | mg/kg | 980 | **0.54 J** | 1.3 U | **0.55 J** | 1.5 U | **0.27 J** | 1.3 U | 1.2 UJ | **0.32 J** |
| Chromium | mg/kg | 120,000 | **54.1** | **57.8** | **48.5** | **23.6** | **15.4** | **29.7** | **72.1 J** | **198 J** |
| Chromium VI | mg/kg | 6.3 | 1.1 R | 1 R | 1.1 R | 1.2 R | 1.1 U | 1.1 U | 0.99 U | 0.92 B |
| Cobalt | mg/kg | 350 | **4.5** | **3.4 J** | **4.1 J** | **2 J** | **2.6 J** | **0.52 J** | **1.4 J** | **2.4 J** |
| Copper | mg/kg | 47,000 | **34** | **30.8** | **30.8** | **10.4** | **11.9** | **4.3 J** | **5.9 J** | **19.1 J** |
| Iron | mg/kg | 820,000 | **101,000** | **17,600** | **74,000** | **58,800** | **14,000** | **8,490** | **18,400 J** | **51,200 J** |
| Lead | mg/kg | 800 | **58.7** | **2.1 J** | **35.8** | **5.2** | **8.2** | **6.6** | **4.9 J** | **27.2 J** |
| Manganese | mg/kg | 26,000 | **1,790** | **2,290** | **2,300** | **2,500** | **514** | **1,600** | **2,230** | **6,600** |
| Mercury | mg/kg | 350 | **0.02 J** | 0.098 U | **0.018 J** | 0.12 U | 0.11 U | 0.098 U | 0.092 UJ | **0.0068 J-** |
| Nickel | mg/kg | 22,000 | **16.2** | **22.8** | **15** | **3.2 J** | **13.8** | **1.3 J** | **3.7 J** | **19.4 J** |
| Selenium | mg/kg | 5,800 | 3.3 UJ | 3.3 UJ | 3.4 UJ | 4 UJ | 3.4 U | 3.5 U | 3.3 UJ | 3.5 UJ |
| Thallium | mg/kg | 12 | 8.3 UJ | 8.4 UJ | 8.5 UJ | 9.9 UJ | 8.5 U | 8.7 U | 8.2 U | **5.2 J** |
| Vanadium | mg/kg | 5,800 | **33.5** | **75.7** | **30.6** | **38.9** | **45.1** | **75.5** | **151 J** | **390 J** |
| Zinc | mg/kg | 350,000 | **135** | **28.4** | **121** | **12.4** | **48.2** | **18.9** | **20.7 J** | **72.8 J** |
| **Other** | | | | | | | | | | |
| Cyanide | mg/kg | 150 | **3.7 J-** | **13.5 J-** | **1.6 J-** | **0.33 J-** | **0.9** | **0.53 J** | **7.3 J+** | **0.65 J+** |

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

U: This analyte was not detected in the sample. The numeric value represents the sample quantiation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reportred for this analyte is a quantitative estimate.
J+: The positive result reportred for this analyte is a quantitative estimate, but may be biased high.
J-: The positive result reportred for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 B20**
**Summary of Inorganics Detected in Soil**

| Parameter | Units | PAL | B20-022-SB-1* 5/15/2020 | B20-022-SB-9* 10/14/2020 | B20-023-SB-1* 5/15/2020 | B20-023-SB-5* 5/15/2020 | B20-024-SB-1* 5/21/2020 | B20-024-SB-4* 10/13/2020 | B20-024-SB-10* 10/13/2020 |
|---|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | | |
| Aluminum | mg/kg | 1,100,000 | **32,800** | **8,150** | **29,200** | **9,110** | **50,900** | **43,700** | N/A |
| Antimony | mg/kg | 470 | 2.6 U | 2.5 U | 2.5 U | 2.5 U | 2.7 U | 2.6 U | N/A |
| Arsenic | mg/kg | 3 | **5.1** | 2.1 U | **2.7** | 2.1 U | **2.3** | **3** | **3.5** |
| Barium | mg/kg | 220,000 | **436** | **137** | **354** | **141** | **577** | **348** | N/A |
| Beryllium | mg/kg | 2,300 | **6.2** | **1.3** | **3.9** | **0.51 J** | **6.1** | **5.6** | N/A |
| Cadmium | mg/kg | 980 | **0.43 J** | **0.99 J** | **0.27 J** | **1.2 J** | 1.4 U | **0.46 J** | N/A |
| Chromium | mg/kg | 120,000 | **55.2** | **1,630** | **29.4** | **1,210** | **32.9** | **25.5** | N/A |
| Chromium VI | mg/kg | 6.3 | 1.1 U | 1.1 U | 1 U | **0.69 J** | 1.2 U | 1.1 U | N/A |
| Cobalt | mg/kg | 350 | **4 J** | **2.6 J** | **2.2 J** | **5.3** | **0.92 J** | **2.5 J** | N/A |
| Copper | mg/kg | 47,000 | **18.5** | **64.4** | **9.5** | **47.6** | **3.3 J** | **11.1** | N/A |
| Iron | mg/kg | 820,000 | **39,600** | **179,000** | **20,900** | **130,000** | **8,810** | **20,700** | N/A |
| Lead | mg/kg | 800 | **26.2** | **29** | **9.4** | **64.7** | **6.8** | **15.8** | N/A |
| Manganese | mg/kg | 26,000 | **5,890** | **65,200** | **3,630** | **49,100** | **2,590** | **3,320** | N/A |
| Mercury | mg/kg | 350 | **0.0087 J** | 0.1 U | 0.11 U | **0.26** | 0.1 U | 0.11 U | N/A |
| Nickel | mg/kg | 22,000 | **7.1 J** | **14.2** | **4 J** | **13.8** | **1.7 J** | **3.2 J** | N/A |
| Selenium | mg/kg | 5,800 | **3.3 J** | 3.4 U | 3.3 U | 3.3 U | 3.7 U | **6.3** | N/A |
| Thallium | mg/kg | 12 | 8.6 U | **87.3** | 8.3 U | **51.1** | 9.2 U | 8.5 U | N/A |
| Vanadium | mg/kg | 5,800 | **140** | **5,810** | **86.4** | **3,230** | **61.3** | **71.8** | N/A |
| Zinc | mg/kg | 350,000 | **82.6** | **160** | **43.9** | **339** | **13.4** | **55.8** | N/A |
| **Other** | | | | | | | | | |
| Cyanide | mg/kg | 150 | **0.54 J** | **0.49 J** | **1** | **0.98** | **7.7** | **0.57 J** | N/A |

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

U: This analyte was not detected in the sample. The numeric value represents the sample quantiation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reportred for this analyte is a quantitative estimate.
J+: The positive result reportred for this analyte is a quantitative estimate, but may be biased high.
J-: The positive result reportred for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 B20**
**Summary of Inorganics Detected in Soil**

| Parameter | Units | PAL | B20-025-SB-1* | B20-025-SB-7* | B20-026-SB-1 | B20-026-SB-5 | B20-027-SB-1* | B20-027-SB-4* | B20-028-SB-1* | B20-028-SB-5* |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10/13/2020 | 10/13/2020 | 5/12/2020 | 5/12/2020 | 5/18/2020 | 5/18/2020 | 5/18/2020 | 10/12/2020 |
| **Metals** | | | | | | | | | | |
| Aluminum | mg/kg | 1,100,000 | **43,300** | **26,300** | **22,000** | **42,100** | **41,400** | **38,700** | **43,700** | **17,100** |
| Antimony | mg/kg | 470 | 2.6 U | **4.7** | 2.7 U | 2.6 U | 2.6 U | 2.6 U | 2.7 U | 3 U |
| Arsenic | mg/kg | 3 | 2.2 U | **9.7** | **3.9** | **3.7** | **3.1** | **3.3** | **3.8** | **6** |
| Barium | mg/kg | 220,000 | **348** | **345** | **206** | **363** | **439** | **315** | **390** | **49.4** |
| Beryllium | mg/kg | 2,300 | **6.1** | **4.3** | **3** | **5.3** | **6.6** | **5** | **6.8** | **0.82 J** |
| Cadmium | mg/kg | 980 | **0.5 J** | **0.43 J** | **0.31 J** | **0.29 J** | 1.3 U | 1.3 U | **0.33 J** | 1.5 U |
| Chromium | mg/kg | 120,000 | **267** | **134** | **52.1** | **13.1** | **17.2** | **16** | **23.8** | **32.5** |
| Chromium VI | mg/kg | 6.3 | 1.1 U | 1.1 U | 1.1 R | 1.1 R | 1 U | 1.1 U | 1.1 U | 1.3 U |
| Cobalt | mg/kg | 350 | **1.4 J** | **8.1** | **5.6** | **1.6 J** | **1.3 J** | **2.2 J** | **1.1 J** | **4.9 J** |
| Copper | mg/kg | 47,000 | **7.2** | **26.4** | **23.6** | **9.9** | **5.4** | **4 J** | **5.6** | **17.5** |
| Iron | mg/kg | 820,000 | **40,600** | **330,000** | **56,400** | **26,400** | **14,800** | **42,300** | **19,000** | **30,100** |
| Lead | mg/kg | 800 | **4.1** | **2.5** | **39.7** | **2.2 J** | **4.2** | 2.1 U | **16.8** | **14.1** |
| Manganese | mg/kg | 26,000 | **6,280** | **3,930** | **2,020** | **2,760** | **2,320** | **2,600** | **2,560** | **126** |
| Mercury | mg/kg | 350 | 0.11 U | 0.1 U | **0.0086 J** | 0.1 U | 0.1 U | 0.096 U | **0.0067 J** | **0.026 J** |
| Nickel | mg/kg | 22,000 | **3.3 J** | **50.3** | **8.8 J** | **2.9 J** | **2.6 J** | **2.8 J** | **4.3 J** | **13** |
| Selenium | mg/kg | 5,800 | **3.1 J** | 3.6 U | 3.6 U | 3.5 U | **3.6** | **3.9** | 3.5 U | 4 U |
| Thallium | mg/kg | 12 | **14.2** | 9 U | 9 U | 8.8 U | 8.8 U | 8.6 U | 8.9 U | 10.1 U |
| Vanadium | mg/kg | 5,800 | **1,250** | **84.8** | **131** | **45.5** | **28.6** | **60.9** | **18** | **38.3** |
| Zinc | mg/kg | 350,000 | **10.3** | **10.7** | **109** | **2.1 J** | **9.3** | 1.6 B | **63.6** | **46.7** |
| **Other** | | | | | | | | | | |
| Cyanide | mg/kg | 150 | **1.6** | **0.7 J** | **1.3** | **0.57 J** | **0.81 J** | **0.53 J** | **12.6** | **0.19 J** |

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

U: This analyte was not detected in the sample. The numeric value represents the sample quantiation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reportred for this analyte is a quantitative estimate.
J+: The positive result reportred for this analyte is a quantitative estimate, but may be biased high.
J-: The positive result reportred for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 B20**
**Summary of Inorganics Detected in Soil**

| Parameter | Units | PAL | B20-028-SB-10* | B20-029-SB-1* | B20-029-SB-5* | B20-030-SB-1* | B20-030-SB-5* | B20-031-SB-1* |
|---|---|---|---|---|---|---|---|---|
| | | | 10/12/2020 | 5/15/2020 | 5/15/2020 | 5/15/2020 | 5/15/2020 | 5/14/2020 |
| **Metals** | | | | | | | | |
| Aluminum | mg/kg | 1,100,000 | N/A | **12,000** | **9,440** | **17,800** | **31,200** | **44,700** |
| Antimony | mg/kg | 470 | N/A | 2.7 U | 2.6 U | 2.6 U | 2.6 U | 2.8 U |
| Arsenic | mg/kg | 3 | **3.4** | 2.2 U | **3.1** | **5.6** | **12.7** | **3** |
| Barium | mg/kg | 220,000 | N/A | **49.2** | **35.1** | **261** | **694** | **2,050** |
| Beryllium | mg/kg | 2,300 | N/A | **0.14 J** | 0.85 U | **3.9** | **4.1** | **2.8** |
| Cadmium | mg/kg | 980 | N/A | **0.51 J** | **0.28 J** | **0.37 J** | **0.51 J** | **0.3 J** |
| Chromium | mg/kg | 120,000 | N/A | **1,620** | **1,160** | **25.5** | **470** | **13.5** |
| Chromium VI | mg/kg | 6.3 | N/A | 1.1 U | 1.1 U | 1.1 U | **0.72 J** | 1.2 U |
| Cobalt | mg/kg | 350 | N/A | **1.5 J** | **5.1** | **2.8 J** | **4.5** | **1.2 J** |
| Copper | mg/kg | 47,000 | N/A | **33.9** | **23.4** | **10.5** | **28.7** | **14.8** |
| Iron | mg/kg | 820,000 | N/A | **167,000** | **153,000** | **18,600** | **75,600** | **5,490** |
| Lead | mg/kg | 800 | N/A | **14.8** | **11** | **20.5** | **36** | **9.3** |
| Manganese | mg/kg | 26,000 | N/A | **24,100** | **21,000** | **1,730** | **11,100** | **2,670** |
| Mercury | mg/kg | 350 | N/A | **0.15** | **0.03 J** | 0.11 U | 0.11 U | 0.12 U |
| Nickel | mg/kg | 22,000 | N/A | **23.9** | **57.7** | **6.3 J** | **5 J** | **2.8 J** |
| Selenium | mg/kg | 5,800 | N/A | 3.5 U | 3.4 U | 3.5 U | 3.5 U | **5.1** |
| Thallium | mg/kg | 12 | N/A | **5.4 J** | **5.3 J** | 8.7 U | **43.4** | 9.4 U |
| Vanadium | mg/kg | 5,800 | N/A | **344** | **366** | **78.7** | **3,230** | **111** |
| Zinc | mg/kg | 350,000 | N/A | **37** | **24** | **52.5** | **32.9** | **16.2** |
| **Other** | | | | | | | | |
| Cyanide | mg/kg | 150 | N/A | **2.6** | **1.1** | **0.36 J** | **1.4** | **1.5** |

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

U: This analyte was not detected in the sample. The numeric value represents the sample quantiation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reportred for this analyte is a quantitative estimate.
J+: The positive result reportred for this analyte is a quantitative estimate, but may be biased high.
J-: The positive result reportred for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 B20**
**Summary of Inorganics Detected in Soil**

| Parameter | Units | PAL | B20-031-SB-5* 5/14/2020 | B20-032-SB-1* 5/14/2020 | B20-032-SB-5* 5/14/2020 | B20-033-SB-1* 5/14/2020 | B20-033-SB-5* 5/14/2020 | B20-034-SB-1 5/19/2020 |
|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | |
| Aluminum | mg/kg | 1,100,000 | **43,000** | **9,630** | **25,900** | **6,620** | **52,700** | **26,600** |
| Antimony | mg/kg | 470 | 3.1 U | 2.9 U | 2.5 U | 2.5 U | 2.6 U | 3 UJ |
| Arsenic | mg/kg | 3 | 2.6 U | **5.9** | **4** | 2.1 U | 2.2 U | **2.5 J** |
| Barium | mg/kg | 220,000 | **573** | **174** | **415** | **115** | **708** | **299** |
| Beryllium | mg/kg | 2,300 | **2.2** | **1.5** | **2.7** | **0.64 J** | **2.7** | **4.5 J** |
| Cadmium | mg/kg | 980 | **0.35 J** | **1.4 J** | **0.49 J** | **0.63 J** | **0.42 J** | 1.5 UJ |
| Chromium | mg/kg | 120,000 | **4.7** | **70** | **829** | **1,060** | **74.9** | **215 J** |
| Chromium VI | mg/kg | 6.3 | 1.3 U | 1.2 U | **0.98 J** | **0.77 J** | **0.74 J** | 1.2 U |
| Cobalt | mg/kg | 350 | **2.3 J** | **4.8** | **4.1 J** | **4.2** | **4.2 J** | **1.4 J** |
| Copper | mg/kg | 47,000 | **3.4 J** | **39.8** | **35.9** | **54.7** | **15** | **9.6 J** |
| Iron | mg/kg | 820,000 | **4,700** | **32,800** | **72,600** | **156,000** | **29,300** | **36,300 J** |
| Lead | mg/kg | 800 | **20.7** | **250** | **49.2** | **18.9** | **2.8** | **9.9 J** |
| Manganese | mg/kg | 26,000 | **2,210** | **2,260** | **26,400** | **53,900** | **6,200** | **6,240** |
| Mercury | mg/kg | 350 | 0.12 U | **0.4** | **1.1** | 0.1 U | 0.11 U | 0.11 UJ |
| Nickel | mg/kg | 22,000 | 10.2 U | **25.2** | **15.8** | **14.7** | **3.5 J** | **8.6 J** |
| Selenium | mg/kg | 5,800 | 4.1 U | 3.9 U | 3.4 U | 3.3 U | 3.5 U | 4 UJ |
| Thallium | mg/kg | 12 | 10.2 U | 9.6 U | **39.2** | **57.5** | 8.6 U | 9.9 U |
| Vanadium | mg/kg | 5,800 | **108** | **97** | **2,920** | **3,750** | **159** | **143 J** |
| Zinc | mg/kg | 350,000 | 5.1 U | **306** | **74.8** | **101** | 4.3 U | **58.5 J** |
| **Other** | | | | | | | | |
| Cyanide | mg/kg | 150 | **1.2 J** | **0.45 J** | **1.1** | **0.12 J** | **0.33 J** | **2.2 J+** |

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

U: This analyte was not detected in the sample. The numeric value represents the sample quantiation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reportred for this analyte is a quantitative estimate.
J+: The positive result reportred for this analyte is a quantitative estimate, but may be biased high.
J-: The positive result reportred for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 B20**
**Summary of Inorganics Detected in Soil**

| Parameter | Units | PAL | B20-034-SB-9 | B20-034-SB-10 | B20-035-SB-1* | B20-035-SB-4* | B20-036-SB-1 | B20-036-SB-9* |
|---|---|---|---|---|---|---|---|---|
| | | | 5/19/2020 | 5/19/2020 | 5/15/2020 | 5/15/2020 | 5/19/2020 | 10/14/2020 |
| **Metals** | | | | | | | | |
| Aluminum | mg/kg | 1,100,000 | **21,700** | N/A | **49,100** | **20,000** | **32,000** | **28,200** |
| Antimony | mg/kg | 470 | 2.8 UJ | N/A | 3.2 U | 2.9 U | 2.6 UJ | 2.7 U |
| Arsenic | mg/kg | 3 | **7.6 J** | **3.8** | **2.6 J** | 2.4 U | **6.3 J** | **2.7** |
| Barium | mg/kg | 220,000 | **268** | N/A | **527** | **205** | **418** | **366** |
| Beryllium | mg/kg | 2,300 | **3 J** | N/A | **4.6** | **2.8** | **5.2 J** | **4** |
| Cadmium | mg/kg | 980 | **0.45 J** | N/A | **0.33 J** | **0.48 J** | **0.5 J** | **0.55 J** |
| Chromium | mg/kg | 120,000 | **586 J** | N/A | **25.3** | **595** | **127 J** | **551** |
| Chromium VI | mg/kg | 6.3 | 1.2 U | N/A | 1.4 U | 1.2 U | 1.2 U | 1.2 U |
| Cobalt | mg/kg | 350 | **5.6 J** | N/A | **0.86 J** | **2.4 J** | **3.3 J** | **2.8 J** |
| Copper | mg/kg | 47,000 | **45 J** | N/A | 5.3 U | **32.5** | **28.9 J** | **50.5** |
| Iron | mg/kg | 820,000 | **126,000 J** | N/A | **20,300** | **81,200** | **39,200 J** | **95,800** |
| Lead | mg/kg | 800 | **40.3 J** | N/A | 2.7 U | **26.7** | **96.1 J** | **19.8** |
| Manganese | mg/kg | 26,000 | **12,200** | N/A | **1,990** | **12,000** | **5,400** | **13,600** |
| Mercury | mg/kg | 350 | **0.0066 J-** | N/A | 0.14 U | 0.11 U | **0.0071 J-** | 0.11 U |
| Nickel | mg/kg | 22,000 | **22.9 J** | N/A | **3.7 J** | **6.8 J** | **10 J** | **9.3** |
| Selenium | mg/kg | 5,800 | 3.7 UJ | N/A | 4.2 U | 3.9 U | 3.5 UJ | 3.6 U |
| Thallium | mg/kg | 12 | **17.6** | 9 U | 10.6 U | **18.5** | 8.8 U | **16.4** |
| Vanadium | mg/kg | 5,800 | **1,180 J** | N/A | **15.3** | **1,300** | **87.7 J** | **1,170** |
| Zinc | mg/kg | 350,000 | **70.6 J** | N/A | **9.3** | **55.9** | **152 J** | **84.9** |
| **Other** | | | | | | | | |
| Cyanide | mg/kg | 150 | **2.6 J+** | N/A | **18.7** | **3.1** | **10.5 J+** | **1.9** |

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

U: This analyte was not detected in the sample. The numeric value represents the sample quantiation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reportred for this analyte is a quantitative estimate.
J+: The positive result reportred for this analyte is a quantitative estimate, but may be biased high.
J-: The positive result reportred for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated 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 8 - Parcel B20**
**Summary of Soil PAL Exceedances**

| Parameter | CAS# | Frequency of Detections (%)* | Frequency of Exceedances (%)* | Sample ID of Max Result | Max Result (mg/kg) | PAL Solid (mg/kg) |
|---|---|---|---|---|---|---|
| Aroclor 1254 | 11097-69-1 | 19% | 3% | B20-033-SB-1 | 3.5 | 0.97 |
| Arsenic | 7440-38-2 | 71% | 49% | B20-030-SB-5 | 12.7 | 3 |
| Benzo[a]pyrene | 50-32-8 | 91% | 3% | B20-033-SB-1 | 15 | 2.1 |
| Benzo[b]fluoranthene | 205-99-2 | 93% | 1% | B20-033-SB-1 | 21 | 21 |
| Dibenz[a,h]anthracene | 53-70-3 | 72% | 1% | B20-033-SB-1 | 2.5 | 2.1 |
| Manganese | 7439-96-5 | 100% | 16% | B20-022-SB-9 | 65,200 | 26,000 |
| Oil & Grease | O&G | 84% | 3% | B20-020-SB-1 | 13,600 | 6,200 |
| PCBs (total) | 1336-36-3 | 8% | 3% | B20-033-SB-1 | 3.5 | 0.97 |
| Thallium | 7440-28-0 | 37% | 28% | B20-022-SB-9 | 87.3 | 12 |
| Vanadium | 7440-62-2 | 100% | 1% | B20-022-SB-9 | 5,810 | 5,800 |

