

**INTERIM SITE ASSESSMENT REPORT
FREEDOM INDUSTRIES
ETOWAH RIVER TERMINAL
CHARLESTON, KANAWHA COUNTY, WEST VIRGINIA
VRP ID #15017**

Prepared for:

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September 2015

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INTERIM SITE ASSESSMENT REPORT

**Freedom Industries
Etowah River Terminal
1015 Barlow Drive
Charleston, Kanawha County, West Virginia**

VRP Project Number 15017

CORE Project No.: FRE-2015-364

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INTERIM SITE ASSESSMENT REPORT

**Freedom Industries – Etowah River Terminal
1015 Barlow Drive
Charleston, Kanawha County, West Virginia**

VRP Project No.: 15017

1.0 INTRODUCTION

1.1 Purpose

This report was prepared to present the results of interim site assessment activities performed in August and September 2015 at the former Etowah River Terminal located at 1015 Barlow Drive, Charleston, Kanawha County, West Virginia (the site). The interim site assessment activities were completed by CORE Environmental Services, Inc. (CORE) on behalf of Freedom Industries, Incorporated (Freedom) in order to:

- Further delineate the lateral and vertical extent of construction and demolition (C&D) waste formerly referred to as “cobble fill”, and potentially contaminated soil and fill in the target release pathway; and
- Identify the location of potential preferential pathways associated with underground piping and other structures in the vicinity of the release location.

1.2 Scope of Work

The scope of work included performing the following tasks:

- Electromagnetic and ground penetrating radar geophysical survey;
- Test pit excavations, field screening, documentation of soil type and condition, and collection of soil samples; and,
- Comprehensive site and photogrammetric survey with topographic relief.

2.0 SITE LOCATION AND FEATURES

2.1 Site Location

The subject site is located at 1015 Barlow Drive, Charleston, Kanawha County, West Virginia. The site is located in a mixed commercial/residential area. Surrounding properties include a residential neighborhood to the south, undeveloped/vacant properties to the east and north and the Elk River to the west of the site. The site location is illustrated on Figure 1.

2.2 Site Features

Site features include two cement block office building/garages and several other appurtenances related to former operation as a bulk liquids terminal. All aboveground storage tanks (ASTs) have been removed from the site. Other site features currently include frac tanks used to store stormwater collected at the site. Current and former site features are illustrated on Figure 2 – Site Layout.

3.0 BACKGROUND

In 1938, bulk storage of petroleum products for distribution began at the site and continued until 2001 when Etowah River Terminal, LLC (ERT) purchased the site from Pennzoil-Quaker State (PQS). PQS completed multiple environmental assessments between November 2000 to June 2004 to investigate the extent of petroleum related contaminants of concern in the soil, groundwater, surface water and sediment. On April 15, 2002, PQS entered the site into a Voluntary Remediation Agreement (VRA) under the West Virginia Voluntary Remediation and Redevelopment Rule. PQS completed environmental sampling under the Voluntary Remediation and Redevelopment Program (VRRP) project number 04506. In October 2004, PQS completed a baseline human health and ecological risk assessment. In December 2004, the WVDEP issued a Certificate of Completion and Land Use Covenant for the site.

On January 9, 2014, one of the ASTs at the site, Tank 396, containing a blend of 85.5% 4-Methylcyclohexanemethanol (MCHM), 7.3% Propylene glycol phenyl ether (PPH), and 4% water by weight failed and the contents were released to the ground surface and into the adjacent Elk River. On January 10, 2014, the West Virginia Department of Environmental Protection (WVDEP) issued Order No. 8027 to ERT. The Order required that ERT immediately cease and desist any further receipt of material to be stored within the area of the faulty secondary containment. In addition, the Order required ERT to immediately take all necessary measures to contain, recover and remediate the material that escaped the breached AST and the secondary containment structure, including installation of interceptor trenches adjacent to the Elk River and installation and maintenance of booms and absorbents in affected waterways. The Order also required ERT to immediately conduct an integrity test of all ASTs and secondary containment structures for the entire facility. Prior to resuming receipt of material to be stored, ERT was required to provide a report for approval which documented that the integrity of all storage and containment structures were sound. On January 10, 2014, WVDEP issued Order No. 8028 to Freedom. The Order required Freedom to, within twenty-four (24) hours, begin removal of all material from all ASTs and store the material in an off-site area which provides adequate secondary containment. In addition, the Order required that, within 24 hours, Freedom submit for approval a plan of corrective action, including an outline of all actions to be taken to immediately remove and appropriately store materials from the site, a detailed plan to appropriately implement remediation of all contaminated soil and/or groundwater, an outline of how all contaminated material and/or unusable product would be properly disposed, and a plan and schedule for the ultimate disposition of the products stored in tanks. On January 22, 2014, WVDEP issued Order No. 8033 to Freedom. The Order required that, by 4:00 pm on

January 22, 2014, Freedom provide any and all information fully describing the composition of the materials spilled to the Elk River on January 9, 2014. On March 11, 2014, Freedom and WVDEP entered into Consent Order No. 8034. The Order required that, on or before March 15, 2014, Freedom remove all material from all ASTs at the site and store the material in an off-site area which provides adequate secondary containment, in accordance with WV Legislative Rule 47CSR58 Section 4.8.a. Upon commencement of the removal of the materials from the ASTs, and on a weekly basis thereafter, until project completion, Freedom was required to provide a written report to WVDEP detailing progress, outlining anticipated actions, and describing the disposition of the materials removed from the tanks. In addition, the Order required that, on or before March 15, 2014, Freedom Industries, Inc. begin dismantling, removing, and properly disposing of all ASTs, associated piping, machinery, and appurtenances, associated with the bulk storage operations at the site. Freedom was required to provide appropriate interim measures to insure that secondary containment was adequate to contain any spills resulting from its dismantling operations. Secondary containment structures surrounding the ASTs were required to remain in place until the ASTs were dismantled and removed from the site. Upon commencement of the dismantling and removal of these fixtures, and on a weekly basis thereafter until the project was completed, Freedom Industries, Inc. was required to provide a written report to WVDEP detailing progress, outlining anticipated actions, and describing the disposition of the materials removed from the site. Freedom was also required to document the precise nature of the changes, alterations or modifications, the date they occurred, and by whose authority they were made for all AST dismantling activities. All tanks at the site have been drained, cleaned, dismantled and removed.

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. CORE installed a sump within the former excavation. The location of the backfilled excavation and sump is indicated on Figure 2.

4.0 INTERIM SITE ASSESSMENT

CORE completed interim site assessment activities in accordance with the data quality requirements of the VRP in August and September 2015 in order to:

- Further delineate the lateral and vertical extent of construction and demolition (C&D) waste formerly referred to as “cobble fill”, and potentially contaminated soil and fill in the target release pathway; and
- Identify the location of potential preferential pathways associated with underground piping and other structures in the vicinity of the release location.

4.1 Geophysical Survey

A geophysical survey was conducted from August 19, 2015 through August 22, 2015, prior to excavating test pits at the site, to determine the location and extent of underground features (e.g., piping and utilities) which may represent subsurface preferential pathways in and around the release area. The geophysical survey was completed by Rhea Engineers & Consultants, Inc. (Rhea) of Gibsonia, PA using:

- Time domain electromagnetic (EM) metal detection using a Geonics EM-61; and,
- Ground penetrating radar (GPR) using an unshielded 200 megahertz antenna.

The entire proposed investigation area could not be evaluated based on site conditions. The 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. Refer to Appendix A for a copy of the Geophysical Survey Report.

4.2 Test Pit Excavations

Test pit excavations were performed using a track excavator to further characterize the subsurface conditions in the target release pathway area extending downslope toward the Elk River. Between August 26, 2015 and September 1, 2015, a total of 17 test pits were excavated at the locations identified in Figure 3 – Test Pit Locations. Photographs were taken of each test pit and are included as Appendix B – Photographic Documentation.

The depth of the test pits ranged from 2 feet below ground surface (bgs) to 18 feet bgs. Each test pit excavation was advanced until the vertical extent of C&D waste was delineated or to refusal, whichever occurred first. If no C&D waste was encountered, the test pit was advanced to a maximum depth of 18 feet bgs or to refusal, whichever occurred first.

A log of each test pit was prepared, and includes the following information:

- Test pit GPS coordinates;
- Total test pit depth;
- Fill and soil lithology and stratigraphy;
- Vertical extent and size characterization (range in diameter) of C&D waste and any associated infill matrix soil/fill;
- Field headspace screening results for each two foot depth interval of fill/soil, based on use of a photoionization detector (PID) calibrated to an isobutylene standard; and,
- Depth of uppermost soil saturation and groundwater, if encountered.

The logs for each of the 17 test pits are included as Appendix C – Test Pit Logs.

After sampling of each test pit was completed, all excavated material was placed back in the excavation in the approximate sequence in which it was removed, and compacted using the excavator bucket and track (weight of the machine). No investigation derived waste was generated and perched groundwater did not require removal. Wooden stakes, numbered to identify each test pit, were placed at the corner of each test pit location for future reference.

4.3 Soil Sampling and Analysis

Two soil samples were collected from each test pit, as follows:

- The C&D waste with the highest PID field screening result; and
- A native soil sample collected approximately 0.5 to 1.0 feet below the C&D waste.

If no C&D waste was encountered, the soil with the highest PID field screening result was submitted in lieu of the C&D waste sample, and a deeper native soil sample was also collected and submitted for analysis. Additional samples were collected from some of the test pits based on field observations.

All soil samples were analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods, and USEPA SW-846 Method 8270D. 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:

- Polycyclic Aromatic Hydrocarbons (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,
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) via Method 8260B.

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. Samples submitted for volatile organic compound (VOC) analysis were also placed in containers with zero headspace. Sample containers were labeled and a chain of custody form accompanied samples. Clean sampling tools were used to avoid cross-contamination, and samples were placed in pre-cleaned properly preserved containers, immediately placed in a cooler with ice, and submitted to ALS Environmental in Charleston, WV for analysis. A separate soil sample from each location was collected in a ziplock bag for field headspace analysis of VOCs using a PID.

Quality control (QC) samples were collected and submitted as follows:

- One duplicate sample for every ten samples submitted for analysis; and
- One matrix spike and matrix spike duplicate sample for every twenty samples submitted for analysis.

All QC analysis was performed with Level IV deliverables.

4.4 Soil Analytical Results

Test Pit TP-1

Test pit TP-1 was excavated to an approximate depth of 5.5 feet bgs. C&D waste was observed within the test pit from approximately 2 to 3.5 feet bgs. Soil samples were collected from approximately 2 to 4 feet bg and 4 to 5.5 feet bgs. The samples were analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D only. Refer to Table 1A and Figure 4 for analytical results associated with test pit TP-1. The test pit log for TP-1 is included in Appendix C.

Test Pit TP-2

Test pit TP-2 was excavated to an approximate depth of 12 feet bgs. C&D waste was observed within the test pit from approximately 0 to 8 feet bgs. Soil samples were collected from approximately 6 to 8 feet bgs and 10 to 12 feet bgs. The samples were analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D only. Refer to Table 1A and Figure 4 for analytical results associated with test pit TP-2. The test pit log for TP-2 is included in Appendix C.

Test Pit TP-3

Test pit TP-3 was excavated to an approximate depth of 8 feet bgs. C&D waste was observed within the test pit from approximately 0 to 4.5 feet bgs. Soil samples were collected from approximately 0 to 2 feet bgs on the west side of the test pit, 2 to 4 feet bgs, 4 to 6 feet bgs, and 6 to 8 feet bgs. Each soil sample was analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D. The soil sample collected from 2 to 4 feet bgs was also analyzed for PAHs via USEPA SW-846 Method 8270D, aldehydes via Method 8315A, glycols via Method 8015M, alcohols via Method 8015M, volatile fatty acids via method SW8300M, total lead via Method 6020A; and BTEX via Method 8260B. Refer to Table 1A, 1B, 1C, and Figure 4 for analytical results associated with test pit TP-3. The test pit log for TP-3 is included in Appendix C.

Test Pit TP-4

Test pit TP-4 was excavated to an approximate depth of 6 feet bgs. C&D waste was not observed within the test pit. A soil sample was collected from approximately 4 to 6 feet bgs. The soil sample was analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D, PAHs via USEPA SW-846 Method 8270D, aldehydes via Method 8315A, glycols via Method 8015M, alcohols via Method 8015M, volatile fatty acids via method SW8300M, total lead via Method 6020A; and BTEX via Method 8260B. Refer to Table 1A, 1B, 1C, and Figure 4 for analytical results associated with Test pit TP-4. The test pit log for TP-4 is included in Appendix C.

Test Pit TP-5

Test pit TP-5 was excavated to an approximate depth of 6 feet bgs. C&D waste was not observed within the test pit. A soil sample was collected from approximately 4 to 6 feet bgs. The sample was analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D only. Refer to Table 1A and Figure 4 for analytical results associated with test pit TP-5. The test pit log for TP-5 is included in Appendix C.

Test Pit TP-6

Test pit TP-6 was excavated to an approximate depth of 2 feet bgs. C&D waste was not observed within the test pit. A soil sample was collected from approximately 0 to 2 feet bgs. The sample was analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D only. Refer to Table 1A and Figure 4 for analytical results associated with test pit TP-6. The test pit log for TP-6 is included in Appendix C.

Test Pit TP-7

Test pit TP-7 was excavated to an approximate depth of 6 feet bgs. C&D waste was not observed within the test pit. A soil sample was collected from approximately 2 to 4 feet bgs. The sample was analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D only. Refer to Table 1A and Figure 4 for analytical results associated with test pit TP-7. The test pit log for TP-7 is included in Appendix C.

Test Pit TP-8

Test pit TP-8 was excavated to an approximate depth of 6.5 feet bgs. C&D waste was not observed within the test pit. A soil sample was collected from approximately 4 to 6 feet bgs. The sample was analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D only. Refer to Table 1A and Figure 4 for analytical results associated with test pit TP-8. The test pit log for TP-8 is included in Appendix C.

Test Pit TP-9

Test pit TP-9 was excavated to an approximate depth of 12 feet bgs. C&D waste was not observed within the test pit. A soil sample was collected from approximately 8 to 10 feet bgs. The soil sample was analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D, PAHs via USEPA SW-846 Method 8270D, aldehydes via Method 8315A, glycols via Method 8015M, alcohols via Method 8015M, volatile fatty acids via method SW8300M, total lead via Method 6020A; and BTEX via Method 8260B. Refer to Table 1A, 1B, 1C, and Figure 4 for analytical results associated with test pit TP-9. The test pit log for TP-9 is included in Appendix C.

Test Pit TP-10

Test pit TP-10 was excavated to an approximate depth of 12 feet bgs. C&D waste was observed within the test pit from approximately 3 to 8 feet bgs. Soil samples were collected from approximately 2 to 4 feet bgs and 10 to 12 feet bgs. Each soil sample was analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D. The soil sample collected 2 to 4 feet bgs was also analyzed for PAHs via USEPA SW-846 Method 8270D, aldehydes via Method 8315A, glycols via Method 8015M, alcohols via Method 8015M, volatile fatty acids via method SW8300M, total lead via Method 6020A; and BTEX via Method 8260B. Refer to Table 1A, 1B, 1C, and Figure 4 for analytical results associated with test pit TP-10. The test pit log for TP-10 is included in Appendix C.

Test Pit TP-11

Test pit TP-11 was excavated to an approximate depth of 7 feet bgs. C&D waste was not observed within the test pit. A soil sample was collected from approximately 2 to 4 and 4 to 6 feet bgs. The samples were analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D only. Refer to Table 1A and Figure 4 for analytical results associated with test pit TP-11. The test pit log for TP-11 is included in Appendix C.

Test Pit TP-12

Test pit TP-12 was excavated to an approximate depth of 7 feet bgs. C&D waste was not observed within the test pit. A soil sample was collected from approximately 0 to 2 and 4 to 6 feet bgs. The samples were analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D only. Refer to Table 1A and Figure 4 for analytical results associated with test pit TP-12. The test pit log for TP-12 is included in Appendix C.

Test Pit TP-13

Test pit TP-13 was excavated to an approximate depth of 12 feet bgs. C&D waste was not observed within the test pit. A soil sample was collected from approximately 2 to 4 and 10 to 12 feet bgs. The samples were analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D only. Refer to Table 1A and Figure 4 for analytical results associated with test pit TP-13. The test pit log for TP-13 is included in Appendix C.

Test Pit TP-14

Test pit TP-14 was excavated to an approximate depth of 17 feet bgs. C&D waste was not observed within the test pit. A soil sample was collected from approximately 2 to 4 and 16 to 18 feet bgs. Each soil sample was analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D. The soil sample collected 2 to 4 feet bgs was also analyzed for PAHs via USEPA SW-846 Method 8270D, aldehydes via Method 8315A, glycols via Method 8015M, alcohols via Method 8015M, volatile fatty acids via method SW8300M, total lead via Method 6020A; and BTEX via Method 8260B. Refer to Table 1A, 1B, 1C, and Figure 4 for analytical results associated with test pit TP-14. The test pit log for TP-14 is included in Appendix C.

Test Pit TP-15

Test pit TP-15 was excavated to an approximate depth of 16 feet bgs. C&D waste was not observed within the test pit. A soil sample was collected from approximately 4 to 6 and 14 to 16 feet bgs. The samples were analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D only. Refer to Table 1A and Figure 4 for analytical results associated with test pit TP-15. The test pit log for TP-15 is included in Appendix C.

Test Pit TP-16

Test pit TP-16 was excavated to an approximate depth of 18 feet bgs. C&D waste was not observed within the test pit. Soil samples were collected from approximately 4 to 6, 12 to 14, and 16 to 18 feet bgs. The samples were analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D only. Refer to Table 1A and Figure 4 for analytical results associated with test pit TP-16. The test pit log for TP-16 is included in Appendix C.

Test Pit TP-17

Test pit TP-17 was excavated to an approximate depth of 16 feet bgs. C&D waste was not observed within the test pit. A soil sample was collected from approximately 10 to 12 and 14 to 16 feet bgs. Each soil sample was analyzed for MCHM and PPH by gas chromatography/mass spectrometry methods and USEPA SW-846 Method 8270D. The soil sample collected from 2 to 4 feet bgs was also analyzed for

PAHs via USEPA SW-846 Method 8270D, aldehydes via Method 8315A, glycols via Method 8015M, alcohols via Method 8015M, volatile fatty acids via method SW8300M, total lead via Method 6020A; and BTEX via Method 8260B. Refer to Table 1A, 1B, 1C, and Figure 4 for analytical results associated with test pit TP-17. The test pit log for TP-17 is included in Appendix C.

The approximate extent of C&D waste observed during the test pit excavations is indicated on the attached Figure 5 – C&D Waste Locations. To date, a de minimis standard has not been developed for MCHM and PPH.

4.5 Site Survey

CORE subcontracted Randolph Engineering (RE) of Scott Depot, WV to survey the site on September 17, 2015 and September 28, 2015. RE surveyed the location of all pertinent site features including the location of wood stake placed by CORE during the test pit excavations. They also prepared a detailed topographic map of the site with emphasis on the area investigated during the interim site assessment. The survey data has been incorporated into the attached figures.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results presented above, the extent of C&D waste is bracketed within the MCHM/PPH spill area. However, MCHM/PPH contamination may exist outside of the area investigated during this interim site assessment. CORE recommends excavation of the C&D waste and known MCHM/PPH contamination. The excavation plan will be detailed in the Interim Remedial Action Work Plan. Additional site assessment will be necessary to bracket the extent of MCHM/PPH contamination at the site.

6.0 REFERENCES

Arcadis, Freedom Industries Phase I Environmental Site Assessment Report, February 20, 2015

Arcadis, Freedom Industries Site Investigation Report, April 30, 2015

Shaw Environmental, Inc., Pennzoil-Quaker State dba SOPUS Products Final Report, VCP No. 04506, December 2004

West Virginia Department of Environmental Protection, Charleston, West Virginia (2001)
West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual, Version 2.1

West Virginia Department of Environmental Protection, Charleston, West Virginia (1999)

User Guide for Risk Assessment of Petroleum Releases, Version 1.0

TABLES

TABLE 1A -SOIL ANALYTICAL RESULTS

MCHM, PPH, Propylene Glycols, Glycols, and Alcohols
Freedom Industries
1015 Barlow Street
Charleston, Kanawha County, West Virginia

August 26, 2015 - September 1, 2015

Sample ID	Sample Date	Sample Depth (feet bgs)	4-Methyl-1-cyclohexanemethanol (ug/kg)	Propylene glycol phenyl ether (ug/kg)	Butyric Acid (ug/kg)	Ethyl Alcohol (ug/kg)	Ethylene glycol (ug/kg)	Isobutanol (ug/kg)	Isopropyl Alcohol (ug/kg)	Methanol (ug/kg)	n-Butyl Alcohol (ug/kg)	n-Propanol (ug/kg)	Propylene glycol (ug/kg)	t-Butyl Alcohol (ug/kg)
TP-1 2'-4'	8/26/2015	2 - 4	U (<110)	U (<63)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FD-1 (TP-1 2'-4')	8/26/2015	2 - 4	U (<99)	U (<58)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-1 4'-5.5'	8/26/2015	4 - 5.5	U (<97)	U (<57)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-2 6'-8'	8/26/2015	6 - 8	3,400	630	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-2 10'-12'	8/26/2015	10 - 12	U (<100)	U (<59)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-3 0'-2' West End	8/27/2015	0 - 2	24,000	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FD-5 (TP-3 0'-2' West End)	8/27/2015	0 - 2	390	840	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-3 2'-4'	8/27/2015	2 - 4	U (<110)	U (<63)	U (<1600)	U (<310)	U (<4800)	U (<560)	U (<260)	U (<620)	U (<940)	U (<650)	U (<4200)	U (<740)
TP-3 2'-4'	8/2/2015	2 - 4	U (<110)	U (<65)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-3 4'-6'	8/27/2015	4 - 6	U (<100)	U (<62)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-3 6'-8'	8/27/2015	6 - 8	U (<110)	U (<64)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FD-4 (TP-3 6'-8')	8/27/2015	6 - 8	730	70 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-4 4'-6'	8/27/2015	4 - 6	U (<90)	U (<53)	U (<1200)	U (<230)	U (<3600)	U (<410)	U (<190)	U (<460)	U (<700)	U (<480)	U (<3100)	U (<550)
TP-4 4'-6'	8/27/2015	4 - 6	U (<89)	U (<53)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-5 4'-6'	8/27/2015	4 - 6	U (<89)	U (<53)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-6 0'-2'	8/27/2015	0 - 2	U (<93)	U (<55)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-7 2'-4'	8/27/2015	2 - 4	U (<100)	U (<62)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-8 4'-6'	8/27/2015	4 - 6	U (<99)	U (<59)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FD-3 (TP-8 4'-6')	8/27/2015	4 - 6	U (<100)	U (<60)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-9 8'-10'	8/26/2015	8 - 10	3,400	630	8300 J	U (<290)	U (<4500)	U (<510)	U (<240)	U (<570)	U (<870)	U (<600)	U (<3900)	U (<680)
TP-9 8'-10'	8/26/2015	8 - 10	2,600	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FD-2 (TP-9 8'-10')	8/26/2015	8 - 10	1,200	430	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-10 2'-4'	8/26/2015	2 - 4	U (<97)	U (<57)	U (<1400)	U (<270)	U (<4200)	U (<480)	U (<220)	U (<540)	U (<820)	U (<560)	U (<3600)	U (<640)
TP-10 2'-4'	8/26/2015	2 - 4	U (<99)	U (<58)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-10 10'-12'	8/26/2015	10 - 12	U (<91)	U (<54)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-11 2'-4'	8/26/2015	2 - 4	U (<100)	U (<62)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-11 4'-6'	8/26/2015	4 - 6	U (<100)	U (<61)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-12 0'-2'	8/26/2015	0 - 2	U (<100)	U (<60)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-12 4'-6'	8/26/2015	4 - 6	U (<100)	U (<59)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-13 2'-4'	8/26/2015	2 - 4	U (<100)	U (<61)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-13 10'-12'	8/26/2015	10 - 12	U (<100)	U (<59)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-14 2'-4'	9/1/2015	2 - 4	U (<100)	U (<61)	U (<1500)	U (<300)	U (<4600)	U (<530)	U (<250)	U (<590)	U (<900)	U (<620)	U (<4000)	U (<710)
TP-14 2'-4'	9/1/2015	2 - 4	U (<100)	U (<60)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FD-6 (TP-14 16'-17')	9/1/2015	16 - 17	U (<100)	U (<60)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-14 16'-18'	9/1/2015	16 - 18	U (<100)	U (<59)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-15 4'-6'	9/1/2015	4 - 6	U (<100)	U (<60)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-15 14'-16'	9/1/2015	14 - 16	U (<100)	U (<60)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-16 4'-6'	9/1/2015	4 - 6	1,700	U (<59)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FD-7 (TP-16 4'-6')	9/1/2015	4 - 6	2,600	U (<60)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-16 12'-14'	9/1/2015	12 - 14	U (<100)	U (<60)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-16 16'-18'	9/1/2015	16 - 18	U (<100)	U (<59)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-17 10'-12'	9/1/2015	10 - 12	U (<98)	U (<58)	U (<1400)	U (<280)	U (<4300)	U (<500)	U (<230)	U (<550)	U (<840)	U (<580)	U (<3700)	U (<660)
TP-17 10'-12'	9/1/2015	10 - 12	U (<99)	U (<59)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP-17 14'-16'	9/1/2015	14 - 16	U (<98)	U (<58)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WVDEP De Minimis Standard for Residential Soil (ug/kg)**			*	*	*	*	120,000,000	23,000,000	*	31,000,000	6,100,000	*	1,000,000,000	*
WVDEP De Minimis Standard for Industrial Soil (ug/kg)**			*	*	*	*	1,000,000,000	610,000,000	*	440,000,000	88,000,000	*	1,000,000,000	*
WVDEP De Minimis Standard for Migration to Groundwater (ug/kg)**			*	*	*	*	130,000	19,000	*	32,000	6,500	*	1,300,000	*

4-Methyl-1-cyclohexanemethanol (MCHM) and Propylene glycol phenyl ether (PPH) were analyzed via EPA Method 8270.

Organic Compounds were analyzed via EPA Method 8015M.

U = Analyzed but not detected above the method detection limit (MDL).

() = Method Detection Limit (MDL)

J = Analyte is present at an estimated concentration between the MDL and Report Limit.

NA = Not Analyzed

* = Not applicable, not regulated by the West Virginia Department of Environmental Protection (WVDEP).

** = WVDEP De Minimis Residential and Industrial Soil Standard. (Effective 06/01/14)

ug/kg = micrograms per kilogram

bgs = below ground surface

Exceeds WVDEP (June 2014) De Minimis Standards for Residential Soil

Exceeds WVDEP (June 2014) De Minimis Standards for Industrial Soil

Exceeds WVDEP (June 2014) De Minimis Standards for Migration to Groundwater

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.

TABLE 1B -SOIL ANALYTICAL RESULTS

**BTEX, MTBE, Volatile Fatty Acids, and Aldehydes
Freedom Industries
1015 Barlow Street
Charleston, Kanawha County, West Virginia**

August 26, 2015 - September 1, 2015

Sample ID	Sample Date	Sample Depth (feet bgs)	Benzene (ug/kg)	Toluene (ug/kg)	Ethylbenzene (ug/kg)	Total xylenes (ug/kg)	Methyl tert-butyl ether (ug/kg)	Total BTEX (ug/kg)	Acetic Acid (ug/kg)	Formic Acid (ug/kg)	Lactic Acid (ug/kg)	Acetaldehyde (ug/kg)	Formaldehyde (ug/kg)	Lead (ug/kg)
TP-3 2'-4'	8/27/2015	2 - 4	U (<16)	44	U (<15)	U (<47)	U (<17)	44	U (<7300)	U (<4300)	U (<7700)	U (<1200)***	4,400	42,000
TP-4 4'-6'	8/27/2015	4 - 6	62	680	100	900	U (<17)	1,742	U (<5400)	U (<3200)	U (<5700)	U (<930)***	U (<450)	22,000
TP-9 8'-10'	8/26/2015	8 - 10	U (<15)	U (<14)	U (<14)	U (<44)	U (<16)	U (<87)	U (<6800)	U (<4000)	U (<7100)	2,700	12,000	16,000
TP-10 2'-4'	8/26/2015	2 - 4	20 J	76	U (<13)	200	U (<15)	296 J	U (<6400)	U (<3700)	U (<6700)	1500 J	5,800	25,000
TP-14 2'-4'	9/1/2015	2 - 4	U (<15)	U (<14)	U (<14)	U (<44)	U (<16)	U (<87)	U (<7000)	U (<4100)	U (<7400)	1,500 J	4,800	21,000
TP-17 10'-12'	9/1/2015	10 - 12	29 J	U (<14)	53	433	U (<15)	515 J	U (<6500)	U (<3800)	U (<6900)	U (<1000)***	U (<500)	17,000
WVDEP De Minimis Standard for Residential Soil (ug/kg)**			1,100	820,000	5,400	260,000	44,000	*	*	49,000,000	*	10,000	12,000,000	400,000
WVDEP De Minimis Standard for Industrial Soil (ug/kg)**			57,000	820,000	290,000	260,000	2,300,000	*	*	540,000,000	*	370,000	180,000,000	1,000,000
WVDEP De Minimis Standard for Migration to Groundwater (ug/kg)**			51	14,000	16,000	200,000	56	*	*	57,000	*	8.9	13,000	270,000

Benzene, toluene, ethylbenzene and xylenes (BTEX) and methyl-tert butyl ether (MTBE) were analyzed via EPA Method 8260B.

Acids were analyzed via EPA Method 8300M.

Carbonyl Compounds were analyzed via EPA Method 8315A.

Metals were analyzed via EPA Method 6020A.

U = Analyzed but not detected above the method detection limit (MDL).

() = Method Detection Limit (MDL)

J = Analyte is present at an estimated concentration between the MDL and Report Limit.

* = Not applicable, not regulated by the West Virginia Department of Environmental Protection (WVDEP).

** = WVDEP De Minimis Residential and Industrial Soil Standard. (Effective 06/01/14)

*** = U with MDL above the applicable WVDEP De Minimis Standard.

ug/kg = micrograms per kilogram

bgs = below ground surface

Green background = Exceeds WVDEP (June 2014) De Minimis Standards for Residential Soil

Pink background = Exceeds WVDEP (June 2014) De Minimis Standards for Industrial Soil

Blue background = Exceeds WVDEP (June 2014) De Minimis Standards for Migration to Groundwater

TABLE 1C-SOIL ANALYTICAL RESULTS

PAHs
Freedom Industries
1015 Barlow Street
Charleston, Kanawha County, West Virginia

August 26, 2015 - September 1, 2015

Sample ID	Sample Date	Sample Depth (feet bgs)	Acenaphthene (ug/kg)	Acenaphthylene (ug/kg)	Anthracene (ug/kg)	Benzo(a)anthracene (ug/kg)	Benzo(a)pyrene (ug/kg)	Benzo(b)fluoranthene (ug/kg)	Benzo(g,h,i)perylene (ug/kg)	Benzo(k)fluoranthene (ug/kg)	Chrysene (ug/kg)	Dibenz(a,h)anthracene (ug/kg)	Fluoranthene (ug/kg)	Fluorene (ug/kg)	Indeno(1,2,3-cd) pyrene (ug/kg)	Naphthalene (ug/kg)	Phenanthrene (ug/kg)	Pyrene (ug/kg)
TP-3 2'-4'	8/27/2015	2 - 4	U (<3.2)	U (<2.6)	U (<4.2)	24	33	54	29	18	33	U (<2.8)	42	U (<4.8)	26	94	86	25
TP-4 4'-6'	8/27/2015	4 - 6	U (<2.7)	34	U (<3.5)	120	110	210	150	54	160	U (<2.4)	190	U (<4.1)	84	680	620	200
TP-9 8'-10'	8/26/2015	8 - 10	U (<3.1)	U (<2.5)	U (<4.0)	U (<5.0)	U (<1.7)	U (<2.8)	U (<3.6)	U (<5.1)	U (<6.9)	U (<2.7)	U (<5.0)	U (<4.6)	U (<5.1)	U (<2.1)	U (<4.5)	U (<6.2)
TP-10 2'-4'	8/26/2015	2 - 4	U (<2.9)	U (<2.4)	U (<3.8)	11	12	17	9.8	5.9 J	11	U (<2.6)	24	U (<4.4)	11	U (<2.0)	29	U (<5.9)
TP-14 2'-4'	9/1/2015	2 - 4	U (<3.1)	U (<2.5)	U (<3.9)	U (<4.9)	U (<1.7)	U (<2.8)	U (<3.6)	U (<5.1)	U (<6.9)	U (<2.7)	U (<5.0)	U (<4.5)	U (<5.1)	U (<2.1)	U (<4.5)	U (<6.2)
TP-17 10'-12'	9/1/2015	10 - 12	U (<2.9)	U (<2.4)	U (<3.8)	27	U (<1.7)	31	U (<3.4)	13	18	U (<2.6)	100	U (<4.4)	U (<4.9)	41	110	58
WVDEP De Minimis Standard for Residential Soil (ug/kg)**			4,100,000	4,300,000	23,000,000	150	15	150	1,700,000	1,500	15,000	15	2,300,000	2,900,000	150	3,600	23,000,000	2,300,000
WVDEP De Minimis Standard for Industrial Soil (ug/kg)**			66,000,000	74,000,000	610,000,000	29,000	2,900	29,000	23,000,000	290,000	2,900,000	2,900	30,000,000	57,000,000	29,000	180,000	610,000,000	58,000,000
WVDEP De Minimis Standard for Migration to Groundwater (ug/kg)**			61,000	61,000	3,100,000	210	4,700	710	37,000,000	6,900	21,000	230	1,400,000	74,000	2,300	9.4	3,200,000	320,000

Polycyclic Aromatic Hydrocarbons (PAHs) were analyzed via EPA Method 8270D

U = Analyzed but not detected above the method detection limit (MDL).

() = Method Detection Limit (MDL)

J = Analyte is present at an estimated concentration between the MDL and Report Limit.

NA = Not Analyzed

* = Not applicable, not regulated by the West Virginia Department of Environmental Protection (WVDEP).

** = WVDEP De Minimis Residential and Industrial Soil Standard. (Effective 06/01/14)

ug/kg = micrograms per kilogram

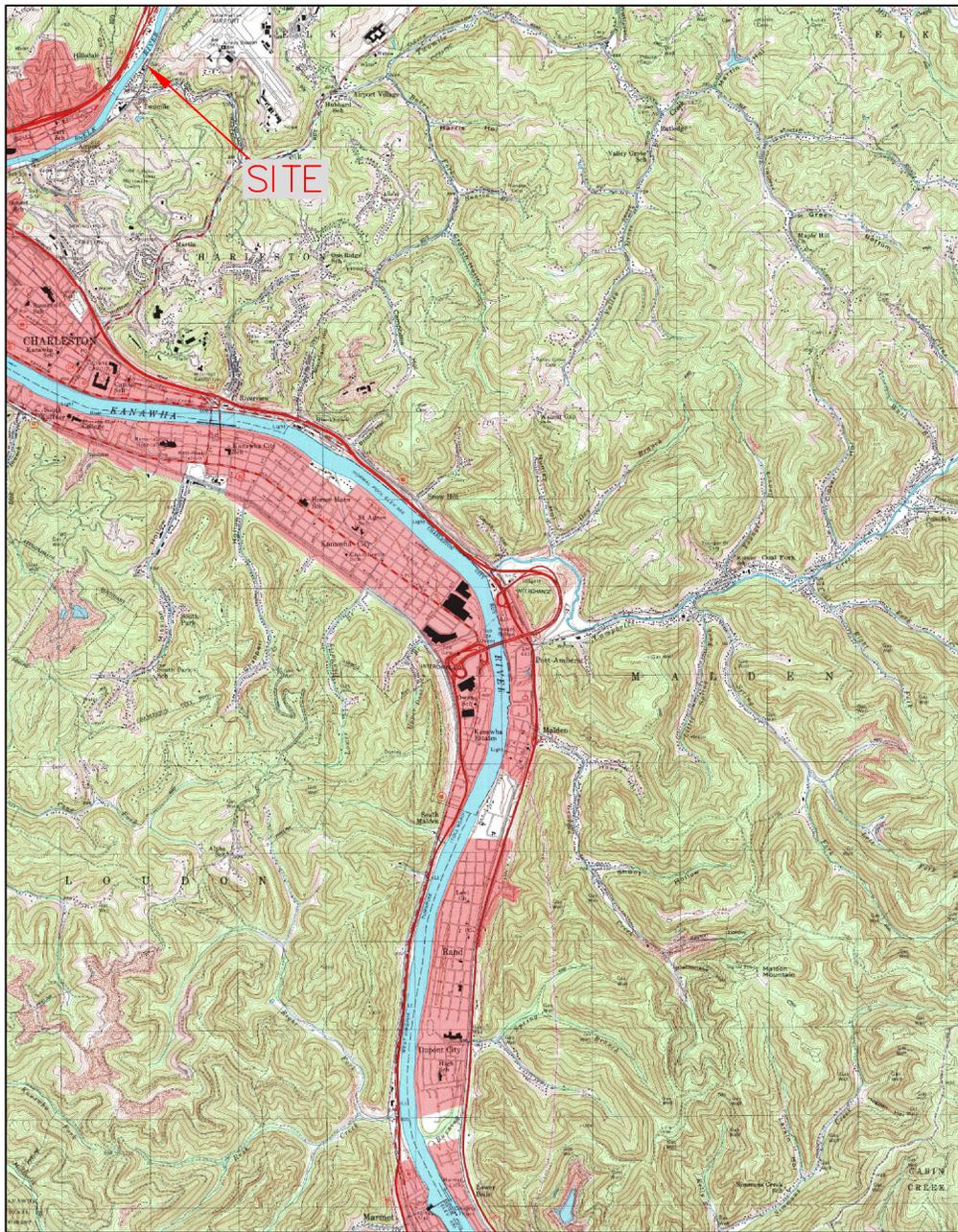
bgs = below ground surface

Exceeds WVDEP (June 2014) De Minimis Standards for Residential Soil

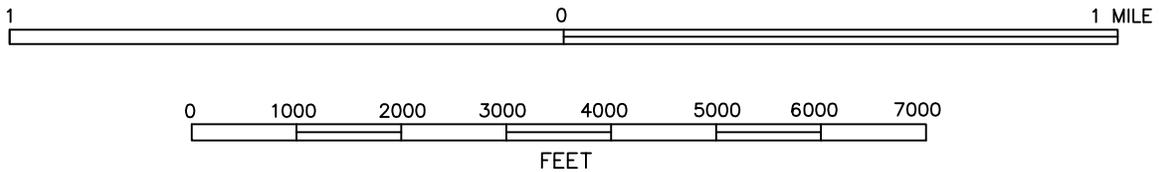
Exceeds WVDEP (June 2014) De Minimis Standards for Industrial Soil

Exceeds WVDEP (June 2014) De Minimis Standards for Migration to Groundwater

FIGURES



SCALE 1:24000



USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE:
Charleston East

SITE COORDINATES:
38.368978° N
-81.606414° W



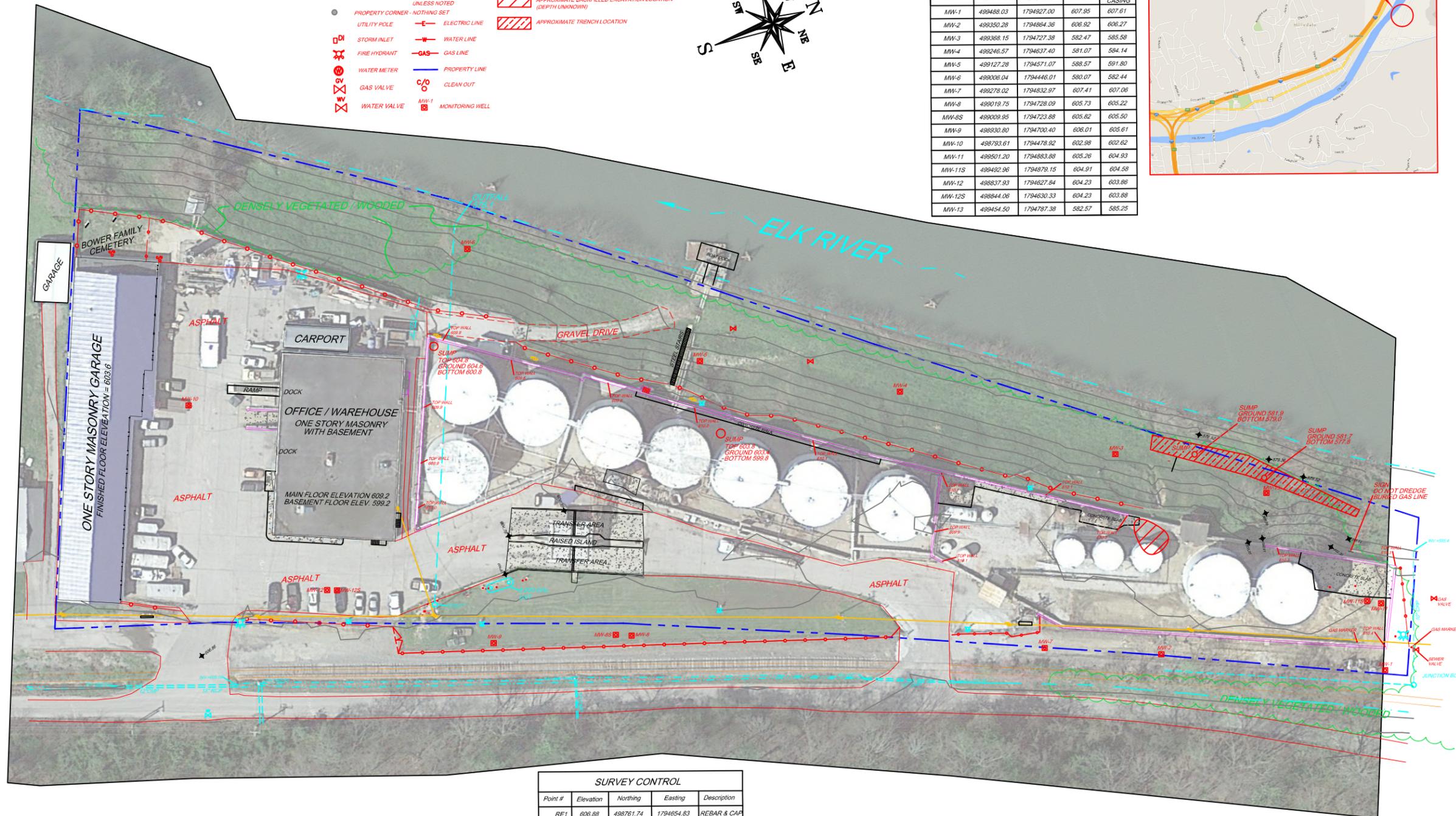
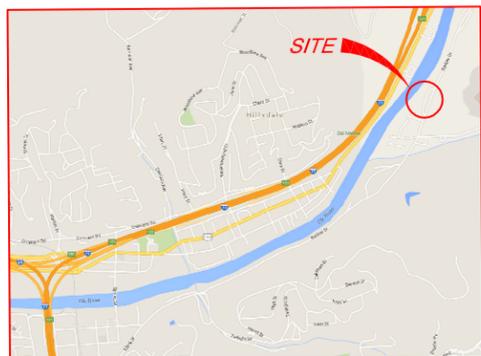
FIGURE NO. 1	CLIENT/LOCATION: FREEDOM INDUSTRIES CHARLESTON, KANAWHA COUNTY, WEST VIRGINIA	
DRAWN BY: A.SAMPSON	DESCRIPTION: SITE LOCATION MAP	
REVIEWED BY:	DATE: 9/28/15	PROJECT NO. FRE-2015-364

