Phase II Investigation
Work Plan

Area B: Parcel B15
Tradepoint Atlantic
Sparrows Point, Maryland

Prepared for:
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ARM Project 150300M-23

Respectfully Submitted,

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1.0 INTRODUCTION

1.1. INTRODUCTION

ARM Group Inc. (ARM), on behalf of EnviroAnalytics Group (EAG), has prepared the following Work Plan to complete a Phase II site investigation on a portion of the Tradepoint Atlantic property that has been designated as Area B, Parcel B15 (the Site). Parcel B15 is comprised of approximately 16.5 acres of the approximately 3,100-acre former plant property located as shown on **Figure 1**.

Site characterization of Parcel B15 will be performed in compliance with requirements pursuant to the following:

- Administrative Consent Order (ACO) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the Maryland Department of the Environment (effective September 12, 2014); and
- Settlement Agreement and Covenant Not to Sue (SA) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the United States Environmental Protection Agency (effective November 25, 2014).

An application to enter the Tradepoint Atlantic property into the Maryland Department of the Environment Voluntary Cleanup Program (MDE-VCP) was submitted to MDE on September 10, 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.

Parcel B15 is part of the acreage that was removed (Carveout Area) from inclusion in the Multimedia Consent Decree between Bethlehem Steel Corporation, the United States Environmental Protection Agency (EPA), and the Maryland Department of the Environment (MDE) (effective October 8, 1997) as documented in correspondence received from EPA on September 12, 2014. Based on this agreement, EPA has 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 EPA's RCRA Corrective Action authorities.

Tradepoint Atlantic has developed an initial master plan that shows potential future development areas across the entire property. A proprietary site planning document which shows the proposed development for Parcel B15 has also been reviewed. These plans are working documents which are expected to undergo subsequent revisions in the future. In the current iteration, the plans show that roughly 93% of the total area within Parcel B15 is proposed for paving. The parcel contains two Brick Sheds which are proposed for reuse/development. The

shed to the north is currently proposed to be developed into an Extended Storage Building, while the shed to the south will be developed for Atlantic Forest Products.

The objective of this Phase II Investigation is to identify the presence or absence of any existing hazardous conditions for future tenants or personnel working on the Site. During the Phase II Investigation, a total of 21 soil borings and three sub-slab soil gas samples will be collected and analyzed to assess the presence of absence of contamination in Parcel B15. Groundwater at the Site has been previously investigated by the separate Area B Groundwater Investigation (Work Plan dated October 6, 2015) and the Finishing Mills Groundwater Investigation (Work Plan dated July 7, 2016), but three additional groundwater sample collection points are proposed in the vicinity of the Brick Sheds (per a request by the MDE) to investigate potential groundwater impacts. Following the receipt of analytical data, a Human Health Screening Level Risk Analysis (SLRA) will be completed to evaluate the potential risk to future workers, and a Phase II Investigation Report will be prepared to summarize the findings.

1.2. SITE BACKGROUND

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 the Facility ceased in fall 2012.

Groundcover at the Site is comprised of approximately 100% slag based on the approximate shoreline of the Sparrows Point Peninsula in 1916, as shown on **Figure 2** (Adapted from Figure 2-20 on the Description of Current Conditions (DCC) Report prepared by Rust Environmental and Infrastructure, dated January 1998).

There is limited information on historical processes that occurred within Parcel B15. To confirm the status of the buildings and observe current activity at the Site, ARM completed a site visit on June 15, 2016. A photograph log from this field visit has been included as **Appendix A**. During this site visit, it was confirmed that the Brick Sheds occupy the northern portion of Parcel B15 covering approximately 4 acres of the total parcel area. The Brick Sheds remain standing on elevated floor slabs (trailer height) with open sides. There were stockpiles of various metals and materials being stored in the Brick Sheds at the time of the site visit. A follow-up site visit was performed on August 26, 2016 to observe current conditions in the enclosed portion of the southern Brick Shed. At the time of this visit, the shed was vacant and being used for miscellaneous storage. The photograph log from this follow-up visit is also included in **Appendix A**. The enclosed portion of the structure may be occupied in the future once the parcel is developed, warranting a building occupancy assessment (BOA).

Prior to the Area B Groundwater Investigation and the Finishing Mills Groundwater Investigation there were three groundwater wells located within the Parcel B15 boundaries. Available analytical data from these wells were extracted from the Site Wide Investigation Groundwater Study Report prepared by the Bethlehem Steel Corporation Sparrows Point Division dated December 20, 2001, and the Site Wide Investigation Report of Nature & Extent of Releases to Groundwater from the Special Study Areas prepared by URS, dated January 2005. Historical data from these wells (TM05-PZM005, TM05-PZM040, and TM05-PZM069) are presented in **Appendix B**. The data indicate that historical concentrations of iron and manganese exceeded the Project Action Limits (PALs) in the intermediate and lower hydrogeologic zones. Naphthalene and vanadium exceeded the applicable PALs in the shallow hydrogeologic zone. These exceedances are highlighted in the historical data appendix.

Additionally, a total of nine wells within, and adjacent to, Parcel B15 boundary were sampled during the Area B and Finishing Mills groundwater field investigations. The results from the recent groundwater sampling events (December 2015 through July 2016) are provided in **Appendix C**. Note that only SW-021-MWS, TM03-PZM004, TM03-PZM037, TM05-PZM005, and TM05-PZM040 data have undergone data validation. Aqueous PAL exceedances in the groundwater data are highlighted. The appendix also indicates the screened interval for each of the wells, as well as the hydrogeologic zone. In accordance with the relevant approved Work Plans (Area B and Finishing Mills), each of the wells included in the groundwater studies were checked for non-aqueous phase liquid (NAPL) using an oil-water interface probe prior to sampling. None of the wells in the vicinity of Parcel B15 showed evidence of NAPL during the required measurements.

There is no historical soil or soil gas sampling data available from this parcel.

1.3. SAMPLING DESIGN AND RATIONALE

1.3.1. Soil Sampling Targets

Parcel B15 contains a total of 16.5 acres: 8.7 acres without engineered barriers and 7.8 acres with current engineered barriers (parking/roads or building slabs). In accordance with the relevant sampling density requirements set forth in the Quality Assurance Project Plan (QAPP) Worksheet 17 – Sampling Design and Rationale, a minimum of 9 soil boring locations are required in the areas without engineered barriers, and a minimum of 4 soil boring locations are required in the areas currently with engineered barriers. A total of 10 soil borings have been proposed in areas without engineered barriers. A total of 11 borings have been proposed in areas with engineered barriers, with locations selected as follows.

Across the whole Tradepoint Atlantic property, several buildings and facilities may have been historical sources of environmental contamination. These areas were identified as targets for sampling through a careful review of historical documents. The first sampling targets to be identified were Recognized Environmental Conditions (RECs), if they exist, that are located within the Site boundaries as shown on the REC Location Map provided in the Phase I Environmental Site Assessment (ESA) prepared by Weaver Boos Consultants dated May 19, 2014. Weaver Boos completed site visits of Sparrows Point from February 19 through 21, 2014, for the purpose of characterizing current conditions at the former steel plant. All RECs would be targeted with at least three (3) borings. There were no RECs identified within the Site boundary.

A second group of sampling targets was defined, if necessary, based on previous RCRA Facility Assessment (RFA) documentation and a previous visual site inspection (VSI) prepared by A.T. Kearney, Inc. (dated August 1993) provided in the DCC Report. The purpose of the VSI was to identify Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) on the property. SWMUs and AOCs, if present, were identified from the DCC report Figure 3-1. There were no SWMUs or AOCs that were identified at the Site based on this figure, and no additional units were identified from the DCC report Table 3-1. **Figure 3** shows the proposed borings overlain on the DCC figure, which shows the SWMUs, AOCs, and main facility areas within the property boundaries.

Following the identification of all RECs, SWMUs, and AOCs, four (4) sets of historical site drawings were reviewed to identify additional sampling targets. These site 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. Sampling target locations were identified if the historical site drawings depicted industrial activities or a specific feature at a location that may have been a source of environmental contamination that impacted the Site. Drip legs are points throughout the distribution system where coke oven gas condensate was removed from the gas pipelines. The condensate from the drip legs was typically discharged to drums, although it is possible some spilled out of the drums and on to the ground. There were no drip legs identified within the parcel boundaries based on this final drawing set. **Figures 4 through 6** show the proposed borings and the parcel boundary overlain on the 5000 Set, 5100 Set, and 5500 Set, respectively. A summary of the specific drawings covering the Site is presented in the table below:

Parcel B15 Historical Site Drawings 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	5039	9/1/1958	3/11/1982
		5040	6/15/1958	3/19/1982
Plant Index	Roads, water bodies, demolished buildings/structures, electric lines, above-ground pipelines	5139	*Unknown*	1/16/2008
		5140	*Unknown*	8/15/2008
Plant Sewer Lines	Same as above plus trenches, sumps, underground piping (includes pipe materials)	5539	8/28/1959	2/21/1975
		5540	6/15/1958	7/14/1991
Drip Legs	Coke Oven Gas Drip Legs Locations	5887	*Unknown*	Sept.1988

A list and figure of former PCB-containing transformer equipment was also reviewed for inclusion as additional targets. There were no possible PCB-contaminated equipment areas identified in the parcel based on this information.

The number of proposed borings that targeted a specific feature is directly related to the size and likely historical presence of materials that could have impacted the Site. Careful review of the geospatially referenced figures and review of other historical documents (previously discussed) yielded the proposed boring locations. Based on this criterion, the Brick Sheds and a Scrap Yard were identified as the only two sampling targets at the Site. When a sampling target was identified, at least two borings were placed at or around its location using GIS software (ArcMap Version 10.3.1). Sample locations were also added to fill in large spatial gaps between proposed borings within the Site and to meet the sample density requirements set forth in the QAPP Worksheet 17 – Sampling Design and Rationale. Based upon an initial review of the proposed sampling plan for Parcel B15 (Revision 0), the MDE requested eight additional soil borings (B15-014-SB through B15-021-SB) in the vicinity of the Brick Sheds. The full list of sample targets, along with the specific rationale for sampling each, is given in **Appendix D**. **Figure 7** shows the proposed borings on an aerial image to indicate locations of borings with regard to landmarks and physical obstructions. **Figure 8a** shows the locations of the borings relative to current engineered barriers within Parcel B15 and **Figure 8b** show the future engineered barriers (proposed).

1.3.2. Groundwater

Groundwater at the Site was partially investigated as described in the Area B and Finishing Mills Groundwater Investigation Work Plans. The groundwater sample locations from this separate plan are shown on **Figure 9**. Groundwater analytical data has been provided in **Appendix C** for each of the sampled wells. Additionally, groundwater will be investigated in the vicinity of the Brick Sheds using three temporary installed groundwater monitoring piezometers. These additional groundwater samples (B15-012-PZ, B15-014-PZ, and B15-018-PZ) were requested by the MDE based on an initial review of the proposed sampling plan for Parcel B15 (Revision 0). **Figure 10** shows an aerial view of the additional proposed groundwater sample locations.

1.3.3. Sub-Slab Soil Gas

A sub-slab soil gas investigation will be performed in the enclosed portion of the southern Brick Shed along the eastern side of the building to verify that conditions within, below, and around the building do not pose a potentially unacceptable risk to current and future commercial workers occupying the buildings. The enclosed section of the Brick Shed has an area of approximately 4,725 ft^2. According to the density requirement given in QAPP Worksheet 17 – Sampling Design and Rationale, three (3) sampling locations are required in a structure of this size. Sub-slab soil gas samples have been included in the parcel specific sampling plan, with three sub-slab soil gas locations (B15-022-SG through B15-024-SG) providing building coverage. **Figure 11** displays the locations of these sub-slab soil gas samples.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

2.1. PROJECT PERSONNEL

The site characterization of Area B Parcel B15 will be conducted by ARM under a contract with EAG. ARM will provide project planning, field sampling and reporting support. The required drilling, Geoprobe® and laboratory services will be contracted directly by EAG. The management, field, and laboratory responsibilities of key project personnel are defined in this section.

The ARM Project Manager, Mr. Eric Magdar is responsible for ensuring that all activities are conducted in accordance with this Work Plan and the contract requirements. Mr. Magdar will provide technical coordination with the MDE, EPA and EAG. The ARM Project Manager is responsible for managing all operations conducted for this project including:

- Ensure all personnel assigned to this project review the technical project plans before initiation of all tasks associated with the project.
- Review of project plans in a timely manner.
- Ensure proper methods and procedures are implemented to collect representative samples.
- Monitor the project budget and schedule and ensure the availability of necessary personnel, equipment, subcontractors, and other necessary services.

The lead ARM Project Scientist, Mr. Nicholas Kurtz, will be responsible for coordinating field activities including the collection, preservation, documentation and shipment of samples. Mr. Kurtz will directly communicate with the ARM Project Manager and Laboratory Project Manager on issues pertaining to sample shipments, schedules, container requirements, and other necessary issues. Mr. Kurtz is also responsible for ensuring the accuracy of sample documentation including the completion of the chain-of-custody (CoC) forms.

Pace Analytical Services, Inc. (PACE) of Greensburg, Pennsylvania will provide the analytical services for this project. The address for the laboratory is as follows:

Pace Analytical
1638 Roseytown Road
Greensburg, PA 15601

During the field activities, the Laboratory Project Manager will coordinate directly with the ARM Project Manager on issues regarding sample shipments, schedules, container requirements, and other field-laboratory logistics. The Laboratory Project Manager will monitor the daily activities of the laboratory, coordinate all production activities, and ensure that work is being

conducted as specified in this document. Ms. Samantha Bayura will be the Laboratory Project Manager for PACE on this project.

2.2. HEALTH AND SAFETY ISSUES

Because of the potential presence of metals, petroleum hydrocarbons and chlorinated hydrocarbons in the soil and groundwater at the Site, the investigation will be conducted under a site-specific Health and Safety Plan to protect investigation workers from possible exposure to contaminated materials. The site-specific HASP for Parcel B15 is provided as **Appendix E**.

Based on information provided to ARM, the planned site activities will be conducted under modified Level D personal protection. The requirements of the modified Level D protection are defined in ARM's site specific Health and Safety Plan. All field personnel assigned for work at the Site have been trained in accordance with the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response standard (29 CFR 1910.120) and other applicable OSHA training standards. All field staff will be experienced in hazardous waste site work, use of personal protective equipment (PPE), and emergency response procedures.

3.0 FIELD ACTIVITIES AND PROCEDURES

3.1. UTILITY CLEARANCE

ARM will take appropriate precautions to avoid subsurface utilities and structures during the site investigation. Prior to initiating any subsurface investigations, ARM will attempt to determine the location of utilities in the project area using the Miss Utility system. Additionally, any required state or local permits will be acquired prior to the commencement of site activities.

In addition to the Miss Utility system, EAG will clear each proposed boring with utility personnel currently working on the property. To facilitate this, ARM will locate with a GPS and mark all proposed boring locations in the field. ARM will coordinate the staking of borings in the field with Tradepoint Atlantic utility personnel to avoid conflicts. Historical utility drawings which may be relevant include the 5600 Set (Plant Water Lines) and 5800 Set (Plant Gas Lines).

3.2. SAMPLING PLAN

The purpose of this site characterization is to identify any existing hazardous conditions across the entire Site. A summary of the RECs and other areas of concern that will be investigated, along with the proposed boring identification number and the analyses being performed, has been provided as **Appendix D**.

This Work Plan presents the methods and protocols to be used to complete the site characterization. These methods and procedures follow the MDE-VCP and EPA guidelines. Information regarding the project organization, field activities and sampling methods, sampling equipment, sample handling and management procedures, the laboratory analytical methods and selected laboratory, quality control and quality assurance procedures, investigation-derived waste (IDW) management methods, reporting requirements are described in detail in the QAPP that has been developed to support the investigation and remediation of the Tradepoint Atlantic Site (Quality Assurance Project Plan, ARM Group Inc., April 5, 2016).

The proposed schedule of this investigation is contained in this work plan (Section 8.0). All site characterization activities will be conducted under the site-specific HASP (**Appendix E**).

3.3. SOIL INVESTIGATION

Soil samples will be collected from the locations identified on **Figures 3 through 8**, and in accordance with procedures referenced in the QAPP Worksheet 21 – Field SOPs (Standard Operating Procedures), SOP No. 009 – Sub-surface Soil Sampling. Regarding soil sampling depth, a shallow sample will be collected from the 0 to 1 foot depth interval, and a deeper sample will be collected from the 4 to 5 foot depth interval. One additional set of samples will also be collected from the 9 to 10 foot depth interval if groundwater has not been encountered; however,

these samples will be held by the laboratory pending the analysis of the 0 to 1 and 4 to 5 foot depth interval samples. If the PID or other field observations indicate contamination to exist at a depth greater than 3 feet bgs but less than 9 feet bgs, and is above the water table, the sample from the deeper 4-5 foot interval may be shifted to the depth interval indicated by the PID response. It should be noted that no soil samples will be collected from a depth that is below the water table.

After soil sampling has been concluded at a location, all down-hole soil sampling equipment will be decontaminated according to procedures referenced in the QAPP Worksheet 21 – Field SOPs, SOP No. 016 Equipment Decontamination. The decontamination procedures that will be used during the course of this investigation include Decontamination Area (Section 3.1 of the SOP), Decontamination of Sampling Equipment (Section 3.5), Decontamination of Measurement Devices & Monitoring Equipment (Section 3.7), Decontamination of Subsurface Drilling Equipment (Section 3.8), and Document and Record Keeping (Section 5).

All soil samples will be analyzed for TCL-SVOCs, TAL-Metals, Oil & Grease, TPH-DRO, TPH-GRO, hexavalent chromium, and cyanide. During field screening of the soil cores, any sample interval which exceeds a PID reading of 10 ppm will also be analyzed for TCL-VOCs. Additionally, the shallow soil samples collected across the Site from the 0-1 foot bgs interval will also be analyzed for PCBs. Analytical methods, 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. GROUNDWATER INVESTIGATION

The groundwater investigation for Parcel B15 is covered by the Area B Groundwater Investigation Work Plan (Revision 3), dated October 6, 2015 and the Finishing Mills Groundwater Investigation Work Plan (Revision 1), dated July 7, 2016, as well as three additional temporary piezometers, the installation of which is described below. The sample locations from these previous Groundwater Investigation Work Plans are indicated on **Figure 9** and the locations of the proposed temporary piezometers are provided on **Figure 10**. The Area B Groundwater Investigation included two groundwater sample locations within the parcel boundaries (TM05-PZM005 and TM05-PZM040). An additional three wells (TM03-PZM004, TM03-PZM037, and SW-021-MWS) that were included in the Area B Groundwater Investigation are located just beyond the parcel boundaries. An additional four wells (TM07-PZM005, TM07-PZM045, SW-079-MWS, and SW-079-MWI) that were included in the Finishing Mills Groundwater Investigation are also located just beyond the parcel boundaries. Of the nine total groundwater locations directly associated with the parcel, five wells (TM03-PZM004, TM05-PZM005, SW-021-MWS, TM07-PZM005, and SW-079-MWS) were installed in the shallow water bearing unit. The four remaining wells (TM03-PZM037, TM05-PZM040, TM07-PZM045, and SW-079-MWI) are located in the intermediate hydrogeologic zone.

Temporary piezometers will be installed at the locations identified on **Figure 10** in accordance with the procedures referenced in the QAPP Worksheet 21 – Field SOPs, SOP No. 028 – Direct Push Installation and Construction of Temporary Groundwater Sample Collection Points. Sample locations where piezometers will be installed include: B15-012-PZ, B15-014-PZ, and B15-018-PZ. Groundwater samples will be collected from temporary piezometers in accordance with the procedures referenced in the QAPP Worksheet 21 – Field SOPs, SOP No. 006 – Groundwater Sampling. All groundwater samples will be analyzed for TCL-VOCs, TCL-SVOCs, TAL-Dissolved Metals, Oil & Grease, TPH-DRO, TPH-GRO, dissolved hexavalent chromium, and total cyanide. Analytical methods, sample containers, preservatives, and holding times for the sample analyses are listed in the QAPP Worksheet 19 & 30 – Sample Containers, Preservation, and Holding Times. Available data from the existing shallow wells already sampled for the Area B and Finishing Mills Groundwater Investigations (listed above) will also be included in the exceedance report for the parcel.

Each temporary groundwater sampling point will be checked for the presence of NAPL using an oil-water interface probe, in accordance with methods referenced in the QAPP Worksheet 21 – Field SOPs, SOP No. 019 – Depth to Groundwater and NAPL Measurements.

Once each PVC piezometer has been sampled and/or checked for NAPL, it will be emptied, removed and discarded. The boreholes will then be abandoned in accordance with Maryland abandonment standards as stated in COMAR 26.04.04.34 through 36.

3.5. SUB-SLAB SOIL GAS INVESTIGATION

Sub-slab soil gas samples will be collected from temporary monitoring probes installed at each of the locations provided on **Figure 11** to determine if historical on-site activities have negatively impacted the soil beneath the enclosed Brick Shed area and to determine if there is a potentially unacceptable risk associated with the vapor intrusion to indoor air risk pathway. Soil gas samples will be collected according to procedures outlined in QAPP Worksheet 21 – Field SOPs, SOP No. 002 – Sub-Slab Soil Gas Sampling. All sub-slab soil gas samples will be analyzed for VOCs. Analytical methods, sample containers, preservatives, and holding times for the sample analyses are listed in the QAPP Worksheet 19 & 30 – Sample Containers, Preservation, and Holding Times.

3.6. NAPL DELINEATION

In the event that NAPL bearing soils are identified in a soil boring, a temporary piezometer will be installed according to the specifications identified in SOP No. 028 – Direct Push Installation and Construction of Temporary Groundwater Sample Collection Points. The temporary piezometers will be immediately checked for the presence of NAPL using an oil-water interface probe in accordance with methods referenced in the SOP No. 019 – Depth to Groundwater and NAPL Measurements. If NAPL is not detected, the piezometer will be allowed to equilibrate for at least 48 hours prior to a second measurement. If no measureable product is detected after 48 hours, the piezometer will be emptied, removed and discarded, and the borehole will be abandoned in accordance with Maryland abandonment standards as stated in COMAR 26.04.04.34 through 36. If measureable NAPL is detected during either check, another measurement will be made after a 30 day (minimum) equilibration period to determine NAPL thickness.

If measureable NAPL is present in the initial piezometer, additional soil borings with shallow temporary piezometers will be installed to the north, south, east, and west of the detection point at distances of 25 feet. Delineation piezometers will extend into adjacent parcels (if applicable) but will not be installed off of Tradepoint Atlantic property and will only be installed up to the edge of existing buildings. At each location, continuous core soil samples will be screened with a hand-held PID and inspected for evidence of NAPL, and the additional temporary piezometers will be installed to a final depth determined by ARM personnel.

Each additional piezometer installed to delineate the NAPL will be checked for the presence of product with an oil-water interface probe immediately after installation, 48 hours after installation, and again after a 30 day equilibration period. If measureable NAPL is present within any of the piezometers, additional borings/piezometers will be added as necessary to complete the delineation. The MDE will be notified within 48 hours if NAPL is detected within the temporary piezometers. Once the MDE has given approval to abandon the additional piezometers, each piezometer will be emptied, removed and discarded. All boreholes will be abandoned in accordance with Maryland abandonment standards as stated in COMAR 26.04.04.34 through 36. A full report documenting the results of the delineation, including NAPL thickness, will be submitted to the MDE within 30 days of completing the field activities.

3.7. SAMPLE DOCUMENTATION

3.7.1. Sample Numbering

Samples will be numbered in accordance with the QAPP Appendix C – Data Management Plan.

3.7.2. Sample Labels & Chain-of-Custody Forms

Samples will be labeled and recorded on the Chain-of-Custody form in accordance with methods referenced in the QAPP Worksheet 26 & 27 – Sample Handling, Custody and Disposal.

3.8. LABORATORY ANALYSIS

EAG has contracted PACE of Greensburg, Pennsylvania to perform the laboratory analysis for this project. All sample analyses to be performed are listed in **Appendix D**. The samples will be submitted for analysis with a standard turnaround time (approximately 5 work days). The specific list of compounds and analytes that the soil samples will be analyzed for, as well as the quantitation limits and project action limits, is provided in QAPP Worksheet 15 – Project Action Limits and Laboratory-Specific Detection/Quantitation Limits.

4.0 QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

All samples will be collected using dedicated equipment including new soil core liners, sampling kits, tubing, and filters. Each cooler temperature will be measured and documented by the laboratory upon receipt.

Quality control (QC) samples are collected during field studies for various purposes, among which are to isolate site effects (control samples), to define background conditions (background sample), and to evaluate field/laboratory variability (spikes and blanks, trip blanks, duplicates, etc.).

The following QC samples will be submitted for analysis to support the data validation:

- Trip Blank – at a rate of one per cooler with VOC samples
  - Soil – VOCs only
  - Water – VOCs only
- Blind Field Duplicate – at a rate of one duplicate per twenty samples
  - Soil – VOCs, SVOCs, Metals, Oil & Grease, TPH-DRO, TPH-GRO, PCBs, Hexavalent Chromium, and Cyanide
  - Water – VOCs, SVOCs, Metals, Oil & Grease, TPH-DRO, TPH-GRO, Hexavalent Chromium, and Cyanide
  - Sub-Slab Soil Gas – VOCs only
- Matrix Spike/Matrix Spike Duplicate – at a rate of one per twenty samples
  - Soil – VOCs, SVOCs, Metals, Oil & Grease, TPH-DRO, TPH-GRO, PCBs, and Hexavalent Chromium
  - Water – VOCs, SVOCs, Metals, Oil & Grease, TPH-DRO, TPH-GRO, and Hexavalent Chromium
- Field Blank and Equipment Blank – at a rate of one per twenty samples
  - Soil – VOCs, SVOCs, Metals, Oil & Grease, TPH-DRO, TPH-GRO, Hexavalent Chromium, and Cyanide
  - Water – VOCs, SVOCs, Metals, Oil & Grease, TPH-DRO, TPH-GRO, Hexavalent Chromium, and Cyanide
  - Sub-Slab Soil Gas – VOCs only

The QC samples will be 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.

5.0 MANAGEMENT OF INVESTIGATION-DERIVED WASTE

All investigation derived waste (IDW) procedures will be carried out in accordance with methods referenced in the QAPP Worksheet 21 – Field SOPs, SOP No. 005 – Investigation-Derived Wastes Management.

6.0 DATA VALIDATION

For this Parcel B15 Phase II Investigation, a representative 50% of the complete analytical dataset will undergo data validation.

All data validation procedures will be carried out in accordance with the QAPP Worksheet 34 – Data Verification and Validation Inputs, QAPP Worksheet 35 – Data Verification Procedures, and QAPP Worksheet 36 – Data Validation Procedures.

7.0 REPORTING

Following the receipt of all sampling results from "Area B Parcel B15", ARM will prepare a Phase II Investigation Report that will document the sample collection procedures and supporting rationale, and present and interpret the analytical results. All results will be presented in tabular and graphical formats as appropriate to best summarize the data for future use. The sample results will be compared against relevant criteria such as the MDE Generic Numeric Cleanup Standards and the EPA Regional Screening Levels, considering appropriate land use factors and institutional controls, to identify contaminants and exposure pathways of potential concern.

The Phase II Investigation Report will include a SLRA to evaluate potential risks to future workers of the Site prior to development. Compounds that are present at concentrations at or above the PALs will be identified as constituents of potential concern (COPCs) to be included in the SLRA. The Site will be analyzed as a single exposure unit (EU) based on the relatively small size of the parcel. The analytical soil data will be separated into surface (0-1 ft) and subsurface (>1 ft) depths, and exposure point concentrations (EPCs) will be estimated for each COPC dataset using ProUCL software. Lead will be evaluated by the arithmetic mean for the surface and subsurface soils. The estimates of potential exposure point concentrations for surface and subsurface soils will be compared to the USEPA Regional Screening Levels for the Composite Industrial Worker as well as the Excavation Worker to develop Risk Ratios for each COPC relative to a cancer risk of 1E-6 and non-cancer Hazard Index of 1. The risk ratios will be evaluated to determine if further action is warranted for carcinogens (cumulative) or non-carcinogens (summed by target organ). ARM will also present recommendations for any additional site investigation activities if warranted.

8.0 SCHEDULE

The field activities below (including sample analysis and data validation) are planned so that they may be completed within six (6) months of agency approval of this Work Plan. In addition, the investigation report will be submitted to the regulatory authorities within two (2) months of completion of the field activities in accordance with these approximate timeframes:

- the sample collection activities will take approximately two (2) weeks to complete (including mobilization activities) once approval of the work plan is received;
- the sample analysis, data validation (≥50%) and review is expected to require an additional six (6) weeks to complete; and
- the preparation of the investigation report, including an internal Quality Assurance Review cycle, will require another six (6) weeks.

