ARM Group Inc.
Engineers and Scientists

November 26, 2019

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

Re: Former Coke Oven Area (COA) Interim Measures Supplemental Investigation Report (Revision 0)
Responses to EPA Comments

Dear Ms. Brown:

On behalf of EnviroAnalytics Group, LLC (EAG), ARM Group Inc. (ARM) is pleased to provide the following responses to comments on the Former Coke Oven Area (COA) Interim Measures Supplemental Investigation Report (Revision 0), dated August 2, 2019.

The comments below were received from the US Environmental Protection Agency (USEPA) in an email on September 20, 2019. The original comments are shown in italics with the responses following in normal text.

General Comments

1. *All of the geologic cross-sections include a "No geologic data below bottom of boreholes" label, but in fact there are many deeper wells and borings in the Coke Oven Area that provide data below the depths shown. For reference, see Site Wide Investigation, Report of Nature and Extent of Releases to Groundwater from the Special Study Areas, dated January 2005. In particular, see figure 3-8, cross-section B-B' Coke Oven Area.*

   When the cross sections were created, all historical boring logs that were available were incorporated. Specifically, boring logs are not available for the CO27 well cluster that is shown on Figure 3-7 from the Nature and Extent report. However, the existing cross sections from the Nature and Extent report will be reviewed to provide an estimate of lithology contact depths and thicknesses, and this information will be included on revised versions of the cross sections in the revision of the Supplemental Investigation report.

2. *Boring logs and well construction diagrams for wells completed in earlier investigations may be available in prior reports, but it would facilitate review if the logs were provided for every well shown on maps or cross-sections in Appendix A (or provide a reference to the report where they may be found). Alternatively, create a pdf library of all borings and well diagrams for the entire site as a separate reference document that would be continually updated.*

   Boring logs and well construction logs available from prior reports and our investigations are available in the online GIS database and have been compiled into a separate PDF reference document. A table has been created listing the locations of all wells in the COA and whether or not a boring log is available for them. The table and PDF are provided with this letter as electronic attachments.

3. *All cross-sections that tie together should be plotted at the same vertical scale. Sections A-A' and C-C' are on the same vertical scale, but intersecting sections B-B' and D-D' are on a different scale. Likewise, intersecting sections E-E' and F-F' are on different vertical scales.*

   The cross-sections will be revised to utilize the same vertical scale.

4. *Cross-sections should be extended to show groundwater discharge to surface water features and the relative location of pore water sampling. Sections should be oriented through source areas and through relevant remediation systems or other pumping centers. Cross-sections should include all nearby wells and analytical results, to provide the basis for the site conceptual model.*

   The cross sections will be revised to incorporate discharge to surface water features, relative pore water sample locations, data from sediment borings (from 2009 EA report), relevant remediation system components, and relevant analytical results. Specific revisions to cross sections are discussed later in this letter.

5. *The findings (Section 6) do not specifically answer items 4 and 5 of the 5 investigation objectives listed. With respect to item 4, whether the currently implemented remedies require modifications, each of the three cells evaluated do require modification to address potential impact from COCs to sediment pore water or to surface water. For each cell, the findings state that the nature and extent of groundwater impacts have been adequately defined to support a CMS to determine a final remedy, which apparently is proposed to address item 5 of the objectives rather than assess remedy improvements in this supplemental investigation report. During the meeting on 9/18/2019, it was suggested that a remedy decision for the entire Coke Point Peninsula be pursued rather than just interim measures for the Coke Oven Area. If we are moving to a final remedy decision for the entire peninsula, we also need to define all the corrective action objectives, and also evaluate effectiveness of cells 1 and 6 and other ongoing source control actions at achieving source control objectives in addition to presenting data for groundwater in the additional areas (B-11, B-12). EPA, MDE and TPA should agree on the corrective action objectives prior to development of the CMS.*

A "Coke Point Area Groundwater Corrective Measures Study Work Plan" (CMS Work Plan) has been submitted for the Coke Point Peninsula to the agencies on October 18, 2019. Corrective action objectives have been proposed in this CMS Work Plan. As a first step, it is agreed that corrective action objectives can be reviewed and approved as part of this work.