*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 B20**
**Summary of Organics Detected in Groundwater**

| Parameter | Units | PAL | B20-006-PZ* 7/13/2020 | B20-010-PZ 7/14/2020 | B20-012-PZ* 10/23/2020 | B20-014-PZ 7/14/2020 | B20-027-PZ* 7/20/2020 | B20-031-PZ* 7/13/2020 | B20-033-PZ 7/14/2020 | B20-034-PZ* 10/23/2020 | B20-035-PZ 7/14/2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | |
| Acetone | µg/L | 14,000 | **8.9 J** | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Benzene | µg/L | 5 | 1 U | **5.5** | **0.75 J** | **1.5** | **116** | 1 U | **65.4** | **1.6** | **9.5** |
| Carbon disulfide | µg/L | 810 | 1 U | 1 U | **0.92 J** | 1 U | 1 U | 1 U | 1 U | **1.6** | 1 U |
| Chloroform | µg/L | 0.22 | **13.5** | 1 U | **0.54 J** | **2** | 1 U | 1 U | 1 U | 1 U | 1 U |
| Ethylbenzene | µg/L | 700 | 1 U | 1 U | **0.63 J** | **1.7** | **0.87 J** | 1 U | **2.1** | 1 U | 1 U |
| Styrene | µg/L | 100 | 1 U | 1 U | **2.6** | 1 U | 1 U | 1 U | **13.5** | 1 U | 1 U |
| Toluene | µg/L | 1,000 | 1 U | **0.81 J** | **3.4** | **0.73 J** | **10.2** | **0.91 J** | **144** | **2.8** | **2.1** |
| Xylenes | µg/L | 10,000 | 3 U | **2.5 J** | **11.9** | **10.7** | **11.9** | **9.3** | **164** | **6.9** | **4.9** |
| **Semi-Volatile Organic Compounds^** | | | | | | | | | | | |
| 1,1-Biphenyl | µg/L | 0.83 | 0.99 U | 1 U | 0.97 U | 1 U | **0.94 J** | **1** | **1.7** | 1 U | 1 U |
| 1,4-Dioxane | µg/L | 0.46 | 0.099 U | 0.1 U | 0.099 U | 0.1 U | 0.099 U | **1.4** | 0.1 U | 0.1 U | 0.1 U |
| 2,4-Dimethylphenol | µg/L | 360 | 0.99 U | **0.49 J** | 0.97 U | 1 U | **6.8** | 0.99 U | **2.8** | 1 U | **0.52 J** |
| 2-Methylnaphthalene | µg/L | 36 | 0.099 U | **0.39** | **4.4** | **0.33** | **7** | **11.6** | **26.5** | **2.2** | **1.5** |
| 2-Methylphenol | µg/L | 930 | 0.99 U | **0.6 J** | 0.97 U | 1 U | **10.2** | 0.99 U | **1.9** | 1 U | **0.56 J** |
| 3&4-Methylphenol(m&p Cresol) | µg/L | 930 | 2 U | 2 U | 1.9 U | 2 U | **14.6** | 2 U | **5.8** | 2 U | 2 U |
| Acenaphthene | µg/L | 530 | **0.053 J** | **0.17** | **0.093 J** | **0.23** | **1.3** | **0.14** | **0.4** | **0.1** | **0.72** |
| Acenaphthylene | µg/L | 530 | 0.099 U | 0.1 U | **0.06 J** | 0.1 U | **0.6** | **0.3** | **0.71** | **0.046 J** | **0.041 J** |
| Acetophenone | µg/L | 1,900 | 0.99 U | 1 U | **2.1** | **0.55 J** | **1** | **3.8** | **58** | **2.5** | **1.8** |
| Anthracene | µg/L | 1,800 | **0.041 J** | **0.05 J** | **0.06 J** | **0.094 J** | **0.74** | **0.13** | **0.42** | **0.067 J** | **0.12** |
| Benz[a]anthracene | µg/L | 0.03 | **0.098 J** | 0.1 U | 0.099 U | 0.1 U | **0.038 J** | **0.041 J** | 0.1 U | 0.1 U | 0.1 U |
| Benzaldehyde | µg/L | 1,900 | 0.99 U | 1 U | 0.97 U | 1 U | 0.99 U | **0.54 J** | 1 U | 1 U | 1 U |
| Benzo[a]pyrene | µg/L | 0.2 | **0.071 J** | 0.1 U | 0.099 U | 0.1 U | 0.099 U | 0.099 U | 0.1 U | 0.1 U | 0.1 U |
| Benzo[b]fluoranthene | µg/L | 0.25 | **0.14** | 0.1 U | 0.099 U | 0.1 U | 0.099 U | 0.099 U | 0.1 U | 0.1 U | 0.1 U |
| Benzo[g,h,i]perylene | µg/L | | **0.046 J** | 0.1 U | 0.099 U | 0.1 U | 0.099 U | 0.099 U | 0.1 U | 0.1 U | 0.1 U |
| Benzo[k]fluoranthene | µg/L | 2.5 | **0.13** | 0.1 U | 0.099 U | 0.1 U | 0.099 U | 0.099 U | 0.1 U | 0.1 U | 0.1 U |
| bis(2-chloroethoxy)methane | µg/L | 59 | 0.99 U | 1 U | **0.43 J** | 1 U | **0.41 J** | 0.99 U | 1 U | 1 U | 1 U |
| bis(2-Ethylhexyl)phthalate | µg/L | 6 | 0.99 U | 1 U | 0.97 U | 0.37 B | **0.47 J** | 0.99 U | 0.44 B | 1 U | 1 U |
| Caprolactam | µg/L | 9,900 | 2.5 U | 2.5 U | 2.4 U | **0.61 J** | 2.5 U | 2.5 U | 2.5 U | 2.5 U | 2.5 U |
| Carbazole | µg/L | | 0.99 U | **0.41 J** | 0.97 U | **0.44 J** | **5.3** | 0.99 U | **0.94 J** | 1 U | **0.97 J** |
| Chrysene | µg/L | 25 | **0.09 J** | 0.1 U | 0.099 U | 0.1 U | 0.099 U | 0.099 U | 0.1 U | 0.1 U | 0.1 U |
| Di-n-butylphthalate | µg/L | 900 | 0.99 U | 1 U | 0.97 U | 1 U | **1.1** | 0.99 U | 1 U | 1 U | 1 U |
| Fluoranthene | µg/L | 800 | **0.21** | **0.051 J** | 0.099 U | **0.25** | **1.1** | **0.33** | **0.1** | 0.1 U | **0.14** |
| Fluorene | µg/L | 290 | 0.099 U | **0.21** | **0.14** | **0.23** | **4.8** | **0.24** | **1.3** | **0.16** | **0.58** |
| Indeno[1,2,3-c,d]pyrene | µg/L | 0.25 | **0.038 J** | 0.1 U | 0.099 U | 0.1 U | 0.099 U | 0.099 U | 0.1 U | 0.1 U | 0.1 U |
| Naphthalene | µg/L | 0.12 | **0.26** | **8.2** | **122** | **4.3** | **142** | **131** | **850** | **34** | **38.6** |
| Phenanthrene | µg/L | | **0.24** | **0.21** | **0.089 J** | **0.51** | **6.5** | **0.48** | **1.2** | **0.095 J** | **1.1** |
| Phenol | µg/L | 5,800 | 0.99 U | 1 U | 0.97 U | 1 U | 0.99 U | **0.31 J** | **2.8** | 1 U | 1 U |
| Pyrene | µg/L | 120 | **0.17** | **0.039 J** | 0.099 U | **0.19** | **0.58** | **0.19** | **0.21** | 0.1 U | **0.12** |
| **TPH/Oil & Grease** | | | | | | | | | | | |
| Diesel Range Organics | µg/L | 47 | **377** | **247 J** | **676** | **289 J** | **640** | **597** | **3,400** | **441** | **379 J** |
| Gasoline Range Organics | µg/L | 47 | 200 U | 200 U | 200 U | 200 U | **185 J** | 200 U | **771** | 200 U | 200 U |
| Oil & Grease | µg/L | 47 | **1,300 J** | 4,750 U | **1,400 J** | **1,100 J** | 4,750 U | 4,750 U | **1,500 J** | 4,750 U | **1,400 J** |

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

**Table 10 - Parcel B20**
**Summary of Inorganics Detected in Groundwater**

| Parameter | Units | PAL | B20-006-PZ* | B20-010-PZ | B20-012-PZ* | B20-014-PZ | B20-027-PZ* | B20-031-PZ* | B20-033-PZ | B20-034-PZ* | B20-035-PZ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 7/13/2020 | 7/14/2020 | 10/23/2020 | 7/14/2020 | 7/20/2020 | 7/13/2020 | 7/14/2020 | 10/23/2020 | 7/14/2020 |
| **Dissolved Metals** | | | | | | | | | | | |
| Aluminum, Dissolved | µg/L | 20,000 | **72.5** | **170** | **119** | **89.3** | **36.5 J** | 50 U | **95.9** | **64** | **168** |
| Barium, Dissolved | µg/L | 2,000 | **30.7** | **52.2** | **51.2** | **58.5** | **43** | **45.6** | **72.6** | **52.7** | **46.3** |
| Chromium, Dissolved | µg/L | 100 | **1.2 J** | **0.49 J** | **0.61 J** | **0.66 J** | **0.43 J** | **0.72 J** | **0.47 J** | **1.1 J** | **0.65 J** |
| Manganese, Dissolved | µg/L | 430 | 5 U | 5 U | **2.7 J** | 5 U | 5 U | 5 U | **3.1 J** | **5.7** | 5 U |
| Mercury, Dissolved | µg/L | 2 | 0.2 U | 0.2 U | **0.06 J** | 0.2 U | 0.2 U | 0.2 U | 0.2 U | **0.04 J** | 0.2 U |
| Selenium, Dissolved | µg/L | 50 | 8 U | 8 U | **6.5 J** | 8 U | 8 U | 8 U | 8 U | 8 U | 8 U |
| Thallium, Dissolved | µg/L | 2 | **8.6 J** | 10 U | 10 U | 10 U | 10 U | 10 U | 4.2 B | 10 U | 10 U |
| Vanadium, Dissolved | µg/L | 86 | **577** | **1.5 J** | **28.6** | **39.4** | 5 U | **2 J** | **170** | **4.6 J** | **7.6** |
| **Other** | | | | | | | | | | | |
| Cyanide | µg/L | 200 | **6 J** | 10 U | **6.7 J** | 10 U | **8.4 J** | 10 U | 10 U | 10 U | **6.2 J** |

**Values in red indicate an exceedance of the Project Action Limit (PAL)**
**Detections in bold**
*indicates non-validated data

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

**Table 11 - Parcel B20**
**Cumulative Vapor Intrusion Criteria Comparison**

| | | | | B20-006-PZ 7/13/2020 | | B20-010-PZ 7/14/2020 | | B20-012-PZ 10/23/2020 | | B20-014-PZ 7/14/2020 | | B20-027-PZ 7/20/2020 | | B20-031-PZ 7/13/2020 | | B20-033-PZ 7/14/2020 | | B20-034-PZ 10/23/2020 | | B20-035-PZ 7/14/2020 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Type | Organ Systems | VI Screening Criteria | Conc. (ug/L) | Risk/ Hazard | Conc. (ug/L) | Risk/ Hazard | Conc. (ug/L) | Risk/ Hazard | Conc. (ug/L) | Risk/ Hazard | Conc. (ug/L) | Risk/ Hazard | Conc. (ug/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 | 0.099 U | 0 | 0.1 U | 0 | 0.099 U | 0 | 0.1 U | 0 | 0.099 U | 0 | 1.4 | 1.1E-10 | 0.1 U | 0 | 0.1 U | 0 | 0.1 U | 0 |
| Naphthalene | SVOC | | 200 | 0.26 | 1.3E-08 | 8.2 | 4.1E-07 | 122 | 6.1E-06 | 4.3 | 2.2E-07 | 142 | 7.1E-06 | 131 | 6.6E-06 | 850 | 4.3E-05 | 34 | 1.7E-06 | 38.6 | 1.9E-06 |
| Benzene | VOC | | 69 | 1 U | 0 | 5.5 | 8.0E-07 | 0.75 J | 1.1E-07 | 1.5 | 2.2E-07 | 116 | 1.7E-05 | 1 U | 0 | 65.4 | 9.5E-06 | 1.6 | 2.3E-07 | 9.5 | 1.4E-06 |
| Chloroform | VOC | | 36 | 13.5 | 3.8E-06 | 1 U | 0 | 0.54 J | 1.5E-07 | 2 | 5.6E-07 | 1 U | 0 | 1 U | 0 | 1 U | 0 | 1 U | 0 | 1 U | 0 |
| Ethylbenzene | VOC | | 150 | 1 U | 0 | 1 U | 0 | 0.63 J | 4.2E-08 | 1.7 | 1.1E-07 | 0.87 J | 5.8E-08 | 1 U | 0 | 2.1 | 1.4E-07 | 1 U | 0 | 1 U | 0 |
| Cumulative Vapor Intrusion Risk = | | | | | 4E-06 | | 1E-06 | | 6E-06 | | 1E-06 | | 2E-05 | | 7E-06 | | 5E-05 | | 2E-06 | | 3E-06 |
| **Non-Cancer Hazard** | | | | | | | | | | | | | | | | | | | | | |
| Xylenes | VOC | Nervous | 1,600 | 3 U | 0 | 2.5 J | 0.002 | 11.9 | 0.007 | 10.7 | 0.007 | 11.9 | 0.007 | 9.3 | 0.006 | 164 | 0.1 | 6.9 | 0.004 | 4.9 | 0.003 |
| Cumulative Vapor Intrusion Non-Cancer Hazard = | | | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 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 reported for this analyte is a quantitative estimate.

**Table 12 - Parcel B20**
**Summary of VOCs Detected in Sub-Slab Soil Gas**

| Parameter | Units | PAL | May 2019 MDE SL | B20-001-SG 6/3/2020 | B20-002-SG 6/3/2020 | B20-003-SG 6/3/2020 |
|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | |
| 1,1,1-Trichloroethane | µg/m3 | 2,200,000 | 2,200,000 | **1.4 J** | **0.35 J** | 1.7 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | µg/m3 | 14,000,000 | 2,200,000 | **0.69 J** | **0.66 J** | **0.63 J** |
| 1,2,4-Trimethylbenzene | µg/m3 | 3,100 | 26,400 | **0.9 J** | **0.61 J** | 1.5 U |
| 1,2-Dichloroethene (Total) | µg/m3 | 27,000 | | **5.5** | **5.5** | 2.5 U |
| 2-Butanone (MEK) | µg/m3 | 2,200,000 | 2,200,000 | **19.4** | **30.4** | **38.2** |
| 2-Hexanone | µg/m3 | 14,000 | 13,200 | 6.7 U | 6.2 U | **4 J** |
| 4-Methyl-2-pentanone (MIBK) | µg/m3 | 1,400,000 | 1,320,000 | **3.4 J** | **3.8 J** | **3.8 J** |
| Acetone | µg/m3 | 14,000,000 | 13,700,000 | **114** | **158** | **188** |
| Benzene | µg/m3 | 1,600 | 1,600 | **5.1** | **3.5** | **4.2** |
| Bromodichloromethane | µg/m3 | 340 | 332 | **6.9** | **13** | **7.3** |
| Carbon disulfide | µg/m3 | 310,000 | 310,000 | **211** | **442** | **333** |
| Carbon tetrachloride | µg/m3 | 2,100 | 2,050 | **0.75 J** | **0.43 J** | 2 U |
| Chloroform | µg/m3 | 540 | 540 | **186** | **332** | **225** |
| Chloromethane | µg/m3 | 40,000 | 40,000 | 0.68 U | **2.9** | 0.65 U |
| Cyclohexane | µg/m3 | 2,700,000 | 2,650,000 | 2.8 U | **5.7** | 2.7 U |
| Dibromochloromethane | µg/m3 | 460 | 460 | **2.7 J** | **0.79 J** | **0.62 J** |
| Dichlorodifluoromethane | µg/m3 | 44,000 | 44,000 | **2.7** | **3** | **2.7** |
| Ethylbenzene | µg/m3 | 5,000 | 5,000 | **2.1** | **1.9** | **2.9** |
| Methylene Chloride | µg/m3 | 270,000 | 265,000 | **5.6 J** | **4.3 J** | **3.6 J** |
| Styrene | µg/m3 | 440,000 | 440,000 | **0.73 J** | 1.3 U | **0.73 J** |
| Tetrachloroethene | µg/m3 | 18,000 | 18,000 | **31.5** | **6.1** | **4.2** |
| Toluene | µg/m3 | 2,200,000 | 2,200,000 | **9.4** | **7.2** | **7.5** |
| trans-1,2-Dichloroethene | µg/m3 | 27,000 | 31,000 | **5.5** | **5.5** | 1.2 U |
| Trichloroethene | µg/m3 | 880 | 880 | **9.5** | **2.9** | **6.4** |
| Trichlorofluoromethane | µg/m3 | 310,000 | 310,000 | **1.6 J** | **1.6 J** | **1.5 J** |
| Xylenes | µg/m3 | 44,000 | 44,000 | **8.5** | **7.4** | **11.9** |

**Bold indicates detection**
**Values in red indicate an exceedance of the Project Action Limit (PAL)**
MDE SL = MD Dept. of the Environment Tier 1 Commercial Screening Level (updated May 2019)
All sub-slab soil gas results were validated

J: The poitive result reported for this analyte is a quantitative estimate.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

**Table 13 - Parcel B20**
**Rejected Analytical Soil Results**

| Sample ID | Parameter | Result (mg/kg) | PAL (mg/kg) | Exceeds PAL? |
|---|---|---|---|---|
| B20-002-SB-5 | 2,3,4,6-Tetrachlorophenol | 0.069 | 25,000 | no |
| | 2,4,5-Trichlorophenol | 0.17 | 82,000 | no |
| | 2,4,6-Trichlorophenol | 0.069 | 210 | no |
| | 2,4-Dichlorophenol | 0.069 | 2,500 | no |
| | 2,4-Dimethylphenol | 0.069 | 16,000 | no |
| | 2,4-Dinitrophenol | 0.17 | 1,600 | no |
| | 2-Chlorophenol | 0.069 | 5,800 | no |
| | 2-Methylphenol | 0.069 | 41,000 | no |
| | 3&4-Methylphenol(m&p Cresol) | 0.14 | 41,000 | no |
| | Pentachlorophenol | 0.17 | 4 | no |
| | Phenol | 0.069 | 250,000 | no |
| B20-005-SB-1 | Chromium VI | 1 | 6.3 | no |
| B20-005-SB-5 | Chromium VI | 1.1 | 6.3 | no |
| B20-006-SB-1.5 | Chromium VI | 1.1 | 6.3 | no |
| B20-006-SB-4 | Chromium VI | 1.1 | 6.3 | no |
| B20-012-SB-4 | 1,4-Dioxane | 0.12 | 24 | no |
| B20-013-SB-1.5 | 1,4-Dioxane | 0.14 | 24 | no |
| | Chromium VI | 1.1 | 6.3 | no |
| B20-013-SB-5 | Chromium VI | 1.1 | 6.3 | no |
| B20-015-SB-1 | Chromium VI | 1.1 | 6.3 | no |
| B20-015-SB-8 | 1,1,2,2-Tetrachloroethane | 0.0078 | 2.7 | no |
| | 1,4-Dioxane | 0.16 | 24 | no |
| | 2,3,4,6-Tetrachlorophenol | 0.074 | 25,000 | no |
| | 2,4,5-Trichlorophenol | 0.19 | 82,000 | no |
| | 2,4,6-Trichlorophenol | 0.074 | 210 | no |
| | 2,4-Dichlorophenol | 0.074 | 2,500 | no |
| | 2,4-Dimethylphenol | 0.074 | 16,000 | no |
| | 2,4-Dinitrophenol | 0.19 | 1,600 | no |
| | 2-Chlorophenol | 0.074 | 5,800 | no |
| | 2-Methylphenol | 0.074 | 41,000 | no |
| | 3&4-Methylphenol(m&p Cresol) | 0.15 | 41,000 | no |
| | Dichlorodifluoromethane | 0.0078 | 370 | no |
| | Pentachlorophenol | 0.19 | 4 | no |
| | Phenol | 0.074 | 250,000 | no |
| B20-016-SB-8 | 1,4-Dioxane | 0.13 | 24 | no |
| | Chromium VI | 1.1 | 6.3 | no |
| B20-017-SB-1 | Chromium VI | 1.1 | 6.3 | no |
| B20-018-SB-1 | Chromium VI | 1.1 | 6.3 | no |
| B20-018-SB-4 | 1,4-Dioxane | 0.097 | 24 | no |
| | Chromium VI | 1 | 6.3 | no |
| B20-019-SB-1 | Chromium VI | 1.1 | 6.3 | no |
| B20-019-SB-7 | 1,4-Dioxane | 0.11 | 24 | no |
| | Chromium VI | 1.2 | 6.3 | no |
| B20-026-SB-1 | Chromium VI | 1.1 | 6.3 | no |
| B20-026-SB-5 | Chromium VI | 1.1 | 6.3 | no |
| B20-034-SB-1 | 1,4-Dioxane | 0.12 | 24 | no |
| B20-034-SB-9 | 1,4-Dioxane | 0.11 | 24 | no |

# APPENDIX A

**Parcel B20 Sampling Plan Summary**
**Former Sparrows Point Steel Mill**
**Sparrows Point, Maryland**

**Table 1 - Soil 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 |
|---|---|---|---|---|---|---|---|---|
| Pennwood Wharf | | Location of SWMUs, AOCs, and Facility Areas, Site Walk Photograph Log | Investigate potential impacts related to any historical activities which may have occurred around the Penwood Wharf (potential leaks or releases). | 2 | B20-001 and B20-002 | Total depth of 20 feet or groundwater. | 0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening. | ^VOC, SVOC, Metals, DRO/GRO, Oil & Grease, PCBs (0-1') |
| Possible PCB Containing Area (Pennwood Wharf Building Inactive Substation) | | PCB Inventory Map, Site Walk Photograph Log | Investigate potential impacts related to any historical activities which may have occurred around the possible PCB containing area (potential leaks or releases). | 2 | B20-003 and B20-004 | 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, Oil & Grease, PCBs (0-1') |
| Service Building | | 5012, Site Walk Photograph Log | Investigate potential impacts related to any historical activities which may have occurred around the service building (potential leaks or releases). | 2 | B20-005 and B20-006 | 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, Oil & Grease, PCBs (0-1') |

**Parcel B20 Sampling Plan Summary**
**Former Sparrows Point Steel Mill**
**Sparrows Point, Maryland**

**Table 1 - Soil 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 |
|---|---|---|---|---|---|---|---|---|
| Storage Areas | | Location of SWMUs, AOCs, and Facility Areas, 5106 | Investigate potential impacts related to any historical activities which may have occurred in the three storage areas (potential leaks or releases). | 6 | B20-007 through B20-012 | Total depth of 20 feet or groundwater. | 0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening. | ^VOC, SVOC, Metals, DRO/GRO, Oil & Grease, PCBs (0-1') |
| Tanks | | 5005, 5006, Site Walk Photograph Log | Investigate potential impacts related to any historical activities which may have occurred near the tanks (potential leaks or releases). | 7 | B20-013 through B20-019 | Total depth of 20 feet or groundwater. | 0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening. | ^VOC, SVOC, Metals, DRO/GRO, Oil & Grease, PCBs (0-1') |
| Active Substations | | 5006 and Aerial View, Site Walk Photograph Log | Investigate potential impacts related to any historical activities which may have occurred at the substation (potential leaks or releases). | 4 | B20-020 through B20-023 | 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, Oil & Grease, PCBs (0-1') |

**Parcel B20 Sampling Plan Summary**
**Former Sparrows Point Steel Mill**
**Sparrows Point, Maryland**

**Table 1 - Soil 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 |
|---|---|---|---|---|---|---|---|---|
| Raw Slag Pile | | 5500 | Investigate potential impacts related to the stockpiling of slag material on the site in this designated area (potential leaks or releases) | 2 | B20-024 and B20-025 | 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, Oil & Grease, PCBs (0-1') |
| Parcel B20 Coverage | | | Investigate potential impacts related to any historical activities which may have occurred (potential leaks or releases). | 10 | B20-026 through B20-035 | 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, Oil & Grease, PCBs (0-1') |
| MDE Request | | | Investigate potential impacts related to slag fill piles. | 1 | B20-036 | 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, Oil & Grease, PCBs (0-1') |
| | | | **Total:** | 36 | | | | |

Soil Borings Sampling Density Requirements (from **Worksheet 17 - Sampling Design and Rationale**)
*No Engineered Barrier (71-100 acres): 1 boring per 2.5 acres with no less than 35.*
*Engineered Barrier (N/A)*
*No Engineered Barrier (78.6 acres) = **35 Borings Required, 36 Completed**
Includes Building Footprints (2.9 acres)

*The eastern portion of the parcel includes roughly 3.8 acres of open water as well as the section of the Pennwood Wharf building suspended above Old Road Bay. Soil borings cannot be completed in this area of the parcel, but the exclusion of this area does not affect the number of boring locations that were required (35 locations).