FIGURES

N

ARM Group Inc.
Earth Resource Engineers and Consultants

0 375 750 1,500
Feet

Site Boundary
Private Property
Area A Boundaries
Area B Boundaries

Tradepoint Atlantic
Area A and Area B Parcels

August 1, 2016

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

Figure
1

ARM Group Inc.
Earth Resource Engineers and Consultants

0 375 750 1,500 Feet

Site Boundary
Area A Boundaries
Area B Boundaries
Land
Marsh
Water

Approximate Shoreline 1916

August 1, 2016

Adapted from Figure 2-5 of the Description of Current Conditions Report prepared by Rust Environmental and Infrastructure, dated January 1998

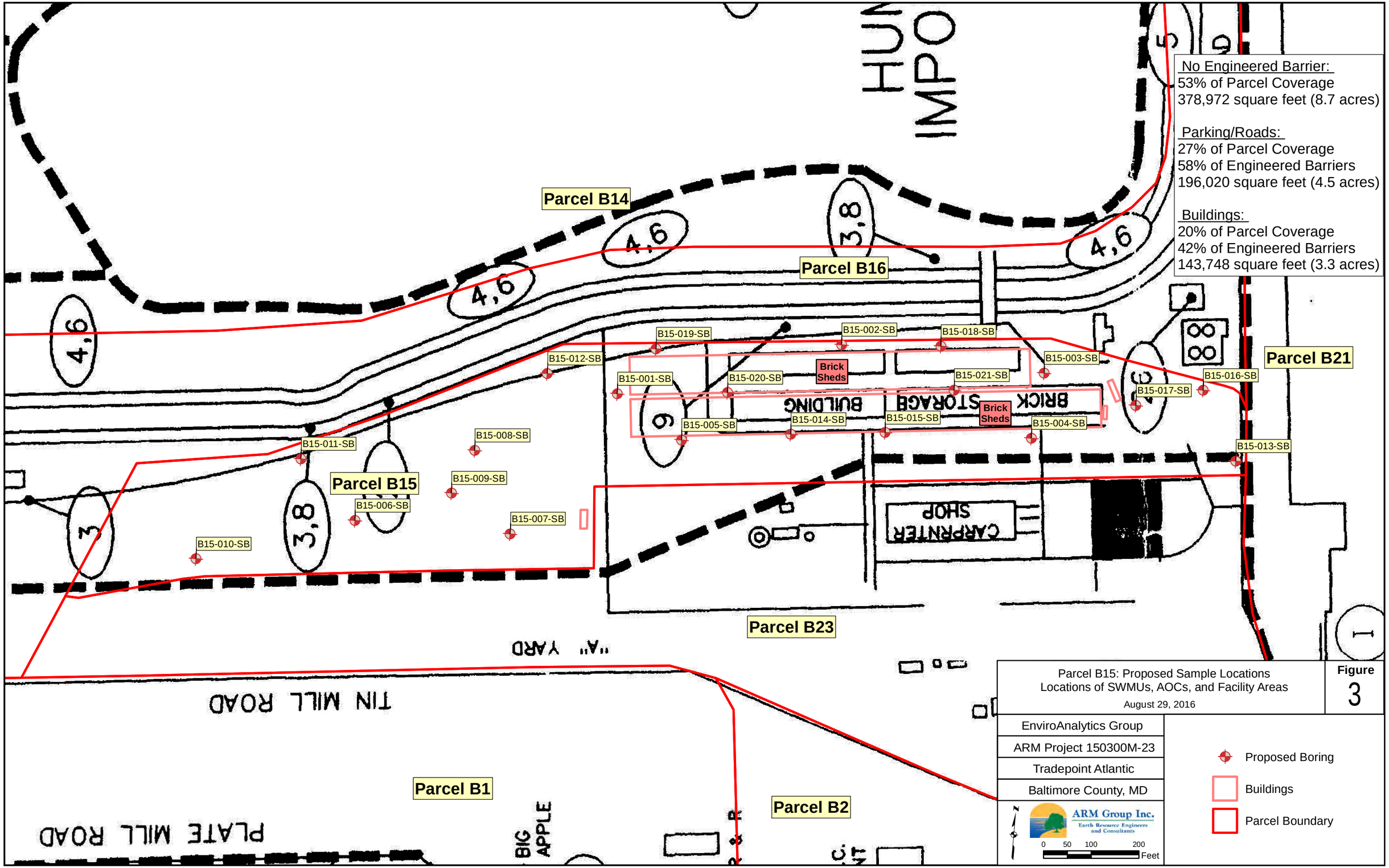
EnviroAnalytics Group

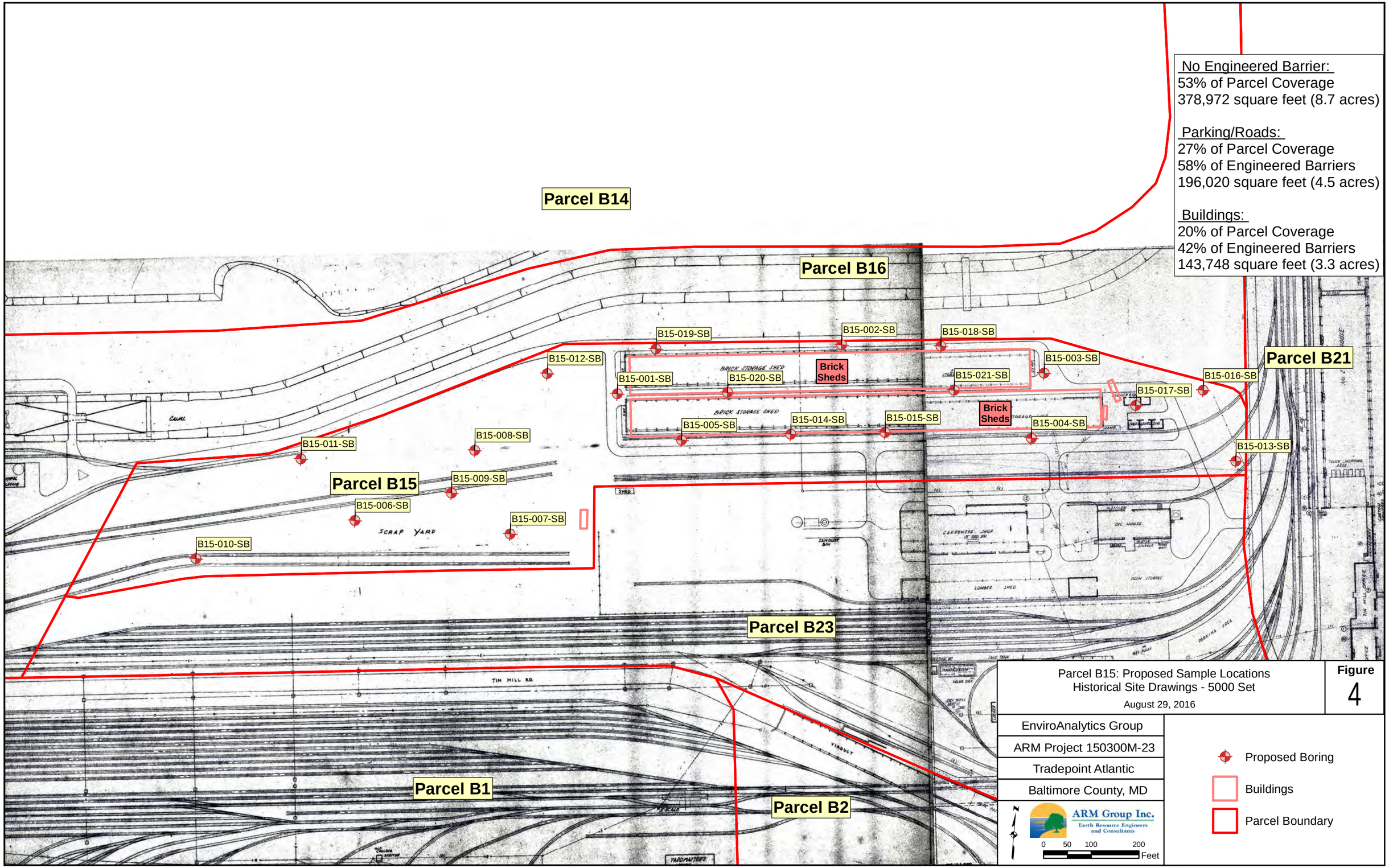
Area A: Project 150298M
Area B: Project 150300M

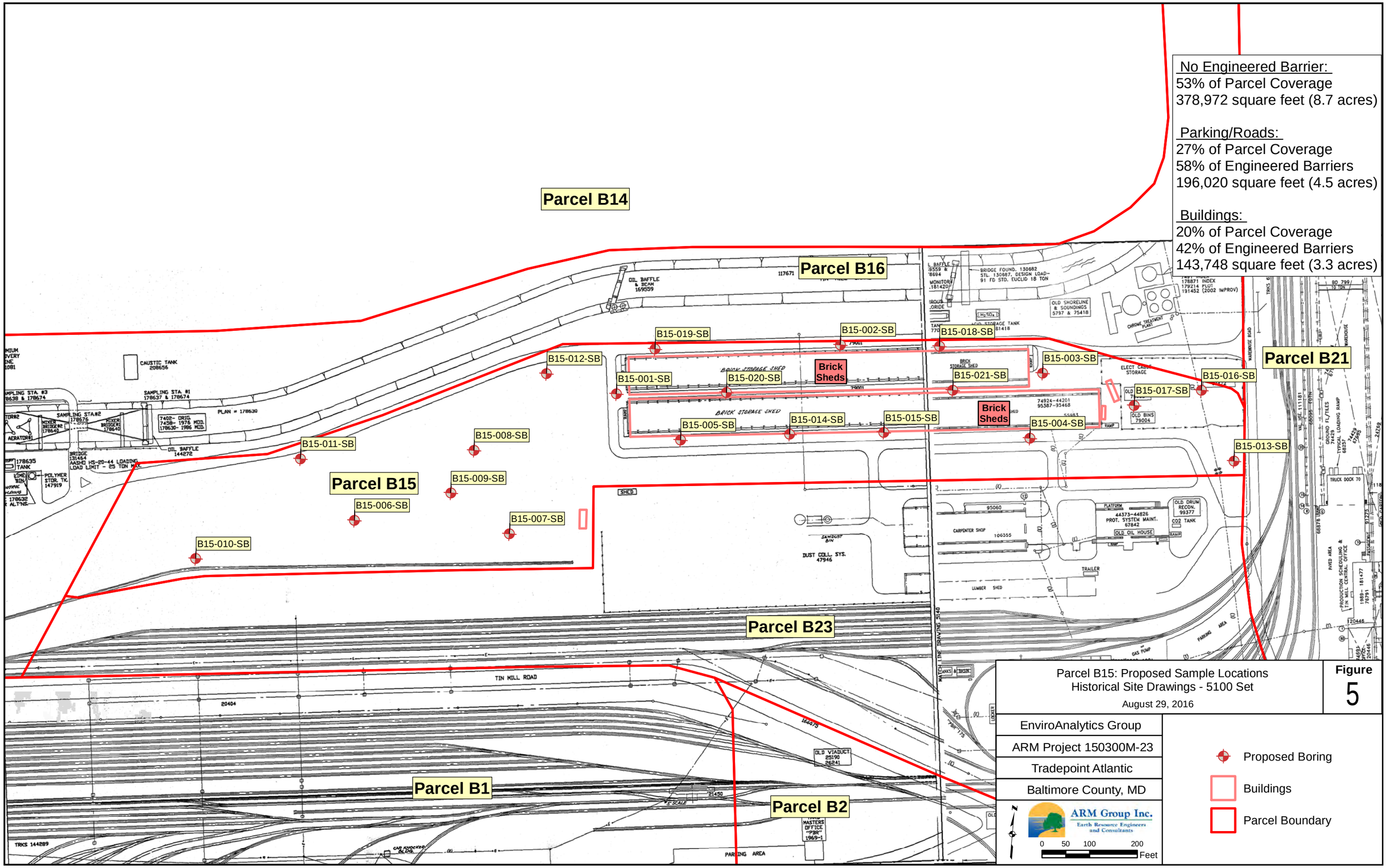
Tradepoint Atlantic

Baltimore County, MD

Figure 2


Parcel B14
Parcel B16
Parcel B21
Parcel B15
Parcel B23
Parcel B1
Parcel B2
B15-019-SB
B15-002-SB
B15-018-SB
B15-012-SB
B15-003-SB
B15-001-SB
B15-020-SB
B15-021-SB
B15-016-SB
B15-017-SB
B15-005-SB
B15-014-SB
B15-015-SB
B15-004-SB
B15-011-SB
B15-008-SB
B15-013-SB
B15-009-SB
B15-006-SB
B15-007-SB
B15-010-SB
Brick Sheds
Brick Sheds
BRICK STORAGE BUILDING
CARPENTER SHOP
TIN MILL ROAD
PLATE MILL ROAD
BIG APPLE
"A" YARD
No Engineered Barrier:
53% of Parcel Coverage
378,972 square feet (8.7 acres)
Parking/Roads:
27% of Parcel Coverage
58% of Engineered Barriers
196,020 square feet (4.5 acres)
Buildings:
20% of Parcel Coverage
42% of Engineered Barriers
143,748 square feet (3.3 acres)
Parcel B15: Proposed Sample Locations
Locations of SWMUs, AOCs, and Facility Areas
August 29, 2016
Figure 3
EnviroAnalytics Group
ARM Project 150300M-23
Tradepoint Atlantic
Baltimore County, MD
ARM Group Inc.
Earth Resource Engineers and Consultants
0 50 100 200
Feet
Proposed Boring
Buildings
Parcel Boundary


Parcel B14
Parcel B16
Parcel B21
Parcel B15
Parcel B23
Parcel B1
Parcel B2
B15-019-SB
B15-002-SB
B15-018-SB
B15-012-SB
B15-003-SB
B15-001-SB
B15-020-SB
B15-021-SB
B15-016-SB
B15-017-SB
B15-005-SB
B15-014-SB
B15-015-SB
B15-004-SB
B15-011-SB
B15-008-SB
B15-013-SB
B15-009-SB
B15-006-SB
B15-007-SB
B15-010-SB
Brick Sheds
Brick Sheds
BRICK STORAGE SHED
BRICK STORAGE SHED
SCRAP YARD
TIN MILL RD.
CANAL
VIADUCT
CARPENTER SHOP
OIL HOUSE
LUMBER SHED
SAWDUST BIN
SHED
YARD MASTER'S
No Engineered Barrier:
53% of Parcel Coverage
378,972 square feet (8.7 acres)
Parking/Roads:
27% of Parcel Coverage
58% of Engineered Barriers
196,020 square feet (4.5 acres)
Buildings:
20% of Parcel Coverage
42% of Engineered Barriers
143,748 square feet (3.3 acres)
Parcel B15: Proposed Sample Locations
Historical Site Drawings - 5000 Set
August 29, 2016
Figure
4
EnviroAnalytics Group
ARM Project 150300M-23
Tradepoint Atlantic
Baltimore County, MD
ARM Group Inc.
Earth Resource Engineers and Consultants
0 50 100 200
Feet
Proposed Boring
Buildings
Parcel Boundary



No Engineered Barrier:
53% of Parcel Coverage
378,972 square feet (8.7 acres)

Parking/Roads:
27% of Parcel Coverage
58% of Engineered Barriers
196,020 square feet (4.5 acres)

Buildings:
20% of Parcel Coverage
42% of Engineered Barriers
143,748 square feet (3.3 acres)

Parcel B15: Proposed Sample Locations
Historical Site Drawings - 5100 Set
August 29, 2016

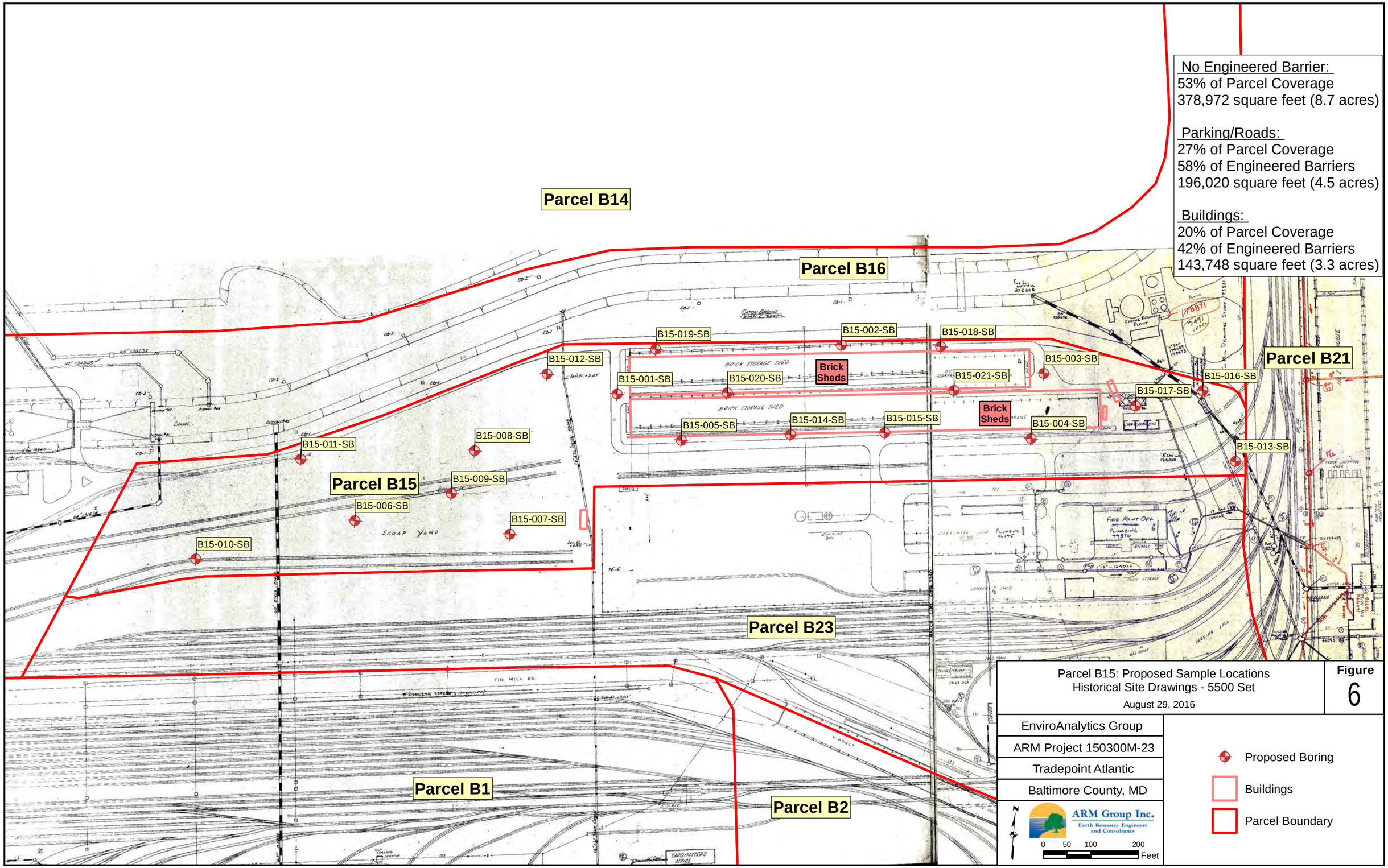
Figure 5

EnviroAnalytics Group
ARM Project 150300M-23
Tradepoint Atlantic
Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

0 50 100 200 Feet

Proposed Boring
Buildings
Parcel Boundary



Parcel B15: Proposed Sample Locations
Historical Site Drawings - 5500 Set

August 29, 2016

Figure 6

EnviroAnalytics Group

ARM Project 150300M-23

Tradepoint Atlantic

Baltimore County, MD

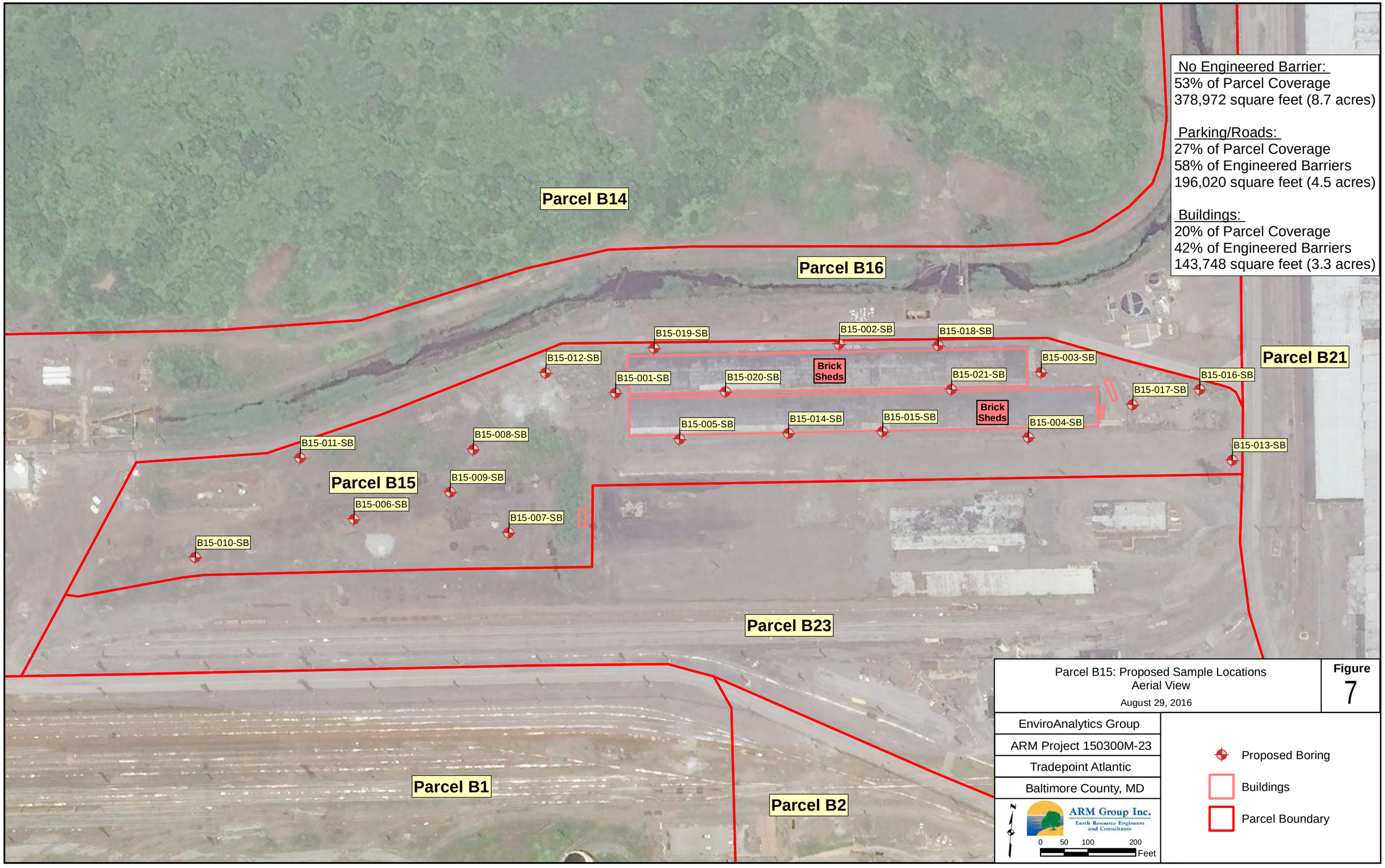
ARM Group Inc.
Earth Resource Engineers and Consultants

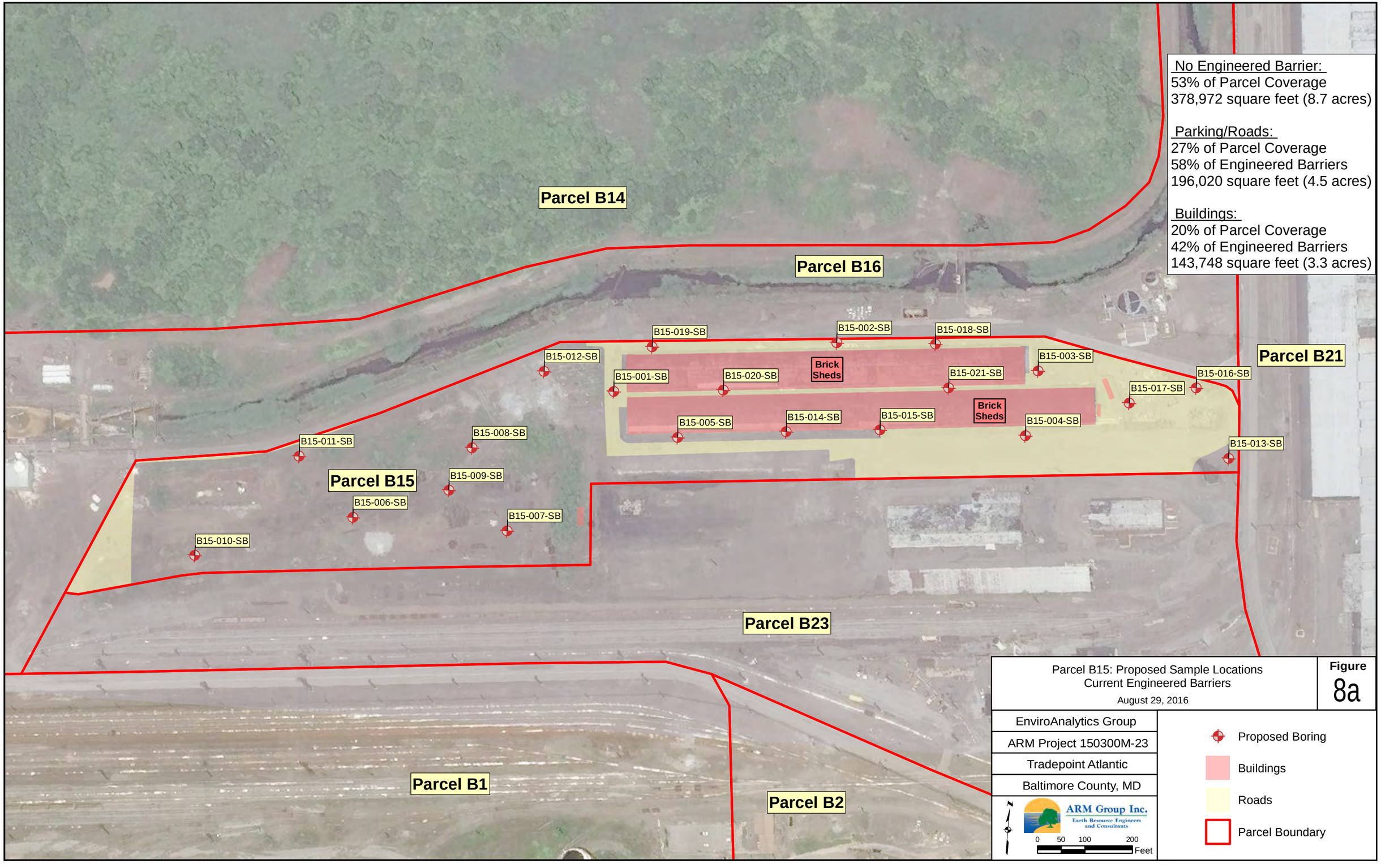
0 50 100 200
Feet

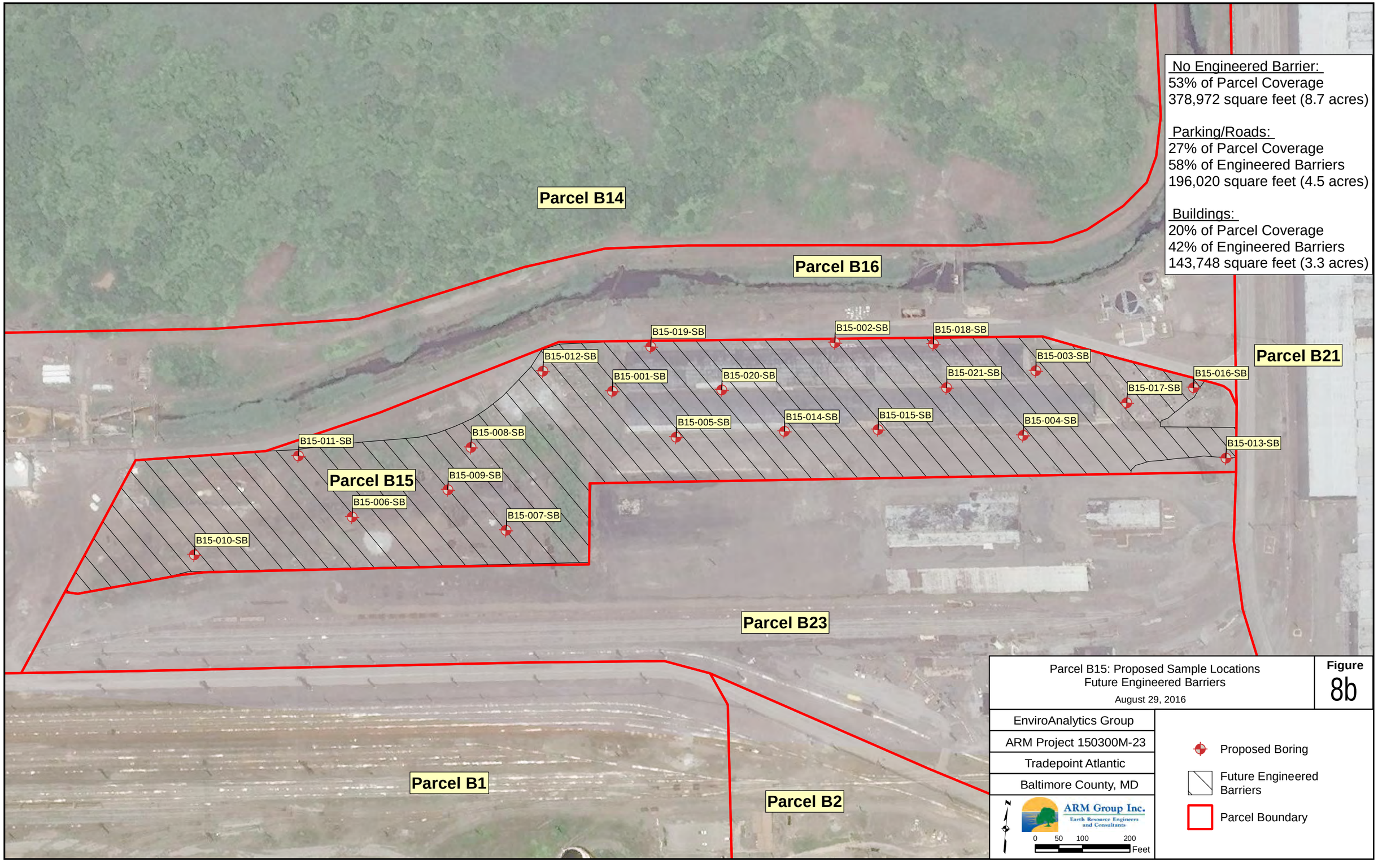
Proposed Boring

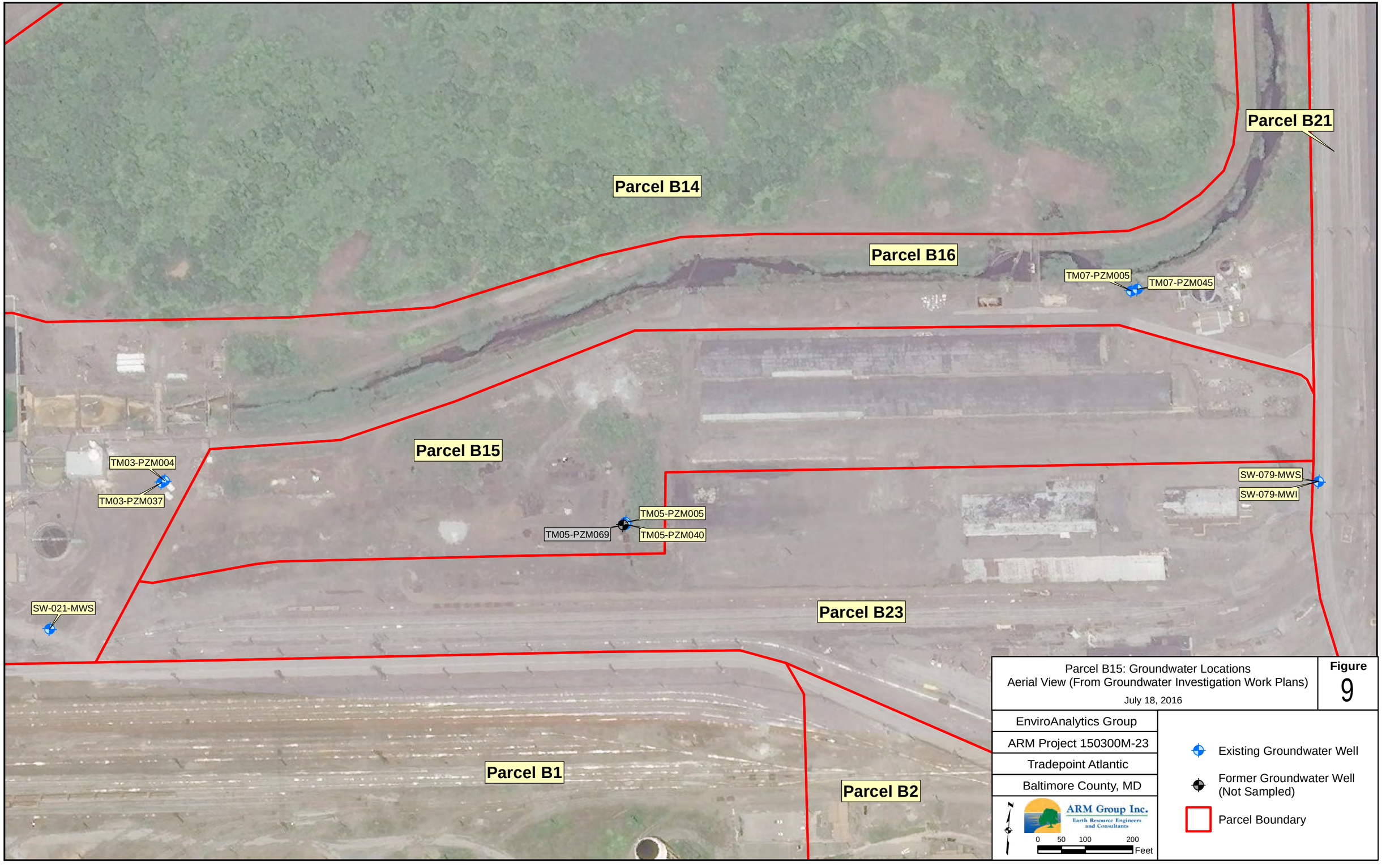
Buildings

Parcel Boundary


Parcel B14
Parcel B16
Parcel B21
Parcel B15
Parcel B23
Parcel B1
Parcel B2
B15-019-SB
B15-002-SB
B15-018-SB
B15-012-SB
B15-003-SB
B15-001-SB
B15-020-SB
Brick Sheds
B15-021-SB
B15-016-SB
B15-017-SB
Brick Sheds
B15-005-SB
B15-014-SB
B15-015-SB
B15-004-SB
B15-011-SB
B15-008-SB
B15-013-SB
B15-009-SB
B15-006-SB
B15-007-SB
B15-010-SB
No Engineered Barrier:
53% of Parcel Coverage
378,972 square feet (8.7 acres)
Parking/Roads:
27% of Parcel Coverage
58% of Engineered Barriers
196,020 square feet (4.5 acres)
Buildings:
20% of Parcel Coverage
42% of Engineered Barriers
143,748 square feet (3.3 acres)
Parcel B15: Proposed Sample Locations
Aerial View
August 29, 2016
Figure
7
EnviroAnalytics Group
ARM Project 150300M-23
Tradepoint Atlantic
Baltimore County, MD
ARM Group Inc.
Earth Resource Engineers and Consultants
0 50 100 200
Feet
Proposed Boring
Buildings
Parcel Boundary


No Engineered Barrier:
53% of Parcel Coverage
378,972 square feet (8.7 acres)
Parking/Roads:
27% of Parcel Coverage
58% of Engineered Barriers
196,020 square feet (4.5 acres)
Buildings:
20% of Parcel Coverage
42% of Engineered Barriers
143,748 square feet (3.3 acres)
Parcel B14
Parcel B16
Parcel B21
Parcel B15
Parcel B23
Parcel B1
Parcel B2
Brick Sheds
Brick Sheds
B15-019-SB
B15-002-SB
B15-018-SB
B15-012-SB
B15-003-SB
B15-001-SB
B15-020-SB
B15-021-SB
B15-016-SB
B15-017-SB
B15-005-SB
B15-014-SB
B15-015-SB
B15-004-SB
B15-011-SB
B15-008-SB
B15-013-SB
B15-009-SB
B15-006-SB
B15-007-SB
B15-010-SB
Parcel B15: Proposed Sample Locations
Current Engineered Barriers
August 29, 2016
Figure
8a
EnviroAnalytics Group
ARM Project 150300M-23
Tradepoint Atlantic
Baltimore County, MD
ARM Group Inc.
Earth Resource Engineers and Consultants
0 50 100 200
Feet
Proposed Boring
Buildings
Roads
Parcel Boundary


