

October 29, 2015

West Virginia Department of Environmental Protection  
Division of Land Restoration  
Office of Environmental Remediation  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

Attention: Mr. David W. Long  
Project Manager

**Subject: Interim Site Assessment Report Comment Responses  
Freedom Industries, Incorporated -- Etowah Terminal  
1015 Barlow Drive  
Kanawha County, Charleston, West Virginia  
VRP Project Number 15017**

Dear Mr. Long:

CORE Environmental Services, Inc. (CORE) has received the West Virginia Department of Environmental Protection (WVDEP), Office of Environmental Remediation (OER) comments on the Interim Site Assessment Report submitted by CORE on September 30, 2015. CORE's responses to the WVDEP-OER comments are provided below:

1. **WVDEP-OER Comment:** Section 1.1: This section should note that the work was conducted in accordance with the "Interim Site Assessment Work Plan" dated August 25, 2015 and approved by WVDEP on August 27, 2015.

***CORE Response:** The interim site assessment activities performed in August and September 2015 were conducted in accordance with the VRRP Interim Site Assessment Work Plan – Revision No. 1 submitted by CORE on August 25, 2015 and approved by the West Virginia Department of Environmental Protection (WVDEP) Office of Environmental Remediation (OER) on August 27, 2015. CORE has revised the Interim Site Assessment Report to include this information.*

2. **WVDEP-OER Comment:** Section 3.0, last ¶: This section discusses the backfilling of the excavation and sump installation in the former fire pump house area. The text should note that confirmation sampling was conducted prior to backfilling and sump installation. Both soil confirmation sampling and the initial sump water sampling results should be included in a separate appendix.

***CORE Response:** During demolition of the pump house and prior to entry into the VRP, a pit was excavated during the removal of soil impacted by MCHM. The open pit/excavation was used by Freedom prior to CORE's involvement for additional stormwater retention. The excavated area was backfilled on July 24, 2015 under the supervision of CORE due to concerns regarding stability of the*

*soil retaining the water in the excavation. Confirmation sampling was conducted prior to backfilling on July 24, 2015.*

*All confirmatory soil samples collected on July 24, 2015 were analyzed for MCHM and PPH via USEPA SW-846 Method 8270D which utilizes combined gas chromatography/mass spectrometry methods. In addition to MCHM and PPH, the soil samples collected on July 24, 2015 were analyzed for the following:*

- *Glycols via Method 8015M;*
- *Alcohols via Method 8015M;*
- *Volatile fatty acids via Method 8300M;*
- *Aldehydes via Method 8315A;*
- *Benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tert-butyl ether (MTBE) via Method 8260B;*
- *Polycyclic Aromatic Hydrocarbons (PAHs) via USEPA SW-846 Method 8270D; and*
- *Total lead via Method 6020A.*

*Following backfilling, CORE installed a sump within the former excavation. Following backfilling and sump installation, CORE completed initial sump water sampling on August 18, 2015 and September 1, 2015. Sump water samples collected on August 14, 2015 and September 1, 2015 were analyzed for MCHM and PPH via USEPA SW-846 Method 8270D which utilizes combined gas chromatography/mass spectrometry methods. In addition to MCHM and PPH, the sump water samples collected on August 14, 2015 were analyzed for the following:*

- *Glycols via Method 8015M;*
- *Alcohols via Method 8015M;*
- *Volatile fatty acids via Method 8300M;*
- *Aldehydes via Method 8315A;*
- *BTEX and MTBE via Method 8260B;*
- *PAHs via USEPA SW-846 Method 8270D; and*
- *Total lead via Method 6020A.*

*CORE has revised the Interim Site Assessment Report to include summaries of the confirmation soil sampling completed on July 24, 2015 and the subsequent sump water sampling completed on August 18, 2015 and September 1, 2015.*

3. **WVDEP-OER Comment:** Section 4.1, last ¶: Text should be added to note that the geophysical survey report will also aid in development of the Interim Remedial Action Work Plan.

**CORE Response:** *The Time Domain Electromagnetic (EM) geophysical survey concluded that the subsurface at the site contains numerous linear features including buried AST foundations, underground pipes, and other anomalies. The geophysical survey report was used to plan test pit excavation locations as well as aid in the development of the Interim Remedial Action Work Plan. CORE has revised the Interim Site Assessment Report to include this information.*

4. **WVDEP-OER Comment:** Section 4.2: Text should be added in this section to emphasize that test pits #14-17 were excavated to define the lateral and vertical extent of MCHM and PPH contaminated soils in the former tank and immediate spill area, based on initial results from test pit #9.

*CORE Response:* Between August 26, 2015 and September 1, 2015, a total of 17 test pits were excavated at the site (Test Pits TP-1 through TP-13 were excavated on August 26-27, 2015 and Test Pits TP-14 through TP-17 were excavated on September 1, 2015). Test Pits TP-14 through TP-17 were excavated on September 1, 2015 to further define the lateral and vertical extent of MCHM and PPH contaminated soils in the former AST locations and immediate spill area; the additional excavations of test pits TP-14 through TP-17 were based on initial results obtained from Test Pit TP-9 in August 2015. CORE has revised the Interim Site Assessment Report to include this information.