VOCs - Volatile Organic Compounds (Target Compound List)
^VOCs only collected if the PID reading exceeds 10 ppm
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
bgs - Below Ground Surface

**Parcel B20 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 | Boring Depth | Screen Interval | Analytical Parameters: Groundwater Samples |
|---|---|---|---|---|---|---|---|---|
| Service Building | | 5012, Site Walk Photograph Log | *N/A* | 1 | B20-006-PZ | 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), DRO/GRO, Oil & Grease |
| Storage Areas | | Location of SWMUs, AOCs, and Facility Areas, 5106 | *N/A* | 2 | B20-010-PZ and B20-012-PZ | 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), DRO/GRO, Oil & Grease |
| Tanks | | 5005, 5006, Site Walk Photograph Log | *N/A* | 1 | B20-014-PZ | 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), DRO/GRO, Oil & Grease |
| Parcel B20 Coverage | | | *N/A* | 5 | B20-027-PZ, B20-031-PZ, B20-033-PZ, B20-034-PZ, and B20-035-PZ | 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), DRO/GRO, Oil & Grease |
| | | | **Total:** | 9 | | | | |

Field measurements include pH, DO, ORP, conductivity, temperature
Metals analysis includes dissolved hexavalent chromium

VOCs - Volatile Organic Compounds (Target Compound List)
SVOCs - Semivolatile Organic Compounds (Target Compound List)
Metals - (Target Analyte List plus Hexavalent Chromium)
DRO/GRO - Diesel Range Organics/Gasoline Range Organics

**Parcel B20 Sampling Plan Summary**
**Former Sparrows Point Steel Mill**
**Sparrows Point, Maryland**

**Table 3 - Sub-Slab Soil Gas 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: Sub-Slab Soil Gas |
|---|---|---|---|---|---|---|---|---|
| Mill Building | | Aerial Images | Investigate potential impacts related to any historical activities which may have occurred within or adjacent to the Mill Building (potential leaks or releases). | 3 | B20-001-SG through B20-003-SG | 6 inches below bottom of concrete slab | 6 inches below bottom of concrete slab | VOCs |
| | | | **Total** | 3 | | | | |

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

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

Mill Building (29,100 ft$^2$) = **3 Samples Required, 3 Completed**

VOCs - Volatile Organic Compounds

(updated list in approved letter dated November 14, 2017)

# APPENDIX B

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-001-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/13/2020 |
| Weather | : Cloudy, 60's |
| Northing (US ft) | : 563224.96 |
| Easting (US ft) | : 1464631.95 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | (0-0.5') ASPHALT | NA | |
| 1 | 96 | 0.0 | B20-001-SB-1.5 | (0.5-5.8') SLAG GRAVEL with some SAND-sized SLAG and non-native SAND, medium dense to dense, light gray, brown and trace reddish brown, dry, no plasticity, no cohesion | GW/SW | |
| 2 | | 0.0 | | | | |
| 3 | | 0.0 | | | | |
| 4 | | 0.0 | B20-001-SB-5 | | | |
| 5 | | 2.4 | | | | |
| 6 | 100 | 0.4 | | (5.8-6.4') SILTY SAND, very fine, dense, very pale brown with reddish brown to yellowish red, very moist, non-plastic, non-cohesive, wavy mottling, light pungent odor | SM | |
| 7 | | 0.5 | | (6.4-7.5') SLAG, SAND and GRAVEL-sized, dense, light gray and brown, dry then wet at 7.3' bgs, non-plastic, non-cohesive | SW/GW | Wet at 7.3' bgs |
| 8 | | | | End of Boring | | |

Total Borehole Depth: 7.5' bgs due to water and refusal.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-002-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/13/2020 |
| Weather | : Cloudy, 60's |
| Northing (US ft) | : 562867.15 |
| Easting (US ft) | : 1464677.35 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | (0-0.4') ASPHALT | NA | |
| 1 | | 5.9 | B20-002-SB-1.5 | (0.4-1.1') SLAG, SAND and GRAVEL-sized, medium dense, light gray, dry, no plasticity, no cohesion | SW/GW | |
| 2 | 96 | 0.0 | | (1.1-4.7') SLAG, SAND and GRAVEL-sized with non-native SAND, medium dense to dense, light grayish brown, brown, and gray with trace yellow and reddish brown, dry, non-plastic, non-cohesive | | |
| 3 | | 0.0 | | | SW/GW | |
| 4 | | 3.4 | | | | |
| 5 | | 0.8 | B20-002-SB-5 | (4.7-15') SLAG GRAVEL with some non-native SAND and SAND-sized SLAG, fine to coarse, medium dense then dense at 11' bgs, light gray and dark brown, dry then wet at 11.1' bgs, non-plastic, non-cohesive | | |
| 6 | | - | | | | |
| 7 | 86 | 0.7 | | | | |
| 8 | | 0.1 | | | | |
| 9 | | 0.1 | | | | |
| 10 | | 0.2 | B20-002-SB-10 | | GW/SW | |
| 11 | | - | | | | Wet at 11.1' bgs |
| 12 | | 0.5 | | | | |
| 13 | 78 | 0.0 | | | | |
| 14 | | 0.0 | | | | |
| 15 | | 0.2 | | End of Boring | | |
| 16 | | | | | | |

Total Borehole Depth: 15' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-003-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/15/2020 |
| Weather | : Sunny, 70's |
| Northing (US ft) | : 562818.38 |
| Easting (US ft) | : 1464678.34 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | (0-0.4') ASPHALT | NA | |
| 1 | 94 | 0.0 | B20-003-SB-1.5 | (0.4-1.1') SLAG, SAND and GRAVEL-sized, dense, light gray with white, dry, no plasticity, no cohesion | GW/SW | |
| 2 | | 0.1 | | (1.7-2.2') Non-native SAND and SLAG GRAVEL, medium dense, dark brown, dry, non-plastic, non-cohesive | SW/GW | |
| 3 | | 0.6 | | (2.2-2.5') SLAG, SAND and GRAVEL-sized, dense, light gray with white, moist, non-plastic, non-cohesive | GW/SW | |
| 4 | | 1.1 | | (2.5-15') Non-native SAND and SLAG GRAVEL, medium dense to dense, dark brown with dark gray, dry then wet at 12.4' bgs, non-plastic, non-cohesive | | |
| 5 | | 0.0 | B20-003-SB-5 | | | |
| 6 | 90 | - | | | | |
| 7 | | 0.1 | | | | |
| 8 | | 1.5 | | | | |
| 9 | | 3.6 | | | SW/GW | |
| 10 | | 0.0 | B20-003-SB-10 | | | |
| 11 | 52 | - | | | | |
| 12 | | - | | | | |
| 13 | | 0.0 | | | | Wet at 12.4' bgs |
| 14 | | 0.0 | | | | |
| 15 | | 0.0 | | | | |
| 16 | | | | End of Boring | | |

Total Borehole Depth: 15' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-004-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI/Connelly |
| Driller | : D. Marchese/R. Mohler |
| Drilling Equipment | : Geoprobe 7822DT/Sonic |

| | |
|---|---|
| Date | : 05/13/2020; 10/14/2020 |
| Weather | : Sunny, 60's; Sunny 70's |
| Northing (US ft) | : 562780.30 |
| Easting (US ft) | : 1464697.35 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | (0-0.3') ASPHALT | NA | |
| 1 | 86 | 0.2 | B20-004-SB-1.5 | (0.3-3.5') SLAG, SAND and GRAVEL-sized, loose to medium dense, light gray, brown, light grayish brown, and trace reddish brown, dry, no plasticity, no cohesion, trace SILT 0.8-0.9' bgs | SW/GW | |
| 2 | | 1.8 | | | | |
| 3 | | 1.9 | | | | |
| 4 | | 19.9 | | (3.5-10') Non-native SAND and SLAG/FILL, SAND and GRAVEL-sized, loose to medium dense, dark brown with trace gray and yellow, dry, non-plastic, non-cohesive | | |
| 5 | | 114.8 | B20-004-SB-5 | | | |
| 6 | 100 | 30.1 | | | SW/GW | |
| 7 | | 13.7 | | | | |
| 8 | | 48.1 | | | | |
| 9 | | 28.1 | | | | |
| 10 | | 26.4 | | | | Wet at 9.8' bgs |
| 11 | 100 | 3.2 | | (10-15') SLAG/FILL, SAND and GRAVEL-sized, loose to medium dense, dark brown, wet, non-plastic, non-cohesive | GW/SW | |
| 12 | | 2.0 | | | | |
| 13 | | 5.4 | | | | |
| 14 | | 29.0 | | | | |
| 15 | | 34.1 | | | | |
| 16 | | | | End of Boring | | |

Total Borehole Depth: 15' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-005-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/13/2020 |
| Weather | : Sunny, 60's |
| Northing (US ft) | : 562744.33 |
| Easting (US ft) | : 1464579.03 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | (0-0.2') ASPHALT | NA | |
| | | - | B20-005-SB-1 | (0.2-0.8') SILT with SAND and trace GRAVEL, very firm, brown, dry, non-plastic, non-cohesive | ML | |
| 1 | | | | (0.8-5.2') SLAG, SAND-sized to fine GRAVEL, medium dense, light grayish brown, dry, non-plastic, non-cohesive | | |
| | | 0.0 | | | | |
| 2 | | | | | | |
| | 80 | 0.0 | | | | |
| 3 | | | | | SW/GP | No water encountered |
| | | 0.0 | | | | |
| 4 | | | | | | |
| | | 0.0 | B20-005-SB-5 | | | |
| 5 | | | | | | |
| | 100 | 0.0 | | (5.2-5.4') CONCRETE GRAVEL, loose, very pale brown, dry, non-plastic, non-cohesive | NA | |
| | | | | (5.4-6') SLAG, SAND and GRAVEL-sized, medium dense, brown, dry, non-plastic, non-cohesive | SW/GW | |
| 6 | | | | End of Boring | | |
| 7 | | | | | | |

Total Borehole Depth: 6' bgs due to refusals.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-006-SB/PZ

(page 1 of 1)

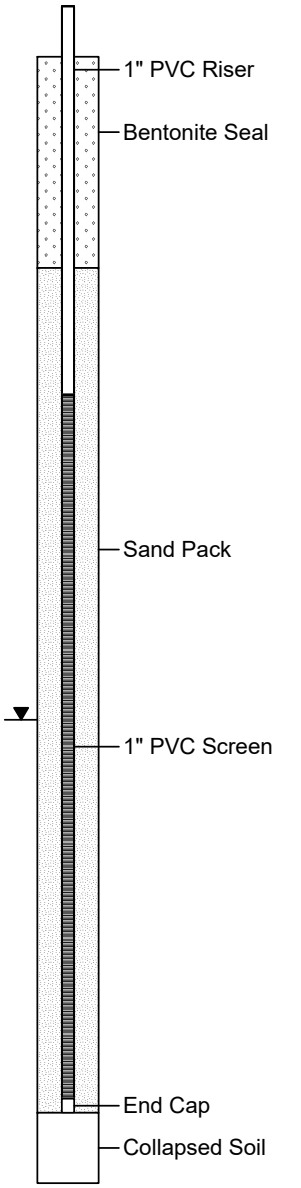
| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Soil Boring Installation Date | : 05/13/2020 |
| Piezometer Installation Date | : 05/13/2020 |
| Casing/Riser/Screen Type | : PVC |
| Borehole Diameter | : 2.25" |
| Riser/Screen Diameter | : 1" |
| Northing (US ft) | : 562670.81 |
| Easting (US ft) | : 1464619.13 |
| 48-Hr DTW | : 12.37' TOC |

No LNAPL or DNAPL detected at 0 or 48 hours

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS |
|---|---|---|---|---|---|
| 0 | | - | | (0-0.7') ASPHALT | NA |
| | 80 | 0.5 | B20-006-SB-1.5 | (0.7-10') SLAG, SAND and GRAVEL-sized, with some non-native SAND from 2-4' bgs and trace BRICK, medium dense, light grayish brown and brown with trace yellow and very pale brown, dry then moist at 6.5' bgs, wet at 9' bgs, no plasticity, no cohesion | |
| | | 0.1 | | | |
| | | 8.9 | B20-006-SB-4 | | |
| | | 2.4 | | | |
| 5 | | - | | | SW/GW |
| | 82 | 3.4 | | | |
| | | 0.0 | | | |
| | | 0.0 | | | |
| | | 0.6 | | | |
| 10 | | 0.1 | | (10-16') SLAG, SAND and GRAVEL-sized, dense, light grayish brown and brown with trace yellow, wet, non-plastic, non-cohesive | |
| | 100 | 0.0 | | | |
| | | 0.0 | | | SW/GW |
| | | 0.0 | | | |
| | | 0.0 | | | |
| 15 | 100 | - | | | |

End of Boring




REMARKS: Wet at 9' 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

Riser Stickup: 2.95' ags
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: bentonite chips]

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-007-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI/Connelly |
| Driller | : D. Marchese/R. Mohler |
| Drilling Equipment | : Geoprobe 7822DT/Sonic |

| | |
|---|---|
| Date | : 05/18/2020; 10/13/2020 |
| Weather | : Cloudy, 50's; Sunny 60's |
| Northing (US ft) | : 561650.00 |
| Easting (US ft) | : 1464211.76 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 1 | 100 | 0.0 | B20-007-SB-1 | (0-1.5') Non-native SAND and lenticular-shaped coarse GRAVEL, medium dense, grayish green with trace very pale brown at surface, dry, non-plastic, non-cohesive | SW/GP | |
| 2 | | 62.3 | | (1.5-5') Non-native SAND and SLAG, SAND and GRAVEL-sized, loose to medium dense, brown to light brown with trace gray, dry, non-plastic, non-cohesive | | |
| 3 | | 68.0 | | | SW/GW | |
| 4 | | 279.4 | B20-007-SB-4 | | | |
| 5 | | 270.2 | | | | |
| 6 | 100 | 13.0 | | (5-9.2') Non-native SAND with trace SLAG GRAVEL, medium dense, medium to coarse, grayish green grading to green with trace very pale brown, moist, non-plastic, non-cohesive | SW | |
| 7 | | 53.4 | | | | |
| 8 | | 103.6 | | | | |
| 9 | | 150.7 | | | | |
| 10 | 100 | 132.3 | B20-007-SB-10 | (9.2-15') SLAG, SAND and GRAVEL with trace SILT, loose, brown to grayish brown then strong brown to dark brown at 12.5' bgs, dry then wet at 10' bgs, non-plastic, non-cohesive | GW/SW | Wet at 10' bgs |
| 11 | | 8.6 | | | | |
| 12 | | 69.3 | | | | |
| 13 | | 77.9 | | | | |
| 14 | | 38.7 | | | | |
| 15 | | 42.4 | | End of Boring | | |
| 16 | | | | | | |

Total Borehole Depth: 15' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-008-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI/Connelly |
| Driller | : D. Marchese/R. Mohler |
| Drilling Equipment | : Geoprobe 7822DT/Sonic |

| | |
|---|---|
| Date | : 05/18/2020; 10/13/2020 |
| Weather | : Cloudy, 60's |
| Northing (US ft) | : 561645.83 |
| Easting (US ft) | : 1463945.88 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 1 | 100 | 0.0 | B20-008-SB-1 | (0-2') Non-native SAND and lenticular-shaped fine to coarse GRAVEL, medium dense to dense, very pale brown then grayish green at 1.2' bgs, dry, non-plastic, non-cohesive | SW/GW | |
| 2 | | 1.9 | | | | |
| 3 | | 15.8 | | (2-10') Non-native SAND and SLAG, SAND and GRAVEL-sized, loose to medium dense, brown with some light gray, dry, non-plastic, non-cohesive | | |
| 4 | | 50.0 | | | | |
| 5 | | 8.6 | | | | |
| 6 | 60 | - | | | SW/GW | |
| 7 | | - | | | | |
| 8 | | 52.1 | | | | |
| 9 | | 72.0 | B20-008-SB-9 | | | |
| 10 | | 57.9 | B20-008-SB-10 | | | |
| 11 | 100 | 6.3 | | (10-11') CONCRETE, SAND and GRAVEL-sized, dry, light gray, dry, non-plastic, non-cohesive | NA | Wet at 11' bgs |
| 12 | | 149.6 | | (11-15') SLAG, SAND and GRAVEL-sized, loose, brown then dark gray at 13' bgs, wet, non-plastic, non-cohesive | | |
| 13 | | 20.2 | | | GW/SW | |
| 14 | | 3.1 | | | | |
| 15 | | 1.8 | | | | |
| 16 | | | | End of Boring | | |

Total Borehole Depth: 15' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-009-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/18/2020 |
| Weather | : Cloudy, 50's |
| Northing (US ft) | : 561969.91 |
| Easting (US ft) | : 1464525.66 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| | | - | B20-009-SB-1 | (0-0.5') SLAG, SAND-sized with some SLAG GRAVEL, loose, light brownish gray, dry, non-plastic, non-cohesive | SW | |
| 1 | | 0.0 | | (0.5-10') SLAG GRAVEL, fine to coarse, medium dense to dense, gray, brown, and dark gray, dry then moist at 8' bgs, wet at 9.3' bgs, non-plastic, non-cohesive | | |
| 2 | | 0.0 | | | | |
| 3 | 76 | 0.0 | | | | |
| 4 | | 0.0 | | | | |
| 5 | | - | | | GW | |
| 6 | | 9.7 | | | | |
| 7 | | | B20-009-SB-7.5 | | | |
| 8 | 70 | 4.2 | | | | |
| 9 | | 0.1 | | | | |
| 10 | | 0.0 | | | | Wet at 9.3' bgs |
| | | | | End of Boring | | |
| 11 | | | | | | |

Total Borehole Depth: 10' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-010-SB/PZ

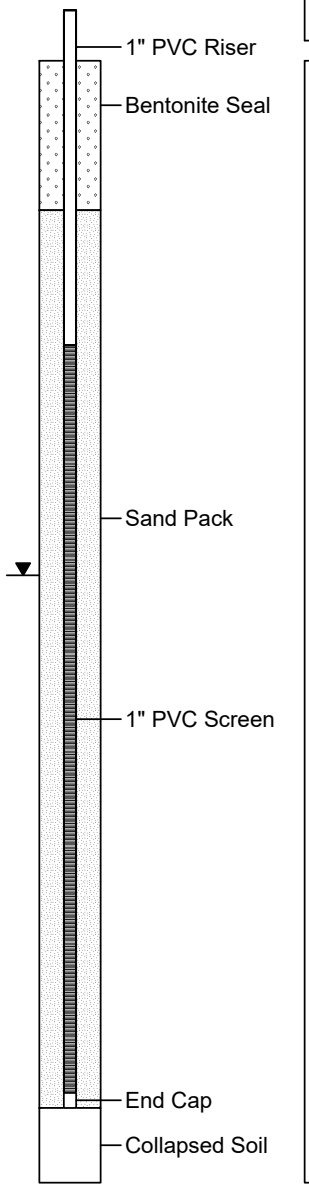
(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Soil Boring Installation Date | : 05/18/2020 |
| Piezometer Installation Date | : 05/18/2020 |
| Casing/Riser/Screen Type | : PVC |
| Borehole Diameter | : 2.25" |
| Riser/Screen Diameter | : 1" |
| Northing (US ft) | : 561782.41 |
| Easting (US ft) | : 1464556.91 |
| 48-Hr DTW | : 10.66' TOC |

No LNAPL or DNAPL detected at 0 or 48 hours

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | - | B20-010-SB-1 | (0-0.6') Non-native SAND with some GRAVEL, very fine to fine, loose to medium dense, very pale brown, dry, non-plastic, non-cohesive | SW | |
| | | 0.4 | | (0.6-15') SLAG GRAVEL, fine to coarse with trace COBBLES, medium dense to dense, light brown, brown, grayish brown, dark gray, and gray, dry then wet at 7' bgs, non-plastic, non-cohesive | | |
| | 90 | 3.4 | | | | |
| | | 154.3 | B20-010-SB-4 | | | |
| | | 0.2 | | | | |
| 5 | | - | | | | |
| | | - | | | | |
| | 60 | 3.5 | | | GW | Wet at 7' bgs |
| | | 1.9 | | | | |
| | | 0.4 | | | | |
| 10 | | - | | | | |
| | | - | | | | |
| | 40 | - | | | | |
| | | - | | | | |
| | | - | | | | |
| 15 | | | | End of Boring | | |




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

Riser Stickup: 3.78' ags
Riser: 0 - 4' bgs
Screen: 4 - 14' bgs [Slot Size: 0.010"]
Sand Pack: 2 - 14' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 2' bgs [Grain Size: bentonite chips]

01-13-2021 \\mdfs01\Projects\EnviroAnalytics Group\20010220 EAG Parcel B20\Boring Logs\2_bor Logs\B20-010-SB PZ.bor

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-011-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/14/2020 |
| Weather | : Cloudy, 60's |
| Northing (US ft) | : 562087.47 |
| Easting (US ft) | : 1462922.89 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 1 | 80 | - | | (0-1') SILTY SAND with some SLAG GRAVEL, loose, brown and light gray, dry, no plasticity, no cohesion | SM | |
| 2 | | 4.9 | | (1-18') SLAG GRAVEL with SAND-sized SLAG, fine to coarse, dense, brown and light gray, dry, non-plastic, non-cohesive | | |
| 3 | | 0.5 | | | | |
| 4 | | 4.5 | | | | |
| 5 | | 0.0 | | | | |
| 6 | 54 | - | | | | |
| 7 | | - | | | | |
| 8 | | 0.2 | | | | |
| 9 | | 0.0 | | | | |
| 10 | | 0.0 | | | GW/SW | |
| 11 | 60 | - | | | | |
| 12 | | - | | | | |
| 13 | | 0.0 | | | | |
| 14 | | 0.0 | | | | |
| 15 | | 0.0 | B20-011-SB-15 | | | 14' bgs is starting 0' elevation due to slag removal |
| 16 | | 0.0 | | | | |
| 17 | 92 | 0.2 | | | | |
| 18 | | 0.1 | B20-011-SB-18 | | | Wet at 18' bgs |
| 19 | | 0.6 | | (18-20') SLAG GRAVEL, coarse, with cobble-sized SLAG, dense, brownish gray, wet at 18' bgs, non-plastic, non-cohesive | GP | |
| 20 | | 0.0 | | | | |
| 21 | 100 | 0.1 | | (20-22') SLAG GRAVEL, fine to coarse, dense, dark gray, wet, non-plastic, non-cohesive | GW | |
| 22 | | 0.1 | | | | |
| 23 | | | | End of Boring | | |