LEGEND

- PROPERTY CORNER - 5/8" REBAR SET UNLESS NOTED
- PROPERTY CORNER - NOTHING SET
- ⊕ UTILITY POLE
- ⊗ STORM INLET
- ⊗ FIRE HYDRANT
- ⊗ WATER METER
- ⊗ GAS VALVE
- ⊗ WATER VALVE
- ELECTRIC LINE
- WATER LINE
- GAS LINE
- PROPERTY LINE
- CLEAN OUT
- MONITORING WELL
- ▨ APPROXIMATE BACKFILLED EXCAVATION LOCATION (DEPTH UNKNOWN)
- ▨ APPROXIMATE TRENCH LOCATION

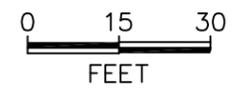


MONITORING WELLS				
WELL #	NORTHING	EASTING	GROUND	TOP OF CASING
MW-1	499488.03	1794927.00	607.95	607.61
MW-2	499350.28	1794864.36	606.92	606.27
MW-3	499368.15	1794727.38	582.47	585.58
MW-4	499246.57	1794637.40	581.07	584.14
MW-5	499127.28	1794571.07	588.57	591.80
MW-6	499006.04	1794446.01	580.07	582.44
MW-7	499278.02	1794832.97	607.41	607.06
MW-8	499019.75	1794728.09	605.73	605.22
MW-8S	499009.95	1794723.88	605.82	605.50
MW-9	498930.80	1794700.40	606.01	605.61
MW-10	498793.61	1794478.92	602.98	602.62
MW-11	499501.20	1794883.88	605.26	604.93
MW-11S	499492.96	1794879.15	604.91	604.58
MW-12	498837.93	1794627.84	604.23	603.88
MW-12S	498844.06	1794630.33	604.23	603.88
MW-13	499454.50	1794787.38	582.57	585.25



SURVEY CONTROL				
Point #	Elevation	Northing	Easting	Description
RE1	606.88	498761.74	1794654.83	REBAR & CAP
RE2	606.21	498656.63	1794588.31	REBAR
RE3	609.77	499179.91	1794800.99	MAGNAIL
RE5	603.41	498962.64	1794474.18	MAGNAIL

COORDINATES ARE WEST VIRGINIA STATE PLANE / SOUTH ZONE (4702)
NORTH AMERICA VERTICAL DATUM OF 1988

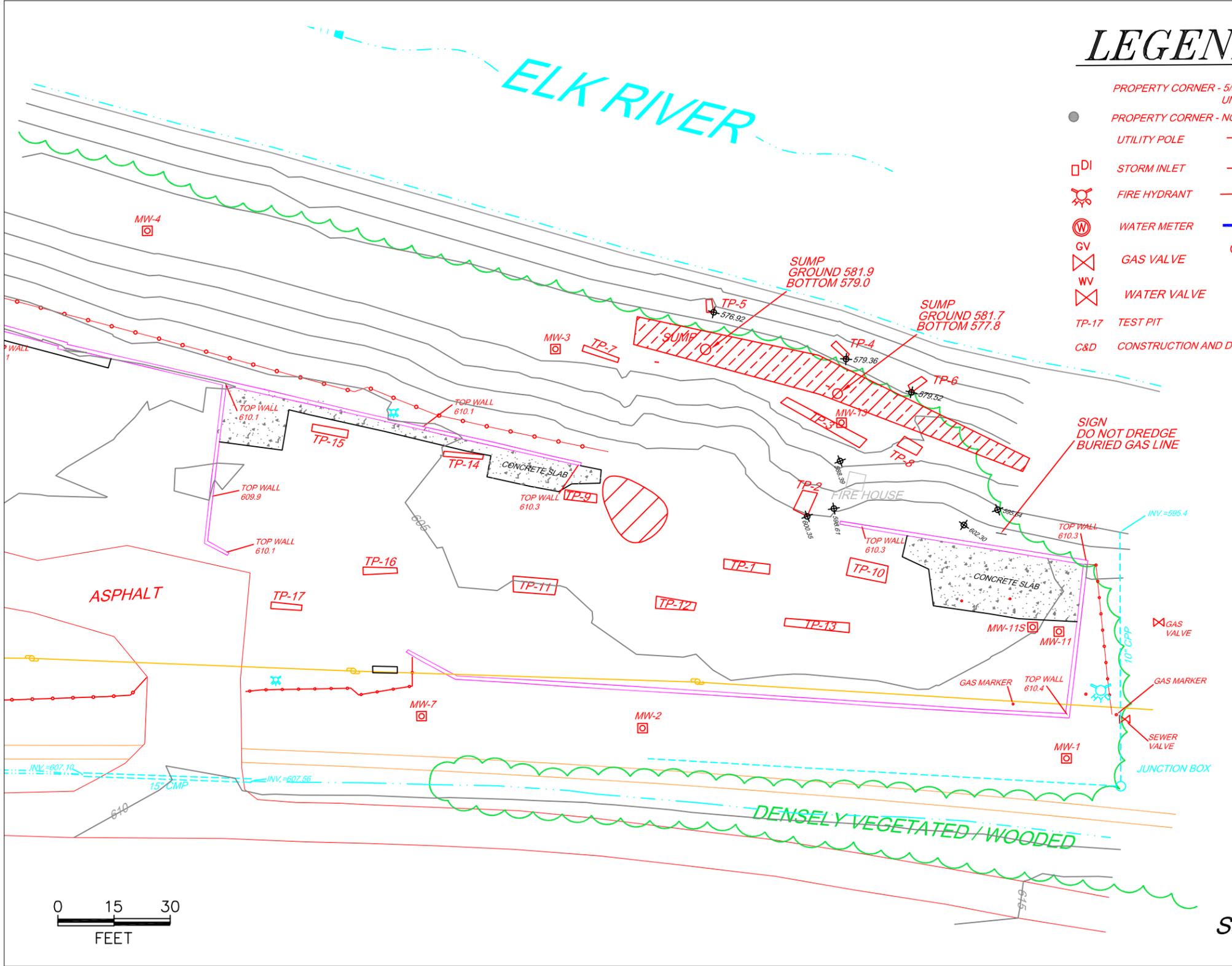


Source - Randolph Engineering - 9/29/2015



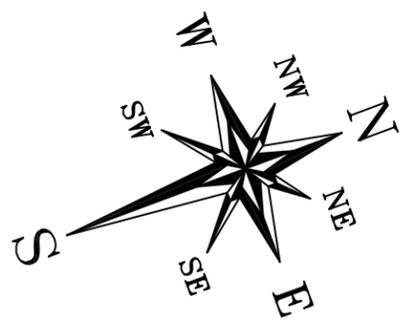
TITLE:
SITE MAP
FREEDOM INDUSTRIES - ETOWAH RIVER TERMINAL
CHARLESTON, KANAWHA COUNTY, WEST VIRGINIA

DWN: AS	DES.:	PROJECT NO.: FRE-2015-364
CHKD:	APPD:	
DATE: 9/30/15	REV.:	FIGURE NO.: 2



LEGEND

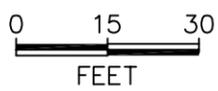
- PROPERTY CORNER - 5/8" REBAR SET UNLESS NOTED
- PROPERTY CORNER - NOTHING SET
- E— ELECTRIC LINE
- W— WATER LINE
- GAS— GAS LINE
- — — PROPERTY LINE
- C/O CLEAN OUT
- DI STORM INLET
- ⊗ FIRE HYDRANT
- ⊗ WATER METER
- ⊗ GAS VALVE
- ⊗ WATER VALVE
- ⊗ TP-17 TEST PIT
- C&D CONSTRUCTION AND DEMOLITION WASTE



- APPROXIMATE BACKFILLED EXCAVATION LOCATION (DEPTH UNKNOWN)
- APPROXIMATE TRENCH LOCATION

TP #	TOTAL DEPTH (FT)	C&D WASTE DEPTH (FT)
TP-1	5.5	2 - 3.5
TP-2	12	0 - 8
TP-3	8	0 - 4.5
TP-4	6	NA
TP-5	6	NA
TP-6	2	NA
TP-7	6	NA
TP-8	6.5	NA
TP-9	12	NA
TP-10	12	3 - 8
TP-11	12	NA
TP-12	12	NA
TP-13	12	NA
TP-14	17	NA
TP-15	16	NA
TP-16	18	NA
TP-17	16	NA

Source - Randolph Engineering - 9/29/2015



TITLE:
 TEST PIT LOCATION MAP
 FREEDOM INDUSTRIES - ETOWAH RIVER TERMINAL
 CHARLESTON, KANAWHA COUNTY, WEST VIRGINIA

DWN: AS	DES.:	PROJECT NO.: FRE-2015-364
CHKD:	APPD:	FIGURE NO.: 3
DATE: 9/30/15	REV.:	

TP-1	8/26/15
Sample Depth	2 - 4'
C&D Waste Interval	2 - 3.5'
MCHM	U(<110) ug/kg
PPH	U(<63) ug/kg

FD (TP-1)	8/26/15
Sample Depth	2 - 4'
C&D Waste Interval	2 - 3.5'
MCHM	U(<99) ug/kg
PPH	U(<58) ug/kg

TP-1	8/26/15
Sample Depth	4 - 5.5'
C&D Waste Interval	2 - 3.5'
MCHM	U(<97) ug/kg
PPH	U(<57) ug/kg

TP-2	8/26/15
Sample Depth	6 - 8'
C&D Waste Interval	0 - 8'
MCHM	3,400 ug/kg
PPH	630 ug/kg

TP-2	8/26/15
Sample Depth	10 - 12'
C&D Waste Interval	0 - 8'
MCHM	U(<100) ug/kg
PPH	U(<59) ug/kg

TP-3 (West End)	8/27/15
Sample Depth	0 - 2'
C&D Waste Interval	0 - 4.5'
MCHM	24,000 ug/kg
PPH	1,300 ug/kg

FD-5 (TP-3 (West End))	8/27/15
Sample Depth	0 - 2'
C&D Waste Interval	0 - 4.5'
MCHM	390 ug/kg
PPH	840 ug/kg

TP-3	8/27/15
Sample Depth	2 - 4'
C&D Waste Interval	0 - 4.5'
MCHM	U(<110) ug/kg
PPH	U(<63) ug/kg
Benzo(a)pyrene	33 mg/kg

TP-3	8/27/15
Sample Depth	2 - 4'
C&D Waste Interval	0 - 4.5'
MCHM	U(<110) ug/kg
PPH	U(<65) ug/kg

TP-3	8/27/15
Sample Depth	4 - 6'
C&D Waste Interval	0 - 4.5'
MCHM	2,600 ug/kg
PPH	1,300 ug/kg

FD-2 (TP-9)	8/26/15
Sample Depth	8 - 10'
C&D Waste Interval	NA
MCHM	1,200 ug/kg
PPH	430 ug/kg

FD-4 (TP-3)	8/27/15
Sample Depth	6 - 8'
C&D Waste Interval	0 - 4.5'
MCHM	730 ug/kg
PPH	70 ug/kg J

TP-4	8/27/15
Sample Depth	4 - 6'
C&D Waste Interval	NA
MCHM	U(<90) ug/kg
PPH	U(<53) ug/kg
Benzene	62 ug/kg
Benzo(a)pyrene	110 ug/kg
Benzo(b)fluoranthene	210 ug/kg
Naphthalene	680 ug/kg

TP-4	8/27/15
Sample Depth	4 - 6'
C&D Waste Interval	NA
MCHM	U(<89) ug/kg
PPH	U(<53) ug/kg

TP-5	8/27/15
Sample Depth	4 - 6'
C&D Waste Interval	NA
MCHM	U(<89) ug/kg
PPH	U(<53) ug/kg

TP-6	8/27/15
Sample Depth	0 - 2'
C&D Waste Interval	NA
MCHM	U(<93) ug/kg
PPH	U(<55) ug/kg

TP-7	8/27/15
Sample Depth	2 - 4'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<62) ug/kg

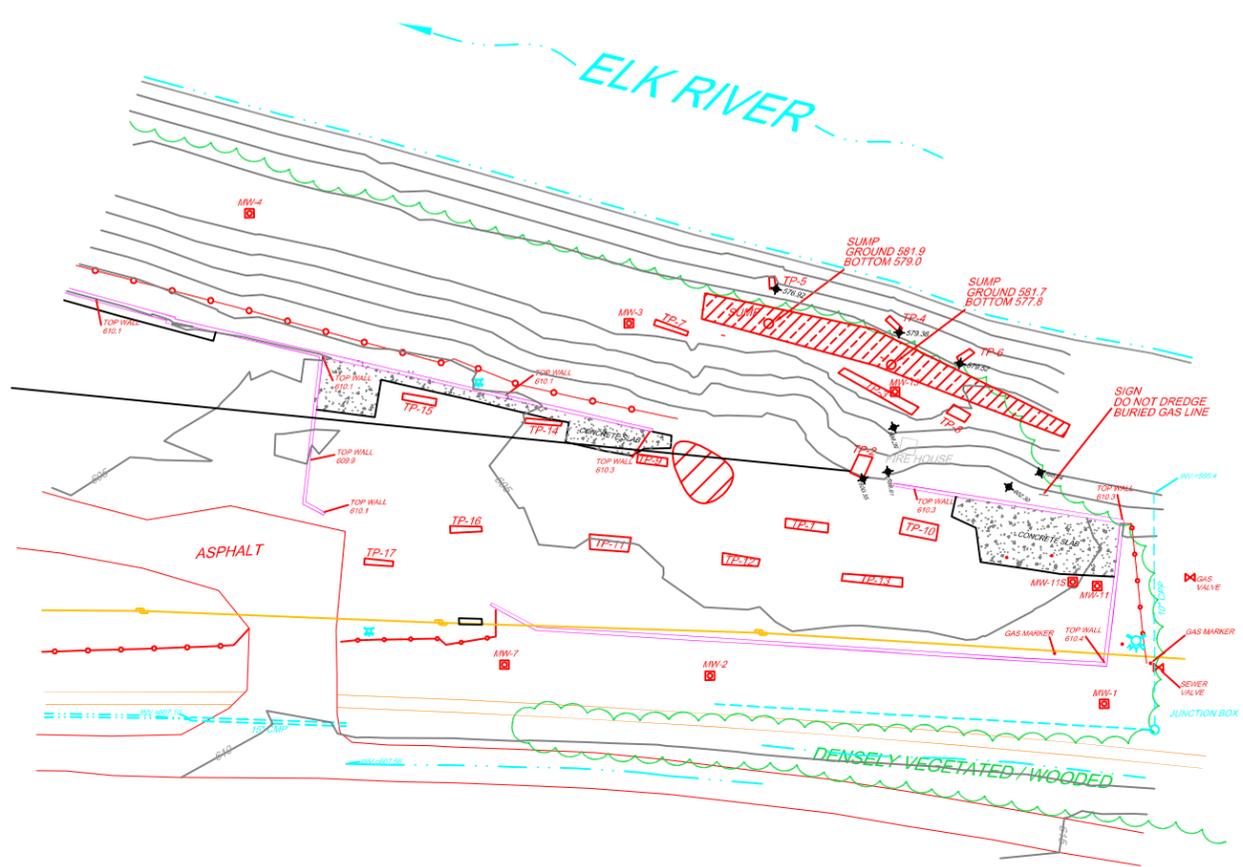
TP-8	8/27/15
Sample Depth	4 - 6'
C&D Waste Interval	NA
MCHM	U(<99) ug/kg
PPH	U(<59) ug/kg

FD-3 (TP-8)	8/27/15
Sample Depth	4 - 6'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<60) ug/kg

TP-9	8/26/15
Sample Depth	8 - 10'
C&D Waste Interval	NA
MCHM	3,400 ug/kg
PPH	630 ug/kg
Acetaldehyde	2,700 ug/kg

TP-9	8/26/15
Sample Depth	8 - 10'
C&D Waste Interval	NA
MCHM	2,600 ug/kg
PPH	1,300 ug/kg

FD-2 (TP-9)	8/26/15
Sample Depth	8 - 10'
C&D Waste Interval	NA
MCHM	1,200 ug/kg
PPH	430 ug/kg

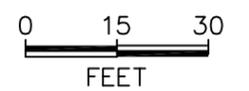


Source - Randolph Engineering - 9/29/2015

█ = Exceeds WVDEP (June 2014) De Minimis Standards for Residential Soil
█ = Exceeds WVDEP (June 2014) De Minimis Standards for Industrial Soil
█ = Exceeds WVDEP (June 2014) De Minimis Standards for Migration to GW
 Note - Sample depths are measured in feet below ground surface (bgs)
 U - Analyzed but not detected above the method detection limit (MDL)
 MCHM - 4-Methyl-1-cyclohexanemethanol
 PPH - Propylene glycol phenyl
 J = Analyte is present as an estimated concentration between the Method Detection Limit (MDL) and Report Limit.
 ug/kg = micrograms per kilograms
 Sample collected in 4 ounce unpreserved jar. MCHM and PPH concentrations used for comparison with samples collected in 4 ounce jar and only analyzed for MCHM and PPH.
 Sample Depths and C&D waste measured in feet below ground surface.

LEGEND

- PROPERTY CORNER - 6"X6" REBAR SET UNLESS NOTED
- UTILITY POLE - NOTHING SET
- STORM INLET
- FIRE HYDRANT
- WATER METER
- GAS VALVE
- WATER VALVE
- TP-17 TEST PIT
- C&D CONSTRUCTION AND DEMOLITION WASTE
- ELECTRIC LINE
- WATER LINE
- GAS LINE
- PROPERTY LINE
- C/O CLEAN OUT
- MONITORING WELL
- APPROXIMATE BACKFILLED EXCAVATION LOCATION (DEPTH UNKNOWN)
- APPROXIMATE TRENCH LOCATION



TP-10	8/26/15
Sample Depth	2 - 4'
C&D Waste Interval	3.9 - 7.9'
MCHM	U(<97) ug/kg
PPH	U(<57) ug/kg
Acetaldehyde	1,500 ug/kg J

TP-10	8/26/15
Sample Depth	2 - 4'
C&D Waste Interval	3.9 - 7.9'
MCHM	U(<99) ug/kg
PPH	U(<58) ug/kg

TP-10	8/26/15
Sample Depth	10 - 12'
C&D Waste Interval	3.9 - 7.9'
MCHM	U(<91) ug/kg
PPH	U(<54) ug/kg

TP-11	8/26/15
Sample Depth	2 - 4'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<62) ug/kg

TP-11	8/26/15
Sample Depth	4 - 6'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<61) ug/kg

TP-12	8/26/15
Sample Depth	0 - 2'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<60) ug/kg

TP-12	8/26/15
Sample Depth	4 - 6'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<59) ug/kg

TP-13	8/26/15
Sample Depth	2 - 4'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<61) ug/kg

TP-13	8/26/15
Sample Depth	10 - 12'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<59) ug/kg

TP-14	9/1/15
Sample Depth	2 - 4'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<61) ug/kg
Acetaldehyde	1,500 ug/kg J

TP-14	9/1/15
Sample Depth	2 - 4'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<60) ug/kg

FD-6 (TP-14)	9/1/15
Sample Depth	16 - 17'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<60) ug/kg

TP-14	9/1/15
Sample Depth	16 - 18'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<59) ug/kg

TP-15	9/1/15
Sample Depth	4 - 6'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<60) ug/kg

TP-15	9/1/15
Sample Depth	14 - 16'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<60) ug/kg

TP-16	9/1/15
Sample Depth	4 - 6'
C&D Waste Interval	NA
MCHM	1,700 ug/kg
PPH	U(<59) ug/kg

FD-7 (TP-16)	9/1/15
Sample Depth	4 - 6'
C&D Waste Interval	NA
MCHM	2,600 ug/kg
PPH	U(<60) ug/kg

TP-16	9/1/15
Sample Depth	12 - 14'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<60) ug/kg

TP-16	9/1/15
Sample Depth	16 - 18'
C&D Waste Interval	NA
MCHM	U(<100) ug/kg
PPH	U(<59) ug/kg

TP-17	9/1/15
Sample Depth	10 - 12'
C&D Waste Interval	NA
MCHM	U(<98) ug/kg
PPH	U(<58) ug/kg
Naphthalene	41 ug/kg

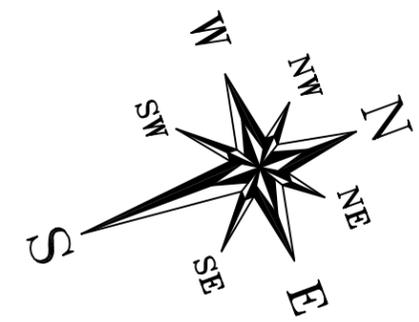
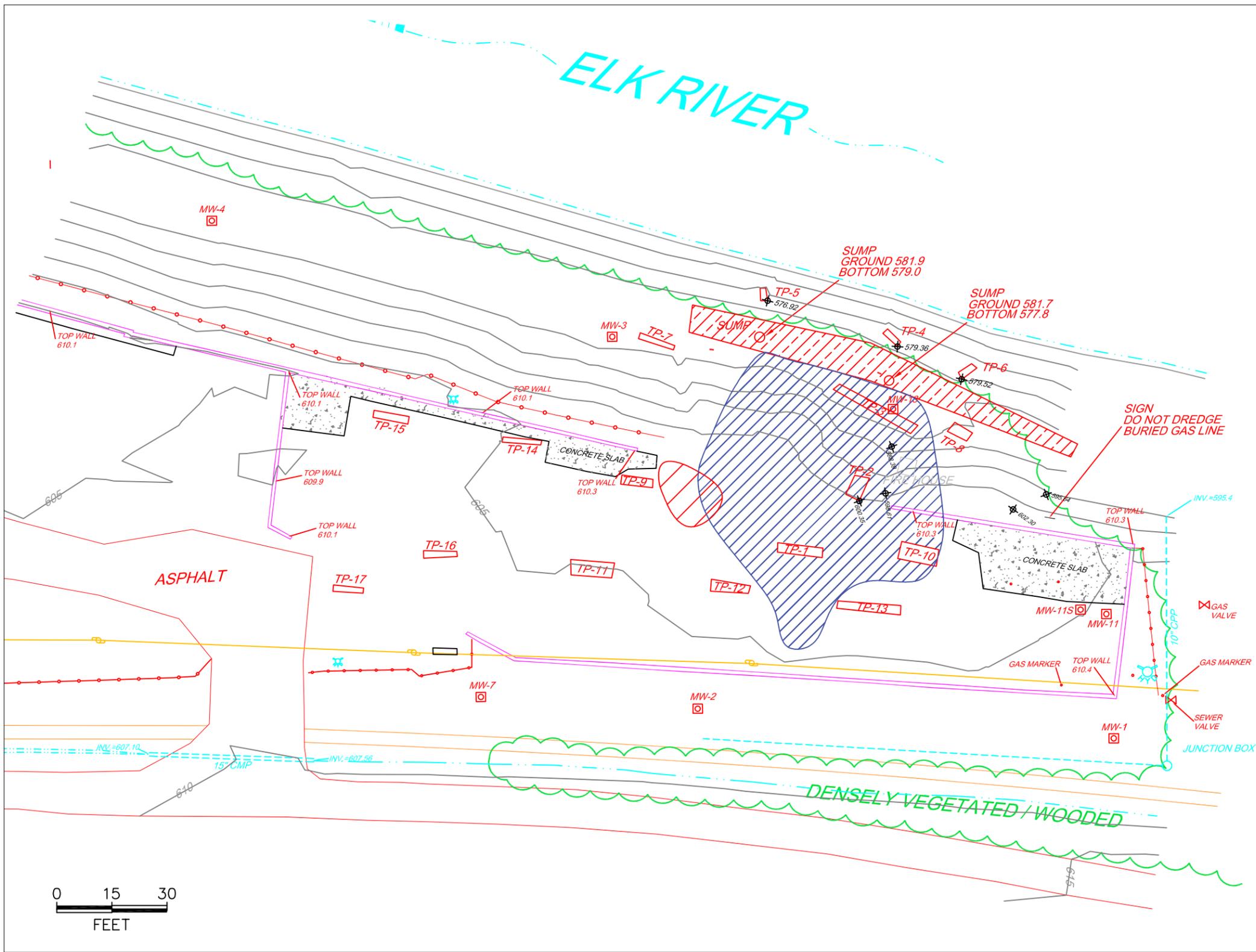
TP-17	9/1/15
Sample Depth	10 - 12'
C&D Waste Interval	NA
MCHM	U(<99) ug/kg
PPH	U(<59) ug/kg

TP-17	9/1/15
Sample Depth	14 - 16'
C&D Waste Interval	NA
MCHM	U(<98) ug/kg
PPH	U(<58) ug/kg



TITLE:
 LABORATORY ANALYTICAL RESULTS
 FREEDOM INDUSTRIES - ETOWAH RIVER TERMINAL
 CHARLESTON, KANAWHA COUNTY, WEST VIRGINIA

DWN:	AS	DES.:	PROJECT NO.:
CHKD:		APPD.:	FRE-2015-364
DATE:	9/30/15	REV.:	FIGURE NO.:
			4



- APPROXIMATE BACKFILLED EXCAVATION LOCATION (DEPTH UNKNOWN)
- APPROXIMATE TRENCH LOCATION
- APPROXIMATE C&D WASTE LOCATIONS

LEGEND

- PROPERTY CORNER - 5/8" REBAR SET UNLESS NOTED
- PROPERTY CORNER - NOTHING SET
- UTILITY POLE
- STORM INLET
- FIRE HYDRANT
- WATER METER
- GAS VALVE
- WATER VALVE
- TP-17 TEST PIT
- C&D CONSTRUCTION AND DEMOLITION WASTE
- ELECTRIC LINE
- WATER LINE
- GAS LINE
- PROPERTY LINE
- C/O CLEAN OUT
- MW-1 MONITORING WELL



TITLE:
C&D WASTE LOCATIONS
 FREEDOM INDUSTRIES - ETOWAH RIVER TERMINAL
 CHARLESTON, KANAWHA COUNTY, WEST VIRGINIA

DWN: AS	DES.:	PROJECT NO.:
CHKD:	APPD:	FRE-2015-364
DATE: 9/30/15	REV.:	FIGURE NO.:
		5

APPENDIX A

GEOPHYSICAL SURVEY REPORT

REPORT
GEOPHYSICAL SURVEY
FREEDOM INDUSTRIES PROPERTY
CHARLESTON, WEST VIRGINIA



Rhea Project No: 948

August 2015

Prepared for:

CORE Environmental Services, Inc.
533 North Jefferson Street
Lewisburg, West Virginia 24901

Prepared by:

Rhea Engineers & Consultants, Inc.
4975 William Flynn Highway, Suite 14
Gibsonia, Pennsylvania 15044

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FIGURE 7	GPR Profiles from Lower Area
FIGURE 8	Interpretation of Results
FIGURE 9	Interpretation of Results over CORE Map

ACRONYMS AND ABBREVIATIONS

AC	Alternating Current
AST	Aboveground Storage Tank
CORE	CORE Environmental Services, Inc.
GPR	Ground Penetrating Radar
Hz	Hertz (cycle per second)
mV	millivolts
Rhea	Rhea Engineers & Consultants, Inc.

1.0 INTRODUCTION

This report presents the results of a geophysical survey conducted at the Freedom Industries Property in Charleston, WV (Figure 1) by Rhea Engineers and Consultants, Inc. (Rhea) of Gibsonia, PA on behalf of CORE Environmental Services, Inc. (CORE). Freedom Industries was a chemical storage facility located along the Elk River just upstream of the confluence with the Kanawha River. In 2014, an Aboveground Storage Tank (AST) failure spilled the chemical, 4-methylcyclohexanemethanol or MCHM, commonly known for its use in washing coal to remove impurities into the Elk River. Figure 1 shows the configuration of surface structures prior to spill. All ASTs and other surface structures have been removed, oil water separators have been installed, and excavation has taken place in the main area of the spill. The site is currently being remediated by CORE.

The survey was conducted from August 19 – 22, 2015. The scope of the investigation was to apply geophysical technology to attempt to positively identify subsurface features of interest, in particular any underground piping that may still be in the ground.

Mr. William Johnson conducted the geophysical survey with support from Ian Bingeman of Rhea and Jared Sommers of CORE. The primary tool for subsurface surveying was a Geonics EM61 time domain metal detector. A MALÅ Geoscience ground penetrating radar (GPR) system with an unshielded 200 megahertz antenna was also used at the site to the extent practicable.

The field work could not be performed over the entire area requested by CORE. The requested and actual survey areas are shown on Figure 1. The portions of the site not surveyed are covered with dense vegetation or otherwise have slopes that are too steep to survey without special safeguards. The GPR technique was especially limited as portions of the site suitable to the EM61 could not be surveyed with the GPR technique due to the presence of an extremely rough ground surface or mud.

Subsequent sections of this report present the background theory of the EM61 and GPR techniques (Section 2.0) and the field procedures and data processing (Section 3.0). Section 4.0 presents an interpretation of the data gathered during the survey, which concludes that the subsurface at the Freedom Industries site contains numerous linear features. Some of these

features relate to buried AST foundations, but most appear to be underground pipes, although some of the anomalies could be underground cables. A strong metal anomaly is interpreted to be a gas main line, but it is located in a position different from the maps provided by CORE.

2.0 BACKGROUND

This section presents brief descriptions of the geophysical techniques applied at the Freedom Industries site.

2.1 EM61

The Geonics EM61 is a high sensitivity, high-resolution time-domain metal detector used to detect both ferrous and non-ferrous metallic objects. It consists of a transmitter antenna that generates a pulsed primary magnetic field, which induces eddy currents in nearby metallic objects. The decay of these currents is measured by two receiver antenna coils mounted on a coil assembly. The responses are recorded in millivolts (mV) over an 18-bit dynamic range and displayed by an integrated data logger as two-channel information that can be subsequently sorted and processed on a PC computer. The coil assembly is mounted on a trailer. This allows for the option of automatically triggering measurements from an odometer mounted on the axle of the trailer wheel.

The EM61 is capable of detecting metal objects to a depth of about 10 - 15 feet below ground surface and is relatively insensitive to interference from nearby surface metal such as fences, buildings, cars, etc. By making the measurement at a relatively long time after termination of the primary pulse, the response is practically independent of the electrical conductivity of the ground. This implies that the variations in the instrument response over the area of the survey are in response to the presence of metal. The EM61 is designed in such a way that it is possible not only to separate anomalies spatially, but also to distinguish deeper metallic objects from shallow ones.

2.2 Ground Penetrating Radar

Ground penetrating radar has evolved over the past two decades into one of the most commonly applied techniques for imaging the shallow subsurface. The method offers the highest resolution of geophysical techniques commercially available today. In many cases, the time required for the acquisition of GPR profiles is minimal and subsurface profiles can normally be obtained in real time, making this tool very cost-effective. GPR works best in non-conductive soils, such as dry sand or sand saturated with fresh water.

The typical result of a GPR survey is a profile that presents radar wave amplitude as a function of distance along the line and two-way travel time. To know the depth to a reflector, it is necessary to know the average propagation velocity from the ground surface. The velocity of a radar pulse in an earth material is dependent on the relative dielectric constant (ϵ_r) of the material according to the following relationship:

$$V = c/(\epsilon_r)^{1/2}$$

where:

V = velocity in a propagating material

c = speed of light (3×10^8 m/sec)

This velocity can sometimes be estimated from knowing the characteristics of the subsurface lithology. An average velocity of 0.1 meters/nanosecond is a typical velocity for soil, which was used for estimating depths here.

The soil conditions within the area covered by this investigation were observed to be complex fill and not especially favorable for good GPR penetration, but the GPR method was able to investigate to depth up to about 8 - 12 feet.

3.0 FIELD PROCEDURES

The survey was conducted from August 19 – 22, 2015. The first step in the survey was to remove surficial metal to the degree practical. The next step was to assign a site specific grid that was tied to Google satellite imagery as shown on Figure 1. This grid assigns the cinder block wall south of the break in the wall on the western side of the survey area to be site N-S. A point 33 feet along the cinder block wall (actual NE direction) from where it joins another wall (marked with orange spray paint behind a mounted ladder) is 0 feet E – 50 feet N on the site grid. A point 105 feet E – 50 feet N is the northern gate post. In the lower survey area, the only access was along a road, where site North is a line connecting MW3 and MW4. 0 feet North is next to MW4 (see Figure 2).

The EM61 survey was conducted on the basis of profiles separated by 2.5 feet with close to 15,000 measurement points (roughly 1.9 line miles of data). The EM61 data were processed by downloading the measurements from the Polycorder recording unit to a PC computer. The data were then sorted into an xyz file using the Microsoft Excel program. It was necessary to make some corrections to the location of the measurement points as the sampling interval exhibited some minor variations over the course of the survey. The corrected Excel file was then read into the Surfer 10 program for contouring. The data did not require additional processing, except to assign a color coding to representative intervals.



Removal of surficial metal

It is not practical to interpret the pattern of metal response from an EM61 at the time the data are recorded in the field, but it was possible to appreciate that portions of the western border of the Freedom Industries site were covered with reinforced concrete and that significant metal was present in the subsurface of the entire site. The actual distribution of metal from the EM61 measurements is presented on Figures 2, 3 and 4.

GPR measurements were made along the same profiles as the EM61 where the survey was practical to conduct. These survey areas are shown on Figure 5. The interpretive process followed to interpret the GPR is depicted from a portion of the survey area as shown on Figure 6. In this example, a linear feature that has barely enough metal to be detected with the EM61 is clearly identified from a depth of about 2 – 2.5 feet with as a GPR time slice.



EM61 in operation at Freedom Industries Site

The manner of interpretation of the GPR in the main survey area was to scroll through time slices until linear patterns could be observed. Representative time slices typically from a depth of two to three feet are shown on Figure 5. In the lower area, the survey was interpreted on the basis of profiles also shown on Figure 5. The GPR was able to identify numerous linear features interpreted to be buried pipes or cables. In no case did the technique identify any features that were not already identified by the EM61 and several strong linear anomalies visible from the EM61 data are not resolved with the GPR.



GPR in operation at Freedom Industries Site

4.0 INTREPRETATION AND RESULTS

Figures 2, 3, and 4 depict metal anomalies at three different degrees of resolution. The strongest metal anomalies (Figure 2) are from surface or near-surface metal associated with reinforced concrete, metal monitoring well caps, and other surface or near-surface metal. When looking at the full range of data, rebar patterns are observable in the area of reinforced concrete on the western edge of the survey area.

Figure 3 identifies numerous strong, linear anomalies and an area in the center of the survey area where only a minimal amount of metal is present. This area of minimal metal roughly corresponds to the known extent of excavations that took place to remove contaminated soil after the MCHM spill took place. A portion of the reinforced concrete foundations of the northernmost AST also stands out. A very strong linear feature extending from the eastern cinder block wall at about 60 feet E – 292 feet N appears to be a gas main that continues west beneath Elk River. It is about 30 feet south of the position mapped on the site map provided by CORE.

The GPR survey also identified several linear anomalies probably associated with buried pipes or other underground utilities. In some cases it is necessary to look at a limited data range from the EM61 data (Figure 4) to see them, as shown in the example on Figure 6.

The lower survey area has some buried metal, but it is not obvious if the metal is related to buried pipes as metal does not seem to be present across all of the survey lines (Figure 7). The GPR data (Figure 7) show similar results. The profiles do not suggest a continuity of features crossing all of the lines and the reflections from discrete features have simply been indicated as “objects.” There is some correlation between the EM61 and GPR results, but nothing definitive.

Figure 8 combines the interpretations from both the GPR and EM61. Figure 9 provides the same information overlain on the site map provided by CORE. The pattern of linear features is complex and a review of historical aerial photography and information provided in previously prepared Phase 1 reports shed light on what the features could be. A rectangular anomaly centered approximately at 60 feet E – 120 feet N could be a building foundation, but the available historical information does not suggest the presence of a building in this area. Accordingly, with no information to the

contrary, the linear features are interpreted to be pipes, rather than foundations.

With a site this complicated, it is expected that resolution of the features encountered will require excavation. Additional GPR work might be beneficial, but it would be necessary to groom the ground surface such that a GPR sled can be dragged without impediment. Should it be considered desirable to survey the remainder of the site, extensive clearing and grubbing will be required and a special H&S plan undertaken to survey along the slopes.