Parcel B14
Parcel B16
Parcel B21
Parcel B15
Parcel B23
Parcel B1
Parcel B2
B15-019-SB
B15-002-SB
B15-018-SB
B15-012-SB
B15-003-SB
B15-001-SB
B15-020-SB
B15-021-SB
B15-016-SB
B15-017-SB
B15-005-SB
B15-014-SB
B15-015-SB
B15-004-SB
B15-011-SB
B15-008-SB
B15-013-SB
B15-009-SB
B15-006-SB
B15-007-SB
B15-010-SB
No Engineered Barrier:
53% of Parcel Coverage
378,972 square feet (8.7 acres)
Parking/Roads:
27% of Parcel Coverage
58% of Engineered Barriers
196,020 square feet (4.5 acres)
Buildings:
20% of Parcel Coverage
42% of Engineered Barriers
143,748 square feet (3.3 acres)
Parcel B15: Proposed Sample Locations
Future Engineered Barriers
August 29, 2016
Figure
8b
EnviroAnalytics Group
ARM Project 150300M-23
Tradepoint Atlantic
Baltimore County, MD
ARM Group Inc.
Earth Resource Engineers and Consultants
0 50 100 200
Feet
Proposed Boring
Future Engineered Barriers
Parcel Boundary



Parcel B15: Groundwater Locations
Aerial View (From Groundwater Investigation Work Plans)
July 18, 2016

Figure 9

EnviroAnalytics Group

ARM Project 150300M-23

Tradepoint Atlantic

Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

0 50 100 200 Feet

- Existing Groundwater Well
- Former Groundwater Well (Not Sampled)
- Parcel Boundary

Parcel B15: Proposed Groundwater Sample Locations
Aerial View

August 29, 2016

Figure 10

EnviroAnalytics Group

ARM Project 150300M-23

Tradepoint Atlantic

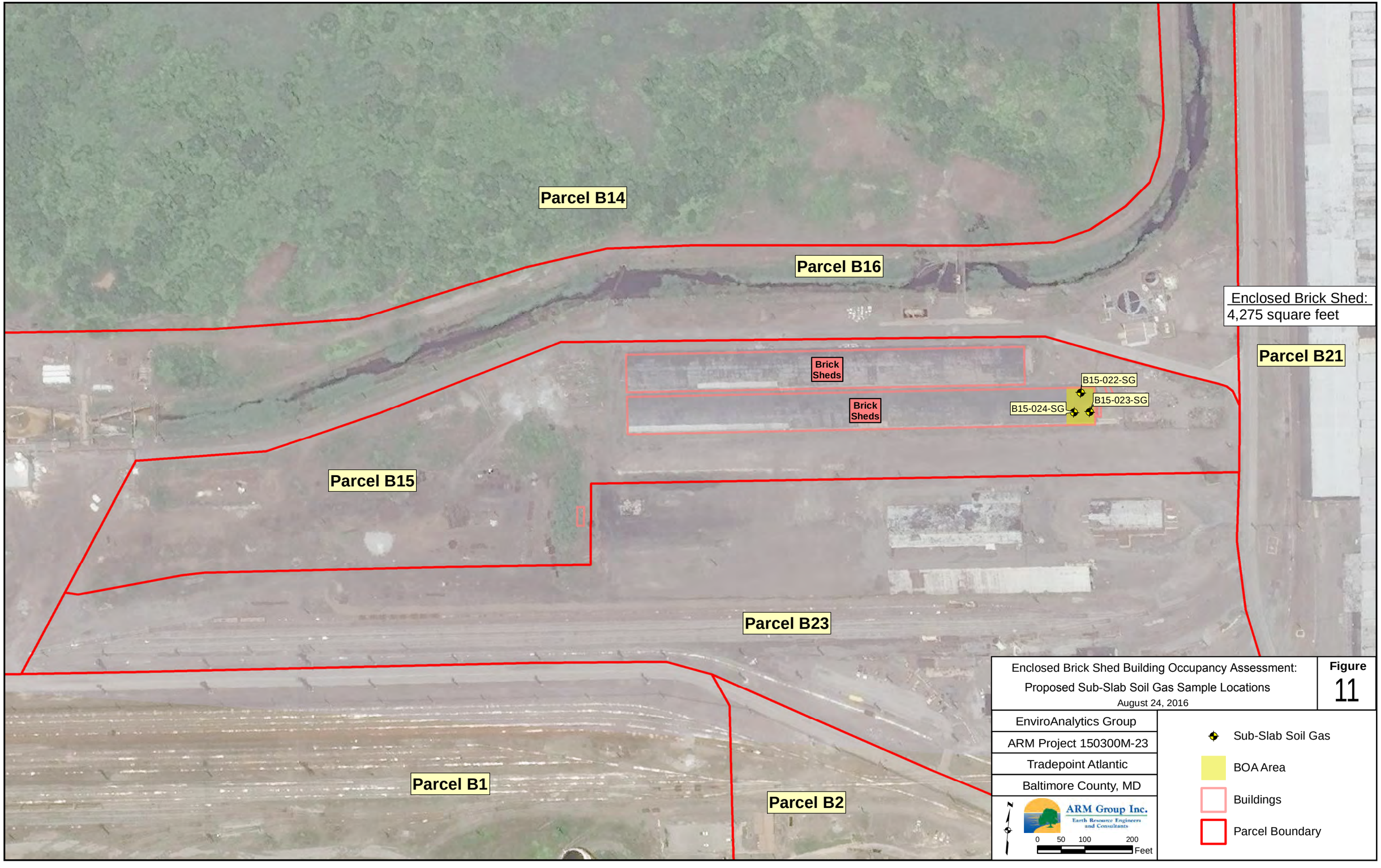
Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

0 50 100 200 Feet

Piezometer

Parcel Boundary


Parcel B14
Parcel B16
Parcel B15
Parcel B23
Parcel B1
Parcel B2
Parcel B21
Brick Sheds
Brick Sheds
B15-022-SG
B15-023-SG
B15-024-SG
Enclosed Brick Shed:
4,275 square feet
Enclosed Brick Shed Building Occupancy Assessment:
Proposed Sub-Slab Soil Gas Sample Locations
August 24, 2016
Figure
11
EnviroAnalytics Group
ARM Project 150300M-23
Tradepoint Atlantic
Baltimore County, MD
ARM Group Inc.
Earth Resource Engineers and Consultants
0 50 100 200
Feet
Sub-Slab Soil Gas
BOA Area
Buildings
Parcel Boundary

APPENDIX A

Site Visit Photograph Log
Parcel B15 - June 15, 2016
Site-Wide Observations

Parcel B15 Site Visit Photograph Log
Sparrows Point, Maryland

061516-1: Open western area of the parcel, facing northeast. Brick sheds out of frame to the east.

061516-2: Northeastern corner of the parcel with existing buildings (brick sheds), facing northwest.

061516-3: Center of the parcel with miscellaneous open storage, facing west. Railways to the south.

061516-4: Center of the parcel with buildings (brick sheds) in distance, facing north.

061516-5: Open area in the northeastern corner of the parcel, facing north. Fenced area beyond parcel boundary.

Site Visit Photograph Log
Parcel B15 - August 26, 2016
Enclosed Rooms of Southern Brick Shed

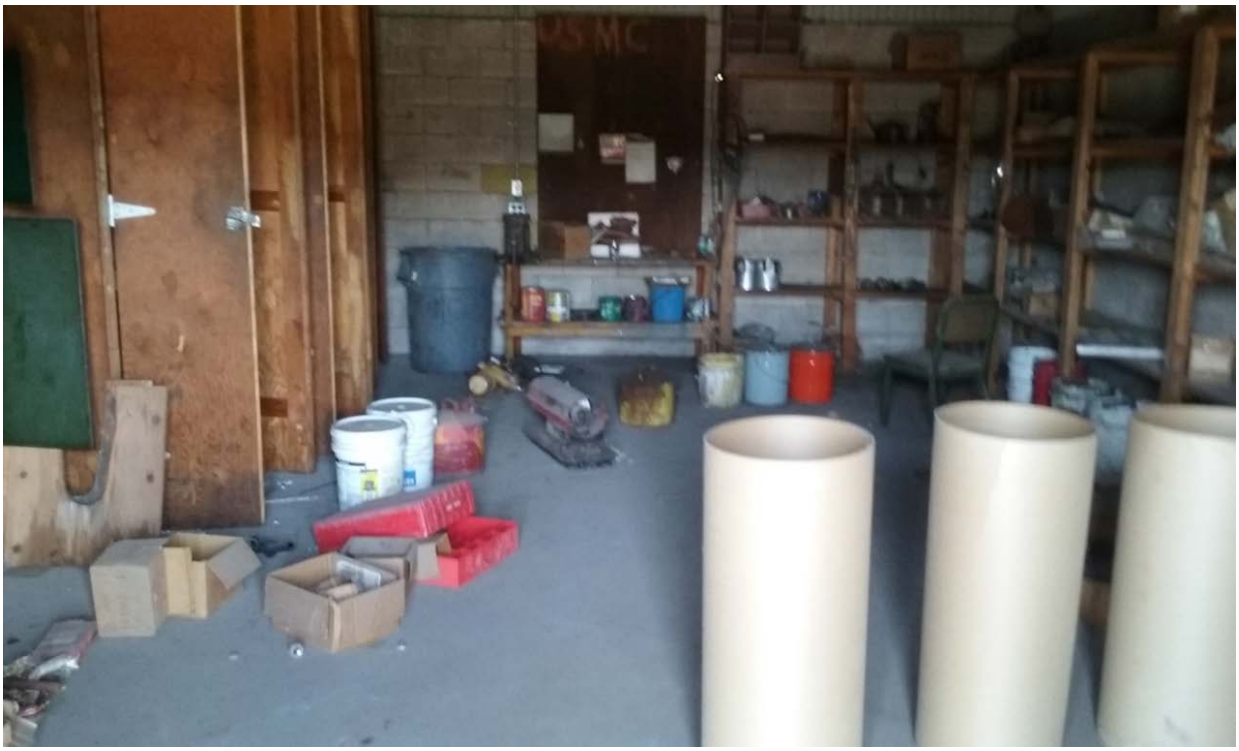
082616-1: Most eastern room (of five rooms) in the enclosed section of the south Brick Shed. Picture facing north.

082616-2: Most eastern room (of five rooms) in the enclosed section of the south Brick Shed. Picture facing south.

082616-3: Floor conditions within the enclosed area of the Brick Shed.

082616-4: Second room in the enclosed section of the south Brick Shed. Room was second from the east. Picture facing northwest with miscellaneous storage.

082616-5: Third room in the enclosed section of the Brick Shed. Room is second room from the west (third from the east). Room appeared to act as storage for various tools. Picture facing west.



082616-6: Third room in the enclosed section of the southern Brick Shed. Room is second room from the west (third from the east). Room appeared to act as storage for various tools. Picture facing north.

082616-7: Fourth room (furthest west and south) in the enclosed section of the Brick Shed . Picture facing north.

082616-8: Fifth room (furthest west and north) in the enclosed section of the Brick Shed . Picture facing north.

APPENDIX B

Parcel B15 Historical Well Data (Site-wide Wells)
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Well	Zone	Screen Interval (feet bgs)	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM05-PZM005	Shallow	5-15	1,1,1-Trichloroethane	12/3/2001	1	U	200	NO
TM05-PZM005	Shallow	5-15	1,1,2,2-Tetrachloroethane	12/3/2001	1	U	0.076	NO
TM05-PZM005	Shallow	5-15	1,1,2-Trichloroethane	12/3/2001	1	U	5	NO
TM05-PZM005	Shallow	5-15	1,1-Dichloroethane	12/3/2001	1	U	2.7	NO
TM05-PZM005	Shallow	5-15	1,1-Dichloroethene	12/3/2001	1	U	7	NO
TM05-PZM005	Shallow	5-15	1,2,4-Trichlorobenzene	12/3/2001	10	U	70	NO
TM05-PZM005	Shallow	5-15	1,2-Dichlorobenzene	12/3/2001	10	U	600	NO
TM05-PZM005	Shallow	5-15	1,2-Dichloroethane	12/3/2001	1	U	5	NO
TM05-PZM005	Shallow	5-15	1,2-Dichloropropane	12/3/2001	1	U	5	NO
TM05-PZM005	Shallow	5-15	1,3-Dichlorobenzene	12/3/2001	10	U		NO
TM05-PZM005	Shallow	5-15	1,4-Dichlorobenzene	12/3/2001	10	U	75	NO
TM05-PZM005	Shallow	5-15	2,2'-Oxybis(1-chloropropane)	12/3/2001	20	U	0.36	NO
TM05-PZM005	Shallow	5-15	2,4,5-Trichlorophenol	12/3/2001	10	U	1200	NO
TM05-PZM005	Shallow	5-15	2,4,6-Trichlorophenol	12/3/2001	10	U	4	NO
TM05-PZM005	Shallow	5-15	2,4-Dichlorophenol	12/3/2001	10	U	46	NO
TM05-PZM005	Shallow	5-15	2,4-Dimethylphenol	12/3/2001	10	U	360	NO
TM05-PZM005	Shallow	5-15	2,4-Dinitrophenol	12/3/2001	50	U	39	NO
TM05-PZM005	Shallow	5-15	2,4-Dinitrotoluene	12/3/2001	10	U	0.24	NO
TM05-PZM005	Shallow	5-15	2,6-Dinitrotoluene	12/3/2001	10	U	0.048	NO
TM05-PZM005	Shallow	5-15	2-Butanone	12/3/2001	5	U	5600	NO
TM05-PZM005	Shallow	5-15	2-Chloronaphthalene	12/3/2001	10	U	750	NO
TM05-PZM005	Shallow	5-15	2-Chlorophenol	12/3/2001	10	U	91	NO
TM05-PZM005	Shallow	5-15	2-Hexanone	12/3/2001	5	U	38	NO
TM05-PZM005	Shallow	5-15	2-Methylphenol	12/3/2001	10	U	930	NO
TM05-PZM005	Shallow	5-15	3,3'-Dichlorobenzidine	12/3/2001	50	U	0.12	NO
TM05-PZM005	Shallow	5-15	4-Methyl-2-pentanone	12/3/2001	5	U	1200	NO
TM05-PZM005	Shallow	5-15	4-Methylphenol	12/3/2001	10	U	1900	NO
TM05-PZM005	Shallow	5-15	Acetone	12/3/2001	10	U	14000	NO
TM05-PZM005	Shallow	5-15	Anthracene	12/3/2001	10	U	1800	NO
TM05-PZM005	Shallow	5-15	Antimony	12/3/2001	5	J	6	NO
TM05-PZM005	Shallow	5-15	Aroclor-1016	12/3/2001	1	U		NO
TM05-PZM005	Shallow	5-15	Aroclor-1221	12/3/2001	1	U		NO
TM05-PZM005	Shallow	5-15	Aroclor-1232	12/3/2001	1	U		NO
TM05-PZM005	Shallow	5-15	Aroclor-1242	12/3/2001	1	U		NO
TM05-PZM005	Shallow	5-15	Aroclor-1248	12/3/2001	1	U		NO
TM05-PZM005	Shallow	5-15	Aroclor-1254	12/3/2001	1	U		NO
TM05-PZM005	Shallow	5-15	Arsenic	12/3/2001	4	J	10	NO
TM05-PZM005	Shallow	5-15	Benzene	12/3/2001	2		5	NO
TM05-PZM005	Shallow	5-15	Benzo(a)anthracene	12/3/2001	10	U	0.012	NO
TM05-PZM005	Shallow	5-15	Benzo(a)pyrene	12/3/2001	10	U	0.2	NO
TM05-PZM005	Shallow	5-15	Benzo(b)fluoranthene	12/3/2001	10	U	0.034	NO
TM05-PZM005	Shallow	5-15	Aroclor-1260	12/3/2001	1	U		NO
TM05-PZM005	Shallow	5-15	Benzo(k)fluoranthene	12/3/2001	10	U	0.34	NO
TM05-PZM005	Shallow	5-15	Beryllium	12/3/2001	4	B	4	NO
TM05-PZM005	Shallow	5-15	bis(2-Chloroethoxy)methane	12/3/2001	10	U	59	NO
TM05-PZM005	Shallow	5-15	bis(2-Chloroethyl)ether	12/3/2001	10	U	0.014	NO
TM05-PZM005	Shallow	5-15	bis(2-Ethylhexyl)phthalate	12/3/2001	10	U	6	NO
TM05-PZM005	Shallow	5-15	Bromoform	12/3/2001	1	U	3.3	NO
TM05-PZM005	Shallow	5-15	Cadmium	12/3/2001	1	U	5	NO

Parcel B15 Historical Well Data (Site-wide Wells)
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Well	Zone	Screen Interval (feet bgs)	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM05-PZM005	Shallow	5-15	Benzo(g,h,i)perylene	12/3/2001	10	U		NO
TM05-PZM005	Shallow	5-15	Carbon disulfide	12/3/2001	1	U	810	NO
TM05-PZM005	Shallow	5-15	Carbon tetrachloride	12/3/2001	1	U	5	NO
TM05-PZM005	Shallow	5-15	Chlorobenzene	12/3/2001	1	U	100	NO
TM05-PZM005	Shallow	5-15	Chloroethane	12/3/2001	2	U	21000	NO
TM05-PZM005	Shallow	5-15	Chloroform	12/3/2001	1	U	0.22	NO
TM05-PZM005	Shallow	5-15	Chrysene	12/3/2001	10	U	3.4	NO
TM05-PZM005	Shallow	5-15	Cobalt	12/3/2001	1	U	6	NO
TM05-PZM005	Shallow	5-15	Copper	12/3/2001	1	U	1300	NO
TM05-PZM005	Shallow	5-15	Dibenz(a,h)anthracene	12/3/2001	10	U	0.0034	NO
TM05-PZM005	Shallow	5-15	Diethylphthalate	12/3/2001	10	U	15000	NO
TM05-PZM005	Shallow	5-15	Di-n-butylphthalate	12/3/2001	10	U	900	NO
TM05-PZM005	Shallow	5-15	Di-n-octylphthalate	12/3/2001	10	U	200	NO
TM05-PZM005	Shallow	5-15	Hexachlorobenzene	12/3/2001	10	U	1	NO
TM05-PZM005	Shallow	5-15	Hexachlorobutadiene	12/3/2001	10	U	0.14	NO
TM05-PZM005	Shallow	5-15	Hexachlorocyclopentadiene	12/3/2001	50	U	50	NO
TM05-PZM005	Shallow	5-15	Hexachloroethane	12/3/2001	10	U	0.33	NO
TM05-PZM005	Shallow	5-15	Indeno(1,2,3-cd)pyrene	12/3/2001	10	U	0.034	NO
TM05-PZM005	Shallow	5-15	Iron	12/12/2000	200		14000	NO
TM05-PZM005	Shallow	5-15	Isophorone	12/3/2001	10	U	78	NO
TM05-PZM005	Shallow	5-15	Lead	12/3/2001	2	J	15	NO
TM05-PZM005	Shallow	5-15	Calcium	12/12/2000	65,000			NO
TM05-PZM005	Shallow	5-15	Manganese	12/12/2000	100		430	NO
TM05-PZM005	Shallow	5-15	Methylene chloride	12/3/2001	2	U	5	NO
TM05-PZM005	Shallow	5-15	Naphthalene	12/3/2001	48		0.17	YES
TM05-PZM005	Shallow	5-15	Nickel	12/3/2001	2	U	390	NO
TM05-PZM005	Shallow	5-15	Nitrobenzene	12/3/2001	10	U	0.14	NO
TM05-PZM005	Shallow	5-15	Pentachlorophenol	12/3/2001	50	U	1	NO
TM05-PZM005	Shallow	5-15	Phenol	12/3/2001	10	U	5800	NO
TM05-PZM005	Shallow	5-15	Pyrene	12/3/2001	10	U	120	NO
TM05-PZM005	Shallow	5-15	Silver	12/3/2001	1	U	94	NO
TM05-PZM005	Shallow	5-15	cis-1,3-Dichloropropene	12/3/2001	1	U		NO
TM05-PZM005	Shallow	5-15	Tetrachloroethene	12/3/2001	1	U	5	NO
TM05-PZM005	Shallow	5-15	Thallium	12/3/2001	6	U	2	NO
TM05-PZM005	Shallow	5-15	trans-1,2-Dichloroethene	12/3/2001	1	U	100	NO
TM05-PZM005	Shallow	5-15	Trichloroethene	12/3/2001	1	U	5	NO
TM05-PZM005	Shallow	5-15	Vanadium	12/3/2001	1,110		86	YES
TM05-PZM005	Shallow	5-15	Vinyl chloride	12/3/2001	2	U	2	NO
TM05-PZM005	Shallow	5-15	Magnesium	12/12/2000	100	U		NO
TM05-PZM005	Shallow	5-15	Phenanthrene	12/3/2001	5	J		NO
TM05-PZM005	Shallow	5-15	Potassium	12/12/2000	20,000			NO
TM05-PZM005	Shallow	5-15	Sodium	12/12/2000	30,000			NO
TM05-PZM005	Shallow	5-15	trans-1,3-Dichloropropene	12/3/2001	1	U		NO
TM05-PZM040	Intermediate	47.5-50.5	Calcium	1/30/2001	130,000			NO
TM05-PZM040	Intermediate	47.5-50.5	2-Methylnaphthalene	12/3/2001	10	U	36	NO
TM05-PZM040	Intermediate	47.5-50.5	Acenaphthene	12/3/2001	3	J	530	NO
TM05-PZM040	Intermediate	47.5-50.5	Acenaphthylene	12/3/2001	10	U	530	NO
TM05-PZM040	Intermediate	47.5-50.5	Barium	12/3/2001	240		2000	NO
TM05-PZM040	Intermediate	47.5-50.5	Chromium	12/3/2001	3	J	100	NO

Parcel B15 Historical Well Data (Site-wide Wells)
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Well	Zone	Screen Interval (feet bgs)	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM05-PZM040	Intermediate	47.5-50.5	Ethylbenzene	12/3/2001	1	U	700	NO
TM05-PZM040	Intermediate	47.5-50.5	Fluoranthene	12/3/2001	10	U	800	NO
TM05-PZM040	Intermediate	47.5-50.5	Fluorene	12/3/2001	10	U	290	NO
TM05-PZM040	Intermediate	47.5-50.5	Iron	1/30/2001	22,000		14000	YES
TM05-PZM040	Intermediate	47.5-50.5	Magnesium	1/30/2001	140,000			NO
TM05-PZM040	Intermediate	47.5-50.5	Manganese	1/30/2001	2,200		430	YES
TM05-PZM040	Intermediate	47.5-50.5	Mercury	12/3/2001	0	B	2	NO
TM05-PZM040	Intermediate	47.5-50.5	Selenium	12/3/2001	4	J	50	NO
TM05-PZM040	Intermediate	47.5-50.5	Toluene	12/3/2001	1	U	1000	NO
TM05-PZM040	Intermediate	47.5-50.5	Xylene, total	12/3/2001	3	U	10000	NO
TM05-PZM040	Intermediate	47.5-50.5	Zinc	12/3/2001	3	B	6000	NO
TM05-PZM040	Intermediate	47.5-50.5	Potassium	1/30/2001	50,000			NO
TM05-PZM040	Intermediate	47.5-50.5	Sodium	1/30/2001	1,000,000			NO
TM05-PZM069	Lower	76.5-79.5	1,3-Dichlorobenzene	10/1/2002	10	U		NO
TM05-PZM069	Lower	76.5-79.5	Benzo[g,h,i]perylene	10/1/2002	10	U		NO
TM05-PZM069	Lower	76.5-79.5	Calcium	1/30/2001	96,000			NO
TM05-PZM069	Lower	76.5-79.5	cis-1,3-Dichloropropene	10/1/2002	5	U		NO
TM05-PZM069	Lower	76.5-79.5	Magnesium	1/30/2001	56,000			NO
TM05-PZM069	Lower	76.5-79.5	1,1,1-Trichloroethane	10/1/2002	5	U	200	NO
TM05-PZM069	Lower	76.5-79.5	1,1,2,2-Tetrachloroethane	10/1/2002	5	U	0.076	NO
TM05-PZM069	Lower	76.5-79.5	1,1,2-Trichloroethane	10/1/2002	5	U	5	NO
TM05-PZM069	Lower	76.5-79.5	1,1-Dichloroethane	10/1/2002	5	U	2.7	NO
TM05-PZM069	Lower	76.5-79.5	1,1-Dichloroethene	10/1/2002	5	U	7	NO
TM05-PZM069	Lower	76.5-79.5	1,2,4-Trichlorobenzene	10/1/2002	10	U	70	NO
TM05-PZM069	Lower	76.5-79.5	1,2-Dichloroethane	10/1/2002	5	U	5	NO
TM05-PZM069	Lower	76.5-79.5	1,2-Dichloropropane	10/1/2002	5	U	5	NO
TM05-PZM069	Lower	76.5-79.5	Phenanthrene	10/1/2002	10	U		NO
TM05-PZM069	Lower	76.5-79.5	2,4,5-Trichlorophenol	10/1/2002	10	U	1200	NO
TM05-PZM069	Lower	76.5-79.5	2,4,6-Trichlorophenol	10/1/2002	10	U	4	NO
TM05-PZM069	Lower	76.5-79.5	2,4-Dichlorophenol	10/1/2002	10	U	46	NO
TM05-PZM069	Lower	76.5-79.5	2,4-Dimethylphenol	10/1/2002	10	U	360	NO
TM05-PZM069	Lower	76.5-79.5	2,4-Dinitrophenol	10/1/2002	50	U	39	NO
TM05-PZM069	Lower	76.5-79.5	2,4-Dinitrotoluene	10/1/2002	10	U	0.24	NO
TM05-PZM069	Lower	76.5-79.5	2,6-Dinitrotoluene	10/1/2002	10	U	0.048	NO
TM05-PZM069	Lower	76.5-79.5	2-Butanone (MEK)	10/1/2002	100	U	5600	NO
TM05-PZM069	Lower	76.5-79.5	2-Chloronaphthalene	10/1/2002	10	U	750	NO
TM05-PZM069	Lower	76.5-79.5	2-Chlorophenol	10/1/2002	10	U	91	NO
TM05-PZM069	Lower	76.5-79.5	2-Hexanone	10/1/2002	50	U	38	NO
TM05-PZM069	Lower	76.5-79.5	2-Methylnaphthalene	10/1/2002	10	U	36	NO
TM05-PZM069	Lower	76.5-79.5	2-Methylphenol	10/1/2002	10	U	930	NO
TM05-PZM069	Lower	76.5-79.5	3,3´-Dichlorobenzidine	10/1/2002	20	U	0.12	NO
TM05-PZM069	Lower	76.5-79.5	4-Methyl-2-pentanone (MIBK)	10/1/2002	50	U	1200	NO
TM05-PZM069	Lower	76.5-79.5	Acenaphthene	10/1/2002	10	U	530	NO
TM05-PZM069	Lower	76.5-79.5	Acenaphthylene	10/1/2002	10	U	530	NO
TM05-PZM069	Lower	76.5-79.5	Acetone	10/1/2002	100	U	14000	NO
TM05-PZM069	Lower	76.5-79.5	Anthracene	10/1/2002	10	U	1800	NO
TM05-PZM069	Lower	76.5-79.5	Benzene	10/1/2002	5	U	5	NO
TM05-PZM069	Lower	76.5-79.5	Benzo[a]anthracene	10/1/2002	10	U	0.012	NO
TM05-PZM069	Lower	76.5-79.5	Benzo[a]pyrene	10/1/2002	10	U	0.2	NO

Parcel B15 Historical Well Data (Site-wide Wells)
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Well	Zone	Screen Interval (feet bgs)	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM05-PZM069	Lower	76.5-79.5	Benzo[b]fluoranthene	10/1/2002	10	U	0.034	NO
TM05-PZM069	Lower	76.5-79.5	Benzo[k]fluoranthene	10/1/2002	10	U	0.34	NO
TM05-PZM069	Lower	76.5-79.5	bis(2-Chloroethoxy)methane	10/1/2002	10	U	59	NO
TM05-PZM069	Lower	76.5-79.5	bis(2-Chloroethyl)ether	10/1/2002	10	U	0.014	NO
TM05-PZM069	Lower	76.5-79.5	bis(2-Ethylhexyl)phthalate	10/1/2002	10	U	6	NO
TM05-PZM069	Lower	76.5-79.5	Bromoform	10/1/2002	5	U	3.3	NO
TM05-PZM069	Lower	76.5-79.5	Carbon disulfide	10/1/2002	5	U	810	NO
TM05-PZM069	Lower	76.5-79.5	Carbon tetrachloride	10/1/2002	5	U	5	NO
TM05-PZM069	Lower	76.5-79.5	Chlorobenzene	10/1/2002	5	U	100	NO
TM05-PZM069	Lower	76.5-79.5	Chloroethane	10/1/2002	10	U	21000	NO
TM05-PZM069	Lower	76.5-79.5	Chloroform	10/1/2002	5	U	0.22	NO
TM05-PZM069	Lower	76.5-79.5	Chrysene	10/1/2002	10	U	3.4	NO
TM05-PZM069	Lower	76.5-79.5	Potassium	1/30/2001	12,000			NO
TM05-PZM069	Lower	76.5-79.5	Dibenz[a,h]anthracene	10/1/2002	10	U	0.0034	NO
TM05-PZM069	Lower	76.5-79.5	Diethylphthalate	10/1/2002	10	U	15000	NO
TM05-PZM069	Lower	76.5-79.5	Di-n-butylphthalate	10/1/2002	10	U	900	NO
TM05-PZM069	Lower	76.5-79.5	Di-n-octylphthalate	10/1/2002	10	U	200	NO
TM05-PZM069	Lower	76.5-79.5	Ethylbenzene	10/1/2002	5	U	700	NO
TM05-PZM069	Lower	76.5-79.5	Fluoranthene	10/1/2002	10	U	800	NO
TM05-PZM069	Lower	76.5-79.5	Fluorene	10/1/2002	10	U	290	NO
TM05-PZM069	Lower	76.5-79.5	Hexachlorobenzene	10/1/2002	10	U	1	NO
TM05-PZM069	Lower	76.5-79.5	Hexachlorobutadiene	10/1/2002	10	U	0.14	NO
TM05-PZM069	Lower	76.5-79.5	Hexachlorocyclopentadiene	10/1/2002	10	U	50	NO
TM05-PZM069	Lower	76.5-79.5	Hexachloroethane	10/1/2002	10	U	0.33	NO
TM05-PZM069	Lower	76.5-79.5	Indeno[1,2,3-cd]pyrene	10/1/2002	10	U	0.034	NO
TM05-PZM069	Lower	76.5-79.5	Iron	1/30/2001	130,000		14000	YES
TM05-PZM069	Lower	76.5-79.5	Isophorone	10/1/2002	10	U	78	NO
TM05-PZM069	Lower	76.5-79.5	Manganese	1/30/2001	4,900		430	YES
TM05-PZM069	Lower	76.5-79.5	Methylene chloride	10/1/2002	5	U	5	NO
TM05-PZM069	Lower	76.5-79.5	Nitrobenzene	10/1/2002	10	U	0.14	NO
TM05-PZM069	Lower	76.5-79.5	Pentachlorophenol	10/1/2002	50	U	1	NO
TM05-PZM069	Lower	76.5-79.5	Phenol	10/1/2002	10	U	5800	NO
TM05-PZM069	Lower	76.5-79.5	Sodium	1/30/2001	480,000			NO
TM05-PZM069	Lower	76.5-79.5	Pyrene	10/1/2002	10	U	120	NO
TM05-PZM069	Lower	76.5-79.5	Tetrachloroethene	10/1/2002	5	U	5	NO
TM05-PZM069	Lower	76.5-79.5	Toluene	10/1/2002	5	U	1000	NO
TM05-PZM069	Lower	76.5-79.5	trans-1,2-Dichloroethene	10/1/2002	5	U	100	NO
TM05-PZM069	Lower	76.5-79.5	trans-1,3-Dichloropropene	10/1/2002	5	U		NO
TM05-PZM069	Lower	76.5-79.5	Trichloroethene	10/1/2002	5	U	5	NO
TM05-PZM069	Lower	76.5-79.5	Vinyl chloride	10/1/2002	10	U	2	NO
TM05-PZM069	Lower	76.5-79.5	Xylenes	10/1/2002	10	U	10000	NO

Highlighted values indicate PAL exceedances.