Total Borehole Depth: 22' bgs due to water and refusal.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-012-SB/PZ

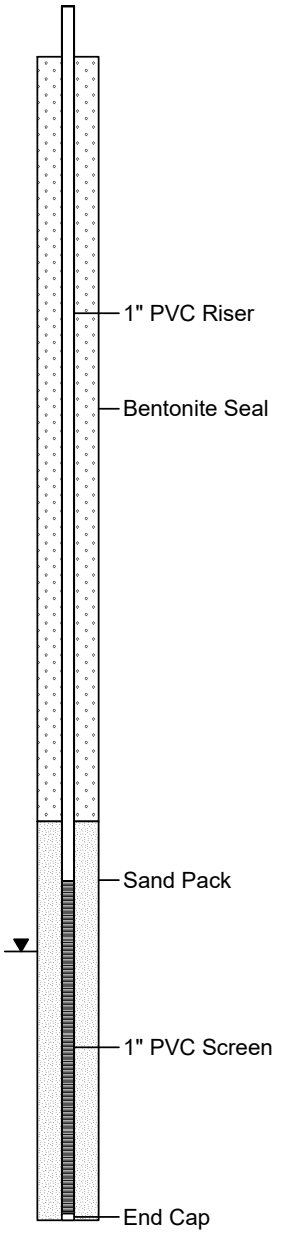


| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin/L. Glumac |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI/Connelly |
| Driller | : D. Marchese/R. Mohler |
| Drilling Equipment | : Geoprobe 7822DT/Sonic |

| | |
|---|---|
| Soil Boring Installation Date | : 05/19/20;10/20/20 |
| Piezometer Installation Date | : 10/20/2020 |
| Casing/Riser/Screen Type | : PVC |
| Borehole Diameter | : 2.25" |
| Riser/Screen Diameter | : 1" |
| Northing (US ft) | : 562050.68 |
| Easting (US ft) | : 1463383.77 |
| 48-Hr DTW | : 30.13' TOC |

No LNAPL or DNAPL detected at 0 or 48 hours

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | - | B20-012-SB-1 | (0-3') SLAG, SAND and GRAVEL-sized, with trace non-native SAND at 3' bgs, medium dense, grayish brown, dark brown, and light gray with trace very pale brown, dry, non-plastic, non-cohesive | SW/GW | |
| | 58 | 0.3 | | | | |
| | | 4.0 | | | | |
| | | 68.6 | B20-012-SB-4 | | | |
| | | - | | (3-30') SLAG GRAVEL, fine to coarse with non-native SAND and trace COBBLES, medium dense to dense, brown to dark brown with some gray, dry to very moist then wet at 27' bgs, non-plastic, non-cohesive | | |
| 5 | | 0.7 | | | | |
| | 100 | 1.8 | | | | |
| | | 2.2 | | | | |
| | | 1.4 | | | | |
| | | 1.0 | | | | |
| 10 | | 0.4 | | | | |
| | 100 | 2.6 | | | | |
| | | 4.0 | | | | |
| | | 4.3 | | | | |
| | | 22.3 | | | | |
| 15 | | 7.0 | | | | |
| | | 56.2 | | | GW/SW | |
| | | 56.1 | | | | |
| | | 102.0 | | | | |
| | | 89.9 | | | | |
| 20 | | 0.6 | | | | |
| | | 1.2 | | | | |
| | 100 | 2.3 | | | | |
| | | 10.5 | | | | |
| | | 20.3 | | | | |
| 25 | | 13.9 | | | | |
| | | 32.5 | | | | |
| | 100 | 19.5 | | | | |
| | | 2.9 | | | | |
| | | 14.7 | | | | |
| 30 | | 3.7 | | (30-35') SLAG, SAND grading GRAVEL-sized, with SILT, loose, bluish gray, wet, non-plastic, non-cohesive | | |
| | | 9.1 | | | | |
| | 100 | 59.7 | | | SW/GW | |
| | | 59.9 | | | | |
| | | 14.1 | | | | |
| 35 | | | | End of Boring | | |




Wet at 27' bgs

Boring terminated at 35' bgs due to water and piezometer installation
TOC: Top of PVC casing
DTW: Depth to water
bgs: Below ground surface

Riser Stickup: 3.22' ags
Riser: 0 - 23' bgs
Screen: 25 - 35' bgs [Slot Size: 0.010"]
Sand Pack: 23 -35' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 23' bgs [Grain Size: bentonite chips]

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-013-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/28/2020 |
| Weather | : Sunny, 70's |
| Northing (US ft) | : 562080.62 |
| Easting (US ft) | : 1463952.87 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| | | - | | (0-0.7') CONCRETE, SAND and GRAVEL-sized, white and green, dry, non-plastic, non-cohesive | NA | |
| 1 | | | B20-013-SB-1.5 | (0.7-10') SLAG, SAND and GRAVEL-sized, medium dense to dense, brown and reddish brown with trace white then dark brownish gray at 7.5' bgs, dry to moist at 7' bgs then wet at 9.5' bgs, non-plastic, non-cohesive | | |
| | | 54.9 | | | | |
| 2 | | | | | | |
| | 90 | 230.5 | | | | |
| 3 | | | | | | |
| | | 65.7 | | | | |
| 4 | | | | | | |
| | | 420.8 | B20-013-SB-5 | | | |
| 5 | | | | | SW/GW | |
| | | 22.7 | | | | |
| 6 | | | | | | |
| | | 22.2 | | | | |
| 7 | | | | | | |
| | 86 | 60.8 | | | | |
| 8 | | | | | | |
| | | 11.7 | | | | |
| 9 | | | | | | |
| | | 0.5 | | | | Wet at 9.5' bgs |
| 10 | | | | End of Boring | | |
| | | | | | | |
| 11 | | | | | | |

Total Borehole Depth: 10' bgs due to water.

01-13-2021 \\mdfs01\Projects\EnviroAnalytics Group\20010220 EAG Parcel B20\Boring Logs\2_bor Logs\B20-013-SB.bor

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-014-SB/PZ

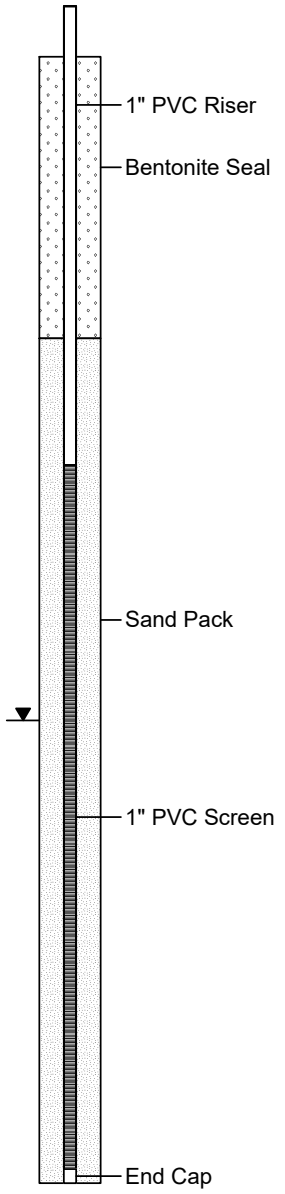
(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Soil Boring Installation Date | : 05/21/2020 |
| Piezometer Installation Date | : 05/21/2020 |
| Casing/Riser/Screen Type | : PVC |
| Borehole Diameter | : 2.25" |
| Riser/Screen Diameter | : 1" |
| Northing (US ft) | : 562153.12 |
| Easting (US ft) | : 1464093.43 |
| 48-Hr DTW | : 12.47' TOC |

No LNAPL or DNAPL detected at 0 or 48 hours

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | - | B20-014-SB-1 | (0-0.6') Non-native SILT with SAND, very fine, and trace GRAVEL, loose, vey pale brown, dry, non-plastic, non-cohesive | ML | Trace organics |
| | | 4.0 | | (0.6-2') Non-native SAND with SLAG GRAVEL, fine to medium, medium dense, pale brown with green sand and gray and green gravel, dry, non-plastic, non-cohesive | SW/GW | |
| | 76 | 21.1 | | | | |
| | | 276.5 | B20-014-SB-4 | (2-4.8') Non-native SAND and SLAG GRAVEL, medium dense, dark brown with gray, dry, non-plastic, non-cohesive | SW/GW | |
| | | 174.5 | | | | |
| 5 | | - | | (4.8-10') SLAG GRAVEL, coarse to COBBLE-sized with some fine, medium dense, grayish brown, brown, and gray, trace white at 8' bgs, dry then wet at 8.5' bgs, non-plastic, non-cohesive | GW | Wet at 8.5' bgs |
| | | - | | | | |
| | 66 | 65.5 | | | | |
| | | 305.4 | | | | |
| | | 0.6 | | | | |
| 10 | | - | | | | |
| | | - | | | | |
| | 34 | - | | | | |
| | | 0.3 | | (13.3-16') SLAG GRAVEL, fine to coarse, with some SILT, medium dense to dense, light gray, wet, non-plastic, non-cohesive | GW | |
| | | 0.2 | | | | |
| 15 | | | | | | |
| | 100 | - | | | | |
| | | | | End of Boring | | |




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

Riser Stickup: 3.04' ags
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: bentonite chips]

01-13-2021 \\mdfs01\Projects\EnviroAnalytics Group\20010220 EAG Parcel B20\Boring Logs\2_bor Logs\B20-014-SB PZ.bor

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-015-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/28/2020 |
| Weather | : Sunny, 70's |
| Northing (US ft) | : 562017.01 |
| Easting (US ft) | : 1463917.92 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | (0-0.2') CONCRETE, SAND and GRAVEL-sized | NA | |
| 1 | | - | B20-015-SB-1 | (0.2-1.6') Non-native SAND and SLAG, SAND and GRAVEL-sized, medium dense, grayish brown, dry, non-plastic, non-cohesive | SW/GW | |
| 2 | 80 | 0.3<br>1.7 | | (1.6-10') SLAG, SAND and GRAVEL-sized with trace SILT, medium dense to dense, brownish gray and gray, then dark brown 7.5-10' bgs, dry to moist, non-plastic, non-cohesive | | |
| 3 | | 0.0 | | | | |
| 4 | | 0.0 | | | | |
| 5 | | - | | | SW/GW | |
| 6 | | 131.0 | | | | |
| 7 | 78 | 377.6 | B20-015-SB-8 | | | |
| 8 | | 42.2 | | | | |
| 9 | | 15.2 | | | | |
| 10 | | | | | | Wet at 9.7' bgs |
| | | | | End of Boring | | |
| 11 | | | | | | |

Total Borehole Depth: 10' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-016-SB



| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/28/2020 |
| Weather | : Cloudy, 70's |
| Northing (US ft) | : 561955.90 |
| Easting (US ft) | : 1463949.86 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| | | 3.7 | B20-016-SB-1 | (0-0.8') Non-native SAND, fine to medium, loose to medium dense, very pale brown, dry, non-plastic, non-cohesive | SW | |
| 1 | | 4.9 | | (0.8-10') SLAG, SAND and GRAVEL-sized, medium dense to dense, grayish brown and gray, dry to moist, then wet at 9' bgs, non-plastic, non-cohesive | | |
| 2 | 94 | 65.5 | | | | |
| 3 | | 36.6 | | | | |
| 4 | | 13.4 | | | | |
| 5 | | - | | | SW/GW | |
| 6 | | 33.9 | | | | |
| 7 | 74 | 63.9 | B20-016-SB-8 | | | |
| 8 | | 10.5 | | | | |
| 9 | | 11.5 | | | | Wet at 9' bgs |
| 10 | | | | End of Boring | | |
| 11 | | | | | | |

Total Borehole Depth: 10' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-017-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI/Connelly |
| Driller | : D. Marchese/R. Mohler |
| Drilling Equipment | : Geoprobe 7822DT/Sonic |

| | |
|---|---|
| Date | : 05/28/2020; 10/15/2020 |
| Weather | : Cloudy, 70's, Sunny 70's |
| Northing (US ft) | : 561895.77 |
| Easting (US ft) | : 1463958.73 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 1 | 96 | 0.0 | B20-017-SB-1 | (0-2.5') Non-native SAND, fine to medium, with some BRICK GRAVEL from 2.4-2.5' bgs, loose to medium dense, very pale brown with strong brown 2.2-2.3' bgs, dry, non-plastic, non-cohesive | SW | |
| 2 | | 8.7 | | | | |
| 3 | | 0.0 | | (2.5-4') SLAG, SAND and GRAVEL-sized, medium dense, dark brown, gray, and light gray, dry, non-plastic, non-cohesive | SW/GW | |
| 4 | | 4.5 | | | | |
| 5 | | 6.6 | | (4-5.5') CONCRETE, SAND and GRAVEL-sized, dry, light red | NA | |
| 6 | 100 | 1.1 | | (5.5-6') SLAG, SAND and GRAVEL-sized, dense, dark brown, gray, and light gray, dry, non-plastic, non-cohesive | SW/GW | |
| 7 | | 23.9 | | (6-15') SLAG, GRAVEL-sized with some SAND-sized, loose to medium dense, brown and gray, dry, non-plastic, non-cohesive | | |
| 8 | | 45.7 | | | | |
| 9 | | 81.1 | B20-017-SB-9 | | | |
| 10 | | 17.6 | | | | Wet at 9.5' bgs |
| 11 | 100 | 1.3 | | | GW/SW | |
| 12 | | 2.8 | | | | |
| 13 | | 17.8 | | | | |
| 14 | | 16.0 | | | | |
| 15 | | 3.6 | | End of Boring | | |
| 16 | | | | | | |

Total Borehole Depth: 15' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-018-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/28/2020 |
| Weather | : Cloudy, 70's |
| Northing (US ft) | : 561828.32 |
| Easting (US ft) | : 1463937.89 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| | | 4.3 | B20-018-SB-1 | (0-0.8') Non-native SAND, fine to coarse, loose to medium strong brown, dry, non-plastic, non-cohesive | SW | |
| 1 | | | | (0.8-1.0') GRAVEL, coarse, loose, gray, dry, non-plastic, non-cohesive | GP | |
| | | 46.6 | | (1.0-1.6') Non-native SAND with SLAG GRAVEL, fine to coarse, medium dense, dark brown with gray, dry, non-plastic, non-cohesive | SW/GW | |
| 2 | 96 | 17.8 | | (1.6-10') SLAG, SAND and GRAVEL-sized, grading to SLAG, GRAVEL-sized, fine to coarse, medium dense to dense, light gray, dry then moist at 7' bgs, wet at 9.8' bgs, non-plastic, non-cohesive | | |
| 3 | | 16.9 | B20-018-SB-4 | | | |
| 4 | | 6.5 | | | | |
| 5 | | - | | | SW/GW | |
| 6 | | - | | | | |
| 7 | 70 | 5.0 | | | | |
| 8 | | 0.4 | | | | |
| 9 | | 0.1 | | | | |
| 10 | | | | | | Wet at 9.8' bgs |
| | | | | End of Boring | | |
| 11 | | | | | | |

Total Borehole Depth: 10' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-019-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/28/2020 |
| Weather | : Drizzle, 60's |
| Northing (US ft) | : 561830.67 |
| Easting (US ft) | : 1464006.38 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| | | - | B20-019-SB-1 | (0-0.6') Non-native SAND, fine to coarse, with trace CONCRETE GRAVEL, loose, yellowish red and very pale brown, dry, non-plastic, non-cohesive | SW | |
| | | | | (0.6-0.9') ASPHALT | NA | |
| 1 | | | | (0.9-7') SLAG GRAVEL, SAND and GRAVEL-sized, medium dense to dense, grayish brown but dark brown 2.7-2.2' bgs, reddish brown and grayish brown 2.2-7' bgs, dry then moist at 6.8' bgs, non-plastic, non-cohesive | | |
| | | 3.3 | | | | |
| 2 | | | | | | |
| | 92 | 1.3 | | | | |
| 3 | | | | | | |
| | | 3.4 | | | | |
| 4 | | | | | SW/GW | No water encountered |
| | | 1.1 | | | | |
| 5 | | | | | | |
| | | 1.5 | | | | |
| 6 | 100 | | | | | |
| | | 20.6 | B20-019-SB-7 | | | |
| 7 | | | | End of Boring | | |
| | | | | | | |
| 8 | | | | | | |

Total Borehole Depth: 7' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-020-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/19/2020 |
| Weather | : Cloudy, 60's |
| Northing (US ft) | : 561887.56 |
| Easting (US ft) | : 1464199.67 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 1 | 76 | - | B20-020-SB-1 | (0-4') SLAG, SAND and GRAVEL-sized, medium dense, grayish brown and gray, dry, non-plastic, non-cohesive | SW/GW | No water encountered |
| 2 | | 0.2 | | | | |
| 3 | | 0.2 | | | | |
| 4 | | 1.4 | | | | |
| 5 | 90 | 0.1 | B20-020-SB-5 | (4-5.8') SAND, very fine to medium, medium dense, yellow, dry to moist, non-plastic, non-cohesive | SW/GW | |
| 6 | | 2.0 | | (5.8-7') SLAG, SAND and GRAVEL-sized, medium dense, grayish brown and gray, dry then moist at 6.6' bgs, non-plastic, non-cohesive | SW/GW | |
| 7 | | 1.8 | | End of Boring | | |
| 8 | | | | | | |

Total Borehole Depth: 7' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-021-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/21/2020 |
| Weather | : Sunny, 70's |
| Northing (US ft) | : 561878.39 |
| Easting (US ft) | : 1464176.82 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 1 | 84 | 0.2 | B20-021-SB-1 | (0-4') SLAG, SAND and GRAVEL-sized, medium dense, gray and brownish gray, dry, non-plastic, non-cohesive | SW/GW | |
| 2 | | 0.2 | | | | |
| 3 | | 5.3 | | | | |
| 4 | | 6.1 | | | | |
| 5 | | 0.3 | B20-021-SB-5 | (4-8') SAND, very fine to medium, medium dense to loose, yellow, dry, non-plastic, non-cohesive | SW | |
| 6 | 80 | - | | | | |
| 7 | | 1.3 | | | | |
| 8 | | 0.5 | | (8-10') SLAG GRAVEL, fine to coarse, with COBBLES at 9' bgs, medium dense to dense, gray, dry then wet at 8.5' bgs, non-plastic, non-cohesive | GW | Wet at 8.5' bgs |
| 9 | | 0.4 | | | | |
| 10 | | 0.2 | | End of Boring | | |
| 11 | | | | | | |

Total Borehole Depth: 10' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-022-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI/Connelly |
| Driller | : D. Marchese/R. Mohler |
| Drilling Equipment | : Geoprobe 7822DT/Sonic |

| | |
|---|---|
| Date | : 05/15/2020; 10/14/2020 |
| Weather | : Sunny, 80's; Sunny 70's |
| Northing (US ft) | : 562178.08 |
| Easting (US ft) | : 1464728.38 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 0 | | 0.3 | B20-022-SB-1 | (0-0.5') Non-native SILTY SAND and GRAVEL, fine, loose, white, dry, non-plastic, non-cohesive | SM/GP | |
| 1 | | 0.8 | | (0.5-3') Non-native SAND and SLAG GRAVEL with some SILT 2.5-2.8' bgs, medium dense to dense, grayish brown with some white 2.5-2.8' bgs, dry, non-plastic, non-cohesive | SW/GW | |
| 2 | 92 | 0.1 | | | | |
| 3 | | 5.0 | | (3-10') Non-native SAND and SLAG, SAND and GRAVEL-sized, loose to medium dense, brown to dark brown with some gray, dry then wet at 9.5' bgs, non-plastic, non-cohesive | | |
| 4 | | 15.7 | | | | |
| 5 | | 2.7 | | | | |
| 6 | | 16.7 | | | SW/GW | |
| 7 | 100 | 18.5 | | | | |
| 8 | | 31.0 | B20-022-SB-9 | | | |
| 9 | | 1.1 | | | | Wet at 9.5' bgs |
| 10 | | 1.3 | | (10-15') SLAG, SAND and GRAVEL-sized, loose to medium dense, dark brown, wet, non-plastic, non-cohesive, trace SILT | | |
| 11 | | 2.5 | | | | |
| 12 | 100 | 8.5 | | | GW/SW | |
| 13 | | 78.3 | | | | |
| 14 | | 24.9 | | | | |
| 15 | | | | End of Boring | | |
| 16 | | | | | | |

Total Borehole Depth: 15' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-023-SB



| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/15/2020 |
| Weather | : Sunny, 80's |
| Northing (US ft) | : 562162.18 |
| Easting (US ft) | : 1464752.28 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 1 | 80 | - | B20-023-SB-1 | (0-1.2') Non-native SILTY SAND with some GRAVEL, fine, very light brown, dry, non-plastic, non-cohesive | SM/GP | |
| 2 | | 0.1 | | (1.2-10') Non-native SAND and SLAG, SAND and GRAVEL-sized, medium dense to dense, dark brown with trace yellow, dry then moist at 6.5' bgs, wet at 8.8' bgs, non-plastic, non-cohesive | | |
| 3 | | 9.3 | | | | |
| 4 | | 0.0 | | | | |
| 5 | | 0.0 | B20-023-SB-5 | | | |
| 6 | 70 | - | | | SW/GW | |
| 7 | | 0.0 | | | | |
| 8 | | 0.0 | | | | |
| 9 | | 0.0 | | | | Wet at 8.8' bgs |
| 10 | | 2.8 | | End of Boring | | |
| 11 | | | | | | |

Total Borehole Depth: 10' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-024-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI/Connelly |
| Driller | : D. Marchese/R. Mohler |
| Drilling Equipment | : Geoprobe 7822DT/Sonic |

| | |
|---|---|
| Date | : 05/21/2020;10/13/2020 |
| Weather | : Cloudy, 70's; Cloudy 60's |
| Northing (US ft) | : 561883.69 |
| Easting (US ft) | : 1463589.39 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 0 | 100 | 0.2 | B20-024-SB-1 | (0-0.3') Non-native SAND, very fine to medium, with trace GRAVEL, very pale brown to white, dry, non-plastic, non-cohesive | SW | |
| 1 | | 5.5 | | (0.3-1') Non-native SAND and SLAG GRAVEL, loose to medium dense, grayish brown, dry, non-plastic, non-cohesive | SW/GW | |
| 2 | | 20.1 | | (1-5') SLAG GRAVEL with some SAND-sized, loose to medium dense, brown grading to light gray, dry, non-plastic, non-cohesive | GW | |
| 3 | | 89.2 | B20-024-SB-4 | | | |
| 4 | | 16.2 | | | | |
| 5 | 80 | - | | (5-8.5') CONCRETE, SAND and GRAVEL-sized, white and grayish green, dry, non-plastic, non-cohesive | NA | |
| 6 | | 1.0 | | | | |
| 7 | | 3.9 | | | | |
| 8 | | 3.9 | | | | |
| 9 | | 8.9 | B20-024-SB-10 | (8.5-9.5') Non-native SAND and SILT with CONCRETE GRAVEL, loose, dark brown, dry, non-plastic, non-cohesive | SW-SM | |
| 10 | | - | | (9.5-11') SILT with some SAND, hard, dark brown, moist, non-plastic, non-cohesive | ML | |
| 11 | | - | | (11-15') SLAG, GRAVEL-sized, with some SAND-sized, loose to medium dense, brown and light gray, wet, non-plastic, non-cohesive | | |
| 12 | 50 | 0.8 | | | | Wet at 12.5' bgs |
| 13 | | 1.6 | | | GW | |
| 14 | | 15.3 | | | | |
| 15 | | | | End of Boring | | |
| 16 | | | | | | |