6. *One of the comments provided in EPA's review letter, dated December 3, 2018, regarding the Assessment of Current Groundwater to Surface Water Discharges from the Coke Point Area, was not addressed in the Supplemental Investigation Report. Specifically, Comment 1 of that letter relating to water elevation in well CP02-PZM007 and the need to verify survey coordinates and casing elevations in all wells should be reviewed.*

   This comment was addressed by re-surveying well CP02-PZM007 and well CP05-PZM008 to obtain accurate top of casing (TOC) elevations. The new surveyed TOC value for CP05-PZM008 was very close to the previous value. The new surveyed TOC value for CP02-PZM007 proved to be about 5 feet lower than the previous value. Using the updated and more accurate TOC elevation for this well eliminated the apparent groundwater mound in the northern part of the CPLF that was shown on some older Coke Point Landfill groundwater contour maps. Surveyed coordinates and TOC elevations for all other wells appear to be consistent and accurate.

Cell 2 Comments

1. *Figure 28, Geologic cross-section B-B' – This section should be extended north to include the graving dock at the shipyard, to indicate the effects of the underdrain pumping on groundwater flow and contaminant transport. This section should also include additional wells not shown, including CO27-PZM012/046 and CO46-PZM047 (one of the extraction wells). Water elevations, benzene and naphthalene concentrations should be shown for all wells.*

   This cross section will be extended north to include the graving dock. Groundwater flow arrows will be added. The approximate location of the CO27 well cluster will be added as well as estimated lithology depths as described in the response to General Comment 1 above. The groundwater extraction zone (depth interval) of CO46-PZM047 will be added to the cross section. Benzene and naphthalene concentrations will be added. Groundwater elevations, however, are already shown on this figure.

2. *Figure 28, Geologic cross-section B-B' – Well COL-MWI is the northern-most well on this section, and also appears in section A-A', but the geologic data for the well is different on the two sections. On B-B' there is a thin sand shown between the overlying slag and silt/clay. That thin sand layer is absent on A-A'.*

   Lithology information from well CO27-PZM122 will now be used in place of COL-MWI because CO27-PZM122 extends much deeper. However, we will make sure the subsurface layers are consistent between cross sections A-A' and B-B' for this well.

3. *Figure 33, Cell 2 Groundwater Elevation Map - What is the cause of the depression in groundwater centered on well C002-PZM006?*

   This well was resurveyed on November 21, 2019. The old TOC elevation being used was 13.89 feet above mean sea level (amsl) and the new TOC value from the recent survey was 15.71 feet amsl. Therefore, the groundwater elevation for this well on Figure 33 will be updated to be 1.30 feet amsl and the groundwater contours on the figure will be revised accordingly.

4. *Figures 33, 34 and Section 5.3.1 Groundwater Flow - The text should discuss the effects of groundwater pumping on groundwater flow, contaminant transport, and plume capture. Where does reinjection occur? Which wells are the extraction wells? Show these features on the maps. Comparing the shallow and intermediate groundwater elevation maps, there are some areas where there is a downward gradient and other areas where there is an upward gradient. Is this related to the geographic orientation of the pumping and reinjection system? Are there geologic causes (discontinuous clay layers)? To what extent is this area affected by graving dock underdrain pumping? Is influent data from the graving dock underdrain available? Monitoring wells on the south side of the graving dock should be installed to evaluate the extent that the under drain is responsible for capture of intermediate zone groundwater from the Cell 2 area.*

   The text in this section will be revised to address the requested topics. Re-injection and extraction wells will be added to Figure 33 and 34. Influent data from the graving dock underdrain are provided in Attachment 1 and will be included in the revision of the Supplemental Investigation report. In the Coke Point Area Corrective Measures Study Work Plan recently submitted to the agencies, a new intermediate zone well is proposed for installation on the south side of the graving dock.