APPENDIX C

Parcel B15 Area B and Finishing Mills Groundwater Investigations
Validated and Non-Validated Data
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
SW-021-MWS	6.1 - 16.1	1,1,1-Trichloroethane	2/4/2016	1	U	200	no
SW-021-MWS	6.1 - 16.1	1,1,2,2-Tetrachloroethane	2/4/2016	1	U	0.076	no
SW-021-MWS	6.1 - 16.1	1,1,2-Trichloro-1,2,2-Trifluoroethane	2/4/2016	50	U	55,000	no
SW-021-MWS	6.1 - 16.1	1,1,2-Trichloroethane	2/4/2016	1	U	5	no
SW-021-MWS	6.1 - 16.1	1,1-Biphenyl	2/4/2016	1	U	0.83	no
SW-021-MWS	6.1 - 16.1	1,1-Dichloroethane	2/4/2016	1	U	2.7	no
SW-021-MWS	6.1 - 16.1	1,1-Dichloroethene	2/4/2016	1	U	7	no
SW-021-MWS	6.1 - 16.1	1,2,3-Trichlorobenzene	2/4/2016	2	UJ	7	no
SW-021-MWS	6.1 - 16.1	1,2,4,5-Tetrachlorobenzene	2/4/2016	1	U	1.7	no
SW-021-MWS	6.1 - 16.1	1,2,4-Trichlorobenzene	2/4/2016	1	UJ	70	no
SW-021-MWS	6.1 - 16.1	1,2-Dibromo-3-chloropropane	2/4/2016	5	U	0.2	no
SW-021-MWS	6.1 - 16.1	1,2-Dibromoethane	2/4/2016	1	U	0.0075	no
SW-021-MWS	6.1 - 16.1	1,2-Dichlorobenzene	2/4/2016	1	U	600	no
SW-021-MWS	6.1 - 16.1	1,2-Dichloroethane	2/4/2016	1	U	5	no
SW-021-MWS	6.1 - 16.1	1,2-Dichloroethene (Total)	2/4/2016	2	U	70	no
SW-021-MWS	6.1 - 16.1	1,2-Dichloropropane	2/4/2016	1	U	5	no
SW-021-MWS	6.1 - 16.1	1,3-Dichlorobenzene	2/4/2016	1	U		no
SW-021-MWS	6.1 - 16.1	1,4-Dichlorobenzene	2/4/2016	1	U	75	no
SW-021-MWS	6.1 - 16.1	1,4-Dioxane	2/4/2016	0.1	U	0.46	no
SW-021-MWS	6.1 - 16.1	2,3,4,6-Tetrachlorophenol	2/4/2016	1	U	240	no
SW-021-MWS	6.1 - 16.1	2,4,5-Trichlorophenol	2/4/2016	2.5	U	1,200	no
SW-021-MWS	6.1 - 16.1	2,4,6-Trichlorophenol	2/4/2016	1	U	4	no
SW-021-MWS	6.1 - 16.1	2,4-Dichlorophenol	2/4/2016	1	U	46	no
SW-021-MWS	6.1 - 16.1	2,4-Dimethylphenol	2/4/2016	1	U	360	no
SW-021-MWS	6.1 - 16.1	2,4-Dinitrophenol	2/4/2016	2.5	UJ	39	no
SW-021-MWS	6.1 - 16.1	2,4-Dinitrotoluene	2/4/2016	1	U	0.24	no
SW-021-MWS	6.1 - 16.1	2,6-Dinitrotoluene	2/4/2016	1	U	0.048	no
SW-021-MWS	6.1 - 16.1	2-Butanone (MEK)	2/4/2016	10	U	5,600	no
SW-021-MWS	6.1 - 16.1	2-Chloronaphthalene	2/4/2016	1	U	750	no
SW-021-MWS	6.1 - 16.1	2-Chlorophenol	2/4/2016	1	U	91	no
SW-021-MWS	6.1 - 16.1	2-Hexanone	2/4/2016	10	U	38	no
SW-021-MWS	6.1 - 16.1	2-Methylnaphthalene	2/4/2016	0.1	U	36	no
SW-021-MWS	6.1 - 16.1	2-Methylphenol	2/4/2016	1	U	930	no
SW-021-MWS	6.1 - 16.1	2-Nitroaniline	2/4/2016	2.5	U	190	no
SW-021-MWS	6.1 - 16.1	3&4-Methylphenol(m&p Cresol)	2/4/2016	2	U	930	no
SW-021-MWS	6.1 - 16.1	3,3'-Dichlorobenzidine	2/4/2016	1	U	0.12	no
SW-021-MWS	6.1 - 16.1	4-Chloroaniline	2/4/2016	1	U	0.36	no
SW-021-MWS	6.1 - 16.1	4-Methyl-2-pentanone (MIBK)	2/4/2016	10	U	1,200	no
SW-021-MWS	6.1 - 16.1	4-Nitroaniline	2/4/2016	2.5	U	3.8	no
SW-021-MWS	6.1 - 16.1	Acenaphthene	2/4/2016	0.1	U	530	no
SW-021-MWS	6.1 - 16.1	Acenaphthylene	2/4/2016	0.1	U	530	no
SW-021-MWS	6.1 - 16.1	Acetone	2/4/2016	10	U	14,000	no
SW-021-MWS	6.1 - 16.1	Acetophenone	2/4/2016	1	U	1,900	no
SW-021-MWS	6.1 - 16.1	Aluminum	2/4/2016	576		20,000	no
SW-021-MWS	6.1 - 16.1	Aluminum, Dissolved	2/4/2016	512		20,000	no
SW-021-MWS	6.1 - 16.1	Anthracene	2/4/2016	0.038	J	1,800	no
SW-021-MWS	6.1 - 16.1	Antimony	2/4/2016	3.3	J	6	no
SW-021-MWS	6.1 - 16.1	Antimony, Dissolved	2/4/2016	2.8	J	6	no
SW-021-MWS	6.1 - 16.1	Arsenic	2/4/2016	5	U	10	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
SW-021-MWS	6.1 - 16.1	Arsenic, Dissolved	2/4/2016	5.4		10	no
SW-021-MWS	6.1 - 16.1	Barium	2/4/2016	71.4		2,000	no
SW-021-MWS	6.1 - 16.1	Barium, Dissolved	2/4/2016	62.3		2,000	no
SW-021-MWS	6.1 - 16.1	Benzaldehyde	2/4/2016	1	U	1,900	no
SW-021-MWS	6.1 - 16.1	Benzene	2/4/2016	1	U	5	no
SW-021-MWS	6.1 - 16.1	Benzo[a]anthracene	2/4/2016	0.1	U	0.012	no
SW-021-MWS	6.1 - 16.1	Benzo[a]pyrene	2/4/2016	0.1	U	0.2	no
SW-021-MWS	6.1 - 16.1	Benzo[b]fluoranthene	2/4/2016	0.1	U	0.034	no
SW-021-MWS	6.1 - 16.1	Benzo[g,h,i]perylene	2/4/2016	0.1	U		no
SW-021-MWS	6.1 - 16.1	Benzo[k]fluoranthene	2/4/2016	0.1	U	0.34	no
SW-021-MWS	6.1 - 16.1	Beryllium	2/4/2016	0.47	J	4	no
SW-021-MWS	6.1 - 16.1	Beryllium, Dissolved	2/4/2016	1	U	4	no
SW-021-MWS	6.1 - 16.1	bis(2-chloroethoxy)methane	2/4/2016	1	U	59	no
SW-021-MWS	6.1 - 16.1	bis(2-Chloroethyl)ether	2/4/2016	1	U	0.014	no
SW-021-MWS	6.1 - 16.1	bis(2-Chloroisopropyl)ether	2/4/2016	1	U	0.36	no
SW-021-MWS	6.1 - 16.1	bis(2-Ethylhexyl)phthalate	2/4/2016	1	U	6	no
SW-021-MWS	6.1 - 16.1	Bromodichloromethane	2/4/2016	1	U	0.13	no
SW-021-MWS	6.1 - 16.1	Bromoform	2/4/2016	1	U	3.3	no
SW-021-MWS	6.1 - 16.1	Bromomethane	2/4/2016	1	U	7.5	no
SW-021-MWS	6.1 - 16.1	Cadmium	2/4/2016	3	U	5	no
SW-021-MWS	6.1 - 16.1	Cadmium, Dissolved	2/4/2016	3	U	5	no
SW-021-MWS	6.1 - 16.1	Caprolactam	2/4/2016	2.5	U	9,900	no
SW-021-MWS	6.1 - 16.1	Carbazole	2/4/2016	1	U		no
SW-021-MWS	6.1 - 16.1	Carbon disulfide	2/4/2016	1	U	810	no
SW-021-MWS	6.1 - 16.1	Carbon tetrachloride	2/4/2016	1	U	5	no
SW-021-MWS	6.1 - 16.1	Chlorobenzene	2/4/2016	1	U	100	no
SW-021-MWS	6.1 - 16.1	Chloroethane	2/4/2016	1	U	21,000	no
SW-021-MWS	6.1 - 16.1	Chloroform	2/4/2016	4.7		0.22	YES
SW-021-MWS	6.1 - 16.1	Chloromethane	2/4/2016	1	U	190	no
SW-021-MWS	6.1 - 16.1	Chromium	2/4/2016	2.5	B	100	no
SW-021-MWS	6.1 - 16.1	Chromium VI	2/4/2016	10	U	0.035	no
SW-021-MWS	6.1 - 16.1	Chromium, Dissolved	2/4/2016	2.1	B	100	no
SW-021-MWS	6.1 - 16.1	Chrysene	2/4/2016	0.012	J	3.4	no
SW-021-MWS	6.1 - 16.1	cis-1,2-Dichloroethene	2/4/2016	1	U	70	no
SW-021-MWS	6.1 - 16.1	cis-1,3-Dichloropropene	2/4/2016	1	U		no
SW-021-MWS	6.1 - 16.1	Cobalt	2/4/2016	5	U	6	no
SW-021-MWS	6.1 - 16.1	Cobalt, Dissolved	2/4/2016	5	U	6	no
SW-021-MWS	6.1 - 16.1	Copper	2/4/2016	5	U	1,300	no
SW-021-MWS	6.1 - 16.1	Copper, Dissolved	2/4/2016	2.1	J	1,300	no
SW-021-MWS	6.1 - 16.1	Cyanide	2/4/2016	10	U	200	no
SW-021-MWS	6.1 - 16.1	Cyclohexane	2/4/2016	10	U	13,000	no
SW-021-MWS	6.1 - 16.1	Dibenz[a,h]anthracene	2/4/2016	0.1	U	0.0034	no
SW-021-MWS	6.1 - 16.1	Dibromochloromethane	2/4/2016	1	U	0.17	no
SW-021-MWS	6.1 - 16.1	Dichlorodifluoromethane	2/4/2016	1	U	200	no
SW-021-MWS	6.1 - 16.1	Diesel Range Organics	2/4/2016	101	UJ	47	no
SW-021-MWS	6.1 - 16.1	Diethylphthalate	2/4/2016	1	U	15,000	no
SW-021-MWS	6.1 - 16.1	Di-n-butylphthalate	2/4/2016	1	U	900	no
SW-021-MWS	6.1 - 16.1	Di-n-ocytlphthalate	2/4/2016	1	U	200	no
SW-021-MWS	6.1 - 16.1	Ethylbenzene	2/4/2016	1	U	700	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
SW-021-MWS	6.1 - 16.1	Fluoranthene	2/4/2016	0.018	J	800	no
SW-021-MWS	6.1 - 16.1	Fluorene	2/4/2016	0.1	U	290	no
SW-021-MWS	6.1 - 16.1	Gasoline Range Organics	2/4/2016	200	U	47	no
SW-021-MWS	6.1 - 16.1	Hexachlorobenzene	2/4/2016	1	U	1	no
SW-021-MWS	6.1 - 16.1	Hexachlorobutadiene	2/4/2016	1	U	0.14	no
SW-021-MWS	6.1 - 16.1	Hexachlorocyclopentadiene	2/4/2016	1	U	50	no
SW-021-MWS	6.1 - 16.1	Hexachloroethane	2/4/2016	1	U	0.33	no
SW-021-MWS	6.1 - 16.1	Indeno[1,2,3-c,d]pyrene	2/4/2016	0.1	U	0.034	no
SW-021-MWS	6.1 - 16.1	Iron	2/4/2016	74.8		14,000	no
SW-021-MWS	6.1 - 16.1	Iron, Dissolved	2/4/2016	20.4	B	14,000	no
SW-021-MWS	6.1 - 16.1	Isophorone	2/4/2016	1	U	78	no
SW-021-MWS	6.1 - 16.1	Isopropylbenzene	2/4/2016	1	U	450	no
SW-021-MWS	6.1 - 16.1	Lead	2/4/2016	5	U	15	no
SW-021-MWS	6.1 - 16.1	Lead, Dissolved	2/4/2016	5	U	15	no
SW-021-MWS	6.1 - 16.1	Manganese	2/4/2016	19		430	no
SW-021-MWS	6.1 - 16.1	Manganese, Dissolved	2/4/2016	13.2		430	no
SW-021-MWS	6.1 - 16.1	Mercury	2/4/2016	0.2	U	2	no
SW-021-MWS	6.1 - 16.1	Mercury, Dissolved	2/4/2016	0.2	U	2	no
SW-021-MWS	6.1 - 16.1	Methyl Acetate	2/4/2016	5	UJ	20,000	no
SW-021-MWS	6.1 - 16.1	Methyl tert-butyl ether (MTBE)	2/4/2016	1	U	14	no
SW-021-MWS	6.1 - 16.1	Methylene Chloride	2/4/2016	1	U	5	no
SW-021-MWS	6.1 - 16.1	Naphthalene	2/4/2016	0.092	B	0.17	no
SW-021-MWS	6.1 - 16.1	Nickel	2/4/2016	0.85	B	390	no
SW-021-MWS	6.1 - 16.1	Nickel, Dissolved	2/4/2016	10	U	390	no
SW-021-MWS	6.1 - 16.1	Nitrobenzene	2/4/2016	1	U	0.14	no
SW-021-MWS	6.1 - 16.1	N-Nitroso-di-n-propylamine	2/4/2016	1	U	0.011	no
SW-021-MWS	6.1 - 16.1	N-Nitrosodiphenylamine	2/4/2016	1	U	12	no
SW-021-MWS	6.1 - 16.1	Pentachlorophenol	2/4/2016	2.5	U	1	no
SW-021-MWS	6.1 - 16.1	Phenanthrene	2/4/2016	0.036	J		no
SW-021-MWS	6.1 - 16.1	Phenol	2/4/2016	1	U	5,800	no
SW-021-MWS	6.1 - 16.1	Pyrene	2/4/2016	0.014	J	120	no
SW-021-MWS	6.1 - 16.1	Selenium	2/4/2016	5.2	B	50	no
SW-021-MWS	6.1 - 16.1	Selenium, Dissolved	2/4/2016	8	U	50	no
SW-021-MWS	6.1 - 16.1	Silver	2/4/2016	6	U	94	no
SW-021-MWS	6.1 - 16.1	Silver, Dissolved	2/4/2016	6	U	94	no
SW-021-MWS	6.1 - 16.1	Styrene	2/4/2016	1	U	100	no
SW-021-MWS	6.1 - 16.1	Tetrachloroethene	2/4/2016	1	U	5	no
SW-021-MWS	6.1 - 16.1	Thallium	2/4/2016	6	B	2	YES
SW-021-MWS	6.1 - 16.1	Thallium, Dissolved	2/4/2016	10	U	2	no
SW-021-MWS	6.1 - 16.1	Toluene	2/4/2016	1	U	1,000	no
SW-021-MWS	6.1 - 16.1	trans-1,2-Dichloroethene	2/4/2016	1	U	100	no
SW-021-MWS	6.1 - 16.1	trans-1,3-Dichloropropene	2/4/2016	1	U		no
SW-021-MWS	6.1 - 16.1	Trichloroethene	2/4/2016	1	U	5	no
SW-021-MWS	6.1 - 16.1	Trichlorofluoromethane	2/4/2016	1	U	1,100	no
SW-021-MWS	6.1 - 16.1	Vanadium	2/4/2016	391		86	YES
SW-021-MWS	6.1 - 16.1	Vanadium, Dissolved	2/4/2016	376		86	YES
SW-021-MWS	6.1 - 16.1	Vinyl chloride	2/4/2016	1	U	2	no
SW-021-MWS	6.1 - 16.1	Xylenes	2/4/2016	3	U	10,000	no
SW-021-MWS	6.1 - 16.1	Zinc	2/4/2016	1.3	B	6,000	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
SW-021-MWS	6.1 - 16.1	Zinc, Dissolved	2/4/2016	10	U	6,000	no
SW-079-MWI	44.3 - 54.6	1,1,1-Trichloroethane	6/28/2016	1	U	200	no
SW-079-MWI	44.3 - 54.6	1,1,2,2-Tetrachloroethane	6/28/2016	1	U	0.076	no
SW-079-MWI	44.3 - 54.6	1,1,2-Trichloro-1,2,2-Trifluoroethane	6/28/2016	50	U	55,000	no
SW-079-MWI	44.3 - 54.6	1,1,2-Trichloroethane	6/28/2016	1	U	5	no
SW-079-MWI	44.3 - 54.6	1,1-Biphenyl	6/28/2016	1	U	0.83	no
SW-079-MWI	44.3 - 54.6	1,1-Dichloroethane	6/28/2016	1	U	2.7	no
SW-079-MWI	44.3 - 54.6	1,1-Dichloroethene	6/28/2016	1	U	7	no
SW-079-MWI	44.3 - 54.6	1,2,3-Trichlorobenzene	6/28/2016	2	U	7	no
SW-079-MWI	44.3 - 54.6	1,2,4,5-Tetrachlorobenzene	6/28/2016	1	U	1.7	no
SW-079-MWI	44.3 - 54.6	1,2,4-Trichlorobenzene	6/28/2016	1	U	70	no
SW-079-MWI	44.3 - 54.6	1,2-Dibromo-3-chloropropane	6/28/2016	5	U	0.2	no
SW-079-MWI	44.3 - 54.6	1,2-Dibromoethane	6/28/2016	1	U	0.0075	no
SW-079-MWI	44.3 - 54.6	1,2-Dichlorobenzene	6/28/2016	1	U	600	no
SW-079-MWI	44.3 - 54.6	1,2-Dichloroethane	6/28/2016	1	U	5	no
SW-079-MWI	44.3 - 54.6	1,2-Dichloroethene (Total)	6/28/2016	2	U	70	no
SW-079-MWI	44.3 - 54.6	1,2-Dichloropropane	6/28/2016	1	U	5	no
SW-079-MWI	44.3 - 54.6	1,3-Dichlorobenzene	6/28/2016	1	U		no
SW-079-MWI	44.3 - 54.6	1,4-Dichlorobenzene	6/28/2016	1	U	75	no
SW-079-MWI	44.3 - 54.6	1,4-Dioxane	6/28/2016	0.1	U	0.46	no
SW-079-MWI	44.3 - 54.6	2,3,4,6-Tetrachlorophenol	6/28/2016	1	U	240	no
SW-079-MWI	44.3 - 54.6	2,4,5-Trichlorophenol	6/28/2016	2.6	U	1,200	no
SW-079-MWI	44.3 - 54.6	2,4,6-Trichlorophenol	6/28/2016	1	U	4	no
SW-079-MWI	44.3 - 54.6	2,4-Dichlorophenol	6/28/2016	1	U	46	no
SW-079-MWI	44.3 - 54.6	2,4-Dimethylphenol	6/28/2016	1	U	360	no
SW-079-MWI	44.3 - 54.6	2,4-Dinitrophenol	6/28/2016	2.6	U	39	no
SW-079-MWI	44.3 - 54.6	2,4-Dinitrotoluene	6/28/2016	1	U	0.24	no
SW-079-MWI	44.3 - 54.6	2,6-Dinitrotoluene	6/28/2016	1	U	0.048	no
SW-079-MWI	44.3 - 54.6	2-Butanone (MEK)	6/28/2016	10	U	5,600	no
SW-079-MWI	44.3 - 54.6	2-Chloronaphthalene	6/28/2016	1	U	750	no
SW-079-MWI	44.3 - 54.6	2-Chlorophenol	6/28/2016	1	U	91	no
SW-079-MWI	44.3 - 54.6	2-Hexanone	6/28/2016	10	U	38	no
SW-079-MWI	44.3 - 54.6	2-Methylnaphthalene	6/28/2016	0.046	J	36	no
SW-079-MWI	44.3 - 54.6	2-Methylphenol	6/28/2016	1	U	930	no
SW-079-MWI	44.3 - 54.6	2-Nitroaniline	6/28/2016	2.6	U	190	no
SW-079-MWI	44.3 - 54.6	3&4-Methylphenol(m&p Cresol)	6/28/2016	2.1	U	930	no
SW-079-MWI	44.3 - 54.6	3,3'-Dichlorobenzidine	6/28/2016	1	U	0.12	no
SW-079-MWI	44.3 - 54.6	4-Chloroaniline	6/28/2016	1	U	0.36	no
SW-079-MWI	44.3 - 54.6	4-Methyl-2-pentanone (MIBK)	6/28/2016	10	U	1,200	no
SW-079-MWI	44.3 - 54.6	4-Nitroaniline	6/28/2016	2.6	U	3.8	no
SW-079-MWI	44.3 - 54.6	Acenaphthene	6/28/2016	0.14		530	no
SW-079-MWI	44.3 - 54.6	Acenaphthylene	6/28/2016	0.049	J	530	no
SW-079-MWI	44.3 - 54.6	Acetone	6/28/2016	3.8	J	14,000	no
SW-079-MWI	44.3 - 54.6	Acetophenone	6/28/2016	1	U	1,900	no
SW-079-MWI	44.3 - 54.6	Aluminum	6/28/2016	132		20,000	no
SW-079-MWI	44.3 - 54.6	Aluminum, Dissolved	6/28/2016	27.1	J	20,000	no
SW-079-MWI	44.3 - 54.6	Anthracene	6/28/2016	0.048	J	1,800	no
SW-079-MWI	44.3 - 54.6	Antimony	6/28/2016	6	U	6	no
SW-079-MWI	44.3 - 54.6	Antimony, Dissolved	6/28/2016	3.5	J	6	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
SW-079-MWI	44.3 - 54.6	Arsenic	6/28/2016	5.8		10	no
SW-079-MWI	44.3 - 54.6	Arsenic, Dissolved	6/28/2016	4.9	J	10	no
SW-079-MWI	44.3 - 54.6	Barium	6/28/2016	304		2,000	no
SW-079-MWI	44.3 - 54.6	Barium, Dissolved	6/28/2016	331		2,000	no
SW-079-MWI	44.3 - 54.6	Benzaldehyde	6/28/2016	1	U	1,900	no
SW-079-MWI	44.3 - 54.6	Benzene	6/28/2016	1	U	5	no
SW-079-MWI	44.3 - 54.6	Benzo[a]anthracene	6/28/2016	0.02	J	0.012	YES
SW-079-MWI	44.3 - 54.6	Benzo[a]pyrene	6/28/2016	0.1	U	0.2	no
SW-079-MWI	44.3 - 54.6	Benzo[b]fluoranthene	6/28/2016	0.1	U	0.034	no
SW-079-MWI	44.3 - 54.6	Benzo[g,h,i]perylene	6/28/2016	0.1	U		no
SW-079-MWI	44.3 - 54.6	Benzo[k]fluoranthene	6/28/2016	0.1	U	0.34	no
SW-079-MWI	44.3 - 54.6	Beryllium	6/28/2016	1	U	4	no
SW-079-MWI	44.3 - 54.6	Beryllium, Dissolved	6/28/2016	1	U	4	no
SW-079-MWI	44.3 - 54.6	bis(2-chloroethoxy)methane	6/28/2016	1	U	59	no
SW-079-MWI	44.3 - 54.6	bis(2-Chloroethyl)ether	6/28/2016	1	U	0.014	no
SW-079-MWI	44.3 - 54.6	bis(2-Chloroisopropyl)ether	6/28/2016	1	U	0.36	no
SW-079-MWI	44.3 - 54.6	bis(2-Ethylhexyl)phthalate	6/28/2016	1	U	6	no
SW-079-MWI	44.3 - 54.6	Bromodichloromethane	6/28/2016	1	U	0.13	no
SW-079-MWI	44.3 - 54.6	Bromoform	6/28/2016	1	U	3.3	no
SW-079-MWI	44.3 - 54.6	Bromomethane	6/28/2016	1	U	7.5	no
SW-079-MWI	44.3 - 54.6	Cadmium	6/28/2016	0.49	J	5	no
SW-079-MWI	44.3 - 54.6	Cadmium, Dissolved	6/28/2016	3	U	5	no
SW-079-MWI	44.3 - 54.6	Caprolactam	6/28/2016	2.6	U	9,900	no
SW-079-MWI	44.3 - 54.6	Carbazole	6/28/2016	1	U		no
SW-079-MWI	44.3 - 54.6	Carbon disulfide	6/28/2016	0.94	J	810	no
SW-079-MWI	44.3 - 54.6	Carbon tetrachloride	6/28/2016	1	U	5	no
SW-079-MWI	44.3 - 54.6	Chlorobenzene	6/28/2016	1	U	100	no
SW-079-MWI	44.3 - 54.6	Chloroethane	6/28/2016	1	U	21,000	no
SW-079-MWI	44.3 - 54.6	Chloroform	6/28/2016	2.4		0.22	YES
SW-079-MWI	44.3 - 54.6	Chloromethane	6/28/2016	1	U	190	no
SW-079-MWI	44.3 - 54.6	Chromium	6/28/2016	1.4	J	100	no
SW-079-MWI	44.3 - 54.6	Chromium VI	6/28/2016	10	U	0.035	no
SW-079-MWI	44.3 - 54.6	Chromium, Dissolved	6/28/2016	5	U	100	no
SW-079-MWI	44.3 - 54.6	Chrysene	6/28/2016	0.0088	J	3.4	no
SW-079-MWI	44.3 - 54.6	cis-1,2-Dichloroethene	6/28/2016	1	U	70	no
SW-079-MWI	44.3 - 54.6	cis-1,3-Dichloropropene	6/28/2016	1	U		no
SW-079-MWI	44.3 - 54.6	Cobalt	6/28/2016	5	U	6	no
SW-079-MWI	44.3 - 54.6	Cobalt, Dissolved	6/28/2016	5	U	6	no
SW-079-MWI	44.3 - 54.6	Copper	6/28/2016	5	U	1,300	no
SW-079-MWI	44.3 - 54.6	Copper, Dissolved	6/28/2016	5	U	1,300	no
SW-079-MWI	44.3 - 54.6	Cyanide	6/28/2016	10	U	200	no
SW-079-MWI	44.3 - 54.6	Cyclohexane	6/28/2016	10	U	13,000	no
SW-079-MWI	44.3 - 54.6	Dibenz[a,h]anthracene	6/28/2016	0.1	U	0.0034	no
SW-079-MWI	44.3 - 54.6	Dibromochloromethane	6/28/2016	1	U	0.17	no
SW-079-MWI	44.3 - 54.6	Dichlorodifluoromethane	6/28/2016	1	U	200	no
SW-079-MWI	44.3 - 54.6	Diesel Range Organics	6/28/2016	74	JN2L2	47	YES
SW-079-MWI	44.3 - 54.6	Diethylphthalate	6/28/2016	1	U	15,000	no
SW-079-MWI	44.3 - 54.6	Di-n-butylphthalate	6/28/2016	1	U	900	no
SW-079-MWI	44.3 - 54.6	Di-n-ocytlphthalate	6/28/2016	1	U	200	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
SW-079-MWI	44.3 - 54.6	Ethylbenzene	6/28/2016	1	U	700	no
SW-079-MWI	44.3 - 54.6	Fluoranthene	6/28/2016	0.12		800	no
SW-079-MWI	44.3 - 54.6	Fluorene	6/28/2016	0.099	J	290	no
SW-079-MWI	44.3 - 54.6	Gasoline Range Organics	6/28/2016	200	U	47	no
SW-079-MWI	44.3 - 54.6	Hexachlorobenzene	6/28/2016	1	U	1	no
SW-079-MWI	44.3 - 54.6	Hexachlorobutadiene	6/28/2016	1	U	0.14	no
SW-079-MWI	44.3 - 54.6	Hexachlorocyclopentadiene	6/28/2016	1	U	50	no
SW-079-MWI	44.3 - 54.6	Hexachloroethane	6/28/2016	1	U	0.33	no
SW-079-MWI	44.3 - 54.6	Indeno[1,2,3-c,d]pyrene	6/28/2016	0.1	U	0.034	no
SW-079-MWI	44.3 - 54.6	Iron	6/28/2016	67,000		14,000	YES
SW-079-MWI	44.3 - 54.6	Iron, Dissolved	6/28/2016	69,500		14,000	YES
SW-079-MWI	44.3 - 54.6	Isophorone	6/28/2016	1	U	78	no
SW-079-MWI	44.3 - 54.6	Isopropylbenzene	6/28/2016	1	U	450	no
SW-079-MWI	44.3 - 54.6	Lead	6/28/2016	5	U	15	no
SW-079-MWI	44.3 - 54.6	Lead, Dissolved	6/28/2016	5	U	15	no
SW-079-MWI	44.3 - 54.6	Manganese	6/28/2016	3,520		430	YES
SW-079-MWI	44.3 - 54.6	Manganese, Dissolved	6/28/2016	3,700		430	YES
SW-079-MWI	44.3 - 54.6	Mercury	6/28/2016	0.2	U	2	no
SW-079-MWI	44.3 - 54.6	Mercury, Dissolved	6/28/2016	0.2	U	2	no
SW-079-MWI	44.3 - 54.6	Methyl Acetate	6/28/2016	5	U	20,000	no
SW-079-MWI	44.3 - 54.6	Methyl tert-butyl ether (MTBE)	6/28/2016	1	U	14	no
SW-079-MWI	44.3 - 54.6	Methylene Chloride	6/28/2016	1	U	5	no
SW-079-MWI	44.3 - 54.6	Naphthalene	6/28/2016	0.18	B	0.17	YES
SW-079-MWI	44.3 - 54.6	Nickel	6/28/2016	10	U	390	no
SW-079-MWI	44.3 - 54.6	Nickel, Dissolved	6/28/2016	10	U	390	no
SW-079-MWI	44.3 - 54.6	Nitrobenzene	6/28/2016	1	U	0.14	no
SW-079-MWI	44.3 - 54.6	N-Nitroso-di-n-propylamine	6/28/2016	1	U	0.011	no
SW-079-MWI	44.3 - 54.6	N-Nitrosodiphenylamine	6/28/2016	1	U	12	no
SW-079-MWI	44.3 - 54.6	Pentachlorophenol	6/28/2016	2.6	U	1	no
SW-079-MWI	44.3 - 54.6	Phenanthrene	6/28/2016	0.25			no
SW-079-MWI	44.3 - 54.6	Phenol	6/28/2016	1	U	5,800	no
SW-079-MWI	44.3 - 54.6	Pyrene	6/28/2016	0.078	J	120	no
SW-079-MWI	44.3 - 54.6	Selenium	6/28/2016	8	U	50	no
SW-079-MWI	44.3 - 54.6	Selenium, Dissolved	6/28/2016	8	U	50	no
SW-079-MWI	44.3 - 54.6	Silver	6/28/2016	0.79	J	94	no
SW-079-MWI	44.3 - 54.6	Silver, Dissolved	6/28/2016	1.1	J	94	no
SW-079-MWI	44.3 - 54.6	Styrene	6/28/2016	1	U	100	no
SW-079-MWI	44.3 - 54.6	Tetrachloroethene	6/28/2016	1	U	5	no
SW-079-MWI	44.3 - 54.6	Thallium	6/28/2016	10	U	2	no
SW-079-MWI	44.3 - 54.6	Thallium, Dissolved	6/28/2016	10	U	2	no
SW-079-MWI	44.3 - 54.6	Toluene	6/28/2016	0.23	J	1,000	no
SW-079-MWI	44.3 - 54.6	trans-1,2-Dichloroethene	6/28/2016	1	U	100	no
SW-079-MWI	44.3 - 54.6	trans-1,3-Dichloropropene	6/28/2016	1	U		no
SW-079-MWI	44.3 - 54.6	Trichloroethene	6/28/2016	1	U	5	no
SW-079-MWI	44.3 - 54.6	Trichlorofluoromethane	6/28/2016	1	U	1,100	no
SW-079-MWI	44.3 - 54.6	Vanadium	6/28/2016	3	J	86	no
SW-079-MWI	44.3 - 54.6	Vanadium, Dissolved	6/28/2016	2.7	J	86	no
SW-079-MWI	44.3 - 54.6	Vinyl chloride	6/28/2016	1	U	2	no
SW-079-MWI	44.3 - 54.6	Xylenes	6/28/2016	3	U	10,000	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
SW-079-MWI	44.3 - 54.6	Zinc	6/28/2016	0.74	JB	6,000	no
SW-079-MWI	44.3 - 54.6	Zinc, Dissolved	6/28/2016	10	U	6,000	no
SW-079-MWS	10.5 - 20.6	1,1,1-Trichloroethane	6/27/2016	1	U	200	no
SW-079-MWS	10.5 - 20.6	1,1,2,2-Tetrachloroethane	6/27/2016	1	U	0.076	no
SW-079-MWS	10.5 - 20.6	1,1,2-Trichloro-1,2,2-Trifluoroethane	6/27/2016	50	U	55,000	no
SW-079-MWS	10.5 - 20.6	1,1,2-Trichloroethane	6/27/2016	1	U	5	no
SW-079-MWS	10.5 - 20.6	1,1-Biphenyl	6/27/2016	1	U1c	0.83	no
SW-079-MWS	10.5 - 20.6	1,1-Dichloroethane	6/27/2016	1	U	2.7	no
SW-079-MWS	10.5 - 20.6	1,1-Dichloroethene	6/27/2016	1	U	7	no
SW-079-MWS	10.5 - 20.6	1,2,3-Trichlorobenzene	6/27/2016	2	U	7	no
SW-079-MWS	10.5 - 20.6	1,2,4,5-Tetrachlorobenzene	6/27/2016	1	U1c	1.7	no
SW-079-MWS	10.5 - 20.6	1,2,4-Trichlorobenzene	6/27/2016	1	U	70	no
SW-079-MWS	10.5 - 20.6	1,2-Dibromo-3-chloropropane	6/27/2016	5	U	0.2	no
SW-079-MWS	10.5 - 20.6	1,2-Dibromoethane	6/27/2016	1	U	0.0075	no
SW-079-MWS	10.5 - 20.6	1,2-Dichlorobenzene	6/27/2016	1	U	600	no
SW-079-MWS	10.5 - 20.6	1,2-Dichloroethane	6/27/2016	1	U	5	no
SW-079-MWS	10.5 - 20.6	1,2-Dichloroethene (Total)	6/27/2016	2	U	70	no
SW-079-MWS	10.5 - 20.6	1,2-Dichloropropane	6/27/2016	1	U	5	no
SW-079-MWS	10.5 - 20.6	1,3-Dichlorobenzene	6/27/2016	1	U		no
SW-079-MWS	10.5 - 20.6	1,4-Dichlorobenzene	6/27/2016	1	U	75	no
SW-079-MWS	10.5 - 20.6	1,4-Dioxane	6/27/2016	0.094	J	0.46	no
SW-079-MWS	10.5 - 20.6	2,3,4,6-Tetrachlorophenol	6/27/2016	1	U1c	240	no
SW-079-MWS	10.5 - 20.6	2,4,5-Trichlorophenol	6/27/2016	2.6	U1c	1,200	no
SW-079-MWS	10.5 - 20.6	2,4,6-Trichlorophenol	6/27/2016	1	U1c	4	no
SW-079-MWS	10.5 - 20.6	2,4-Dichlorophenol	6/27/2016	1	U1c	46	no
SW-079-MWS	10.5 - 20.6	2,4-Dimethylphenol	6/27/2016	1	U1c	360	no
SW-079-MWS	10.5 - 20.6	2,4-Dinitrophenol	6/27/2016	2.6	U1c	39	no
SW-079-MWS	10.5 - 20.6	2,4-Dinitrotoluene	6/27/2016	1	U1c	0.24	no
SW-079-MWS	10.5 - 20.6	2,6-Dinitrotoluene	6/27/2016	1	U1c	0.048	no
SW-079-MWS	10.5 - 20.6	2-Butanone (MEK)	6/27/2016	10	U	5,600	no
SW-079-MWS	10.5 - 20.6	2-Chloronaphthalene	6/27/2016	1	U1c	750	no
SW-079-MWS	10.5 - 20.6	2-Chlorophenol	6/27/2016	1	U1c	91	no
SW-079-MWS	10.5 - 20.6	2-Hexanone	6/27/2016	10	U	38	no
SW-079-MWS	10.5 - 20.6	2-Methylnaphthalene	6/27/2016	0.26		36	no
SW-079-MWS	10.5 - 20.6	2-Methylphenol	6/27/2016	1	U1c	930	no
SW-079-MWS	10.5 - 20.6	2-Nitroaniline	6/27/2016	2.6	U1c	190	no
SW-079-MWS	10.5 - 20.6	3&4-Methylphenol(m&p Cresol)	6/27/2016	2	U1c	930	no
SW-079-MWS	10.5 - 20.6	3,3'-Dichlorobenzidine	6/27/2016	1	U1c	0.12	no
SW-079-MWS	10.5 - 20.6	4-Chloroaniline	6/27/2016	1	U1c	0.36	no
SW-079-MWS	10.5 - 20.6	4-Methyl-2-pentanone (MIBK)	6/27/2016	10	U	1,200	no
SW-079-MWS	10.5 - 20.6	4-Nitroaniline	6/27/2016	2.6	U1c	3.8	no
SW-079-MWS	10.5 - 20.6	Acenaphthene	6/27/2016	0.7		530	no
SW-079-MWS	10.5 - 20.6	Acenaphthylene	6/27/2016	0.11		530	no
SW-079-MWS	10.5 - 20.6	Acetone	6/27/2016	3	J	14,000	no
SW-079-MWS	10.5 - 20.6	Acetophenone	6/27/2016	1	U1c	1,900	no
SW-079-MWS	10.5 - 20.6	Aluminum	6/27/2016	109		20,000	no
SW-079-MWS	10.5 - 20.6	Aluminum, Dissolved	6/27/2016	88.8		20,000	no
SW-079-MWS	10.5 - 20.6	Anthracene	6/27/2016	0.22		1,800	no
SW-079-MWS	10.5 - 20.6	Antimony	6/27/2016	3.3	J	6	no