Total Borehole Depth: 15' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-025-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : Connelly |
| Driller | : R. Mohler |
| Drilling Equipment | : Sonic |

| | |
|---|---|
| Date | : 10/13/2020 |
| Weather | : Cloudy 60's |
| Northing (US ft) | : 561648.90 |
| Easting (US ft) | : 1463566.67 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 1 | 60 | - | B20-025-SB-1 | (0-4') SLAG/FILL, SAND and GRAVEL-sized, with some SILT, loose, brown, wet, non-plastic, non-cohesive | SW/GW | |
| 2 | | - | | | | |
| 3 | | 73.2 | | | | |
| 4 | | 7.7 | | | | |
| 5 | | 22.8 | | (4-5') CONCRETE, or UNKNOWN material, GRAVEL-sized to COBBLES, light green, wet, non-plastic, non-cohesive | NA | |
| 6 | 100 | 74.4 | | (5-6.5') CONCRETE, SAND and GRAVEL-sized, loose, white to light gray, dry, non-plastic, non-cohesive | NA | |
| 7 | | 182.0 | B20-025-SB-7 | (6.5-7') Non-native SAND with some GRAVEL and trace CLAY, loose, strong brown, dry, non-plastic, non-cohesive | SW/GW | |
| 8 | | 65.1 | | (7-9') CONCRETE, SAND and GRAVEL-sized, loose, white to light gray, dry, non-plastic, non-cohesive | NA | |
| 9 | | 97.0 | | | | Wet at 9' bgs |
| 10 | | 76.8 | | (9-15') SLAG/FILL, GRAVEL-sized, with some SAND-sized and trace SILT, loose to medium dense, brown, wet, non-plastic, non-cohesive | | |
| 11 | 100 | 2.2 | | | | |
| 12 | | 8.3 | | | GW | |
| 13 | | 19.4 | | | | |
| 14 | | 25.6 | | | | |
| 15 | | 15.9 | | End of Boring | | |
| 16 | | | | | | |

Total Borehole Depth: 15' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-026-SB



| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/12/2020 |
| Weather | : Sunny, 60's |
| Northing (US ft) | : 560872.71 |
| Easting (US ft) | : 1464741.52 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| | | - | B20-026-SB-1 | (0-0.8') SILTY SAND with trace GRAVEL and ORGANICS, loose, light grayish brown, dry, non-plastic, non-cohesive | SM | |
| 1 | | 0.0 | | (0.8-2') Non-native SAND and SLAG, SAND and GRAVEL-sized, medium dense, light grayish brown then black at 1.5' bgs, dry, non-plastic, non-cohesive | SW/GW | |
| 2 | 82 | 13.2 | | (2-10') SLAG GRAVEL, fine to coarse, with some SAND-sized SLAG, medium dense to dense, light grayish brown, gray, and light gray, dry then wet at 7.5' bgs, non-plastic, non-cohesive | | |
| 3 | | 0.4 | | | | |
| 4 | | 4.4 | B20-026-SB-5 | | | |
| 5 | | - | | | | |
| 6 | | - | | | GW | |
| 7 | 50 | 0.0 | | | | Wet at 7.5' bgs |
| 8 | | 0.6 | | | | |
| 9 | | 1.0 | | | | |
| 10 | | | | End of Boring | | |
| 11 | | | | | | |

Total Borehole Depth: 10' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-027-SB/PZ

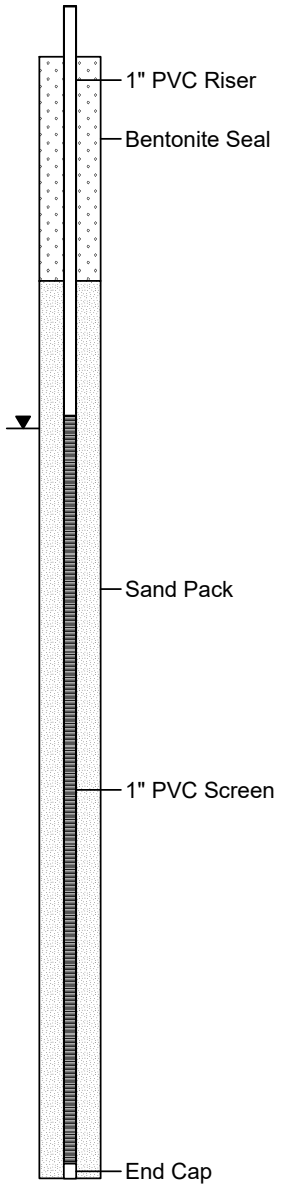
(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Soil Boring Installation Date | : 05/19/2020 |
| Piezometer Installation Date | : 05/19/2020 |
| Casing/Riser/Screen Type | : PVC |
| Borehole Diameter | : 2.25" |
| Riser/Screen Diameter | : 1" |
| Northing (US ft) | : 561284.35 |
| Easting (US ft) | : 1464619.55 |
| 48-Hr DTW | : 8.09' TOC |

No LNAPL or DNAPL detected at 0 or 48 hours

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS |
|---|---|---|---|---|---|
| 0 | | - | B20-027-SB-1 | (0-1.3') Non-native SAND with some GRAVEL, very fine to fine, loose to medium dense, very pale brown then brown at 2' bgs, dry, non-plastic, non-cohesive | SW |
| | | - | | (1.3-3') Non-native SAND and SLAG GRAVEL, fine to coarse, dark brown, grayish brown, and gray, dry, non-plastic, non-cohesive | SW/GW |
| | 64 | 1.5 | | | |
| | | 5.0 | B20-027-SB-4 | (3-15') SLAG GRAVEL, fine to coarse with some COBBLES, medium dense, dark gray and gray, dry then wet at 5.5' bgs, non-plastic, non-cohesive | |
| | | 0.0 | | | |
| 5 | | - | | | |
| | 90 | 9.4 | | | |
| | | 6.9 | | | |
| | | 7.8 | | | GW |
| | | 0.0 | | | |
| 10 | | - | | | |
| | | - | | | |
| | 20 | - | | | |
| | | - | | | |
| | | - | | | |
| 15 | | - | | End of Boring | |




REMARKS: Wet at 5.5' 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

Riser Stickup: 3.12' ags
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: bentonite chips]

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-028-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI/Connelly |
| Driller | : D. Marchese/R. Mohler |
| Drilling Equipment | : Geoprobe 7822DT/Sonic |

| | |
|---|---|
| Date | : 05/18/2020; 10/12/2020 |
| Weather | : Sunny, 50's; Drizzle, 60's |
| Northing (US ft) | : 561338.10 |
| Easting (US ft) | : 1463867.37 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 0 | 100 | 0.0 | B20-028-SB-1 | (0-0.5') Non-native SAND with some GRAVEL, very fine to fine, loose to medium dense, very pale brown, dry, non-plastic, non-cohesive | SW | |
| 1 | | 0.0 | | (0.5-3') Non-native SAND, medium to very coarse, with some non-native GRAVEL, medium dense, strong brown 0.5-1.5' bgs, yellow 1.5-1.7' bgs, strong brown 1.7-2.6' bgs, then pale brown 2.6-3' bgs, dry then very moist at 1.8' bgs, non-plastic, non-cohesive | SW/GW | |
| 2 | | 0.3 | | | | |
| 3 | | 1.2 | | (3-4.5') SLAG, SAND and GRAVEL-sized, loose to medium dense, dry, non-plastic, non-cohesive | SW/GW | |
| 4 | | 4.5 | B20-028-SB-5 | | | |
| 5 | 100 | 0.0 | | (4.5-11') CLAY, hard, grayish brown, gray, and light brown, dry, low plasticity, cohesive | CL | |
| 6 | | 0.2 | | | | |
| 7 | | 0.3 | | | | |
| 8 | | 0.8 | | | | |
| 9 | | 1.2 | B20-028-SB-10 | | | |
| 10 | 60 | - | | (11-13.5') SAND with some SILT, very fine to very coarse, loose to medium dense, grayish brown, wet, non-plastic, non-cohesive | SW | Wet at 12' bgs |
| 11 | | - | | | | |
| 12 | | 0.1 | | | | |
| 13 | | 0.1 | | (13.5-15') CLAY, soft to firm, grayish brown, moist to very moist, low plasticity, cohesive | CL | |
| 14 | | 0.1 | | | | |
| 15 | | | | End of Boring | | |
| 16 | | | | | | |

Total Borehole Depth: 15' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-029-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/15/2020 |
| Weather | : Cloudy, 70's |
| Northing (US ft) | : 561004.62 |
| Easting (US ft) | : 1462721.95 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 0 | 56 | - | B20-029-SB-1 | (0-0.5) ORGANIC SILT with some SLAG GRAVEL, loose to medium dense, black, dry, non-plastic, non-cohesive | OL | Organic matter |
| 1 | | - | | (0.5-4') Non-native SAND and SLAG GRAVEL, medium dense, brown with dark gray, dry, non-plastic, non-cohesive | SW/GW | |
| 2 | | 0.0 | | | | |
| 3 | | 0.0 | | | | |
| 4 | | 0.0 | B20-029-SB-5 | (4-6') SILTY SAND, very fine to fine, with some SLAG GRAVEL, fine, dark brown with trace pale yellow, moist, non-plastic, non-cohesive | SM | |
| 5 | 60 | - | | | | |
| 6 | | - | | (6-8.2') SLAG GRAVEL and non-native SAND, medium dense, dry then wet at 7.3' bgs, non-plastic, non-cohesive | GW/SW | Wet at 7.3' bgs |
| 7 | | 0.0 | | | | |
| 8 | | 0.0 | | (8.2-8.5') Non-native SILTY SAND, with some fine SLAG GRAVEL, medium dense, brown to dark brown, wet, non-plastic, non-cohesive | SM/GP | |
| 9 | | 0.0 | | (8.5-10') SLAG GRAVEL with some SILT and SAND-sized SLAG, medium dense to dense, light gray, wet, non-plastic, non-cohesive | GW | |
| 10 | | | | End of Boring | | |
| 11 | | | | | | |

Total Borehole Depth: 10' bgs due to water.

01-13-2021 \\mdfs01\Projects\EnviroAnalytics Group\20010220 EAG Parcel B20\Boring Logs\2_bor Logs\B20-029-SB.bor

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-030-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/15/2020 |
| Weather | : Sunny, 70's |
| Northing (US ft) | : 563679.58 |
| Easting (US ft) | : 1464586.26 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 1 | 64 | - | B20-030-SB-1 | (0-1') SILT with SAND, loose to medium dense, dark brown, dry, non-plastic, non-cohesive | ML | Trace organics |
| 2 | | - | | (1-2.5') SLAG SAND and GRAVEL-sized, medium dense, very light gray, dry, non-plastic, non-cohesive | SW/GW | |
| 3 | | 0.0 | | (2.5-3.6') CINDER BALLAST, loose to medium dense, black, dry, non-plastic, non-cohesive | NA | |
| 4 | | 0.0 | | (3.6-10') SLAG GRAVEL with trace SAND and SLAG, SILT-sized, dense, very light gray and brown with trace white, dry then wet at 6' bgs, non-plastic, non-cohesive | | |
| 5 | | 0.0 | B20-030-SB-5 | | | |
| 6 | 94 | 0.0 | | | GW | Wet at 6' bgs |
| 7 | | 0.0 | | | | |
| 8 | | 0.0 | | | | |
| 9 | | 0.0 | | | | |
| 10 | | | | End of Boring | | |
| 11 | | | | | | |

Total Borehole Depth: 10' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-031-SB/PZ

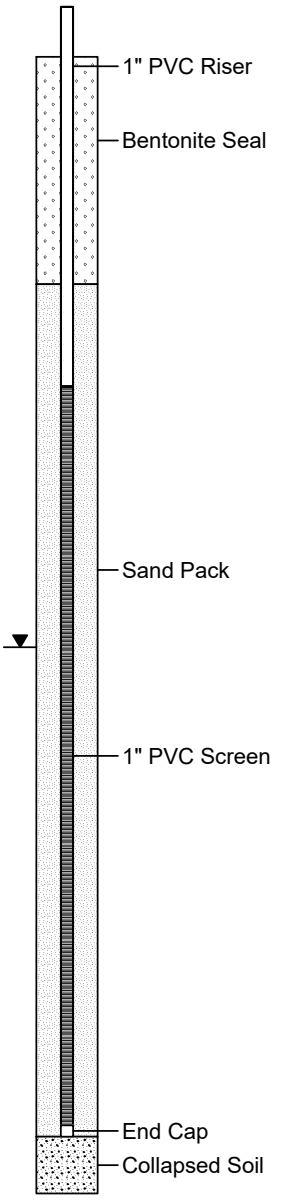


| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Soil Boring Installation Date | : 05/14/2020 |
| Piezometer Installation Date | : 05/14/2020 |
| Casing/Riser/Screen Type | : PVC |
| Borehole Diameter | : 2.25" |
| Riser/Screen Diameter | : 1" |
| Northing (US ft) | : 563312.16 |
| Easting (US ft) | : 1464289.39 |
| 48-Hr DTW | : 13.39 TOC |

No LNAPL or DNAPL detected at 0 or 48 hours

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | 84 | - | B20-031-SB-1 | (0-0.5') SILT with SAND, loose, dark brown, dry, non-plastic, non-cohesive, ORGANICS present | ML | Moss at surface |
| | | 1.2 | | (0.5-11') SLAG GRAVEL, SAND and GRAVEL-sized, medium dense to dense, light gray, brown, and white, dry to moist, wet 7-8.5' bgs,non-plastic, non-cohesive | | |
| | | 2.1 | | | | |
| | | 0.2 | | | | |
| | | 0.1 | B20-031-SB-5 | | | |
| 5 | 86 | - | | | SW/GW | |
| | | 0.4 | | | | |
| | | 0.5 | | | | |
| | | 0.8 | | | | |
| | | 0.1 | | | | |
| 10 | 60 | - | | (11-12') SILT with SAND, possible coke ash, soft, white, wet, non-plastic, non-cohesive | ML | Wet at 12' bgs |
| | | - | | (12-20') SLAG, GRAVEL and SAND-sized, medium dense to dense, dark gray grading to greenish gray, wet, non-plastic, non-cohesive | | |
| | | 0.5 | | | | |
| | | 0.1 | | | | |
| | | 0.1 | | | | |
| 15 | 70 | - | | | GW/SW | |
| | | 0.0 | | | | |
| | | 0.0 | | | | |
| | | 0.0 | | | | |
| | | 0.0 | | | | |
| 20 | | | | End of Boring | | |




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

Riser Stickup: 3.00' ags
Riser: 0 - 6' bgs
Screen: 6 - 19' bgs [Slot Size: 0.010"]
Sand Pack: 4 - 19' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 4' bgs [Grain Size: bentonite chips]

01-13-2021 \\mdfs01\Projects\EnviroAnalytics Group\20010220 EAG Parcel B20\Boring Logs\2_bor Logs\B20-031-SB PZ.bor

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-032-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Date | : 05/14/2020 |
| Weather | : |
| Northing (US ft) | : 562448.77 |
| Easting (US ft) | : 1464354.91 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| | | - | B20-032-SB-1 | (0-0.8') SILT with SAND, loose to medium dense, dark brown, dry, non-plastic, non-cohesive | ML | Organics present |
| 1 | | 0.6 | | (0.8-1.9') Non-native SAND with SLAG, SAND and GRAVEL-sized, with some SILT, medium dense, brown then pale brown at 1.4' bgs, dry, non-plastic, non-cohesive | SW/GW | |
| 2 | 82 | 12.4 | | (1.9-10') SLAG GRAVEL with some SAND-sized SLAG, medium dense to dense, dark brown, light grayish brown, and light gray, dry then wet at 8.8' bgs, non-plastic, non-cohesive | | |
| 3 | | 4.5 | | | | |
| 4 | | 1.5 | B20-032-SB-5 | | | |
| 5 | | - | | | GW/SW | |
| 6 | | - | | | | |
| 7 | 72 | 2.4 | | | | |
| 8 | | 3.1 | | | | |
| 9 | | 0.5 | | | | Wet at 8.8' bgs |
| 10 | | | | End of Boring | | |
| 11 | | | | | | |

Total Borehole Depth: 10' bgs due to water.

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-033-SB/PZ

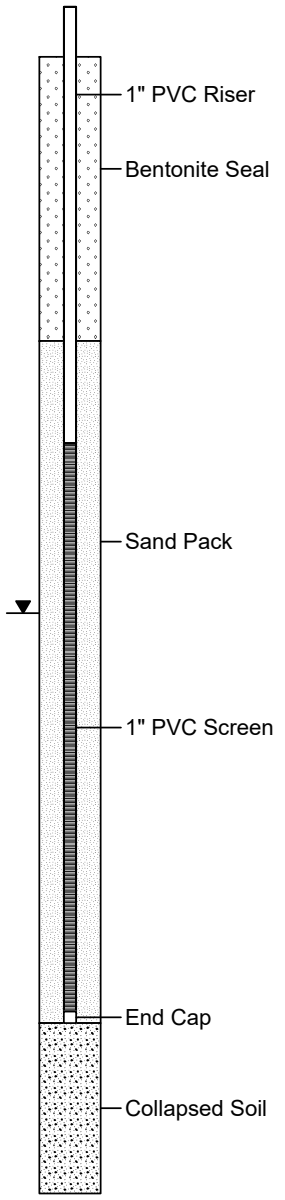


| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Soil Boring Installation Date | : 05/14/2020 |
| Piezometer Installation Date | : 05/14/2020 |
| Casing/Riser/Screen Type | : PVC |
| Borehole Diameter | : 2.25" |
| Riser/Screen Diameter | : 1" |
| Northing (US ft) | : 562758.38 |
| Easting (US ft) | : 1464245.46 |
| 48-Hr DTW | : 12.70' TOC |

No LNAPL or DNAPL detected at 0 or 48 hours

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | - | B20-033-SB-1 | (0-0.6') SILT with SAND, loose, dark brown, dry, non-plastic, non-cohesive | ML | |
| | 90 | 0.2<br>0.9<br>0.9 | | (0.6-3.5') Non-native SAND and SLAG GRAVEL, SAND and GRAVEL-sized, medium dense to dense, dark brown, gray, and brown with trace red, and gray, dry, non-plastic, non-cohesive | SW/GW | |
| 5 | | 33.9 | B20-033-SB-5 | (3.5-11.3') SLAG GRAVEL, fine to coarse with some SAND-sized SLAG, medium dense to dense, dark brown, light grayish brown, and dark gray, very moist then wet at 9.4' bgs, non-plastic, non-cohesive | GW | Wet at 9.4' bgs |
| | 86 | -<br>0.3<br>1.1<br>0.2<br>0.1 | | | | |
| 10 | | - | | (11.3-20') SLAG GRAVEL with some SAND-sized SLAG and trace SILT, dense, dark gray, wet, non-plastic, non-cohesive | GW | |
| | 54 | -<br>0.0<br>0.1<br>0.3 | | | | |
| 15 | | - | | | | |
| | 70 | 0.0<br>0.0<br>0.0<br>0.0 | | | | |
| 20 | | | | End of Boring | | |




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

Riser Stickup: 2.91' ags
Riser: 0 - 7' bgs
Screen: 7 - 17' bgs [Slot Size: 0.010"]
Sand Pack: 5 - 17' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 5' bgs [Grain Size: bentonite chips]

ARM Group LLC
Engineers and Scientists

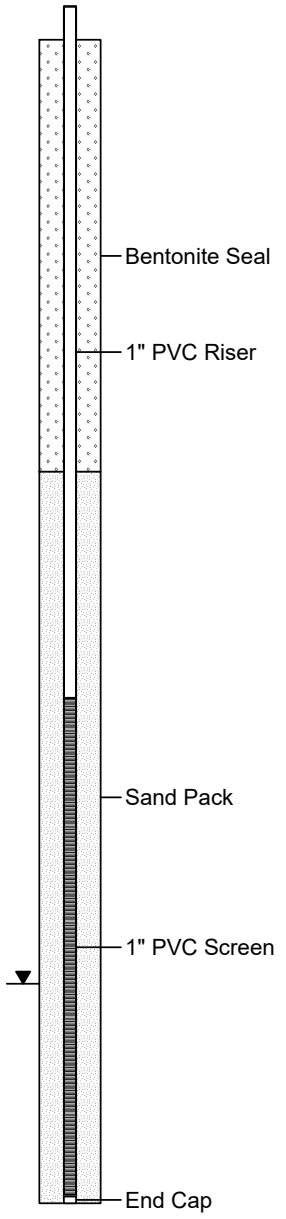
# Boring ID: B20-034-SB/PZ

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI/Connelly |
| Driller | : D. Marchese/R. Mohler |
| Drilling Equipment | : Geoprobe 7822DT/Sonic |

| | |
|---|---|
| Soil Boring Installation Date | : 05/19/20; 10/15/20 |
| Piezometer Installation Date | : 10/15/2020 |
| Casing/Riser/Screen Typer | : 2 inch |
| Borehold Diameter | : |
| Riser/Screen Diameter | : 2 inch |
| Northing (US ft) | : 562327.79 |
| Easting (US ft) | : 1463897.03 |
| 48-Hr DTW | : 29.40' TOC |
| No LNAPL or DNAPL detected | : |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS |
|---|---|---|---|---|---|
| 0–5 | 92 | 12.1, 22.0, 11.2, 0.0, 0.0 | B20-034-SB-1 | (0-2.5') SLAG, SAND and GRAVEL-sized, with some SILT at 0-0.3' bgs, medium dense to dense, light grayish brown and gray, dry, non-plastic, non-cohesive | SW/GW |
| 5–10 | 90 | 3.5, 8.8, 6.9, 45.0, 0.5 | B20-034-SB-9, B20-034-SB-10 | (2.5-7.6') Non-native SAND, medium to coarse, with trace GRAVEL, coarse, medium dense to dense, very pale brown to pale brown, dry, non-plastic, non-cohesive | SW |
| 10–15 | 50 | -, -, 10.5, 22.6, - | | (7.6-27') SLAG, SAND and GRAVEL-sized, medium dense, dark brown and gray, dry to moist then very moist at 20' bgs, non-plastic, non-cohesive | SW/GW |
| 15–20 | 100 | 60.5, 116.4, 25.6, 41.4, 85.9 | | | |
| 20–25 | 100 | 4.5, 20.1, 10.6, 34.6, 18.8 | | | |
| 25–30 | 80 | -, 17.6, 24.8, 39.5, 22.4 | | (27-33') SLAG, GRAVEL to COBBLE-sized, loose, light gray, wet, non-plastic, non-cohesive, no cobbles 30-33' bgs | GW |
| 30–35 | 80 | -, 4.9, .4, 10.1, 14.0 | | (33-35') SLAG, SAND and GRAVEL-sized, medium dense, light gray to greenish gray, wet, non-plastic, non-cohesive | GW/SW |
| 35–36 | | | | End of Boring | |




REMARKS: Wet at 25' bgs

Boring terminated at 35' bgs due to water and piezometer installation
TOC: Top of PVC casing
DTW: Depth to water
bgs: Below ground surface