5. *Section 5.3.3 Migration Pathways and Extent – the last paragraph in this section states there is no indication of a direct connection between the observed pore water impacts and current discharges of groundwater, and discusses naphthalene concentration in groundwater (relatively low) and pore water (relatively high) to support this argument. However, the reverse is true for benzene. Groundwater benzene concentrations are high relative to pore water concentrations to the west of Cell 2. Pore water and surface water data to the north of Cell 2 indicate the interim measure and the seawall prevent unacceptable discharge to pore water and surface water to the north. However, pore water results for naphthalene and benzene to the west exceed relevant screening levels, and the Cell 2 interim measure does not prevent discharge of groundwater above relevant screening levels. Additional remedies to address this discharge must be included in the CMS.*

   It is acknowledged that the groundwater concentrations in the groundwater are higher than in the pore water. However, the report points out that the chemical fingerprint of the groundwater is not the same as that of the pore water, with the ratio of benzene to naphthalene concentrations in the pore water very different than it is in the groundwater. Therefore, it does not appear that the impact observed in the pore water is directly

associated with current groundwater discharges. While it is not certain that the benzene impacts seen in pore water are caused by discharge from shallow groundwater along the western shoreline area of Cell 2, corrective action objectives with respect to pore water concentrations to the west of Cell 2 will be assessed in the CMS and remedies to be evaluated will include measures to mitigate the discharge of impacted groundwater to pore water and surface water in this area.

6. *Figure 37, Benzene Distribution in Intermediate Groundwater - The new wells COR-MWI and COV-MWI indicate the benzene and naphthalene plumes need further delineation in the intermediate zone south of these wells and west to the Patapsco River. This figure also indicates likely discharge to surface water where there is no pore water data collected (north of CO29-PZM051). The intermediate benzene may be sourced from shallow benzene to the east, but COR-MWI found higher levels of naphthalene with an unknown source. The levels of naphthalene at COR-MWI exceed that found currently in Cell 5. Further source characterization is needed.*

   In the CMS Work Plan recently submitted to the agencies, a new intermediate zone well is proposed for installation directly south of COR-MWI and additional wells are proposed along the western shoreline to further delineate the intermediate zone benzene and naphthalene plumes.

7. *Section 6.1, Cell 2 Findings – This section states that current discharges of groundwater are not exacerbating previously identified offshore impacts from historical direct releases. This statement is not supported by benzene data in groundwater and pore water. Regardless, groundwater remedies should be designed to prevent discharge of both naphthalene and benzene above relevant criteria.*

   See response to comment 5. Corrective action objectives with respect to discharge of impacted groundwater to the west of Cell 2 will be assessed in the CMS and remedies evaluated in the CMS will include measures to mitigate the discharge of benzene from groundwater to pore water.

Cell 3 Comments

1. *Cross-section C-C' should go through CO30-PZM015/060 rather than COI-MWS and should extend further south to show the full width and depth of the cove area. Well CO30-PZM060 provides deeper geologic data than shown at the south end of the section, which should be updated to include that information. The section should show the depth of the current air sparge system and include benzene and naphthalene concentrations detected.*

   Boring logs for the CO30 well pair are not available, but the cross section will be extended further to the south through the cove area, to indicate the width and depth of the cove and available sediment core data as available. The depth interval of the current air sparge system will be added to this cross section, as well as benzene and naphthalene concentrations.

2. *Section 5.4.2, Contaminant Sources – This section states that pore water impacts can be attributed to historical NAPL discharges to the cove or to onshore sediments prior to the shoreline being extended. The naphthalene pore water concentrations support this argument, but benzene results are more likely from current groundwater discharge.*

   While it is not certain that the benzene impacts seen in pore water are caused by discharge from shallow groundwater along the southern shoreline of Cell 3, corrective action objectives with respect to groundwater discharges will be assessed in the CMS and remedies evaluated will include measures to mitigate the discharge of impacted groundwater to pore water and surface water in this area.