LEGEND
 Proposed survey area
 Actual survey area

NOTE: Imagery from Google Earth March 26, 2012

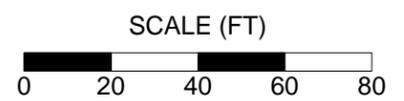
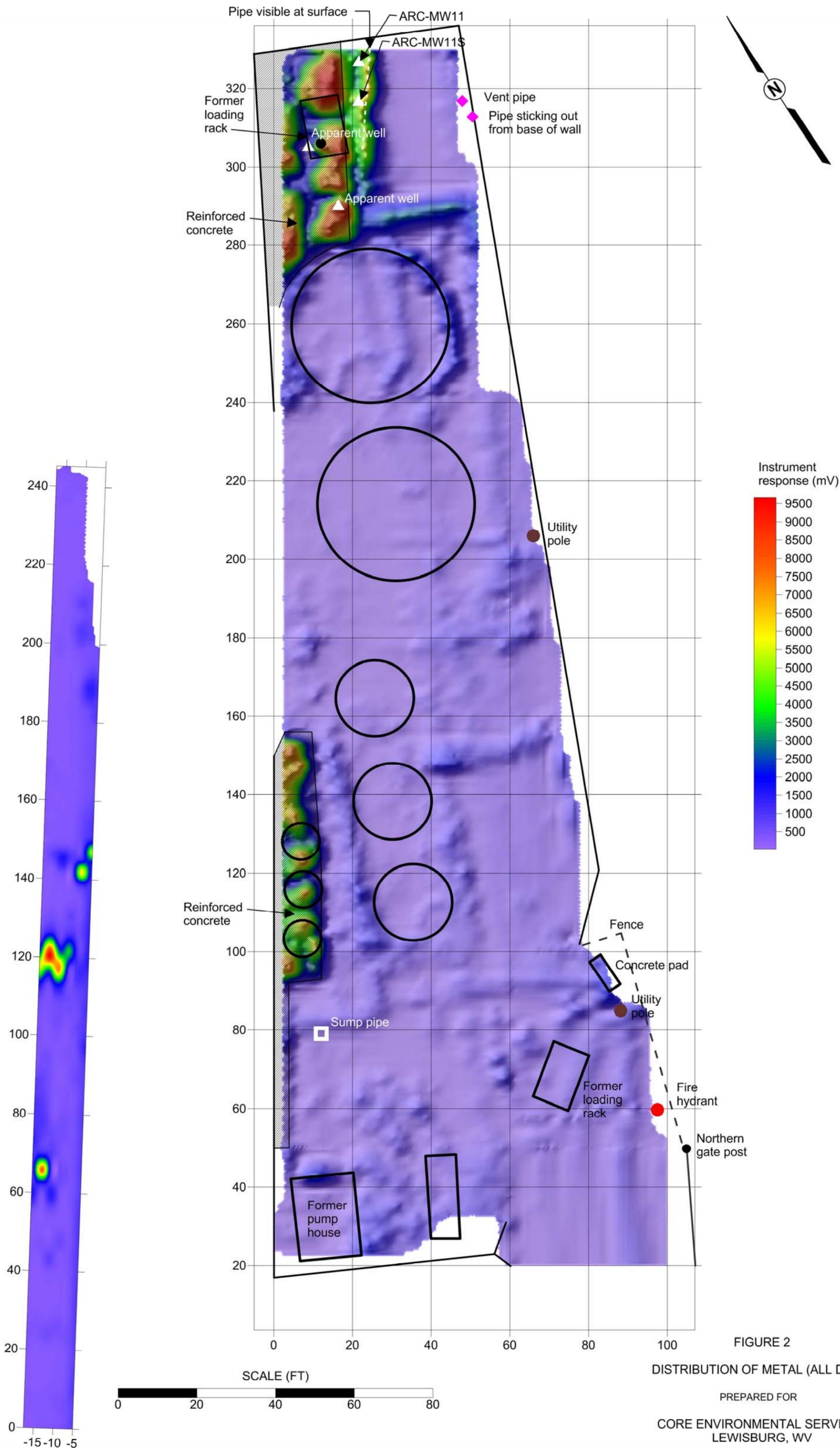


FIGURE 1
 SURVEY AREA, FREEDOM INDUSTRIES SITE
 CHARLESTON, WV
 PREPARED FOR
 CORE ENVIRONMENTAL SERVICES
 LEWISBURG, WV



Pipe visible at surface

ARC-MW11

ARC-MW11S

320
Former loading rack

Apparent well

Vent pipe
Pipe sticking out from base of wall

300

Apparent well

Reinforced concrete

280

260

240

220

200

180

160

140

120

100

80

60

40

20

Utility pole

Reinforced concrete

Fence

Concrete pad

Utility pole

Sump pipe

Former loading rack

Fire hydrant

Northern gate post

Former pump house

240

220

200

180

160

140

120

100

80

60

40

20

0

-15 -10 -5

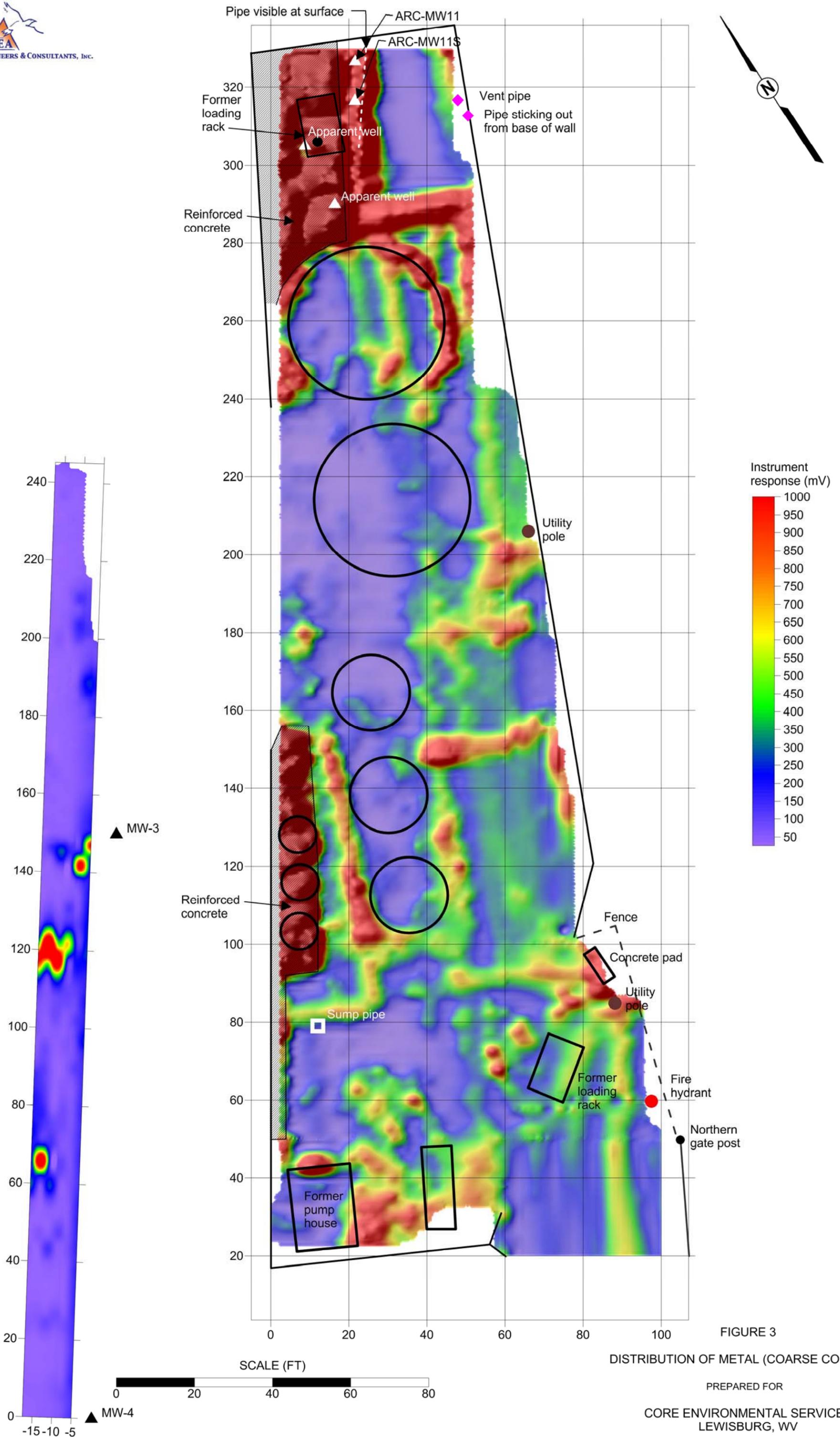


FIGURE 3

DISTRIBUTION OF METAL (COARSE CONTOUR)

PREPARED FOR

CORE ENVIRONMENTAL SERVICES
LEWISBURG, WV

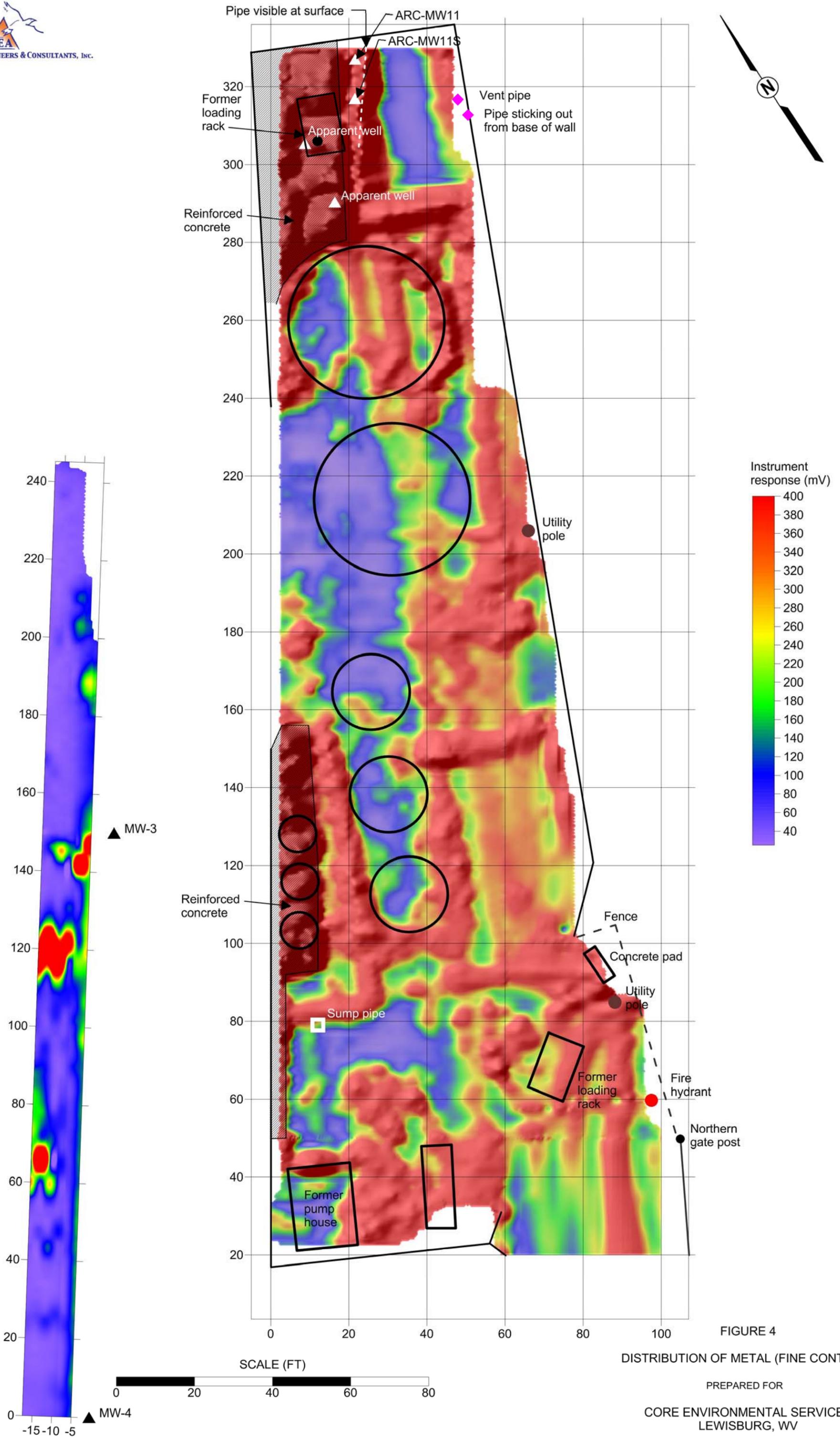


FIGURE 4

DISTRIBUTION OF METAL (FINE CONTOUR)

PREPARED FOR

CORE ENVIRONMENTAL SERVICES
LEWISBURG, WV

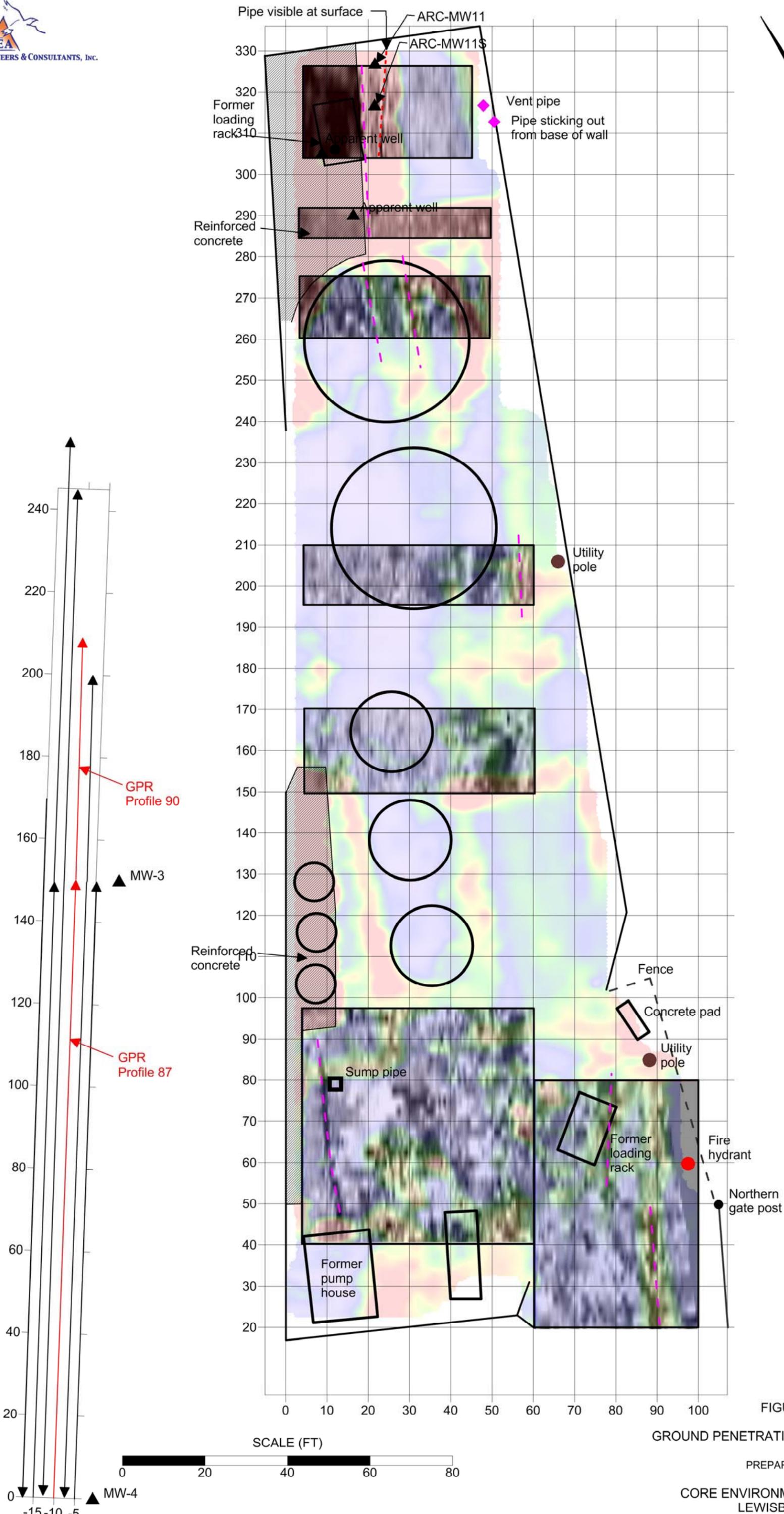


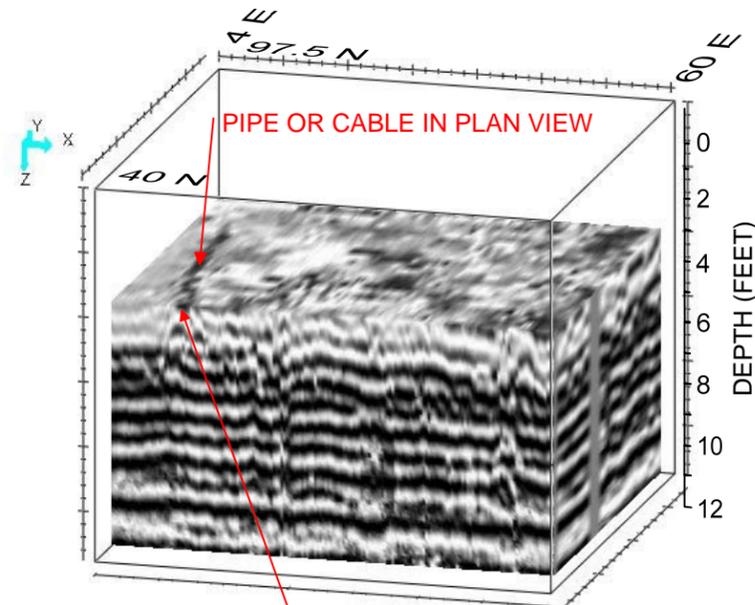
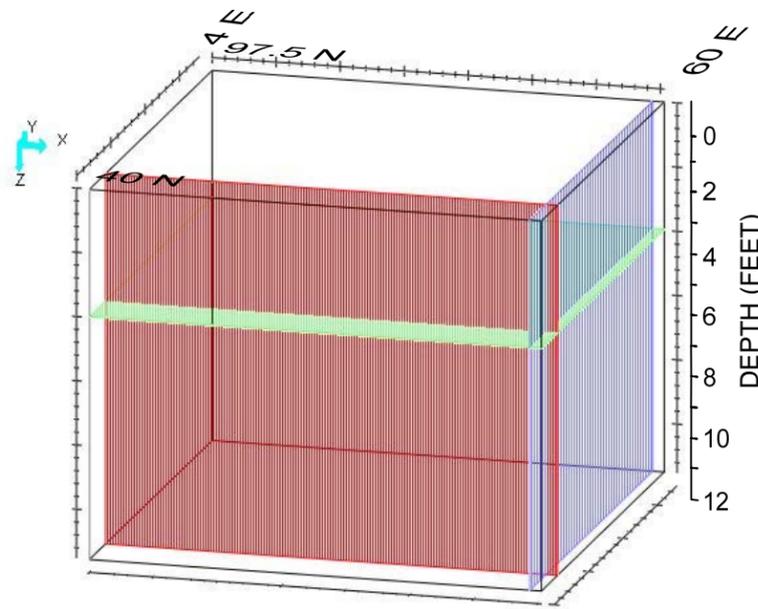
FIGURE 5

GROUND PENETRATING RADAR COVERAGE

PREPARED FOR

CORE ENVIRONMENTAL SERVICES
LEWISBURG, WV

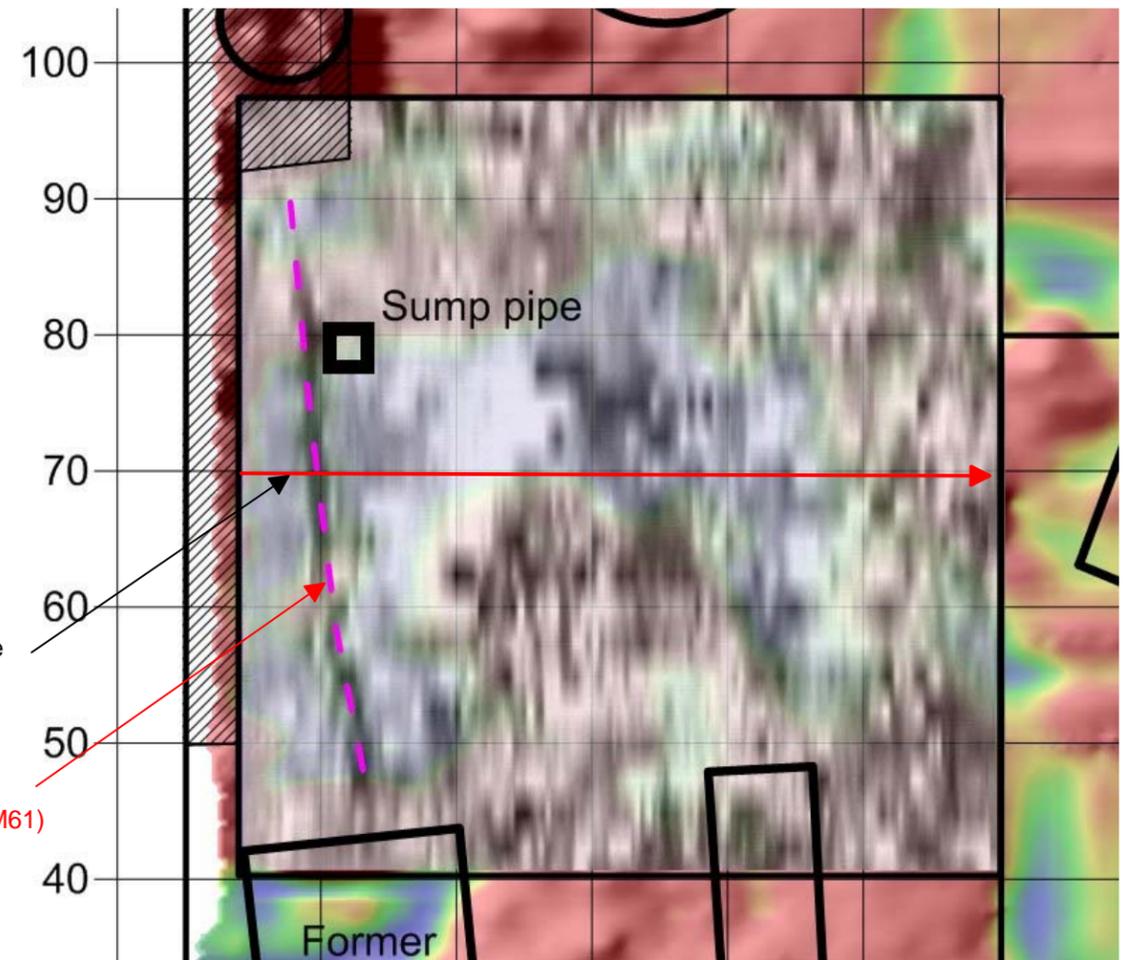
3D BLOCK INTERPRETATION



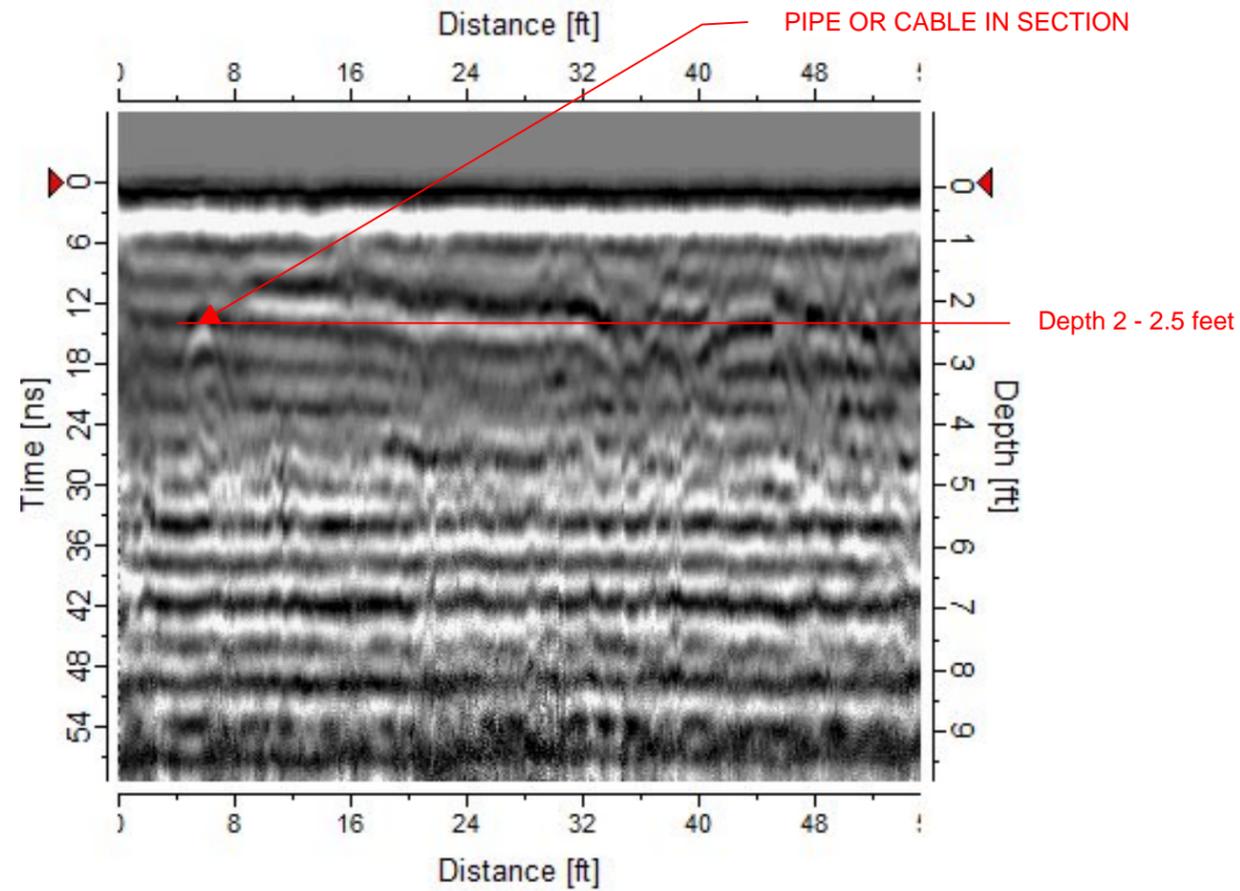
PIPE OR CABLE IN SECTION

Location of example profile

COMPARISON OF 3D SLICE WITH METAL DISTRIBUTION FROM EM61



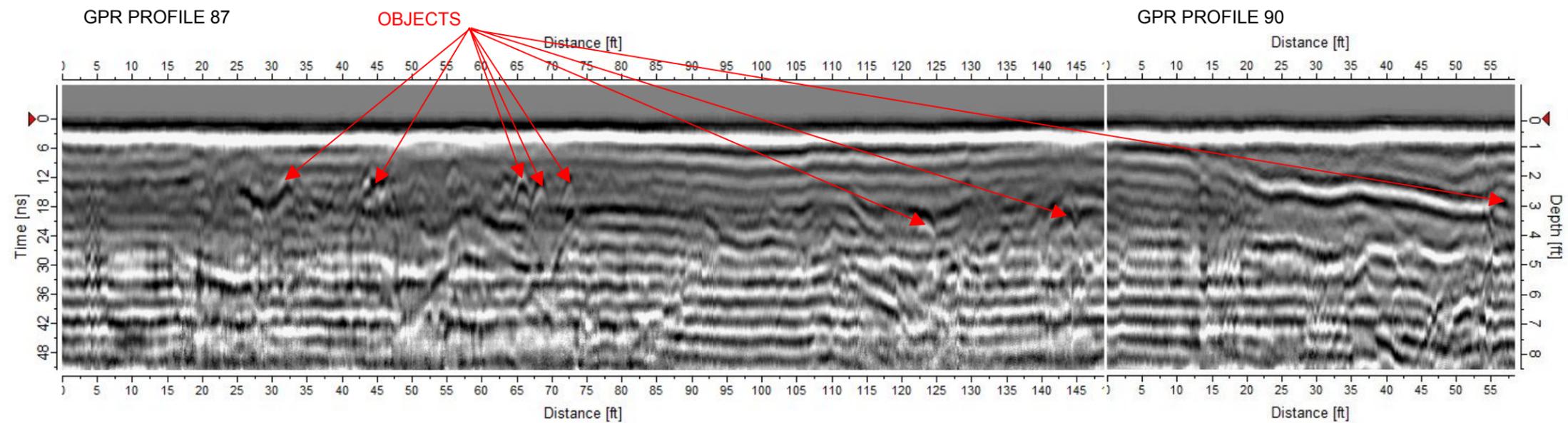
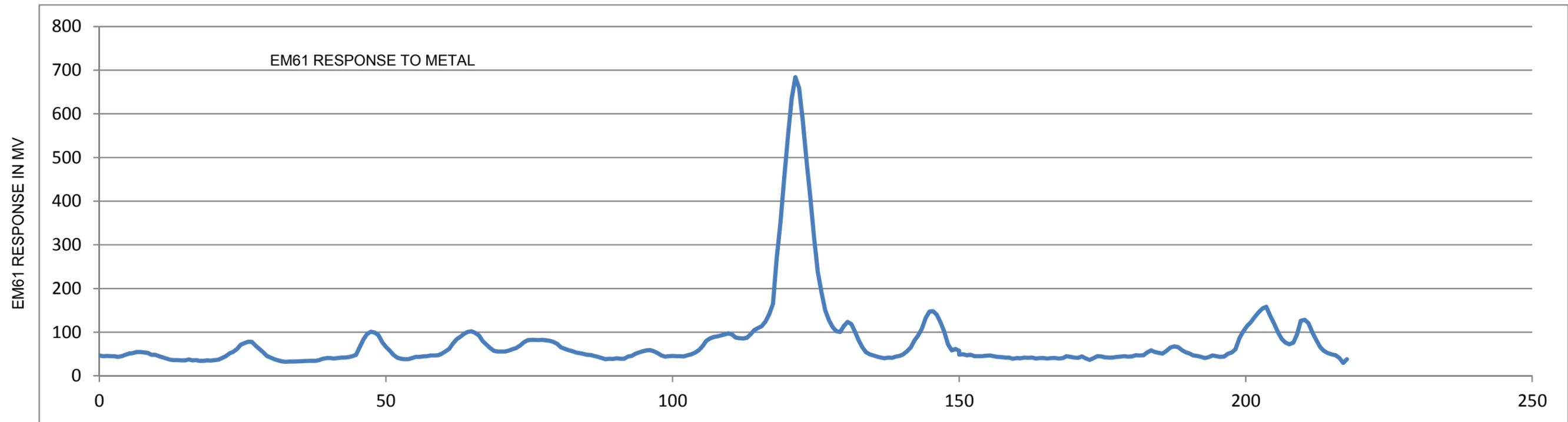
2D PROFILE INTERPRETATION



PIPE OR CABLE IN PLAN VIEW
(observed from both GPR and EM61)

NOTE: For location of example block see Figure 5.

FIGURE 6
EXAMPLE OF GPR INTERPRETATION
PREPARED FOR
CORE ENVIRONMENTAL SERVICES
LEWISBURG, WV



NOTE: For location of profiles see Figure 5

FIGURE 7

GPR PROFILES FROM LOWER AREA

PREPARED FOR

CORE ENVIRONMENTAL SERVICES
LEWISBURG, WV

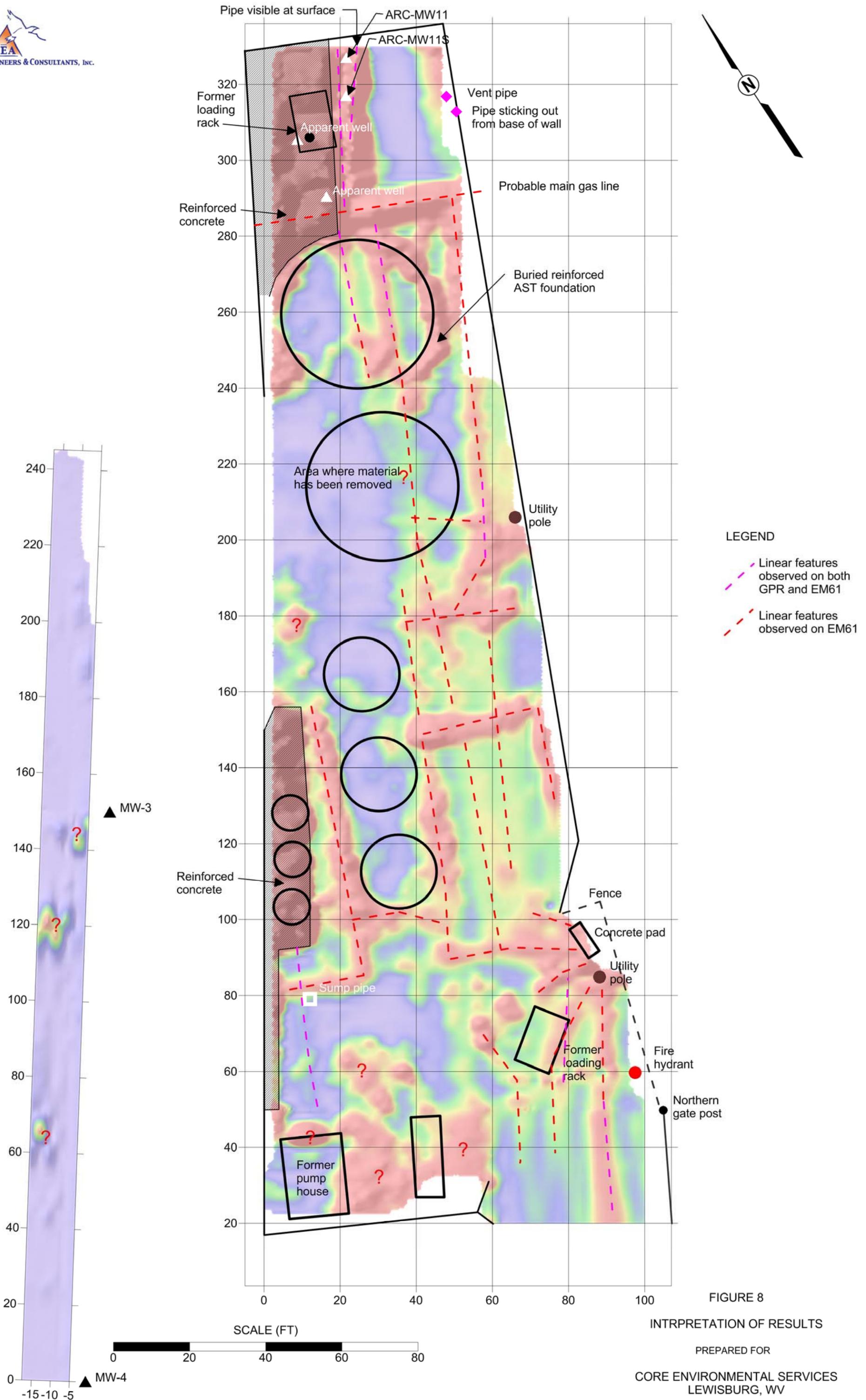


FIGURE 8

INTRPRETATION OF RESULTS

PREPARED FOR

CORE ENVIRONMENTAL SERVICES
LEWISBURG, WV

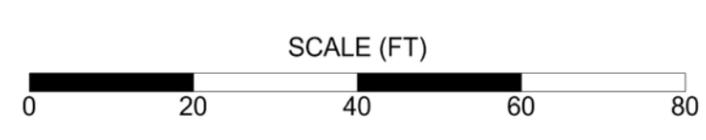
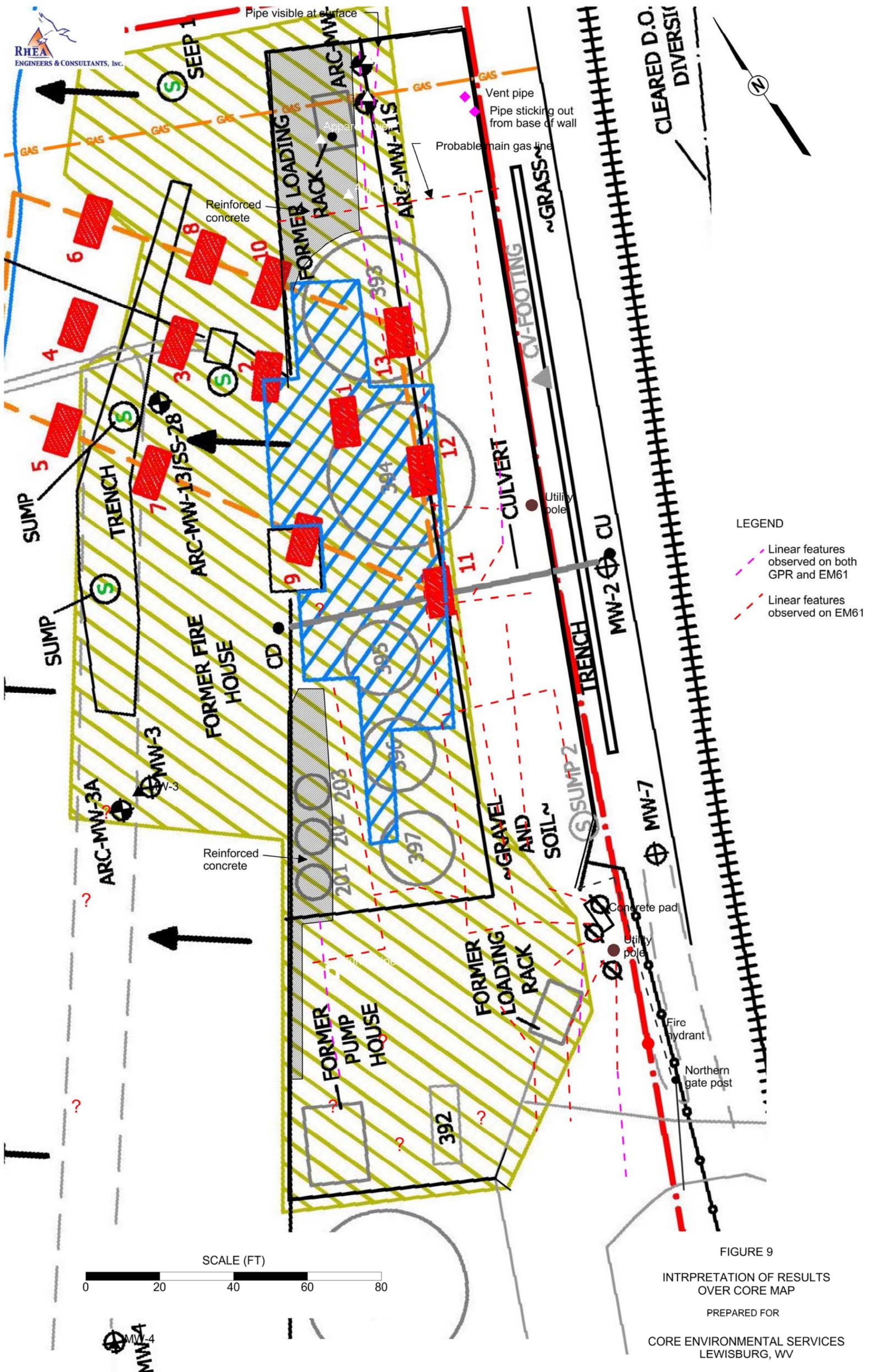


FIGURE 9
INTRPRETATION OF RESULTS
OVER CORE MAP
PREPARED FOR
CORE ENVIRONMENTAL SERVICES
LEWISBURG, WV

APPENDIX B

PHOTOGRAPHIC DOCUMENTATION



View of test pit TP-1 location.



View of test pit TP-2 location during excavation activities.
Photo taken from the southwest while facing northeast on 8/26/2015.



View of test pit TP-2 location.



View of test pit TP-2 location.
Photo taken from the southwest while facing northeast on 8/26/2015.



View of test pit TP-2 location. Note photo taken during excavation of test pit TP-2; test pit was at approximately eight feet in depth.



View of test pit TP-2 location. Note photo taken at an upslope angle.



View of test pit TP-2 location during excavation activities.
Photo taken from the northwest while facing southeast on 8/26/2015.



View of test pit TP-2 location. Note presence of construction and demolition waste.
Photo taken from the northwest while facing southeast on 8/26/2015.



View of test pit TP-3 location. Note photo taken during excavation of test pit TP-3; test pit was at approximately four feet in depth.



View of test pit TP-3 location during excavation activities.
Photo taken from the southwest at the toe of slope down gradient of TP-2.



View of test pit TP-3 location during excavation activities.
Photo taken from the north while facing south on 8/27/2015.



View of test pit TP-4 location during excavation activities.
Photo taken from the north while facing south on 8/27/2015.



View of test pit TP-5 location.
Photo taken from the east while facing south on 8/27/2015.



View of material removed from test pit TP-5 location.



View of material removed from test pit TP-5 location.
Photo taken from the southwest while facing northeast on 8/27/2015.



View of test pit TP-6 location during excavation activities.
Photo taken from the southwest while facing northeast on 8/27/2015.



View of test pit TP-6 location during excavation activities.
Photo taken from the south while facing north on 8/27/2015.



View of test pit TP-7 location during excavation activities.
Photo taken from the southwest while facing northeast on 8/27/2015.



View of test pit TP-7 location during excavation activities.
Photo taken from the southwest while facing northeast on 8/27/2015.



View of test pit TP-8 east wall following excavation activities.



View of test pit TP-8 location during excavation activities.
Photo taken from the southwest while facing northeast on 8/27/2015.



View of test pit TP-8 location during excavation activities.
Photo taken from the southwest while facing northeast wall of TP-8 on 8/27/2015.



View of material removed from four – six feet depth from within test pit TP-8.



View of test pit TP-10 location.
Note presence of construction and demolition waste.



View of test pit TP-10 location during excavation activities.
Photo taken from the southwest while facing northeast on 8/26/2015.



View of test pit TP-10 location.



View of northeast end of test pit TP-10 location.
Photo taken from the south while facing north on 8/26/2015.



View of test pit TP-11 location during excavation activities.
Photo taken from the southwest while facing northeast on 8/26/2015.



View of test pit TP-11 location. Note photo taken during excavation of test pit TP-11; test pit was at approximately four feet in depth.



View of test pit TP-11 location.
Photo taken during excavation of test pit TP-11; Note piping near surface at right.
Photo taken from the southwest while facing northeast on 8/26/2015.



View of test pit TP-12 location during excavation activities.
Photo taken from the southwest while facing northeast on 8/26/2015.



View of test pit TP-12 location during excavation activities.
Photo taken from the southeast while facing northwest on 8/26/2015.



View of test pit TP-14 location during excavation.
Photo taken from the south while facing north on 9/1/2015.



View of test pit TP-15 location following excavation.
Photo taken from the east-southeast while facing west-northwest on 9/1/2015.



View of test pit TP-15 location.
Photo taken from the south-southeast while facing north-northwest on 9/1/2015.



View of test pit TP-15 location following excavation.
Photo taken from the south while facing north on 9/1/2015.



View of test pit TP-16 location during excavation.
Photo taken from the south-southeast while facing north-northwest on 9/1/2015.



View of test pit TP-15 staked location during excavation activities.
Photo taken from the east while facing west on 9/1/2015.



View of test pit TP-14 staked location near wall and test pit TP-16 staked location at lower right. Photo taken from the south while facing north on 9/1/2015.



View of test pit TP-16 staked location.
Photo taken from the northeast while facing southwest on 9/1/2015.



View of test pit TP-17 location during excavation.
Photo taken from the west-southwest while facing east-northeast on 9/1/2015.



View of test pit TP-17 location. Note piping at center of the photo.
Photo taken on 9/1/2015.



View of test pit TP-17 staked location.

APPENDIX C

TEST PIT LOGS

PROJECT NAME:	Freedom Industries, Inc. - Etowah Terminal	TEST PIT NUMBER:	TP-1	EXCAVATION METHOD:	Excavation
ADDRESS:	1015 Barlow Drive	CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:	Charleston, WV			EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:	FRE-2015-364	DATE STARTED:	8/26/2015	DATE / TIME FINISHED:	8/26/2015
LAND OWNER:	Freedom Industries, Inc	LOGGED BY:	Sotero Svingos		

SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS	QVM OVA (circle one)
RECOVERY	INTERVAL			UNITS:
		G.S.		ppm
75%	0-2 ft. bgs	1	Fill cobble and gravel (GW)	2.5
		2		
	2-4 ft. bgs	3	Construction and demolition waste (SM)	NR
		4		
	4-5.5 ft. bgs	5	Dark brown silt, medium stiff, and dry, with hydrocarbon odor (SM)	663.8
		445.2		

Refusal not met. Test pit total depth was 5.5 ft. below ground surface (bgs). Soil samples collected from 2-4 and 4-5.5 ft. bgs. No groundwater encountered. Field duplicate (FD-1) was collected from 2-4 ft. bgs. Construction and demolition waste was observed between 2-3.5 ft. bgs.