Parcel B15 Area B and Finishing Mills Groundwater Investigations
Validated and Non-Validated Data
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
SW-079-MWS	10.5 - 20.6	Antimony, Dissolved	6/27/2016	4.2	J	6	no
SW-079-MWS	10.5 - 20.6	Arsenic	6/27/2016	5	U	10	no
SW-079-MWS	10.5 - 20.6	Arsenic, Dissolved	6/27/2016	2.9	J	10	no
SW-079-MWS	10.5 - 20.6	Barium	6/27/2016	64.2		2,000	no
SW-079-MWS	10.5 - 20.6	Barium, Dissolved	6/27/2016	64.6		2,000	no
SW-079-MWS	10.5 - 20.6	Benzaldehyde	6/27/2016	1	U1c	1,900	no
SW-079-MWS	10.5 - 20.6	Benzene	6/27/2016	0.25	J	5	no
SW-079-MWS	10.5 - 20.6	Benzo[a]anthracene	6/27/2016	0.037	J	0.012	YES
SW-079-MWS	10.5 - 20.6	Benzo[a]pyrene	6/27/2016	0.1	U	0.2	no
SW-079-MWS	10.5 - 20.6	Benzo[b]fluoranthene	6/27/2016	0.1	Uip	0.034	no
SW-079-MWS	10.5 - 20.6	Benzo[g,h,i]perylene	6/27/2016	0.1	U		no
SW-079-MWS	10.5 - 20.6	Benzo[k]fluoranthene	6/27/2016	0.013	Jip	0.34	no
SW-079-MWS	10.5 - 20.6	Beryllium	6/27/2016	1	U	4	no
SW-079-MWS	10.5 - 20.6	Beryllium, Dissolved	6/27/2016	1	U	4	no
SW-079-MWS	10.5 - 20.6	bis(2-chloroethoxy)methane	6/27/2016	1	U1c	59	no
SW-079-MWS	10.5 - 20.6	bis(2-Chloroethyl)ether	6/27/2016	1	U1c	0.014	no
SW-079-MWS	10.5 - 20.6	bis(2-Chloroisopropyl)ether	6/27/2016	1	U1c	0.36	no
SW-079-MWS	10.5 - 20.6	bis(2-Ethylhexyl)phthalate	6/27/2016	1	U1c	6	no
SW-079-MWS	10.5 - 20.6	Bromodichloromethane	6/27/2016	1	U	0.13	no
SW-079-MWS	10.5 - 20.6	Bromoform	6/27/2016	1	U	3.3	no
SW-079-MWS	10.5 - 20.6	Bromomethane	6/27/2016	1	U	7.5	no
SW-079-MWS	10.5 - 20.6	Cadmium	6/27/2016	3	U	5	no
SW-079-MWS	10.5 - 20.6	Cadmium, Dissolved	6/27/2016	3	U	5	no
SW-079-MWS	10.5 - 20.6	Caprolactam	6/27/2016	2.6	U1c	9,900	no
SW-079-MWS	10.5 - 20.6	Carbazole	6/27/2016	0.98	J1c		no
SW-079-MWS	10.5 - 20.6	Carbon disulfide	6/27/2016	1	U	810	no
SW-079-MWS	10.5 - 20.6	Carbon tetrachloride	6/27/2016	1	U	5	no
SW-079-MWS	10.5 - 20.6	Chlorobenzene	6/27/2016	1	U	100	no
SW-079-MWS	10.5 - 20.6	Chloroethane	6/27/2016	1	U	21,000	no
SW-079-MWS	10.5 - 20.6	Chloroform	6/27/2016	1	U	0.22	no
SW-079-MWS	10.5 - 20.6	Chloromethane	6/27/2016	1	U	190	no
SW-079-MWS	10.5 - 20.6	Chromium	6/27/2016	1.5	J	100	no
SW-079-MWS	10.5 - 20.6	Chromium VI	6/27/2016	10	U	0.035	no
SW-079-MWS	10.5 - 20.6	Chromium, Dissolved	6/27/2016	1.1	J	100	no
SW-079-MWS	10.5 - 20.6	Chrysene	6/27/2016	0.027	J	3.4	no
SW-079-MWS	10.5 - 20.6	cis-1,2-Dichloroethene	6/27/2016	1	U	70	no
SW-079-MWS	10.5 - 20.6	cis-1,3-Dichloropropene	6/27/2016	1	U		no
SW-079-MWS	10.5 - 20.6	Cobalt	6/27/2016	5	U	6	no
SW-079-MWS	10.5 - 20.6	Cobalt, Dissolved	6/27/2016	5	U	6	no
SW-079-MWS	10.5 - 20.6	Copper	6/27/2016	5	U	1,300	no
SW-079-MWS	10.5 - 20.6	Copper, Dissolved	6/27/2016	5	U	1,300	no
SW-079-MWS	10.5 - 20.6	Cyanide	6/27/2016	31.4		200	no
SW-079-MWS	10.5 - 20.6	Cyclohexane	6/27/2016	10	U	13,000	no
SW-079-MWS	10.5 - 20.6	Dibenz[a,h]anthracene	6/27/2016	0.1	U	0.0034	no
SW-079-MWS	10.5 - 20.6	Dibromochloromethane	6/27/2016	1	U	0.17	no
SW-079-MWS	10.5 - 20.6	Dichlorodifluoromethane	6/27/2016	1	U	200	no
SW-079-MWS	10.5 - 20.6	Diesel Range Organics	6/27/2016	408	N2L21c	47	YES
SW-079-MWS	10.5 - 20.6	Diethylphthalate	6/27/2016	1	U1c	15,000	no
SW-079-MWS	10.5 - 20.6	Di-n-butylphthalate	6/27/2016	1	U1c	900	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
SW-079-MWS	10.5 - 20.6	Di-n-ocytlphthalate	6/27/2016	1	U1c	200	no
SW-079-MWS	10.5 - 20.6	Ethylbenzene	6/27/2016	1	U	700	no
SW-079-MWS	10.5 - 20.6	Fluoranthene	6/27/2016	0.38		800	no
SW-079-MWS	10.5 - 20.6	Fluorene	6/27/2016	0.53		290	no
SW-079-MWS	10.5 - 20.6	Gasoline Range Organics	6/27/2016	200	U	47	no
SW-079-MWS	10.5 - 20.6	Hexachlorobenzene	6/27/2016	1	U1c	1	no
SW-079-MWS	10.5 - 20.6	Hexachlorobutadiene	6/27/2016	1	U1c	0.14	no
SW-079-MWS	10.5 - 20.6	Hexachlorocyclopentadiene	6/27/2016	1	U1c	50	no
SW-079-MWS	10.5 - 20.6	Hexachloroethane	6/27/2016	1	U1c	0.33	no
SW-079-MWS	10.5 - 20.6	Indeno[1,2,3-c,d]pyrene	6/27/2016	0.1	U	0.034	no
SW-079-MWS	10.5 - 20.6	Iron	6/27/2016	110		14,000	no
SW-079-MWS	10.5 - 20.6	Iron, Dissolved	6/27/2016	49.5	J	14,000	no
SW-079-MWS	10.5 - 20.6	Isophorone	6/27/2016	1	U1c	78	no
SW-079-MWS	10.5 - 20.6	Isopropylbenzene	6/27/2016	1	U	450	no
SW-079-MWS	10.5 - 20.6	Lead	6/27/2016	5	U	15	no
SW-079-MWS	10.5 - 20.6	Lead, Dissolved	6/27/2016	5	U	15	no
SW-079-MWS	10.5 - 20.6	Manganese	6/27/2016	56.2		430	no
SW-079-MWS	10.5 - 20.6	Manganese, Dissolved	6/27/2016	51.9		430	no
SW-079-MWS	10.5 - 20.6	Mercury	6/27/2016	0.2	U	2	no
SW-079-MWS	10.5 - 20.6	Mercury, Dissolved	6/27/2016	0.2	U	2	no
SW-079-MWS	10.5 - 20.6	Methyl Acetate	6/27/2016	5	U	20,000	no
SW-079-MWS	10.5 - 20.6	Methyl tert-butyl ether (MTBE)	6/27/2016	1	U	14	no
SW-079-MWS	10.5 - 20.6	Methylene Chloride	6/27/2016	1	U	5	no
SW-079-MWS	10.5 - 20.6	Naphthalene	6/27/2016	12		0.17	YES
SW-079-MWS	10.5 - 20.6	Nickel	6/27/2016	0.73	J	390	no
SW-079-MWS	10.5 - 20.6	Nickel, Dissolved	6/27/2016	10	U	390	no
SW-079-MWS	10.5 - 20.6	Nitrobenzene	6/27/2016	1	U1c	0.14	no
SW-079-MWS	10.5 - 20.6	N-Nitroso-di-n-propylamine	6/27/2016	1	U1c	0.011	no
SW-079-MWS	10.5 - 20.6	N-Nitrosodiphenylamine	6/27/2016	1	U1c	12	no
SW-079-MWS	10.5 - 20.6	Pentachlorophenol	6/27/2016	2.6	U1c	1	no
SW-079-MWS	10.5 - 20.6	Phenanthrene	6/27/2016	0.96			no
SW-079-MWS	10.5 - 20.6	Phenol	6/27/2016	1	U1c	5,800	no
SW-079-MWS	10.5 - 20.6	Pyrene	6/27/2016	0.24		120	no
SW-079-MWS	10.5 - 20.6	Selenium	6/27/2016	8	U	50	no
SW-079-MWS	10.5 - 20.6	Selenium, Dissolved	6/27/2016	8	U	50	no
SW-079-MWS	10.5 - 20.6	Silver	6/27/2016	6	U	94	no
SW-079-MWS	10.5 - 20.6	Silver, Dissolved	6/27/2016	6	U	94	no
SW-079-MWS	10.5 - 20.6	Styrene	6/27/2016	1	U	100	no
SW-079-MWS	10.5 - 20.6	Tetrachloroethene	6/27/2016	1	U	5	no
SW-079-MWS	10.5 - 20.6	Thallium	6/27/2016	10	U	2	no
SW-079-MWS	10.5 - 20.6	Thallium, Dissolved	6/27/2016	4.8	J	2	YES
SW-079-MWS	10.5 - 20.6	Toluene	6/27/2016	0.21	J	1,000	no
SW-079-MWS	10.5 - 20.6	trans-1,2-Dichloroethene	6/27/2016	1	U	100	no
SW-079-MWS	10.5 - 20.6	trans-1,3-Dichloropropene	6/27/2016	1	U		no
SW-079-MWS	10.5 - 20.6	Trichloroethene	6/27/2016	1	U	5	no
SW-079-MWS	10.5 - 20.6	Trichlorofluoromethane	6/27/2016	1	U	1,100	no
SW-079-MWS	10.5 - 20.6	Vanadium	6/27/2016	217		86	YES
SW-079-MWS	10.5 - 20.6	Vanadium, Dissolved	6/27/2016	228		86	YES
SW-079-MWS	10.5 - 20.6	Vinyl chloride	6/27/2016	1	U	2	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
SW-079-MWS	10.5 - 20.6	Xylenes	6/27/2016	3	U	10,000	no
SW-079-MWS	10.5 - 20.6	Zinc	6/27/2016	3.4	JB	6,000	no
SW-079-MWS	10.5 - 20.6	Zinc, Dissolved	6/27/2016	1.6	JB	6,000	no
TM03-PZM004	5.0 - 15.0	1,1,1-Trichloroethane	3/29/2016	1	U	200	no
TM03-PZM004	5.0 - 15.0	1,1,2,2-Tetrachloroethane	3/29/2016	1	U	0.076	no
TM03-PZM004	5.0 - 15.0	1,1,2-Trichloro-1,2,2-Trifluoroethane	3/29/2016	50	U	55,000	no
TM03-PZM004	5.0 - 15.0	1,1,2-Trichloroethane	3/29/2016	1	U	5	no
TM03-PZM004	5.0 - 15.0	1,1-Biphenyl	3/29/2016	2.2	J	0.83	YES
TM03-PZM004	5.0 - 15.0	1,1-Dichloroethane	3/29/2016	1	U	2.7	no
TM03-PZM004	5.0 - 15.0	1,1-Dichloroethene	3/29/2016	1	U	7	no
TM03-PZM004	5.0 - 15.0	1,2,3-Trichlorobenzene	3/29/2016	2	U	7	no
TM03-PZM004	5.0 - 15.0	1,2,4,5-Tetrachlorobenzene	3/29/2016	1	U	1.7	no
TM03-PZM004	5.0 - 15.0	1,2,4-Trichlorobenzene	3/29/2016	1	U	70	no
TM03-PZM004	5.0 - 15.0	1,2-Dibromo-3-chloropropane	3/29/2016	5	U	0.2	no
TM03-PZM004	5.0 - 15.0	1,2-Dibromoethane	3/29/2016	1	U	0.008	no
TM03-PZM004	5.0 - 15.0	1,2-Dichlorobenzene	3/29/2016	1	U	600	no
TM03-PZM004	5.0 - 15.0	1,2-Dichloroethane	3/29/2016	1	U	5	no
TM03-PZM004	5.0 - 15.0	1,2-Dichloroethene (Total)	3/29/2016	2	U	70	no
TM03-PZM004	5.0 - 15.0	1,2-Dichloropropane	3/29/2016	1	U	5	no
TM03-PZM004	5.0 - 15.0	1,3-Dichlorobenzene	3/29/2016	1	U		no
TM03-PZM004	5.0 - 15.0	1,4-Dichlorobenzene	3/29/2016	1	U	75	no
TM03-PZM004	5.0 - 15.0	1,4-Dioxane	3/29/2016	0.044	J	0.46	no
TM03-PZM004	5.0 - 15.0	2,3,4,6-Tetrachlorophenol	3/29/2016	1	U	240	no
TM03-PZM004	5.0 - 15.0	2,4,5-Trichlorophenol	3/29/2016	2.5	U	1,200	no
TM03-PZM004	5.0 - 15.0	2,4,6-Trichlorophenol	3/29/2016	1	U	4	no
TM03-PZM004	5.0 - 15.0	2,4-Dichlorophenol	3/29/2016	1	U	46	no
TM03-PZM004	5.0 - 15.0	2,4-Dimethylphenol	3/29/2016	0.26	J	360	no
TM03-PZM004	5.0 - 15.0	2,4-Dinitrophenol	3/29/2016	2.5	U	39	no
TM03-PZM004	5.0 - 15.0	2,4-Dinitrotoluene	3/29/2016	1	U	0.24	no
TM03-PZM004	5.0 - 15.0	2,6-Dinitrotoluene	3/29/2016	1	U	0.048	no
TM03-PZM004	5.0 - 15.0	2-Butanone (MEK)	3/29/2016	10	U	5,600	no
TM03-PZM004	5.0 - 15.0	2-Chloronaphthalene	3/29/2016	1	U	750	no
TM03-PZM004	5.0 - 15.0	2-Chlorophenol	3/29/2016	1	U	91	no
TM03-PZM004	5.0 - 15.0	2-Hexanone	3/29/2016	10	U	38	no
TM03-PZM004	5.0 - 15.0	2-Methylnaphthalene	3/29/2016	11.7		36	no
TM03-PZM004	5.0 - 15.0	2-Methylphenol	3/29/2016	0.19	J	930	no
TM03-PZM004	5.0 - 15.0	2-Nitroaniline	3/29/2016	2.5	U	190	no
TM03-PZM004	5.0 - 15.0	3&4-Methylphenol(m&p Cresol)	3/29/2016	0.65	J	930	no
TM03-PZM004	5.0 - 15.0	3,3'-Dichlorobenzidine	3/29/2016	1	U	0.12	no
TM03-PZM004	5.0 - 15.0	4-Chloroaniline	3/29/2016	1	U	0.36	no
TM03-PZM004	5.0 - 15.0	4-Methyl-2-pentanone (MIBK)	3/29/2016	10	U	1,200	no
TM03-PZM004	5.0 - 15.0	4-Nitroaniline	3/29/2016	2.5	U	3.8	no
TM03-PZM004	5.0 - 15.0	Acenaphthene	3/29/2016	2.6		530	no
TM03-PZM004	5.0 - 15.0	Acenaphthylene	3/29/2016	5.3		530	no
TM03-PZM004	5.0 - 15.0	Acetophenone	3/29/2016	1	U	1,900	no
TM03-PZM004	5.0 - 15.0	Aluminum (D)	3/29/2016	283		20,000	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM03-PZM004	5.0 - 15.0	Aluminum (T)	3/29/2016	297	J	20,000	no
TM03-PZM004	5.0 - 15.0	Anthracene	3/29/2016	2.3		1,800	no
TM03-PZM004	5.0 - 15.0	Antimony (D)	3/29/2016	6	U	6	no
TM03-PZM004	5.0 - 15.0	Antimony (T)	3/29/2016	6	U	6	no
TM03-PZM004	5.0 - 15.0	Arsenic (D)	3/29/2016	5.3		10	no
TM03-PZM004	5.0 - 15.0	Arsenic (T)	3/29/2016	4.5	J	10	no
TM03-PZM004	5.0 - 15.0	Barium (D)	3/29/2016	12.5		2,000	no
TM03-PZM004	5.0 - 15.0	Barium (T)	3/29/2016	13.1		2,000	no
TM03-PZM004	5.0 - 15.0	Benzaldehyde	3/29/2016	1	U	1,900	no
TM03-PZM004	5.0 - 15.0	Benzene	3/29/2016	1.1		5	no
TM03-PZM004	5.0 - 15.0	Benzo[a]anthracene	3/29/2016	0.33		0.012	YES
TM03-PZM004	5.0 - 15.0	Benzo[a]pyrene	3/29/2016	0.035	J	0.2	no
TM03-PZM004	5.0 - 15.0	Benzo[b]fluoranthene	3/29/2016	0.089	J	0.034	YES
TM03-PZM004	5.0 - 15.0	Benzo[g,h,i]perylene	3/29/2016	0.1	UJ		no
TM03-PZM004	5.0 - 15.0	Benzo[k]fluoranthene	3/29/2016	0.036	J	0.34	no
TM03-PZM004	5.0 - 15.0	Beryllium (D)	3/29/2016	0.41	J	4	no
TM03-PZM004	5.0 - 15.0	Beryllium (T)	3/29/2016	1	U	4	no
TM03-PZM004	5.0 - 15.0	bis(2-chloroethoxy)methane	3/29/2016	1	U	59	no
TM03-PZM004	5.0 - 15.0	bis(2-Chloroethyl)ether	3/29/2016	1	U	0.014	no
TM03-PZM004	5.0 - 15.0	bis(2-Chloroisopropyl)ether	3/29/2016	1	U	0.36	no
TM03-PZM004	5.0 - 15.0	bis(2-Ethylhexyl)phthalate	3/29/2016	0.14	B	6	no
TM03-PZM004	5.0 - 15.0	Bromodichloromethane	3/29/2016	1	U	0.13	no
TM03-PZM004	5.0 - 15.0	Bromoform	3/29/2016	1	U	3.3	no
TM03-PZM004	5.0 - 15.0	Bromomethane	3/29/2016	1	U	7.5	no
TM03-PZM004	5.0 - 15.0	Cadmium (D)	3/29/2016	3	U	5	no
TM03-PZM004	5.0 - 15.0	Cadmium (T)	3/29/2016	0.51	B	5	no
TM03-PZM004	5.0 - 15.0	Caprolactam	3/29/2016	2.5	U	9,900	no
TM03-PZM004	5.0 - 15.0	Carbazole	3/29/2016	15.9			no
TM03-PZM004	5.0 - 15.0	Carbon disulfide	3/29/2016	1	U	810	no
TM03-PZM004	5.0 - 15.0	Carbon tetrachloride	3/29/2016	1	U	5	no
TM03-PZM004	5.0 - 15.0	Chlorobenzene	3/29/2016	1	U	100	no
TM03-PZM004	5.0 - 15.0	Chloroethane	3/29/2016	1	U	21,000	no
TM03-PZM004	5.0 - 15.0	Chloroform	3/29/2016	1	U	0.22	no
TM03-PZM004	5.0 - 15.0	Chloromethane	3/29/2016	1	U	190	no
TM03-PZM004	5.0 - 15.0	Chromium (D)	3/29/2016	0.95	B	100	no
TM03-PZM004	5.0 - 15.0	Chromium (T)	3/29/2016	1	J	100	no
TM03-PZM004	5.0 - 15.0	Chromium VI (T)	3/29/2016	10	U	0.035	no
TM03-PZM004	5.0 - 15.0	Chrysene	3/29/2016	0.23		3.4	no
TM03-PZM004	5.0 - 15.0	cis-1,2-Dichloroethene	3/29/2016	1	U	70	no
TM03-PZM004	5.0 - 15.0	cis-1,3-Dichloropropene	3/29/2016	1	U		no
TM03-PZM004	5.0 - 15.0	Cobalt (D)	3/29/2016	5	U	6	no
TM03-PZM004	5.0 - 15.0	Cobalt (T)	3/29/2016	5	U	6	no
TM03-PZM004	5.0 - 15.0	Copper (D)	3/29/2016	5	U	1,300	no
TM03-PZM004	5.0 - 15.0	Copper (T)	3/29/2016	2.1	B	1,300	no
TM03-PZM004	5.0 - 15.0	Cyanide	3/29/2016	61.4		200	no
TM03-PZM004	5.0 - 15.0	Cyclohexane	3/29/2016	10	U	13,000	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM03-PZM004	5.0 - 15.0	Dibenz[a,h]anthracene	3/29/2016	0.1	UJ	0.003	no
TM03-PZM004	5.0 - 15.0	Dibromochloromethane	3/29/2016	1	U	0.17	no
TM03-PZM004	5.0 - 15.0	Dichlorodifluoromethane	3/29/2016	1	U	200	no
TM03-PZM004	5.0 - 15.0	Diesel Range Organics	3/29/2016	583	J	47	YES
TM03-PZM004	5.0 - 15.0	Diethylphthalate	3/29/2016	1	U	15,000	no
TM03-PZM004	5.0 - 15.0	Di-n-butylphthalate	3/29/2016	1	U	900	no
TM03-PZM004	5.0 - 15.0	Di-n-ocytlphthalate	3/29/2016	1	U	200	no
TM03-PZM004	5.0 - 15.0	Ethylbenzene	3/29/2016	1	U	700	no
TM03-PZM004	5.0 - 15.0	Fluoranthene	3/29/2016	4.9		800	no
TM03-PZM004	5.0 - 15.0	Fluorene	3/29/2016	8.9	J	290	no
TM03-PZM004	5.0 - 15.0	Gasoline Range Organics	3/29/2016	200	U	47	no
TM03-PZM004	5.0 - 15.0	Hexachlorobenzene	3/29/2016	1	U	1	no
TM03-PZM004	5.0 - 15.0	Hexachlorobutadiene	3/29/2016	1	U	0.14	no
TM03-PZM004	5.0 - 15.0	Hexachlorocyclopentadiene	3/29/2016	1	UJ	50	no
TM03-PZM004	5.0 - 15.0	Hexachloroethane	3/29/2016	1	U	0.33	no
TM03-PZM004	5.0 - 15.0	Indeno[1,2,3-c,d]pyrene	3/29/2016	0.1	UJ	0.034	no
TM03-PZM004	5.0 - 15.0	Iron (D)	3/29/2016	33.3	B	14,000	no
TM03-PZM004	5.0 - 15.0	Iron (T)	3/29/2016	44.2	J	14,000	no
TM03-PZM004	5.0 - 15.0	Isophorone	3/29/2016	1	U	78	no
TM03-PZM004	5.0 - 15.0	Isopropylbenzene	3/29/2016	1	U	450	no
TM03-PZM004	5.0 - 15.0	Lead (D)	3/29/2016	5	U	15	no
TM03-PZM004	5.0 - 15.0	Lead (T)	3/29/2016	5	U	15	no
TM03-PZM004	5.0 - 15.0	Manganese (D)	3/29/2016	5	U	430	no
TM03-PZM004	5.0 - 15.0	Manganese (T)	3/29/2016	1.4	J	430	no
TM03-PZM004	5.0 - 15.0	Mercury (D)	3/29/2016	0.2	U	2	no
TM03-PZM004	5.0 - 15.0	Mercury (T)	3/29/2016	0.2	U	2	no
TM03-PZM004	5.0 - 15.0	Methyl Acetate	3/29/2016	5	U	20,000	no
TM03-PZM004	5.0 - 15.0	Methyl tert-butyl ether (MTBE)	3/29/2016	1	U	14	no
TM03-PZM004	5.0 - 15.0	Methylene Chloride	3/29/2016	1	U	5	no
TM03-PZM004	5.0 - 15.0	Naphthalene	3/29/2016	110		0.17	YES
TM03-PZM004	5.0 - 15.0	Nickel (D)	3/29/2016	10	U	390	no
TM03-PZM004	5.0 - 15.0	Nickel (T)	3/29/2016	10	U	390	no
TM03-PZM004	5.0 - 15.0	Nitrobenzene	3/29/2016	1	U	0.14	no
TM03-PZM004	5.0 - 15.0	N-Nitroso-di-n-propylamine	3/29/2016	1	U	0.011	no
TM03-PZM004	5.0 - 15.0	N-Nitrosodiphenylamine	3/29/2016	1	U	12	no
TM03-PZM004	5.0 - 15.0	Pentachlorophenol	3/29/2016	2.5	U	1	no
TM03-PZM004	5.0 - 15.0	Phenanthrene	3/29/2016	18.3			no
TM03-PZM004	5.0 - 15.0	Phenol	3/29/2016	0.27	J	5,800	no
TM03-PZM004	5.0 - 15.0	Pyrene	3/29/2016	3.6		120	no
TM03-PZM004	5.0 - 15.0	Selenium (D)	3/29/2016	8	U	50	no
TM03-PZM004	5.0 - 15.0	Selenium (T)	3/29/2016	3.2	J	50	no
TM03-PZM004	5.0 - 15.0	Silver (D)	3/29/2016	6	U	94	no
TM03-PZM004	5.0 - 15.0	Silver (T)	3/29/2016	6	U	94	no
TM03-PZM004	5.0 - 15.0	Styrene	3/29/2016	1	U	100	no
TM03-PZM004	5.0 - 15.0	Tetrachloroethene	3/29/2016	1	UJ	5	no
TM03-PZM004	5.0 - 15.0	Thallium (D)	3/29/2016	10	U	2	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM03-PZM004	5.0 - 15.0	Thallium (T)	3/29/2016	10	U	2	no
TM03-PZM004	5.0 - 15.0	Toluene	3/29/2016	0.7	J	1,000	no
TM03-PZM004	5.0 - 15.0	trans-1,2-Dichloroethene	3/29/2016	1	U	100	no
TM03-PZM004	5.0 - 15.0	trans-1,3-Dichloropropene	3/29/2016	1	U		no
TM03-PZM004	5.0 - 15.0	Trichloroethene	3/29/2016	1	U	5	no
TM03-PZM004	5.0 - 15.0	Trichlorofluoromethane	3/29/2016	1	U	1,100	no
TM03-PZM004	5.0 - 15.0	Vanadium (D)	3/29/2016	119		86	YES
TM03-PZM004	5.0 - 15.0	Vanadium (T)	3/29/2016	114		86	YES
TM03-PZM004	5.0 - 15.0	Vinyl chloride	3/29/2016	1	U	2	no
TM03-PZM004	5.0 - 15.0	Xylenes	3/29/2016	3	U	10,000	no
TM03-PZM004	5.0 - 15.0	Zinc (D)	3/29/2016	10	U	6,000	no
TM03-PZM004	5.0 - 15.0	Zinc (T)	3/29/2016	0.69	B	6,000	no
TM03-PZM037	39.5 - 49.5	1,1,1-Trichloroethane	3/29/2016	1	U	200	no
TM03-PZM037	39.5 - 49.5	1,1,2,2-Tetrachloroethane	3/29/2016	1	U	0.076	no
TM03-PZM037	39.5 - 49.5	1,1,2-Trichloro-1,2,2-Trifluoroethane	3/29/2016	50	U	55,000	no
TM03-PZM037	39.5 - 49.5	1,1,2-Trichloroethane	3/29/2016	1	U	5	no
TM03-PZM037	39.5 - 49.5	1,1-Biphenyl	3/29/2016	1	U	0.83	no
TM03-PZM037	39.5 - 49.5	1,1-Dichloroethane	3/29/2016	1	U	2.7	no
TM03-PZM037	39.5 - 49.5	1,1-Dichloroethene	3/29/2016	1	U	7	no
TM03-PZM037	39.5 - 49.5	1,2,3-Trichlorobenzene	3/29/2016	2	U	7	no
TM03-PZM037	39.5 - 49.5	1,2,4,5-Tetrachlorobenzene	3/29/2016	1	U	1.7	no
TM03-PZM037	39.5 - 49.5	1,2,4-Trichlorobenzene	3/29/2016	1	U	70	no
TM03-PZM037	39.5 - 49.5	1,2-Dibromo-3-chloropropane	3/29/2016	5	U	0.2	no
TM03-PZM037	39.5 - 49.5	1,2-Dibromoethane	3/29/2016	1	U	0.008	no
TM03-PZM037	39.5 - 49.5	1,2-Dichlorobenzene	3/29/2016	1	U	600	no
TM03-PZM037	39.5 - 49.5	1,2-Dichloroethane	3/29/2016	1	U	5	no
TM03-PZM037	39.5 - 49.5	1,2-Dichloroethene (Total)	3/29/2016	1.3	J	70	no
TM03-PZM037	39.5 - 49.5	1,2-Dichloropropane	3/29/2016	1	U	5	no
TM03-PZM037	39.5 - 49.5	1,3-Dichlorobenzene	3/29/2016	1	U		no
TM03-PZM037	39.5 - 49.5	1,4-Dichlorobenzene	3/29/2016	1	U	75	no
TM03-PZM037	39.5 - 49.5	1,4-Dioxane	3/29/2016	0.5		0.46	YES
TM03-PZM037	39.5 - 49.5	2,3,4,6-Tetrachlorophenol	3/29/2016	1	U	240	no
TM03-PZM037	39.5 - 49.5	2,4,5-Trichlorophenol	3/29/2016	2.5	U	1,200	no
TM03-PZM037	39.5 - 49.5	2,4,6-Trichlorophenol	3/29/2016	1	U	4	no
TM03-PZM037	39.5 - 49.5	2,4-Dichlorophenol	3/29/2016	1	U	46	no
TM03-PZM037	39.5 - 49.5	2,4-Dimethylphenol	3/29/2016	1	U	360	no
TM03-PZM037	39.5 - 49.5	2,4-Dinitrophenol	3/29/2016	2.5	U	39	no
TM03-PZM037	39.5 - 49.5	2,4-Dinitrotoluene	3/29/2016	1	U	0.24	no
TM03-PZM037	39.5 - 49.5	2,6-Dinitrotoluene	3/29/2016	1	U	0.048	no
TM03-PZM037	39.5 - 49.5	2-Butanone (MEK)	3/29/2016	10	U	5,600	no
TM03-PZM037	39.5 - 49.5	2-Chloronaphthalene	3/29/2016	1	U	750	no
TM03-PZM037	39.5 - 49.5	2-Chlorophenol	3/29/2016	1	U	91	no
TM03-PZM037	39.5 - 49.5	2-Hexanone	3/29/2016	10	U	38	no
TM03-PZM037	39.5 - 49.5	2-Methylnaphthalene	3/29/2016	0.58		36	no
TM03-PZM037	39.5 - 49.5	2-Methylphenol	3/29/2016	1	U	930	no
TM03-PZM037	39.5 - 49.5	2-Nitroaniline	3/29/2016	2.5	U	190	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM03-PZM037	39.5 - 49.5	3&4-Methylphenol(m&p Cresol)	3/29/2016	2	U	930	no
TM03-PZM037	39.5 - 49.5	3,3'-Dichlorobenzidine	3/29/2016	1	U	0.12	no
TM03-PZM037	39.5 - 49.5	4-Chloroaniline	3/29/2016	1	U	0.36	no
TM03-PZM037	39.5 - 49.5	4-Methyl-2-pentanone (MIBK)	3/29/2016	10	U	1,200	no
TM03-PZM037	39.5 - 49.5	4-Nitroaniline	3/29/2016	2.5	U	3.8	no
TM03-PZM037	39.5 - 49.5	Acenaphthene	3/29/2016	0.91		530	no
TM03-PZM037	39.5 - 49.5	Acenaphthylene	3/29/2016	0.22		530	no
TM03-PZM037	39.5 - 49.5	Acetophenone	3/29/2016	1	U	1,900	no
TM03-PZM037	39.5 - 49.5	Aluminum (D)	3/29/2016	21.6	J	20,000	no
TM03-PZM037	39.5 - 49.5	Aluminum (T)	3/29/2016	38.4	B	20,000	no
TM03-PZM037	39.5 - 49.5	Anthracene	3/29/2016	1.1		1,800	no
TM03-PZM037	39.5 - 49.5	Antimony (D)	3/29/2016	6	U	6	no
TM03-PZM037	39.5 - 49.5	Antimony (T)	3/29/2016	6	U	6	no
TM03-PZM037	39.5 - 49.5	Arsenic (D)	3/29/2016	20.8		10	YES
TM03-PZM037	39.5 - 49.5	Arsenic (T)	3/29/2016	18.9		10	YES
TM03-PZM037	39.5 - 49.5	Barium (D)	3/29/2016	125		2,000	no
TM03-PZM037	39.5 - 49.5	Barium (T)	3/29/2016	123		2,000	no
TM03-PZM037	39.5 - 49.5	Benzaldehyde	3/29/2016	1	U	1,900	no
TM03-PZM037	39.5 - 49.5	Benzene	3/29/2016	1	U	5	no
TM03-PZM037	39.5 - 49.5	Benzo[a]anthracene	3/29/2016	0.11		0.012	YES
TM03-PZM037	39.5 - 49.5	Benzo[a]pyrene	3/29/2016	0.011	J	0.2	no
TM03-PZM037	39.5 - 49.5	Benzo[b]fluoranthene	3/29/2016	0.04	J	0.034	YES
TM03-PZM037	39.5 - 49.5	Benzo[g,h,i]perylene	3/29/2016	0.1	U		no
TM03-PZM037	39.5 - 49.5	Benzo[k]fluoranthene	3/29/2016	0.036	J	0.34	no
TM03-PZM037	39.5 - 49.5	Beryllium (D)	3/29/2016	0.4	J	4	no
TM03-PZM037	39.5 - 49.5	Beryllium (T)	3/29/2016	1	U	4	no
TM03-PZM037	39.5 - 49.5	bis(2-chloroethoxy)methane	3/29/2016	1	U	59	no
TM03-PZM037	39.5 - 49.5	bis(2-Chloroethyl)ether	3/29/2016	1	U	0.014	no
TM03-PZM037	39.5 - 49.5	bis(2-Chloroisopropyl)ether	3/29/2016	1	U	0.36	no
TM03-PZM037	39.5 - 49.5	bis(2-Ethylhexyl)phthalate	3/29/2016	0.16	B	6	no
TM03-PZM037	39.5 - 49.5	Bromodichloromethane	3/29/2016	1	U	0.13	no
TM03-PZM037	39.5 - 49.5	Bromoform	3/29/2016	1	U	3.3	no
TM03-PZM037	39.5 - 49.5	Bromomethane	3/29/2016	1	U	7.5	no
TM03-PZM037	39.5 - 49.5	Cadmium (D)	3/29/2016	0.74	B	5	no
TM03-PZM037	39.5 - 49.5	Cadmium (T)	3/29/2016	0.87	B	5	no
TM03-PZM037	39.5 - 49.5	Caprolactam	3/29/2016	2.5	U	9,900	no
TM03-PZM037	39.5 - 49.5	Carbazole	3/29/2016	1.9			no
TM03-PZM037	39.5 - 49.5	Carbon disulfide	3/29/2016	1	U	810	no
TM03-PZM037	39.5 - 49.5	Carbon tetrachloride	3/29/2016	1	U	5	no
TM03-PZM037	39.5 - 49.5	Chlorobenzene	3/29/2016	1	U	100	no
TM03-PZM037	39.5 - 49.5	Chloroethane	3/29/2016	1	U	21,000	no
TM03-PZM037	39.5 - 49.5	Chloroform	3/29/2016	0.98	J	0.22	YES
TM03-PZM037	39.5 - 49.5	Chloromethane	3/29/2016	1	U	190	no
TM03-PZM037	39.5 - 49.5	Chromium (D)	3/29/2016	1.2	B	100	no
TM03-PZM037	39.5 - 49.5	Chromium (T)	3/29/2016	1.1	J	100	no
TM03-PZM037	39.5 - 49.5	Chromium VI (T)	3/29/2016	10	U	0.035	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM03-PZM037	39.5 - 49.5	Chrysene	3/29/2016	0.11		3.4	no
TM03-PZM037	39.5 - 49.5	cis-1,2-Dichloroethene	3/29/2016	1.3		70	no
TM03-PZM037	39.5 - 49.5	cis-1,3-Dichloropropene	3/29/2016	1	U		no
TM03-PZM037	39.5 - 49.5	Cobalt (D)	3/29/2016	5	U	6	no
TM03-PZM037	39.5 - 49.5	Cobalt (T)	3/29/2016	5	U	6	no
TM03-PZM037	39.5 - 49.5	Copper (D)	3/29/2016	5	U	1,300	no
TM03-PZM037	39.5 - 49.5	Copper (T)	3/29/2016	2.6	B	1,300	no
TM03-PZM037	39.5 - 49.5	Cyanide	3/29/2016	10	U	200	no
TM03-PZM037	39.5 - 49.5	Cyclohexane	3/29/2016	10	U	13,000	no
TM03-PZM037	39.5 - 49.5	Dibenz[a,h]anthracene	3/29/2016	0.1	U	0.003	no
TM03-PZM037	39.5 - 49.5	Dibromochloromethane	3/29/2016	1	U	0.17	no
TM03-PZM037	39.5 - 49.5	Dichlorodifluoromethane	3/29/2016	1	U	200	no
TM03-PZM037	39.5 - 49.5	Diesel Range Organics	3/29/2016	335	J	47	YES
TM03-PZM037	39.5 - 49.5	Diethylphthalate	3/29/2016	1	U	15,000	no
TM03-PZM037	39.5 - 49.5	Di-n-butylphthalate	3/29/2016	0.21	J	900	no
TM03-PZM037	39.5 - 49.5	Di-n-ocytlphthalate	3/29/2016	1	U	200	no
TM03-PZM037	39.5 - 49.5	Ethylbenzene	3/29/2016	1	U	700	no
TM03-PZM037	39.5 - 49.5	Fluoranthene	3/29/2016	2.1		800	no
TM03-PZM037	39.5 - 49.5	Fluorene	3/29/2016	1.3		290	no
TM03-PZM037	39.5 - 49.5	Gasoline Range Organics	3/29/2016	200	U	47	no
TM03-PZM037	39.5 - 49.5	Hexachlorobenzene	3/29/2016	1	U	1	no
TM03-PZM037	39.5 - 49.5	Hexachlorobutadiene	3/29/2016	1	U	0.14	no
TM03-PZM037	39.5 - 49.5	Hexachlorocyclopentadiene	3/29/2016	1	UJ	50	no
TM03-PZM037	39.5 - 49.5	Hexachloroethane	3/29/2016	1	U	0.33	no
TM03-PZM037	39.5 - 49.5	Indeno[1,2,3-c,d]pyrene	3/29/2016	0.1	U	0.034	no
TM03-PZM037	39.5 - 49.5	Iron (D)	3/29/2016	23,700		14,000	YES
TM03-PZM037	39.5 - 49.5	Iron (T)	3/29/2016	23,200		14,000	YES
TM03-PZM037	39.5 - 49.5	Isophorone	3/29/2016	1	U	78	no
TM03-PZM037	39.5 - 49.5	Isopropylbenzene	3/29/2016	1	U	450	no
TM03-PZM037	39.5 - 49.5	Lead (D)	3/29/2016	5	U	15	no
TM03-PZM037	39.5 - 49.5	Lead (T)	3/29/2016	5	U	15	no
TM03-PZM037	39.5 - 49.5	Manganese (D)	3/29/2016	2,790		430	YES
TM03-PZM037	39.5 - 49.5	Manganese (T)	3/29/2016	2,800		430	YES
TM03-PZM037	39.5 - 49.5	Mercury (D)	3/29/2016	0.2	U	2	no
TM03-PZM037	39.5 - 49.5	Mercury (T)	3/29/2016	0.2	U	2	no
TM03-PZM037	39.5 - 49.5	Methyl Acetate	3/29/2016	5	U	20,000	no
TM03-PZM037	39.5 - 49.5	Methyl tert-butyl ether (MTBE)	3/29/2016	1	U	14	no
TM03-PZM037	39.5 - 49.5	Methylene Chloride	3/29/2016	1	U	5	no
TM03-PZM037	39.5 - 49.5	Naphthalene	3/29/2016	3.4		0.17	YES
TM03-PZM037	39.5 - 49.5	Nickel (D)	3/29/2016	10	U	390	no
TM03-PZM037	39.5 - 49.5	Nickel (T)	3/29/2016	1	B	390	no
TM03-PZM037	39.5 - 49.5	Nitrobenzene	3/29/2016	1	U	0.14	no
TM03-PZM037	39.5 - 49.5	N-Nitroso-di-n-propylamine	3/29/2016	1	U	0.011	no
TM03-PZM037	39.5 - 49.5	N-Nitrosodiphenylamine	3/29/2016	1	U	12	no
TM03-PZM037	39.5 - 49.5	Pentachlorophenol	3/29/2016	2.5	U	1	no
TM03-PZM037	39.5 - 49.5	Phenanthrene	3/29/2016	5.8			no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM03-PZM037	39.5 - 49.5	Phenol	3/29/2016	1	U	5,800	no
TM03-PZM037	39.5 - 49.5	Pyrene	3/29/2016	1.3		120	no
TM03-PZM037	39.5 - 49.5	Selenium (D)	3/29/2016	8	U	50	no
TM03-PZM037	39.5 - 49.5	Selenium (T)	3/29/2016	8	U	50	no
TM03-PZM037	39.5 - 49.5	Silver (D)	3/29/2016	6	U	94	no
TM03-PZM037	39.5 - 49.5	Silver (T)	3/29/2016	6	U	94	no
TM03-PZM037	39.5 - 49.5	Styrene	3/29/2016	1	U	100	no
TM03-PZM037	39.5 - 49.5	Tetrachloroethene	3/29/2016	1	UJ	5	no
TM03-PZM037	39.5 - 49.5	Thallium (D)	3/29/2016	10	U	2	no
TM03-PZM037	39.5 - 49.5	Thallium (T)	3/29/2016	10	U	2	no
TM03-PZM037	39.5 - 49.5	Toluene	3/29/2016	1	U	1,000	no
TM03-PZM037	39.5 - 49.5	trans-1,2-Dichloroethene	3/29/2016	1	U	100	no
TM03-PZM037	39.5 - 49.5	trans-1,3-Dichloropropene	3/29/2016	1	U		no
TM03-PZM037	39.5 - 49.5	Trichloroethene	3/29/2016	0.91	J	5	no
TM03-PZM037	39.5 - 49.5	Trichlorofluoromethane	3/29/2016	1	U	1,100	no
TM03-PZM037	39.5 - 49.5	Vanadium (D)	3/29/2016	5	U	86	no
TM03-PZM037	39.5 - 49.5	Vanadium (T)	3/29/2016	5	U	86	no
TM03-PZM037	39.5 - 49.5	Vinyl chloride	3/29/2016	1	U	2	no
TM03-PZM037	39.5 - 49.5	Xylenes	3/29/2016	3	U	10,000	no
TM03-PZM037	39.5 - 49.5	Zinc (D)	3/29/2016	10	U	6,000	no
TM03-PZM037	39.5 - 49.5	Zinc (T)	3/29/2016	1.5	B	6,000	no
TM05-PZM005	4.8 - 14.8	1,1,1-Trichloroethane	3/29/2016	1	U	200	no
TM05-PZM005	4.8 - 14.8	1,1,2,2-Tetrachloroethane	3/29/2016	1	U	0.076	no
TM05-PZM005	4.8 - 14.8	1,1,2-Trichloro-1,2,2-Trifluoroethane	3/29/2016	50	U	55,000	no
TM05-PZM005	4.8 - 14.8	1,1,2-Trichloroethane	3/29/2016	1	U	5	no
TM05-PZM005	4.8 - 14.8	1,1-Biphenyl	3/29/2016	0.7	J	0.83	no
TM05-PZM005	4.8 - 14.8	1,1-Dichloroethane	3/29/2016	1	U	2.7	no
TM05-PZM005	4.8 - 14.8	1,1-Dichloroethene	3/29/2016	1	U	7	no
TM05-PZM005	4.8 - 14.8	1,2,3-Trichlorobenzene	3/29/2016	2	U	7	no
TM05-PZM005	4.8 - 14.8	1,2,4,5-Tetrachlorobenzene	3/29/2016	1	U	1.7	no
TM05-PZM005	4.8 - 14.8	1,2,4-Trichlorobenzene	3/29/2016	1	U	70	no
TM05-PZM005	4.8 - 14.8	1,2-Dibromo-3-chloropropane	3/29/2016	5	U	0.2	no
TM05-PZM005	4.8 - 14.8	1,2-Dibromoethane	3/29/2016	1	U	0.008	no
TM05-PZM005	4.8 - 14.8	1,2-Dichlorobenzene	3/29/2016	1	U	600	no
TM05-PZM005	4.8 - 14.8	1,2-Dichloroethane	3/29/2016	1	U	5	no
TM05-PZM005	4.8 - 14.8	1,2-Dichloroethene (Total)	3/29/2016	2	U	70	no
TM05-PZM005	4.8 - 14.8	1,2-Dichloropropane	3/29/2016	1	U	5	no
TM05-PZM005	4.8 - 14.8	1,3-Dichlorobenzene	3/29/2016	1	U		no
TM05-PZM005	4.8 - 14.8	1,4-Dichlorobenzene	3/29/2016	1	U	75	no
TM05-PZM005	4.8 - 14.8	1,4-Dioxane	3/29/2016	0.1	U	0.46	no
TM05-PZM005	4.8 - 14.8	2,3,4,6-Tetrachlorophenol	3/29/2016	1	U	240	no
TM05-PZM005	4.8 - 14.8	2,4,5-Trichlorophenol	3/29/2016	2.5	U	1,200	no
TM05-PZM005	4.8 - 14.8	2,4,6-Trichlorophenol	3/29/2016	1	U	4	no
TM05-PZM005	4.8 - 14.8	2,4-Dichlorophenol	3/29/2016	1	U	46	no
TM05-PZM005	4.8 - 14.8	2,4-Dimethylphenol	3/29/2016	0.36	J	360	no
TM05-PZM005	4.8 - 14.8	2,4-Dinitrophenol	3/29/2016	2.5	U	39	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM05-PZM005	4.8 - 14.8	2,4-Dinitrotoluene	3/29/2016	1	U	0.24	no
TM05-PZM005	4.8 - 14.8	2,6-Dinitrotoluene	3/29/2016	1	U	0.048	no
TM05-PZM005	4.8 - 14.8	2-Butanone (MEK)	3/29/2016	10	U	5,600	no
TM05-PZM005	4.8 - 14.8	2-Chloronaphthalene	3/29/2016	1	U	750	no
TM05-PZM005	4.8 - 14.8	2-Chlorophenol	3/29/2016	1	U	91	no
TM05-PZM005	4.8 - 14.8	2-Hexanone	3/29/2016	10	U	38	no
TM05-PZM005	4.8 - 14.8	2-Methylnaphthalene	3/29/2016	4.1		36	no
TM05-PZM005	4.8 - 14.8	2-Methylphenol	3/29/2016	1	U	930	no
TM05-PZM005	4.8 - 14.8	2-Nitroaniline	3/29/2016	2.5	U	190	no
TM05-PZM005	4.8 - 14.8	3&4-Methylphenol(m&p Cresol)	3/29/2016	0.96	J	930	no
TM05-PZM005	4.8 - 14.8	3,3'-Dichlorobenzidine	3/29/2016	1	U	0.12	no
TM05-PZM005	4.8 - 14.8	4-Chloroaniline	3/29/2016	1	U	0.36	no
TM05-PZM005	4.8 - 14.8	4-Methyl-2-pentanone (MIBK)	3/29/2016	10	U	1,200	no
TM05-PZM005	4.8 - 14.8	4-Nitroaniline	3/29/2016	2.5	U	3.8	no
TM05-PZM005	4.8 - 14.8	Acenaphthene	3/29/2016	4.1		530	no
TM05-PZM005	4.8 - 14.8	Acenaphthylene	3/29/2016	0.56		530	no
TM05-PZM005	4.8 - 14.8	Acetophenone	3/29/2016	1	U	1,900	no
TM05-PZM005	4.8 - 14.8	Aluminum (D)	3/29/2016	150		20,000	no
TM05-PZM005	4.8 - 14.8	Aluminum (T)	3/29/2016	183		20,000	no
TM05-PZM005	4.8 - 14.8	Anthracene	3/29/2016	2.8		1,800	no
TM05-PZM005	4.8 - 14.8	Antimony (D)	3/29/2016	3.2	B	6	no
TM05-PZM005	4.8 - 14.8	Antimony (T)	3/29/2016	2.4	B	6	no
TM05-PZM005	4.8 - 14.8	Arsenic (D)	3/29/2016	4	J	10	no
TM05-PZM005	4.8 - 14.8	Arsenic (T)	3/29/2016	3.1	J	10	no
TM05-PZM005	4.8 - 14.8	Barium (D)	3/29/2016	11.7		2,000	no
TM05-PZM005	4.8 - 14.8	Barium (T)	3/29/2016	12.5		2,000	no
TM05-PZM005	4.8 - 14.8	Benzaldehyde	3/29/2016	1	U	1,900	no
TM05-PZM005	4.8 - 14.8	Benzene	3/29/2016	1	U	5	no
TM05-PZM005	4.8 - 14.8	Benzo[a]anthracene	3/29/2016	0.41		0.012	YES
TM05-PZM005	4.8 - 14.8	Benzo[a]pyrene	3/29/2016	0.11		0.2	no
TM05-PZM005	4.8 - 14.8	Benzo[b]fluoranthene	3/29/2016	0.24		0.034	YES
TM05-PZM005	4.8 - 14.8	Benzo[g,h,i]perylene	3/29/2016	0.04	J		no
TM05-PZM005	4.8 - 14.8	Benzo[k]fluoranthene	3/29/2016	0.22		0.34	no
TM05-PZM005	4.8 - 14.8	Beryllium (D)	3/29/2016	1	U	4	no
TM05-PZM005	4.8 - 14.8	Beryllium (T)	3/29/2016	1	U	4	no
TM05-PZM005	4.8 - 14.8	bis(2-chloroethoxy)methane	3/29/2016	1	U	59	no
TM05-PZM005	4.8 - 14.8	bis(2-Chloroethyl)ether	3/29/2016	1	U	0.014	no
TM05-PZM005	4.8 - 14.8	bis(2-Chloroisopropyl)ether	3/29/2016	1	U	0.36	no
TM05-PZM005	4.8 - 14.8	bis(2-Ethylhexyl)phthalate	3/29/2016	1	U	6	no
TM05-PZM005	4.8 - 14.8	Bromodichloromethane	3/29/2016	1	U	0.13	no
TM05-PZM005	4.8 - 14.8	Bromoform	3/29/2016	1	U	3.3	no
TM05-PZM005	4.8 - 14.8	Bromomethane	3/29/2016	1	U	7.5	no
TM05-PZM005	4.8 - 14.8	Cadmium (D)	3/29/2016	3	U	5	no
TM05-PZM005	4.8 - 14.8	Cadmium (T)	3/29/2016	3	U	5	no
TM05-PZM005	4.8 - 14.8	Caprolactam	3/29/2016	2.5	U	9,900	no
TM05-PZM005	4.8 - 14.8	Carbazole	3/29/2016	10.7			no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM05-PZM005	4.8 - 14.8	Carbon disulfide	3/29/2016	1	U	810	no
TM05-PZM005	4.8 - 14.8	Carbon tetrachloride	3/29/2016	1	U	5	no
TM05-PZM005	4.8 - 14.8	Chlorobenzene	3/29/2016	1	U	100	no