3. *Section 6.2, Cell 3 Findings – This section states that current groundwater discharges are causing local surface water quality exceedances but are not exacerbating previously identified pore water impacts from historical discharges. The findings should acknowledge the current IM does not prevent discharge above relevant criteria. The CMS should propose modifications to the current IM, or alternative remedies which can prevent discharge of both naphthalene and benzene above relevant criteria.*

   This section of text will be revised to indicate that the current IM may not prevent groundwater discharge to surface water above relevant criteria. The CMS Work Plan notes that modifications to address a deeper groundwater zone have been proposed for the AS/SVE system in Cell 3.

Cell 5

1. *Figure 23, Cell 5 Shallow Naphthalene Distribution – The notes section on the map indicates some of the well sampling data is as old as 2001-2006. Why were all wells not sampled in the most recent event?*

   All wells and specifically the older wells were not included in the approved scope of the investigation. Samples may be collected from these older wells in the future if needed.

2. *Figure 32, Geologic cross-section F-F' – The "No geologic data" label on this section is not accurate. There are many deeper wells and borings in the Coke Oven Area that provide data below the depths shown. For example, there is a well paired with CO26-PZM007 named CO26-PZM032 that should be added to the cross-section. For reference, see Site Wide Investigation, Report of Nature and Extent of Releases to Groundwater from the Special Study Areas, dated January 2005. In particular, see figure 3-8, cross-section B-B' Coke Oven Area. Other wells sampled but not shown on F-F' but which are shown on Figure 23 should be added, including CODD-MWS and CO118-PZM009. Naphthalene concentrations detected should be shown adjacent to well screened intervals. The section should be extended in both directions – to the east to show the turning basin and its maximum water depth.*

Subsurface information from additional boring logs/cross sections will be added to the cross sections in this report where possible. However, the boring log for CO26-PZM032 is not available. Estimated lithology contact depths and thicknesses will be extracted from Figure 3-8 and imposed onto this cross section. CODD was originally included in this cross section, but it is nearly co-located with boring CO171-SB031 and the latter provides deeper lithology information. There is no boring log for CO118-PZM009 available. Naphthalene concentrations will be added to the cross section and the cross section will be extended to the east. There is very little new information available to the west, but the cross section will be extended in that direction to include the lithologies shown in the boring log for the CO11 test hole.

3. *Section 5.5.2 Contaminant Sources – This section identifies a NAPL area as the source of the dissolved naphthalene plume at Cell 5. Identify the NAPL location on Figure 23 as well as on cross-section F-F'.*

   The NAPL area will be indicated on the revised Figure 23 and cross section F-F'.

4. *Cross-section F-F' includes three DNAPL recovery wells (CO125-PZM, CO123-PZM, and CO124-PZM) although there is no indication on the section or in the text that these wells are the source area DNAPL recovery wells. They are shown in the section as screened across the slag and sand interface, above a silt/clay layer, but mostly in the sand. The monitoring wells to the east along the shoreline, however, are only screened in the slag. The sand layer is not monitored where discharge to the turning basin would occur. The extraction well CO71-PZM006 is only screened in slag, not to the underlying sand.*

   It should be noted that according to the Figure 3-8 from the Nature and Extent Report, well CO26-PZM032 (recently verified to still be existing) extends into and monitors the sand layer where groundwater would discharge to the Turning Basin.

5. *Section 5.5.3 Migration Pathways and Extent – This section should explain why naphthalene is either not found or expected in the sand unit immediately beneath the slag. The text should explain the basis for the design of the source and dissolved plume remediation system, and whether the design would actually intercept or affect contaminant flow pathways. The text should explain whether the current monitoring system intercepts contaminant flow pathways.*

   This section of the text will be revised to address whether or not there is naphthalene in the sand layer beneath the slag as well as the effectiveness of the current monitoring system. The basis for the design of the source and dissolved plume remediation system will be addressed in the CMS.