PROJECT NAME:	Freedom Industries, Inc. - Etowah Terminal	TEST PIT NUMBER:	TP-2	EXCAVATION METHOD:	Excavation
ADDRESS:	1015 Barlow Drive	CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:	Charleston, WV			EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:	FRE-2015-364	DATE STARTED:	8/26/2015	DATE / TIME FINISHED:	8/26/2015
LAND OWNER:	Freedom Industries, Inc	LOGGED BY:	Sotero Svingos		

SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS	QVA OVA (circle one)	
RECOVERY	INTERVAL			UNITS: ppm	
		G.S.			
75%	0-2 ft. bgs	1	Fill construction and demolition waste with brown silty sand, dry and soft, with hydrocarbon odor (SM)	11.0	
		2			
	2-4 ft. bgs	3		9.5	
		4			
4-6 ft. bgs	5	3.3			
	6				
75%	6-8 ft. bgs	7		Brown gray silty sand, stiff, and moist, with construction and demolition waste (SM)	131.8
		8			
	8-10 ft. bgs	9		Dark gray silt and sand with trace of MCHM odor (SM)	50.1
		10			
75%	10-12 ft. bgs	11			605.8
		12			

Refusal not met. Test pit total depth was 12 ft. below ground surface (bgs). Soil samples collected from 6-8 and 10-12 ft. bgs. No groundwater encountered. Construction and demolition wast observed between 0-8 ft. bgs.

PROJECT NAME:	Freedom Industries, Inc. - Etowah Terminal	TEST PIT NUMBER:	TP-3	EXCAVATION METHOD:	Excavation
ADDRESS:	1015 Barlow Drive	CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:	Charleston, WV			EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:	FRE-2015-364	DATE STARTED:	8/26/2015	DATE / TIME FINISHED:	8/27/2015
LAND OWNER:	Freedom Industries, Inc	LOGGED BY:	Sotero Svingos		

SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS	OVA OVA (circle one)
RECOVERY	INTERVAL			UNITS:
		G.S.	Vegetation	ppm
75%	0-2 ft. bgs	1	Fill construction and demolition mixed, grades gray, moist to wet, and very soft (SM)	2.9
		2		
	2-4 ft. bgs	3		3.4
		4		
4-6 ft. bgs	5	Grades gray, moist to wet, and very soft (SM)	117.5	
75%	6-8 ft. bgs	6	Grades dark gray to black with MCHM odor, filtration water present from up slope (SM)	108.2
		7		
		8		

Refusal not met. Test pit total depth was 8 ft. below ground surface (bgs). Soil samples collected from 0-2 (west end), 2-4, 4-6, and 6-8 ft. bgs. No groundwater encountered. Field duplicate (FD-4) was collected from 6-8 ft. bgs. Field duplicate (FD-5) was collected from 0-2 (west end) ft. bgs. Construction and demolition waste observed from 0-4.5 ft. bgs.

PROJECT NAME:		Freedom Industries, Inc. - Etowah Terminal		TEST PIT NUMBER:	TP-4	EXCAVATION METHOD:	Excavation
ADDRESS:		1015 Barlow Drive		CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:		Charleston, WV				EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:		FRE-2015-364		DATE STARTED:	8/26/2015	DATE / TIME FINISHED:	8/27/2015
LAND OWNER:		Freedom Industries, Inc		LOGGED BY:	Sotero Svingos		
SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS				<u>QVM</u> OVA (circle one)
RECOVERY	INTERVAL						UNITS:
		G.S.	Vegetation				ppm
75%	0-2 ft. bgs	1	Brown sand, fine grained, soft, and dry (SM)				NR
		2					
	2-4 ft. bgs	3	Limeston cobbles, at approximately 6 in. in diameter (SM)				NR
		4					
	4-6 ft. bgs	5					3.7
		6					
Refusal not met. Test pit total depth was 6 ft. below ground surface (bgs). Soil sample collected from 4-6 ft. bgs. No groundwater encountered. No construction and demolition waste observed.							

PROJECT NAME:	Freedom Industries, Inc. - Etowah Terminal		TEST PIT NUMBER:	TP-5	EXCAVATION METHOD:	Excavation
ADDRESS:	1015 Barlow Drive		CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:	Charleston, WV				EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:	FRE-2015-364		DATE STARTED:	8/26/2015	DATE / TIME FINISHED:	8/27/2015
LAND OWNER:	Freedom Industries, Inc		LOGGED BY:	Sotero Svingos		
SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS			<input checked="" type="radio"/> OVA (circle one)
RECOVERY	INTERVAL					UNITS:
		G.S.	Vegetation/river bank			ppm
75%	0-2 ft. bgs	1	Fine sand with cobbles, between 4-12 in. in diameter (SM)			4.0
		2				
	2-4 ft. bgs	3				3.9
		4				
	4-6 ft. bgs	5				5.0
		6				
Refusal not met. Test pit total depth was 6 ft. below ground surface (bgs). Soil sample collected from 4-6 ft. bgs. No groundwater encountered. No construction and demolition waste observed.						

PROJECT NAME:	Freedom Industries, Inc. - Etowah Terminal		TEST PIT NUMBER:	TP-6	EXCAVATION METHOD:	Excavation
ADDRESS:	1015 Barlow Drive		CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:	Charleston, WV				EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:	FRE-2015-364		DATE STARTED:	8/26/2015	DATE / TIME FINISHED:	8/27/2015
LAND OWNER:	Freedom Industries, Inc		LOGGED BY:	Sotero Svingos		
SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS			<u>OVA</u> OVA (circle one)
RECOVERY	INTERVAL					UNITS:
		G.S.	Vegetation			ppm
75%	0-2 ft. bgs	1	Brown sand with silt, and cabion stone (SM)			2.5
		2	Roots (SM)			
Refusal not met. Test pit total depth was 2 ft. below ground surface (bgs). Soil sample collected from 0-2 ft. bgs. No groundwater encountered. No construction and demolition waste observed.						

PROJECT NAME:	Freedom Industries, Inc. - Etowah Terminal	TEST PIT NUMBER:	TP-7	EXCAVATION METHOD:	Excavation
ADDRESS:	1015 Barlow Drive	CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:	Charleston, WV			EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:	FRE-2015-364	DATE STARTED:	8/26/2015	DATE / TIME FINISHED:	8/27/2015
LAND OWNER:	Freedom Industries, Inc	LOGGED BY:	Sotero Svingos		
SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS		QVM OVA (circle one)
RECOVERY	INTERVAL				UNITS:
		G.S.	Vegetation		ppm
75%	0-2 ft. bgs	1	Brown sandy silt, medium stiff, and dry (SM)		5.0
		2			
	2-4 ft. bgs	3	Grades gray to dark brown (SM)		14.4
		4			
	4-6 ft. bgs	5	Grades light sand, fine, and trace of hydrocarbon odor (SM)		17.2
		6			
Refusal not met. Test pit total depth was 6 ft. below ground surface (bgs). Soil sample collected from 2-4 ft. bgs. No groundwater encountered. No construction and demolition waste observed.					

PROJECT NAME:		Freedom Industries, Inc. - Etowah Terminal		TEST PIT NUMBER:	TP-8	EXCAVATION METHOD:	Excavation											
ADDRESS:		1015 Barlow Drive		CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator											
CITY, STATE:		Charleston, WV				EXCAVATION CREW:	SPSI West Inc.											
PROJECT NUMBER:		FRE-2015-364		DATE STARTED:	8/26/2015	DATE / TIME FINISHED:	8/27/2015											
LAND OWNER:		Freedom Industries, Inc		LOGGED BY:	Sotero Svingos													
SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS				OVM OVA (circle one)											
RECOVERY	INTERVAL						UNITS:											
		G.S.	Grass				ppm											
75%	0-2 ft. bgs	1	Brown sand with silt, soft, and moist (SM)				1.1											
		2																
	2-4 ft. bgs	3									6.0							
		4																
	4-6 ft. bgs	5											Grades more moisture (SM)				17.2	
		6																
	6-6.5 ft. bgs																	
	Refusal not met. Test pit total depth was 6.5 ft. below ground surface (bgs). Soil sample collected from 4-6 ft. bgs. No groundwater encountered. No construction and demolition waste observed. Field duplicate (FD-3) was collected from 4-6 ft. bgs.																	

PROJECT NAME:	Freedom Industries, Inc. - Etowah Terminal	TEST PIT NUMBER:	TP-9	EXCAVATION METHOD:	Excavation
ADDRESS:	1015 Barlow Drive	CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:	Charleston, WV			EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:	FRE-2015-364	DATE STARTED:	8/26/2015	DATE / TIME FINISHED:	8/26/2015
LAND OWNER:	Freedom Industries, Inc	LOGGED BY:	Sotero Svingos		

SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS	<input checked="" type="radio"/> OVA OVA (circle one)	
RECOVERY	INTERVAL			UNITS:	
		G.S.	Gravel	ppm	
75%	0-2 ft. bgs	1	Brown silt, soft, and dry, strong MCHM odor (SM)	121.6	
		2			
	2-4 ft. bgs	3		239.7	
		4			
4-6 ft. bgs	5	315.3			
	6				
75%	6-8 ft. bgs	7		Grade gray and brown mottled (SM)	351.9
		8			
	8-10 ft. bgs	9			428.8
		10			
10-12 ft. bgs	11	372.2			
	12				

Refusal not met. Test pit total depth was 12 ft. below ground surface (bgs). Soil sample collected from 8-10 ft. bgs. No groundwater encountered. No construction and demolition waste observed. Field duplicate (FD-2) was collected from 8-10 ft. bgs.

PROJECT NAME:		Freedom Industries, Inc. - Etowah Terminal		TEST PIT NUMBER:	TP-10	EXCAVATION METHOD:	Excavation
ADDRESS:		1015 Barlow Drive		CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:		Charleston, WV				EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:		FRE-2015-364		DATE STARTED:	8/26/2015	DATE / TIME FINISHED:	8/26/2015
LAND OWNER:		Freedom Industries, Inc		LOGGED BY:	Sotero Svingos		
SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS				QVA OVA (circle one)
RECOVERY	INTERVAL						UNITS:
		G.S.	Grass				ppm
75%	0-2 ft. bgs	1	Fill cobbles (GW)				1.2
		2	Dark brown silt, medium stiff, and dry (SM)				
	2-4 ft. bgs	3					4.9
		4					
75%	4-6 ft. bgs	5					NR
		6	Brick debris, grades light brown (SM)				
	6-8 ft. bgs	7					
		8					
75%	8-10 ft. bgs	9	Grades sandy (SM)				3.0
		10					
75%	10-12 ft. bgs	11	Grades light brown sand with gravel (SM)				3.6
		12					
Refusal not met. Test pit total depth was 12 ft. below ground surface (bgs). Soil samples collected from 2-4 and 10-12 ft. bgs. No groundwater encountered. Construction and demolition waste observed from approximately 3.75-7.75 ft. bgs.							

PROJECT NAME:		Freedom Industries, Inc. - Etowah Terminal		TEST PIT NUMBER:	TP-11	EXCAVATION METHOD:	Excavation
ADDRESS:		1015 Barlow Drive		CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:		Charleston, WV				EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:		FRE-2015-364		DATE STARTED:	8/26/2015	DATE / TIME FINISHED:	8/26/2015
LAND OWNER:		Freedom Industries, Inc		LOGGED BY:	Sotero Svingos		
SAMPLE		DEPTH		LITHOLOGIC DESCRIPTIONS			OVA OVA (circle one)
RECOVERY	INTERVAL						UNITS: ppm
		G.S.		Gravel			
75%	0-2 ft. bgs	1		Gravel, sand, and silt mix (GW)			76.7
		2					
	2-4 ft. bgs	3		Dark brown gray silty clay with a strong hydrocarbon odor (SM)			321.2
		4					
75%	4-6 ft. bgs	5		Mottled brown and light gray silty clay, medium soft, with a strong hydrocarbon odor (SM)			540.5
		6					
	6-7 ft. bgs	7					
Refusal not met. Test pit total depth was 7 ft. below ground surface (bgs). Soil samples collected from 2-4 and 4-6 ft. bgs. No groundwater encountered. No construction and demolition waste observed.							

PROJECT NAME:		Freedom Industries, Inc. - Etowah Terminal		TEST PIT NUMBER:	TP-12	EXCAVATION METHOD:	Excavation
ADDRESS:		1015 Barlow Drive		CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:		Charleston, WV				EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:		FRE-2015-364		DATE STARTED:	8/26/2015	DATE / TIME FINISHED:	8/26/2015
LAND OWNER:		Freedom Industries, Inc		LOGGED BY:	Sotero Svingos		
SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS				<u>OVM</u> OVA (circle one)
RECOVERY	INTERVAL						UNITS:
		G.S.	Gravel				ppm
75%	0-2 ft. bgs	1	Fill sand and gravel (GW)				330.8
		2					
	2-4 ft. bgs	3	Dark brown sandy silt, medium soft, and dry, with a hydrocarbon odor (SW)				784.8
		4					
75%	4-6 ft. bgs	5	Grades less sand, medium stiff (SW)				446.1
		6					
	6-7 ft. bgs	7	Grades brown and gray mottled silty clay (SW)				
Refusal not met. Test pit total depth was 7 ft. below ground surface (bgs). Soil samples collected from 0-2 and 4-6 ft. bgs. No groundwater encountered. No construction and demolition waste observed.							

PROJECT NAME:		Freedom Industries, Inc. - Etowah Terminal		TEST PIT NUMBER:	TP-13	EXCAVATION METHOD:	Excavation
ADDRESS:		1015 Barlow Drive		CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:		Charleston, WV				EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:		FRE-2015-364		DATE STARTED:	8/26/2015	DATE / TIME FINISHED:	8/26/2015
LAND OWNER:		Freedom Industries, Inc		LOGGED BY:	Sotero Svingos		
SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS				<u>OVA</u> OVA (circle one)
RECOVERY	INTERVAL						UNITS:
		G.S.	Grass				ppm
75%	0-2 ft. bgs	1	Fill including concrete, and ceramic brick fragments (GW)				23.3
		2					
	2-4 ft. bgs	3	Dark gray sandy silt, medium stiff, and dry (SM)				565.5
		4					
75%	4-6 ft. bgs	5	Subangular cobbles between 3-4 in. in diameter (SM)				124.6
		6					
75%	6-8 ft. bgs	7	More sand less gravel (SM)				110.4
		8					
75%	8-10 ft. bgs	9	Large cobbles between 4-8 in. in diameter, subangular to subrounded (SM)				346.8
		10	Wet (SM)				
75%	10-12 ft. bgs	11	Brown mottled gray stiff dry sandy silt (SM)				2.4
	12						
Refusal not met. Test pit total depth was 12 ft. below ground surface (bgs). Soil samples collected from 2-4 and 10-12 ft. bgs. No groundwater encountered. No construction and demolition waste observed.							

PROJECT NAME:	Freedom Industries, Inc. - Etowah Terminal	TEST PIT NUMBER:	TP-14	EXCAVATION METHOD:	Excavation
ADDRESS:	1015 Barlow Drive	CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:	Charleston, WV			EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:	FRE-2015-364	DATE STARTED:	9/1/2015	DATE / TIME FINISHED:	9/1/2015
LAND OWNER:	Freedom Industries, Inc	LOGGED BY:	Sotero Svingos		

SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS	<input checked="" type="checkbox"/> OVA OVA (circle one)	
RECOVERY	INTERVAL			UNITS:	
		G.S.	Concrete	ppm	
75%	0-2 ft. bgs	1	Brown silt, medium stiff, and dry, with trace of hydrocarbon odor (SM)	57.3	
		2			
	2-4 ft. bgs	3		Trace of hydrocarbon odor (SM)	419.0
		4			
75%	4-6 ft. bgs	5	Grades gray (SM)	363.5	
		6			
	6-8 ft. bgs	7	Grades mottled brown and gray (SM)	113.4	
		8			
8-10 ft. bgs	9	Grades more sand (SM)	105.5		
	10				
75%	10-12 ft. bgs	11	Grades moist (SM)	233.7	
		12			
75%	12-14 ft. bgs	13	Grades silty sand, fine grained (SM)	224.5	
		14			
	14-16 ft. bgs	15		46.3	
		16			
16-17 ft. bgs	17	419.5			

Refusal not met. Test pit total depth was 17 ft. below ground surface (bgs). Soil samples collected from 2-4 and 16-18 ft. bgs. No groundwater encountered. Field duplicate (FD-6) was collected from 16-17 ft. bgs. No construction and demolition waste observed.

PROJECT NAME:	Freedom Industries, Inc. - Etowah Terminal	TEST PIT NUMBER:	TP-15	EXCAVATION METHOD:	Excavation
ADDRESS:	1015 Barlow Drive	CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:	Charleston, WV	EXCAVATION CREW:	SPSI West Inc.		
PROJECT NUMBER:	FRE-2015-364	DATE STARTED:	9/1/2015	DATE / TIME FINISHED:	9/1/2015
LAND OWNER:	Freedom Industries, Inc	LOGGED BY:	Sotero Svingos		

SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS	<input checked="" type="checkbox"/> OVA OVA (circle one)	
RECOVERY	INTERVAL			UNITS: ppm	
		G.S.	Gravel/concrete		
75%	0-2 ft. bgs	1	Brown silt, trace of sand, stiff, and dry (SM)	9.9	
		2			
	2-4 ft. bgs	3		16.3	
		4			
4-6 ft. bgs	5	348.6			
	6				
75%	6-8 ft. bgs	7		Grades brown and gray (SM)	32.8
		8			
	8-10 ft. bgs	9		Grades with fine sand (SM)	147.1
		10			
75%	10-12 ft. bgs	11		Grades moist (SM)	84.5
		12			
	12-14 ft. bgs	13			37.2
		14			
14-16 ft. bgs	15	Grades more silt (SM)			17.9
	16				

Refusal not met. Test pit total depth was 16 ft. below ground surface (bgs). Soil samples collected from 4-6 and 14-16 ft. bgs. No groundwater encountered. No construction and demolition waste observed.

PROJECT NAME:	Freedom Industries, Inc. - Etowah Terminal	TEST PIT NUMBER:	TP-16	EXCAVATION METHOD:	Excavation
ADDRESS:	1015 Barlow Drive	CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:	Charleston, WV			EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:	FRE-2015-364	DATE STARTED:	9/1/2015	DATE / TIME FINISHED:	9/1/2015
LAND OWNER:	Freedom Industries, Inc	LOGGED BY:	Sotero Svingos		
SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS		<input checked="" type="checkbox"/> OVA OVA (circle one)
RECOVERY	INTERVAL				UNITS: ppm
		G.S.	Gravel		
75%	0-2 ft. bgs	1	Fill sand and gravel (GW)		10.1
		2			
75%	2-4 ft. bgs	3	Reddish brown, silt, with trace of sand, stiff, and dry (SM)		43.2
		4			
75%	4-6 ft. bgs	5	Grades mottled brown and gray, with trace of MCHM odor (SM)		264.8
		6			
75%	6-8 ft. bgs	7	Grades reddish brown (SM)		41.8
		8			
75%	8-10 ft. bgs	9	Grades with sand, moist, and fined grained (SM)		111.2
		10			
75%	10-12 ft. bgs	11	Grades with more sand (SM)		23.1
		12			
75%	12-14 ft. bgs	13	Grades with more moisture (SM)		244.5
		14			
75%	14-16 ft. bgs	15	Grades with more sand (SM)		14.3
		16			
75%	16-18 ft. bgs	17	Grades with more moisture (SM)		10.0
		18			

Refusal not met. Test pit total depth was 18 ft. below ground surface (bgs). Soil samples collected from 4-6, 12-14, and 16-18 ft. bgs. No groundwater encountered. Field duplicate (FD-7) was collected from 4-6 ft. bgs. No construction and demolition waste observed.

PROJECT NAME:	Freedom Industries, Inc. - Etowah Terminal	TEST PIT NUMBER:	TP-17	EXCAVATION METHOD:	Excavation
ADDRESS:	1015 Barlow Drive	CONTRACTOR:	CORE Environmental Services, Inc.	EXCAVATION RIG:	Excavator
CITY, STATE:	Charleston, WV	DATE STARTED:	9/1/2015	EXCAVATION CREW:	SPSI West Inc.
PROJECT NUMBER:	FRE-2015-364	LOGGED BY:	Sotero Svingos	DATE / TIME FINISHED:	9/1/2015
LAND OWNER:	Freedom Industries, Inc				

SAMPLE		DEPTH	LITHOLOGIC DESCRIPTIONS	<input checked="" type="checkbox"/> OVA (circle one)
RECOVERY	INTERVAL			UNITS: ppm
		G.S.	Gravel	
	0-2 ft. bgs	1	Fill gravel and sand (GW)	7.5
		2		
75%	2-4 ft. bgs	3	Brown silt, stiff, and dry, with trace of MCHM odor (SM)	7.5
		4		
	4-6 ft. bgs	5		281.8
		6		
75%	6-8 ft. bgs	7	Grades brown and gray mottled (SM)	318.6
		8		
	8-10 ft. bgs	9		430.9
		10		
75%	10-12 ft. bgs	11	Grades brown (SM)	572.0
		12		
	12-14 ft. bgs	13		28.4
		14		
75%	14-16 ft. bgs	15	Grades more sand, and moist (SM)	143.5
		16		

Refusal not met. Test pit total depth was 16 ft. below ground surface (bgs). Soil samples collected from 10-12 and 14-16 ft. bgs. No groundwater encountered. No construction and demolition waste observed.

APPENDIX D

LABORATORY ANALYTICAL DATA



02-Sep-2015

Matt Ford
Core Environmental
533 North Jefferson Street
Lewisburg, WV 24901

Re: **Freedom Industries**

Work Order: **15081582**

Dear Matt,

ALS Environmental received 18 samples on 28-Aug-2015 11:10 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 29.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Rebecca Kiser".

Electronically approved by: Rebecca Kiser

Rebecca Kiser
Project Manager



Certificate No: WV: 355

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

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Client: Core Environmental
 Project: Freedom Industries
 Work Order: 15081582

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
15081582-01	TP-1 2'-4'	Soil		8/26/2015 14:18	8/29/2015 10:00	<input type="checkbox"/>
15081582-02	TP-1 4'-5.5'	Soil		8/26/2015 14:45	8/29/2015 10:00	<input type="checkbox"/>
15081582-05	TP-3 0'-2' West End	Soil		8/27/2015 12:00	8/29/2015 10:00	<input type="checkbox"/>
15081582-06	TP-3 2'-4'	Soil		8/27/2015 11:00	8/29/2015 10:00	<input type="checkbox"/>
15081582-08	TP-3 6'-8'	Soil		8/27/2015 11:15	8/29/2015 10:00	<input type="checkbox"/>
15081582-09	TP-4 4'-6'	Soil		8/27/2015 10:10	8/29/2015 10:00	<input type="checkbox"/>
15081582-10	TP-5 4'-6'	Soil		8/27/2015 14:40	8/29/2015 10:00	<input type="checkbox"/>
15081582-11	TP-6 0'-2'	Soil		8/27/2015 09:45	8/29/2015 10:00	<input type="checkbox"/>
15081582-13	TP-8 4'-6'	Soil		8/27/2015 09:15	8/29/2015 10:00	<input type="checkbox"/>
15081582-14	TP-9 8'-10'	Soil		8/26/2015 15:35	8/29/2015 10:00	<input type="checkbox"/>
15081582-15	TP-10 2'-4'	Soil		8/26/2015 13:00	8/29/2015 10:00	<input type="checkbox"/>
15081582-16	TP-10 10'-12'	Soil		8/26/2015 13:25	8/29/2015 10:00	<input type="checkbox"/>
15081582-17	TP-11 2'-4'	Soil		8/26/2015 09:05	8/29/2015 10:00	<input type="checkbox"/>
15081582-18	TP-11 4'-6'	Soil		8/26/2015 09:10	8/29/2015 10:00	<input type="checkbox"/>
15081582-19	TP-12 0'-2'	Soil		8/26/2015 09:40	8/29/2015 10:00	<input type="checkbox"/>
15081582-20	TP-12 4'-6'	Soil		8/26/2015 09:45	8/29/2015 10:00	<input type="checkbox"/>
15081582-21	TP-13 2'-4'	Soil		8/26/2015 10:10	8/29/2015 10:00	<input type="checkbox"/>
15081582-22	TP-13 10'-12'	Soil		8/26/2015 10:55	8/29/2015 10:00	<input type="checkbox"/>

Client: Core Environmental
Project: Freedom Industries
WorkOrder: 15081582

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-1 2'-4'
Collection Date: 8/26/2015 02:18 PM

Work Order: 15081582
Lab ID: 15081582-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		110	220	µg/Kg-dry	1	8/31/2015 01:31
Propylene glycol phenyl ether	U		63	220	µg/Kg-dry	1	8/31/2015 01:31
Surr: 2,4,6-Tribromophenol	67.9			34-140	%REC	1	8/31/2015 01:31
Surr: 2-Fluorophenol	55.5			33-117	%REC	1	8/31/2015 01:31
Surr: Phenol-d6	62.2			40-106	%REC	1	8/31/2015 01:31
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	23		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-1 4'-5.5'
Collection Date: 8/26/2015 02:45 PM

Work Order: 15081582
Lab ID: 15081582-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		97	200	µg/Kg-dry	1	8/31/2015 01:51
Propylene glycol phenyl ether	U		57	200	µg/Kg-dry	1	8/31/2015 01:51
Surr: 2,4,6-Tribromophenol	72.1			34-140	%REC	1	8/31/2015 01:51
Surr: 2-Fluorophenol	58.0			33-117	%REC	1	8/31/2015 01:51
Surr: Phenol-d6	63.2			40-106	%REC	1	8/31/2015 01:51
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	17		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-3 0'-2' West End
Collection Date: 8/27/2015 12:00 PM

Work Order: 15081582
Lab ID: 15081582-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	24,000		510	1,000	µg/Kg-dry	5	8/31/2015 15:17
Propylene glycol phenyl ether	1,300		61	210	µg/Kg-dry	1	8/31/2015 02:12
Surr: 2,4,6-Tribromophenol	67.0			34-140	%REC	1	8/31/2015 02:12
Surr: 2-Fluorophenol	50.6			33-117	%REC	1	8/31/2015 02:12
Surr: Phenol-d6	52.4			40-106	%REC	1	8/31/2015 02:12
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	20		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-3 2'-4'
Collection Date: 8/27/2015 11:00 AM

Work Order: 15081582
Lab ID: 15081582-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		110	220	µg/Kg-dry	1	8/31/2015 02:33
Propylene glycol phenyl ether	U		65	220	µg/Kg-dry	1	8/31/2015 02:33
Surr: 2,4,6-Tribromophenol	45.0			34-140	%REC	1	8/31/2015 02:33
Surr: 2-Fluorophenol	44.7			33-117	%REC	1	8/31/2015 02:33
Surr: Phenol-d6	43.8			40-106	%REC	1	8/31/2015 02:33
MOISTURE			Method: E160.3M				Analyst: TM
Moisture	26		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-3 6'-8'
Collection Date: 8/27/2015 11:15 AM

Work Order: 15081582
Lab ID: 15081582-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		110	220	µg/Kg-dry	1	8/31/2015 02:53
Propylene glycol phenyl ether	U		64	220	µg/Kg-dry	1	8/31/2015 02:53
Surr: 2,4,6-Tribromophenol	64.2			34-140	%REC	1	8/31/2015 02:53
Surr: 2-Fluorophenol	51.8			33-117	%REC	1	8/31/2015 02:53
Surr: Phenol-d6	54.7			40-106	%REC	1	8/31/2015 02:53
MOISTURE			Method: E160.3M				Analyst: TM
Moisture	26		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-4 4'-6'
Collection Date: 8/27/2015 10:10 AM

Work Order: 15081582
Lab ID: 15081582-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		89	180	µg/Kg-dry	1	8/31/2015 03:14
Propylene glycol phenyl ether	U		53	180	µg/Kg-dry	1	8/31/2015 03:14
Surr: 2,4,6-Tribromophenol	51.6			34-140	%REC	1	8/31/2015 03:14
Surr: 2-Fluorophenol	49.2			33-117	%REC	1	8/31/2015 03:14
Surr: Phenol-d6	50.3			40-106	%REC	1	8/31/2015 03:14
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	10		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-5 4'-6'
Collection Date: 8/27/2015 02:40 PM

Work Order: 15081582
Lab ID: 15081582-10
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		89	180	µg/Kg-dry	1	8/31/2015 03:35
Propylene glycol phenyl ether	U		53	180	µg/Kg-dry	1	8/31/2015 03:35
Surr: 2,4,6-Tribromophenol	55.5			34-140	%REC	1	8/31/2015 03:35
Surr: 2-Fluorophenol	51.5			33-117	%REC	1	8/31/2015 03:35
Surr: Phenol-d6	51.4			40-106	%REC	1	8/31/2015 03:35
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	8.3		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-6 0'-2'
Collection Date: 8/27/2015 09:45 AM

Work Order: 15081582
Lab ID: 15081582-11
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		93	190	µg/Kg-dry	1	8/31/2015 03:55
Propylene glycol phenyl ether	U		55	190	µg/Kg-dry	1	8/31/2015 03:55
Surr: 2,4,6-Tribromophenol	58.6			34-140	%REC	1	8/31/2015 03:55
Surr: 2-Fluorophenol	61.3			33-117	%REC	1	8/31/2015 03:55
Surr: Phenol-d6	64.3			40-106	%REC	1	8/31/2015 03:55
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	13		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-8 4'-6'
Collection Date: 8/27/2015 09:15 AM

Work Order: 15081582
Lab ID: 15081582-13
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		99	200	µg/Kg-dry	1	8/31/2015 04:16
Propylene glycol phenyl ether	U		59	200	µg/Kg-dry	1	8/31/2015 04:16
Surr: 2,4,6-Tribromophenol	45.7			34-140	%REC	1	8/31/2015 04:16
Surr: 2-Fluorophenol	43.6			33-117	%REC	1	8/31/2015 04:16
Surr: Phenol-d6	44.7			40-106	%REC	1	8/31/2015 04:16
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	19		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-9 8'-10'
Collection Date: 8/26/2015 03:35 PM

Work Order: 15081582
Lab ID: 15081582-14
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	2,600		100	200	µg/Kg-dry	1	8/31/2015 04:36
Propylene glycol phenyl ether	1,300		59	200	µg/Kg-dry	1	8/31/2015 04:36
Surr: 2,4,6-Tribromophenol	77.7			34-140	%REC	1	8/31/2015 04:36
Surr: 2-Fluorophenol	60.1			33-117	%REC	1	8/31/2015 04:36
Surr: Phenol-d6	65.0			40-106	%REC	1	8/31/2015 04:36
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	20		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-10 2'-4'
Collection Date: 8/26/2015 01:00 PM

Work Order: 15081582
Lab ID: 15081582-15
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		99	200	µg/Kg-dry	1	8/31/2015 04:57
Propylene glycol phenyl ether	U		58	200	µg/Kg-dry	1	8/31/2015 04:57
Surr: 2,4,6-Tribromophenol	49.2			34-140	%REC	1	8/31/2015 04:57
Surr: 2-Fluorophenol	57.3			33-117	%REC	1	8/31/2015 04:57
Surr: Phenol-d6	60.0			40-106	%REC	1	8/31/2015 04:57
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	18		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-10 10'-12'
Collection Date: 8/26/2015 01:25 PM

Work Order: 15081582
Lab ID: 15081582-16
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		91	190	µg/Kg-dry	1	8/31/2015 05:18
Propylene glycol phenyl ether	U		54	190	µg/Kg-dry	1	8/31/2015 05:18
Surr: 2,4,6-Tribromophenol	50.6			34-140	%REC	1	8/31/2015 05:18
Surr: 2-Fluorophenol	57.2			33-117	%REC	1	8/31/2015 05:18
Surr: Phenol-d6	59.7			40-106	%REC	1	8/31/2015 05:18
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	13		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-11 2'-4'
Collection Date: 8/26/2015 09:05 AM

Work Order: 15081582
Lab ID: 15081582-17
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		100	210	µg/Kg-dry	1	8/31/2015 05:38
Propylene glycol phenyl ether	U		62	210	µg/Kg-dry	1	8/31/2015 05:38
Surr: 2,4,6-Tribromophenol	58.6			34-140	%REC	1	8/31/2015 05:38
Surr: 2-Fluorophenol	54.3			33-117	%REC	1	8/31/2015 05:38
Surr: Phenol-d6	56.9			40-106	%REC	1	8/31/2015 05:38
MOISTURE			Method: E160.3M				Analyst: TM
Moisture	22		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-11 4'-6'
Collection Date: 8/26/2015 09:10 AM

Work Order: 15081582
Lab ID: 15081582-18
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		100	210	µg/Kg-dry	1	8/31/2015 05:59
Propylene glycol phenyl ether	U		61	210	µg/Kg-dry	1	8/31/2015 05:59
Surr: 2,4,6-Tribromophenol	71.1			34-140	%REC	1	8/31/2015 05:59
Surr: 2-Fluorophenol	59.8			33-117	%REC	1	8/31/2015 05:59
Surr: Phenol-d6	63.6			40-106	%REC	1	8/31/2015 05:59
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	22		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-12 0'-2'
Collection Date: 8/26/2015 09:40 AM

Work Order: 15081582
Lab ID: 15081582-19
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		100	200	µg/Kg-dry	1	8/31/2015 06:48
Propylene glycol phenyl ether	U		60	200	µg/Kg-dry	1	8/31/2015 06:48
Surr: 2,4,6-Tribromophenol	54.1			34-140	%REC	1	8/31/2015 06:48
Surr: 2-Fluorophenol	49.1			33-117	%REC	1	8/31/2015 06:48
Surr: Phenol-d6	50.7			40-106	%REC	1	8/31/2015 06:48
MOISTURE			Method: E160.3M				Analyst: TM
Moisture	19		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-12 4'-6'
Collection Date: 8/26/2015 09:45 AM

Work Order: 15081582
Lab ID: 15081582-20
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		100	200	µg/Kg-dry	1	8/31/2015 07:09
Propylene glycol phenyl ether	U		59	200	µg/Kg-dry	1	8/31/2015 07:09
Surr: 2,4,6-Tribromophenol	54.0			34-140	%REC	1	8/31/2015 07:09
Surr: 2-Fluorophenol	59.0			33-117	%REC	1	8/31/2015 07:09
Surr: Phenol-d6	63.0			40-106	%REC	1	8/31/2015 07:09
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	19		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-13 2'-4'
Collection Date: 8/26/2015 10:10 AM

Work Order: 15081582
Lab ID: 15081582-21
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		100	210	µg/Kg-dry	1	8/31/2015 07:30
Propylene glycol phenyl ether	U		61	210	µg/Kg-dry	1	8/31/2015 07:30
Surr: 2,4,6-Tribromophenol	53.0			34-140	%REC	1	8/31/2015 07:30
Surr: 2-Fluorophenol	60.1			33-117	%REC	1	8/31/2015 07:30
Surr: Phenol-d6	63.0			40-106	%REC	1	8/31/2015 07:30
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	20		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-13 10'-12'
Collection Date: 8/26/2015 10:55 AM

Work Order: 15081582
Lab ID: 15081582-22
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		100	200	µg/Kg-dry	1	8/31/2015 07:50
Propylene glycol phenyl ether	U		59	200	µg/Kg-dry	1	8/31/2015 07:50
Surr: 2,4,6-Tribromophenol	44.4			34-140	%REC	1	8/31/2015 07:50
Surr: 2-Fluorophenol	51.7			33-117	%REC	1	8/31/2015 07:50
Surr: Phenol-d6	52.8			40-106	%REC	1	8/31/2015 07:50
MOISTURE			Method: E160.3M				Analyst: TM
Moisture	19		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Core Environmental
Work Order: 15081582
Project: Freedom Industries

QC BATCH REPORT

Batch ID: **75419** Instrument ID **SVMS6** Method: **SW8270**

MBLK		Sample ID: SBLKS1-75419-75419				Units: µg/Kg		Analysis Date: 8/30/2015 06:09 PM			
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439724		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	U	82	170								
Propylene glycol phenyl ether	U	49	170								
<i>Surr: 2,4,6-Tribromophenol</i>	1161	0	0	1667	0	69.6	34-140	0			
<i>Surr: 2-Fluorophenol</i>	1049	0	0	1667	0	62.9	33-117	0			
<i>Surr: Phenol-d6</i>	1075	0	0	1667	0	64.5	40-106	0			

LCS		Sample ID: SLCSS1-75419-75419				Units: µg/Kg		Analysis Date: 8/30/2015 06:29 PM			
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439725		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2287	82	170	3333	0	68.6	50-130	0			
Propylene glycol phenyl ether	2232	49	170	3333	0	67	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	1231	0	0	1667	0	73.9	34-140	0			
<i>Surr: 2-Fluorophenol</i>	1117	0	0	1667	0	67	33-117	0			
<i>Surr: Phenol-d6</i>	1156	0	0	1667	0	69.4	40-106	0			

MS		Sample ID: 15081582-03A MS				Units: µg/Kg		Analysis Date: 8/30/2015 08:00 PM			
Client ID: TP-2 6'-8'		Run ID: SVMS6_150830A				SeqNo: 3439729		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	3149	81	170	3300	2648	15.2	50-130	0			S
Propylene glycol phenyl ether	2157	48	170	3300	487.6	50.6	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	888	0	0	1650	0	53.8	34-140	0			
<i>Surr: 2-Fluorophenol</i>	587.7	0	0	1650	0	35.6	33-117	0			
<i>Surr: Phenol-d6</i>	598.9	0	0	1650	0	36.3	40-106	0			S

MS		Sample ID: 15081582-04A MS				Units: µg/Kg		Analysis Date: 8/30/2015 10:04 PM			
Client ID: TP-2 10'-12'		Run ID: SVMS6_150830A				SeqNo: 3439735		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2161	80	160	3253	0	66.4	50-130	0			
Propylene glycol phenyl ether	1654	47	160	3253	0	50.9	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	847.9	0	0	1626	0	52.1	34-140	0			
<i>Surr: 2-Fluorophenol</i>	727.6	0	0	1626	0	44.7	33-117	0			
<i>Surr: Phenol-d6</i>	766	0	0	1626	0	47.1	40-106	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081582
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75419 Instrument ID SVMS6 Method: SW8270

MS		Sample ID: 15081582-07A MS				Units: µg/Kg		Analysis Date: 8/30/2015 11:06 PM			
Client ID: TP-3 4'-6'		Run ID: SVMS6_150830A				SeqNo: 3439738		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2847	82	170	3326	0	85.6	50-130	0			
Propylene glycol phenyl ether	2018	49	170	3326	0	60.7	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	1054	0	0	1663	0	63.4	34-140	0			
<i>Surr: 2-Fluorophenol</i>	895.7	0	0	1663	0	53.9	33-117	0			
<i>Surr: Phenol-d6</i>	924.6	0	0	1663	0	55.6	40-106	0			

MSD		Sample ID: 15081582-03A MSD				Units: µg/Kg		Analysis Date: 8/30/2015 08:21 PM			
Client ID: TP-2 6'-8'		Run ID: SVMS6_150830A				SeqNo: 3439730		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	3586	81	170	3313	2648	28.3	50-130	3149	13	35	S
Propylene glycol phenyl ether	2459	48	170	3313	487.6	59.5	50-130	2157	13.1	35	
<i>Surr: 2,4,6-Tribromophenol</i>	1126	0	0	1657	0	68	34-140	888	23.6		
<i>Surr: 2-Fluorophenol</i>	885.6	0	0	1657	0	53.5	33-117	587.7	40.4		
<i>Surr: Phenol-d6</i>	898.9	0	0	1657	0	54.3	40-106	598.9	40.1		

MSD		Sample ID: 15081582-04A MSD				Units: µg/Kg		Analysis Date: 8/30/2015 10:25 PM			
Client ID: TP-2 10'-12'		Run ID: SVMS6_150830A				SeqNo: 3439736		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	1969	82	170	3319	0	59.3	50-130	2161	9.28	35	
Propylene glycol phenyl ether	1385	48	170	3319	0	41.7	50-130	1654	17.7	35	S
<i>Surr: 2,4,6-Tribromophenol</i>	728.6	0	0	1660	0	43.9	34-140	847.9	15.1		
<i>Surr: 2-Fluorophenol</i>	634.6	0	0	1660	0	38.2	33-117	727.6	13.6		
<i>Surr: Phenol-d6</i>	680.5	0	0	1660	0	41	40-106	766	11.8		

MSD		Sample ID: 15081582-07A MSD				Units: µg/Kg		Analysis Date: 8/30/2015 11:27 PM			
Client ID: TP-3 4'-6'		Run ID: SVMS6_150830A				SeqNo: 3439739		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2481	80	160	3244	0	76.5	50-130	2847	13.7	35	
Propylene glycol phenyl ether	1800	47	160	3244	0	55.5	50-130	2018	11.4	35	
<i>Surr: 2,4,6-Tribromophenol</i>	905.4	0	0	1622	0	55.8	34-140	1054	15.2		
<i>Surr: 2-Fluorophenol</i>	786	0	0	1622	0	48.5	33-117	895.7	13		
<i>Surr: Phenol-d6</i>	850.9	0	0	1622	0	52.5	40-106	924.6	8.3		

The following samples were analyzed in this batch:

15081582-01A	15081582-02A	15081582-05A
15081582-06A	15081582-08A	15081582-09A
15081582-10A	15081582-11A	15081582-13A
15081582-14A	15081582-15A	15081582-16A
15081582-17A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081582
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75424 Instrument ID SVMS6 Method: SW8270