TM05-PZM005	4.8 - 14.8	Chloroethane	3/29/2016	1	U	21,000	no
TM05-PZM005	4.8 - 14.8	Chloroform	3/29/2016	1.8		0.22	YES
TM05-PZM005	4.8 - 14.8	Chloromethane	3/29/2016	1	U	190	no
TM05-PZM005	4.8 - 14.8	Chromium (D)	3/29/2016	1.3	B	100	no
TM05-PZM005	4.8 - 14.8	Chromium (T)	3/29/2016	1.5	B	100	no
TM05-PZM005	4.8 - 14.8	Chromium VI (T)	3/29/2016	10	U	0.035	no
TM05-PZM005	4.8 - 14.8	Chrysene	3/29/2016	0.31		3.4	no
TM05-PZM005	4.8 - 14.8	cis-1,2-Dichloroethene	3/29/2016	1	U	70	no
TM05-PZM005	4.8 - 14.8	cis-1,3-Dichloropropene	3/29/2016	1	U		no
TM05-PZM005	4.8 - 14.8	Cobalt (D)	3/29/2016	5	U	6	no
TM05-PZM005	4.8 - 14.8	Cobalt (T)	3/29/2016	5	U	6	no
TM05-PZM005	4.8 - 14.8	Copper (D)	3/29/2016	5	U	1,300	no
TM05-PZM005	4.8 - 14.8	Copper (T)	3/29/2016	5	U	1,300	no
TM05-PZM005	4.8 - 14.8	Cyanide	3/29/2016	52.2		200	no
TM05-PZM005	4.8 - 14.8	Cyclohexane	3/29/2016	10	U	13,000	no
TM05-PZM005	4.8 - 14.8	Dibenz[a,h]anthracene	3/29/2016	0.1	U	0.003	no
TM05-PZM005	4.8 - 14.8	Dibromochloromethane	3/29/2016	1	U	0.17	no
TM05-PZM005	4.8 - 14.8	Dichlorodifluoromethane	3/29/2016	1	U	200	no
TM05-PZM005	4.8 - 14.8	Diesel Range Organics	3/29/2016	262	J	47	YES
TM05-PZM005	4.8 - 14.8	Diethylphthalate	3/29/2016	1	U	15,000	no
TM05-PZM005	4.8 - 14.8	Di-n-butylphthalate	3/29/2016	1	U	900	no
TM05-PZM005	4.8 - 14.8	Di-n-ocytlphthalate	3/29/2016	1	U	200	no
TM05-PZM005	4.8 - 14.8	Ethylbenzene	3/29/2016	1	U	700	no
TM05-PZM005	4.8 - 14.8	Fluoranthene	3/29/2016	3.6		800	no
TM05-PZM005	4.8 - 14.8	Fluorene	3/29/2016	5.2		290	no
TM05-PZM005	4.8 - 14.8	Gasoline Range Organics	3/29/2016	200	U	47	no
TM05-PZM005	4.8 - 14.8	Hexachlorobenzene	3/29/2016	1	U	1	no
TM05-PZM005	4.8 - 14.8	Hexachlorobutadiene	3/29/2016	1	U	0.14	no
TM05-PZM005	4.8 - 14.8	Hexachlorocyclopentadiene	3/29/2016	1	UJ	50	no
TM05-PZM005	4.8 - 14.8	Hexachloroethane	3/29/2016	1	U	0.33	no
TM05-PZM005	4.8 - 14.8	Indeno[1,2,3-c,d]pyrene	3/29/2016	0.037	J	0.034	YES
TM05-PZM005	4.8 - 14.8	Iron (D)	3/29/2016	28.8	B	14,000	no
TM05-PZM005	4.8 - 14.8	Iron (T)	3/29/2016	114		14,000	no
TM05-PZM005	4.8 - 14.8	Isophorone	3/29/2016	1	U	78	no
TM05-PZM005	4.8 - 14.8	Isopropylbenzene	3/29/2016	1	U	450	no
TM05-PZM005	4.8 - 14.8	Lead (D)	3/29/2016	5	U	15	no
TM05-PZM005	4.8 - 14.8	Lead (T)	3/29/2016	7		15	no
TM05-PZM005	4.8 - 14.8	Manganese (D)	3/29/2016	2.3	J	430	no
TM05-PZM005	4.8 - 14.8	Manganese (T)	3/29/2016	10.1		430	no
TM05-PZM005	4.8 - 14.8	Mercury (D)	3/29/2016	0.2	U	2	no
TM05-PZM005	4.8 - 14.8	Mercury (T)	3/29/2016	0.2	U	2	no
TM05-PZM005	4.8 - 14.8	Methyl Acetate	3/29/2016	5	U	20,000	no
TM05-PZM005	4.8 - 14.8	Methyl tert-butyl ether (MTBE)	3/29/2016	1	U	14	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM05-PZM005	4.8 - 14.8	Methylene Chloride	3/29/2016	1	U	5	no
TM05-PZM005	4.8 - 14.8	Naphthalene	3/29/2016	16.7		0.17	YES
TM05-PZM005	4.8 - 14.8	Nickel (D)	3/29/2016	10	U	390	no
TM05-PZM005	4.8 - 14.8	Nickel (T)	3/29/2016	0.93	J	390	no
TM05-PZM005	4.8 - 14.8	Nitrobenzene	3/29/2016	1	U	0.14	no
TM05-PZM005	4.8 - 14.8	N-Nitroso-di-n-propylamine	3/29/2016	1	U	0.011	no
TM05-PZM005	4.8 - 14.8	N-Nitrosodiphenylamine	3/29/2016	1	U	12	no
TM05-PZM005	4.8 - 14.8	Pentachlorophenol	3/29/2016	2.5	U	1	no
TM05-PZM005	4.8 - 14.8	Phenanthrene	3/29/2016	11.1			no
TM05-PZM005	4.8 - 14.8	Phenol	3/29/2016	0.31	J	5,800	no
TM05-PZM005	4.8 - 14.8	Pyrene	3/29/2016	2.3		120	no
TM05-PZM005	4.8 - 14.8	Selenium (D)	3/29/2016	8	U	50	no
TM05-PZM005	4.8 - 14.8	Selenium (T)	3/29/2016	8	U	50	no
TM05-PZM005	4.8 - 14.8	Silver (D)	3/29/2016	6	U	94	no
TM05-PZM005	4.8 - 14.8	Silver (T)	3/29/2016	6	U	94	no
TM05-PZM005	4.8 - 14.8	Styrene	3/29/2016	1	U	100	no
TM05-PZM005	4.8 - 14.8	Tetrachloroethene	3/29/2016	1	UJ	5	no
TM05-PZM005	4.8 - 14.8	Thallium (D)	3/29/2016	6.8	B	2	YES
TM05-PZM005	4.8 - 14.8	Thallium (T)	3/29/2016	10	U	2	no
TM05-PZM005	4.8 - 14.8	Toluene	3/29/2016	0.36	J	1,000	no
TM05-PZM005	4.8 - 14.8	trans-1,2-Dichloroethene	3/29/2016	1	U	100	no
TM05-PZM005	4.8 - 14.8	trans-1,3-Dichloropropene	3/29/2016	1	U		no
TM05-PZM005	4.8 - 14.8	Trichloroethene	3/29/2016	1	U	5	no
TM05-PZM005	4.8 - 14.8	Trichlorofluoromethane	3/29/2016	1	U	1,100	no
TM05-PZM005	4.8 - 14.8	Vanadium (D)	3/29/2016	1,560		86	YES
TM05-PZM005	4.8 - 14.8	Vanadium (T)	3/29/2016	1,560		86	YES
TM05-PZM005	4.8 - 14.8	Vinyl chloride	3/29/2016	1	U	2	no
TM05-PZM005	4.8 - 14.8	Xylenes	3/29/2016	3	U	10,000	no
TM05-PZM005	4.8 - 14.8	Zinc (D)	3/29/2016	1.5	B	6,000	no
TM05-PZM005	4.8 - 14.8	Zinc (T)	3/29/2016	17		6,000	no
TM05-PZM040	39.5 - 49.5	1,1,1-Trichloroethane	3/29/2016	1	U	200	no
TM05-PZM040	39.5 - 49.5	1,1,2,2-Tetrachloroethane	3/29/2016	1	U	0.076	no
TM05-PZM040	39.5 - 49.5	1,1,2-Trichloro-1,2,2-Trifluoroethane	3/29/2016	50	U	55,000	no
TM05-PZM040	39.5 - 49.5	1,1,2-Trichloroethane	3/29/2016	1	U	5	no
TM05-PZM040	39.5 - 49.5	1,1-Biphenyl	3/29/2016	1	U	0.83	no
TM05-PZM040	39.5 - 49.5	1,1-Dichloroethane	3/29/2016	1	U	2.7	no
TM05-PZM040	39.5 - 49.5	1,1-Dichloroethene	3/29/2016	1	U	7	no
TM05-PZM040	39.5 - 49.5	1,2,3-Trichlorobenzene	3/29/2016	2	U	7	no
TM05-PZM040	39.5 - 49.5	1,2,4,5-Tetrachlorobenzene	3/29/2016	1	U	1.7	no
TM05-PZM040	39.5 - 49.5	1,2,4-Trichlorobenzene	3/29/2016	1	U	70	no
TM05-PZM040	39.5 - 49.5	1,2-Dibromo-3-chloropropane	3/29/2016	5	U	0.2	no
TM05-PZM040	39.5 - 49.5	1,2-Dibromoethane	3/29/2016	1	U	0.008	no
TM05-PZM040	39.5 - 49.5	1,2-Dichlorobenzene	3/29/2016	1	U	600	no
TM05-PZM040	39.5 - 49.5	1,2-Dichloroethane	3/29/2016	1	U	5	no
TM05-PZM040	39.5 - 49.5	1,2-Dichloroethene (Total)	3/29/2016	2	U	70	no
TM05-PZM040	39.5 - 49.5	1,2-Dichloropropane	3/29/2016	1	U	5	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM05-PZM040	39.5 - 49.5	1,3-Dichlorobenzene	3/29/2016	1	U		no
TM05-PZM040	39.5 - 49.5	1,4-Dichlorobenzene	3/29/2016	1	U	75	no
TM05-PZM040	39.5 - 49.5	1,4-Dioxane	3/29/2016	0.1	U	0.46	no
TM05-PZM040	39.5 - 49.5	2,3,4,6-Tetrachlorophenol	3/29/2016	1	U	240	no
TM05-PZM040	39.5 - 49.5	2,4,5-Trichlorophenol	3/29/2016	2.5	U	1,200	no
TM05-PZM040	39.5 - 49.5	2,4,6-Trichlorophenol	3/29/2016	1	U	4	no
TM05-PZM040	39.5 - 49.5	2,4-Dichlorophenol	3/29/2016	1	U	46	no
TM05-PZM040	39.5 - 49.5	2,4-Dimethylphenol	3/29/2016	0.35	J	360	no
TM05-PZM040	39.5 - 49.5	2,4-Dinitrophenol	3/29/2016	2.5	U	39	no
TM05-PZM040	39.5 - 49.5	2,4-Dinitrotoluene	3/29/2016	1	U	0.24	no
TM05-PZM040	39.5 - 49.5	2,6-Dinitrotoluene	3/29/2016	1	U	0.048	no
TM05-PZM040	39.5 - 49.5	2-Butanone (MEK)	3/29/2016	10	U	5,600	no
TM05-PZM040	39.5 - 49.5	2-Chloronaphthalene	3/29/2016	1	U	750	no
TM05-PZM040	39.5 - 49.5	2-Chlorophenol	3/29/2016	1	U	91	no
TM05-PZM040	39.5 - 49.5	2-Hexanone	3/29/2016	10	U	38	no
TM05-PZM040	39.5 - 49.5	2-Methylnaphthalene	3/29/2016	0.1	U	36	no
TM05-PZM040	39.5 - 49.5	2-Methylphenol	3/29/2016	1	U	930	no
TM05-PZM040	39.5 - 49.5	2-Nitroaniline	3/29/2016	2.5	U	190	no
TM05-PZM040	39.5 - 49.5	3&4-Methylphenol(m&p Cresol)	3/29/2016	2	U	930	no
TM05-PZM040	39.5 - 49.5	3,3'-Dichlorobenzidine	3/29/2016	1	U	0.12	no
TM05-PZM040	39.5 - 49.5	4-Chloroaniline	3/29/2016	1	U	0.36	no
TM05-PZM040	39.5 - 49.5	4-Methyl-2-pentanone (MIBK)	3/29/2016	10	U	1,200	no
TM05-PZM040	39.5 - 49.5	4-Nitroaniline	3/29/2016	2.5	U	3.8	no
TM05-PZM040	39.5 - 49.5	Acenaphthene	3/29/2016	1.2		530	no
TM05-PZM040	39.5 - 49.5	Acenaphthylene	3/29/2016	0.1		530	no
TM05-PZM040	39.5 - 49.5	Acetophenone	3/29/2016	1	U	1,900	no
TM05-PZM040	39.5 - 49.5	Aluminum (D)	3/29/2016	23.2	J	20,000	no
TM05-PZM040	39.5 - 49.5	Aluminum (T)	3/29/2016	77.8	J	20,000	no
TM05-PZM040	39.5 - 49.5	Anthracene	3/29/2016	0.089	J	1,800	no
TM05-PZM040	39.5 - 49.5	Antimony (D)	3/29/2016	6	U	6	no
TM05-PZM040	39.5 - 49.5	Antimony (T)	3/29/2016	6	U	6	no
TM05-PZM040	39.5 - 49.5	Arsenic (D)	3/29/2016	4.4	B	10	no
TM05-PZM040	39.5 - 49.5	Arsenic (T)	3/29/2016	5	U	10	no
TM05-PZM040	39.5 - 49.5	Barium (D)	3/29/2016	106		2,000	no
TM05-PZM040	39.5 - 49.5	Barium (T)	3/29/2016	101		2,000	no
TM05-PZM040	39.5 - 49.5	Benzaldehyde	3/29/2016	1	U	1,900	no
TM05-PZM040	39.5 - 49.5	Benzene	3/29/2016	1	U	5	no
TM05-PZM040	39.5 - 49.5	Benzo[a]anthracene	3/29/2016	0.041	J	0.012	YES
TM05-PZM040	39.5 - 49.5	Benzo[a]pyrene	3/29/2016	0.0088	J	0.2	no
TM05-PZM040	39.5 - 49.5	Benzo[b]fluoranthene	3/29/2016	0.026	J	0.034	no
TM05-PZM040	39.5 - 49.5	Benzo[g,h,i]perylene	3/29/2016	0.1	U		no
TM05-PZM040	39.5 - 49.5	Benzo[k]fluoranthene	3/29/2016	0.022	J	0.34	no
TM05-PZM040	39.5 - 49.5	Beryllium (D)	3/29/2016	1	U	4	no
TM05-PZM040	39.5 - 49.5	Beryllium (T)	3/29/2016	1	U	4	no
TM05-PZM040	39.5 - 49.5	bis(2-chloroethoxy)methane	3/29/2016	1	U	59	no
TM05-PZM040	39.5 - 49.5	bis(2-Chloroethyl)ether	3/29/2016	1	U	0.014	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM05-PZM040	39.5 - 49.5	bis(2-Chloroisopropyl)ether	3/29/2016	1	U	0.36	no
TM05-PZM040	39.5 - 49.5	bis(2-Ethylhexyl)phthalate	3/29/2016	1	U	6	no
TM05-PZM040	39.5 - 49.5	Bromodichloromethane	3/29/2016	1	U	0.13	no
TM05-PZM040	39.5 - 49.5	Bromoform	3/29/2016	1	U	3.3	no
TM05-PZM040	39.5 - 49.5	Bromomethane	3/29/2016	1	U	7.5	no
TM05-PZM040	39.5 - 49.5	Cadmium (D)	3/29/2016	0.83	B	5	no
TM05-PZM040	39.5 - 49.5	Cadmium (T)	3/29/2016	0.77	J	5	no
TM05-PZM040	39.5 - 49.5	Caprolactam	3/29/2016	2.5	U	9,900	no
TM05-PZM040	39.5 - 49.5	Carbazole	3/29/2016	0.88	J		no
TM05-PZM040	39.5 - 49.5	Carbon disulfide	3/29/2016	1	U	810	no
TM05-PZM040	39.5 - 49.5	Carbon tetrachloride	3/29/2016	1	U	5	no
TM05-PZM040	39.5 - 49.5	Chlorobenzene	3/29/2016	1	U	100	no
TM05-PZM040	39.5 - 49.5	Chloroethane	3/29/2016	1	U	21,000	no
TM05-PZM040	39.5 - 49.5	Chloroform	3/29/2016	1	U	0.22	no
TM05-PZM040	39.5 - 49.5	Chloromethane	3/29/2016	1	U	190	no
TM05-PZM040	39.5 - 49.5	Chromium (D)	3/29/2016	1.5	B	100	no
TM05-PZM040	39.5 - 49.5	Chromium (T)	3/29/2016	1.1	B	100	no
TM05-PZM040	39.5 - 49.5	Chromium VI (T)	3/29/2016	10	U	0.035	no
TM05-PZM040	39.5 - 49.5	Chrysene	3/29/2016	0.03	J	3.4	no
TM05-PZM040	39.5 - 49.5	cis-1,2-Dichloroethene	3/29/2016	1	U	70	no
TM05-PZM040	39.5 - 49.5	cis-1,3-Dichloropropene	3/29/2016	1	U		no
TM05-PZM040	39.5 - 49.5	Cobalt (D)	3/29/2016	25	U	6	no
TM05-PZM040	39.5 - 49.5	Cobalt (T)	3/29/2016	5	U	6	no
TM05-PZM040	39.5 - 49.5	Copper (D)	3/29/2016	5	U	1,300	no
TM05-PZM040	39.5 - 49.5	Copper (T)	3/29/2016	5	U	1,300	no
TM05-PZM040	39.5 - 49.5	Cyanide	3/29/2016	10	U	200	no
TM05-PZM040	39.5 - 49.5	Cyclohexane	3/29/2016	10	U	13,000	no
TM05-PZM040	39.5 - 49.5	Dibenz[a,h]anthracene	3/29/2016	0.1	U	0.003	no
TM05-PZM040	39.5 - 49.5	Dibromochloromethane	3/29/2016	1	U	0.17	no
TM05-PZM040	39.5 - 49.5	Dichlorodifluoromethane	3/29/2016	1	U	200	no
TM05-PZM040	39.5 - 49.5	Diesel Range Organics	3/29/2016	116	J	47	YES
TM05-PZM040	39.5 - 49.5	Diethylphthalate	3/29/2016	1	U	15,000	no
TM05-PZM040	39.5 - 49.5	Di-n-butylphthalate	3/29/2016	1	U	900	no
TM05-PZM040	39.5 - 49.5	Di-n-ocytlphthalate	3/29/2016	1	U	200	no
TM05-PZM040	39.5 - 49.5	Ethylbenzene	3/29/2016	1	U	700	no
TM05-PZM040	39.5 - 49.5	Fluoranthene	3/29/2016	0.45		800	no
TM05-PZM040	39.5 - 49.5	Fluorene	3/29/2016	0.27		290	no
TM05-PZM040	39.5 - 49.5	Gasoline Range Organics	3/29/2016	200	U	47	no
TM05-PZM040	39.5 - 49.5	Hexachlorobenzene	3/29/2016	1	U	1	no
TM05-PZM040	39.5 - 49.5	Hexachlorobutadiene	3/29/2016	1	U	0.14	no
TM05-PZM040	39.5 - 49.5	Hexachlorocyclopentadiene	3/29/2016	1	UJ	50	no
TM05-PZM040	39.5 - 49.5	Hexachloroethane	3/29/2016	1	U	0.33	no
TM05-PZM040	39.5 - 49.5	Indeno[1,2,3-c,d]pyrene	3/29/2016	0.1	U	0.034	no
TM05-PZM040	39.5 - 49.5	Iron (D)	3/29/2016	16,000		14,000	YES
TM05-PZM040	39.5 - 49.5	Iron (T)	3/29/2016	15,400		14,000	YES
TM05-PZM040	39.5 - 49.5	Isophorone	3/29/2016	1	U	78	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM05-PZM040	39.5 - 49.5	Isopropylbenzene	3/29/2016	1	U	450	no
TM05-PZM040	39.5 - 49.5	Lead (D)	3/29/2016	25	U	15	no
TM05-PZM040	39.5 - 49.5	Lead (T)	3/29/2016	5	U	15	no
TM05-PZM040	39.5 - 49.5	Manganese (D)	3/29/2016	1,940		430	YES
TM05-PZM040	39.5 - 49.5	Manganese (T)	3/29/2016	1,850		430	YES
TM05-PZM040	39.5 - 49.5	Mercury (D)	3/29/2016	0.2	U	2	no
TM05-PZM040	39.5 - 49.5	Mercury (T)	3/29/2016	0.2	U	2	no
TM05-PZM040	39.5 - 49.5	Methyl Acetate	3/29/2016	5	U	20,000	no
TM05-PZM040	39.5 - 49.5	Methyl tert-butyl ether (MTBE)	3/29/2016	1	U	14	no
TM05-PZM040	39.5 - 49.5	Methylene Chloride	3/29/2016	1	U	5	no
TM05-PZM040	39.5 - 49.5	Naphthalene	3/29/2016	1.1		0.17	YES
TM05-PZM040	39.5 - 49.5	Nickel (D)	3/29/2016	10	U	390	no
TM05-PZM040	39.5 - 49.5	Nickel (T)	3/29/2016	10	U	390	no
TM05-PZM040	39.5 - 49.5	Nitrobenzene	3/29/2016	1	U	0.14	no
TM05-PZM040	39.5 - 49.5	N-Nitroso-di-n-propylamine	3/29/2016	1	U	0.011	no
TM05-PZM040	39.5 - 49.5	N-Nitrosodiphenylamine	3/29/2016	1	U	12	no
TM05-PZM040	39.5 - 49.5	Pentachlorophenol	3/29/2016	2.5	U	1	no
TM05-PZM040	39.5 - 49.5	Phenanthrene	3/29/2016	0.1	B		no
TM05-PZM040	39.5 - 49.5	Phenol	3/29/2016	1	U	5,800	no
TM05-PZM040	39.5 - 49.5	Pyrene	3/29/2016	0.27		120	no
TM05-PZM040	39.5 - 49.5	Selenium (D)	3/29/2016	8	U	50	no
TM05-PZM040	39.5 - 49.5	Selenium (T)	3/29/2016	8	U	50	no
TM05-PZM040	39.5 - 49.5	Silver (D)	3/29/2016	6	U	94	no
TM05-PZM040	39.5 - 49.5	Silver (T)	3/29/2016	6	U	94	no
TM05-PZM040	39.5 - 49.5	Styrene	3/29/2016	1	U	100	no
TM05-PZM040	39.5 - 49.5	Tetrachloroethene	3/29/2016	1	UJ	5	no
TM05-PZM040	39.5 - 49.5	Thallium (D)	3/29/2016	50	U	2	no
TM05-PZM040	39.5 - 49.5	Thallium (T)	3/29/2016	10	U	2	no
TM05-PZM040	39.5 - 49.5	Toluene	3/29/2016	1	U	1,000	no
TM05-PZM040	39.5 - 49.5	trans-1,2-Dichloroethene	3/29/2016	1	U	100	no
TM05-PZM040	39.5 - 49.5	trans-1,3-Dichloropropene	3/29/2016	1	U		no
TM05-PZM040	39.5 - 49.5	Trichloroethene	3/29/2016	1	U	5	no
TM05-PZM040	39.5 - 49.5	Trichlorofluoromethane	3/29/2016	1	U	1,100	no
TM05-PZM040	39.5 - 49.5	Vanadium (D)	3/29/2016	2.9	B	86	no
TM05-PZM040	39.5 - 49.5	Vanadium (T)	3/29/2016	2.8	B	86	no
TM05-PZM040	39.5 - 49.5	Vinyl chloride	3/29/2016	1	U	2	no
TM05-PZM040	39.5 - 49.5	Xylenes	3/29/2016	3	U	10,000	no
TM05-PZM040	39.5 - 49.5	Zinc (D)	3/29/2016	0.64	B	6,000	no
TM05-PZM040	39.5 - 49.5	Zinc (T)	3/29/2016	1.4	B	6,000	no
TM07-PZM005	7.0 - 17.0	1,1,1-Trichloroethane	6/27/2016	1	U	200	no
TM07-PZM005	7.0 - 17.0	1,1,2,2-Tetrachloroethane	6/27/2016	1	U	0.076	no
TM07-PZM005	7.0 - 17.0	1,1,2-Trichloro-1,2,2-Trifluoroethane	6/27/2016	50	U	55,000	no
TM07-PZM005	7.0 - 17.0	1,1,2-Trichloroethane	6/27/2016	1	U	5	no
TM07-PZM005	7.0 - 17.0	1,1-Biphenyl	6/27/2016	1	U	0.83	no
TM07-PZM005	7.0 - 17.0	1,1-Dichloroethane	6/27/2016	0.65	J	2.7	no
TM07-PZM005	7.0 - 17.0	1,1-Dichloroethene	6/27/2016	1	U	7	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM07-PZM005	7.0 - 17.0	1,2,3-Trichlorobenzene	6/27/2016	2	U	7	no
TM07-PZM005	7.0 - 17.0	1,2,4,5-Tetrachlorobenzene	6/27/2016	1	U	1.7	no
TM07-PZM005	7.0 - 17.0	1,2,4-Trichlorobenzene	6/27/2016	1	U	70	no
TM07-PZM005	7.0 - 17.0	1,2-Dibromo-3-chloropropane	6/27/2016	5	U	0.2	no
TM07-PZM005	7.0 - 17.0	1,2-Dibromoethane	6/27/2016	1	U	0.0075	no
TM07-PZM005	7.0 - 17.0	1,2-Dichlorobenzene	6/27/2016	1	U	600	no
TM07-PZM005	7.0 - 17.0	1,2-Dichloroethane	6/27/2016	1	U	5	no
TM07-PZM005	7.0 - 17.0	1,2-Dichloroethene (Total)	6/27/2016	2	U	70	no
TM07-PZM005	7.0 - 17.0	1,2-Dichloropropane	6/27/2016	1	U	5	no
TM07-PZM005	7.0 - 17.0	1,3-Dichlorobenzene	6/27/2016	1	U		no
TM07-PZM005	7.0 - 17.0	1,4-Dichlorobenzene	6/27/2016	1	U	75	no
TM07-PZM005	7.0 - 17.0	1,4-Dioxane	6/27/2016	0.085	J	0.46	no
TM07-PZM005	7.0 - 17.0	2,3,4,6-Tetrachlorophenol	6/27/2016	1	U	240	no
TM07-PZM005	7.0 - 17.0	2,4,5-Trichlorophenol	6/27/2016	2.6	U	1,200	no
TM07-PZM005	7.0 - 17.0	2,4,6-Trichlorophenol	6/27/2016	1	U	4	no
TM07-PZM005	7.0 - 17.0	2,4-Dichlorophenol	6/27/2016	1	U	46	no
TM07-PZM005	7.0 - 17.0	2,4-Dimethylphenol	6/27/2016	1	U	360	no
TM07-PZM005	7.0 - 17.0	2,4-Dinitrophenol	6/27/2016	2.6	U	39	no
TM07-PZM005	7.0 - 17.0	2,4-Dinitrotoluene	6/27/2016	1	U	0.24	no
TM07-PZM005	7.0 - 17.0	2,6-Dinitrotoluene	6/27/2016	1	U	0.048	no
TM07-PZM005	7.0 - 17.0	2-Butanone (MEK)	6/27/2016	10	U	5,600	no
TM07-PZM005	7.0 - 17.0	2-Chloronaphthalene	6/27/2016	1	U	750	no
TM07-PZM005	7.0 - 17.0	2-Chlorophenol	6/27/2016	1	U	91	no
TM07-PZM005	7.0 - 17.0	2-Hexanone	6/27/2016	10	U	38	no
TM07-PZM005	7.0 - 17.0	2-Methylnaphthalene	6/27/2016	0.022	J	36	no
TM07-PZM005	7.0 - 17.0	2-Methylphenol	6/27/2016	1	U	930	no
TM07-PZM005	7.0 - 17.0	2-Nitroaniline	6/27/2016	2.6	U	190	no
TM07-PZM005	7.0 - 17.0	3&4-Methylphenol(m&p Cresol)	6/27/2016	2.1	U	930	no
TM07-PZM005	7.0 - 17.0	3,3'-Dichlorobenzidine	6/27/2016	1	U	0.12	no
TM07-PZM005	7.0 - 17.0	4-Chloroaniline	6/27/2016	1	U	0.36	no
TM07-PZM005	7.0 - 17.0	4-Methyl-2-pentanone (MIBK)	6/27/2016	10	U	1,200	no
TM07-PZM005	7.0 - 17.0	4-Nitroaniline	6/27/2016	2.6	U	3.8	no
TM07-PZM005	7.0 - 17.0	Acenaphthene	6/27/2016	0.028	J	530	no
TM07-PZM005	7.0 - 17.0	Acenaphthylene	6/27/2016	0.022	J	530	no
TM07-PZM005	7.0 - 17.0	Acetone	6/27/2016	10	U	14,000	no
TM07-PZM005	7.0 - 17.0	Acetophenone	6/27/2016	1	U	1,900	no
TM07-PZM005	7.0 - 17.0	Aluminum	6/27/2016	146		20,000	no
TM07-PZM005	7.0 - 17.0	Aluminum, Dissolved	6/27/2016	159		20,000	no
TM07-PZM005	7.0 - 17.0	Anthracene	6/27/2016	0.021	J	1,800	no
TM07-PZM005	7.0 - 17.0	Antimony	6/27/2016	6	U	6	no
TM07-PZM005	7.0 - 17.0	Antimony, Dissolved	6/27/2016	6	U	6	no
TM07-PZM005	7.0 - 17.0	Arsenic	6/27/2016	5	U	10	no
TM07-PZM005	7.0 - 17.0	Arsenic, Dissolved	6/27/2016	5	U	10	no
TM07-PZM005	7.0 - 17.0	Barium	6/27/2016	46.8		2,000	no
TM07-PZM005	7.0 - 17.0	Barium, Dissolved	6/27/2016	46.8		2,000	no
TM07-PZM005	7.0 - 17.0	Benzaldehyde	6/27/2016	1	U	1,900	no
TM07-PZM005	7.0 - 17.0	Benzene	6/27/2016	1	U	5	no
TM07-PZM005	7.0 - 17.0	Benzo[a]anthracene	6/27/2016	0.1	U	0.012	no
TM07-PZM005	7.0 - 17.0	Benzo[a]pyrene	6/27/2016	0.1	U	0.2	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM07-PZM005	7.0 - 17.0	Benzo[b]fluoranthene	6/27/2016	0.1	U	0.034	no
TM07-PZM005	7.0 - 17.0	Benzo[g,h,i]perylene	6/27/2016	0.1	U		no
TM07-PZM005	7.0 - 17.0	Benzo[k]fluoranthene	6/27/2016	0.1	U	0.34	no
TM07-PZM005	7.0 - 17.0	Beryllium	6/27/2016	1	U	4	no
TM07-PZM005	7.0 - 17.0	Beryllium, Dissolved	6/27/2016	1	U	4	no
TM07-PZM005	7.0 - 17.0	bis(2-chloroethoxy)methane	6/27/2016	1	U	59	no
TM07-PZM005	7.0 - 17.0	bis(2-Chloroethyl)ether	6/27/2016	1	U	0.014	no
TM07-PZM005	7.0 - 17.0	bis(2-Chloroisopropyl)ether	6/27/2016	1	U	0.36	no
TM07-PZM005	7.0 - 17.0	bis(2-Ethylhexyl)phthalate	6/27/2016	1	U	6	no
TM07-PZM005	7.0 - 17.0	Bromodichloromethane	6/27/2016	1	U	0.13	no
TM07-PZM005	7.0 - 17.0	Bromoform	6/27/2016	1	U	3.3	no
TM07-PZM005	7.0 - 17.0	Bromomethane	6/27/2016	1	U	7.5	no
TM07-PZM005	7.0 - 17.0	Cadmium	6/27/2016	3	U	5	no
TM07-PZM005	7.0 - 17.0	Cadmium, Dissolved	6/27/2016	3	U	5	no
TM07-PZM005	7.0 - 17.0	Caprolactam	6/27/2016	2.6	U	9,900	no
TM07-PZM005	7.0 - 17.0	Carbazole	6/27/2016	1	U		no
TM07-PZM005	7.0 - 17.0	Carbon disulfide	6/27/2016	1	U	810	no
TM07-PZM005	7.0 - 17.0	Carbon tetrachloride	6/27/2016	1	U	5	no
TM07-PZM005	7.0 - 17.0	Chlorobenzene	6/27/2016	1	U	100	no
TM07-PZM005	7.0 - 17.0	Chloroethane	6/27/2016	1	U	21,000	no
TM07-PZM005	7.0 - 17.0	Chloroform	6/27/2016	1	U	0.22	no
TM07-PZM005	7.0 - 17.0	Chloromethane	6/27/2016	1	U	190	no
TM07-PZM005	7.0 - 17.0	Chromium	6/27/2016	4.2	J	100	no
TM07-PZM005	7.0 - 17.0	Chromium VI	6/27/2016	10	U	0.035	no
TM07-PZM005	7.0 - 17.0	Chromium, Dissolved	6/27/2016	4.4	J	100	no
TM07-PZM005	7.0 - 17.0	Chrysene	6/27/2016	0.1	U	3.4	no
TM07-PZM005	7.0 - 17.0	cis-1,2-Dichloroethene	6/27/2016	1	U	70	no
TM07-PZM005	7.0 - 17.0	cis-1,3-Dichloropropene	6/27/2016	1	U		no
TM07-PZM005	7.0 - 17.0	Cobalt	6/27/2016	5	U	6	no
TM07-PZM005	7.0 - 17.0	Cobalt, Dissolved	6/27/2016	5	U	6	no
TM07-PZM005	7.0 - 17.0	Copper	6/27/2016	5	U	1,300	no
TM07-PZM005	7.0 - 17.0	Copper, Dissolved	6/27/2016	1.5	J	1,300	no
TM07-PZM005	7.0 - 17.0	Cyanide	6/27/2016	31.4		200	no
TM07-PZM005	7.0 - 17.0	Cyclohexane	6/27/2016	10	U	13,000	no
TM07-PZM005	7.0 - 17.0	Dibenz[a,h]anthracene	6/27/2016	0.1	U	0.0034	no
TM07-PZM005	7.0 - 17.0	Dibromochloromethane	6/27/2016	1	U	0.17	no
TM07-PZM005	7.0 - 17.0	Dichlorodifluoromethane	6/27/2016	1	U	200	no
TM07-PZM005	7.0 - 17.0	Diesel Range Organics	6/27/2016	237	N2L21c	47	YES
TM07-PZM005	7.0 - 17.0	Diethylphthalate	6/27/2016	1	U	15,000	no
TM07-PZM005	7.0 - 17.0	Di-n-butylphthalate	6/27/2016	1	U	900	no
TM07-PZM005	7.0 - 17.0	Di-n-ocytlphthalate	6/27/2016	1	U	200	no
TM07-PZM005	7.0 - 17.0	Ethylbenzene	6/27/2016	1	U	700	no
TM07-PZM005	7.0 - 17.0	Fluoranthene	6/27/2016	0.046	J	800	no
TM07-PZM005	7.0 - 17.0	Fluorene	6/27/2016	0.036	J	290	no
TM07-PZM005	7.0 - 17.0	Gasoline Range Organics	6/27/2016	200	U	47	no
TM07-PZM005	7.0 - 17.0	Hexachlorobenzene	6/27/2016	1	U	1	no
TM07-PZM005	7.0 - 17.0	Hexachlorobutadiene	6/27/2016	1	U	0.14	no
TM07-PZM005	7.0 - 17.0	Hexachlorocyclopentadiene	6/27/2016	1	U	50	no
TM07-PZM005	7.0 - 17.0	Hexachloroethane	6/27/2016	1	U	0.33	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM07-PZM005	7.0 - 17.0	Indeno[1,2,3-c,d]pyrene	6/27/2016	0.1	U	0.034	no
TM07-PZM005	7.0 - 17.0	Iron	6/27/2016	21.5	J	14,000	no
TM07-PZM005	7.0 - 17.0	Iron, Dissolved	6/27/2016	19.5	J	14,000	no
TM07-PZM005	7.0 - 17.0	Isophorone	6/27/2016	1	U	78	no
TM07-PZM005	7.0 - 17.0	Isopropylbenzene	6/27/2016	1	U	450	no
TM07-PZM005	7.0 - 17.0	Lead	6/27/2016	5	U	15	no
TM07-PZM005	7.0 - 17.0	Lead, Dissolved	6/27/2016	5	U	15	no
TM07-PZM005	7.0 - 17.0	Manganese	6/27/2016	5	U	430	no
TM07-PZM005	7.0 - 17.0	Manganese, Dissolved	6/27/2016	5	U	430	no
TM07-PZM005	7.0 - 17.0	Mercury	6/27/2016	0.2	U	2	no
TM07-PZM005	7.0 - 17.0	Mercury, Dissolved	6/27/2016	0.2	U	2	no
TM07-PZM005	7.0 - 17.0	Methyl Acetate	6/27/2016	5	U	20,000	no
TM07-PZM005	7.0 - 17.0	Methyl tert-butyl ether (MTBE)	6/27/2016	1	U	14	no
TM07-PZM005	7.0 - 17.0	Methylene Chloride	6/27/2016	1	U	5	no
TM07-PZM005	7.0 - 17.0	Naphthalene	6/27/2016	0.14	B	0.17	no
TM07-PZM005	7.0 - 17.0	Nickel	6/27/2016	10	U	390	no
TM07-PZM005	7.0 - 17.0	Nickel, Dissolved	6/27/2016	10	U	390	no
TM07-PZM005	7.0 - 17.0	Nitrobenzene	6/27/2016	1	U	0.14	no
TM07-PZM005	7.0 - 17.0	N-Nitroso-di-n-propylamine	6/27/2016	1	U	0.011	no
TM07-PZM005	7.0 - 17.0	N-Nitrosodiphenylamine	6/27/2016	1	U	12	no
TM07-PZM005	7.0 - 17.0	Pentachlorophenol	6/27/2016	0.9	J	1	no
TM07-PZM005	7.0 - 17.0	Phenanthrene	6/27/2016	0.07	J		no
TM07-PZM005	7.0 - 17.0	Phenol	6/27/2016	1	U	5,800	no
TM07-PZM005	7.0 - 17.0	Pyrene	6/27/2016	0.03	J	120	no
TM07-PZM005	7.0 - 17.0	Selenium	6/27/2016	4.2	J	50	no
TM07-PZM005	7.0 - 17.0	Selenium, Dissolved	6/27/2016	8	U	50	no
TM07-PZM005	7.0 - 17.0	Silver	6/27/2016	6	U	94	no
TM07-PZM005	7.0 - 17.0	Silver, Dissolved	6/27/2016	6	U	94	no
TM07-PZM005	7.0 - 17.0	Styrene	6/27/2016	1	U	100	no
TM07-PZM005	7.0 - 17.0	Tetrachloroethene	6/27/2016	1	U	5	no
TM07-PZM005	7.0 - 17.0	Thallium	6/27/2016	4	J	2	YES
TM07-PZM005	7.0 - 17.0	Thallium, Dissolved	6/27/2016	5.5	J	2	YES
TM07-PZM005	7.0 - 17.0	Toluene	6/27/2016	1	U	1,000	no
TM07-PZM005	7.0 - 17.0	trans-1,2-Dichloroethene	6/27/2016	1	U	100	no
TM07-PZM005	7.0 - 17.0	trans-1,3-Dichloropropene	6/27/2016	1	U		no
TM07-PZM005	7.0 - 17.0	Trichloroethene	6/27/2016	1	U	5	no
TM07-PZM005	7.0 - 17.0	Trichlorofluoromethane	6/27/2016	1	U	1,100	no
TM07-PZM005	7.0 - 17.0	Vanadium	6/27/2016	176		86	YES
TM07-PZM005	7.0 - 17.0	Vanadium, Dissolved	6/27/2016	182		86	YES
TM07-PZM005	7.0 - 17.0	Vinyl chloride	6/27/2016	1	U	2	no
TM07-PZM005	7.0 - 17.0	Xylenes	6/27/2016	3	U	10,000	no
TM07-PZM005	7.0 - 17.0	Zinc	6/27/2016	1.2	JB	6,000	no
TM07-PZM005	7.0 - 17.0	Zinc, Dissolved	6/27/2016	1.4	JB	6,000	no
TM07-PZM045	47.0 - 57.0	1,1,1-Trichloroethane	6/28/2016	1	U	200	no
TM07-PZM045	47.0 - 57.0	1,1,2,2-Tetrachloroethane	6/28/2016	1	U	0.076	no
TM07-PZM045	47.0 - 57.0	1,1,2-Trichloro-1,2,2-Trifluoroethane	6/28/2016	50	U	55,000	no
TM07-PZM045	47.0 - 57.0	1,1,2-Trichloroethane	6/28/2016	1	U	5	no
TM07-PZM045	47.0 - 57.0	1,1-Biphenyl	6/28/2016	1	U	0.83	no
TM07-PZM045	47.0 - 57.0	1,1-Dichloroethane	6/28/2016	1	U	2.7	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM07-PZM045	47.0 - 57.0	1,1-Dichloroethene	6/28/2016	1	U	7	no
TM07-PZM045	47.0 - 57.0	1,2,3-Trichlorobenzene	6/28/2016	2	U	7	no
TM07-PZM045	47.0 - 57.0	1,2,4,5-Tetrachlorobenzene	6/28/2016	1	U	1.7	no
TM07-PZM045	47.0 - 57.0	1,2,4-Trichlorobenzene	6/28/2016	1	U	70	no
TM07-PZM045	47.0 - 57.0	1,2-Dibromo-3-chloropropane	6/28/2016	5	U	0.2	no
TM07-PZM045	47.0 - 57.0	1,2-Dibromoethane	6/28/2016	1	U	0.0075	no
TM07-PZM045	47.0 - 57.0	1,2-Dichlorobenzene	6/28/2016	1	U	600	no
TM07-PZM045	47.0 - 57.0	1,2-Dichloroethane	6/28/2016	1	U	5	no
TM07-PZM045	47.0 - 57.0	1,2-Dichloroethene (Total)	6/28/2016	2	U	70	no
TM07-PZM045	47.0 - 57.0	1,2-Dichloropropane	6/28/2016	1	U	5	no
TM07-PZM045	47.0 - 57.0	1,3-Dichlorobenzene	6/28/2016	1	U		no
TM07-PZM045	47.0 - 57.0	1,4-Dichlorobenzene	6/28/2016	1	U	75	no
TM07-PZM045	47.0 - 57.0	1,4-Dioxane	6/28/2016	0.27		0.46	no
TM07-PZM045	47.0 - 57.0	2,3,4,6-Tetrachlorophenol	6/28/2016	1	U	240	no
TM07-PZM045	47.0 - 57.0	2,4,5-Trichlorophenol	6/28/2016	2.6	U	1,200	no
TM07-PZM045	47.0 - 57.0	2,4,6-Trichlorophenol	6/28/2016	1	U	4	no
TM07-PZM045	47.0 - 57.0	2,4-Dichlorophenol	6/28/2016	1	U	46	no
TM07-PZM045	47.0 - 57.0	2,4-Dimethylphenol	6/28/2016	1	U	360	no
TM07-PZM045	47.0 - 57.0	2,4-Dinitrophenol	6/28/2016	2.6	U	39	no
TM07-PZM045	47.0 - 57.0	2,4-Dinitrotoluene	6/28/2016	1	U	0.24	no
TM07-PZM045	47.0 - 57.0	2,6-Dinitrotoluene	6/28/2016	1	U	0.048	no
TM07-PZM045	47.0 - 57.0	2-Butanone (MEK)	6/28/2016	10	U	5,600	no
TM07-PZM045	47.0 - 57.0	2-Chloronaphthalene	6/28/2016	1	U	750	no
TM07-PZM045	47.0 - 57.0	2-Chlorophenol	6/28/2016	1	U	91	no
TM07-PZM045	47.0 - 57.0	2-Hexanone	6/28/2016	10	U	38	no
TM07-PZM045	47.0 - 57.0	2-Methylnaphthalene	6/28/2016	0.1	U	36	no
TM07-PZM045	47.0 - 57.0	2-Methylphenol	6/28/2016	1	U	930	no
TM07-PZM045	47.0 - 57.0	2-Nitroaniline	6/28/2016	2.6	U	190	no
TM07-PZM045	47.0 - 57.0	3&4-Methylphenol(m&p Cresol)	6/28/2016	2.1	U	930	no
TM07-PZM045	47.0 - 57.0	3,3'-Dichlorobenzidine	6/28/2016	1	U	0.12	no
TM07-PZM045	47.0 - 57.0	4-Chloroaniline	6/28/2016	1	U	0.36	no
TM07-PZM045	47.0 - 57.0	4-Methyl-2-pentanone (MIBK)	6/28/2016	10	U	1,200	no
TM07-PZM045	47.0 - 57.0	4-Nitroaniline	6/28/2016	2.6	U	3.8	no
TM07-PZM045	47.0 - 57.0	Acenaphthene	6/28/2016	0.1	U	530	no
TM07-PZM045	47.0 - 57.0	Acenaphthylene	6/28/2016	0.1	U	530	no
TM07-PZM045	47.0 - 57.0	Acetone	6/28/2016	10	UR1	14,000	no
TM07-PZM045	47.0 - 57.0	Acetophenone	6/28/2016	1	U	1,900	no
TM07-PZM045	47.0 - 57.0	Aluminum	6/28/2016	153		20,000	no
TM07-PZM045	47.0 - 57.0	Aluminum, Dissolved	6/28/2016	23.6	J	20,000	no
TM07-PZM045	47.0 - 57.0	Anthracene	6/28/2016	0.1	U	1,800	no
TM07-PZM045	47.0 - 57.0	Antimony	6/28/2016	6	U	6	no
TM07-PZM045	47.0 - 57.0	Antimony, Dissolved	6/28/2016	6	U	6	no
TM07-PZM045	47.0 - 57.0	Arsenic	6/28/2016	19.8		10	YES
TM07-PZM045	47.0 - 57.0	Arsenic, Dissolved	6/28/2016	17.2		10	YES
TM07-PZM045	47.0 - 57.0	Barium	6/28/2016	233		2,000	no
TM07-PZM045	47.0 - 57.0	Barium, Dissolved	6/28/2016	225		2,000	no
TM07-PZM045	47.0 - 57.0	Benzaldehyde	6/28/2016	1	U	1,900	no
TM07-PZM045	47.0 - 57.0	Benzene	6/28/2016	1	U	5	no
TM07-PZM045	47.0 - 57.0	Benzo[a]anthracene	6/28/2016	0.1	U	0.012	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM07-PZM045	47.0 - 57.0	Benzo[a]pyrene	6/28/2016	0.1	U	0.2	no
TM07-PZM045	47.0 - 57.0	Benzo[b]fluoranthene	6/28/2016	0.1	U	0.034	no
TM07-PZM045	47.0 - 57.0	Benzo[g,h,i]perylene	6/28/2016	0.1	U		no
TM07-PZM045	47.0 - 57.0	Benzo[k]fluoranthene	6/28/2016	0.1	U	0.34	no
TM07-PZM045	47.0 - 57.0	Beryllium	6/28/2016	1	U	4	no
TM07-PZM045	47.0 - 57.0	Beryllium, Dissolved	6/28/2016	1	U	4	no
TM07-PZM045	47.0 - 57.0	bis(2-chloroethoxy)methane	6/28/2016	1	U	59	no
TM07-PZM045	47.0 - 57.0	bis(2-Chloroethyl)ether	6/28/2016	1	U	0.014	no
TM07-PZM045	47.0 - 57.0	bis(2-Chloroisopropyl)ether	6/28/2016	1	U	0.36	no
TM07-PZM045	47.0 - 57.0	bis(2-Ethylhexyl)phthalate	6/28/2016	1	U	6	no
TM07-PZM045	47.0 - 57.0	Bromodichloromethane	6/28/2016	1	U	0.13	no
TM07-PZM045	47.0 - 57.0	Bromoform	6/28/2016	1	U	3.3	no
TM07-PZM045	47.0 - 57.0	Bromomethane	6/28/2016	1	U	7.5	no
TM07-PZM045	47.0 - 57.0	Cadmium	6/28/2016	0.58	J	5	no
TM07-PZM045	47.0 - 57.0	Cadmium, Dissolved	6/28/2016	0.75	J	5	no
TM07-PZM045	47.0 - 57.0	Caprolactam	6/28/2016	2.6	U	9,900	no
TM07-PZM045	47.0 - 57.0	Carbazole	6/28/2016	1	U		no
TM07-PZM045	47.0 - 57.0	Carbon disulfide	6/28/2016	1	U	810	no
TM07-PZM045	47.0 - 57.0	Carbon tetrachloride	6/28/2016	1	U	5	no
TM07-PZM045	47.0 - 57.0	Chlorobenzene	6/28/2016	1	U	100	no
TM07-PZM045	47.0 - 57.0	Chloroethane	6/28/2016	1	U	21,000	no
TM07-PZM045	47.0 - 57.0	Chloroform	6/28/2016	1	U	0.22	no
TM07-PZM045	47.0 - 57.0	Chloromethane	6/28/2016	1	U	190	no
TM07-PZM045	47.0 - 57.0	Chromium	6/28/2016	0.81	J	100	no
TM07-PZM045	47.0 - 57.0	Chromium VI	6/28/2016	10	U	0.035	no
TM07-PZM045	47.0 - 57.0	Chromium, Dissolved	6/28/2016	5	U	100	no
TM07-PZM045	47.0 - 57.0	Chrysene	6/28/2016	0.1	U	3.4	no
TM07-PZM045	47.0 - 57.0	cis-1,2-Dichloroethene	6/28/2016	1	U	70	no
TM07-PZM045	47.0 - 57.0	cis-1,3-Dichloropropene	6/28/2016	1	U		no
TM07-PZM045	47.0 - 57.0	Cobalt	6/28/2016	6.1		6	YES
TM07-PZM045	47.0 - 57.0	Cobalt, Dissolved	6/28/2016	5.4		6	no
TM07-PZM045	47.0 - 57.0	Copper	6/28/2016	5	U	1,300	no
TM07-PZM045	47.0 - 57.0	Copper, Dissolved	6/28/2016	5	U	1,300	no
TM07-PZM045	47.0 - 57.0	Cyanide	6/28/2016	10	UM1	200	no
TM07-PZM045	47.0 - 57.0	Cyclohexane	6/28/2016	10	U	13,000	no
TM07-PZM045	47.0 - 57.0	Dibenz[a,h]anthracene	6/28/2016	0.1	U	0.0034	no
TM07-PZM045	47.0 - 57.0	Dibromochloromethane	6/28/2016	1	U	0.17	no
TM07-PZM045	47.0 - 57.0	Dichlorodifluoromethane	6/28/2016	1	U	200	no
TM07-PZM045	47.0 - 57.0	Diesel Range Organics	6/28/2016	69.8	JN2L2	47	YES
TM07-PZM045	47.0 - 57.0	Diethylphthalate	6/28/2016	1	U	15,000	no
TM07-PZM045	47.0 - 57.0	Di-n-butylphthalate	6/28/2016	1	U	900	no
TM07-PZM045	47.0 - 57.0	Di-n-ocytlphthalate	6/28/2016	1	U	200	no
TM07-PZM045	47.0 - 57.0	Ethylbenzene	6/28/2016	1	U	700	no
TM07-PZM045	47.0 - 57.0	Fluoranthene	6/28/2016	0.1	U	800	no
TM07-PZM045	47.0 - 57.0	Fluorene	6/28/2016	0.1	U	290	no
TM07-PZM045	47.0 - 57.0	Gasoline Range Organics	6/28/2016	200	U	47	no
TM07-PZM045	47.0 - 57.0	Hexachlorobenzene	6/28/2016	1	U	1	no
TM07-PZM045	47.0 - 57.0	Hexachlorobutadiene	6/28/2016	1	U	0.14	no
TM07-PZM045	47.0 - 57.0	Hexachlorocyclopentadiene	6/28/2016	1	U	50	no