Riser Stickup: 3.15' ags
Riser: 0 - 20' bgs
Screen: 20 - 35' bgs [Slot Size: 0.010"]
Sand Pack: 13 - 35' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 13' bgs [Grain Size: bentonite chips]

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-035-SB/PZ

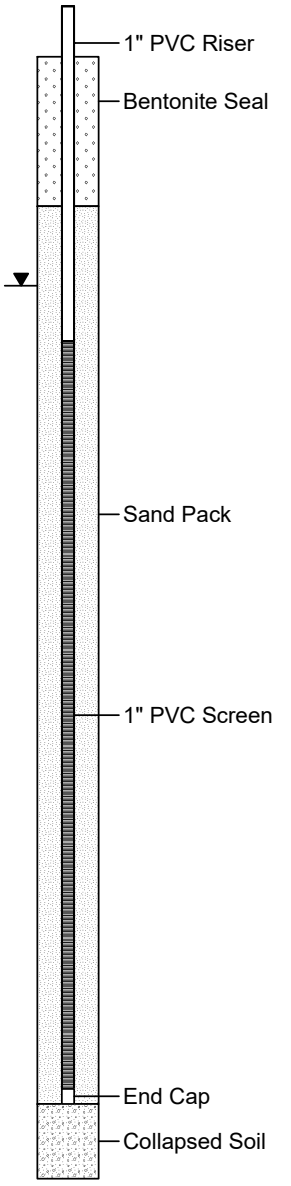
(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI |
| Driller | : D. Marchese |
| Drilling Equipment | : Geoprobe 7822DT |

| | |
|---|---|
| Soil Boring Installation Date | : 05/15/2020 |
| Piezometer Installation Date | : 05/15/2020 |
| Casing/Riser/Screen Type | : PVC |
| Borehole Diameter | : 2.25" |
| Riser/Screen Diameter | : 1" |
| Northing (US ft) | : 561631.32 |
| Easting (US ft) | : 1462991.08 |
| 48-Hr DTW | : 6.81' TOC |

No LNAPL or DNAPL detected at 0 or 48 hours

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS |
|---|---|---|---|---|---|
| 0 | | - | B20-035-SB-1 | (0-0.7') Non-native SAND, fine to medium, loose to medium dense, yellowish brown, dry, non-plastic, non-cohesive | SW |
| | | 0.0 | | (0.7-2.7') Non-native SAND, medium to very coarse then medium to coarse at 1.9' bgs, with lenses of solidified SAND, very pale brown with grayish green, then grayish green at 1.9' bgs, then olive yellow at 2.4' bgs, very moist then moist at 1.9' bgs, non-plastic, non-cohesive | SW |
| | 84 | 0.0 | | | |
| | | 0.0 | B20-035-SB-4 | | SW |
| | | 2.0 | | (2.7-4') Non-native SAND with some SLAG GRAVEL, medium dense to dense, dark brown, trace moisture, non-plastic, non-cohesive | |
| 5 | | 0.0 | | (4-15') SLAG GRAVEL, fine to coarse, with some SAND-sized SLAG and SILT, medium dense grading to dense, brown and brownish gray, then dark gray to black 6-15' bgs, wet, non-plastic, non-cohesive | |
| | | - | | | |
| | 72 | 0.0 | | | |
| | | 0.0 | | | |
| | | 0.0 | | | GW |
| 10 | | - | | | |
| | | 0.0 | | | |
| | 64 | 0.0 | | | |
| | | 0.0 | | | |
| | | 0.0 | | | |
| 15 | | | | End of Boring | |




REMARKS: Wet at 4' 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

Riser Stickup: 3.75' ags
Riser: 0 - 4' bgs
Screen: 4 - 14' bgs [Slot Size: 0.010"]
Sand Pack: 2 - 14' bgs [Grain Size: WG #2]
Bentonite Seal: 0 - 2' bgs [Grain Size: bentonite chips]

ARM Group LLC
Engineers and Scientists

# Boring ID: B20-036-SB

(page 1 of 1)

| | |
|---|---|
| Client | : Tradepoint Atlantic |
| ARM Project No. | : 20010220 |
| Project Description | : Sparrows Point - Parcel B20 |
| Site Location | : Sparrows Point, MD |
| ARM Representative | : L. Perrin |
| Checked by | : M. Hritz, E.I.T. |
| Drilling Company | : GSI/Connelly |
| Driller | : D. Marchese/R. Mohler |
| Drilling Equipment | : Geoprobe 7822DT/Sonic |

| | |
|---|---|
| Date | : 05/19/2020; 10/14/2020 |
| Weather | : Sunny, 50's; Sunny 70s |
| Northing (US ft) | : 562197.95 |
| Easting (US ft) | : 1463752.28 |

| Depth (ft.) | % Recovery | PID Reading (PPM) | Sample No/Interval | DESCRIPTION | USCS | REMARKS |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 0 | 90 | - | B20-036-SB-1 | (0-1') Non-native SAND and SILT with coarse lenticular-shaped GRAVEL, loose to medium dense, very pale brown then grayish green at 0.8' bgs, dry, non-plastic, non-cohesive | SM/GP | No water encountered |
| 1 | | 0.2 | | | | |
| 2 | | 0.1 | | (1-3') Non-native SAND and GRAVEL, fine to coarse, with trace COBBLES, medium dense, dark brown and very pale brown, dry, non-plastic, non-cohesive | SW/GW | |
| 3 | | 31.2 | | (3-10') Non-native SAND and SLAG, SAND and GRAVEL-sized, loose, dark brown then grayish brown at 4' bgs, very moist then dry at 4' bgs, then moist at 9.5' bgs, non-plastic, non-cohesive | | |
| 4 | | 5.7 | | | | |
| 5 | 100 | 3.9 | | | | |
| 6 | | 5.8 | | | SW/GW | |
| 7 | | 25.1 | | | | |
| 8 | | 115.1 | B20-036-SB-9 | | | |
| 9 | | 55.9 | B20-036-SB-10 | | | |
| 10 | 100 | 43.3 | | (10-18') SLAG, SAND and GRAVEL-sized, loose to medium dense, grayish brown to reddish brown with gray, dry to moist then very moist at 15' bgs, non-plastic, non-cohesive | | |
| 11 | | 104.5 | | | | |
| 12 | | 187.0 | | | | |
| 13 | | 120.4 | | | | |
| 14 | | 124.5 | | | SW/GW | |
| 15 | 80 | - | | | | |
| 16 | | 24.2 | | | | |
| 17 | | 34.8 | | | | |
| 18 | | 5.0 | | (18-20') SLAG, SAND and GRAVEL-sized, with some SILT, medium dense, light gray and brown, dry, non-plastic, non-cohesive | | Metal shards 18-20' bgs |
| 19 | | 34.9 | | | SW/GW | |
| 20 | | | | End of Boring | | |
| 21 | | | | | | |

Total Borehole Depth: 20' bgs due to Work Plan.

# APPENDIX C

A|I|DATA
WHAT'S UNDERGROUND
Underground Utility Locating, Surveying, Mapping and Data Management

Accurate Infrastructure Data, Inc.
1123 Hanzlik Avenue
Baltimore, MD 21237
Phone: 410-686-5091
Fax: 410-686-5093
Free: 1-888-686-5091

**Tradepoint Atlantic – Parcels A1 & A3 – Monitoring Wells**

A/I/DATA P.N. 20323

Prepared for: ARM Group, LLC

November 24, 2020

The following features were surveyed by A/I/DATA on November 16-18, 2020:

| PT# | NORTHING | EASTING | ELEVATION | DESCRIPTION |
|---|---|---|---|---|
| 1015 | 562668.6 | 1464620.1 | 12.2 | TOP OF PVC PIPE – WELL #B20-006-SB |
| 1016 | 562083.7 | 1463443.3 | 30.9 | TOP OF PVC PIPE – WELL #B20-012-SB |
| 1017 | 562146.0 | 1464099.7 | 13.0 | TOP OF PVC PIPE – WELL #B20-014-SB |
| 1018 | 561278.5 | 1464620.0 | 8.9 | TOP OF PVC PIPE – WELL #B20-027-SB |
| 1019 | 563306.7 | 1464293.7 | 13.5 | TOP OF PVC PIPE – WELL #B20-031-SB |
| 1020 | 562754.3 | 1464246.8 | 12.8 | TOP OF PVC PIPE – WELL #B20-033-SB |
| 1021 | 562325.0 | 1463899.8 | 30.1 | TOP OF PVC PIPE – WELL #B20-034-SB |
| 1022 | 561629.4 | 1462990.4 | 7.0 | TOP OF PVC PIPE – WELL #~~B22-~~035-SB B20 |

# APPENDIX D

**Parcel B20 - PID Calibration Log**

| **PROJECT NAME:** Area B, Parcel B20 Phase II | | | | **SAMPLER NAME:** L. Perrin | | | |
|---|---|---|---|---|---|---|---|
| **PROJECT NUMBER:** 20010220 | | | | **DATE:** May 2020 - October 2020 | | **PAGE** 1 of 1 | |
| DATE/TIME | SAMPLER INITIALS | PID SERIAL # | FRESH AIR CAL | STANDARD | STANDARD CONCENTRATION | METER READING | COMMENTS |
| 5/12/2020 8:50 | LLP | 592-913262 | 0.0 | Isobutylene | 100 ppm | 100.0 | - |
| 5/13/2020 9:25 | LLP | 592-913262 | 0.0 | Isobutylene | 100 ppm | 100.0 | - |
| 5/14/2020 9:05 | LLP | 592-913262 | 0.0 | Isobutylene | 100 ppm | 100.0 | - |
| 5/15/2020 8:40 | LLP | 592-913262 | 0.0 | Isobutylene | 100 ppm | 100.0 | - |
| 5/18/2020 9:35 | LLP | 592-913262 | 0.0 | Isobutylene | 100 ppm | 100.0 | - |
| 5/19/2020 8:30 | LLP | 592-913262 | 0.0 | Isobutylene | 100 ppm | 100.0 | - |
| 5/21/2020 9:00 | LLP | 592-913262 | 0.0 | Isobutylene | 100 ppm | 100.0 | - |
| 5/28/2020 9:35 | LLP | 592-913262 | 0.0 | Isobutylene | 100 ppm | 100.0 | - |
| 10/12/2020 8:00 | LLP | 592-913262 | 0.0 | Isobutylene | 100 ppm | 100.0 | - |
| 10/13/2020 8:40 | LLP | 592-913262 | 0.0 | Isobutylene | 100 ppm | 100.0 | - |
| 10/14/2020 8:15 | LLP | 592-913262 | 0.0 | Isobutylene | 100 ppm | 100.0 | - |
| 10/15/2020 8:10 | LLP | 592-913262 | 0.0 | Isobutylene | 100 ppm | 100.0 | - |

# APPENDIX E

# Low Flow Sampling
## ~~Permanent~~ Wells temp

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

| | | | |
|---|---|---|---|
| Project Name: | B20 Phase II | Project Number: | 2001.0220 |
| Well Number: | B20-006-PZ | Date: | 7/13/20 |
| Well Diameter (in): | 1 | One Well Volume (gal): | |
| Depth to Product (ft): | NA | QED Controller Settings: | |
| Depth to Water (ft): | 11.59 | Flow Rate (mL/min) | |
| Product Thickness (ft): | NA | Length of time Purged (min) | 40 |
| Depth to Bottom (ft): | 16.15 | Condition of Pad/Cover: | I |

### 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 |
|---|---|---|---|---|---|---|---|---|---|
| 1050 | 0.1 | 11.60 | 27.74 | 10.50 | 1.70 | 1.88 | 106 | Over range | dark, silty |
| 1055 | 0.45 | 11.95 | 27.89 | 10.45 | 1.61 | 1.68 | -20 | Over range | |
| 1100 | 0.80 | 12.17 | 28.09 | 10.35 | 1.54 | 1.63 | -31 | 217.4 | |
| 1105 | 1.15 | 12.59 | 28.28 | 10.27 | 1.50 | 1.57 | -48 | 92.6 | |
| 1110 | 1.50 | 13.02 | 28.77 | 10.49 | 1.44 | 1.57 | -78 | 67.8 | |
| 1115 | 1.85 | 13.51 | 29.15 | 10.50 | 1.40 | 1.56 | -81 | 40.9 | |
| 1120 | 2.20 | 13.75 | 29.26 | 10.44 | 1.37 | 1.55 | -77 | 35.4 | |
| 1125 | 2.53 | 14.01 | 29.71 | 10.51 | 1.31 | 1.53 | -83 | 30.2 | |
| 1130 | 2.90 | 14.32 | 29.82 | 10.52 | 1.29 | 1.53 | -79 | 24.7 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

### MONITORING SAMPLE RECORD

| Sample ID | Time Collected | Parameter/Order | Container | Perservative | Collected? |
|---|---|---|---|---|---|
| B20-006-PZ | 1130 | 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 |
| | | TAL-Metals & Mercury (total) | 1 - 250 mL Plastic | HNO3 | N |
| | | Hexavalent Chromium (total) | 1 - 250 mL Plastic | none | N |
| | | 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 |
| | | PCB | 2 - 1 L Amber | None | N |
| | | Matrix Spike | | | N |
| | | Duplicate | | | N |

Sampled By: LCP

Comments:

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

_____ ft x _____ gal/ft = _____ (gal)

# Low Flow Sampling
## ~~Permanent~~ TMP Wells

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

| | |
|---|---|
| Project Name: B20 Phase II | Project Number: 20016220 |
| Well Number: B20-010-PZ | Date: 7/14/20 |
| Well Diameter (in): 1 | One Well Volume (gal): |
| Depth to Product (ft): NA | QED Controller Settings: — |
| Depth to Water (ft): Bent | Flow Rate (mL/min) |
| Product Thickness (ft): NA | Length of time Purged (min) 20 |
| Depth to Bottom (ft): Bent | Condition of Pad/Cover: — |

### 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 |
|---|---|---|---|---|---|---|---|---|---|
| 1110 | 2.00 | | 29.09 | 12.40 | 3.03 | 2.82 | -404 | 15.64 | |
| 1115 | 2.30 | | 28.63 | 11.65 | 3.06 | 1.35 | -369 | 10.11 | |
| 1120 | 2.60 | | 28.20 | 11.66 | 3.06 | 0.74 | -373 | 4.52 | |
| 1125 | 2.90 | | 26.42 | 11.68 | 3.16 | 0.63 | -376 | 4.24 | |
| 1130 | 3.20 | | 25.62 | 11.70 | 3.21 | 0.57 | -378 | 3.90 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

### MONITORING SAMPLE RECORD

| Sample ID | Time Collected | Parameter/Order | Container | Perservative | Collected? |
|---|---|---|---|---|---|
| B20-010-PZ | 1135 | 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 |
| | | TAL-Metals & Mercury (total) | 1 - 250 mL Plastic | HNO3 | N |
| | | Hexavalent Chromium (total) | 1 - 250 mL Plastic | none | N |
| | | 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 |
| | | PCB | 2 - 1 L Amber | None | N |
| | | Matrix Spike | | | N |
| | | Duplicate | | | N |

Sampled By: LVP

Comments:
Top of casing was bent and could not be gauged

**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
# Permanent Wells

ARM Group Inc.
Earth Resource Engineers and Consultants

| | |
|---|---|
| Project Name: | Project Number: |
| Well Number: B20-012-PZ | Date: 10/23/20 |
| Well Diameter (in): 2 in | One Well Volume (gal): |
| Depth to Product (ft): | QED Controller Settings: |
| Depth to Water (ft): 30.13 | Flow Rate (mL/min) 400 |
| Product Thickness (ft): | Length of time Purged (min) |
| Depth to Bottom (ft): 38.65 | Condition of Pad/Cover: / |

## 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 |
|---|---|---|---|---|---|---|---|---|---|
| 1217 | | | 18.7 | 11.60 | 2.576 | 2.96 | -252.7 | 28.7 | |
| 1222 | | | 18.4 | 11.61 | 2.620 | 0.69 | -318.1 | 11.8 | |
| 1227 | | | 18.4 | 11.64 | 2.629 | 0.65 | -376.7 | 5.50 | |
| 1232 | | | 18.4 | 11.65 | 2.634 | 0.35 | -402.2 | 4.01 | |
| 1237 | | | 18.4 | 11.65 | 2.639 | 0.46 | -393.1 | 4.02 | |
| 1242 | | | 18.5 | 11.66 | 2.642 | 0.33 | -402.1 | 2.10 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

## MONITORING SAMPLE RECORD

| Sample ID | Time Collected | Parameter/Order | Container | Perservative | Collected? |
|---|---|---|---|---|---|
| B20-012-PZ | 1247 | 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 |
| | | TAL-Metals & Mercury (total) | 1 - 250 mL Plastic | HNO3 | Y |
| | | Hexavalent Chromium (total) | 1 - 250 mL Plastic | none | 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 |
| | | PCB | 2 - 1 L Amber | None | |
| Matrix Spike | | | | | |
| Duplicate | | | | | |

Sampled By: JMB

Comments: new Stickup 3.22 ft

**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

8.52 ft x 0.163 gal/ft = 1.388 (gal) 4.2 gal development

# Low Flow Sampling
## Permanent Wells

Temp

ARM Group Inc.
Earth Resource Engineers and Consultants

| | | | |
|---|---|---|---|
| Project Name: | B20 Phase II | Project Number: | 20010220 |
| Well Number: | B20-014-P2 | Date: | 7/14/20 |
| Well Diameter (in): | 1 | One Well Volume (gal): | — |
| Depth to Product (ft): | NA | QED Controller Settings: | — |
| Depth to Water (ft): | 12.60 | Flow Rate (mL/min) | |
| Product Thickness (ft): | NA | Length of time Purged (min) | 20 |
| Depth to Bottom (ft): | 18.71 | Condition of Pad/Cover: | — |

### 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 |
|---|---|---|---|---|---|---|---|---|---|
| 1414 | 0.75 | 12.61 | 29.18 | 11.96 | 2.20 | 3.01 | -334 | 5.21 | |
| 1419 | 1.05 | 12.61 | 28.60 | 12.01 | 2.20 | 1.29 | -344 | 3.03 | |
| 1424 | 1.35 | 12.61 | 27.93 | 12.04 | 2.22 | 0.76 | -351 | 2.76 | |
| 1429 | 1.65 | 12.61 | 27.49 | 12.05 | 2.23 | 0.66 | -355 | 2.53 | |
| 1434 | 1.95 | 12.61 | 27.20 | 12.06 | 2.26 | 0.57 | -358 | 2.13 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

### MONITORING SAMPLE RECORD

| Sample ID | Time Collected | Parameter/Order | Container | Perservative | Collected? |
|---|---|---|---|---|---|
| B20-014-P2 | 1440 | TCL-VOCs | 3 - 40 mL VOA | HCl | Y |
| | | TPH-GRO | 3 - 40 mL VOA | HCl | Y |
| | | TPH-DRO | 2 - 1 L Amber | none | Y |
| | | TCL-SVOCs | 2- 1 L Amber | none | Y |
| | | Oil & Grease | 2- 1 L Amber | HCl | Y |
| | | TAL-Metals & Mercury (total) | 1 - 250 mL Plastic | HNO3 | Y |
| | | Hexavalent Chromium (total) | 1 - 250 mL Plastic | none | N |
| | | 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 |
| | | PCB | 2 - 1 L Amber | None | N |
| | | Matrix Spike | | | N |
| | | Duplicate | | | N |

Sampled By: LH

Comments:

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

_____ ft x _____ gal/ft = _____ (gal)

# Low Flow Sampling
## ~~Permanent~~ Temp Wells

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

| | | | |
|---|---|---|---|
| Project Name: | B20 Phase II | Project Number: | 20010220 |
| Well Number: | B20-027-P2 | Date: | 7/20/20 |
| Well Diameter (in): | 1 | One Well Volume (gal): | — |
| Depth to Product (ft): | NA | QED Controller Settings: | — |
| Depth to Water (ft): | 8.10 | Flow Rate (mL/min) | |
| Product Thickness (ft): | NA | Length of time Purged (min) | 30 |
| Depth to Bottom (ft): | 17.70 | Condition of Pad/Cover: | — |

### 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 |
|---|---|---|---|---|---|---|---|---|---|
| 934 | 1.2 | 8.10 | 22.66 | 10.40 | 5.05 | 9.57 | -321 | 7.62 | |
| 939 | 1.6 | 8.10 | 22.25 | 11.70 | 5.06 | 4.44 | -385 | 3.44 | |
| 944 | 2.0 | 8.10 | 22.25 | 11.76 | 5.06 | 1.90 | -391 | 2.89 | |
| 949 | 2.4 | 8.10 | 22.34 | 11.78 | 5.06 | 1.43 | -400 | 2.56 | |
| 954 | 2.8 | 8.10 | 22.31 | 11.71 | 5.06 | 1.28 | -403 | 2.41 | |
| 959 | 3.2 | 8.10 | 22.27 | 11.79 | 5.06 | 1.18 | -403 | 2.22 | |
| 1004 | 3.6 | 8.10 | 22.11 | 11.81 | 5.07 | 1.10 | -403 | 2.06 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

### MONITORING SAMPLE RECORD

| Sample ID | Time Collected | Parameter/Order | Container | Perservative | Collected? |
|---|---|---|---|---|---|
| B20-027-P2 | 1010 | 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 |
| | | TAL-Metals & Mercury (total) | 1 - 250 mL Plastic | HNO3 | N |
| | | Hexavalent Chromium (total) | 1 - 250 mL Plastic | none | N |
| | | 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 |
| | | PCB | 2 - 1 L Amber | None | N |
| | | Matrix Spike | | | Y |
| | | Duplicate | | | N |

Sampled By: LLP

Comments:

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

_____ ft x _____ gal/ft = _____ (gal)

# Low Flow Sampling
## ~~Permanent~~ Temp Wells

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

| | | | |
|---|---|---|---|
| Project Name: | B20 Phase II | Project Number: | 20010220 |
| Well Number: | B20-031-PZ | Date: | 7/13/20 |
| Well Diameter (in): | 1 | One Well Volume (gal): | |
| Depth to Product (ft): | NA | QED Controller Settings: | |
| Depth to Water (ft): | 12.59 | Flow Rate (mL/min) | |
| Product Thickness (ft): | NA | Length of time Purged (min) | 20 |
| Depth to Bottom (ft): | 20.75 | Condition of Pad/Cover: | |

### 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 |
|---|---|---|---|---|---|---|---|---|---|
| 1328 | 0.15 | 12.59 | 34.66 | 12.06 | 2.210 | 3.31 | -309 | 22.8 | |
| 1333 | 0.55 | 12.59 | 33.37 | 11.98 | 2.23 | 1.24 | -340 | 9.12 | |
| 1338 | 0.95 | 12.59 | 32.07 | 11.87 | 2.28 | 0.81 | -343 | 4.94 | |
| 1343 | 1.35 | 12.59 | 30.70 | 11.91 | 2.33 | 0.65 | -351 | 2.30 | |
| 1348 | 1.75 | 12.59 | 28.38 | 11.98 | 2.43 | 0.60 | -359 | 2.65 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

### MONITORING SAMPLE RECORD

| Sample ID | Time Collected | Parameter/Order | Container | Perservative | Collected? |
|---|---|---|---|---|---|
| B20-031-PZ | 1400 | 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 |
| | | TAL-Metals & Mercury (total) | 1 - 250 mL Plastic | HNO3 | N |
| | | Hexavalent Chromium (total) | 1 - 250 mL Plastic | none | N |
| | | 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 |
| | | PCB | 2 - 1 L Amber | None | N |
| | | Matrix Spike | | | N |
| | | Duplicate | | | Y |