MBLK		Sample ID: SBLKS1-75424-75424				Units: µg/Kg			Analysis Date: 8/30/2015 06:50 PM		
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439726			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	U	82	170								
Propylene glycol phenyl ether	U	49	170								
Surr: 2,4,6-Tribromophenol	1097	0	0	1667	0	65.8	34-140	0			
Surr: 2-Fluorophenol	1062	0	0	1667	0	63.7	33-117	0			
Surr: Phenol-d6	1072	0	0	1667	0	64.3	40-106	0			

LCS		Sample ID: SLCSS1-75424-75424				Units: µg/Kg			Analysis Date: 8/30/2015 07:11 PM		
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439727			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2422	82	170	3333	0	72.7	50-130	0			
Propylene glycol phenyl ether	2392	49	170	3333	0	71.8	50-130	0			
Surr: 2,4,6-Tribromophenol	1195	0	0	1667	0	71.7	34-140	0			
Surr: 2-Fluorophenol	1182	0	0	1667	0	70.9	33-117	0			
Surr: Phenol-d6	1236	0	0	1667	0	74.1	40-106	0			

MS		Sample ID: 15081582-12A MS				Units: µg/Kg			Analysis Date: 8/30/2015 09:02 PM		
Client ID: TP-7 2'-4'		Run ID: SVMS6_150830A				SeqNo: 3439732			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2014	80	160	3242	0	62.1	50-130	0			
Propylene glycol phenyl ether	1755	47	160	3242	0	54.1	50-130	0			
Surr: 2,4,6-Tribromophenol	978.2	0	0	1621	0	60.3	34-140	0			
Surr: 2-Fluorophenol	855.7	0	0	1621	0	52.8	33-117	0			
Surr: Phenol-d6	862.5	0	0	1621	0	53.2	40-106	0			

MSD		Sample ID: 15081582-12A MSD				Units: µg/Kg			Analysis Date: 8/30/2015 09:23 PM		
Client ID: TP-7 2'-4'		Run ID: SVMS6_150830A				SeqNo: 3439733			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	1987	82	170	3326	0	59.7	50-130	2014	1.35	35	
Propylene glycol phenyl ether	1767	49	170	3326	0	53.1	50-130	1755	0.653	35	
Surr: 2,4,6-Tribromophenol	915	0	0	1663	0	55	34-140	978.2	6.67		
Surr: 2-Fluorophenol	830.9	0	0	1663	0	50	33-117	855.7	2.94		
Surr: Phenol-d6	852.8	0	0	1663	0	51.3	40-106	862.5	1.12		

The following samples were analyzed in this batch:

15081582-18A	15081582-19A	15081582-20A
15081582-21A	15081582-22A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081582
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R170757** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R170757				Units: % of sample		Analysis Date: 8/31/2015 10:16 AM			
Client ID:		Run ID: MOIST_150831A				SeqNo: 3440756		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	0.03	0.025	0.050								J

LCS		Sample ID: LCS-R170757				Units: % of sample		Analysis Date: 8/31/2015 10:16 AM			
Client ID:		Run ID: MOIST_150831A				SeqNo: 3440755		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.025	0.050	100	0	100	99.5-100.5	0			

DUP		Sample ID: 15081582-03A DUP				Units: % of sample		Analysis Date: 8/31/2015 10:16 AM			
Client ID: TP-2 6'-8'		Run ID: MOIST_150831A				SeqNo: 3440730		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	25.55	0.025	0.050	0	0	0		22	14.9	20	

DUP		Sample ID: 15081582-04A DUP				Units: % of sample		Analysis Date: 8/31/2015 10:16 AM			
Client ID: TP-2 10'-12'		Run ID: MOIST_150831A				SeqNo: 3440732		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	19.77	0.025	0.050	0	0	0		18.95	4.24	20	

The following samples were analyzed in this batch:

15081582-01A	15081582-02A	15081582-05A
15081582-06A	15081582-08A	15081582-09A
15081582-10A	15081582-11A	15081582-13A
15081582-14A	15081582-15A	15081582-16A
15081582-17A	15081582-18A	15081582-19A
15081582-20A	15081582-21A	15081582-22A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



ALS Environmental
 1740 Union Carbide Drive
 South Charleston, WV 25303
 (Tel) 304.356.3168

Chain of Custody Form

Page 3 of 3

02658

ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information		Project Information					Parameter/Method Request/No. Analysis																
Purchase Order		Project Name		ALS Project Manager		ALS Work Order																	
Work Order		Project Number				MCHM PPH																	
Company Name	CORE ENV	Bill To Company	CORE ENV	Invoice/Att																			
Send Report To	MATT FORD	Address	533 N. Jefferson ST.	Address																			
Address	533 N. Jefferson ST.	City/State/Zip	Lewisburg, WV	City/State/Zip																			
City/State/Zip	Lewisburg, WV	Phone	304-520-4566	Phone																			
Phone	304-520-4566	Fax		Fax																			
E-Mail Address	m.ford@CORE-ENV.COM																						
No.	Sample Description	Date	Time	Matrix	Pres.	Batts	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Hold
TP-13	2-4'	8-26-15	10:10	Soil	8	1	X	X															
TP-13	10-12'	8-26-15	10:55	Soil	8	1	X	X															
Sampler(s) - Please Print & Sign		Shipment Method:		Required Turnaround Time		304		Results Due Date															
Relinquished by:	Date:	Time:	Received by:	Cooler Temp:		Notes:																	
<i>[Signature]</i>	8-27-15	11:10	<i>[Signature]</i>																				
Relinquished by:	Date:	Time:	Received by:	Cooler Temp:		QC Package (Check Box Below)																	
						<input type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Standard QC + Raw Data <input type="checkbox"/> Level IV: SW846 Methods/CLP <input type="checkbox"/> Other:																	
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp:																			
Relinquished by:	Date:	Time:	Checked by (Laboratory):	Cooler Temp:																			
Preservative Key: 1-HCL, 2-HNO, 3-FSO, 4-NH, 5-N, 6-NH, 7-Other, 8-C																							

Sample Receipt Checklist

Client Name: COREENV-LEWISBURG

Date/Time Received: 28-Aug-15 11:10

Work Order: 15081582

Received by: JAS

Checklist completed by Janet Smith 28-Aug-15
eSignature Date

Reviewed by: Rebecca Liser 28-Aug-15
eSignature Date

Matrices: Soil
Carrier name: Client

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [checked]
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No []
Sample(s) received on ice? Yes [checked] No []
Temperature(s)/Thermometer(s): <6C IR
Cooler(s)/Kit(s):
Date/Time sample(s) sent to storage:
Water - VOA vials have zero headspace? Yes [] No [] No VOA vials submitted [checked]
Water - pH acceptable upon receipt? Yes [] No [] N/A [checked]
pH adjusted? Yes [] No [] N/A [checked]
pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:
Contacted By: Regarding:

Comments:

CorrectiveAction:



02-Sep-2015

Matt Ford
Core Environmental
533 North Jefferson Street
Lewisburg, WV 24901

Re: **Freedom Industries**

Work Order: **15081582**

Dear Matt,

ALS Environmental received 17 samples on 28-Aug-2015 11:10 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 21.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Rebecca Kiser".

Electronically approved by: Rebecca Kiser

Rebecca Kiser
Project Manager



Certificate No: WV: 355

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental ALS Environmental logo icon consisting of a stylized green and blue shape.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Core Environmental
Project: Freedom Industries
Work Order: 15081582

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
15081582-03	TP-2 6'-8'	Soil		8/26/2015 16:35	8/29/2015 10:00	<input type="checkbox"/>
15081582-04	TP-2 10'-12'	Soil		8/26/2015 17:00	8/29/2015 10:00	<input type="checkbox"/>
15081582-07	TP-3 4'-6'	Soil		8/27/2015 11:10	8/29/2015 10:00	<input type="checkbox"/>
15081582-12	TP-7 2'-4'	Soil		8/27/2015 14:00	8/29/2015 10:00	<input type="checkbox"/>
15081582-23	FD-1	Soil		8/26/2015 15:00	8/29/2015 10:00	<input type="checkbox"/>
15081582-24	FD-2	Soil		8/26/2015 16:00	8/29/2015 10:00	<input type="checkbox"/>
15081582-25	FD-3	Soil		8/27/2015 09:30	8/29/2015 10:00	<input type="checkbox"/>
15081582-26	FD-4	Soil		8/27/2015 11:15	8/29/2015 10:00	<input type="checkbox"/>
15081582-27	FD-5	Soil		8/27/2015 12:15	8/29/2015 10:00	<input type="checkbox"/>

Client: Core Environmental
Project: Freedom Industries
Work Order: 15081582

Case Narrative

Batch 75419, Method SVO_8270_S_MCHM+, Sample 15081582-03A MS: The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: 4-Methyl-1-cyclohexanemethanol

Batch 75419, Method SVO_8270_S_MCHM+, Sample 15081582-03A MSD: The MSD recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: 4-Methyl-1-cyclohexanemethanol

Batch 75419, Method SVO_8270_S_MCHM+, Sample 15081582-04A MSD: The MSD recovery was outside of the control limit. However, the MS recovery and the RPD between the MS and MSD was in control. No qualification is required for this analyte: Propylene glycol phenyl ether

Client: Core Environmental
Project: Freedom Industries
WorkOrder: 15081582

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-2 6'-8'
Collection Date: 8/26/2015 04:35 PM

Work Order: 15081582
Lab ID: 15081582-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	3,400		100	210	µg/Kg-dry	1	8/30/2015 20:42
Propylene glycol phenyl ether	630		60	210	µg/Kg-dry	1	8/30/2015 20:42
Surr: 2,4,6-Tribromophenol	60.5			34-140	%REC	1	8/30/2015 20:42
Surr: 2-Fluorophenol	46.4			33-117	%REC	1	8/30/2015 20:42
Surr: Phenol-d6	48.6			40-106	%REC	1	8/30/2015 20:42
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	22		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-2 10'-12'
Collection Date: 8/26/2015 05:00 PM

Work Order: 15081582
Lab ID: 15081582-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		100	200	µg/Kg-dry	1	8/30/2015 22:46
Propylene glycol phenyl ether	U		59	200	µg/Kg-dry	1	8/30/2015 22:46
Surr: 2,4,6-Tribromophenol	53.4			34-140	%REC	1	8/30/2015 22:46
Surr: 2-Fluorophenol	50.0			33-117	%REC	1	8/30/2015 22:46
Surr: Phenol-d6	51.7			40-106	%REC	1	8/30/2015 22:46
MOISTURE			Method: E160.3M				Analyst: TM
Moisture	19		0.025	0.050	% of sample	1	8/31/2015 10:16

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-3 4'-6'
Collection Date: 8/27/2015 11:10 AM

Work Order: 15081582
Lab ID: 15081582-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		100	210	µg/Kg-dry	1	8/30/2015 23:48
Propylene glycol phenyl ether	U		62	210	µg/Kg-dry	1	8/30/2015 23:48
Surr: 2,4,6-Tribromophenol	57.7			34-140	%REC	1	8/30/2015 23:48
Surr: 2-Fluorophenol	52.3			33-117	%REC	1	8/30/2015 23:48
Surr: Phenol-d6	53.0			40-106	%REC	1	8/30/2015 23:48
MOISTURE			Method: E160.3M				Analyst: TM
Moisture	23		0.025	0.050	% of sample	1	8/31/2015 11:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-7 2'-4'
Collection Date: 8/27/2015 02:00 PM

Work Order: 15081582
Lab ID: 15081582-12
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		100	210	µg/Kg-dry	1	8/30/2015 21:44
Propylene glycol phenyl ether	U		62	210	µg/Kg-dry	1	8/30/2015 21:44
Surr: 2,4,6-Tribromophenol	48.4			34-140	%REC	1	8/30/2015 21:44
Surr: 2-Fluorophenol	42.4			33-117	%REC	1	8/30/2015 21:44
Surr: Phenol-d6	42.7			40-106	%REC	1	8/30/2015 21:44
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	22		0.025	0.050	% of sample	1	8/31/2015 11:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: FD-1
Collection Date: 8/26/2015 03:00 PM

Work Order: 15081582
Lab ID: 15081582-23
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		99	200	µg/Kg-dry	1	8/31/2015 08:11
Propylene glycol phenyl ether	U		58	200	µg/Kg-dry	1	8/31/2015 08:11
Surr: 2,4,6-Tribromophenol	49.8			34-140	%REC	1	8/31/2015 08:11
Surr: 2-Fluorophenol	50.5			33-117	%REC	1	8/31/2015 08:11
Surr: Phenol-d6	52.8			40-106	%REC	1	8/31/2015 08:11
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	19		0.025	0.050	% of sample	1	8/31/2015 11:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: FD-2
Collection Date: 8/26/2015 04:00 PM

Work Order: 15081582
Lab ID: 15081582-24
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	1,200		99	200	µg/Kg-dry	1	8/31/2015 08:31
Propylene glycol phenyl ether	430		59	200	µg/Kg-dry	1	8/31/2015 08:31
Surr: 2,4,6-Tribromophenol	64.0			34-140	%REC	1	8/31/2015 08:31
Surr: 2-Fluorophenol	50.6			33-117	%REC	1	8/31/2015 08:31
Surr: Phenol-d6	53.3			40-106	%REC	1	8/31/2015 08:31
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	19		0.025	0.050	% of sample	1	8/31/2015 11:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: FD-3
Collection Date: 8/27/2015 09:30 AM

Work Order: 15081582
Lab ID: 15081582-25
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		100	210	µg/Kg-dry	1	8/31/2015 08:52
Propylene glycol phenyl ether	U		60	210	µg/Kg-dry	1	8/31/2015 08:52
Surr: 2,4,6-Tribromophenol	50.8			34-140	%REC	1	8/31/2015 08:52
Surr: 2-Fluorophenol	47.5			33-117	%REC	1	8/31/2015 08:52
Surr: Phenol-d6	48.3			40-106	%REC	1	8/31/2015 08:52
MOISTURE			Method: E160.3M				Analyst: TM
Moisture	19		0.025	0.050	% of sample	1	8/31/2015 11:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: FD-4
Collection Date: 8/27/2015 11:15 AM

Work Order: 15081582
Lab ID: 15081582-26
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	730		120	240	µg/Kg-dry	1	8/31/2015 09:13
Propylene glycol phenyl ether	70	J	69	240	µg/Kg-dry	1	8/31/2015 09:13
Surr: 2,4,6-Tribromophenol	52.3			34-140	%REC	1	8/31/2015 09:13
Surr: 2-Fluorophenol	40.5			33-117	%REC	1	8/31/2015 09:13
Surr: Phenol-d6	41.8			40-106	%REC	1	8/31/2015 09:13
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	30		0.025	0.050	% of sample	1	8/31/2015 11:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: FD-5
Collection Date: 8/27/2015 12:15 PM

Work Order: 15081582
Lab ID: 15081582-27
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	390		100	210	µg/Kg-dry	1	8/31/2015 09:33
Propylene glycol phenyl ether	840		61	210	µg/Kg-dry	1	8/31/2015 09:33
Surr: 2,4,6-Tribromophenol	60.4			34-140	%REC	1	8/31/2015 09:33
Surr: 2-Fluorophenol	48.0			33-117	%REC	1	8/31/2015 09:33
Surr: Phenol-d6	49.4			40-106	%REC	1	8/31/2015 09:33
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	21		0.025	0.050	% of sample	1	8/31/2015 11:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Core Environmental
Work Order: 15081582
Project: Freedom Industries

QC BATCH REPORT

Batch ID: **75419** Instrument ID **SVMS6** Method: **SW8270**

MBLK		Sample ID: SBLKS1-75419-75419				Units: µg/Kg		Analysis Date: 8/30/2015 06:09 PM			
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439724		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	U	82	170								
Propylene glycol phenyl ether	U	49	170								
<i>Surr: 2,4,6-Tribromophenol</i>	1161	0	0	1667	0	69.6	34-140	0			
<i>Surr: 2-Fluorophenol</i>	1049	0	0	1667	0	62.9	33-117	0			
<i>Surr: Phenol-d6</i>	1075	0	0	1667	0	64.5	40-106	0			

LCS		Sample ID: SLCSS1-75419-75419				Units: µg/Kg		Analysis Date: 8/30/2015 06:29 PM			
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439725		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2287	82	170	3333	0	68.6	50-130	0			
Propylene glycol phenyl ether	2232	49	170	3333	0	67	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	1231	0	0	1667	0	73.9	34-140	0			
<i>Surr: 2-Fluorophenol</i>	1117	0	0	1667	0	67	33-117	0			
<i>Surr: Phenol-d6</i>	1156	0	0	1667	0	69.4	40-106	0			

MS		Sample ID: 15081582-03A MS				Units: µg/Kg		Analysis Date: 8/30/2015 08:00 PM			
Client ID: TP-2 6'-8'		Run ID: SVMS6_150830A				SeqNo: 3439729		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	3149	81	170	3300	2648	15.2	50-130	0			S
Propylene glycol phenyl ether	2157	48	170	3300	487.6	50.6	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	888	0	0	1650	0	53.8	34-140	0			
<i>Surr: 2-Fluorophenol</i>	587.7	0	0	1650	0	35.6	33-117	0			
<i>Surr: Phenol-d6</i>	598.9	0	0	1650	0	36.3	40-106	0			S

MS		Sample ID: 15081582-04A MS				Units: µg/Kg		Analysis Date: 8/30/2015 10:04 PM			
Client ID: TP-2 10'-12'		Run ID: SVMS6_150830A				SeqNo: 3439735		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2161	80	160	3253	0	66.4	50-130	0			
Propylene glycol phenyl ether	1654	47	160	3253	0	50.9	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	847.9	0	0	1626	0	52.1	34-140	0			
<i>Surr: 2-Fluorophenol</i>	727.6	0	0	1626	0	44.7	33-117	0			
<i>Surr: Phenol-d6</i>	766	0	0	1626	0	47.1	40-106	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081582
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75419 Instrument ID SVMS6 Method: SW8270

MS		Sample ID: 15081582-07A MS				Units: µg/Kg		Analysis Date: 8/30/2015 11:06 PM			
Client ID: TP-3 4'-6'		Run ID: SVMS6_150830A				SeqNo: 3439738		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2847	82	170	3326	0	85.6	50-130	0			
Propylene glycol phenyl ether	2018	49	170	3326	0	60.7	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	1054	0	0	1663	0	63.4	34-140	0			
<i>Surr: 2-Fluorophenol</i>	895.7	0	0	1663	0	53.9	33-117	0			
<i>Surr: Phenol-d6</i>	924.6	0	0	1663	0	55.6	40-106	0			

MSD		Sample ID: 15081582-03A MSD				Units: µg/Kg		Analysis Date: 8/30/2015 08:21 PM			
Client ID: TP-2 6'-8'		Run ID: SVMS6_150830A				SeqNo: 3439730		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	3586	81	170	3313	2648	28.3	50-130	3149	13	35	S
Propylene glycol phenyl ether	2459	48	170	3313	487.6	59.5	50-130	2157	13.1	35	
<i>Surr: 2,4,6-Tribromophenol</i>	1126	0	0	1657	0	68	34-140	888	23.6		
<i>Surr: 2-Fluorophenol</i>	885.6	0	0	1657	0	53.5	33-117	587.7	40.4		
<i>Surr: Phenol-d6</i>	898.9	0	0	1657	0	54.3	40-106	598.9	40.1		

MSD		Sample ID: 15081582-04A MSD				Units: µg/Kg		Analysis Date: 8/30/2015 10:25 PM			
Client ID: TP-2 10'-12'		Run ID: SVMS6_150830A				SeqNo: 3439736		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	1969	82	170	3319	0	59.3	50-130	2161	9.28	35	
Propylene glycol phenyl ether	1385	48	170	3319	0	41.7	50-130	1654	17.7	35	S
<i>Surr: 2,4,6-Tribromophenol</i>	728.6	0	0	1660	0	43.9	34-140	847.9	15.1		
<i>Surr: 2-Fluorophenol</i>	634.6	0	0	1660	0	38.2	33-117	727.6	13.6		
<i>Surr: Phenol-d6</i>	680.5	0	0	1660	0	41	40-106	766	11.8		

MSD		Sample ID: 15081582-07A MSD				Units: µg/Kg		Analysis Date: 8/30/2015 11:27 PM			
Client ID: TP-3 4'-6'		Run ID: SVMS6_150830A				SeqNo: 3439739		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2481	80	160	3244	0	76.5	50-130	2847	13.7	35	
Propylene glycol phenyl ether	1800	47	160	3244	0	55.5	50-130	2018	11.4	35	
<i>Surr: 2,4,6-Tribromophenol</i>	905.4	0	0	1622	0	55.8	34-140	1054	15.2		
<i>Surr: 2-Fluorophenol</i>	786	0	0	1622	0	48.5	33-117	895.7	13		
<i>Surr: Phenol-d6</i>	850.9	0	0	1622	0	52.5	40-106	924.6	8.3		

The following samples were analyzed in this batch:

15081582-03A	15081582-04A	15081582-07A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081582
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75424 Instrument ID SVMS6 Method: SW8270

MBLK		Sample ID: SBLKS1-75424-75424				Units: µg/Kg			Analysis Date: 8/30/2015 06:50 PM		
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439726			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	U	82	170								
Propylene glycol phenyl ether	U	49	170								
<i>Surr: 2,4,6-Tribromophenol</i>	1097	0	0	1667	0	65.8	34-140	0			
<i>Surr: 2-Fluorophenol</i>	1062	0	0	1667	0	63.7	33-117	0			
<i>Surr: Phenol-d6</i>	1072	0	0	1667	0	64.3	40-106	0			

LCS		Sample ID: SLCSS1-75424-75424				Units: µg/Kg			Analysis Date: 8/30/2015 07:11 PM		
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439727			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2422	82	170	3333	0	72.7	50-130	0			
Propylene glycol phenyl ether	2392	49	170	3333	0	71.8	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	1195	0	0	1667	0	71.7	34-140	0			
<i>Surr: 2-Fluorophenol</i>	1182	0	0	1667	0	70.9	33-117	0			
<i>Surr: Phenol-d6</i>	1236	0	0	1667	0	74.1	40-106	0			

MS		Sample ID: 15081582-12A MS				Units: µg/Kg			Analysis Date: 8/30/2015 09:02 PM		
Client ID: TP-7 2'-4'		Run ID: SVMS6_150830A				SeqNo: 3439732			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2014	80	160	3242	0	62.1	50-130	0			
Propylene glycol phenyl ether	1755	47	160	3242	0	54.1	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	978.2	0	0	1621	0	60.3	34-140	0			
<i>Surr: 2-Fluorophenol</i>	855.7	0	0	1621	0	52.8	33-117	0			
<i>Surr: Phenol-d6</i>	862.5	0	0	1621	0	53.2	40-106	0			

MSD		Sample ID: 15081582-12A MSD				Units: µg/Kg			Analysis Date: 8/30/2015 09:23 PM		
Client ID: TP-7 2'-4'		Run ID: SVMS6_150830A				SeqNo: 3439733			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	1987	82	170	3326	0	59.7	50-130	2014	1.35	35	
Propylene glycol phenyl ether	1767	49	170	3326	0	53.1	50-130	1755	0.653	35	
<i>Surr: 2,4,6-Tribromophenol</i>	915	0	0	1663	0	55	34-140	978.2	6.67		
<i>Surr: 2-Fluorophenol</i>	830.9	0	0	1663	0	50	33-117	855.7	2.94		
<i>Surr: Phenol-d6</i>	852.8	0	0	1663	0	51.3	40-106	862.5	1.12		

The following samples were analyzed in this batch:

15081582-12A	15081582-23A	15081582-24A
15081582-25A	15081582-26A	15081582-27A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081582
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R170757** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R170757				Units: % of sample		Analysis Date: 8/31/2015 10:16 AM			
Client ID:		Run ID: MOIST_150831A				SeqNo: 3440756		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	0.03	0.025	0.050								J

LCS		Sample ID: LCS-R170757				Units: % of sample		Analysis Date: 8/31/2015 10:16 AM			
Client ID:		Run ID: MOIST_150831A				SeqNo: 3440755		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.025	0.050	100	0	100	99.5-100.5	0			

DUP		Sample ID: 15081582-03A DUP				Units: % of sample		Analysis Date: 8/31/2015 10:16 AM			
Client ID: TP-2 6'-8'		Run ID: MOIST_150831A				SeqNo: 3440730		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	25.55	0.025	0.050	0	0	0		22	14.9	20	

DUP		Sample ID: 15081582-04A DUP				Units: % of sample		Analysis Date: 8/31/2015 10:16 AM			
Client ID: TP-2 10'-12'		Run ID: MOIST_150831A				SeqNo: 3440732		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	19.77	0.025	0.050	0	0	0		18.95	4.24	20	

The following samples were analyzed in this batch: 15081582-03A 15081582-04A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081582
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R170761** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R170761				Units: % of sample		Analysis Date: 8/31/2015 11:41 AM			
Client ID:		Run ID: MOIST_150831B				SeqNo: 3440839		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.025	0.050								

LCS		Sample ID: LCS-R170761				Units: % of sample		Analysis Date: 8/31/2015 11:41 AM			
Client ID:		Run ID: MOIST_150831B				SeqNo: 3440838		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.025	0.050	100	0	100	99.5-100.5	0			

DUP		Sample ID: 15081582-07A DUP				Units: % of sample		Analysis Date: 8/31/2015 11:41 AM			
Client ID: TP-3 4'-6'		Run ID: MOIST_150831B				SeqNo: 3440826		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	22.7	0.025	0.050	0	0	0		22.76	0.264	20	

DUP		Sample ID: 15081582-12A DUP				Units: % of sample		Analysis Date: 8/31/2015 11:41 AM			
Client ID: TP-7 2'-4'		Run ID: MOIST_150831B				SeqNo: 3440828		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	22.84	0.025	0.050	0	0	0		22.39	1.99	20	

The following samples were analyzed in this batch:

15081582-07A	15081582-12A	15081582-23A
15081582-24A	15081582-25A	15081582-26A
15081582-27A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



ALS Environmental
1740 Union Carbide Drive
South Charleston, WV 25303
(Tel) 304.356.3168

Chain of Custody Form

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ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager		ALS Work Order #			
Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Freedom Indust.	A	MCHM 8270
Work Order		Project Number		B	PPH 8270
Company Name	CORE ENVIRONMENTAL	Bill To Company	CORE	C	
Send Report To	MATT FORD	Invoice Attn	MATT FORD	D	
Address	533 N. JEFFERSON ST	Address	533 N. JEFFERSON ST	E	
City/State/Zip	Lewisburg, WV	City/State/Zip	Lewisburg WV	F	
Phone	304-520-4260	Phone	304-520-4260	G	
Fax	304-520-4265	Fax		H	
e-Mail Address	mford@CORE-ENV.COM			I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	FD-1	8-26-15	15:00	SOIL	P	1	X	X									
2	FD-2	8-26-15	16:00	SOIL	P	1	X	X									
3	FD-3	8-27-15	09:30	SOIL	P	1	X	X									
4	FD-4	8-27-15	11:15	SOIL	P	1	X	X									
5	FD-5	8-27-15	12:15	SOIL	P	1	X	X									
6	TP-2 6'-8' MS	8-26-15	16:35	SOIL	P	1	X	X									
7	TP-2 6'-8' MSD	8-26-15	16:35	SOIL	P	1	X	X									
8	TP-2 10'-12' MS	8-26-15	17:00	SOIL	P	1	X	X									
9	TP-2 10'-12' MSD	8-26-15	17:00	SOIL	P	1	X	X									
10																	

Sampler(s): Please Print & Sign _____ Shipment Method: _____ Required Turnaround Time: Other 3 DAY 10 Wk Days 5 Wk Days 1 Wk Days 1 Week
Results Due Date: _____

Relinquished by:	Date:	Time:	Received by:	Cooler Temp:	Notes:
<i>[Signature]</i>	8-28-15	11:10	<i>[Signature]</i>		
Relinquished by:	Date:	Time:	Received by:	Cooler Temp:	QC Package: (Check Box Below)
					Level II: Standard QC <input type="checkbox"/>
					Level III: Standard QC + Raw Data <input type="checkbox"/>
					Level IV: SW846 Methods/CLP <input checked="" type="checkbox"/>
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	Other:	



ALS Environmental
 1740 Union Carbide Drive
 South Charleston, WV 25303
 (Tel) 304.356.3168

Chain of Custody Form

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02655

ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name		A	MCHM 8270											
Work Order		Project Number		B	PPH 8270											
Company Name	CORE ENV.	Bill To Company	CORE ENV.	C												
Send Report To	Matt Ford	Invoice Attn.	MATT FORD	D												
Address	533 N Jefferson ST.	Address	533 N. Jefferson ST	E												
City/State/Zip	Lewisburg, WV	City/State/Zip	Lewisburg, WV	F												
Phone	304-520-4260	Phone	304-520-4260	G												
Fax		Fax		H												
e-Mail Address	mford@core-env.com			I												
				J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	TP-3 4-6' MS	8-27-15	11:10	SOIL	8	1	X	X									
2	TP-3 4-6' MSD	8-27-15	11:10	SOIL	8	1	X	X									
3	TP-7 2-4' MS	8-27-15	14:00	SOIL	8	1	X	X									
4	TP-7 2-4' MSD	8-27-15	14:00	SOIL	8	1	X	X									
5	TP-2 6-8'	8-26-15	16:35	SOIL	8	1	X	X									
6	TP-2 10-12'	8-26-15	17:00	SOIL	8	1	X	X									
7	TP-3 4-6'	8-27-15	11:00	SOIL	8	1	X	X									
8	TP-7 2-4'	8-27-15	14:00	SOIL	8	1	X	X									
9																	
10																	

Sampler(s): Please Print & Sign _____ Shipment Method: _____ Required Turnaround Time: 3 DAY 5 WK-Days 2 WK-Days 24 Hour Results Due Date: _____

Relinquished by: <i>[Signature]</i>	Date: 8-28-15	Time: 11:10	Received by: <i>[Signature]</i>	Cooler Temp:	Notes:
Relinquished by:	Date:	Time:	Received by:	Cooler Temp:	QC Package: (Check Box Below) Level II: Standard QC Level III: Standard QC + Raw Data Level IV: SW846 Methods/CLP Other: <input checked="" type="checkbox"/>
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp:	
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp:	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	Cooler Temp:	

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₈ 6-NaHSO₃ 7-Other 8-4°C
 Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS
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Sample Receipt Checklist

Client Name: COREENV-LEWISBURG

Date/Time Received: 28-Aug-15 11:10

Work Order: 15081582

Received by: JAS

Checklist completed by Janet Smith 28-Aug-15
eSignature Date

Reviewed by: Rebecca Liss 28-Aug-15
eSignature Date

Matrices: Soil
Carrier name: Client

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [checked]
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No []
Sample(s) received on ice? Yes [checked] No []
Temperature(s)/Thermometer(s): <6C IR
Cooler(s)/Kit(s):
Date/Time sample(s) sent to storage:
Water - VOA vials have zero headspace? Yes [] No [] No VOA vials submitted [checked]
Water - pH acceptable upon receipt? Yes [] No [] N/A [checked]
pH adjusted? Yes [] No [] N/A [checked]
pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:
Contacted By: Regarding:

Comments:

CorrectiveAction:



02-Sep-2015

Matt Ford
Core Environmental
533 North Jefferson Street
Lewisburg, WV 24901

Re: **Freedom Industries**

Work Order: **15081577**

Dear Matt,

ALS Environmental received 4 samples on 28-Aug-2015 11:10 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 30.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Rebecca Kiser".

Electronically approved by: Rebecca Kiser

Rebecca Kiser
Project Manager



Certificate No: WV: 355

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

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Environmental ALS Environmental logo icon consisting of a stylized flame inside a triangle.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Core Environmental
Project: Freedom Industries
Work Order: 15081577

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
15081577-01	TP-3 2'-4'	Soil		8/27/2015 11:00	8/29/2015 10:00	<input type="checkbox"/>
15081577-02	TP-4 4'-6'	Soil		8/27/2015 10:10	8/29/2015 10:00	<input type="checkbox"/>
15081577-03	TP-9 8'-10'	Soil		8/26/2015 15:35	8/29/2015 10:00	<input type="checkbox"/>
15081577-04	TP-10 2'-4'	Soil		8/26/2015 13:00	8/29/2015 10:00	<input type="checkbox"/>

Client: Core Environmental

Project: Freedom Industries

Work Order: 15081577

Case Narrative

Batch 75418, Method ICP_6020_S, Sample 15081577-02AMSD: The MSD recovery was outside of the control limit. However, the MS recovery and the RPD between the MS and MSD was in control. No qualification is required for this analyte: Pb

Client: Core Environmental
Project: Freedom Industries
WorkOrder: 15081577

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-3 2'-4'
Collection Date: 8/27/2015 11:00 AM

Work Order: 15081577
Lab ID: 15081577-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID			Method:SW8015M			Analyst: KYM	
Butyric Acid	U		1.6	13	mg/Kg-dry	1	8/31/2015 12:41
Ethyl alcohol	U		0.31	6.5	mg/Kg-dry	1	8/30/2015 16:25
Ethylene glycol	U		4.8	6.5	mg/Kg-dry	1	8/30/2015 16:18
Isobutanol	U		0.56	6.5	mg/Kg-dry	1	8/30/2015 16:25
Isopropyl alcohol	U		0.26	6.5	mg/Kg-dry	1	8/30/2015 16:25
Methanol	U		0.62	6.5	mg/Kg-dry	1	8/30/2015 16:25
n-Butyl alcohol	U		0.94	6.5	mg/Kg-dry	1	8/30/2015 16:25
n-Propanol	U		0.65	6.5	mg/Kg-dry	1	8/30/2015 16:25
Propylene glycol	U		4.2	6.5	mg/Kg-dry	1	8/30/2015 16:18
t-Butyl alcohol	U		0.74	6.5	mg/Kg-dry	1	8/30/2015 16:25
ACIDS BY HPLC			Method:SW8300M			Analyst: KYM	
Acetic Acid	U		7.3	32	mg/Kg-dry	1	8/30/2015 16:57
Formic Acid	U		4.3	32	mg/Kg-dry	1	8/30/2015 16:57
Lactic Acid	U		7.7	32	mg/Kg-dry	1	8/30/2015 16:57
CARBONYL COMPOUNDS BY HPLC			Method:SW8315A		Prep: SW8315A / 8/31/15	Analyst: KYM	
Acetaldehyde	U		1,200	2,500	µg/Kg-dry	1	9/1/2015 14:59
Formaldehyde	4,400		560	2,500	µg/Kg-dry	1	9/1/2015 14:59
METALS BY ICP-MS			Method:SW6020A		Prep: SW3050B / 8/29/15	Analyst: ML	
Lead	42		0.050	2.1	mg/Kg-dry	4	8/30/2015 20:58
SEMI-VOLATILE ORGANIC COMPOUNDS			Method:SW846 8270D		Prep: SW3541 / 8/31/15	Analyst: RS	
Acenaphthene	U		3.2	8.6	µg/Kg-dry	1	9/1/2015 07:00
Acenaphthylene	U		2.6	8.6	µg/Kg-dry	1	9/1/2015 07:00
Anthracene	U		4.2	8.6	µg/Kg-dry	1	9/1/2015 07:00
Benzo(a)anthracene	24		5.2	8.6	µg/Kg-dry	1	9/1/2015 07:00
Benzo(a)pyrene	33		1.8	8.6	µg/Kg-dry	1	9/1/2015 07:00
Benzo(b)fluoranthene	54		2.9	8.6	µg/Kg-dry	1	9/1/2015 07:00
Benzo(g,h,i)perylene	29		3.7	8.6	µg/Kg-dry	1	9/1/2015 07:00
Benzo(k)fluoranthene	18		5.4	8.6	µg/Kg-dry	1	9/1/2015 07:00
Chrysene	33		7.2	8.6	µg/Kg-dry	1	9/1/2015 07:00
Dibenzo(a,h)anthracene	U		2.8	8.6	µg/Kg-dry	1	9/1/2015 07:00
Fluoranthene	42		5.3	8.6	µg/Kg-dry	1	9/1/2015 07:00
Fluorene	U		4.8	8.6	µg/Kg-dry	1	9/1/2015 07:00
Indeno(1,2,3-cd)pyrene	26		5.4	8.6	µg/Kg-dry	1	9/1/2015 07:00
Naphthalene	94		2.2	8.6	µg/Kg-dry	1	9/1/2015 07:00
Phenanthrene	86		4.8	8.6	µg/Kg-dry	1	9/1/2015 07:00
Pyrene	25		6.5	8.6	µg/Kg-dry	1	9/1/2015 07:00

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-3 2'-4'
Collection Date: 8/27/2015 11:00 AM

Work Order: 15081577
Lab ID: 15081577-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<i>Surr: 2-Fluorobiphenyl</i>	73.5			12-100	%REC	1	9/1/2015 07:00
<i>Surr: 4-Terphenyl-d14</i>	83.3			25-137	%REC	1	9/1/2015 07:00
<i>Surr: Nitrobenzene-d5</i>	66.2			37-107	%REC	1	9/1/2015 07:00
ORGANIC COMPOUNDS BY GC-MS				Method:SW8270		Prep: SW3541 / 8/30/15	Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		110	210	µg/Kg-dry	1	8/31/2015 12:08
Propylene glycol phenyl ether	U		63	210	µg/Kg-dry	1	8/31/2015 12:08
<i>Surr: 2,4,6-Tribromophenol</i>	49.3			34-140	%REC	1	8/31/2015 12:08
<i>Surr: 2-Fluorophenol</i>	45.5			33-117	%REC	1	8/31/2015 12:08
<i>Surr: Phenol-d6</i>	47.9			40-106	%REC	1	8/31/2015 12:08
VOLATILE ORGANIC COMPOUNDS				Method:SW8260B		Prep: SW5035 / 8/31/15	Analyst: LSY
Benzene	U		16	40	µg/Kg-dry	1	8/31/2015 17:21
Ethylbenzene	U		15	40	µg/Kg-dry	1	8/31/2015 17:21
m,p-Xylene	U		30	79	µg/Kg-dry	1	8/31/2015 17:21
Methyl tert-butyl ether	U		17	40	µg/Kg-dry	1	8/31/2015 17:21
o-Xylene	U		17	40	µg/Kg-dry	1	8/31/2015 17:21
Toluene	44		15	40	µg/Kg-dry	1	8/31/2015 17:21
Xylenes, Total	U		47	120	µg/Kg-dry	1	8/31/2015 17:21
<i>Surr: 1,2-Dichloroethane-d4</i>	106			70-130	%REC	1	8/31/2015 17:21
<i>Surr: 4-Bromofluorobenzene</i>	101			70-130	%REC	1	8/31/2015 17:21
<i>Surr: Dibromofluoromethane</i>	100			70-130	%REC	1	8/31/2015 17:21
<i>Surr: Toluene-d8</i>	99.1			70-130	%REC	1	8/31/2015 17:21
MOISTURE				Method:E160.3M			Analyst: TM
Moisture	24		0.025	0.050	% of sample	1	8/31/2015 11:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-4 4'-6'
Collection Date: 8/27/2015 10:10 AM

Work Order: 15081577
Lab ID: 15081577-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID			Method: SW8015M			Analyst: KYM	
Butyric Acid	U		1.2	9.6	mg/Kg-dry	1	8/31/2015 12:51
Ethyl alcohol	U		0.23	4.8	mg/Kg-dry	1	8/30/2015 16:38
Ethylene glycol	U		3.6	4.8	mg/Kg-dry	1	8/30/2015 16:27
Isobutanol	U		0.41	4.8	mg/Kg-dry	1	8/30/2015 16:38
Isopropyl alcohol	U		0.19	4.8	mg/Kg-dry	1	8/30/2015 16:38
Methanol	U		0.46	4.8	mg/Kg-dry	1	8/30/2015 16:38
n-Butyl alcohol	U		0.70	4.8	mg/Kg-dry	1	8/30/2015 16:38
n-Propanol	U		0.48	4.8	mg/Kg-dry	1	8/30/2015 16:38
Propylene glycol	U		3.1	4.8	mg/Kg-dry	1	8/30/2015 16:27
t-Butyl alcohol	U		0.55	4.8	mg/Kg-dry	1	8/30/2015 16:38
ACIDS BY HPLC			Method: SW8300M			Analyst: KYM	
Acetic Acid	U		5.4	24	mg/Kg-dry	1	8/30/2015 17:08
Formic Acid	U		3.2	24	mg/Kg-dry	1	8/30/2015 17:08
Lactic Acid	U		5.7	24	mg/Kg-dry	1	8/30/2015 17:08
CARBONYL COMPOUNDS BY HPLC			Method: SW8315A		Prep: SW8315A / 8/31/15		Analyst: KYM
Acetaldehyde	U		930	2,000	µg/Kg-dry	1	9/1/2015 14:50
Formaldehyde	U		450	2,000	µg/Kg-dry	1	9/1/2015 14:50
METALS BY ICP-MS			Method: SW6020A		Prep: SW3050B / 8/29/15		Analyst: ML
Lead	22		0.041	1.7	mg/Kg-dry	4	8/30/2015 21:04
SEMI-VOLATILE ORGANIC COMPOUNDS			Method: SW846 8270D		Prep: SW3541 / 8/31/15		Analyst: RS
Acenaphthene	U		2.7	7.3	µg/Kg-dry	1	9/1/2015 05:09
Acenaphthylene	34		2.2	7.3	µg/Kg-dry	1	9/1/2015 05:09
Anthracene	U		3.5	7.3	µg/Kg-dry	1	9/1/2015 05:09
Benzo(a)anthracene	120		4.4	7.3	µg/Kg-dry	1	9/1/2015 05:09
Benzo(a)pyrene	110		1.5	7.3	µg/Kg-dry	1	9/1/2015 05:09
Benzo(b)fluoranthene	210		2.5	7.3	µg/Kg-dry	1	9/1/2015 05:09
Benzo(g,h,i)perylene	150		3.2	7.3	µg/Kg-dry	1	9/1/2015 05:09
Benzo(k)fluoranthene	54		4.6	7.3	µg/Kg-dry	1	9/1/2015 05:09
Chrysene	160		6.2	7.3	µg/Kg-dry	1	9/1/2015 05:09
Dibenzo(a,h)anthracene	U		2.4	7.3	µg/Kg-dry	1	9/1/2015 05:09
Fluoranthene	190		4.5	7.3	µg/Kg-dry	1	9/1/2015 05:09
Fluorene	U		4.1	7.3	µg/Kg-dry	1	9/1/2015 05:09
Indeno(1,2,3-cd)pyrene	84		4.6	7.3	µg/Kg-dry	1	9/1/2015 05:09
Naphthalene	680		1.9	7.3	µg/Kg-dry	1	9/1/2015 05:09
Phenanthrene	620		4.1	7.3	µg/Kg-dry	1	9/1/2015 05:09
Pyrene	200		5.5	7.3	µg/Kg-dry	1	9/1/2015 05:09