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM07-PZM045	47.0 - 57.0	Hexachloroethane	6/28/2016	1	U	0.33	no
TM07-PZM045	47.0 - 57.0	Indeno[1,2,3-c,d]pyrene	6/28/2016	0.1	U	0.034	no
TM07-PZM045	47.0 - 57.0	Iron	6/28/2016	121,000		14,000	YES
TM07-PZM045	47.0 - 57.0	Iron, Dissolved	6/28/2016	123,000		14,000	YES
TM07-PZM045	47.0 - 57.0	Isophorone	6/28/2016	1	U	78	no
TM07-PZM045	47.0 - 57.0	Isopropylbenzene	6/28/2016	1	U	450	no
TM07-PZM045	47.0 - 57.0	Lead	6/28/2016	5	U	15	no
TM07-PZM045	47.0 - 57.0	Lead, Dissolved	6/28/2016	5	U	15	no
TM07-PZM045	47.0 - 57.0	Manganese	6/28/2016	4,600		430	YES
TM07-PZM045	47.0 - 57.0	Manganese, Dissolved	6/28/2016	4,780		430	YES
TM07-PZM045	47.0 - 57.0	Mercury	6/28/2016	0.2	U	2	no
TM07-PZM045	47.0 - 57.0	Mercury, Dissolved	6/28/2016	0.2	U	2	no
TM07-PZM045	47.0 - 57.0	Methyl Acetate	6/28/2016	5	U	20,000	no
TM07-PZM045	47.0 - 57.0	Methyl tert-butyl ether (MTBE)	6/28/2016	1	U	14	no
TM07-PZM045	47.0 - 57.0	Methylene Chloride	6/28/2016	1	U	5	no
TM07-PZM045	47.0 - 57.0	Naphthalene	6/28/2016	0.031	JB	0.17	no
TM07-PZM045	47.0 - 57.0	Nickel	6/28/2016	6.2	J	390	no
TM07-PZM045	47.0 - 57.0	Nickel, Dissolved	6/28/2016	6.7	JB	390	no
TM07-PZM045	47.0 - 57.0	Nitrobenzene	6/28/2016	1	U	0.14	no
TM07-PZM045	47.0 - 57.0	N-Nitroso-di-n-propylamine	6/28/2016	1	U	0.011	no
TM07-PZM045	47.0 - 57.0	N-Nitrosodiphenylamine	6/28/2016	1	U	12	no
TM07-PZM045	47.0 - 57.0	Pentachlorophenol	6/28/2016	2.6	U	1	no
TM07-PZM045	47.0 - 57.0	Phenanthrene	6/28/2016	0.1	U		no
TM07-PZM045	47.0 - 57.0	Phenol	6/28/2016	1	U	5,800	no
TM07-PZM045	47.0 - 57.0	Pyrene	6/28/2016	0.1	U	120	no
TM07-PZM045	47.0 - 57.0	Selenium	6/28/2016	8	U	50	no
TM07-PZM045	47.0 - 57.0	Selenium, Dissolved	6/28/2016	8	U	50	no
TM07-PZM045	47.0 - 57.0	Silver	6/28/2016	2	J	94	no
TM07-PZM045	47.0 - 57.0	Silver, Dissolved	6/28/2016	1.4	J	94	no
TM07-PZM045	47.0 - 57.0	Styrene	6/28/2016	1	U	100	no
TM07-PZM045	47.0 - 57.0	Tetrachloroethene	6/28/2016	1	U	5	no
TM07-PZM045	47.0 - 57.0	Thallium	6/28/2016	10	U	2	no
TM07-PZM045	47.0 - 57.0	Thallium, Dissolved	6/28/2016	10	U	2	no
TM07-PZM045	47.0 - 57.0	Toluene	6/28/2016	1	U	1,000	no
TM07-PZM045	47.0 - 57.0	trans-1,2-Dichloroethene	6/28/2016	1	U	100	no
TM07-PZM045	47.0 - 57.0	trans-1,3-Dichloropropene	6/28/2016	1	U		no
TM07-PZM045	47.0 - 57.0	Trichloroethene	6/28/2016	1	U	5	no
TM07-PZM045	47.0 - 57.0	Trichlorofluoromethane	6/28/2016	1	U	1,100	no