Sampled By: LP

Comments:

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

_____ ft x _____ gal/ft = _____ (gal)

# Low Flow Sampling
## ~~Permanent~~ PMO Wells

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

| | | | |
|---|---|---|---|
| Project Name: | B20 Phase II | Project Number: | 90010220 |
| Well Number: | B20-033-P2 | Date: | 7/14/20 |
| Well Diameter (in): | 1 | One Well Volume (gal): | |
| Depth to Product (ft): | NA | QED Controller Settings: | |
| Depth to Water (ft): | 12.17 | Flow Rate (mL/min) | |
| Product Thickness (ft): | NA | Length of time Purged (min) | 25 |
| Depth to Bottom (ft): | 19.80 | Condition of Pad/Cover: | |

### 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 |
|---|---|---|---|---|---|---|---|---|---|
| 902 | 0.40 | 12.17 | 22.67 | 12.03 | 2.26 | 3.53 | -345 | 21.7 | |
| 907 | 0.75 | 12.17 | 23.38 | 12.04 | 2.25 | 1.20 | -380 | 7.82 | |
| 912 | 1.10 | 12.17 | 23.79 | 12.06 | 2.26 | 0.83 | -385 | 6.42 | |
| 917 | 1.45 | 12.17 | 23.65 | 12.08 | 2.26 | 0.69 | -389 | 4.15 | |
| 922 | 1.80 | 12.17 | 23.47 | 12.08 | 2.26 | 0.60 | -390 | 3.63 | |
| 927 | 2.15 | 12.17 | 23.24 | 12.07 | 2.29 | 0.57 | -388 | 2.99 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

### MONITORING SAMPLE RECORD

| Sample ID | Time Collected | Parameter/Order | Container | Perservative | Collected? |
|---|---|---|---|---|---|
| B20-033-P2 | 930 | 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 |
| | | TAL-Metals & Mercury (total) | 1 - 250 mL Plastic | HNO3 | N |
| | | Hexavalent Chromium (total) | 1 - 250 mL Plastic | none | N |
| | | 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 |
| | | PCB | 2 - 1 L Amber | None | N |
| Matrix Spike | | | | | N |
| Duplicate | | | | | N |

Sampled By: LLP

Comments:

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

_____ ft x _____ gal/ft = _____ (gal)

# Low Flow Sampling
# Permanent Wells

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

| | |
|---|---|
| Project Name: | Project Number: |
| Well Number: B20-034-PZ | Date: 10/23/20 |
| Well Diameter (in): 2in | One Well Volume (gal): |
| Depth to Product (ft): | QED Controller Settings: |
| Depth to Water (ft): 29.46 | Flow Rate (mL/min) 400 |
| Product Thickness (ft): | Length of time Purged (min) |
| Depth to Bottom (ft): 37.59 | Condition of Pad/Cover: / |

## 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 |
|---|---|---|---|---|---|---|---|---|---|
| 0945 | | | 17.3 | 11.68 | 2.587 | 1.73 | -136.8 | 12.0 | |
| 0950 | | | 17.2 | 11.69 | 2.643 | 0.39 | -273.1 | 4.74 | |
| 0955 | | | 17.2 | 11.72 | 2.655 | 0.31 | -324.9 | 3.95 | |
| 1000 | | | 17.3 | 11.74 | 2.663 | 0.27 | -365.4 | 3.29 | |
| 1005 | | | 17.3 | 11.75 | 2.667 | 0.26 | -401.2 | 1.53 | |
| 1010 | | | 17.3 | 11.75 | 2.669 | 0.24 | -410.3 | 1.25 | |
| 1015 | | | 17.3 | 11.75 | 2.671 | 0.24 | -419.5 | 1.08 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

## MONITORING SAMPLE RECORD

| Sample ID | Time Collected | Parameter/Order | Container | Perservative | Collected? |
|---|---|---|---|---|---|
| B20-034-PZ | 1020 | 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 |
| | | TAL-Metals & Mercury (total) | 1 - 250 mL Plastic | HNO3 | Y |
| | | Hexavalent Chromium (total) | 1 - 250 mL Plastic | none | Y |
| | | Total Cyanide | 1 - 250 mL Plastic | NaOH | N |
| | | TAL-Metals & Mercury (Dissolved) **Field Filtered** | 1 - 250 mL Plastic | HNO3 | Y |
| | | Hexavalent Chromium (Dissolved) **Field Filtered** | 1 - 250 mL Plastic | none | Y |
| | | PCB | 2 - 1 L Amber | None | |
| Matrix Spike | | | | | |
| Duplicate | | | | | |

Sampled By: JMB

Comments:

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

8.13 ft x 0.163 gal/ft = 1.32 (gal) 4 gal development

# Low Flow Sampling
## ~~Permanent~~ TEMP Wells

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

| | | | |
|---|---|---|---|
| Project Name: | B20 Phase II | Project Number: | 260.0220 |
| Well Number: | B20-035-P2 | Date: | 7/14/20 |
| Well Diameter (in): | 1 | One Well Volume (gal): | — |
| Depth to Product (ft): | NA | QED Controller Settings: | — |
| Depth to Water (ft): | 6.36 | Flow Rate (mL/min) | |
| Product Thickness (ft): | NA | Length of time Purged (min) | 15 |
| Depth to Bottom (ft): | 17.52 | Condition of Pad/Cover: | — |

### 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 |
|---|---|---|---|---|---|---|---|---|---|
| 1225 | 1.4 | 6.36 | 28.79 | 11.81 | 2.45 | 2.37 | -367 | 3.74 | |
| 1230 | 1.87 | 6.36 | 28.58 | 11.86 | 2.45 | 0.85 | -382 | 2.52 | |
| 1235 | 2.0 | 6.36 | 28.63 | 11.88 | 2.45 | 0.61 | -385 | 2.02 | |
| 1240 | 2.3 | 6.36 | 28.55 | 11.89 | 2.46 | 0.52 | -387 | 1.17 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

### MONITORING SAMPLE RECORD

| Sample ID | Time Collected | Parameter/Order | Container | Perservative | Collected? |
|---|---|---|---|---|---|
| B20-035-P2 | 1245 | 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 |
| | | TAL-Metals & Mercury (total) | 1 - 250 mL Plastic | HNO3 | N |
| | | Hexavalent Chromium (total) | 1 - 250 mL Plastic | none | N |
| | | 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 |
| | | PCB | 2 - 1 L Amber | None | N |
| | | Matrix Spike | | | N |
| | | Duplicate | | | N |

Sampled By: LCP

Comments:

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

_____ ft x _____ gal/ft = _____ (gal)

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name Area B Parcel B20 Phase II Date 07-13-20
Weather 80s, Sunny
Calibrated by L. Perrin Instrument (Serial Number) Horiba V-52 (2BOMSAX4)
Lamotte 2020t (1223-1319)

| Parameters | Morning Calibration | Morning Temperature | End of Day Calibration Check | End of Day Temperature |
|---|---|---|---|---|
| Specific Conductance Standard | 4.49 | 72 F | - | 88 F |
| Specific Conductance Standard #2 | - | | - | |
| pH (7) | - | | - | |
| pH (4) | 4.00 | | - | |
| pH(10) | - | | - | |
| ORP Zobel Solution (240 mV) | - | | - | |
| Dissolved Oxygen 100% water saturated air mg/L | 8.44¥ | | - | |
| Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L | - | | - | |
| Barometric Pressure mm Hg | 757.94 | | - | |
| Turbidity #1 (0 NTU) | 0.0 | | - | |
| Turbidity #2 (1 NTU) | 1.0 | | - | |
| Turbidity #3 (10 NTU) | 10 | | - | |

**¥ Dissolved Oxygen were outside of the calibration acceptance criteria. Post-calibration check was not performed. Values displayed on field purge logs may be inaccurate.**

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name Area B Parcel B20 Phase II Date 07-14-20
Weather 80s, Sunny
Calibrated by L. Perrin Instrument (Serial Number) Horiba V-52 (2BOMSAX4)
Lamotte 2020t (1223-1319)

| Parameters | Morning Calibration | Morning Temperature | End of Day Calibration Check | End of Day Temperature |
|---|---|---|---|---|
| Specific Conductance Standard | 4.49 | 76 F | - | 87 F |
| Specific Conductance Standard #2 | - | | - | |
| pH (7) | - | | - | |
| pH (4) | 4.00 | | - | |
| pH(10) | - | | - | |
| ORP Zobel Solution (240 mV) | - | | - | |
| Dissolved Oxygen 100% water saturated air mg/L | 9.37¥ | | - | |
| Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L | - | | - | |
| Barometric Pressure mm Hg | 762.51 | | - | |
| Turbidity #1 (0 NTU) | 0.0 | | - | |
| Turbidity #2 (1 NTU) | 1.0 | | - | |
| Turbidity #3 (10 NTU) | 10 | | - | |

**¥ Dissolved Oxygen were outside of the calibration acceptance criteria. Post-calibration check was not performed. Values displayed on field purge logs may be inaccurate.**

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name Area B Parcel B20 Phase II Date 07-20-20
Weather 100s, Sunny
Calibrated by L. Perrin Instrument (Serial Number) Horiba V-52 (2BOMSAX4)
Lamotte 2020t (1223-1319)

| Parameters | Morning Calibration | Morning Temperature | End of Day Calibration Check | End of Day Temperature |
|---|---|---|---|---|
| Specific Conductance Standard | 4.51 | 81 F | - | 99 F |
| Specific Conductance Standard #2 | - | | - | |
| pH (7) | - | | - | |
| pH (4) | 4.00 | | - | |
| pH(10) | - | | - | |
| ORP Zobel Solution (240 mV) | - | | - | |
| Dissolved Oxygen 100% water saturated air mg/L | 9.20¥ | | - | |
| Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L | - | | - | |
| Barometric Pressure mm Hg | 759.97 | | - | |
| Turbidity #1 (0 NTU) | 0.0 | | - | |
| Turbidity #2 (1 NTU) | 1.0 | | - | |
| Turbidity #3 (10 NTU) | 10 | | - | |

**¥ Dissolved Oxygen were outside of the calibration acceptance criteria. Post-calibration check was not performed. Values displayed on field purge logs may be inaccurate.**

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name Area B Parcel B20 Phase II Date 10-23-20
Weather 70s, Foggy
Calibrated by J. Barna Instrument (Serial Number) YSI Pro DSS (19K103391)
Lamotte 2020t (1223-1319)

| Parameters | Morning Calibration | Morning Temperature | End of Day Calibration Check | End of Day Temperature |
|---|---|---|---|---|
| Specific Conductance Standard | 1.409 | 69 F | - | |
| Specific Conductance Standard #2 | - | | - | |
| pH (7) | 7.00 | | - | |
| pH (4) | 4.00 | | - | |
| pH(10) | 10.00 | | - | |
| ORP Zobel Solution (240 mV) | 240 | | - | |
| Dissolved Oxygen 100% water saturated air mg/L | 9.53¥ | | - | |
| Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L | - | | - | |
| Barometric Pressure mm Hg | - | | - | |
| Turbidity #1 (0 NTU) | 0.0 | | - | |
| Turbidity #2 (1 NTU) | 1.0 | | - | |
| Turbidity #3 (10 NTU) | 10 | | - | |

**¥ Dissolved Oxygen were outside of the calibration acceptance criteria. Post-calibration check was not performed. Values displayed on field purge logs may be inaccurate.**

# APPENDIX F

**Parcel B20 - IDW Drum Log**

| Drum Identification Number | Designation | Activity/Phase | Contents | Open Date |
|---|---|---|---|---|
| 1397-Nitric Acid-4/20/20-A14/B24/A18/A17/B20 | Non-Haz | Parcel B20 Phase II Investigation | Nitric Acid | 4/20/2020 |
| 1400-Soil-4/28/20-B20 | Non-Haz | Parcel B20 Phase II Investigation | Soil | 4/28/2020 |
| 1401-Decon water-5/13/20-B20 | Non-Haz | Parcel B20 Phase II Investigation | Water | 5/13/2020 |
| 1407-Soil-5/28/20-B20 | Non-Haz | Parcel B20 Phase II Investigation | Soil | 5/28/2020 |
| 1416-Purge Water-7/7/20-A18/B20 | Non-Haz | Parcel B20 Phase II Investigation | Water | 7/7/2020 |
| 1433-Decon Water-10/5/2020-B11/B17/B9/B20 | Non-Haz | Parcel B20 Phase II Investigation | Water | 10/5/2020 |
| 1435-Soil-10/12/2020-B20 | Non-Haz | Parcel B20 Phase II Investigation | Soil | 10/12/2020 |
| 1436-Decon Water-10/12/2020-B20 | Non-Haz | Parcel B20 Phase II Investigation | Water | 10/12/2020 |
| 1438-Soil-10/15/2020-B20 | Non-Haz | Parcel B20 Phase II Investigation | Soil | 10/15/2020 |
| 1439-Decon Water-10/15/2020 | Non-Haz | Parcel B20 Phase II Investigation | Water | 10/15/2020 |
| 1440-Soil-10/14/2020-B20 | Non-Haz | Parcel B20 Phase II Investigation | Soil | 10/14/2020 |
| 1441-Soil-10/15/2020-B20 | Non-Haz | Parcel B20 Phase II Investigation | Soil | 10/15/2020 |
| 1443-Soil-10/20/2020-B20 | Non-Haz | Parcel B20 Phase II Investigation | Soil | 10/20/2020 |
| 1444-Soil-10/20/2020-A15/B20 | Non-Haz | Parcel B20 Phase II Investigation | Soil | 10/20/2020 |
| 1446-Decon Water-10/19/2020-B20/A15/B11 | Non-Haz | Parcel B20 Phase II Investigation | Water | 10/19/2020 |

# APPENDIX G

# QA/QC Tracking Log

| Trip Blank: | Date: | Sample IDs: | |
|---|---|---|---|
| TB1 | 5/12/2020 | 1) B20-026-SB-1 | QA/QC for all Pace soil samples |
| | | 2) B20-026-SB-5 | |
| TB1 & TB2 | 5/13/2020 | 3) B20-005-SB-1 | |
| | | 4) B20-005-SB-5 | |
| | | 5) B20-004-SB-1.5 | |
| | | 6) B20-006-SB-1.5 | |
| | | 7) B20-006-SB-4 | Duplicate: B20-006-SB-4 |
| | | 8) B20-002-SB-1 | Date: 5/13/2020 |
| | | 9) B20-002-SB-5 | MS/MSD: B20-005-SB-5 |
| | | 10) B20-002-SB-10 | Date: 5/13/2020 |
| | | 11) B20-001-SB-1.5 | Field Blank: |
| | | 12) B20-001-SB-5 | Date: 5/12/2020 |
| TB1 & TB2 | 5/14/2020 | 13) B20-031-SB-1 | Eq. Blank: |
| | | 14) B20-031-SB-5 | Date: 5/12/2020 |
| | | 15) B20-031-SB-10 | |
| | | 16) B20-033-SB-1 | |
| | | 17) B20-033-SB-5 | |
| | | 18) B20-032-SB-1 | |
| | | 19) B20-032-SB-5 | |
| | | 20) B20-011-SB-15 | |

| Trip Blank: | Date: | Sample IDs: | |
|---|---|---|---|
| TB1 | 5/18/2020 | 1) B20-008-SB-1 | QA/QC for all Pace soil samples |
| | | 2) B20-028-SB-1 | |
| TB1 | 5/19/2020 | 3) B20-036-SB-1 | |
| | | 4) B20-034-SB-1 | |
| | | 5) B20-034-SB-9 | |
| | | 6) B20-034-SB-10 | |
| | | 7) B20-012-SB-1 | Duplicate: B20-021-SB-5 |
| | | 8) B20-012-SB-4 | Date: 5/19/2020 |
| | | 9) B20-021-SB-1 | MS/MSD: B20-018-SB-1 |
| | | 10) B20-021-SB-5 | Date: 5/28/2020 |
| TB1 | 5/21/2020 | 11) B20-020-SB-1 | Field Blank: |
| | | 12) B20-020-SB-5 | Date: 5/18/2020 |
| | | 13) B20-014-SB-1 | Eq. Blank: |
| | | 14) B20-014-SB-4 | Date: 5/18/2020 |
| | | 15) B20-024-SB-1 | |
| TB1 | 5/28/2020 | 16) B20-019-SB-1 | |
| | | 17) B20-019-SB-7 | |
| | | 18) B20-018-SB-1 | |
| | | 19) B20-018-SB-4 | |
| | | 20) B20-017-SB-1 | |

| TB1&2 | 5/14/2020 | 1) B20-011-SB-18 | QA/QC for all Pace soil samples |
|---|---|---|---|
| TB1 | 5/15/2020 | 2) B20-029-SB-1 | |
| | | 3) B20-029-SB-5 | |
| | | 4) B20-035-SB-1 | |
| | | 5) B20-035-SB-4 | |
| | | 6) B20-030-SB-1 | |
| | | 7) B20-030-SB-5 | Duplicate: B20-029-SB-1 |
| | | 8) B20-003-SB-1.5 | Date: 5/15/2020 |
| | | 9) B20-003-SB-5 | MS/MSD: B20-035-SB-1 |
| | | 10) B20-003-SB-10 | Date: 5/15/2020 |
| | | 11) B20-022-SB-1 | Field Blank: |
| | | 12) B20-023-SB-1 | Date: 5/14/2020 |
| | | 13) B20-023-SB-5 | Eq. Blank: |
| TB1 | 5/18/2020 | 14) B20-009-SB-1 | Date: 5/14/2020 |
| | | 15) B20-009-SB-7.5 | |
| | | 16) B20-010-SB-1 | |
| | | 17) B20-010-SB-4 | |
| | | 18) B20-027-SB-1 | |
| | | 19) B20-027-SB-4 | |
| | | 20) B20-007-SB-1 | |

| | | | |
|---|---|---|---|
| TB1 | 5/28/2020 | 1) B20-016-SB-1 | QA/QC for all Pace soil samples |
| | | 2) B20-016-SB-8 | |
| | | 3) B20-015-SB-1 | |
| | | 4) B20-015-SB-8 | |
| | | 5) B20-013-SB-1.5 | |
| | | 6) B20-013-SB-5 | |
| TB1 | 10/12/2020 | 7) B20-028-SB-5 | Duplicate: B20-016-SB-1 |
| | | 8) B20-028-SB-10 | Date: 5/28/2020 |
| | | 9) B20-008-SB-9 | MS/MSD: B20-015-SB-8 |
| | | 10) B20-008-SB-10 | Date: 5/28/2020 |
| TB1 | 10/13/2020 | 11) B20-025-SB-1 | Field Blank: |
| | | 12) B20-025-SB-7 | Date: 5/28/2020 |
| | | 13) B20-024-SB-4 | Eq. Blank: |
| | | 14) B20-024-SB-10 | Date: 5/28/2020 |
| | | 15) B20-007-SB-4 | |
| | | 16) B20-007-SB-10 | |
| TB1 | 10/14/2020 | 17) B20-022-SB-9 | |
| | | 18) B20-004-SB-5 | |
| | | 19) B20-036-SB-9 | |
| | | 20) B20-036-SB-10 | |

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 | 10/15/2020 | 1) | B20-017-SB-9 | QA/QC for all Pace soil samples |
| | | 2) | | |
| | | 3) | | |
| | | 4) | | |
| | | 5) | | |
| | | 6) | | |
| | | 7) | | Duplicate: |
| | | 8) | | Date: |
| | | 9) | | MS/MSD: |
| | | 10) | | Date: |
| | | 11) | | |
| | | 12) | | Field Blank: |
| | | 13) | | Date: |
| | | 14) | | Eq. Blank: |
| | | 15) | | Date: |
| | | 16) | | |
| | | 17) | | |
| | | 18) | | |
| | | 19) | | |
| | | 20) | | |

| Trip Blank: | Date: | Sample IDs: | | |
|---|---|---|---|---|
| TB1&2 | 5/14/2020 | 1) | B20-011-SB-18 | QA/QC for all Alpha PAH soil samples |
| TB1 | 5/15/2020 | 2) | B20-029-SB-1 | |
| | | 3) | B20-029-SB-5 | |
| | | 4) | B20-035-SB-1 | |
| | | 5) | B20-035-SB-4 | |
| | | 6) | B20-030-SB-1 | |
| | | 7) | B20-030-SB-5 | Duplicate: B20-029-SB-5 |
| | | 8) | B20-003-SB-1.5 | Date: 5/15/2020 |
| | | 9) | B20-003-SB-5 | MS/MSD: B20-003-SB-5 |
| | | 10) | B20-003-SB-10 | Date: 5/15/2020 |
| | | 11) | B20-022-SB-1 | Field Blank: |
| | | 12) | B20-023-SB-1 | Date: 5/15/2020 |
| | | 13) | B20-023-SB-5 | Eq. Blank: |
| TB1 | 5/18/2020 | 14) | B20-009-SB-1 | Date: 5/15/2020 |
| | | 15) | B20-009-SB-7.5 | |
| | | 16) | B20-010-SB-1 | |
| | | 17) | B20-010-SB-4 | |
| | | 18) | B20-027-SB-1 | |
| | | 19) | B20-027-SB-4 | |
| | | 20) | B20-007-SB-1 | |

| | | | | |
|---|---|---|---|---|
| TB1 | 5/12/2020 | 1) | B20-026-SB-1 | QA/QC for all Alpha PAH soil samples |
| | | 2) | B20-026-SB-5 | |
| TB1 & TB2 | 5/13/2020 | 3) | B20-005-SB-1 | |
| | | 4) | B20-005-SB-5 | |
| | | 5) | B20-004-SB-1.5 | |
| | | 6) | B20-006-SB-1.5 | |
| | | 7) | B20-006-SB-4 | Duplicate: B20-006-SB-1.5 |
| | | 8) | B20-002-SB-1 | Date: 5/13/2020 |
| | | 9) | B20-002-SB-5 | MS/MSD: B20-005-SB-1 |
| | | 10) | B20-002-SB-10 | Date: 5/13/2020 |
| | | 11) | B20-001-SB-1.5 | Field Blank: |
| | | 12) | B20-001-SB-5 | Date: 5/12/2020 |
| TB1 & TB2 | 5/14/2020 | 13) | B20-031-SB-1 | Eq. Blank: |
| | | 14) | B20-031-SB-5 | Date: 5/12/2020 |
| | | 15) | B20-031-SB-10 | |
| | | 16) | B20-033-SB-1 | |
| | | 17) | B20-033-SB-5 | |
| | | 18) | B20-032-SB-1 | |
| | | 19) | B20-032-SB-5 | |
| | | 20) | B20-011-SB-15 | |

| | | | | |
|---|---|---|---|---|
| TB1 | 5/18/2020 | 1) | B20-008-SB-1 | QA/QC for all Alpha PAH soil samples |
| | | 2) | B20-028-SB-1 | |
| TB1 | 5/19/2020 | 3) | B20-036-SB-1 | |
| | | 4) | B20-034-SB-1 | |
| | | 5) | B20-034-SB-9 | |
| | | 6) | B20-034-SB-10 | |
| | | 7) | B20-012-SB-1 | Duplicate: B20-034-SB-1 |
| | | 8) | B20-012-SB-4 | Date: 5/19/2020 |
| | | 9) | B20-021-SB-1 | MS/MSD: B20-021-SB-1 |
| | | 10) | B20-021-SB-5 | Date: 5/19/2020 |
| TB1 | 5/21/2020 | 11) | B20-020-SB-1 | Field Blank: |
| | | 12) | B20-020-SB-5 | Date: 5/18/2020 |
| | | 13) | B20-014-SB-1 | Eq. Blank: |
| | | 14) | B20-014-SB-4 | Date: 5/18/2020 |
| | | 15) | B20-024-SB-1 | |
| TB1 | 5/28/2020 | 16) | B20-019-SB-1 | |
| | | 17) | B20-019-SB-7 | |
| | | 18) | B20-018-SB-1 | |
| | | 19) | B20-018-SB-4 | |
| | | 20) | B20-017-SB-1 | |