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-4 4'-6'
Collection Date: 8/27/2015 10:10 AM

Work Order: 15081577
Lab ID: 15081577-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<i>Surr: 2-Fluorobiphenyl</i>	72.1			12-100	%REC	1	9/1/2015 05:09
<i>Surr: 4-Terphenyl-d14</i>	87.7			25-137	%REC	1	9/1/2015 05:09
<i>Surr: Nitrobenzene-d5</i>	68.1			37-107	%REC	1	9/1/2015 05:09
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		90	180	µg/Kg-dry	1	8/31/2015 12:29
Propylene glycol phenyl ether	U		53	180	µg/Kg-dry	1	8/31/2015 12:29
<i>Surr: 2,4,6-Tribromophenol</i>	64.6			34-140	%REC	1	8/31/2015 12:29
<i>Surr: 2-Fluorophenol</i>	61.4			33-117	%REC	1	8/31/2015 12:29
<i>Surr: Phenol-d6</i>	62.4			40-106	%REC	1	8/31/2015 12:29
VOLATILE ORGANIC COMPOUNDS			Method:SW8260B		Prep: SW5035 / 8/31/15		Analyst: LSY
Benzene	62		16	40	µg/Kg-dry	1	8/31/2015 17:47
Ethylbenzene	100		15	40	µg/Kg-dry	1	8/31/2015 17:47
m,p-Xylene	590		30	80	µg/Kg-dry	1	8/31/2015 17:47
Methyl tert-butyl ether	U		17	40	µg/Kg-dry	1	8/31/2015 17:47
o-Xylene	300		17	40	µg/Kg-dry	1	8/31/2015 17:47
Toluene	680		15	40	µg/Kg-dry	1	8/31/2015 17:47
Xylenes, Total	900		47	120	µg/Kg-dry	1	8/31/2015 17:47
<i>Surr: 1,2-Dichloroethane-d4</i>	102			70-130	%REC	1	8/31/2015 17:47
<i>Surr: 4-Bromofluorobenzene</i>	103			70-130	%REC	1	8/31/2015 17:47
<i>Surr: Dibromofluoromethane</i>	96.7			70-130	%REC	1	8/31/2015 17:47
<i>Surr: Toluene-d8</i>	99.1			70-130	%REC	1	8/31/2015 17:47
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	9.7		0.025	0.050	% of sample	1	8/31/2015 11:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-9 8'-10'
Collection Date: 8/26/2015 03:35 PM

Work Order: 15081577
Lab ID: 15081577-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID			Method: SW8015M			Analyst: KYM	
Butyric Acid	8.3	J	1.4	12	mg/Kg-dry	1	8/31/2015 13:01
Ethyl alcohol	U		0.29	6.0	mg/Kg-dry	1	8/30/2015 16:50
Ethylene glycol	U		4.5	6.0	mg/Kg-dry	1	8/30/2015 17:31
Isobutanol	U		0.51	6.0	mg/Kg-dry	1	8/30/2015 16:50
Isopropyl alcohol	U		0.24	6.0	mg/Kg-dry	1	8/30/2015 16:50
Methanol	U		0.57	6.0	mg/Kg-dry	1	8/30/2015 16:50
n-Butyl alcohol	U		0.87	6.0	mg/Kg-dry	1	8/30/2015 16:50
n-Propanol	U		0.60	6.0	mg/Kg-dry	1	8/30/2015 16:50
Propylene glycol	U		3.9	6.0	mg/Kg-dry	1	8/30/2015 17:31
t-Butyl alcohol	U		0.68	6.0	mg/Kg-dry	1	8/30/2015 16:50
ACIDS BY HPLC			Method: SW8300M			Analyst: KYM	
Acetic Acid	U		6.8	30	mg/Kg-dry	1	8/30/2015 17:19
Formic Acid	U		4.0	30	mg/Kg-dry	1	8/30/2015 17:19
Lactic Acid	U		7.1	30	mg/Kg-dry	1	8/30/2015 17:19
CARBONYL COMPOUNDS BY HPLC			Method: SW8315A		Prep: SW8315A / 8/31/15		Analyst: KYM
Acetaldehyde	2,700		1,100	2,300	µg/Kg-dry	1	9/1/2015 15:08
Formaldehyde	12,000		510	2,300	µg/Kg-dry	1	9/1/2015 15:08
METALS BY ICP-MS			Method: SW6020A		Prep: SW3050B / 8/29/15		Analyst: ML
Lead	16		0.046	1.9	mg/Kg-dry	4	8/30/2015 21:47
SEMI-VOLATILE ORGANIC COMPOUNDS			Method: SW846 8270D		Prep: SW3541 / 8/31/15		Analyst: RS
Acenaphthene	U		3.1	8.2	µg/Kg-dry	1	9/1/2015 05:31
Acenaphthylene	U		2.5	8.2	µg/Kg-dry	1	9/1/2015 05:31
Anthracene	U		4.0	8.2	µg/Kg-dry	1	9/1/2015 05:31
Benzo(a)anthracene	U		5.0	8.2	µg/Kg-dry	1	9/1/2015 05:31
Benzo(a)pyrene	U		1.7	8.2	µg/Kg-dry	1	9/1/2015 05:31
Benzo(b)fluoranthene	U		2.8	8.2	µg/Kg-dry	1	9/1/2015 05:31
Benzo(g,h,i)perylene	U		3.6	8.2	µg/Kg-dry	1	9/1/2015 05:31
Benzo(k)fluoranthene	U		5.1	8.2	µg/Kg-dry	1	9/1/2015 05:31
Chrysene	U		6.9	8.2	µg/Kg-dry	1	9/1/2015 05:31
Dibenzo(a,h)anthracene	U		2.7	8.2	µg/Kg-dry	1	9/1/2015 05:31
Fluoranthene	U		5.0	8.2	µg/Kg-dry	1	9/1/2015 05:31
Fluorene	U		4.6	8.2	µg/Kg-dry	1	9/1/2015 05:31
Indeno(1,2,3-cd)pyrene	U		5.1	8.2	µg/Kg-dry	1	9/1/2015 05:31
Naphthalene	U		2.1	8.2	µg/Kg-dry	1	9/1/2015 05:31
Phenanthrene	U		4.5	8.2	µg/Kg-dry	1	9/1/2015 05:31
Pyrene	U		6.2	8.2	µg/Kg-dry	1	9/1/2015 05:31

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-9 8'-10'
Collection Date: 8/26/2015 03:35 PM

Work Order: 15081577
Lab ID: 15081577-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 2-Fluorobiphenyl	87.7			12-100	%REC	1	9/1/2015 05:31
Surr: 4-Terphenyl-d14	94.0			25-137	%REC	1	9/1/2015 05:31
Surr: Nitrobenzene-d5	124	S		37-107	%REC	1	9/1/2015 05:31
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	3,400		99	200	µg/Kg-dry	1	8/31/2015 12:49
Propylene glycol phenyl ether	630		59	200	µg/Kg-dry	1	8/31/2015 12:49
Surr: 2,4,6-Tribromophenol	69.4			34-140	%REC	1	8/31/2015 12:49
Surr: 2-Fluorophenol	51.8			33-117	%REC	1	8/31/2015 12:49
Surr: Phenol-d6	53.8			40-106	%REC	1	8/31/2015 12:49
VOLATILE ORGANIC COMPOUNDS			Method:SW8260B		Prep: SW5035 / 8/31/15		Analyst: LSY
Benzene	U		15	37	µg/Kg-dry	1	8/31/2015 18:13
Ethylbenzene	U		14	37	µg/Kg-dry	1	8/31/2015 18:13
m,p-Xylene	U		28	75	µg/Kg-dry	1	8/31/2015 18:13
Methyl tert-butyl ether	U		16	37	µg/Kg-dry	1	8/31/2015 18:13
o-Xylene	U		16	37	µg/Kg-dry	1	8/31/2015 18:13
Toluene	U		14	37	µg/Kg-dry	1	8/31/2015 18:13
Xylenes, Total	U		44	110	µg/Kg-dry	1	8/31/2015 18:13
Surr: 1,2-Dichloroethane-d4	104			70-130	%REC	1	8/31/2015 18:13
Surr: 4-Bromofluorobenzene	127			70-130	%REC	1	8/31/2015 18:13
Surr: Dibromofluoromethane	101			70-130	%REC	1	8/31/2015 18:13
Surr: Toluene-d8	97.0			70-130	%REC	1	8/31/2015 18:13
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	20		0.025	0.050	% of sample	1	8/31/2015 11:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-10 2'-4'
Collection Date: 8/26/2015 01:00 PM

Work Order: 15081577
Lab ID: 15081577-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID			Method:SW8015M		Analyst: KYM		
Butyric Acid	U		1.4	11	mg/Kg-dry	1	8/31/2015 13:11
Ethyl alcohol	U		0.27	5.6	mg/Kg-dry	1	8/30/2015 17:02
Ethylene glycol	U		4.2	5.6	mg/Kg-dry	1	8/30/2015 17:41
Isobutanol	U		0.48	5.6	mg/Kg-dry	1	8/30/2015 17:02
Isopropyl alcohol	U		0.22	5.6	mg/Kg-dry	1	8/30/2015 17:02
Methanol	U		0.54	5.6	mg/Kg-dry	1	8/30/2015 17:02
n-Butyl alcohol	U		0.82	5.6	mg/Kg-dry	1	8/30/2015 17:02
n-Propanol	U		0.56	5.6	mg/Kg-dry	1	8/30/2015 17:02
Propylene glycol	U		3.6	5.6	mg/Kg-dry	1	8/30/2015 17:41
t-Butyl alcohol	U		0.64	5.6	mg/Kg-dry	1	8/30/2015 17:02
ACIDS BY HPLC			Method:SW8300M		Analyst: KYM		
Acetic Acid	U		6.4	28	mg/Kg-dry	1	8/30/2015 17:30
Formic Acid	U		3.7	28	mg/Kg-dry	1	8/30/2015 17:30
Lactic Acid	U		6.7	28	mg/Kg-dry	1	8/30/2015 17:30
CARBONYL COMPOUNDS BY HPLC			Method:SW8315A		Prep: SW8315A / 8/31/15		Analyst: KYM
Acetaldehyde	1,500	J	1,000	2,200	µg/Kg-dry	1	9/1/2015 15:17
Formaldehyde	5,800		490	2,200	µg/Kg-dry	1	9/1/2015 15:17
METALS BY ICP-MS			Method:SW6020A		Prep: SW3050B / 8/29/15		Analyst: ML
Lead	25		0.047	2.0	mg/Kg-dry	4	8/30/2015 21:53
SEMI-VOLATILE ORGANIC COMPOUNDS			Method:SW846 8270D		Prep: SW3541 / 8/31/15		Analyst: RS
Acenaphthene	U		2.9	7.8	µg/Kg-dry	1	9/1/2015 05:53
Acenaphthylene	U		2.4	7.8	µg/Kg-dry	1	9/1/2015 05:53
Anthracene	U		3.8	7.8	µg/Kg-dry	1	9/1/2015 05:53
Benzo(a)anthracene	11		4.7	7.8	µg/Kg-dry	1	9/1/2015 05:53
Benzo(a)pyrene	12		1.7	7.8	µg/Kg-dry	1	9/1/2015 05:53
Benzo(b)fluoranthene	17		2.7	7.8	µg/Kg-dry	1	9/1/2015 05:53
Benzo(g,h,i)perylene	9.8		3.4	7.8	µg/Kg-dry	1	9/1/2015 05:53
Benzo(k)fluoranthene	5.9	J	4.9	7.8	µg/Kg-dry	1	9/1/2015 05:53
Chrysene	11		6.6	7.8	µg/Kg-dry	1	9/1/2015 05:53
Dibenzo(a,h)anthracene	U		2.6	7.8	µg/Kg-dry	1	9/1/2015 05:53
Fluoranthene	24		4.8	7.8	µg/Kg-dry	1	9/1/2015 05:53
Fluorene	U		4.4	7.8	µg/Kg-dry	1	9/1/2015 05:53
Indeno(1,2,3-cd)pyrene	11		4.9	7.8	µg/Kg-dry	1	9/1/2015 05:53
Naphthalene	U		2.0	7.8	µg/Kg-dry	1	9/1/2015 05:53
Phenanthrene	29		4.3	7.8	µg/Kg-dry	1	9/1/2015 05:53
Pyrene	U		5.9	7.8	µg/Kg-dry	1	9/1/2015 05:53

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-10 2'-4'
Collection Date: 8/26/2015 01:00 PM

Work Order: 15081577
Lab ID: 15081577-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<i>Surr: 2-Fluorobiphenyl</i>	69.2			12-100	%REC	1	9/1/2015 05:53
<i>Surr: 4-Terphenyl-d14</i>	87.9			25-137	%REC	1	9/1/2015 05:53
<i>Surr: Nitrobenzene-d5</i>	73.5			37-107	%REC	1	9/1/2015 05:53
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 8/30/15		Analyst: RM
4-Methyl-1-cyclohexanemethanol	U		97	200	µg/Kg-dry	1	8/31/2015 01:10
Propylene glycol phenyl ether	U		57	200	µg/Kg-dry	1	8/31/2015 01:10
<i>Surr: 2,4,6-Tribromophenol</i>	67.1			34-140	%REC	1	8/31/2015 01:10
<i>Surr: 2-Fluorophenol</i>	64.4			33-117	%REC	1	8/31/2015 01:10
<i>Surr: Phenol-d6</i>	67.4			40-106	%REC	1	8/31/2015 01:10
VOLATILE ORGANIC COMPOUNDS			Method:SW8260B		Prep: SW5035 / 8/31/15		Analyst: LSY
Benzene	20	J	14	36	µg/Kg-dry	1	8/31/2015 18:39
Ethylbenzene	U		13	36	µg/Kg-dry	1	8/31/2015 18:39
m,p-Xylene	130		27	72	µg/Kg-dry	1	8/31/2015 18:39
Methyl tert-butyl ether	U		15	36	µg/Kg-dry	1	8/31/2015 18:39
o-Xylene	71		15	36	µg/Kg-dry	1	8/31/2015 18:39
Toluene	76		13	36	µg/Kg-dry	1	8/31/2015 18:39
Xylenes, Total	200		42	110	µg/Kg-dry	1	8/31/2015 18:39
<i>Surr: 1,2-Dichloroethane-d4</i>	102			70-130	%REC	1	8/31/2015 18:39
<i>Surr: 4-Bromofluorobenzene</i>	109			70-130	%REC	1	8/31/2015 18:39
<i>Surr: Dibromofluoromethane</i>	97.2			70-130	%REC	1	8/31/2015 18:39
<i>Surr: Toluene-d8</i>	93.7			70-130	%REC	1	8/31/2015 18:39
MOISTURE			Method:E160.3M				Analyst: TM
Moisture	16		0.025	0.050	% of sample	1	8/31/2015 11:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Core Environmental
Work Order: 15081577
Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R170691** Instrument ID **GC5** Method: **SW8015M**

MBLK		Sample ID: MB-R170691-R170691				Units: mg/Kg		Analysis Date: 8/30/2015 04:13 PM			
Client ID:		Run ID: GC5_150830A				SeqNo: 3439200		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethyl alcohol	U	0.24	5.0								
Isobutanol	U	0.43	5.0								
Isopropyl alcohol	U	0.2	5.0								
Methanol	U	0.48	5.0								
n-Butyl alcohol	U	0.73	5.0								
n-Propanol	U	0.5	5.0								
t-Butyl alcohol	U	0.57	5.0								

LCS		Sample ID: LCS-R170691-R170691				Units: mg/Kg		Analysis Date: 8/30/2015 03:25 PM			
Client ID:		Run ID: GC5_150830A				SeqNo: 3439201		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethyl alcohol	516.2	0.24	5.0	500	0	103	50-150	0			
Isobutanol	509.3	0.43	5.0	500	0	102	50-150	0			
Isopropyl alcohol	508.4	0.2	5.0	500	0	102	50-150	0			
Methanol	517.7	0.48	5.0	500	0	104	50-150	0			
n-Butyl alcohol	509.5	0.73	5.0	500	0	102	50-150	0			
n-Propanol	510	0.5	5.0	500	0	102	50-150	0			
t-Butyl alcohol	507.6	0.57	5.0	500	0	102	50-150	0			

MS		Sample ID: 15081577-01B MS				Units: mg/Kg		Analysis Date: 8/30/2015 03:37 PM			
Client ID: TP-3 2'-4'		Run ID: GC5_150830A				SeqNo: 3439232		Prep Date: 8/30/2015		DF: 2	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethyl alcohol	1018	0.47	9.8	1000	0	102	50-150	0			
Isobutanol	999.8	0.84	9.8	1000	0	100	50-150	0			
Isopropyl alcohol	1004	0.39	9.8	1000	0	100	50-150	0			
Methanol	1018	0.94	9.8	1000	0	102	50-150	0			
n-Butyl alcohol	1006	1.4	9.8	1000	0	101	50-150	0			
n-Propanol	1008	0.98	9.8	1000	0	101	50-150	0			
t-Butyl alcohol	998.7	1.1	9.8	1000	0	99.9	50-150	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
Work Order: 15081577
Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R170691** Instrument ID **GC5** Method: **SW8015M**

MSD		Sample ID: 15081577-01B MSD				Units: mg/Kg		Analysis Date: 8/30/2015 03:49 PM			
Client ID: TP-3 2'-4'		Run ID: GC5_150830A				SeqNo: 3439233		Prep Date: 8/30/2015		DF: 2	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethyl alcohol	960.5	0.47	9.8	1000	0	96.1	50-150	1018	5.81	30	
Isobutanol	935.4	0.84	9.8	1000	0	93.5	50-150	999.8	6.66	30	
Isopropyl alcohol	942.1	0.39	9.8	1000	0	94.2	50-150	1004	6.37	30	
Methanol	964.2	0.94	9.8	1000	0	96.4	50-150	1018	5.48	30	
n-Butyl alcohol	941.7	1.4	9.8	1000	0	94.2	50-150	1006	6.65	30	
n-Propanol	946.5	0.98	9.8	1000	0	94.6	50-150	1008	6.26	30	
t-Butyl alcohol	934.8	1.1	9.8	1000	0	93.5	50-150	998.7	6.6	30	

The following samples were analyzed in this batch:

15081577-01B	15081577-02B	15081577-03B
15081577-04B		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081577
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: R170695 Instrument ID GC11 Method: SW8015M

MBLK		Sample ID: MB-R170695-R170695				Units: mg/Kg		Analysis Date: 8/30/2015 04:09 PM			
Client ID:		Run ID: GC11_150830A			SeqNo: 3439308		Prep Date: 8/30/2015		DF: 1		
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	3.7	5.0								
Propylene glycol	U	3.2	5.0								

LCS		Sample ID: LCS-R170695-R170695				Units: mg/Kg		Analysis Date: 8/30/2015 03:15 PM			
Client ID:		Run ID: GC11_150830A			SeqNo: 3439309		Prep Date: 8/30/2015		DF: 1		
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	587.6	3.7	5.0	500	0	118	50-150	0			
Propylene glycol	518	3.2	5.0	500	0	104	50-150	0			

MS		Sample ID: 15081577-01A MS				Units: mg/Kg		Analysis Date: 8/30/2015 03:24 PM			
Client ID: TP-3 2'-4'		Run ID: GC11_150830A			SeqNo: 3439326		Prep Date: 8/30/2015		DF: 2		
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	1082	7.3	9.8	1000	0	108	50-150	0			
Propylene glycol	966.8	6.3	9.8	1000	0	96.7	50-150	0			

MSD		Sample ID: 15081577-01A MSD				Units: mg/Kg		Analysis Date: 8/30/2015 03:33 PM			
Client ID: TP-3 2'-4'		Run ID: GC11_150830A			SeqNo: 3439330		Prep Date: 8/30/2015		DF: 2		
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	1083	7.3	9.8	1000	0	108	50-150	1082	0.0682	30	
Propylene glycol	965	6.3	9.8	1000	0	96.5	50-150	966.8	0.181	30	

The following samples were analyzed in this batch:

15081577-01A	15081577-02A	15081577-03A
15081577-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081577
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R170751** Instrument ID **GC11** Method: **SW8015M**

MBLK		Sample ID: MB-R170751-R170751				Units: mg/Kg		Analysis Date: 8/31/2015 12:31 PM			
Client ID:		Run ID: GC11_150831A				SeqNo: 3440594		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Butyric Acid	U	1.2	10								

LCS		Sample ID: LCS-R170751-R170751				Units: mg/Kg		Analysis Date: 8/31/2015 01:52 PM			
Client ID:		Run ID: GC11_150831A				SeqNo: 3440595		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Butyric Acid	551.4	1.2	10	500	0	110		0			

MS		Sample ID: 15081577-01E MS				Units: mg/Kg		Analysis Date: 8/31/2015 02:02 PM			
Client ID: TP-3 2'-4'		Run ID: GC11_150831A				SeqNo: 3440600		Prep Date: 8/30/2015		DF: 2	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Butyric Acid	1028	2.3	20	1000	0	103		0			

MSD		Sample ID: 15081577-01E MSD				Units: mg/Kg		Analysis Date: 8/31/2015 02:12 PM			
Client ID: TP-3 2'-4'		Run ID: GC11_150831A				SeqNo: 3440601		Prep Date: 8/30/2015		DF: 2	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Butyric Acid	973.2	2.3	20	1000	0	97.3		1028	5.52		

The following samples were analyzed in this batch:

15081577-01E	15081577-02E	15081577-03E
15081577-04E		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081577
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75430 Instrument ID HPLC2 Method: SW8315A

MBLK		Sample ID: HBLKS1-75430-75430				Units: µg/Kg		Analysis Date: 9/1/2015 02:13 PM			
Client ID:		Run ID: HPLC2_150901A				SeqNo: 3442112		Prep Date: 8/31/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetaldehyde	U	910	2,000								
Formaldehyde	U	440	2,000								

LCS		Sample ID: HLCSS1-75430-75430				Units: µg/Kg		Analysis Date: 9/1/2015 02:22 PM			
Client ID:		Run ID: HPLC2_150901A				SeqNo: 3442113		Prep Date: 8/31/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetaldehyde	6524	910	2,000	10000	0	65.2	50-150	0			
Formaldehyde	11240	440	2,000	10000	0	112	50-150	0			

MS		Sample ID: 15081577-02A MS				Units: µg/Kg		Analysis Date: 9/1/2015 02:31 PM			
Client ID: TP-4 4'-6'		Run ID: HPLC2_150901A				SeqNo: 3442108		Prep Date: 8/31/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetaldehyde	6030	900	2,000	9915	0	60.8	50-150	0			
Formaldehyde	10680	440	2,000	9915	0	108	50-150	0			

MSD		Sample ID: 15081577-02A MSD				Units: µg/Kg		Analysis Date: 9/1/2015 02:41 PM			
Client ID: TP-4 4'-6'		Run ID: HPLC2_150901A				SeqNo: 3442109		Prep Date: 8/31/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetaldehyde	6158	890	2,000	9783	0	62.9	50-150	6030	2.1	50	
Formaldehyde	10420	430	2,000	9783	0	106	50-150	10680	2.54	50	

The following samples were analyzed in this batch: | 15081577-01A | 15081577-02A | 15081577-03A |
 | 15081577-04A |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081577
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R170793** Instrument ID **HPLC2** Method: **SW8300M**

MBLK		Sample ID: MB-R170793-R170793				Units: mg/Kg		Analysis Date: 8/30/2015 04:13 PM			
Client ID:		Run ID: HPLC2_150830A				SeqNo: 3441278		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetic Acid	U	5.6	25								
Formic Acid	U	3.3	25								
Lactic Acid	U	5.9	25								

LCS		Sample ID: LCS-R170793-R170793				Units: mg/Kg		Analysis Date: 8/30/2015 04:24 PM			
Client ID:		Run ID: HPLC2_150830A				SeqNo: 3441279		Prep Date: 8/30/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetic Acid	521.7	5.6	25	500	0	104	80-120	0			
Formic Acid	529.9	3.3	25	500	0	106	80-120	0			
Lactic Acid	539.7	5.9	25	500	0	108	80-120	0			

MS		Sample ID: 15081577-01E MS				Units: mg/Kg		Analysis Date: 8/30/2015 04:35 PM			
Client ID: TP-3 2'-4'		Run ID: HPLC2_150830A				SeqNo: 3441284		Prep Date: 8/30/2015		DF: 2	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetic Acid	927.5	11	49	1000	0	92.7	75-125	0			
Formic Acid	998.1	6.5	49	1000	0	99.8	75-125	0			
Lactic Acid	959.3	12	49	1000	0	95.9	75-125	0			

MSD		Sample ID: 15081577-01E MSD				Units: mg/Kg		Analysis Date: 8/30/2015 04:46 PM			
Client ID: TP-3 2'-4'		Run ID: HPLC2_150830A				SeqNo: 3441285		Prep Date: 8/30/2015		DF: 2	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetic Acid	972.6	11	49	1000	0	97.3	75-125	927.5	4.75	20	
Formic Acid	971.3	6.5	49	1000	0	97.1	75-125	998.1	2.72	20	
Lactic Acid	1057	12	49	1000	0	106	75-125	959.3	9.66	20	

The following samples were analyzed in this batch:

15081577-01E	15081577-02E	15081577-03E
15081577-04E		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081577
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75418 Instrument ID ICPMS1 Method: SW6020A

MBLK		Sample ID: MBLK-75418-75418				Units: mg/Kg		Analysis Date: 8/30/2015 08:33 PM			
Client ID:		Run ID: ICPMS1_150830A				SeqNo: 3438177		Prep Date: 8/29/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	U	0.006	0.25								

LCS		Sample ID: LCS-75418-75418				Units: mg/Kg		Analysis Date: 8/30/2015 08:40 PM			
Client ID:		Run ID: ICPMS1_150830A				SeqNo: 3438178		Prep Date: 8/29/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	4.61	0.006	0.25	5	0	92.2	80-120	0			

MS		Sample ID: 15081577-02AMS				Units: mg/Kg		Analysis Date: 8/30/2015 09:10 PM			
Client ID: TP-4 4'-6'		Run ID: ICPMS1_150830A				SeqNo: 3438186		Prep Date: 8/29/2015		DF: 4	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	26.56	0.036	1.5	7.599	20.3	82.4	75-125	0			

MSD		Sample ID: 15081577-02AMSD				Units: mg/Kg		Analysis Date: 8/30/2015 09:35 PM			
Client ID: TP-4 4'-6'		Run ID: ICPMS1_150830A				SeqNo: 3438190		Prep Date: 8/29/2015		DF: 4	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	25.5	0.036	1.5	7.564	20.3	68.7	75-125	26.56	4.09	25	S

The following samples were analyzed in this batch:

15081577-01A	15081577-02A	15081577-03A
15081577-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081577
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75419 Instrument ID SVMS6 Method: SW8270

MBLK		Sample ID: SBLKS1-75419-75419				Units: µg/Kg			Analysis Date: 8/30/2015 06:09 PM		
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439724			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	U	82	170								
Propylene glycol phenyl ether	U	49	170								
Surr: 2,4,6-Tribromophenol	1161	0	0	1667	0	69.6	34-140	0			
Surr: 2-Fluorophenol	1049	0	0	1667	0	62.9	33-117	0			
Surr: Phenol-d6	1075	0	0	1667	0	64.5	40-106	0			

LCS		Sample ID: SLCSS1-75419-75419				Units: µg/Kg			Analysis Date: 8/30/2015 06:29 PM		
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439725			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2287	82	170	3333	0	68.6	50-130	0			
Propylene glycol phenyl ether	2232	49	170	3333	0	67	50-130	0			
Surr: 2,4,6-Tribromophenol	1231	0	0	1667	0	73.9	34-140	0			
Surr: 2-Fluorophenol	1117	0	0	1667	0	67	33-117	0			
Surr: Phenol-d6	1156	0	0	1667	0	69.4	40-106	0			

MS		Sample ID: 15081582-03A MS				Units: µg/Kg			Analysis Date: 8/30/2015 08:00 PM		
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439729			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	3149	81	170	3300	2648	15.2	50-130	0			S
Propylene glycol phenyl ether	2157	48	170	3300	487.6	50.6	50-130	0			
Surr: 2,4,6-Tribromophenol	888	0	0	1650	0	53.8	34-140	0			
Surr: 2-Fluorophenol	587.7	0	0	1650	0	35.6	33-117	0			
Surr: Phenol-d6	598.9	0	0	1650	0	36.3	40-106	0			S

MS		Sample ID: 15081582-04A MS				Units: µg/Kg			Analysis Date: 8/30/2015 10:04 PM		
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439735			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2161	80	160	3253	0	66.4	50-130	0			
Propylene glycol phenyl ether	1654	47	160	3253	0	50.9	50-130	0			
Surr: 2,4,6-Tribromophenol	847.9	0	0	1626	0	52.1	34-140	0			
Surr: 2-Fluorophenol	727.6	0	0	1626	0	44.7	33-117	0			
Surr: Phenol-d6	766	0	0	1626	0	47.1	40-106	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081577
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75419 Instrument ID SVMS6 Method: SW8270

MS		Sample ID: 15081582-07A MS				Units: µg/Kg			Analysis Date: 8/30/2015 11:06 PM		
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439738			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2847	82	170	3326	0	85.6	50-130	0			
Propylene glycol phenyl ether	2018	49	170	3326	0	60.7	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	1054	0	0	1663	0	63.4	34-140	0			
<i>Surr: 2-Fluorophenol</i>	895.7	0	0	1663	0	53.9	33-117	0			
<i>Surr: Phenol-d6</i>	924.6	0	0	1663	0	55.6	40-106	0			

MSD		Sample ID: 15081582-03A MSD				Units: µg/Kg			Analysis Date: 8/30/2015 08:21 PM		
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439730			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	3586	81	170	3313	2648	28.3	50-130	3149	13	35	S
Propylene glycol phenyl ether	2459	48	170	3313	487.6	59.5	50-130	2157	13.1	35	
<i>Surr: 2,4,6-Tribromophenol</i>	1126	0	0	1657	0	68	34-140	888	23.6		
<i>Surr: 2-Fluorophenol</i>	885.6	0	0	1657	0	53.5	33-117	587.7	40.4		
<i>Surr: Phenol-d6</i>	898.9	0	0	1657	0	54.3	40-106	598.9	40.1		

MSD		Sample ID: 15081582-04A MSD				Units: µg/Kg			Analysis Date: 8/30/2015 10:25 PM		
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439736			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	1969	82	170	3319	0	59.3	50-130	2161	9.28	35	
Propylene glycol phenyl ether	1385	48	170	3319	0	41.7	50-130	1654	17.7	35	S
<i>Surr: 2,4,6-Tribromophenol</i>	728.6	0	0	1660	0	43.9	34-140	847.9	15.1		
<i>Surr: 2-Fluorophenol</i>	634.6	0	0	1660	0	38.2	33-117	727.6	13.6		
<i>Surr: Phenol-d6</i>	680.5	0	0	1660	0	41	40-106	766	11.8		

MSD		Sample ID: 15081582-07A MSD				Units: µg/Kg			Analysis Date: 8/30/2015 11:27 PM		
Client ID:		Run ID: SVMS6_150830A				SeqNo: 3439739			Prep Date: 8/30/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2481	80	160	3244	0	76.5	50-130	2847	13.7	35	
Propylene glycol phenyl ether	1800	47	160	3244	0	55.5	50-130	2018	11.4	35	
<i>Surr: 2,4,6-Tribromophenol</i>	905.4	0	0	1622	0	55.8	34-140	1054	15.2		
<i>Surr: 2-Fluorophenol</i>	786	0	0	1622	0	48.5	33-117	895.7	13		
<i>Surr: Phenol-d6</i>	850.9	0	0	1622	0	52.5	40-106	924.6	8.3		

The following samples were analyzed in this batch:

15081577-01A	15081577-02A	15081577-03A
15081577-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081577
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75441 Instrument ID SVMS5 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-75441-75441				Units: µg/Kg			Analysis Date: 8/31/2015 10:41 PM		
Client ID:		Run ID: SVMS5_150831A				SeqNo: 3441175		Prep Date: 8/31/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	U	2.5	6.7								
Acenaphthylene	U	2	6.7								
Anthracene	U	3.2	6.7								
Benzo(a)anthracene	U	4	6.7								
Benzo(a)pyrene	U	1.4	6.7								
Benzo(b)fluoranthene	U	2.3	6.7								
Benzo(g,h,i)perylene	U	2.9	6.7								
Benzo(k)fluoranthene	U	4.2	6.7								
Chrysene	U	5.6	6.7								
Dibenzo(a,h)anthracene	U	2.2	6.7								
Fluoranthene	U	4.1	6.7								
Fluorene	U	3.7	6.7								
Indeno(1,2,3-cd)pyrene	U	4.2	6.7								
Naphthalene	U	1.7	6.7								
Phenanthrene	U	3.7	6.7								
Pyrene	U	5	6.7								
<i>Surr: 2-Fluorobiphenyl</i>	1273	0	0	1667	0	76.4	12-100		0		
<i>Surr: 4-Terphenyl-d14</i>	1506	0	0	1667	0	90.3	25-137		0		
<i>Surr: Nitrobenzene-d5</i>	1294	0	0	1667	0	77.6	37-107		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081577
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75441 Instrument ID SVMS5 Method: SW846 8270D

LCS		Sample ID: SLCSS1-75441-75441				Units: µg/Kg		Analysis Date: 8/31/2015 11:03 PM			
Client ID:		Run ID: SVMS5_150831A				SeqNo: 3441178		Prep Date: 8/31/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	587.3	2.5	6.7	666.7	0	88.1	45-110	0			
Acenaphthylene	601.7	2	6.7	666.7	0	90.2	45-105	0			
Anthracene	604.7	3.2	6.7	666.7	0	90.7	55-105	0			
Benzo(a)anthracene	670.7	4	6.7	666.7	0	101	50-110	0			
Benzo(a)pyrene	638	1.4	6.7	666.7	0	95.7	50-110	0			
Benzo(b)fluoranthene	666.7	2.3	6.7	666.7	0	100	45-115	0			
Benzo(g,h,i)perylene	569.7	2.9	6.7	666.7	0	85.4	40-125	0			
Benzo(k)fluoranthene	671.3	4.2	6.7	666.7	0	101	45-115	0			
Chrysene	657.7	5.6	6.7	666.7	0	98.6	55-110	0			
Dibenzo(a,h)anthracene	570	2.2	6.7	666.7	0	85.5	40-125	0			
Fluoranthene	634	4.1	6.7	666.7	0	95.1	55-115	0			
Fluorene	612.7	3.7	6.7	666.7	0	91.9	50-110	0			
Indeno(1,2,3-cd)pyrene	574.7	4.2	6.7	666.7	0	86.2	40-120	0			
Naphthalene	603.3	1.7	6.7	666.7	0	90.5	40-105	0			
Phenanthrene	620.3	3.7	6.7	666.7	0	93	50-110	0			
Pyrene	738	5	6.7	666.7	0	111	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1373	0	0	1667	0	82.4	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1598	0	0	1667	0	95.9	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1473	0	0	1667	0	88.4	37-107	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081577
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75441 Instrument ID SVMS5 Method: SW846 8270D

MS		Sample ID: 15081434-04B MS				Units: µg/Kg		Analysis Date: 8/31/2015 11:58 PM			
Client ID:		Run ID: SVMS5_150831A				SeqNo: 3441179		Prep Date: 8/31/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	556.4	2.4	6.5	650.4	0	85.5	45-110	0			
Acenaphthylene	566.5	2	6.5	650.4	0	87.1	45-105	0			
Anthracene	591.8	3.2	6.5	650.4	0	91	55-105	0			
Benzo(a)anthracene	655.9	3.9	6.5	650.4	0	101	50-110	0			
Benzo(a)pyrene	627.9	1.4	6.5	650.4	0	96.5	50-110	0			
Benzo(b)fluoranthene	663.7	2.2	6.5	650.4	0	102	45-115	0			
Benzo(g,h,i)perylene	593.8	2.8	6.5	650.4	0	91.3	40-125	0			
Benzo(k)fluoranthene	650.7	4.1	6.5	650.4	0	100	45-115	0			
Chrysene	641.3	5.5	6.5	650.4	0	98.6	55-110	0			
Dibenzo(a,h)anthracene	592.8	2.1	6.5	650.4	0	91.1	40-125	0			
Fluoranthene	626	4	6.5	650.4	0	96.2	55-115	0			
Fluorene	596.7	3.6	6.5	650.4	0	91.7	50-110	0			
Indeno(1,2,3-cd)pyrene	604.2	4.1	6.5	650.4	0	92.9	40-120	0			
Naphthalene	533.3	1.7	6.5	650.4	0	82	40-105	0			
Phenanthrene	611	3.6	6.5	650.4	0	93.9	50-110	0			
Pyrene	713.8	4.9	6.5	650.4	0	110	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1238	0	0	1626	0	76.1	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1539	0	0	1626	0	94.6	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1308	0	0	1626	0	80.5	37-107	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081577
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75441 Instrument ID SVMS5 Method: SW846 8270D

MSD		Sample ID: 15081434-04B MSD				Units: µg/Kg			Analysis Date: 9/1/2015 12:21 PM		
Client ID:		Run ID: SVMS5_150831A				SeqNo: 3441192		Prep Date: 8/31/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	569.8	2.4	6.5	650.1	0	87.6	45-110	556.4	2.38	30	
Acenaphthylene	585.1	2	6.5	650.1	0	90	45-105	566.5	3.23	30	
Anthracene	563.3	3.1	6.5	650.1	0	86.6	55-105	591.8	4.94	30	
Benzo(a)anthracene	604.6	3.9	6.5	650.1	0	93	50-110	655.9	8.14	30	
Benzo(a)pyrene	574	1.4	6.5	650.1	0	88.3	50-110	627.9	8.97	30	
Benzo(b)fluoranthene	598.7	2.2	6.5	650.1	0	92.1	45-115	663.7	10.3	30	
Benzo(g,h,i)perylene	529.2	2.8	6.5	650.1	0	81.4	40-125	593.8	11.5	30	
Benzo(k)fluoranthene	592.9	4.1	6.5	650.1	0	91.2	45-115	650.7	9.3	30	
Chrysene	589.6	5.5	6.5	650.1	0	90.7	55-110	641.3	8.39	30	
Dibenzo(a,h)anthracene	532.7	2.1	6.5	650.1	0	81.9	40-125	592.8	10.7	30	
Fluoranthene	572.7	4	6.5	650.1	0	88.1	55-115	626	8.88	30	
Fluorene	589	3.6	6.5	650.1	0	90.6	50-110	596.7	1.3	30	
Indeno(1,2,3-cd)pyrene	541.2	4.1	6.5	650.1	0	83.2	40-120	604.2	11	30	
Naphthalene	588.3	1.7	6.5	650.1	0	90.5	40-105	533.3	9.81	30	
Phenanthrene	586.1	3.6	6.5	650.1	0	90.1	50-110	611	4.17	30	
Pyrene	663.7	4.9	6.5	650.1	0	102	45-125	713.8	7.26	30	
<i>Surr: 2-Fluorobiphenyl</i>	1314	0	0	1625	0	80.8	12-100	1238	5.97	40	
<i>Surr: 4-Terphenyl-d14</i>	1406	0	0	1625	0	86.5	25-137	1539	9.03	40	
<i>Surr: Nitrobenzene-d5</i>	1398	0	0	1625	0	86	37-107	1308	6.66	40	

The following samples were analyzed in this batch:

15081577-01A	15081577-02A	15081577-03A
15081577-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081577
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: **75440** Instrument ID **VMS9** Method: **SW8260B**

MBLK		Sample ID: MBLK-75440-75440				Units: µg/Kg			Analysis Date: 8/31/2015 01:05 PM		
Client ID:		Run ID: VMS9_150831A				SeqNo: 3440650		Prep Date: 8/31/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	U	12	30								
Ethylbenzene	U	11	30								
m,p-Xylene	U	23	60								
Methyl tert-butyl ether	U	13	30								
o-Xylene	U	13	30								
Toluene	U	11	30								
Xylenes, Total	U	35	90								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1005</i>	<i>0</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>946.5</i>	<i>0</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94.6</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>976.5</i>	<i>0</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.6</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>994.5</i>	<i>0</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99.4</i>	<i>70-130</i>	<i>0</i>			