6. *Presence of naphthalene in pore water in the turning basin near Cell 5 indicates the current Interim Measure is insufficient to prevent naphthalene discharge above levels of concern. In addition, the wells shown in cross-section E-E' (figure 31) are only screened in the slag fill. Discharge in the sand below the slag is currently not monitored. E-E' should be extended north to CO10-PZM006, and south to CO35-PZM013.*

As discussed in the responses to other comments, the potential for migration of naphthalene in the sand below the slag and the effectiveness of the current IM will be addressed in the revised report. The boring logs for CO35-PZM013/PZM056 are not available. However, lithology information from well CO26-PZM032 will be incorporated into cross section E-E'.

7. *Section 6.3, Cell 5 Findings – The text states that pore water concentrations at some locations west of Cell 5 exceed criteria… The text should be revised to indicate that the pore water samples were east of Cell 5. The last sentence states that current discharges of groundwater are not exacerbating previously identified offshore impacts from historical direct releases. The findings should acknowledge the current IM does not prevent discharge above relevant criteria. The CMS should propose modifications to the current IM, or alternative remedies which can prevent discharge of naphthalene above relevant criteria.*

   This section of the text will be revised as proposed. The CMS will assess corrective action objectives relative to groundwater discharges to pore water east of Cell 5 and remedies evaluated in the CMS will include potential modifications to the current IM or alternative remedies with the objective of mitigation of naphthalene above relevant criteria.

The comments below were received from the USEPA in an email on October 8, 2019. The original comments are shown in italics with the responses following in normal text.

1. *Section 3.3.1*
   According to Figure 23, the maximum naphthalene concentration was 33,200 ug/L detected in well CO118-PZM007, not 14,800 in well CODD-MWS as stated in this section. Correct.

   The 14,800 ug/L measured in CODD-MWS was correctly identified as the highest concentration measured during this investigation. The greater concentration of 33,200 ug/L from well CO118-PZM007 was a historical sample concentration from 2014-2015, which is noted on the figure.

2. *Section 4.3, Table 9 and Data Validation Report (DVR) for SDG 30291298*
   According to the DVR, the DRO results for CO-069-PW-1 and -PW-2 should be J qualified to indicate a low bias, but this qualifier was not added in Table 9, contrary to the statements in Section 4.3 that data flags are provided with the results in the summary tables. Review DVRs to ensure that all qualifiers appear in the summary tables for all data.

   All DVRs will be reviewed to ensure that all correct qualifiers appear in the summary tables for all data.

3. *Section 5.1*
   This section states that Figure 24 shows the outward progression of the Coke Point peninsula shoreline over time. However, Figure 24 is the Cell 5 pore water results, while Figure 26 does show that progression. Correct.

   This sentence will be changed to refer to Figure 26.

4. *Section 5.3.3, fourth paragraph*
   a) *This section states that the discharge of groundwater from the Cell 2 area is not causing significant impacts to the coal basin to the north of Cell 2, since pore water and surface water data show only trace impacts and shallow groundwater discharge seems to be cut off by the seawall on the northern shoreline. While the coal basin pore water and surface water results were trace for benzene and naphthalene, the DRO pore water results ranged up to 6,280 ug/L, with 1,010 ug/L directly offshore near the Cell 2 NAPL well. This shallow well had 10,300 ug/L DRO, and all of the new Cell 2 wells also contained varying DRO concentrations. If the sea wall is cutting off shallow groundwater, why is DRO evident on-site and off-site?*

