ARM Group LLC
Engineers and Scientists

October 28, 2021

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

Re: Comment Response Letter:
Supplemental Investigation Report
CVOC Impacted Groundwater
Area A: Parcel A10
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown:

On behalf of Tradepoint Atlantic, ARM Group LLC (ARM) is pleased to provide the following responses to comments provided by the United States Environmental Protection Agency (USEPA) via email on January 13, 2020 regarding the previous submission of the Supplemental Investigation Report for CVOC Impacted Groundwater (dated January 6, 2020) in Parcel A10 of the Tradepoint Atlantic property located in Sparrows Point, Maryland. This letter provides responses to the comments, and a revised Supplemental Investigation Report (Revision 1) is provided along with this letter. Responses to the comments are provided below; the original comments are included in italics with the responses following.

1. *All figures in this report should indicate the area where NAPL was found.*

   The figures included with the revised Supplemental Investigation Report include the non-aqueous phase liquid (NAPL) delineation piezometers installed in Parcel A10 in the vicinity of A10-006-SB.

2. *Figures 3 and 4, Groundwater Contour Maps, Shallow and Perched Zones – The flow direction from the NAPL area (about midway between A10-002 and A10-034) would appear to be to the west southwest in the shallow zone, and to the north northeast in the perched zone. There are no wells in this report immediately downgradient of the NAPL area, but wells installed for the NAPL delineation could serve this purpose.*

   The NAPL Delineation Completion Report for Parcel A10 (dated January 6, 2020) details the NAPL observed in the delineation area at A10-006-SB. Delineation piezometers were

installed both downgradient and upgradient of the original location where NAPL was encountered. The figures have been updated to show the NAPL delineation piezometer locations. Six delineation piezometers were also sampled for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) as detailed in the Test Pitting Completion Report for Parcel A10 dated July 14, 2020. The Test Pitting Completion Report also included localized groundwater elevation contour maps for the NAPL delineation area for both the shallow and perched zones. The analytical data from the NAPL delineation piezometers have been incorporated into this revised report.

3. *Page 5, Conclusions – The first paragraph states that CVOCs are adequately characterized in the shallow zone in all directions except for the north, which will have additional characterization in investigations for parcels A16 and A18. Additional water quality data should be obtained from wells not containing NAPL in the A10-006 area and added to Figures 6 and 7. Furthermore, well screens in Parcel A10 for shallow zone groundwater end within the sand layer, but do not extend to the base of the shallow zone, so further vertical delineation may be necessary. If existing information is available to provide an understanding of the likely thickness of the shallow groundwater zone in this area, it should be summarized in this report, with supporting cross-sections.*

   Additional groundwater characterization activities have been completed in the area north of Parcel A10, including multiple Phase II Investigation piezometers on Parcel A18 and one historical well on Parcel A16. The Phase II Investigation of Parcel A16 has not been completed at this time; however, the historic monitoring well SG06-PPM004 was sampled for VOCs in July 2020. The relevant groundwater data from Parcel A18 and Parcel A16 have been incorporated into this report.

   As noted above, six delineation piezometers in the A10-006 NAPL area were also sampled for VOCs and SVOCs as detailed in the Test Pitting Completion Report dated July 14, 2020. The analytical data from the NAPL delineation piezometers have also been incorporated into this report.

   A cross section (A-A') has been developed for the eastern edge of the property and has been included as a new **Attachment 1**. This attachment also includes a figure showing the horizontal alignment of the cross section. The cross section incorporates the geologic information from soil boring and piezometer installation activities completed by ARM, as well as historical information provided by boring SW-05-CPT which was completed by CH2MHILL and included in Site Wide Investigation Groundwater Study Report prepared by the Bethlehem Steel Corporation Sparrows Point Division dated December 20, 2001. The historical SW-05-CPT indicates a clay layer at approximately 25 feet below ground surface (bgs) underlying the shallow hydrogeologic zone.

4. *It may be true that CVOCs in groundwater are coming onto the property from offsite to the east. Additional investigations of the adjacent property should be conducted to assess that possibility. Some of the CVOCs in groundwater could be associated with the NAPL source area, which requires further assessment as indicated above.*

   Tradepoint Atlantic has no jurisdiction of the property to the east of Parcel A10 to investigate the neighboring property. CVOCs in the groundwater are not believed to be associated with the previously investigated A10-006 NAPL area. Both dense and light NAPL (DNAPL and LNAPL) samples were characterized and were not found to contain significant concentrations of CVOCs. Results of the NAPL characterization were presented in the NAPL Characterization Results Transmittal Letter for Parcel A10 (dated January 23, 2020), which is included as an electronic attachment. Additionally, the aqueous samples collected from the delineation piezometers did not contain highly elevated CVOC concentrations that would be expected if the NAPL was acting as a continuing source area.

If you have any questions, or if we can provide any additional information at this time, please do not hesitate to contact ARM Group LLC at 410-290-7775.

Respectfully Submitted,
ARM Group LLC

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