Parcel B15 Area B and Finishing Mills Groundwater Investigations
Validated and Non-Validated Data
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Well	Screen Interval	Parameter	Sample Date	Result (ug/L)	Flag	PAL	Exceeds PAL?
TM07-PZM045	47.0 - 57.0	Vanadium	6/28/2016	4.2	J	86	no
TM07-PZM045	47.0 - 57.0	Vanadium, Dissolved	6/28/2016	3.4	J	86	no
TM07-PZM045	47.0 - 57.0	Vinyl chloride	6/28/2016	1	U	2	no
TM07-PZM045	47.0 - 57.0	Xylenes	6/28/2016	3	U	10,000	no
TM07-PZM045	47.0 - 57.0	Zinc	6/28/2016	11		6,000	no
TM07-PZM045	47.0 - 57.0	Zinc, Dissolved	6/28/2016	10	U	6,000	no

Yellow highlight indicates an exceedance of the Project Action Limit (PAL)
Gray highlight indicates validated data
B: This analyte was not detected substantially above the level of the assoicated method blank/preparation or field blank.
J: The positive 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.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

APPENDIX D

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

Source Area/ Description	REC & Finding/ SWMU/ AOC	Figure or Drawing of Reference	RATIONALE	Number of Locations	Sample Locations	Boring Depth	Sample Depth	Analytical Parameters: Soil Samples
Brick Sheds		Drawings 5039 and 5040	Investigate potential impacts related to storage and activity in the Brick Sheds (potential leaks or releases).	5	B15-001 through B15-005	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC*, SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
Scrap Yard / Open Storage Area		Drawing 5039	Investigate potential impacts related to the historical scrap yard area and current open storage area (potential leaks or releases).	4	B15-006 through B15-009	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC*, SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
Parcel B15 Coverage			Investigate potential impacts related to any historical activities which may have occurred on the site (potential leaks or releases).	4	B15-010 and B15-013	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC*, SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
Brick Sheds		Drawings 5039 and 5040	Investigate potential impacts related to storage and activity in the Brick Sheds (potential leaks or releases).	8	B15-014 through B15-021	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC*, SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
			Total	21				

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

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

Engineered Barrier (1-15 acres): 0.5 boring per acre with no less than 2.

No Engineered Barrier (8.7 acres) **= 9 borings required, 10 proposed**

Engineered Barrier (7.8 acres) = **4 borings required, 11 proposed**

Parking/Roads (4.5 acres)

Buildings (3.3 acres)

VOC - Volatile Organic Compounds (Target Compound List)

SVOCs - Semivolatile Organic Compounds (Target Compound List)

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

DRO/GRO - Diesel Range Organics/Gasoline Range

O&G - Oil and Grease

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

bgs - Below Ground Surface

Table 2: Groundwater Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

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†
Brick Sheds (Drainage)		MDE Request	*N/A*	3	B15-012, B15-014, and B15-018	Total depth of 7 feet below water table.	7 feet below water table to 3 feet above water table.	VOC, SVOC, Dissolved Metals, Dissovled hexavalent chromium, Total cyanide, DRO/GRO, O&G
			Total:	3				

†Field measurements include pH, DO, ORP, conductivity, temperature.

Table 3: Sub-Slab Soil Gas Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Source Area/ Description	RATIONALE	Number of Locations	Sample Locations	Boring Depth	Sample Depth	Analytical Parameters: Sub-Slab Soil Gas
Enclosed Rooms (South Brick Shed)	Investigate potential impacts related to the storage enclosure of the southern brick shed (potential leaks or releases).	3	B15-022 through B15-024	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**)

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

Enclosed Room South Brick Shed (4,725 ft^2) = **3 Samples**

APPENDIX E

Health and Safety Plan

Area B: Parcel B15
Tradepoint Atlantic
Sparrows Point, Maryland

Prepared for:
EnviroAnalytics Group
1650 Des Peres Road
Suite 230
Saint Louis, Missouri 63131

Prepared by:
ARM Group Inc.
9175 Guilford Road
Suite 310
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September 2016

ARM Project 150300M-23

Respectfully submitted,

Eric S. Magdar
Senior Geologist

T. Neil Peters
Vice President

TABLE OF CONTENTS

1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been prepared by ARM Group Inc. (ARM) to address personnel health and safety requirements for employees of ARM and its subcontractors to complete a Phase II investigation on a portion of the Tradepoint Atlantic property that has been designated as Parcel B15. The on-site activities may include the following: installation of soil borings, collection of soil samples, collection of sub-slab soil gas samples, and installation and gauging of temporary piezometers. ARM will comply with industry-standard health and safety protocol and Occupational Safety and Health Administration (OSHA) 29 CFR 1910.120 to prevent human exposure to volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), petroleum hydrocarbons, polychlorinated biphenyls (PCB) and metals that may be present in site soil and groundwater.

2.0 GENERAL INFORMATION

2.1 Site Description

Parcel B15, which is comprised of 16.5 acres of the approximately 3,100-acre former plant property, is located off of Sparrows Point Boulevard in Sparrows Point, Maryland. Parcel B15 is one of several parcels that make up a larger area, known as Area B, of the Tradepoint Atlantic facility. Area B and its parcels are shown on **Figure 1.**

From the late 1800s until 2012, the Tradepoint Atlantic property was used for the production and manufacturing of steel. Iron and steel production operations and processes at the Site included raw material handling, coke production, sinter production, iron production, steel production, and semi-finished and finished product preparation. In 1970, it 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 the facility ceased in fall 2012.

2.2 Site Hazards

The following is a general description of the potential site hazards.

Chemical Hazards:

- VOCs, SVOCs, PCBs, petroleum hydrocarbons, and metals potentially present in soil and groundwater.

Explosive Hazards:

- VOC and petroleum hydrocarbon vapors in boreholes, piezometers and collection containers.

Physical Hazards:

- Slipping/tripping in work area
- Stress/fatigue from heat or cold temperatures
- Traffic/Railway Activity
- Driving on steep slopes and/or off-road conditions
- Insect and animal bites
- Hand tools

Mechanical/Electrical Hazards:

- Underground utilities
- Heavy equipment (Geoprobe)
- Locomotive/Railcar and Maintenance Vehicles (within 10 feet of track edge)
- Noise from heavy equipment operations
- Power Tools

2.3 Utilities

Prior to initiating any subsurface investigations, all underground utilities will be cleared using the Miss Utility system. Additionally, EnviroAnalytics Group (EAG) will clear each proposed boring with utility personnel currently working on the property. The ARM staff will be responsible for avoiding any above ground utilities while operating vehicles on the site.

2.4 Waste Management

A small quantity of investigation derived waste (IDW) material will be generated as a result of the planned site work. These wastes could include decontamination fluids, soil cuttings, personal protective equipment (PPE) and disposable sampling equipment. All IDW will be containerized in steel 55-gallon drums for on-site treatment or off-site disposal, pending the receipt of analytical results. Specific procedures associated with the management of the IDW have been established in SOP 005, attached in Appendix A of the EPA approved Quality Assurance Project Plan (QAPP).

2.5 Site Controls and Security

It is the responsibility of ARM staff to keep unauthorized personnel away from the work areas during site work. All equipment used at the site must be secured or taken off-site. Subsurface intrusions should be covered to reduce any hazard that may be posed. Traffic cones, caution tape, physical barriers, or other such means as necessary shall be used to ensure that no unauthorized work area entry occurs.

3.0 OPERATING PROCEDURES

3.1 Air Monitoring

Due to the nature of the site activities and materials potentially present at the site, no vapor hazards are expected. If discernable odors are noted in the breathing zone, then work will be temporarily suspended and air monitoring will be initiated using a PID or explosive gas indicator. If sustained vapor concentrations are measured at or above action levels in the breathing zone, work will immediately cease until such time as appropriate action is established. This action may require the upgrade of PPE or reevaluation of the need to proceed.

3.2 Personnel Protection

Personnel health and safety protection shall follow the guidelines provided by this HASP. Modifications to the HASP may be made by the field supervisor with the approval of the ARM Project Manager on a day-to-day basis as conditions change, based on existing conditions. Any necessary revisions must be fully documented by the field supervisor to include the specifics and rationalizations for the change.

It is anticipated that a modified Level D of personal protection will be appropriate for the anticipated site activities. PPE associated with this designated level of protection (Level D), as established by the USEPA, is listed in a later section. The PPE listed for this level of protection should be available to all personnel.

PPE will be stored in a clean, dry environment prior to it usage. Disposable equipment shall remain, in as much as possible, its original manufacturer's packaging to ensure its integrity. PPE that is assigned to a specific end user is subject to inspection by the supervisor at any time.

3.2.1 Determination of Level of Protection Requirements

The appropriate level of personnel protection must be established on the basis of ambient air monitoring responses. Air monitoring action levels should be consistent with the primary compounds of concern as listed in Table 3-1 (below). Appropriate action should be taken if total organic vapor air concentrations are sustained at a concentration equal to or greater than the PEL listed on Table 3-1.

Table 3-1

Substance	CAS #	OSHA PEL (ppm)	IDLH (ppm)
Benzene	71-43-2	10	500
Toluene	108-88-3	200	500
Ethyl benzene	100-41-4	100	800
Xylenes	1330-20-7	100	900
Naphthalene	91-20-3	10	250
Tetrachloroethylene	127-18-4	100	150
Trichloroethylene	79-01-6	100	1,000

Notes: ppm = parts per million
PEL = Permissible Exposure Limit
IDLH = Immediately Dangerous to Life or Health

This criterion will be applicable to all activities unless specific protection requirement for a certain task are addressed separately. As previously stated, it is anticipated that a modified Level D will be appropriate for the anticipated site activities; which requires a regular worker uniform, steel-toed safety shoes, hardhat, safety glasses and long pants. Level D will be considered the minimum protection level for all work on-site.

Respiratory protection against dust must also be considered during site work. The usage of dust respirators (high efficiency particulate air [HEPA] filters) or NIOSH P100 filter paired with a half-mask respirator will be determined by site conditions and judgment of the field supervisor. Sprinklers may be used to control dust during work activities.

3.2.2 Dermal Protection

In general, dermal protection levels will correspond with the respiratory protection level in use during an activity as described in other sections. For most activities on the site, Level D dermal protection will be adequate. When work tasks are such that a higher level of personal protection is required, dermal protection may be upgraded to coated Tyvek (Saranex) or chemical-resistant rain suit or Tyvek. This determination will be made by the ARM Field Supervisor as required.

Chemical and abrasion-resistant outer gloves and inner chemical-resistant disposable gloves would be required in the work zone to provide adequate protection of hands and assist in preventing transfer of contaminants. As much of the investigation may require handling of possibly contaminated equipment, groundwater, or soil, chemical-resistant gloves should be required for all on-site work with these materials. Various operations, which require dexterity and do not necessitate the abrasion-resistant feature of outer gloves, could be performed with the inner gloves only, at the direction of the ARM Field Supervisor.

3.2.3 Eye Protection

Since many volatile contaminants are capable of penetrating skin tissues, the eyes provide a potential route of entry into the body. Typically, volatile organic vapors will be detected in the air-monitoring program. Dust and air-borne particulates will be monitored visually and nuisance dust standards will be applied. If exceeded, dust masks will be donned. Eye protection, beyond the use of safety glasses, must correspond to the respiratory protection level.

3.3 Task-Related Personnel Protection

At a minimum, all workers are required to wear long pants, steel toed shoes and a sleeved shirt at all times. Additional PPE will be required on a task-specific basis.

3.3.1 Installation of Geoprobe Soil Borings and Piezometers, Installation of Sub-Slab Soil Gas Points, Soil Logging and Soil Sampling Activities

All personnel should wear the following:

- Long pants and sleeved shirt/vest (high visibility)
- Steel toe safety boots
- Safety glasses with side shields
- Hearing protection
- Chemical resistant gloves

3.3.2 Groundwater Sampling

All personnel should wear the following:

- Long pants and sleeved shirt/vest (high visibility)
- Steel toe safety boots
- Safety glasses with side shields
- Chemical resistant gloves

3.4 Explosion Prevention

Due to the potential presence of flammable materials at the site, the following safety guidelines must be followed to prevent the possibility of explosion:

a. All monitoring equipment will be intrinsically safe or explosion-proof, if used in areas of possible explosive atmospheres.

b. A fire extinguisher, first-aid kit, and an eye wash station will be located at the site within a short distance of site work.

c. Any compressed gas cylinders or bottles will be stored safely as required by the OSHA regulations. In addition, metal barriers must be provided and installed between oxygen and acetylene bottles, extending above the height of the regulators. At the end of each work shift, regulators shall be removed and replaced with protective caps.

d. No explosives, whatsoever, shall be used or stored on the premises.

e. All cleaning fluids or solvents must be stored and transported in OSHA-approved safety containers.

f. Propane, butane, or other heavier-than-air gases shall not be transported onto or used on-site unless prior approval is obtained in writing from the Project Manager and the Facility Operator.

4.0 DECONTAMINATION PROCEDURES

Decontamination procedures will be used on some field tasks, but not all, completed at the site. All decontamination operations may be performed at the sampling location unless the level of PPE is upgraded. If the level of PPE is upgraded, all decontamination operations will be performed in a central decontamination area and supervised by the ARM Field Supervisor. If necessary, a decontamination corridor will be set up adjacent to the area and equipped with brushes, plastic bags, and drum storage. Disposable outerwear and contaminated disposable equipment will be collected for future disposal. The ARM Field Supervisor would be required to inspect PPE and clothing to determine if decontamination procedures were sufficient to allow passage into the staging area.

The following decontamination facilities, as a minimum, will be provided in the staging area:

a. Hand washing facilities

b. First-aid kit

c. Eye wash station

d. Fire extinguisher

Proper on-site decontamination procedures, the use of disposable outer clothing, and field wash of hands and face as soon as possible after leaving the decontamination corridor could effectively minimize the opportunity for skin contact with contaminants.

4.1 Personnel Decontamination Procedures

Decontamination procedures should be as follows:

Level D decontamination will consist of:

1. Potable water wash and potable water rinse of boots and outer gloves (if worn).

2. Drum all visibly impacted disposable clothing.

3. Field wash of hands and face.

4.2 Equipment Decontamination

All equipment decontamination will be completed in accordance with the procedures referenced in QAPP Worksheet 21—Field SOPs, SOP No. 016 Equipment Decontamination. The decontamination procedures that will be used during the course of this investigation include Decontamination Area (Section 3.1 of the SOP), Decontamination of Sampling Equipment

(Section 3.5), Decontamination of Measurement Devices & Monitoring Equipment (Section 3.7), Decontamination of Subsurface Drilling Equipment (Section 3.8), and Document and Record Keeping (Section 5).

Level D personnel protection is required during equipment decontamination.

5.0 EMERGENCY CONTINGENCY INFORMATION

Pertinent emergency telephone numbers are listed in Table 5-1. This information must be reviewed by and provided to all personnel prior to site entry.

Table 5-1
Emergency Telephone Numbers

Facility/Title	Telephone Number
Fire and Police	911
Ambulance	911
James Calenda, EnviroAnalytics Group	(314) 620-3056
Eric Magdar, ARM Manager	Office: (410) 290-7775 Cell: (301) 529-7140
Hospital – Johns Hopkins Bayview	(410) 550-0350

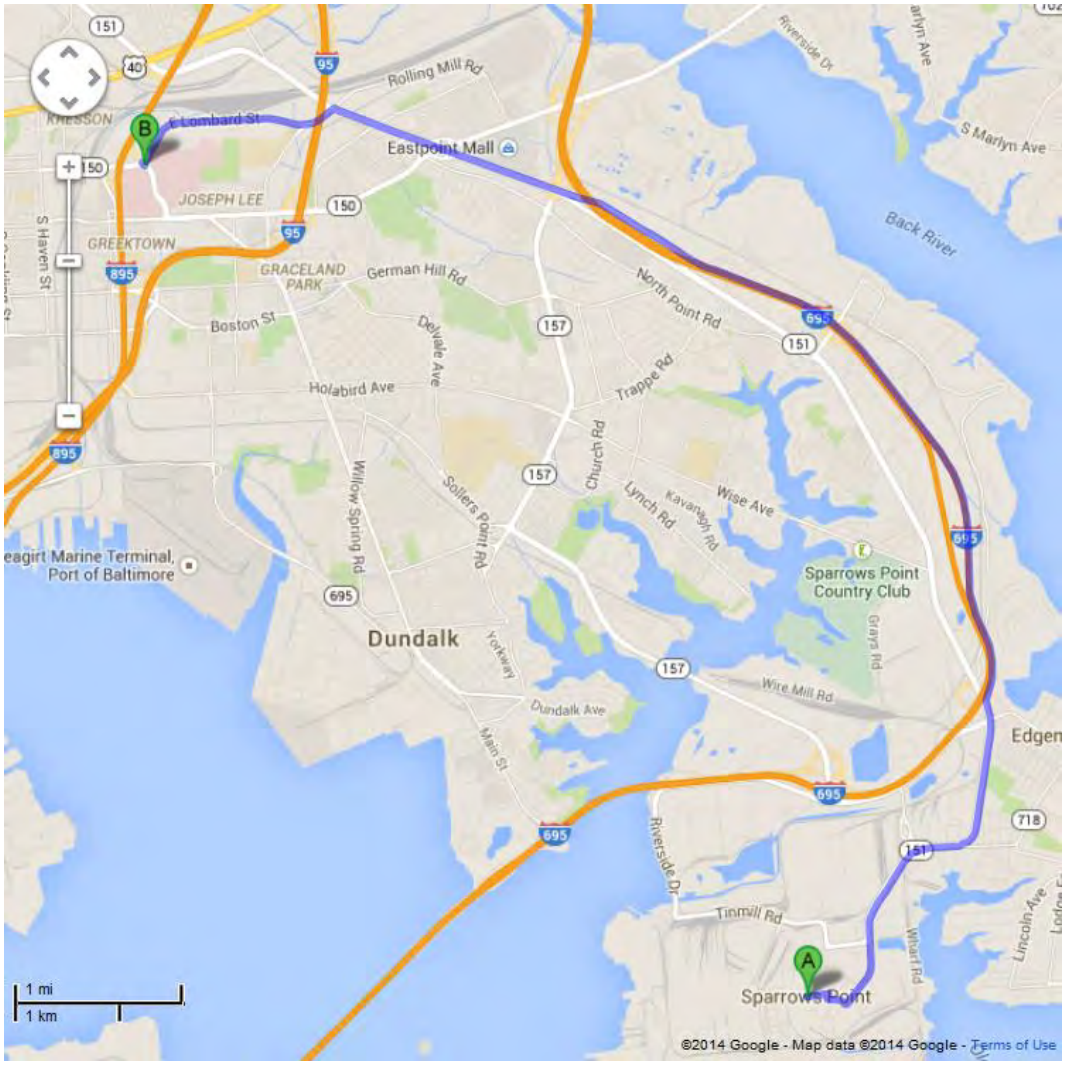
In the event of a fire or explosion, the site will be evacuated immediately and the appropriate emergency response groups notified. In the event of an environmental incident caused by spill or spread of contamination, personnel will attempt to contain the spread of contamination, if possible.

In the event of a personnel injury, emergency first aid would be applied on site by ARM as deemed necessary. The victim should be transported to the local medical facility if needed. The map to the hospital is provided below.

Hospital Route From Tradepoint Atlantic

Johns Hopkins Bayview
4940 Eastern Avenue
Baltimore, MD
(410) 550-0350

1. Start out going East on 7th Street.
2. Turn LEFT onto Sparrow Point Road.
3. Travel 1.4 miles and continue onto North Point Boulevard.
4. Travel 0.9 miles and turn slight right to merge onto I-695 North/Baltimore Beltway toward Essex.
5. Travel 3.4 miles and take EXIT 40 for MD-151/N. Pt. Blvd. N toward MD-150/East. Blvd W/Baltimore.
6. Travel 0.5 miles and merge onto MD-151 N/North Point Blvd.
7. Travel 2.0 miles and turn LEFT onto Kane Street.
8. Travel 0.2 miles and turn slight right onto E. Lombard Street.
9. Travel 1.2 miles and turn left onto Bayview Blvd.
10. Make a left at the emergency room of the hospital



6.0 ACKNOWLEDGEMENT OF PLAN

All site personnel are required to read and comply with the HASP. The following safety compliance affidavit should be signed and dated by each person directed to work on-site.

I have read this HASP and agree to conduct all on-site work in conformity with the requirements of the HASP. I acknowledge that failure to comply with the designated procedures in the HASP may lead to my removal from the site, and appropriate disciplinary actions by my employer.

Title and Company	Name	Signature	Date