



ARM Group LLC

Engineers and Scientists

May 8, 2020

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

Re: AST Characterization Work Plan
Area B: Parcel B19
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown:

ARM Group LLC (ARM), on behalf of EnviroAnalytics Group, LLC (EAG), completed a Phase II Investigation of Parcel B19 (the Site) in May 2017. The findings of this investigation were summarized in the Phase II Investigation Report for Parcel B19 (Revision 0 dated April 9, 2018), which was approved by Maryland Department of the Environment (MDE) via email on September 26, 2018. Parcel B19 is located within Area B of the Tradepoint Atlantic (TPA) property located in Sparrows Point, Maryland. The location of the Site in relation to the rest of the TPA property is provided on **Figure 1**.

Four large aboveground storage tanks (ASTs) previously occupied the southwest portion the Site. These tanks were intact during the completion of preceding groundwater investigation activities associated with the Area B Groundwater Phase II Investigation and soil investigation activities associated with the Parcel B19 Phase II Investigation. The locations of the historical ASTs are shown on **Figure 2** (the ASTs are still visible on recent aerial imagery). Now that these ASTs have been removed, the MDE has requested that supplemental investigation work be conducted to evaluate the possibility of subsurface contamination associated with these historical ASTs.

Proposed Field Methods

Pursuant to MDE direction, supplemental soil and groundwater characterization is proposed to be completed at the locations shown on **Figure 2**. Two soil borings and one temporary groundwater sample collection point (piezometer) will be installed within the footprint of each of the two larger former ASTs. One soil boring and one piezometer will be installed in the center of each of the two smaller AST footprints. Soil and groundwater sampling plan summary tables are included as **Attachment 1**.

Recently, significant surface water ponding has been observed in the footprints of the smaller ASTs. If ponding prevents soil sampling within the smaller AST footprints, MDE has stated that the prior Phase II Investigation data in this area will suffice. Groundwater sampling will still be required, and the proposed piezometer locations will be shifted as necessary. The MDE will be notified of any observation of non-aqueous phase liquid (NAPL) in soils or groundwater, and NAPL will be delineated in accordance with standard methods.

Soil samples will be screened and analyzed in accordance with procedures referenced in the Quality Assurance Project Plan (QAPP) Worksheet 21 – Field SOPs (Standard Operating Procedures), SOP No. 009 – Sub-Surface Soil Sampling. Soil samples will be analyzed for SVOCs, TAL-Metals, Oil & Grease, TPH-DRO, TPH-GRO, hexavalent chromium, and cyanide. Samples with a sustained photoionization detector (PID) reading of greater than 10 ppm will also be analyzed for VOCs. The soil sample collected from the shallow interval (0 to 1 foot) will be analyzed for PCBs.

Groundwater samples are proposed to be collected from piezometers within the former AST footprints. The groundwater samples will be collected in accordance with procedures referenced in the QAPP Worksheet 21 – Field SOPs, SOP No. 006 – Groundwater Sampling. All groundwater samples will be analyzed for VOCs, SVOCs, TAL-Metals (dissolved only), Oil & Grease, TPH-DRO, TPH-GRO, hexavalent chromium (dissolved only), and total cyanide.

Pace Analytical Services, Inc. (PACE) of Greensburg, Pennsylvania will provide the analytical services for this project. 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.

After sampling has been concluded at a location, all down-hole equipment will be decontaminated according to procedures referenced in the QAPP. All field investigation procedures will be conducted in accordance with the property-wide Health and Safety Plan (HASP). All investigation derived waste (IDW) will be appropriately managed and stored in accordance with the requirements of the QAPP.

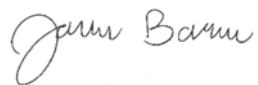
Reporting

Once characterization activities have been completed, a Characterization Report will be prepared to document the completed field activities. The report will include a brief description of the field methods, soil boring and piezometer construction logs displaying the geologic information, and a summary of the analytical results. The results will also be incorporated into Screening Level Risk Assessments (SLRAs) within Response and Development Work Plans (RADWPs) for future development in this area, as applicable. More investigation into the extent of the contamination at the former ASTs may be necessary pending the results of the field activities or per the request of EAG, TPA, or the MDE.



If you have questions regarding any information covered in this document, please feel free to contact ARM Group LLC at (410) 290-7775.