      The historical presence of DRO, in the form of NAPL, in area offshore of the CPA, specifically including the coal basin, has been documented in previous offshore investigations. DRO is persistent in offshore sediments. Therefore, the presence of DRO in the sediments is not inconsistent with the observation that the seawall is preventing discharge of shallow groundwater into the coal basin. The lack of benzene, naphthalene, and GRO support this conclusion.

   b) *For the coal basin, the naphthalene pore water concentrations did not track well with the DRO pore water results. DRO is generally considered to be composed of about 75% saturated alkanes (paraffins) and 25% aromatic hydrocarbons (PAHs). In contrast, GRO does not contain PAHs, only short-chain or cyclic hydrocarbons. Since Method 8270D SIM was used for the naphthalene results, could the laboratory recover all PAH results for the Cell 2 pore water and groundwater analyses? It would be informative to compare the PAH make-up of the DRO results detected within Cell 2 groundwater and off shore pore water.*

      The laboratory has indicated that these results may be recoverable, although some analyses were run at relatively high dilutions (due to the high naphthalene concentrations) that would cause results for other analytes to be unusable.

   c) *Until now, we have not considered available criteria for DRO or GRO in the aquatic environment. The Department of Ecology, State of Washington, published a detailed and well-conducted toxicity study entitled Environmental Effects-Based Concentrations for Total Petroleum Hydrocarbons (TPH), Toxicity in Marine Water and Freshwater (Publication No. 18-03-002, February 2018). The marine No Observed Effect Concentrations (NOECs) for GRO and DRO are 1.7 mg/L and < 0.05 mg/L, respectively. Based on this NOEC, virtually all of the DRO pore water detections are problematic.*

The pore water results summary tables will be updated to include these criteria for GRO and DRO. The applicability of these criteria to the site will be addressed in the CMS process.

5. *Sections 5.6, and 6.1 to 6.3*

   a) *Section 5.6 refers to the Cells 2, 3, and 5 groundwater discharging to "industrial waterways." The Clean Water Act and the State of Maryland do not use or recognize this term; the federal and state goals are to return all waterbodies to swimmable and fishable condition.*

   "Industrial waterways" will be replaced with "surface water bodies."

   b) *As stated in the third paragraph of Section 5.6, the Cell 3 cove does not "discharge" to the Patapsco River, instead, it is just a contiguous portion of the river.*

   "Discharges to the Patapsco River" will be removed.

   c) *It cannot be definitively stated that continued groundwater discharges will not exacerbate the previously identified pore water impacts.*

   The report concludes that, based on this investigation, groundwater discharges are *currently* not exacerbating previously identified pore water impacts; the report does not specifically rule out the possibility of this in the future. The intent of this statement was to note that there is no need to implement further interim measures prior to the completion of the CMS process to determine an appropriate final remedy.

6. *Section 6.2*

   This section states that the nature and extent of groundwater impacts in and around Cell 3 have been adequately defined to support a CMS to determine a final remedy. However, based on the DRO/GRO data for Cell 2, it is likely that these chemical groups would be found in Cell 3 groundwater, pore water and surface water as well, particularly GRO in pore water and surface water accompanying the benzene. Since marine water NOECs are available for GRO and DRO, this constitutes a data gap that will have to be addressed for the CMS.

   Sampling for DRO and GRO was only specified in the approved work plan for the Cell 2 area; it was not requested for Cell 3 or Cell 5. The existing pore water and surface water sampling for benzene and/or naphthalene is sufficient to confirm the presence of offshore impacts. The presence of DRO would be expected in these areas given the historical presence of NAPL noted in the 2009 EA report so additional sampling is not necessary to confirm its presence offshore. In fact, the report notes that the highest concentrations of benzene and/or naphthalene in the pore water samples correlate with the areas where NAPL was noted in the 2009 EA report. For the purposes of establishing groundwater corrective action objectives in the CMS, the anticipated point of compliance will be the shoreline so there is no need to conduct additional offshore sampling. Review of available data, and

possibly additional sampling, to characterize DRO/GRO concentrations in perimeter wells will be addressed in the CMS to define corrective action objectives for groundwater. EPA's proposed additional offshore investigation could include additional pore water and surface water sampling if further delineation is needed to address historical offshore impacts.

7. *Section 6.3*
This section states that the nature and extent of groundwater impacts in and around Cell 5 have been adequately defined to support a CMS to determine a final remedy. However, based on the DRO/GRO data for Cell 2, it is likely that DRO would be found in Cell 5 groundwater, pore water and surface water as well. Since a marine water NOEC is available for DRO, this constitutes a data gap that will have to be addressed for the CMS.

   See response to Comment 6,

8. *Water Quality Logs for Pore Water/Surface Water*
   a) *These logs show an unusual amount of negative NTU values for surface water, which clearly is an instrument error. The source of the instrument error can include calibration with contaminated DI water or cuvette quality/lack of cleanliness.*

      Agreed that it was an instrument error that should have been corrected before recording measurements.

   b) *Some logs are missing water quality values for samples.*

      There was one log missing water quality values for one sample (CO-048-PW-3). This single instance was likely due to an oversight in recording the data in the field book.

9. *Table 4 and Figure 21*
The note for CO-020-PW-1 states that the pore water and surface water for that sample did not have 30% difference in specific conductance, but this is not indicated on Figure 21. However, the pore water sampling log shows large differences in temp., ORP and dissolved oxygen between the surface water and pore water sample, which is adequate for pore water determination. Finally, the pore water sampling log for this sample is mislabeled "PW-020-1."

   A note will be added to Figure 21 indicating the lack of 30% difference in specific conductance but also noting the significant differences in other water quality parameter values. The sample name on the pore water sampling log will be corrected.

10. *Table 14*
Method 8260 was used to analyze these samples for naphthalene, in contradiction to the Sparrows Point QAPP which requires either Method 8270D or 8270D SIM for naphthalene. In addition, the 8260 results showed that benzene was detected above the MCL, and so should have been reported also.

On this table, wells COAA through COGG were analyzed for only naphthalene using method 8270D SIM. These samples were collected and analyzed under the Supplemental Investigation as required by the QAPP. Samples from the remaining wells shown on the table were collected as part of the routine quarterly sampling event from the Cell 5 monitoring well network. As noted, they were analyzed via 8260, but this is because this routine sampling event is not typically performed in conformance with the QAPP.

11. *Table 16 and E-attachment Laboratory Report*
SDG 30312798 shows that the naphthalene result for CO-079-SW-2 is 0.064 ug/L, not 0.64 ug/L as shown in Table 16. Correct.

    This correction will be made on Table 16 and also on Figure 25.

12. *Figure 21 and Table 12*
All of the benzene pore water concentrations in Figure 21 are incorrect; they are all mistakenly the xylene pore water concentrations. Correct to show the benzene results.

    This correction will be made on Figure 21.

13. *Figure 24*
This figure is incorrectly labeled Cell 3 instead of Cell 5. Correct.

    This correction will be made on Figure 24.

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

Respectfully Submitted,
ARM Group Inc.

Stewart Kabis
Project Geologist

T. Neil Peters
Vice President

Attachment:
Attachment 1 – Graving Dock Influent Analytical Data

Electronic Attachment:
Compiled Coke Oven Area Well Boring & Construction Logs (Table and PDF)

ATTACHMENT 1

Graving Dock Influent Analytical Data

Tradepoint Atlantic Shipyard
System Influent Benzene Concentrations
(January 2019 - September 2019

Date	Concentration	Units
1/28/2019	564	µg/L
2/8/2019	622	µg/L
2/20/2019	301	µg/L
4/24/2019	910	µg/L
5/3/2019	980	µg/L
6/3/2019	850	µg/L
7/19/2019	820	µg/L
7/26/2019	780	µg/L
8/9/2019	810	µg/L
8/23/2019	780	µg/L
9/12/2019	650	µg/L