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 | 5/28/2020 | 1) | B20-016-SB-1 | QA/QC for all Alpha PAH soil samples |
| | | 2) | B20-016-SB-8 | |
| | | 3) | B20-015-SB-1 | |
| | | 4) | B20-015-SB-8 | |
| | | 5) | B20-013-SB-1.5 | |
| | | 6) | B20-013-SB-5 | |
| TB1 | 10/12/2020 | 7) | B20-028-SB-5 | Duplicate: B20-016-SB-8 |
| | | 8) | B20-028-SB-10 | Date: 5/28/2020 |
| | | 9) | B20-008-SB-9 | MS/MSD: B20-015-SB-1 |
| | | 10) | B20-008-SB-10 | Date: 5/28/2020 |
| TB1 | 10/13/2020 | 11) | B20-025-SB-1 | Field Blank: |
| | | 12) | B20-025-SB-7 | Date: 5/28/2020 |
| | | 13) | B20-024-SB-4 | Eq. Blank: |
| | | 14) | B20-024-SB-10 | Date: 5/28/2020 |
| | | 15) | B20-007-SB-4 | |
| | | 16) | B20-007-SB-10 | |
| TB1 | 10/14/2020 | 17) | B20-022-SB-9 | |
| | | 18) | B20-004-SB-5 | |
| | | 19) | B20-036-SB-9 | |
| | | 20) | B20-036-SB-10 | |

| Trip Blank: | Date: | | Sample IDs: | |
|---|---|---|---|---|
| TB1 | 7/13/2020 | 1) | B20-006-PZ | QA/QC for all groundwater samples |
| | | 2) | B20-031-PZ | |
| TB1 | 7/14/2020 | 3) | B20-033-PZ | |
| | | 4) | B20-010-PZ | |
| | | 5) | B20-035-PZ | |
| | | 6) | B20-014-PZ | |
| TB1 | 7/20/2020 | 7) | B20-027-PZ | Duplicate: B20-031-PZ |
| TB1 | 10/23/2020 | 8) | B20-034-PZ | Date: 7/13/2020 |
| | | 9) | B20-012-PZ | MS/MSD: B20-027-PZ |
| | | 10) | | Date: 7/20/2020 |
| | | 11) | | |
| | | 12) | | Field Blank: |
| | | 13) | | Date: 7/13/2020 |
| | | 14) | | Eq. Blank: |
| | | 15) | | Date: 10/23/2020 |
| | | 16) | | |
| | | 17) | | |
| | | 18) | | |
| | | 19) | | |
| | | 20) | | |

| TB1 | 10/15/2020 | 1) | B20-017-SB-9 | QA/QC for all Alpha PAH soil samples |
|---|---|---|---|---|
| | | 2) | | |
| | | 3) | | |
| | | 4) | | |
| | | 5) | | |
| | | 6) | | |
| | | 7) | | Duplicate: |
| | | 8) | | Date: |
| | | 9) | | MS/MSD: |
| | | 10) | | Date: |
| | | 11) | | |
| | | 12) | | Field Blank: |
| | | 13) | | Date: |
| | | 14) | | Eq. Blank: |
| | | 15) | | Date: |
| | | 16) | | |
| | | 17) | | |
| | | 18) | | |
| | | 19) | | |
| | | 20) | | |

| | | | | |
|---|---|---|---|---|
| 6/2/2020 | 1) | B20-003-SG | QA/QC for all sub-slab soil gas samples |
| | 2) | B20-002-SG | |
| | 3) | B20-001-SG | |
| | 4) | | |
| | 5) | | |
| | 6) | | |
| | 7) | | Duplicate: B20-003-SG |
| | 8) | | Date: 6/2/2020 |
| | 9) | | MS/MSD: |
| | 10) | | Date: |
| | 11) | | |
| | 12) | | Field Blank: |
| | 13) | | Date: 6/2/2020 |
| | 14) | | Eq. Blank: |
| | 15) | | Date: |
| | 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 H

**EVALUATION OF DATA COMPLETENESS**
**Percentage of Non-Rejected Results vs Total Results**

| Parameter | Parameter Group | Matrix | Number of Validated Results | Detections | Number of Rejected Results | Number of Non-rejected Results | Completeness |
|---|---|---|---|---|---|---|---|
| Hexachlorobutadiene | SVOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| Naphthalene | SVOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| 1,1,1-Trichloroethane | VOC | Air | 3 | 2 | 0 | 3 | 100.00% |
| 1,1,2,2-Tetrachloroethane | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| 1,1,2-Trichloroethane | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| 1,1-Dichloroethane | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| 1,1-Dichloroethene | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| 1,2,3-Trimethylbenzene | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| 1,2,4-Trichlorobenzene | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| 1,2,4-Trimethylbenzene | VOC | Air | 3 | 2 | 0 | 3 | 100.00% |
| 1,2-Dibromoethane | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| 1,2-Dichlorobenzene | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| 1,2-Dichloroethane | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| 1,2-Dichloroethene (Total) | VOC | Air | 3 | 2 | 0 | 3 | 100.00% |
| 1,2-Dichloropropane | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| 1,3,5-Trimethylbenzene | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| 1,3-Dichlorobenzene | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| 1,4-Dichlorobenzene | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| 2-Butanone (MEK) | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| 2-Hexanone | VOC | Air | 3 | 1 | 0 | 3 | 100.00% |
| 4-Methyl-2-pentanone (MIBK) | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| Acetone | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| Benzene | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| Bromodichloromethane | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| Bromoform | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| Bromomethane | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| Carbon disulfide | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| Carbon tetrachloride | VOC | Air | 3 | 2 | 0 | 3 | 100.00% |
| Chlorobenzene | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| Chloroethane | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| Chloroform | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| Chloromethane | VOC | Air | 3 | 1 | 0 | 3 | 100.00% |
| cis-1,2-Dichloroethene | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| cis-1,3-Dichloropropene | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| Cyclohexane | VOC | Air | 3 | 1 | 0 | 3 | 100.00% |
| Dibromochloromethane | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| Dichlorodifluoromethane | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| Ethylbenzene | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| Isopropylbenzene | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| Methyl tert-butyl ether (MTBE) | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| Methylene Chloride | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| Styrene | VOC | Air | 3 | 2 | 0 | 3 | 100.00% |
| Tetrachloroethene | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| Toluene | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| trans-1,2-Dichloroethene | VOC | Air | 3 | 2 | 0 | 3 | 100.00% |
| trans-1,3-Dichloropropene | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| Trichloroethene | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| Trichlorofluoromethane | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| Vinyl chloride | VOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| Xylenes | VOC | Air | 3 | 3 | 0 | 3 | 100.00% |
| 1,4-Dioxane | VOC/SVOC | Air | 3 | 0 | 0 | 3 | 100.00% |
| Cyanide | CN | Soil | 29 | 29 | 0 | 29 | 100.00% |
| Aluminum | Metal | Soil | 29 | 29 | 0 | 29 | 100.00% |
| Antimony | Metal | Soil | 29 | 0 | 0 | 29 | 100.00% |

**EVALUATION OF DATA COMPLETENESS**
**Percentage of Non-Rejected Results vs Total Results**

| Parameter | Parameter Group | Matrix | Number of Validated Results | Detections | Number of Rejected Results | Number of Non-rejected Results | Completeness |
|---|---|---|---|---|---|---|---|
| Arsenic | Metal | Soil | 30 | 24 | 0 | 30 | 100.00% |
| Barium | Metal | Soil | 29 | 29 | 0 | 29 | 100.00% |
| Beryllium | Metal | Soil | 29 | 29 | 0 | 29 | 100.00% |
| Cadmium | Metal | Soil | 29 | 20 | 0 | 29 | 100.00% |
| Chromium | Metal | Soil | 29 | 29 | 0 | 29 | 100.00% |
| Chromium VI | Metal | Soil | 29 | 1 | 15 | 14 | 48.28% |
| Cobalt | Metal | Soil | 29 | 28 | 0 | 29 | 100.00% |
| Copper | Metal | Soil | 29 | 26 | 0 | 29 | 100.00% |
| Iron | Metal | Soil | 29 | 29 | 0 | 29 | 100.00% |
| Lead | Metal | Soil | 29 | 27 | 0 | 29 | 100.00% |
| Manganese | Metal | Soil | 29 | 29 | 0 | 29 | 100.00% |
| Mercury | Metal | Soil | 29 | 15 | 0 | 29 | 100.00% |
| Nickel | Metal | Soil | 29 | 28 | 0 | 29 | 100.00% |
| Selenium | Metal | Soil | 29 | 0 | 0 | 29 | 100.00% |
| Silver | Metal | Soil | 29 | 0 | 0 | 29 | 100.00% |
| Thallium | Metal | Soil | 30 | 10 | 0 | 30 | 100.00% |
| Vanadium | Metal | Soil | 29 | 29 | 0 | 29 | 100.00% |
| Zinc | Metal | Soil | 29 | 29 | 0 | 29 | 100.00% |
| Aroclor 1016 | PCB | Soil | 16 | 0 | 0 | 16 | 100.00% |
| Aroclor 1221 | PCB | Soil | 16 | 0 | 0 | 16 | 100.00% |
| Aroclor 1232 | PCB | Soil | 16 | 0 | 0 | 16 | 100.00% |
| Aroclor 1242 | PCB | Soil | 16 | 0 | 0 | 16 | 100.00% |
| Aroclor 1248 | PCB | Soil | 16 | 0 | 0 | 16 | 100.00% |
| Aroclor 1254 | PCB | Soil | 16 | 1 | 0 | 16 | 100.00% |
| Aroclor 1260 | PCB | Soil | 16 | 0 | 0 | 16 | 100.00% |
| Aroclor 1262 | PCB | Soil | 16 | 0 | 0 | 16 | 100.00% |
| Aroclor 1268 | PCB | Soil | 16 | 0 | 0 | 16 | 100.00% |
| PCBs (total) | PCB | Soil | 16 | 0 | 0 | 16 | 100.00% |
| 1,1-Biphenyl | SVOC | Soil | 29 | 2 | 0 | 29 | 100.00% |
| 1,2,4,5-Tetrachlorobenzene | SVOC | Soil | 29 | 1 | 0 | 29 | 100.00% |
| 2,3,4,6-Tetrachlorophenol | SVOC | Soil | 29 | 0 | 2 | 27 | 93.10% |
| 2,4,5-Trichlorophenol | SVOC | Soil | 29 | 0 | 2 | 27 | 93.10% |
| 2,4,6-Trichlorophenol | SVOC | Soil | 29 | 0 | 2 | 27 | 93.10% |
| 2,4-Dichlorophenol | SVOC | Soil | 29 | 0 | 2 | 27 | 93.10% |
| 2,4-Dimethylphenol | SVOC | Soil | 29 | 0 | 2 | 27 | 93.10% |
| 2,4-Dinitrophenol | SVOC | Soil | 29 | 0 | 2 | 27 | 93.10% |
| 2,4-Dinitrotoluene | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| 2,6-Dinitrotoluene | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| 2-Chloronaphthalene | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| 2-Chlorophenol | SVOC | Soil | 29 | 0 | 2 | 27 | 93.10% |
| 2-Methylnaphthalene | SVOC | Soil | 29 | 22 | 0 | 29 | 100.00% |
| 2-Methylphenol | SVOC | Soil | 29 | 0 | 2 | 27 | 93.10% |
| 2-Nitroaniline | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| 3&4-Methylphenol(m&p Cresol) | SVOC | Soil | 29 | 1 | 2 | 27 | 93.10% |
| 3,3'-Dichlorobenzidine | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| 4-Chloroaniline | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| 4-Nitroaniline | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| Acenaphthene | SVOC | Soil | 29 | 20 | 0 | 29 | 100.00% |
| Acenaphthylene | SVOC | Soil | 29 | 21 | 0 | 29 | 100.00% |
| Acetophenone | SVOC | Soil | 29 | 1 | 0 | 29 | 100.00% |
| Anthracene | SVOC | Soil | 29 | 25 | 0 | 29 | 100.00% |
| Benz[a]anthracene | SVOC | Soil | 29 | 25 | 0 | 29 | 100.00% |
| Benzaldehyde | SVOC | Soil | 29 | 1 | 0 | 29 | 100.00% |
| Benzo[a]pyrene | SVOC | Soil | 29 | 26 | 0 | 29 | 100.00% |
| Benzo[b]fluoranthene | SVOC | Soil | 29 | 25 | 0 | 29 | 100.00% |

**EVALUATION OF DATA COMPLETENESS**
**Percentage of Non-Rejected Results vs Total Results**

| Parameter | Parameter Group | Matrix | Number of Validated Results | Detections | Number of Rejected Results | Number of Non-rejected Results | Completeness |
|---|---|---|---|---|---|---|---|
| Benzo[g,h,i]perylene | SVOC | Soil | 29 | 26 | 0 | 29 | 100.00% |
| Benzo[k]fluoranthene | SVOC | Soil | 29 | 25 | 0 | 29 | 100.00% |
| bis(2-chloroethoxy)methane | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| bis(2-Chloroethyl)ether | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| bis(2-Chloroisopropyl)ether | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| bis(2-Ethylhexyl)phthalate | SVOC | Soil | 29 | 2 | 0 | 29 | 100.00% |
| Caprolactam | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| Carbazole | SVOC | Soil | 29 | 5 | 0 | 29 | 100.00% |
| Chrysene | SVOC | Soil | 29 | 25 | 0 | 29 | 100.00% |
| Dibenz[a,h]anthracene | SVOC | Soil | 29 | 20 | 0 | 29 | 100.00% |
| Diethylphthalate | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| Di-n-butylphthalate | SVOC | Soil | 29 | 9 | 0 | 29 | 100.00% |
| Di-n-ocytlphthalate | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| Fluoranthene | SVOC | Soil | 29 | 27 | 0 | 29 | 100.00% |
| Fluorene | SVOC | Soil | 29 | 19 | 0 | 29 | 100.00% |
| Hexachlorobenzene | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| Hexachlorobutadiene | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| Hexachlorocyclopentadiene | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| Hexachloroethane | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| Indeno[1,2,3-c,d]pyrene | SVOC | Soil | 29 | 25 | 0 | 29 | 100.00% |
| Isophorone | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| Naphthalene | SVOC | Soil | 29 | 24 | 0 | 29 | 100.00% |
| Nitrobenzene | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| N-Nitroso-di-n-propylamine | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| N-Nitrosodiphenylamine | SVOC | Soil | 29 | 0 | 0 | 29 | 100.00% |
| Pentachlorophenol | SVOC | Soil | 29 | 0 | 2 | 27 | 93.10% |
| Phenanthrene | SVOC | Soil | 29 | 26 | 0 | 29 | 100.00% |
| Phenol | SVOC | Soil | 29 | 1 | 2 | 27 | 93.10% |
| Pyrene | SVOC | Soil | 29 | 26 | 0 | 29 | 100.00% |
| Diesel Range Organics | TPH | Soil | 29 | 29 | 0 | 29 | 100.00% |
| Gasoline Range Organics | TPH | Soil | 29 | 2 | 0 | 29 | 100.00% |
| Oil & Grease | TPH | Soil | 29 | 24 | 0 | 29 | 100.00% |
| 1,1,1-Trichloroethane | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,1,2,2-Tetrachloroethane | VOC | Soil | 8 | 0 | 1 | 7 | 87.50% |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,1,2-Trichloroethane | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,1-Dichloroethane | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,1-Dichloroethene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,2,3-Trichlorobenzene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,2,4-Trichlorobenzene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,2-Dibromo-3-chloropropane | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,2-Dibromoethane | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,2-Dichlorobenzene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,2-Dichloroethane | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,2-Dichloroethene (Total) | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,2-Dichloropropane | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,3-Dichlorobenzene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,4-Dichlorobenzene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 2-Butanone (MEK) | VOC | Soil | 8 | 2 | 0 | 8 | 100.00% |
| 2-Hexanone | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 4-Methyl-2-pentanone (MIBK) | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Acetone | VOC | Soil | 8 | 1 | 0 | 8 | 100.00% |
| Benzene | VOC | Soil | 8 | 3 | 0 | 8 | 100.00% |
| Bromodichloromethane | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Bromoform | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |

**EVALUATION OF DATA COMPLETENESS**
**Percentage of Non-Rejected Results vs Total Results**

| Parameter | Parameter Group | Matrix | Number of Validated Results | Detections | Number of Rejected Results | Number of Non-rejected Results | Completeness |
|---|---|---|---|---|---|---|---|
| Bromomethane | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Carbon disulfide | VOC | Soil | 8 | 5 | 0 | 8 | 100.00% |
| Carbon tetrachloride | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Chlorobenzene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Chloroethane | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Chloroform | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Chloromethane | VOC | Soil | 8 | 1 | 0 | 8 | 100.00% |
| cis-1,2-Dichloroethene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| cis-1,3-Dichloropropene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Cyclohexane | VOC | Soil | 8 | 2 | 0 | 8 | 100.00% |
| Dibromochloromethane | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Dichlorodifluoromethane | VOC | Soil | 8 | 0 | 1 | 7 | 87.50% |
| Ethylbenzene | VOC | Soil | 8 | 1 | 0 | 8 | 100.00% |
| Isopropylbenzene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Methyl Acetate | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Methyl tert-butyl ether (MTBE) | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Methylene Chloride | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Styrene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Tetrachloroethene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Toluene | VOC | Soil | 8 | 2 | 0 | 8 | 100.00% |
| trans-1,2-Dichloroethene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| trans-1,3-Dichloropropene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Trichloroethene | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Trichlorofluoromethane | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Vinyl chloride | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| Xylenes | VOC | Soil | 8 | 0 | 0 | 8 | 100.00% |
| 1,4-Dioxane | VOC/SVOC | Soil | 8 | 0 | 8 | 0 | 0.00% |
| Cyanide | CN | Water | 4 | 1 | 0 | 4 | 100.00% |
| Aluminum | Metal | Water | 4 | 4 | 0 | 4 | 100.00% |
| Antimony | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| Arsenic | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| Barium | Metal | Water | 4 | 4 | 0 | 4 | 100.00% |
| Beryllium | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| Cadmium | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| Chromium | Metal | Water | 4 | 4 | 0 | 4 | 100.00% |
| Chromium VI | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| Cobalt | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| Copper | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| Iron | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| Lead | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| Manganese | Metal | Water | 4 | 1 | 0 | 4 | 100.00% |
| Mercury | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| Nickel | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| Selenium | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| Silver | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| Thallium | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| Vanadium | Metal | Water | 4 | 4 | 0 | 4 | 100.00% |
| Zinc | Metal | Water | 4 | 0 | 0 | 4 | 100.00% |
| 1,1-Biphenyl | SVOC | Water | 4 | 1 | 0 | 4 | 100.00% |
| 1,2,4,5-Tetrachlorobenzene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 2,3,4,6-Tetrachlorophenol | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 2,4,5-Trichlorophenol | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 2,4,6-Trichlorophenol | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 2,4-Dichlorophenol | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 2,4-Dimethylphenol | SVOC | Water | 4 | 3 | 0 | 4 | 100.00% |

**EVALUATION OF DATA COMPLETENESS**
**Percentage of Non-Rejected Results vs Total Results**

| Parameter | Parameter Group | Matrix | Number of Validated Results | Detections | Number of Rejected Results | Number of Non-rejected Results | Completeness |
|---|---|---|---|---|---|---|---|
| 2,4-Dinitrophenol | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 2,4-Dinitrotoluene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 2,6-Dinitrotoluene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 2-Chloronaphthalene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 2-Chlorophenol | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 2-Methylnaphthalene | SVOC | Water | 4 | 4 | 0 | 4 | 100.00% |
| 2-Methylphenol | SVOC | Water | 4 | 3 | 0 | 4 | 100.00% |
| 2-Nitroaniline | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 3&4-Methylphenol(m&p Cresol) | SVOC | Water | 4 | 1 | 0 | 4 | 100.00% |
| 3,3'-Dichlorobenzidine | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 4-Chloroaniline | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 4-Nitroaniline | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Acenaphthene | SVOC | Water | 4 | 4 | 0 | 4 | 100.00% |
| Acenaphthylene | SVOC | Water | 4 | 2 | 0 | 4 | 100.00% |
| Acetophenone | SVOC | Water | 4 | 3 | 0 | 4 | 100.00% |
| Anthracene | SVOC | Water | 4 | 4 | 0 | 4 | 100.00% |
| Benz[a]anthracene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Benzaldehyde | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Benzo[a]pyrene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Benzo[b]fluoranthene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Benzo[g,h,i]perylene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Benzo[k]fluoranthene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| bis(2-chloroethoxy)methane | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| bis(2-Chloroethyl)ether | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| bis(2-Chloroisopropyl)ether | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| bis(2-Ethylhexyl)phthalate | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Caprolactam | SVOC | Water | 4 | 1 | 0 | 4 | 100.00% |
| Carbazole | SVOC | Water | 4 | 4 | 0 | 4 | 100.00% |
| Chrysene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Dibenz[a,h]anthracene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Diethylphthalate | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Di-n-butylphthalate | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Di-n-ocytlphthalate | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Fluoranthene | SVOC | Water | 4 | 4 | 0 | 4 | 100.00% |
| Fluorene | SVOC | Water | 4 | 4 | 0 | 4 | 100.00% |
| Hexachlorobenzene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Hexachlorobutadiene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Hexachlorocyclopentadiene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Hexachloroethane | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Indeno[1,2,3-c,d]pyrene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Isophorone | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Naphthalene | SVOC | Water | 4 | 4 | 0 | 4 | 100.00% |
| Nitrobenzene | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| N-Nitroso-di-n-propylamine | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| N-Nitrosodiphenylamine | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Pentachlorophenol | SVOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| Phenanthrene | SVOC | Water | 4 | 4 | 0 | 4 | 100.00% |
| Phenol | SVOC | Water | 4 | 1 | 0 | 4 | 100.00% |
| Pyrene | SVOC | Water | 4 | 4 | 0 | 4 | 100.00% |
| Diesel Range Organics | TPH | Water | 4 | 4 | 0 | 4 | 100.00% |
| Gasoline Range Organics | TPH | Water | 4 | 1 | 0 | 4 | 100.00% |
| Oil & Grease | TPH | Water | 4 | 3 | 0 | 4 | 100.00% |
| 1,1,1-Trichloroethane | VOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 1,1,2,2-Tetrachloroethane | VOC | Water | 4 | 0 | 0 | 4 | 100.00% |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | VOC | Water | 4 | 0 | 0 | 4 | 100.00% |

**EVALUATION OF DATA COMPLETENESS**
**Percentage of Non-Rejected Results vs Total Results**

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

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