Respectfully Submitted,
ARM Group LLC



Joshua M. Barna, G.I.T.
Staff Geologist








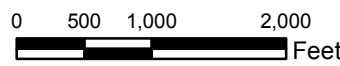
Eric S. Magdar, P.G.
Vice President

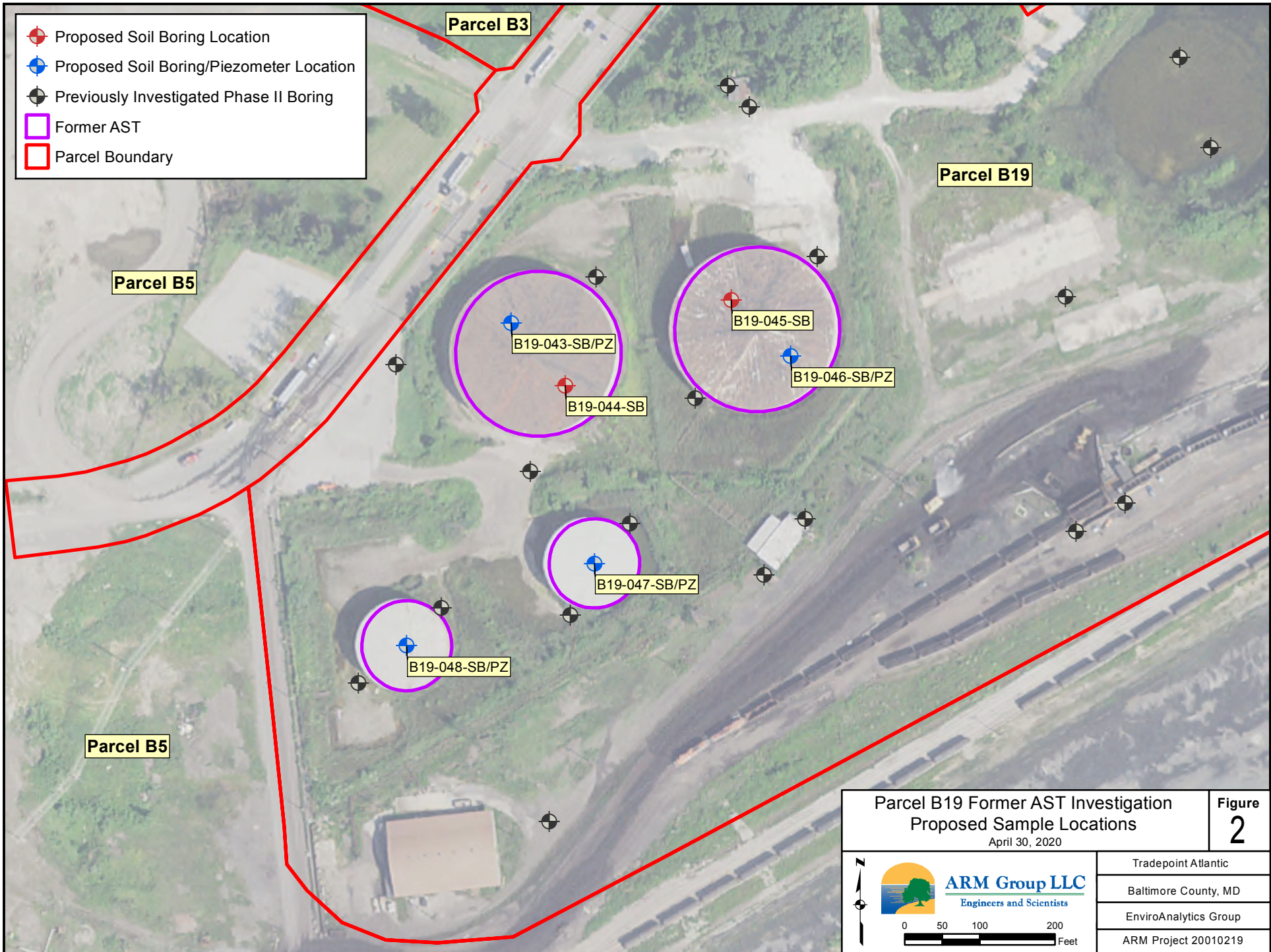



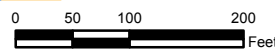

FIGURES



	Site Boundary
	Parcel Boundaries
	Private Property

Tradepoint Atlantic Area A and Area B Parcels March 4, 2020		Figure 1
  ARM Group LLC Engineers and Scientists	Tradepoint Atlantic Baltimore County, MD EnviroAnalytics Group	
		
	Area A: Project 200101 Area B: Project 200102	



Parcel B19 Former AST Investigation Proposed Sample Locations April 30, 2020		Figure 2
 	 ARM Group LLC Engineers and Scientists	Tradepoint Atlantic Baltimore County, MD EnviroAnalytics Group ARM Project 20010219

ATTACHMENT 1

**Parcel B19 AST Characterization Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland**

Table 1 - Soil Sampling Summary

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
Former ASTs		Site Visit	Investigate potential impacts related to former aboveground storage tanks (potential leaks or releases).	6	B19-043 through B19-048	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:	6				

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

**Parcel B19 AST Characterization Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland**

Table 2 - Groundwater Sampling Summary

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
Former ASTs		Site Visit	N/A	4	B19-043, B19-046 through B19-048	Total depth of 7 feet below water table.	7 feet below water table to 3 feet above water table.	VOC, SVOC, Metals (dissolved), Cyanide (total), O&G, DRO/GRO
			Total:	4				

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

VOCs - Volatile Organic Compounds (Target Compound List)
SVOCs - Semivolatile Organic Compounds (Target Compound List)
Metals - (Target Analyte List plus Hexavalent Chromium and Cyanide)
O&G - Oil and Grease
DRO/GRO - Diesel Range Organics/Gasoline Range Organics