LCS		Sample ID: LCS-75440-75440				Units: µg/Kg			Analysis Date: 8/31/2015 11:23 AM		
Client ID:		Run ID: VMS9_150831A				SeqNo: 3440649		Prep Date: 8/31/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1081	12	30	1000	0	108	75-125	0			
Ethylbenzene	1030	11	30	1000	0	103	75-125	0			
m,p-Xylene	2096	23	60	2000	0	105	80-125	0			
Methyl tert-butyl ether	877.5	13	30	1000	0	87.8	75-125	0			
o-Xylene	1018	13	30	1000	0	102	75-125	0			
Toluene	1059	11	30	1000	0	106	70-125	0			
Xylenes, Total	3114	35	90	3000	0	104	75-125	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>975</i>	<i>0</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.5</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>1048</i>	<i>0</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>105</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>961.5</i>	<i>0</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>96.2</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>1025</i>	<i>0</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>102</i>	<i>70-130</i>	<i>0</i>			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081577
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75440 Instrument ID VMS9 Method: SW8260B

MS		Sample ID: 15081638-08A MS				Units: µg/Kg		Analysis Date: 8/31/2015 08:46 PM			
Client ID:		Run ID: VMS9_150831A			SeqNo: 3440657		Prep Date: 8/31/2015		DF: 1		
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1064	12	30	1000	0	106	75-125	0			
Ethylbenzene	1038	11	30	1000	0	104	75-125	0			
m,p-Xylene	2094	23	60	2000	0	105	80-125	0			
Methyl tert-butyl ether	940	13	30	1000	0	94	75-125	0			
o-Xylene	1019	13	30	1000	0	102	75-125	0			
Toluene	1044	11	30	1000	0	104	70-125	0			
Xylenes, Total	3113	35	90	3000	0	104	75-125	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	990	0	0	1000	0	99	70-130	0			
<i>Surr: 4-Bromofluorobenzene</i>	1092	0	0	1000	0	109	70-130	0			
<i>Surr: Dibromofluoromethane</i>	965.5	0	0	1000	0	96.6	70-130	0			
<i>Surr: Toluene-d8</i>	1018	0	0	1000	0	102	70-130	0			

MSD		Sample ID: 15081638-08A MSD				Units: µg/Kg		Analysis Date: 8/31/2015 09:12 PM			
Client ID:		Run ID: VMS9_150831A			SeqNo: 3440659		Prep Date: 8/31/2015		DF: 1		
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1058	12	30	1000	0	106	75-125	1064	0.518	30	
Ethylbenzene	1047	11	30	1000	0	105	75-125	1038	0.863	30	
m,p-Xylene	2120	23	60	2000	0	106	80-125	2094	1.21	30	
Methyl tert-butyl ether	919.5	13	30	1000	0	92	75-125	940	2.2	30	
o-Xylene	1014	13	30	1000	0	101	75-125	1019	0.492	30	
Toluene	1057	11	30	1000	0	106	70-125	1044	1.24	30	
Xylenes, Total	3134	35	90	3000	0	104	75-125	3113	0.656	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	982	0	0	1000	0	98.2	70-130	990	0.811	30	
<i>Surr: 4-Bromofluorobenzene</i>	1108	0	0	1000	0	111	70-130	1092	1.55	30	
<i>Surr: Dibromofluoromethane</i>	955.5	0	0	1000	0	95.6	70-130	965.5	1.04	30	
<i>Surr: Toluene-d8</i>	1022	0	0	1000	0	102	70-130	1018	0.49	30	

The following samples were analyzed in this batch:

15081577-01C	15081577-02C	15081577-03C
15081577-04C		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 15081577
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R170761** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R170761				Units: % of sample		Analysis Date: 8/31/2015 11:41 AM			
Client ID:		Run ID: MOIST_150831B				SeqNo: 3440839		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.025	0.050								

LCS		Sample ID: LCS-R170761				Units: % of sample		Analysis Date: 8/31/2015 11:41 AM			
Client ID:		Run ID: MOIST_150831B				SeqNo: 3440838		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.025	0.050	100	0	100	99.5-100.5	0			

DUP		Sample ID: 15081582-07A DUP				Units: % of sample		Analysis Date: 8/31/2015 11:41 AM			
Client ID:		Run ID: MOIST_150831B				SeqNo: 3440826		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	22.7	0.025	0.050	0	0	0		22.76	0.264	20	

DUP		Sample ID: 15081582-12A DUP				Units: % of sample		Analysis Date: 8/31/2015 11:41 AM			
Client ID:		Run ID: MOIST_150831B				SeqNo: 3440828		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	22.84	0.025	0.050	0	0	0		22.39	1.99	20	

The following samples were analyzed in this batch:

15081577-01D	15081577-02D	15081577-03D
15081577-04D		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



ALS Environmental
1740 Union Carbide Drive
South Charleston, WV 25303
(Tel) 304.356.3168

Chain of Custody Form

Page 1 of 1

02653

ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: _____ ALS Work Order #: 15281577

Customer Information		Project Information		Parameter/Method Request for Analysis								
Purchase Order		Project Name	<u>Freedom Indur</u>	A	<u>met H-M 8220</u>							
Work Order		Project Number		B	<u>PPT 8220</u>							
Company Name	<u>CORE ENVIRONMENTAL</u>	Bill To Company	<u>CORE</u>	C	<u>Propylene Glycol & glycols 8015</u>							
Send Report To	<u>MATT FORD</u>	Invoice Attn	<u>MATT FORD</u>	D	<u>Alcohols 8015</u>							
Address	<u>533 N. Jefferson St</u>	Address	<u>533 N. Jefferson St</u>	E	<u>Volatiles Fatty Acids</u>							
City/State/Zip	<u>Lewisburg, WV</u>	City/State/Zip	<u>Lewisburg, WV</u>	F	<u>Aldehyde 8315</u>							
Phone	<u>304-520-4260</u>	Phone	<u>304-520-4260</u>	G	<u>BTEX, MTBE 8260</u>							
Fax	<u>304-520-4265</u>	Fax		H	<u>PAH 8220</u>							
e-Mail Address	<u>mford@CORE-Env.com</u>			I	<u>TOTAL Lead 8020</u>							
				J								

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	TP-3 2-H	8-27-16	11:00	SoDL	8	5	X	X	X	X	X	X	X	X	X	X	
2	TP-4 4-6	8-27-16	10:10	SoDL	6.7.8	5	X	X	X	X	X	X	X	X	X	X	
3	TP-9 8-10	8-26-16	15:35	SoDL	6.7.8	5	X	X	X	X	X	X	X	X	X	X	
4	TP-10 2-H	8-26-16	13:00	SoDL	6.7.8	5	X	X	X	X	X	X	X	X	X	X	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign _____ Shipment Method: _____ Required Turnaround Time: Other 3 DAY STD 10 WK Days 5 WK Days 2 WK Days 24 HR

Relinquished by: <u>[Signature]</u>	Date: <u>8-28-16</u>	Time: <u>11:10</u>	Received by: <u>[Signature]</u>	Cooler Temp: <u>26°C</u>	Notes:
Relinquished by: <u>[Signature]</u>	Date: <u>8/28/16</u>	Time: <u>17:00</u>	Received by: <u>[Signature]</u>	Cooler Temp: <u>ASUN</u>	
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp: <u>6°C</u>	QC Package: (Check Box Below)
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):		Level II: Standard QC
					Level III: Standard QC + Raw Data
					Level IV: SW846 Methods/CLP
					Other: <u>NO</u>

Sample Receipt Checklist

Client Name: COREENV-LEWISBURG

Date/Time Received: 28-Aug-15 11:10

Work Order: 15081577

Received by: JAS

Checklist completed by Janet Smith 28-Aug-15
eSignature Date

Reviewed by: Rebecca Liser 28-Aug-15
eSignature Date

Matrices: Soil
Carrier name: Client

- Shipping container/cooler in good condition? Yes [x] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [x]
Custody seals intact on sample bottles? Yes [] No [] Not Present [x]
Chain of custody present? Yes [x] No []
Chain of custody signed when relinquished and received? Yes [x] No []
Chain of custody agrees with sample labels? Yes [x] No []
Samples in proper container/bottle? Yes [x] No []
Sample containers intact? Yes [x] No []
Sufficient sample volume for indicated test? Yes [x] No []
All samples received within holding time? Yes [x] No []
Container/Temp Blank temperature in compliance? Yes [x] No []
Sample(s) received on ice? Yes [x] No []
Temperature(s)/Thermometer(s): <6C IR
Cooler(s)/Kit(s):
Date/Time sample(s) sent to storage:
Water - VOA vials have zero headspace? Yes [] No [] No VOA vials submitted [x]
Water - pH acceptable upon receipt? Yes [] No [] N/A [x]
pH adjusted? Yes [] No [] N/A [x]
pH adjusted by:

Login Notes: Holland <6 C

Client Contacted: Date Contacted: Person Contacted:
Contacted By: Regarding:

Comments:

CorrectiveAction:



08-Sep-2015

Matt Ford
Core Environmental
533 North Jefferson Street
Lewisburg, WV 24901

Re: **Freedom Industries**

Work Order: **1509155**

Dear Matt,

ALS Environmental received 3 samples on 02-Sep-2015 02:52 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 11.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Rebecca Kiser".

Electronically approved by: Rebecca Kiser

Rebecca Kiser
Project Manager



Certificate No: WV: 355

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental ALS Environmental logo icon consisting of a stylized flame inside a triangle.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Core Environmental
Project: Freedom Industries
Work Order: 1509155

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1509155-01	FD-6	Soil		9/1/2015 10:15	9/3/2015 10:30	<input type="checkbox"/>
1509155-02	FD-7	Soil		9/1/2015 11:50	9/3/2015 10:30	<input type="checkbox"/>
1509155-03	TP-14 2'-4'	Soil		9/1/2015 09:00	9/3/2015 10:30	<input type="checkbox"/>

Client: Core Environmental
Project: Freedom Industries
Work Order: 1509155

Case Narrative

Batch 75617, Method SVO_8270_S_MCHM+, Sample 1509155-03A MS: The MS recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary: 4-Methyl-1-cyclohexanemethanol

Batch 75617, Method SVO_8270_S_MCHM+, Sample 1509155-03A MSD: The RPD between the MS and MSD was outside the control limit. The corresponding result in the parent sample should be considered estimated for this analyte: 4-Methyl-1-cyclohexanemethanol

Batch 75617, Method SVO_8270_S_MCHM+, Sample 1509155-03A MSD: The MSD recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary: 4-Methyl-1-cyclohexanemethanol

Client: Core Environmental
Project: Freedom Industries
WorkOrder: 1509155

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: FD-6
Collection Date: 9/1/2015 10:15 AM

Work Order: 1509155
Lab ID: 1509155-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 9/3/15		Analyst: RS
4-Methyl-1-cyclohexanemethanol	U		100	210	µg/Kg-dry	1	9/4/2015 03:21
Propylene glycol phenyl ether	U		60	210	µg/Kg-dry	1	9/4/2015 03:21
Surr: 2,4,6-Tribromophenol	75.1			34-140	%REC	1	9/4/2015 03:21
Surr: 2-Fluorophenol	54.4			33-117	%REC	1	9/4/2015 03:21
Surr: Phenol-d6	57.6			40-106	%REC	1	9/4/2015 03:21
MOISTURE			Method:E160.3M				Analyst: EVB
Moisture	21		0.025	0.050	% of sample	1	9/3/2015 16:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: FD-7
Collection Date: 9/1/2015 11:50 AM

Work Order: 1509155
Lab ID: 1509155-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 9/3/15		Analyst: RS
4-Methyl-1-cyclohexanemethanol	2,600		100	210	µg/Kg-dry	1	9/4/2015 03:42
Propylene glycol phenyl ether	U		60	210	µg/Kg-dry	1	9/4/2015 03:42
Surr: 2,4,6-Tribromophenol	78.6			34-140	%REC	1	9/4/2015 03:42
Surr: 2-Fluorophenol	62.3			33-117	%REC	1	9/4/2015 03:42
Surr: Phenol-d6	61.9			40-106	%REC	1	9/4/2015 03:42
MOISTURE			Method:E160.3M				Analyst: EVB
Moisture	19		0.025	0.050	% of sample	1	9/3/2015 16:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-14 2'-4'
Collection Date: 9/1/2015 09:00 AM

Work Order: 1509155
Lab ID: 1509155-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 9/3/15		Analyst: RS
4-Methyl-1-cyclohexanemethanol	U		100	210	µg/Kg-dry	1	9/3/2015 23:33
Propylene glycol phenyl ether	U		60	210	µg/Kg-dry	1	9/3/2015 23:33
Surr: 2,4,6-Tribromophenol	85.7			34-140	%REC	1	9/3/2015 23:33
Surr: 2-Fluorophenol	60.3			33-117	%REC	1	9/3/2015 23:33
Surr: Phenol-d6	63.3			40-106	%REC	1	9/3/2015 23:33
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	19		0.025	0.050	% of sample	1	9/3/2015 16:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Core Environmental
Work Order: 1509155
Project: Freedom Industries

QC BATCH REPORT

Batch ID: **75617** Instrument ID **SVMS6** Method: **SW8270**

MBLK		Sample ID: SBLKS1-75617-75617				Units: µg/Kg		Analysis Date: 9/4/2015 02:22 PM			
Client ID:		Run ID: SVMS6_150904A				SeqNo: 3446481		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	U	82	170								
Propylene glycol phenyl ether	U	49	170								
<i>Surr: 2,4,6-Tribromophenol</i>	1267	0	0	1667	0	76	34-140	0			
<i>Surr: 2-Fluorophenol</i>	1082	0	0	1667	0	64.9	33-117	0			
<i>Surr: Phenol-d6</i>	1071	0	0	1667	0	64.2	40-106	0			

LCS		Sample ID: SLCSS1-75617-75617				Units: µg/Kg		Analysis Date: 9/4/2015 02:42 PM			
Client ID:		Run ID: SVMS6_150904A				SeqNo: 3446482		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2331	82	170	3333	0	69.9	50-130	0			
Propylene glycol phenyl ether	2396	49	170	3333	0	71.9	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	1177	0	0	1667	0	70.6	34-140	0			
<i>Surr: 2-Fluorophenol</i>	1102	0	0	1667	0	66.1	33-117	0			
<i>Surr: Phenol-d6</i>	1125	0	0	1667	0	67.5	40-106	0			

MS		Sample ID: 1509155-03A MS				Units: µg/Kg		Analysis Date: 9/3/2015 10:52 PM			
Client ID: TP-14 2'-4'		Run ID: SVMS6_150903A				SeqNo: 3446260		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	8410	81	160	3292	0	255	50-130	0			S
Propylene glycol phenyl ether	2847	48	160	3292	0	86.5	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	1392	0	0	1646	0	84.6	34-140	0			
<i>Surr: 2-Fluorophenol</i>	985.7	0	0	1646	0	59.9	33-117	0			
<i>Surr: Phenol-d6</i>	1055	0	0	1646	0	64.1	40-106	0			

MSD		Sample ID: 1509155-03A MSD				Units: µg/Kg		Analysis Date: 9/3/2015 11:12 PM			
Client ID: TP-14 2'-4'		Run ID: SVMS6_150903A				SeqNo: 3446261		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	4890	80	160	3235	0	151	50-130	8410	52.9	35	SR
Propylene glycol phenyl ether	2134	47	160	3235	0	66	50-130	2847	28.6	35	
<i>Surr: 2,4,6-Tribromophenol</i>	1210	0	0	1618	0	74.8	34-140	1392	14		
<i>Surr: 2-Fluorophenol</i>	887.7	0	0	1618	0	54.9	33-117	985.7	10.5		
<i>Surr: Phenol-d6</i>	918.1	0	0	1618	0	56.8	40-106	1055	13.9		

The following samples were analyzed in this batch: | 1509155-01A | 1509155-02A | 1509155-03A |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 1509155
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R171027** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R171027				Units: % of sample		Analysis Date: 9/3/2015 04:55 PM			
Client ID:		Run ID: MOIST_150903A				SeqNo: 3445814		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.025	0.050								

LCS		Sample ID: LCS-R171027				Units: % of sample		Analysis Date: 9/3/2015 04:55 PM			
Client ID:		Run ID: MOIST_150903A				SeqNo: 3445812		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.025	0.050	100	0	100	99.5-100.5	0			

DUP		Sample ID: 1509126-02A DUP				Units: % of sample		Analysis Date: 9/3/2015 04:55 PM			
Client ID:		Run ID: MOIST_150903A				SeqNo: 3445786		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	15.84	0.025	0.050	0	0	0		15.33	3.27	20	

DUP		Sample ID: 1509154-01A DUP				Units: % of sample		Analysis Date: 9/3/2015 04:55 PM			
Client ID:		Run ID: MOIST_150903A				SeqNo: 3445792		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	18.9	0.025	0.050	0	0	0		18.4	2.68	20	

The following samples were analyzed in this batch:

1509155-01A	1509155-02A	1509155-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.



ALS Environmental
1740 Union Carbide Drive
South Charleston, WV 25303
(Tel) 304.356.3168

Chain of Custody Form

Page 1 of 1

02660

ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: _____ ALS Work Order #: 1529155

Customer Information		Project Information		Parameter/Method Request for Analysis										
Purchase Order		Project Name		A	MCHM 8270									
Work Order		Project Number		B	PPH 8270									
Company Name	CORE ENV	Bill To Company	CORE ENV	C										
Send Report To	Matt Ford	Invoice Attn.	Matt Ford	D										
Address	533 N. Jefferson St.	Address		E										
City/State/Zip	Lewisburg, WV	City/State/Zip		F										
Phone	304-520-4260	Phone		G										
Fax		Fax		H										
e-Mail Address	mford@core-env.com			I										
				J										

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	FD-6	9-1-15	10:15	SOPC	8	1	✓	✓									
2	FD-7	9-1-15	11:50	SOPC	8	1	✓	✓									
3	TP-14 2'-4'	9-1-15	09:00	SOPC	8	1	✓	✓									
4	TP-14 2'-4' MS	9-1-15	09:00	SOPC	8	1	✓	✓									
5	TP-14 2'-4' MSP	9-1-15	09:00	SOPC	8	1	✓	✓									
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign Sotero Stinger / Sotero Stinger Shipment Method: _____ Required Turnaround Time: Other 3 DAY Results Due Date: _____

STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour

Relinquished by: <u>[Signature]</u>	Date: <u>9-2-15</u>	Time: <u>14:00</u>	Received by: <u>[Signature]</u>	Cooler Temp: <u>26°C</u>	Notes: QC Package: (Check Box Below) Level II: Standard QC Level III: Standard QC + Raw Data Level IV: SW846 Methods/CLP Other: <u>X</u>
Relinquished by: <u>[Signature]</u>	Date: <u>9-2-15</u>	Time: <u>14:52</u>	Received by: <u>[Signature]</u>	Cooler Temp: <u>26°C</u>	
Relinquished by: <u>[Signature]</u>	Date: <u>9/2/15</u>	Time: <u>1700</u>	Received by: <u>[Signature]</u>	Cooler Temp: <u>26°C</u>	
Relinquished by: _____	Date: _____	Time: _____	Received by (Laboratory): _____	Cooler Temp: _____	
Logged by (Laboratory): _____	Date: _____	Time: _____	Checked by (Laboratory): _____		

Sample Receipt Checklist

Client Name: **COREENV-LEWISBURG**

Date/Time Received: **02-Sep-15 14:52**

Work Order: **1509155**

Received by: **JAS**

Checklist completed by Janet Smith 02-Sep-15
eSignature Date

Reviewed by: Rebecca Hiser 03-Sep-15
eSignature Date

Matrices: Soil
Carrier name: Courier

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<input type="text" value="<6C"/> <input type="text" value="IR"/>		
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<input type="text"/>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes: Holland <6 C

Client Contacted: Date Contacted: Person Contacted:
Contacted By: Regarding:

Comments:

CorrectiveAction:



08-Sep-2015

Matt Ford
Core Environmental
533 North Jefferson Street
Lewisburg, WV 24901

Re: **Freedom Industries**

Work Order: **1509154**

Dear Matt,

ALS Environmental received 8 samples on 02-Sep-2015 02:52 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 15.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Rebecca Kiser".

Electronically approved by: Rebecca Kiser

Rebecca Kiser
Project Manager



Certificate No: WV: 355

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental ALS Environmental logo icon consisting of a stylized flame inside a triangle.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Core Environmental
Project: Freedom Industries
Work Order: 1509154

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1509154-01	TP-14 16'-18'	Soil		9/1/2015 10:05	9/3/2015 10:30	<input type="checkbox"/>
1509154-02	TP-15 4'-6'	Soil		9/1/2015 11:00	9/3/2015 10:30	<input type="checkbox"/>
1509154-03	TP-15 14'-16'	Soil		9/1/2015 11:20	9/3/2015 10:30	<input type="checkbox"/>
1509154-04	TP-16 4'-6'	Soil		9/1/2015 11:35	9/3/2015 10:30	<input type="checkbox"/>
1509154-05	TP-16 12'-14'	Soil		9/1/2015 12:15	9/3/2015 10:30	<input type="checkbox"/>
1509154-06	TP-16 16'18'	Soil		9/1/2015 12:25	9/3/2015 10:30	<input type="checkbox"/>
1509154-07	TP-17 10'-12'	Soil		9/1/2015 14:10	9/3/2015 10:30	<input type="checkbox"/>
1509154-08	TP-17 14'-16'	Soil		9/1/2015 14:30	9/3/2015 10:30	<input type="checkbox"/>

Client: Core Environmental
Project: Freedom Industries
WorkOrder: 1509154

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-14 16'-18'
Collection Date: 9/1/2015 10:05 AM

Work Order: 1509154
Lab ID: 1509154-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 9/3/15		Analyst: RS
4-Methyl-1-cyclohexanemethanol	U		100	200	µg/Kg-dry	1	9/4/2015 12:35
Propylene glycol phenyl ether	U		59	200	µg/Kg-dry	1	9/4/2015 12:35
Surr: 2,4,6-Tribromophenol	70.6			34-140	%REC	1	9/4/2015 12:35
Surr: 2-Fluorophenol	48.2			33-117	%REC	1	9/4/2015 12:35
Surr: Phenol-d6	50.4			40-106	%REC	1	9/4/2015 12:35
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	18		0.025	0.050	% of sample	1	9/3/2015 16:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-15 4'-6'
Collection Date: 9/1/2015 11:00 AM

Work Order: 1509154
Lab ID: 1509154-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 9/3/15		Analyst: RS
4-Methyl-1-cyclohexanemethanol	U		100	210	µg/Kg-dry	1	9/4/2015 12:56
Propylene glycol phenyl ether	U		60	210	µg/Kg-dry	1	9/4/2015 12:56
Surr: 2,4,6-Tribromophenol	67.7			34-140	%REC	1	9/4/2015 12:56
Surr: 2-Fluorophenol	55.2			33-117	%REC	1	9/4/2015 12:56
Surr: Phenol-d6	55.8			40-106	%REC	1	9/4/2015 12:56
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	19		0.025	0.050	% of sample	1	9/3/2015 16:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-15 14'-16'
Collection Date: 9/1/2015 11:20 AM

Work Order: 1509154
Lab ID: 1509154-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 9/3/15		Analyst: RS
4-Methyl-1-cyclohexanemethanol	U		100	200	µg/Kg-dry	1	9/4/2015 01:17
Propylene glycol phenyl ether	U		60	200	µg/Kg-dry	1	9/4/2015 01:17
Surr: 2,4,6-Tribromophenol	67.8			34-140	%REC	1	9/4/2015 01:17
Surr: 2-Fluorophenol	55.7			33-117	%REC	1	9/4/2015 01:17
Surr: Phenol-d6	55.1			40-106	%REC	1	9/4/2015 01:17
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	21		0.025	0.050	% of sample	1	9/3/2015 16:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-16 4'-6'
Collection Date: 9/1/2015 11:35 AM

Work Order: 1509154
Lab ID: 1509154-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 9/3/15		Analyst: RS
4-Methyl-1-cyclohexanemethanol	1,700		100	200	µg/Kg-dry	1	9/4/2015 01:38
Propylene glycol phenyl ether	U		59	200	µg/Kg-dry	1	9/4/2015 01:38
Surr: 2,4,6-Tribromophenol	79.7			34-140	%REC	1	9/4/2015 01:38
Surr: 2-Fluorophenol	62.7			33-117	%REC	1	9/4/2015 01:38
Surr: Phenol-d6	62.4			40-106	%REC	1	9/4/2015 01:38
MOISTURE			Method:E160.3M				Analyst: EVB
Moisture	18		0.025	0.050	% of sample	1	9/3/2015 16:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-16 12'-14'
Collection Date: 9/1/2015 12:15 PM

Work Order: 1509154
Lab ID: 1509154-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 9/3/15		Analyst: RS
4-Methyl-1-cyclohexanemethanol	U		100	210	µg/Kg-dry	1	9/4/2015 01:58
Propylene glycol phenyl ether	U		60	210	µg/Kg-dry	1	9/4/2015 01:58
Surr: 2,4,6-Tribromophenol	83.9			34-140	%REC	1	9/4/2015 01:58
Surr: 2-Fluorophenol	64.9			33-117	%REC	1	9/4/2015 01:58
Surr: Phenol-d6	67.5			40-106	%REC	1	9/4/2015 01:58
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	19		0.025	0.050	% of sample	1	9/3/2015 16:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-16 16'18'
Collection Date: 9/1/2015 12:25 PM

Work Order: 1509154
Lab ID: 1509154-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 9/3/15		Analyst: RS
4-Methyl-1-cyclohexanemethanol	U		100	200	µg/Kg-dry	1	9/4/2015 02:19
Propylene glycol phenyl ether	U		59	200	µg/Kg-dry	1	9/4/2015 02:19
Surr: 2,4,6-Tribromophenol	79.2			34-140	%REC	1	9/4/2015 02:19
Surr: 2-Fluorophenol	64.2			33-117	%REC	1	9/4/2015 02:19
Surr: Phenol-d6	64.1			40-106	%REC	1	9/4/2015 02:19
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	19		0.025	0.050	% of sample	1	9/3/2015 16:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-17 10'-12'
Collection Date: 9/1/2015 02:10 PM

Work Order: 1509154
Lab ID: 1509154-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 9/3/15		Analyst: RS
4-Methyl-1-cyclohexanemethanol	U		99	200	µg/Kg-dry	1	9/4/2015 02:40
Propylene glycol phenyl ether	U		59	200	µg/Kg-dry	1	9/4/2015 02:40
Surr: 2,4,6-Tribromophenol	77.4			34-140	%REC	1	9/4/2015 02:40
Surr: 2-Fluorophenol	58.6			33-117	%REC	1	9/4/2015 02:40
Surr: Phenol-d6	59.1			40-106	%REC	1	9/4/2015 02:40
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	18		0.025	0.050	% of sample	1	9/3/2015 16:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-17 14'-16'
Collection Date: 9/1/2015 02:30 PM

Work Order: 1509154
Lab ID: 1509154-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 9/3/15		Analyst: RS
4-Methyl-1-cyclohexanemethanol	U		98	200	µg/Kg-dry	1	9/4/2015 03:01
Propylene glycol phenyl ether	U		58	200	µg/Kg-dry	1	9/4/2015 03:01
Surr: 2,4,6-Tribromophenol	64.3			34-140	%REC	1	9/4/2015 03:01
Surr: 2-Fluorophenol	50.1			33-117	%REC	1	9/4/2015 03:01
Surr: Phenol-d6	51.9			40-106	%REC	1	9/4/2015 03:01
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	18		0.025	0.050	% of sample	1	9/3/2015 16:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Core Environmental
Work Order: 1509154
Project: Freedom Industries

QC BATCH REPORT

Batch ID: **75617** Instrument ID **SVMS6** Method: **SW8270**

MBLK		Sample ID: SBLKS1-75617-75617				Units: µg/Kg		Analysis Date: 9/4/2015 02:22 PM			
Client ID:		Run ID: SVMS6_150904A				SeqNo: 3446481		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	U	82	170								
Propylene glycol phenyl ether	U	49	170								
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1267</i>	<i>0</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>76</i>	<i>34-140</i>	<i>0</i>			
<i>Surr: 2-Fluorophenol</i>	<i>1082</i>	<i>0</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>64.9</i>	<i>33-117</i>	<i>0</i>			
<i>Surr: Phenol-d6</i>	<i>1071</i>	<i>0</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>64.2</i>	<i>40-106</i>	<i>0</i>			

LCS		Sample ID: SLCSS1-75617-75617				Units: µg/Kg		Analysis Date: 9/4/2015 02:42 PM			
Client ID:		Run ID: SVMS6_150904A				SeqNo: 3446482		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2331	82	170	3333	0	69.9	50-130	0			
Propylene glycol phenyl ether	2396	49	170	3333	0	71.9	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1177</i>	<i>0</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>70.6</i>	<i>34-140</i>	<i>0</i>			
<i>Surr: 2-Fluorophenol</i>	<i>1102</i>	<i>0</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>66.1</i>	<i>33-117</i>	<i>0</i>			
<i>Surr: Phenol-d6</i>	<i>1125</i>	<i>0</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>67.5</i>	<i>40-106</i>	<i>0</i>			

MS		Sample ID: 1509155-03A MS				Units: µg/Kg		Analysis Date: 9/3/2015 10:52 PM			
Client ID:		Run ID: SVMS6_150903A				SeqNo: 3446260		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	8410	81	160	3292	0	255	50-130	0			S
Propylene glycol phenyl ether	2847	48	160	3292	0	86.5	50-130	0			
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1392</i>	<i>0</i>	<i>0</i>	<i>1646</i>	<i>0</i>	<i>84.6</i>	<i>34-140</i>	<i>0</i>			
<i>Surr: 2-Fluorophenol</i>	<i>985.7</i>	<i>0</i>	<i>0</i>	<i>1646</i>	<i>0</i>	<i>59.9</i>	<i>33-117</i>	<i>0</i>			
<i>Surr: Phenol-d6</i>	<i>1055</i>	<i>0</i>	<i>0</i>	<i>1646</i>	<i>0</i>	<i>64.1</i>	<i>40-106</i>	<i>0</i>			

MSD		Sample ID: 1509155-03A MSD				Units: µg/Kg		Analysis Date: 9/3/2015 11:12 PM			
Client ID:		Run ID: SVMS6_150903A				SeqNo: 3446261		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	4890	80	160	3235	0	151	50-130	8410	52.9	35	SR
Propylene glycol phenyl ether	2134	47	160	3235	0	66	50-130	2847	28.6	35	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1210</i>	<i>0</i>	<i>0</i>	<i>1618</i>	<i>0</i>	<i>74.8</i>	<i>34-140</i>	<i>1392</i>	<i>14</i>		
<i>Surr: 2-Fluorophenol</i>	<i>887.7</i>	<i>0</i>	<i>0</i>	<i>1618</i>	<i>0</i>	<i>54.9</i>	<i>33-117</i>	<i>985.7</i>	<i>10.5</i>		
<i>Surr: Phenol-d6</i>	<i>918.1</i>	<i>0</i>	<i>0</i>	<i>1618</i>	<i>0</i>	<i>56.8</i>	<i>40-106</i>	<i>1055</i>	<i>13.9</i>		

The following samples were analyzed in this batch:

1509154-01A	1509154-02A	1509154-03A
1509154-04A	1509154-05A	1509154-06A
1509154-07A	1509154-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 1509154
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R171027** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R171027				Units: % of sample		Analysis Date: 9/3/2015 04:55 PM			
Client ID:		Run ID: MOIST_150903A				SeqNo: 3445814		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.025	0.050								

LCS		Sample ID: LCS-R171027				Units: % of sample		Analysis Date: 9/3/2015 04:55 PM			
Client ID:		Run ID: MOIST_150903A				SeqNo: 3445812		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.025	0.050	100	0	100	99.5-100.5	0			

DUP		Sample ID: 1509126-02A DUP				Units: % of sample		Analysis Date: 9/3/2015 04:55 PM			
Client ID:		Run ID: MOIST_150903A				SeqNo: 3445786		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	15.84	0.025	0.050	0	0	0		15.33	3.27	20	

DUP		Sample ID: 1509154-01A DUP				Units: % of sample		Analysis Date: 9/3/2015 04:55 PM			
Client ID: TP-14 16'-18'		Run ID: MOIST_150903A				SeqNo: 3445792		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	18.9	0.025	0.050	0	0	0		18.4	2.68	20	

The following samples were analyzed in this batch:

1509154-01A	1509154-02A	1509154-03A
1509154-04A	1509154-05A	1509154-06A
1509154-07A	1509154-08A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



ALS Environmental
1740 Union Carbide Drive
South Charleston, WV 25303
(Tel) 304.356.3168

Chain of Custody Form

Page 1 of 1

02659

ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: _____ ALS Work Order #: 1509124

Customer Information		Project Information				Parameter/Method Request for Analysis										
Purchase Order		Project Name	Freedom Indus			A	mchm 8220									
Work Order		Project Number				B	PPH 8270									
Company Name	CORE ENV	Bill To Company	CORE ENV.			C										
Send Report To	Matt Ford	Invoice Attn.	MATT FORD			D										
Address	533 N. Jefferson St	Address	533 N. Jefferson St			E										
City/State/Zip	Lewisburg, WV	City/State/Zip	Lewisburg, WV			F										
Phone	304-520-4260	Phone				G										
Fax		Fax				H										
e-Mail Address	mford@core-env.com					I										
						J										

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	TP-14 16-18'	9-1-15	10:05	SOIL	8	1	X	X									
2	TP-15 4-6'	9-1-15	11:00	SOIL	8	1	X	X									
3	TP-15 14-16'	9-1-15	11:20	SOIL	8	1	X	X									
4	TP-16 4-6'	9-1-15	11:35	SOIL	8	1	X	X									
5	TP-16 12-14'	9-1-15	12:15	SOIL	8	1	X	X									
6	TP-16 16-18'	9-1-15	12:25	SOIL	8	1	X	X									
7	TP-17 10-12'	9-1-15	14:10	SOIL	8	1	X	X									
8	TP-17 14-16'	9-1-15	14:30	SOIL	8	1	X	X									
9																	
10																	

Sampler(s): Please Print & Sign Sotero Svingor / Matt Ford Shipment Method: _____ Required Turnaround Time: Other 3 DAY Results Due Date: _____
 STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour

Relinquished by: <u>Sotero Svingor</u>	Date: <u>9-2-15</u>	Time: <u>14:00</u>	Received by: <u>Chris</u>	Cooler Temp: <u>26°C</u>	Notes: QC Package: (Check Box Below) Level II: Standard QC Level III: Standard QC + Raw Data Level IV: SW846 Methods/CLP Other: _____
Relinquished by: <u>Chris</u>	Date: <u>9-2-15</u>	Time: <u>14:52</u>	Received by: <u>Chris</u>	Cooler Temp: <u>26°C</u>	
Relinquished by: <u>Chris</u>	Date: <u>9/2/15</u>	Time: <u>17:00</u>	Received by: <u>Chris</u>	Cooler Temp: <u>26°C</u>	
Relinquished by: _____	Date: _____	Time: _____	Received by (Laboratory): _____	Cooler Temp: _____	
Logged by (Laboratory): _____	Date: _____	Time: _____	Checked by (Laboratory): _____		

Sample Receipt Checklist

Client Name: **COREENV-LEWISBURG**

Date/Time Received: **02-Sep-15 14:52**

Work Order: **1509154**

Received by: **JAS**

Checklist completed by Janet Smith 02-Sep-15
eSignature Date

Reviewed by: Rebecca Liss 03-Sep-15
eSignature Date

Matrices: Soil
Carrier name: Courier

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<input type="text" value="<6C"/> <input type="text" value="IR"/>		
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<input type="text"/>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes: Holland <6 C

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____
Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



ALS Environmental
1740 Union Carbide Drive
South Charleston, WV 25303
(Tel) 304.356.3168

Chain of Custody Form

Page 1 of 1

02659

ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: _____ ALS Work Order #: 1509124

Customer Information		Project Information				Parameter/Method Request for Analysis										
Purchase Order		Project Name	<u>Freedom Indus</u>			A	<u>mchm 8220</u>									
Work Order		Project Number				B	<u>PP4 8270</u>									
Company Name	<u>CORE ENV</u>	Bill To Company	<u>CORE ENV</u>			C										
Send Report To	<u>Matt Ford</u>	Invoice Attn.	<u>Matt Ford</u>			D										
Address	<u>533 N. Jefferson St</u>	Address	<u>533 N. Jefferson St</u>			E										
City/State/Zip	<u>Lewisburg, WV</u>	City/State/Zip	<u>Lewisburg, WV</u>			F										
Phone	<u>304-520-4260</u>	Phone				G										
Fax		Fax				H										
e-Mail Address	<u>mford@core-env.com</u>					I										
						J										

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	TP-14 16-18'	9-1-15	10:05	SOIL	8	1	X	X									
2	TP-15 4-6'	9-1-15	11:00	SOIL	8	1	X	X									
3	TP-15 14-16'	9-1-15	11:20	SOIL	8	1	X	X									
4	TP-16 4-6'	9-1-15	11:35	SOIL	8	1	X	X									
5	TP-16 12-14'	9-1-15	12:15	SOIL	8	1	X	X									
6	TP-16 16-18'	9-1-15	12:25	SOIL	8	1	X	X									
7	TP-17 10-12'	9-1-15	14:10	SOIL	8	1	X	X									
8	TP-17 14-16'	9-1-15	14:30	SOIL	8	1	X	X									
9																	
10																	

Sampler(s): Please Print & Sign Sotero Svingor / Matt Ford Shipment Method: _____ Required Turnaround Time: Other 3 DAY Results Due Date: _____
 STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour

Relinquished by: <u>Sotero Svingor</u>	Date: <u>9-2-15</u>	Time: <u>14:00</u>	Received by: <u>Chris</u>	Cooler Temp: <u>26°C</u>	Notes: QC Package: (Check Box Below) Level II: Standard QC Level III: Standard QC + Raw Data Level IV: SW846 Methods/CLP Other: _____
Relinquished by: <u>Chris</u>	Date: <u>9-2-15</u>	Time: <u>14:52</u>	Received by: <u>Chris</u>	Cooler Temp: <u>26°C</u>	
Relinquished by: <u>Chris</u>	Date: <u>9/2/15</u>	Time: <u>17:00</u>	Received by: <u>Chris</u>	Cooler Temp: <u>26°C</u>	
Relinquished by: _____	Date: _____	Time: _____	Received by (Laboratory): _____	Cooler Temp: _____	
Logged by (Laboratory): _____	Date: _____	Time: _____	Checked by (Laboratory): _____		



08-Sep-2015

Matt Ford
Core Environmental
533 North Jefferson Street
Lewisburg, WV 24901

Re: **Freedom Industries**

Work Order: **1509147**

Dear Matt,

ALS Environmental received 2 samples on 02-Sep-2015 02:52 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 25.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Rebecca Kiser".