5. **WVDEP Comment:** Section 4.3, Soil Sample Analyses: MTBE should be added to the last bullet in this section.

*CORE Response:* All soil samples collected during the test pit excavations were analyzed for MCHM and PPH via USEPA SW-846 Method 8270D which utilizes combined gas chromatography/mass spectrometry methods. In addition to MCHM and PPH, the soil samples collected from test pits 3, 4, 9, 10, 14, and 17 were also analyzed for the following:

- PAHs via USEPA SW-846 Method 8270D;
- Aldehydes via Method 8315A;
- Glycols via Method 8015M;
- Alcohols via Method 8015M;
- Volatile fatty acids via Method 8300M;
- Total lead via Method 6020A; and,
- BTEX and MTBE via Method 8260B.

*CORE has revised the Interim Site Assessment Report to include the requested information.*

6. **WVDEP Comment:** Section 4.3, P.5, last ¶: Did both types of sample jars (32-oz. & 4-oz.) contain Teflon-lined lids? It was WVDEP's understanding that the 4 oz. jars did. If this is the case, please confirm and include this information in the text as additional effort to preserve the volatile portion of the MCHM/PPH sample.

*CORE Response:* Due to the concern regarding volatilization of MCHM and PPH from the soil samples within the 32 ounce jar required for the additional analysis (PAHs, aldehydes, etc.), CORE also analyzed a duplicate MCHM/PPH sample containerized in a 4 ounce jar for comparative analysis for test pits 3, 4, 9, 10, 14, and 17. Both the 32 ounce and 4 ounce jars used for sampling contained Teflon lined lids intended as an additional effort to preserve the volatile portion of the MCHM/PPH samples. CORE has revised the Interim Site Assessment Report to include this information.

7. **WVDEP Comment:** Section 4.3, P.5, last ¶: The text states, "Samples submitted for volatile organic compound (VOC) analysis were also placed in containers with zero headspace." Is this referring to samples for BTEX/MTBE analysis, or for the samples submitted for MCHM/PPH analysis in the 4

oz. jar? Please clarify. Also, please specify that samples submitted for BTEX/MTBE analysis were collected via EPA Method 5035.

**CORE Response:** *The 4 oz and 32 oz jars were filled to minimize headspace in an effort to preserve the volatile portion of the MCHM/PPH samples. CORE has removed the statement regarding “zero headspace” and revised the Interim Site Assessment Report to clarify both the MCHM/PPH sample preservation and BTEX/MTBE sample collection/preservation via EPA Method 5035.*

8. **WVDEP-OER Comment:** Section 4.4: Test Pit TP-1 – This test pit contained an excavated component perpendicular to the original excavation, which was directed to the east/southeast back towards Barlow Drive. Construction and demolition (C&D) debris was present in the excavation to its furthest extent to the east/southeast, whereas, test pits 12 and 13 did not contain C&D debris. This is critical because it accounts for the “point” of the approximate C&D waste locations to the east/southeast depicted on Figure 5. Please revise text and figures as appropriate to make this point.

**CORE Response:** *The perpendicular components of the Test Pit TP-1 excavation was added to the text and figures.*

9. **WVDEP-OER Comment:** Sections 4.3 and 4.4: Language in these two sections regarding analysis of soils samples for MCHM and PPH is confusing. The text states samples were analyzed by gas chromatography/mass spectrometry methods and by USEPA SW846 Method 8270D. However, Method 8270D is a gas chromatography/mass spectrometry method. In reviewing the lab reports, it appears samples from both jars were prepared and analyzed for MCHM and PPH by the same methods (Prep-SW3541, Analysis-SW8270). It appears the only difference was in the bottles the samples were collected in. Please confirm and clarify the analyses for MCHM and PPH.

**CORE Response:** *CORE agrees that the terminology is confusing and has revised the Interim Site Assessment Report accordingly. The text has been edited to state “The samples were analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods via USEPA SW-846 Method 8270D only.”*

10. **WVDEP-OER Comment:** Table #1B – Please add Lead to the title.

**CORE Response:** *CORE has revised Table 1B within the Interim Site Assessment Report to include “Lead” in the title.*

11. Figure #4 – In the notes adjacent to the legend - the orange text - please add 32 to the jar description.

**CORE Response:** *CORE has revised Figure #4 within the Interim Site Assessment Report to state “Sample collected in 32 ounce unpreserved jar. MCHM and PPH concentrations used for comparison with samples collected in 4 ounce jar and only analyzed for MCHM and PPH.”*

Should you have any questions regarding CORE's responses below or wish to discuss further, please feel free to contact me at (304) 646-7616.

Sincerely,

**CORE Environmental Services, Inc.**



Matthew A. Ford, LRS  
Senior Consultant

Enclosures

cc: Patricia Hickman – WVDEP DLR  
Mark Welch – Freedom Industries  
WVDEP DLR-OER File