Electronically approved by: Rebecca Kiser

Rebecca Kiser
Project Manager



Certificate No: WV: 355

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental ALS Environmental logo icon consisting of a stylized flame inside a triangle.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Core Environmental
Project: Freedom Industries
Work Order: 1509147

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1509147-01	TP-14 2'-4'	Soil		9/1/2015 09:00	9/3/2015 10:30	<input type="checkbox"/>
1509147-01	TP-14 2'-4'	Soil		9/1/2015 09:00	9/3/2015 10:30	<input type="checkbox"/>
1509147-02	TP-17 10'-12'	Soil		9/1/2015 14:10	9/3/2015 10:30	<input type="checkbox"/>
1509147-02	TP-17 10'-12'	Soil		9/1/2015 14:10	9/3/2015 10:30	<input type="checkbox"/>

Client: Core Environmental
Project: Freedom Industries
Work Order: 1509147

Case Narrative

Batch 75698, Method HPLC_8315_S, Sample 1509147-01A MSD: The MSD recovery was outside of the control limit. However, the MS recovery and the RPD between the MS and MSD was in control. No qualification is required for this analyte: Formaldehyde

Client: Core Environmental
Project: Freedom Industries
WorkOrder: 1509147

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-14 2'-4'
Collection Date: 9/1/2015 09:00 AM

Work Order: 1509147
Lab ID: 1509147-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID			Method:SW8015M			Analyst: KYM	
Butyric Acid	U		1.5	12	mg/Kg-dry	1	9/4/2015 19:48
Ethyl alcohol	U		0.30	6.2	mg/Kg-dry	1	9/3/2015 19:01
Ethylene glycol	U		4.6	6.2	mg/Kg-dry	1	9/3/2015 19:33
Isobutanol	U		0.53	6.2	mg/Kg-dry	1	9/3/2015 19:01
Isopropyl alcohol	U		0.25	6.2	mg/Kg-dry	1	9/3/2015 19:01
Methanol	U		0.59	6.2	mg/Kg-dry	1	9/3/2015 19:01
n-Butyl alcohol	U		0.90	6.2	mg/Kg-dry	1	9/3/2015 19:01
n-Propanol	U		0.62	6.2	mg/Kg-dry	1	9/3/2015 19:01
Propylene glycol	U		4.0	6.2	mg/Kg-dry	1	9/3/2015 19:33
t-Butyl alcohol	U		0.71	6.2	mg/Kg-dry	1	9/3/2015 19:01
ACIDS BY HPLC			Method:SW8300M			Analyst: KYM	
Acetic Acid	U		7.0	31	mg/Kg-dry	1	9/3/2015 20:10
Formic Acid	U		4.1	31	mg/Kg-dry	1	9/3/2015 20:10
Lactic Acid	U		7.4	31	mg/Kg-dry	1	9/3/2015 20:10
CARBONYL COMPOUNDS BY HPLC			Method:SW8315A		Prep: SW8315A / 9/5/15		Analyst: KYM
Acetaldehyde	1,500	J	1,100	2,500	µg/Kg-dry	1	9/8/2015 10:06
Formaldehyde	4,800		540	2,500	µg/Kg-dry	1	9/8/2015 10:06
METALS BY ICP-MS			Method:SW6020A		Prep: SW3050B / 9/3/15		Analyst: ML
Lead	21		0.049	2.0	mg/Kg-dry	4	9/3/2015 21:32
SEMI-VOLATILE ORGANIC COMPOUNDS			Method:SW846 8270D		Prep: SW3541 / 9/3/15		Analyst: RS
Acenaphthene	U		3.1	8.2	µg/Kg-dry	1	9/4/2015 12:14
Acenaphthylene	U		2.5	8.2	µg/Kg-dry	1	9/4/2015 12:14
Anthracene	U		3.9	8.2	µg/Kg-dry	1	9/4/2015 12:14
Benzo(a)anthracene	U		4.9	8.2	µg/Kg-dry	1	9/4/2015 12:14
Benzo(a)pyrene	U		1.7	8.2	µg/Kg-dry	1	9/4/2015 12:14
Benzo(b)fluoranthene	U		2.8	8.2	µg/Kg-dry	1	9/4/2015 12:14
Benzo(g,h,i)perylene	U		3.6	8.2	µg/Kg-dry	1	9/4/2015 12:14
Benzo(k)fluoranthene	U		5.1	8.2	µg/Kg-dry	1	9/4/2015 12:14
Chrysene	U		6.9	8.2	µg/Kg-dry	1	9/4/2015 12:14
Dibenzo(a,h)anthracene	U		2.7	8.2	µg/Kg-dry	1	9/4/2015 12:14
Fluoranthene	U		5.0	8.2	µg/Kg-dry	1	9/4/2015 12:14
Fluorene	U		4.5	8.2	µg/Kg-dry	1	9/4/2015 12:14
Indeno(1,2,3-cd)pyrene	U		5.1	8.2	µg/Kg-dry	1	9/4/2015 12:14
Naphthalene	U		2.1	8.2	µg/Kg-dry	1	9/4/2015 12:14
Phenanthrene	U		4.5	8.2	µg/Kg-dry	1	9/4/2015 12:14
Pyrene	U		6.2	8.2	µg/Kg-dry	1	9/4/2015 12:14

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-14 2'-4'
Collection Date: 9/1/2015 09:00 AM

Work Order: 1509147
Lab ID: 1509147-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<i>Surr: 2-Fluorobiphenyl</i>	66.8			12-100	%REC	1	9/4/2015 12:14
<i>Surr: 4-Terphenyl-d14</i>	87.3			25-137	%REC	1	9/4/2015 12:14
<i>Surr: Nitrobenzene-d5</i>	74.7			37-107	%REC	1	9/4/2015 12:14
ORGANIC COMPOUNDS BY GC-MS			Method: SW8270		Prep: SW3541 / 9/3/15		Analyst: RS
4-Methyl-1-cyclohexanemethanol	U		100	210	µg/Kg-dry	1	9/3/2015 23:54
Propylene glycol phenyl ether	U		61	210	µg/Kg-dry	1	9/3/2015 23:54
<i>Surr: 2,4,6-Tribromophenol</i>	74.3			34-140	%REC	1	9/3/2015 23:54
<i>Surr: 2-Fluorophenol</i>	50.2			33-117	%REC	1	9/3/2015 23:54
<i>Surr: Phenol-d6</i>	51.9			40-106	%REC	1	9/3/2015 23:54
VOLATILE ORGANIC COMPOUNDS			Method: SW8260B		Prep: SW5035 / 9/3/15		Analyst: JNJ
Benzene	U		15	38	µg/Kg-dry	1	9/3/2015 15:34
Ethylbenzene	U		14	38	µg/Kg-dry	1	9/3/2015 15:34
m,p-Xylene	U		28	75	µg/Kg-dry	1	9/3/2015 15:34
Methyl tert-butyl ether	U		16	38	µg/Kg-dry	1	9/3/2015 15:34
o-Xylene	U		16	38	µg/Kg-dry	1	9/3/2015 15:34
Toluene	U		14	38	µg/Kg-dry	1	9/3/2015 15:34
Xylenes, Total	U		44	110	µg/Kg-dry	1	9/3/2015 15:34
<i>Surr: 1,2-Dichloroethane-d4</i>	105			70-130	%REC	1	9/3/2015 15:34
<i>Surr: 4-Bromofluorobenzene</i>	100			70-130	%REC	1	9/3/2015 15:34
<i>Surr: Dibromofluoromethane</i>	99.5			70-130	%REC	1	9/3/2015 15:34
<i>Surr: Toluene-d8</i>	99.4			70-130	%REC	1	9/3/2015 15:34
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	20		0.025	0.050	% of sample	1	9/3/2015 16:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-17 10'-12'
Collection Date: 9/1/2015 02:10 PM

Work Order: 1509147
Lab ID: 1509147-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID			Method: SW8015M			Analyst: KYM	
Butyric Acid	U		1.4	12	mg/Kg-dry	1	9/4/2015 19:57
Ethyl alcohol	U		0.28	5.8	mg/Kg-dry	1	9/3/2015 19:13
Ethylene glycol	U		4.3	5.8	mg/Kg-dry	1	9/3/2015 19:42
Isobutanol	U		0.50	5.8	mg/Kg-dry	1	9/3/2015 19:13
Isopropyl alcohol	U		0.23	5.8	mg/Kg-dry	1	9/3/2015 19:13
Methanol	U		0.55	5.8	mg/Kg-dry	1	9/3/2015 19:13
n-Butyl alcohol	U		0.84	5.8	mg/Kg-dry	1	9/3/2015 19:13
n-Propanol	U		0.58	5.8	mg/Kg-dry	1	9/3/2015 19:13
Propylene glycol	U		3.7	5.8	mg/Kg-dry	1	9/3/2015 19:42
t-Butyl alcohol	U		0.66	5.8	mg/Kg-dry	1	9/3/2015 19:13
ACIDS BY HPLC			Method: SW8300M			Analyst: KYM	
Acetic Acid	U		6.5	29	mg/Kg-dry	1	9/3/2015 20:21
Formic Acid	U		3.8	29	mg/Kg-dry	1	9/3/2015 20:21
Lactic Acid	U		6.9	29	mg/Kg-dry	1	9/3/2015 20:21
CARBONYL COMPOUNDS BY HPLC			Method: SW8315A		Prep: SW8315A / 9/5/15		Analyst: KYM
Acetaldehyde	U		1,000	2,300	µg/Kg-dry	1	9/8/2015 10:15
Formaldehyde	U		500	2,300	µg/Kg-dry	1	9/8/2015 10:15
METALS BY ICP-MS			Method: SW6020A		Prep: SW3050B / 9/3/15		Analyst: ML
Lead	17		0.046	1.9	mg/Kg-dry	4	9/3/2015 21:39
SEMI-VOLATILE ORGANIC COMPOUNDS			Method: SW846 8270D		Prep: SW3541 / 9/3/15		Analyst: RS
Acenaphthene	U		2.9	7.8	µg/Kg-dry	1	9/4/2015 12:39
Acenaphthylene	U		2.4	7.8	µg/Kg-dry	1	9/4/2015 12:39
Anthracene	U		3.8	7.8	µg/Kg-dry	1	9/4/2015 12:39
Benzo(a)anthracene	27		4.7	7.8	µg/Kg-dry	1	9/4/2015 12:39
Benzo(a)pyrene	U		1.7	7.8	µg/Kg-dry	1	9/4/2015 12:39
Benzo(b)fluoranthene	31		2.7	7.8	µg/Kg-dry	1	9/4/2015 12:39
Benzo(g,h,i)perylene	U		3.4	7.8	µg/Kg-dry	1	9/4/2015 12:39
Benzo(k)fluoranthene	13		4.9	7.8	µg/Kg-dry	1	9/4/2015 12:39
Chrysene	18		6.6	7.8	µg/Kg-dry	1	9/4/2015 12:39
Dibenzo(a,h)anthracene	U		2.6	7.8	µg/Kg-dry	1	9/4/2015 12:39
Fluoranthene	100		4.8	7.8	µg/Kg-dry	1	9/4/2015 12:39
Fluorene	U		4.4	7.8	µg/Kg-dry	1	9/4/2015 12:39
Indeno(1,2,3-cd)pyrene	U		4.9	7.8	µg/Kg-dry	1	9/4/2015 12:39
Naphthalene	41		2.0	7.8	µg/Kg-dry	1	9/4/2015 12:39
Phenanthrene	110		4.3	7.8	µg/Kg-dry	1	9/4/2015 12:39
Pyrene	58		5.9	7.8	µg/Kg-dry	1	9/4/2015 12:39

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 08-Sep-15

Client: Core Environmental
Project: Freedom Industries
Sample ID: TP-17 10'-12'
Collection Date: 9/1/2015 02:10 PM

Work Order: 1509147
Lab ID: 1509147-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<i>Surr: 2-Fluorobiphenyl</i>	65.5			12-100	%REC	1	9/4/2015 12:39
<i>Surr: 4-Terphenyl-d14</i>	76.4			25-137	%REC	1	9/4/2015 12:39
<i>Surr: Nitrobenzene-d5</i>	68.1			37-107	%REC	1	9/4/2015 12:39
ORGANIC COMPOUNDS BY GC-MS			Method:SW8270		Prep: SW3541 / 9/3/15		Analyst: RS
4-Methyl-1-cyclohexanemethanol	U		98	200	µg/Kg-dry	1	9/4/2015 12:15
Propylene glycol phenyl ether	U		58	200	µg/Kg-dry	1	9/4/2015 12:15
<i>Surr: 2,4,6-Tribromophenol</i>	82.2			34-140	%REC	1	9/4/2015 12:15
<i>Surr: 2-Fluorophenol</i>	62.0			33-117	%REC	1	9/4/2015 12:15
<i>Surr: Phenol-d6</i>	61.9			40-106	%REC	1	9/4/2015 12:15
VOLATILE ORGANIC COMPOUNDS			Method:SW8260B		Prep: SW5035 / 9/3/15		Analyst: JNJ
Benzene	29	J	15	36	µg/Kg-dry	1	9/3/2015 16:00
Ethylbenzene	53		14	36	µg/Kg-dry	1	9/3/2015 16:00
m,p-Xylene	83		28	73	µg/Kg-dry	1	9/3/2015 16:00
Methyl tert-butyl ether	U		15	36	µg/Kg-dry	1	9/3/2015 16:00
o-Xylene	350		15	36	µg/Kg-dry	1	9/3/2015 16:00
Toluene	U		14	36	µg/Kg-dry	1	9/3/2015 16:00
Xylenes, Total	430		43	110	µg/Kg-dry	1	9/3/2015 16:00
<i>Surr: 1,2-Dichloroethane-d4</i>	104			70-130	%REC	1	9/3/2015 16:00
<i>Surr: 4-Bromofluorobenzene</i>	101			70-130	%REC	1	9/3/2015 16:00
<i>Surr: Dibromofluoromethane</i>	97.8			70-130	%REC	1	9/3/2015 16:00
<i>Surr: Toluene-d8</i>	102			70-130	%REC	1	9/3/2015 16:00
MOISTURE			Method:E160.3M				Analyst: EVB
Moisture	18		0.025	0.050	% of sample	1	9/3/2015 16:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Core Environmental
Work Order: 1509147
Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R171026** Instrument ID **GC11** Method: **SW8015M**

MBLK		Sample ID: MB-R171026-R171026				Units: mg/Kg		Analysis Date: 9/3/2015 06:12 PM			
Client ID:		Run ID: GC11_150903A				SeqNo: 3445718		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	3.7	5.0								
Propylene glycol	U	3.2	5.0								

LCS		Sample ID: LCS-R171026-R171026				Units: mg/Kg		Analysis Date: 9/3/2015 06:39 PM			
Client ID:		Run ID: GC11_150903A				SeqNo: 3445719		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	554.1	3.7	5.0	500	0	111	50-150	0			
Propylene glycol	567.5	3.2	5.0	500	0	113	50-150	0			

MS		Sample ID: 1509147-01A MS				Units: mg/Kg		Analysis Date: 9/3/2015 06:48 PM			
Client ID: TP-14 2'-4'		Run ID: GC11_150903A				SeqNo: 3445722		Prep Date: 9/3/2015		DF: 2	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	1026	7.4	9.9	1000	0	103	50-150	0			
Propylene glycol	1062	6.4	9.9	1000	0	106	50-150	0			

MSD		Sample ID: 1509147-01A MSD				Units: mg/Kg		Analysis Date: 9/3/2015 06:57 PM			
Client ID: TP-14 2'-4'		Run ID: GC11_150903A				SeqNo: 3445723		Prep Date: 9/3/2015		DF: 2	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	1016	7.4	9.9	1000	0	102	50-150	1026	0.908	30	
Propylene glycol	1026	6.4	9.9	1000	0	103	50-150	1062	3.49	30	

The following samples were analyzed in this batch: 1509147-01A 1509147-02A

Client: Core Environmental
 Work Order: 1509147
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R171048** Instrument ID **GC5** Method: **SW8015M**

MBLK		Sample ID: MB-R171048-R171048				Units: mg/Kg		Analysis Date: 9/3/2015 06:49 PM			
Client ID:		Run ID: GC5_150903A				SeqNo: 3446182		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethyl alcohol	U	0.24	5.0								
Isobutanol	U	0.43	5.0								
Isopropyl alcohol	U	0.2	5.0								
Methanol	U	0.48	5.0								
n-Butyl alcohol	U	0.73	5.0								
n-Propanol	U	0.5	5.0								
t-Butyl alcohol	U	0.57	5.0								

LCS		Sample ID: LCS-R171048-R171048				Units: mg/Kg		Analysis Date: 9/3/2015 06:00 PM			
Client ID:		Run ID: GC5_150903A				SeqNo: 3446183		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethyl alcohol	491.8	0.24	5.0	500	0	98.4	50-150	0			
Isobutanol	482.8	0.43	5.0	500	0	96.6	50-150	0			
Isopropyl alcohol	480.5	0.2	5.0	500	0	96.1	50-150	0			
Methanol	496.5	0.48	5.0	500	0	99.3	50-150	0			
n-Butyl alcohol	481.9	0.73	5.0	500	0	96.4	50-150	0			
n-Propanol	485.7	0.5	5.0	500	0	97.1		0			
t-Butyl alcohol	482	0.57	5.0	500	0	96.4		0			

MS		Sample ID: 1509147-01B MS				Units: mg/Kg		Analysis Date: 9/3/2015 06:12 PM			
Client ID: TP-14 2'-4'		Run ID: GC5_150903A				SeqNo: 3446191		Prep Date: 9/3/2015		DF: 2	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethyl alcohol	935.4	0.48	9.9	1000	0	93.5	50-150	0			
Isobutanol	927.1	0.85	9.9	1000	0	92.7	50-150	0			
Isopropyl alcohol	925.7	0.4	9.9	1000	0	92.6	50-150	0			
Methanol	943.9	0.95	9.9	1000	0	94.4	50-150	0			
n-Butyl alcohol	922	1.4	9.9	1000	0	92.2	50-150	0			
n-Propanol	929.1	0.99	9.9	1000	0	92.9		0			
t-Butyl alcohol	926.2	1.1	9.9	1000	0	92.6		0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
Work Order: 1509147
Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R171048** Instrument ID **GC5** Method: **SW8015M**

MSD		Sample ID: 1509147-01B MSD				Units: mg/Kg		Analysis Date: 9/3/2015 06:24 PM			
Client ID: TP-14 2'-4'		Run ID: GC5_150903A				SeqNo: 3446192		Prep Date: 9/3/2015		DF: 2	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethyl alcohol	1016	0.48	9.9	1000	0	102	50-150	935.4	8.24	30	
Isobutanol	1003	0.85	9.9	1000	0	100	50-150	927.1	7.84	30	
Isopropyl alcohol	998	0.4	9.9	1000	0	99.8	50-150	925.7	7.51	30	
Methanol	1024	0.95	9.9	1000	0	102	50-150	943.9	8.12	30	
n-Butyl alcohol	1000	1.4	9.9	1000	0	100	50-150	922	8.12	30	
n-Propanol	1006	0.99	9.9	1000	0	101		929.1	7.98		
t-Butyl alcohol	1003	1.1	9.9	1000	0	100		926.2	7.97		

The following samples were analyzed in this batch: 1509147-01B 1509147-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 1509147
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R171152** Instrument ID **GC11** Method: **SW8015M**

MBLK		Sample ID: MB-R171152-R171152				Units: mg/Kg		Analysis Date: 9/4/2015 07:38 PM			
Client ID:		Run ID: GC11_150904B				SeqNo: 3447604		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Butyric Acid	U	1.2	10								

LCS		Sample ID: LCS-R171152-R171152				Units: mg/Kg		Analysis Date: 9/4/2015 08:35 PM			
Client ID:		Run ID: GC11_150904B				SeqNo: 3447605		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Butyric Acid	470.1	1.2	10	500	0	94		0			

MS		Sample ID: 1509147-01E MS				Units: mg/Kg		Analysis Date: 9/4/2015 08:45 PM			
Client ID: TP-14 2'-4'		Run ID: GC11_150904B				SeqNo: 3447608		Prep Date: 9/3/2015		DF: 2	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Butyric Acid	1013	2.4	20	1000	0	101		0			

MSD		Sample ID: 1509147-01E MSD				Units: mg/Kg		Analysis Date: 9/4/2015 08:55 PM			
Client ID: TP-14 2'-4'		Run ID: GC11_150904B				SeqNo: 3447609		Prep Date: 9/3/2015		DF: 2	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Butyric Acid	931.4	2.4	20	1000	0	93.1		1013	8.34		

The following samples were analyzed in this batch:

1509147-01E	1509147-02E
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 1509147
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75698 Instrument ID HPLC2 Method: SW8315A

MBLK		Sample ID: HBLKS1-75698-75698				Units: µg/Kg		Analysis Date: 9/8/2015 09:29 AM			
Client ID:		Run ID: HPLC2_150908A		SeqNo: 3447731		Prep Date: 9/5/2015		DF: 1			
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetaldehyde	U	910	2,000								
Formaldehyde	U	440	2,000								

LCS		Sample ID: HLCSS1-75698-75698				Units: µg/Kg		Analysis Date: 9/8/2015 09:39 AM			
Client ID:		Run ID: HPLC2_150908A		SeqNo: 3447732		Prep Date: 9/5/2015		DF: 1			
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetaldehyde	6397	910	2,000	10000	0	64	50-150	0			
Formaldehyde	10990	440	2,000	10000	0	110	50-150	0			

MS		Sample ID: 1509147-01A MS				Units: µg/Kg		Analysis Date: 9/8/2015 09:48 AM			
Client ID: TP-14 2'-4'		Run ID: HPLC2_150908A		SeqNo: 3447728		Prep Date: 9/5/2015		DF: 1			
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetaldehyde	6886	880	1,900	9705	1186	58.7	50-150	0			
Formaldehyde	13720	430	1,900	9705	3827	102	50-150	0			

MSD		Sample ID: 1509147-01A MSD				Units: µg/Kg		Analysis Date: 9/8/2015 09:57 AM			
Client ID: TP-14 2'-4'		Run ID: HPLC2_150908A		SeqNo: 3447729		Prep Date: 9/5/2015		DF: 1			
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetaldehyde	7676	770	1,700	8480	1186	76.5	50-150	6886	10.9	50	
Formaldehyde	17830	370	1,700	8480	3827	165	50-150	13720	26.1	50	S

The following samples were analyzed in this batch: 1509147-01A 1509147-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 1509147
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R171049** Instrument ID **HPLC2** Method: **SW8300M**

MBLK		Sample ID: MB-R171049-R171049				Units: mg/Kg		Analysis Date: 9/3/2015 07:25 PM			
Client ID:		Run ID: HPLC2_150903A				SeqNo: 3446194		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetic Acid	U	5.6	25								
Formic Acid	U	3.3	25								
Lactic Acid	U	5.9	25								

LCS		Sample ID: LCS-R171049-R171049				Units: mg/Kg		Analysis Date: 9/3/2015 07:36 PM			
Client ID:		Run ID: HPLC2_150903A				SeqNo: 3446195		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetic Acid	498.7	5.6	25	500	0	99.7	80-120	0			
Formic Acid	500.1	3.3	25	500	0	100	80-120	0			
Lactic Acid	486.8	5.9	25	500	0	97.4	80-120	0			

MS		Sample ID: 1509147-01E MS				Units: mg/Kg		Analysis Date: 9/3/2015 07:47 PM			
Client ID: TP-14 2'-4'		Run ID: HPLC2_150903A				SeqNo: 3446198		Prep Date: 9/3/2015		DF: 2	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetic Acid	951.3	11	50	1000	0	95.1	75-125	0			
Formic Acid	904.4	6.6	50	1000	0	90.4	75-125	0			
Lactic Acid	879.3	12	50	1000	0	87.9	75-125	0			

MSD		Sample ID: 1509147-01E MSD				Units: mg/Kg		Analysis Date: 9/3/2015 07:58 PM			
Client ID: TP-14 2'-4'		Run ID: HPLC2_150903A				SeqNo: 3446199		Prep Date: 9/3/2015		DF: 2	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetic Acid	933	11	50	1000	0	93.3	75-125	951.3	1.94	20	
Formic Acid	936.9	6.6	50	1000	0	93.7	75-125	904.4	3.54	20	
Lactic Acid	898.8	12	50	1000	0	89.9	75-125	879.3	2.19	20	

The following samples were analyzed in this batch: 1509147-01E 1509147-02E

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 1509147
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75596 Instrument ID ICPMS1 Method: SW6020A

MBLK		Sample ID: MBLK-75596-75596				Units: mg/Kg		Analysis Date: 9/3/2015 06:23 PM			
Client ID:		Run ID: ICPMS1_150903A			SeqNo: 3445074		Prep Date: 9/3/2015		DF: 1		
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	U	0.006	0.25								

LCS		Sample ID: LCS-75596-75596				Units: mg/Kg		Analysis Date: 9/3/2015 06:29 PM			
Client ID:		Run ID: ICPMS1_150903A			SeqNo: 3445075		Prep Date: 9/3/2015		DF: 1		
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	4.77	0.006	0.25	5	0	95.4	80-120	0			

MS		Sample ID: 1509062-01BMS				Units: mg/Kg		Analysis Date: 9/3/2015 06:41 PM			
Client ID:		Run ID: ICPMS1_150903A			SeqNo: 3445078		Prep Date: 9/3/2015		DF: 4		
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	8.642	0.036	1.5	7.429	1.578	95.1	75-125	0			

MSD		Sample ID: 1509062-01BMSD				Units: mg/Kg		Analysis Date: 9/3/2015 06:47 PM			
Client ID:		Run ID: ICPMS1_150903A			SeqNo: 3445080		Prep Date: 9/3/2015		DF: 4		
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	8.476	0.035	1.5	7.342	1.578	94	75-125	8.642	1.94	25	

The following samples were analyzed in this batch: 1509147-01A 1509147-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 1509147
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75593 Instrument ID SVMS4 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-75593-75593				Units: µg/Kg		Analysis Date: 9/3/2015 05:29 PM			
Client ID:		Run ID: SVMS4_150903A			SeqNo: 3445761		Prep Date: 9/3/2015		DF: 1		
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	U	2.5	6.7								
Acenaphthylene	U	2	6.7								
Anthracene	U	3.2	6.7								
Benzo(a)anthracene	U	4	6.7								
Benzo(a)pyrene	U	1.4	6.7								
Benzo(b)fluoranthene	U	2.3	6.7								
Benzo(g,h,i)perylene	U	2.9	6.7								
Benzo(k)fluoranthene	U	4.2	6.7								
Chrysene	U	5.6	6.7								
Dibenzo(a,h)anthracene	U	2.2	6.7								
Fluoranthene	U	4.1	6.7								
Fluorene	U	3.7	6.7								
Indeno(1,2,3-cd)pyrene	U	4.2	6.7								
Naphthalene	U	1.7	6.7								
Phenanthrene	U	3.7	6.7								
Pyrene	U	5	6.7								
<i>Surr: 2-Fluorobiphenyl</i>	<i>1318</i>	<i>0</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>79.1</i>	<i>12-100</i>	<i>0</i>			
<i>Surr: 4-Terphenyl-d14</i>	<i>1538</i>	<i>0</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>92.3</i>	<i>25-137</i>	<i>0</i>			
<i>Surr: Nitrobenzene-d5</i>	<i>1354</i>	<i>0</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>81.2</i>	<i>37-107</i>	<i>0</i>			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 1509147
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75593 Instrument ID SVMS4 Method: SW846 8270D

LCS		Sample ID: SLCSS1-75593-75593				Units: µg/Kg			Analysis Date: 9/3/2015 05:55 PM		
Client ID:		Run ID: SVMS4_150903A				SeqNo: 3445762		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	594.3	2.5	6.7	666.7	0	89.1	45-110	0			
Acenaphthylene	594	2	6.7	666.7	0	89.1	45-105	0			
Anthracene	628.7	3.2	6.7	666.7	0	94.3	55-105	0			
Benzo(a)anthracene	677	4	6.7	666.7	0	102	50-110	0			
Benzo(a)pyrene	681.7	1.4	6.7	666.7	0	102	50-110	0			
Benzo(b)fluoranthene	677.3	2.3	6.7	666.7	0	102	45-115	0			
Benzo(g,h,i)perylene	724.3	2.9	6.7	666.7	0	109	40-125	0			
Benzo(k)fluoranthene	703.3	4.2	6.7	666.7	0	105	45-115	0			
Chrysene	693.7	5.6	6.7	666.7	0	104	55-110	0			
Dibenzo(a,h)anthracene	697.3	2.2	6.7	666.7	0	105	40-125	0			
Fluoranthene	643	4.1	6.7	666.7	0	96.4	55-115	0			
Fluorene	589	3.7	6.7	666.7	0	88.3	50-110	0			
Indeno(1,2,3-cd)pyrene	673.7	4.2	6.7	666.7	0	101	40-120	0			
Naphthalene	569.7	1.7	6.7	666.7	0	85.4	40-105	0			
Phenanthrene	644.7	3.7	6.7	666.7	0	96.7	50-110	0			
Pyrene	740.3	5	6.7	666.7	0	111	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1453	0	0	1667	0	87.2	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1632	0	0	1667	0	97.9	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1442	0	0	1667	0	86.5	37-107	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 1509147
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75593 Instrument ID SVMS4 Method: SW846 8270D

MS		Sample ID: 1509062-02B MS				Units: µg/Kg			Analysis Date: 9/3/2015 06:20 PM		
Client ID:		Run ID: SVMS4_150903A				SeqNo: 3445763		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	540.2	2.5	6.6	664	0	81.3	45-110	0			
Acenaphthylene	527.2	2	6.6	664	0	79.4	45-105	0			
Anthracene	580	3.2	6.6	664	0	87.3	55-105	0			
Benzo(a)anthracene	589.3	4	6.6	664	0	88.7	50-110	0			
Benzo(a)pyrene	580.3	1.4	6.6	664	0	87.4	50-110	0			
Benzo(b)fluoranthene	581.7	2.3	6.6	664	0	87.6	45-115	0			
Benzo(g,h,i)perylene	532.2	2.9	6.6	664	0	80.1	40-125	0			
Benzo(k)fluoranthene	586	4.2	6.6	664	0	88.2	45-115	0			
Chrysene	598.6	5.6	6.6	664	0	90.1	55-110	0			
Dibenzo(a,h)anthracene	519.9	2.2	6.6	664	0	78.3	40-125	0			
Fluoranthene	627.8	4.1	6.6	664	6.157	93.6	55-115	0			
Fluorene	562.4	3.7	6.6	664	0	84.7	50-110	0			
Indeno(1,2,3-cd)pyrene	529.2	4.1	6.6	664	0	79.7	40-120	0			
Naphthalene	516.6	1.7	6.6	664	0	77.8	40-105	0			
Phenanthrene	582	3.7	6.6	664	0	87.6	50-110	0			
Pyrene	540.8	5	6.6	664	6.482	80.5	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1189	0	0	1660	0	71.6	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1229	0	0	1660	0	74.1	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1260	0	0	1660	0	75.9	37-107	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 1509147
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75593 Instrument ID SVMS4 Method: SW846 8270D

MSD		Sample ID: 1509062-02B MSD				Units: µg/Kg			Analysis Date: 9/3/2015 06:46 PM		
Client ID:		Run ID: SVMS4_150903A				SeqNo: 3445764		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	540.4	2.5	6.6	658.6	0	82	45-110	540.2	0.0368	30	
Acenaphthylene	546.3	2	6.6	658.6	0	82.9	45-105	527.2	3.55	30	
Anthracene	607.2	3.2	6.6	658.6	0	92.2	55-105	580	4.58	30	
Benzo(a)anthracene	614.8	4	6.6	658.6	0	93.3	50-110	589.3	4.23	30	
Benzo(a)pyrene	634.5	1.4	6.6	658.6	0	96.3	50-110	580.3	8.92	30	
Benzo(b)fluoranthene	643.7	2.2	6.6	658.6	0	97.7	45-115	581.7	10.1	30	
Benzo(g,h,i)perylene	575.6	2.9	6.6	658.6	0	87.4	40-125	532.2	7.84	30	
Benzo(k)fluoranthene	637.5	4.1	6.6	658.6	0	96.8	45-115	586	8.42	30	
Chrysene	628.9	5.6	6.6	658.6	0	95.5	55-110	598.6	4.94	30	
Dibenzo(a,h)anthracene	560.8	2.1	6.6	658.6	0	85.1	40-125	519.9	7.56	30	
Fluoranthene	639.1	4	6.6	658.6	6.157	96.1	55-115	627.8	1.79	30	
Fluorene	568.7	3.7	6.6	658.6	0	86.3	50-110	562.4	1.11	30	
Indeno(1,2,3-cd)pyrene	592.7	4.1	6.6	658.6	0	90	40-120	529.2	11.3	30	
Naphthalene	499.9	1.7	6.6	658.6	0	75.9	40-105	516.6	3.29	30	
Phenanthrene	598.6	3.7	6.6	658.6	0	90.9	50-110	582	2.82	30	
Pyrene	615.8	5	6.6	658.6	6.482	92.5	45-125	540.8	13	30	
<i>Surr: 2-Fluorobiphenyl</i>	<i>1247</i>	<i>0</i>	<i>0</i>	<i>1646</i>	<i>0</i>	<i>75.7</i>	<i>12-100</i>	<i>1189</i>	<i>4.8</i>	<i>40</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>1334</i>	<i>0</i>	<i>0</i>	<i>1646</i>	<i>0</i>	<i>81</i>	<i>25-137</i>	<i>1229</i>	<i>8.18</i>	<i>40</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>1252</i>	<i>0</i>	<i>0</i>	<i>1646</i>	<i>0</i>	<i>76</i>	<i>37-107</i>	<i>1260</i>	<i>0.688</i>	<i>40</i>	

The following samples were analyzed in this batch:

1509147-01A	1509147-02A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 1509147
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75617 Instrument ID SVMS6 Method: SW8270

MBLK		Sample ID: SBLKS1-75617-75617				Units: µg/Kg			Analysis Date: 9/4/2015 02:22 PM		
Client ID:		Run ID: SVMS6_150904A				SeqNo: 3446481			Prep Date: 9/3/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	U	82	170								
Propylene glycol phenyl ether	U	49	170								
Surr: 2,4,6-Tribromophenol	1267	0	0	1667	0	76	34-140	0			
Surr: 2-Fluorophenol	1082	0	0	1667	0	64.9	33-117	0			
Surr: Phenol-d6	1071	0	0	1667	0	64.2	40-106	0			

LCS		Sample ID: SLCSS1-75617-75617				Units: µg/Kg			Analysis Date: 9/4/2015 02:42 PM		
Client ID:		Run ID: SVMS6_150904A				SeqNo: 3446482			Prep Date: 9/3/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	2331	82	170	3333	0	69.9	50-130	0			
Propylene glycol phenyl ether	2396	49	170	3333	0	71.9	50-130	0			
Surr: 2,4,6-Tribromophenol	1177	0	0	1667	0	70.6	34-140	0			
Surr: 2-Fluorophenol	1102	0	0	1667	0	66.1	33-117	0			
Surr: Phenol-d6	1125	0	0	1667	0	67.5	40-106	0			

MS		Sample ID: 1509155-03A MS				Units: µg/Kg			Analysis Date: 9/3/2015 10:52 PM		
Client ID:		Run ID: SVMS6_150903A				SeqNo: 3446260			Prep Date: 9/3/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	8410	81	160	3292	0	255	50-130	0			S
Propylene glycol phenyl ether	2847	48	160	3292	0	86.5	50-130	0			
Surr: 2,4,6-Tribromophenol	1392	0	0	1646	0	84.6	34-140	0			
Surr: 2-Fluorophenol	985.7	0	0	1646	0	59.9	33-117	0			
Surr: Phenol-d6	1055	0	0	1646	0	64.1	40-106	0			

MSD		Sample ID: 1509155-03A MSD				Units: µg/Kg			Analysis Date: 9/3/2015 11:12 PM		
Client ID:		Run ID: SVMS6_150903A				SeqNo: 3446261			Prep Date: 9/3/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemetha	4890	80	160	3235	0	151	50-130	8410	52.9	35	SR
Propylene glycol phenyl ether	2134	47	160	3235	0	66	50-130	2847	28.6	35	
Surr: 2,4,6-Tribromophenol	1210	0	0	1618	0	74.8	34-140	1392	14		
Surr: 2-Fluorophenol	887.7	0	0	1618	0	54.9	33-117	985.7	10.5		
Surr: Phenol-d6	918.1	0	0	1618	0	56.8	40-106	1055	13.9		

The following samples were analyzed in this batch: 1509147-01A 1509147-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 1509147
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75594 Instrument ID VMS6 Method: SW8260B

MBLK		Sample ID: MBLK-75594-75594				Units: µg/Kg			Analysis Date: 9/3/2015 02:40 PM		
Client ID:		Run ID: VMS6_150903A				SeqNo: 3445228			Prep Date: 9/3/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	U	12	30								
Ethylbenzene	U	11	30								
m,p-Xylene	U	23	60								
Methyl tert-butyl ether	U	13	30								
o-Xylene	U	13	30								
Toluene	U	11	30								
Xylenes, Total	U	35	90								
Surr: 1,2-Dichloroethane-d4	1072	0	0	1000	0	107	70-130	0			
Surr: 4-Bromofluorobenzene	928.5	0	0	1000	0	92.8	70-130	0			
Surr: Dibromofluoromethane	1035	0	0	1000	0	104	70-130	0			
Surr: Toluene-d8	1030	0	0	1000	0	103	70-130	0			

LCS		Sample ID: LCS-75594-75594				Units: µg/Kg			Analysis Date: 9/3/2015 01:20 PM		
Client ID:		Run ID: VMS6_150903A				SeqNo: 3445227			Prep Date: 9/3/2015		DF: 1
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1101	12	30	1000	0	110	75-125	0			
Ethylbenzene	1111	11	30	1000	0	111	75-125	0			
m,p-Xylene	2292	23	60	2000	0	115	80-125	0			
Methyl tert-butyl ether	824.5	13	30	1000	0	82.4	75-125	0			
o-Xylene	1129	13	30	1000	0	113	75-125	0			
Toluene	1114	11	30	1000	0	111	70-125	0			
Xylenes, Total	3420	35	90	3000	0	114	75-125	0			
Surr: 1,2-Dichloroethane-d4	1004	0	0	1000	0	100	70-130	0			
Surr: 4-Bromofluorobenzene	981.5	0	0	1000	0	98.2	70-130	0			
Surr: Dibromofluoromethane	1012	0	0	1000	0	101	70-130	0			
Surr: Toluene-d8	1056	0	0	1000	0	106	70-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 1509147
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: 75594 Instrument ID VMS6 Method: SW8260B

MS		Sample ID: 1509142-03A MS				Units: µg/Kg		Analysis Date: 9/3/2015 10:36 PM			
Client ID:		Run ID: VMS6_150903A				SeqNo: 3445239		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1038	12	30	1000	0	104	75-125	0			
Ethylbenzene	1108	11	30	1000	23.5	108	75-125	0			
m,p-Xylene	2364	23	60	2000	280	104	80-125	0			
Methyl tert-butyl ether	783.5	13	30	1000	0	78.4	75-125	0			
o-Xylene	1148	13	30	1000	83.5	106	75-125	0			
Toluene	1196	11	30	1000	217	98	70-125	0			
Xylenes, Total	3512	35	90	3000	364	105	75-125	0			
Surr: 1,2-Dichloroethane-d4	1014	0	0	1000	0	101	70-130	0			
Surr: 4-Bromofluorobenzene	1087	0	0	1000	0	109	70-130	0			
Surr: Dibromofluoromethane	986	0	0	1000	0	98.6	70-130	0			
Surr: Toluene-d8	1038	0	0	1000	0	104	70-130	0			

MSD		Sample ID: 1509142-03A MSD				Units: µg/Kg		Analysis Date: 9/3/2015 11:02 PM			
Client ID:		Run ID: VMS6_150903A				SeqNo: 3445240		Prep Date: 9/3/2015		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1067	12	30	1000	0	107	75-125	1038	2.76	30	
Ethylbenzene	1136	11	30	1000	23.5	111	75-125	1108	2.49	30	
m,p-Xylene	2407	23	60	2000	280	106	80-125	2364	1.8	30	
Methyl tert-butyl ether	816	13	30	1000	0	81.6	75-125	783.5	4.06	30	
o-Xylene	1173	13	30	1000	83.5	109	75-125	1148	2.15	30	
Toluene	1198	11	30	1000	217	98	70-125	1196	0.0835	30	
Xylenes, Total	3580	35	90	3000	364	107	75-125	3512	1.92	30	
Surr: 1,2-Dichloroethane-d4	1026	0	0	1000	0	103	70-130	1014	1.18	30	
Surr: 4-Bromofluorobenzene	1010	0	0	1000	0	101	70-130	1087	7.34	30	
Surr: Dibromofluoromethane	996	0	0	1000	0	99.6	70-130	986	1.01	30	
Surr: Toluene-d8	1020	0	0	1000	0	102	70-130	1038	1.85	30	

The following samples were analyzed in this batch: | 1509147-01C | 1509147-02C |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Core Environmental
 Work Order: 1509147
 Project: Freedom Industries

QC BATCH REPORT

Batch ID: **R171027** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R171027				Units: % of sample		Analysis Date: 9/3/2015 04:55 PM			
Client ID:		Run ID: MOIST_150903A				SeqNo: 3445814		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.025	0.050								

LCS		Sample ID: LCS-R171027				Units: % of sample		Analysis Date: 9/3/2015 04:55 PM			
Client ID:		Run ID: MOIST_150903A				SeqNo: 3445812		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.025	0.050	100	0	100	99.5-100.5	0			

DUP		Sample ID: 1509126-02A DUP				Units: % of sample		Analysis Date: 9/3/2015 04:55 PM			
Client ID:		Run ID: MOIST_150903A				SeqNo: 3445786		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	15.84	0.025	0.050	0	0	0		15.33	3.27	20	

DUP		Sample ID: 1509154-01A DUP				Units: % of sample		Analysis Date: 9/3/2015 04:55 PM			
Client ID:		Run ID: MOIST_150903A				SeqNo: 3445792		Prep Date:		DF: 1	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	18.9	0.025	0.050	0	0	0		18.4	2.68	20	

The following samples were analyzed in this batch: 1509147-01D 1509147-02D

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



ALS Environmental
 1740 Union Carbide Drive
 South Charleston, WV 25303
 (Tel) 304.356.3168

Chain of Custody Form

Page 1 of 1

02661

ALS Environmental
 3352-128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

ALS Project Manager: _____ ALS Work Order #: 1509147

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name		A	mctm 8220										
Work Order		Project Number		B	PPBT 8220										
Company Name	CORE ENV	Bill To Company	CORE ENV	C	Propylene glycol + glycol 8015										
Send Report To	Matt Ford	Invoice Attn.	Matt Ford	D	Alcohols 8015										
Address	533 N. Jefferson ST	Address		E	Volatile Fatty Acid										
City/State/Zip	Lewisburg, WV	City/State/Zip		F	Aldehydes										
Phone	304-520-4260	Phone		G	BTEX, MTBE 8260										
Fax		Fax		H	PAH 8220										
e-Mail Address	m.ford@core-env.com			I	TOTAL Lead 6020										
				J											

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	TP-14 2-4'	9-1-15	09:00	SOPL	67.8	5	X	X	X	X	X	X	X	X	X	X	
2	TP-17 10-12'	9-1-15	14:10	SOPL	67.8	5	X	X	X	X	X	X	X	X	X	X	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign Sotero Singson / Jody [Signature] Shipment Method: _____ Required Turnaround Time: Other 3 DAY STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour Results Due Date: _____

Relinquished by: <u>[Signature]</u>	Date: <u>9-2-15</u>	Time: <u>14:00</u>	Received by: <u>[Signature]</u>	Cooler Temp: <u>2°C</u>	Notes: QC Package: (Check Box Below) Level II: Standard QC Level III: Standard QC + Raw Data Level IV: SW846 Methods/CLP Other: _____
Relinquished by: <u>[Signature]</u>	Date: <u>9-2-15</u>	Time: <u>14:52</u>	Received by: <u>[Signature]</u>	Cooler Temp: <u>2°C</u>	
Relinquished by: <u>[Signature]</u>	Date: <u>9/2/15</u>	Time: <u>17:00</u>	Received by: <u>[Signature]</u>	Cooler Temp: <u>2°C</u>	
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp:	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	Cooler Temp:	

Sample Receipt Checklist

Client Name: **COREENV-LEWISBURG**

Date/Time Received: **02-Sep-15 14:52**

Work Order: **1509147**

Received by: **JAS**

Checklist completed by Janet Smith 02-Sep-15
eSignature Date

Reviewed by: Rebecca Liss 03-Sep-15
eSignature Date

Matrices: Soil
Carrier name: Courier

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<input type="text" value="<6C"/> <input type="text" value="IR"/>		
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<input type="text"/>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes: Holland <6 C

Client Contacted: Date Contacted: Person Contacted:
Contacted By: Regarding:

Comments:

CorrectiveAction: