Release Abatement Measure Status Report No. 1
Site Improvement Activities
Former General Electric Facility
50 Fordham Road, Wilmington, MA
RTN 3-0518

Prepared for:

Lockheed Martin Corporation/Wilmington Realty Trust

Prepared by:

AECOM

October 25, 2017

Prepared By: Nicole Callahan

Reviewed By: David Austin, LSP

Reviewed by Art Taddeo

DOCUMENT CHANGE HISTORY				
Revision Number	Prepared By/Approved By	Release Date	Change Description	
			Section	Narrative of Items Affected
0	N. Callahan/ D. Austin/Art Taddeo	October 25, 2017		

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

Section 1
Introduction

Pursuant to the Massachusetts Contingency Plan (MCP) 310 CMR 40.0445, AECOM Technical Services, Inc. (AECOM), on behalf of Lockheed Martin Corporation (Lockheed Martin) and for Wilmington Realty Trust (WRT), has prepared the following Release Abatement Measure (RAM) Status Report No. 1 for the former General Electric Company (GE) Facility located at 50 Fordham Road, Wilmington, Massachusetts (site). This report is being submitted within 120 days from the submittal date of the RAM Plan for the site, which was submitted to the Massachusetts Department of Environmental Protection (MassDEP) on July 3, 2017. Within this report, "property" pertains to the address (40-50 Fordham Road) of the former GE Facility, and "site" refers to the MCP disposal site, identified as 50 Fordham Road and release tracking number (RTN) 3-0518.

A Tier Classification Extension submittal was provided to MassDEP on July 7, 2017 prior to RAM activities beginning. In addition, no issues were identified by MassDEP as part of their screening level review of the RAM Plan.

In accordance with the MCP, 310 CMR 40.0445(2), this RAM Status Report contains the following:

(a) the status of response operations;

(b) any significant new site information or data;

(c) details of and/or plans for the management of Remediation Waste, Remediation Wastewater and/or Remedial Additives;

(d) any other information that MassDEP determines to be necessary to complete during its review and evaluation of a Status Report; and,

(e) a Licensed Site Professional (LSP) Opinion as to whether the RAM is being conducted in conformation with the RAM Plan and any conditions of approval established by MassDEP.

The MassDEP Bureau of Waste Site Cleanup (BWSC) Transmittal Form BWSC-106 is being submitted electronically to MassDEP concurrently with this status report via eDEP. Refer to the July 3, 2017 RAM Plan completed by AECOM (AECOM, 2017) for additional details regarding release history and proposed RAM activities.

1.1 CONTACT INFORMATION

The following site-specific information is provided.

Person Conducting RAM And Property Owner:	Wilmington Realty Trust Gary Stanieich 424 Broadway Somerville, MA 02145 (603) 860-5508 Telephone: 978-905-2100
Person Completing RAM Submittals:	Lockheed Martin Corporation Paul E. Calligan 1195 Sarasota Center Blvd. Sarasota, FL 34240 (240) 687-1813
LSP for the RAM:	David G. Austin, LSP, LEP, PG LSP # 2062 AECOM 250 Apollo Drive Chelmsford, MA 01824 (978) 905-2114

The RAM activities outlined herein and related to the property improvement and re-development activities were conducted by WRT, with AECOM observing and documenting the work for MCP submittals and completing the submittals on behalf of WRT and Lockheed Martin.

1.2 DISPOSAL SITE AND RAM BACKGROUND

The WRT property is designated as 50 Fordham Road in Wilmington, Massachusetts, as shown on **Figure 1-1**, Site Location Map, though it consists of buildings identified as 40 and 50 Fordham Road. The property consists of a 13 acre parcel east of Fordham Road and north of Concord Street, within a mixed commercial industrial area. The 13-acre parcel is located both in the towns of Wilmington and North Reading, in Middlesex County, Massachusetts.

The property is located in a mixed commercial, industrial, and residential area. It is bounded by wooded wetland to the east and north, beyond which are residential properties. Fordham Road is located along the western property boundary with commercial/industrial parcels further west and north along Fordham Road. The former Converse, Inc. property and other commercial/industrial properties are located to the south along Concord Street.

The property contains a number of former industrial buildings, paved parking areas, and an active sewage and wastewater treatment plant for the facility. The buildings are identified as Building 1 and 1A, which are attached, and Building 2. A Treatment Shed that houses an inactive groundwater treatment system is still present. Building 3, the Oil House, the concrete ramp to the former Oil House, the Guard Shack, the former Pump House/Vault, the former Tank Farm, and the original Tank Farm area groundwater treatment building have been removed. The current site plan is included as **Figure 1-2.**

WRT, formerly the Barbo Realty Trust (BRT), is the current property owner and has owned the property at least since the property was developed in the late 1960s.

A RAM Plan was submitted to the MassDEP for WRT on behalf of Lockheed Martin on July 3, 2017 detailing the proposed redevelopment and construction work and associated monitoring activities to be completed at the site by WRT. The objective of the RAM is to ensure that potentially impacted soil, groundwater, or soil gas encountered during construction activities at the property are managed in accordance with the requirements set forth in the MCP as well as the Notice of Activity and Use Limitation (AUL) for the property signed July 2015 and recorded on September 28, 2015 at the Middlesex North Registry of Deeds, the MCP 310 CMR 40.0000, and Policy #WSC-00-425. Based upon the MassDEP's WSC-00-425 policy, "construction activities at

a disposal site meet the regulatory definition of a remedial action, to the extent that such activities involve the potential removal, disposal and relocation of released oil or hazardous material."

Section 2
RAM Status

WRT initiated excavation activities related to the redevelopment of the site under a RAM in July 2017. Prior to the submittal of the RAM Plan, limited site work was completed, including site preparation, demolition of various above-grade and sub-grade structures, the removal of surface concrete and asphalt paving from areas throughout the site, and exploratory test pits adjacent to select excavation areas. After the submittal of the RAM Plan and Tier Classification Extension, subsurface excavation was initiated in the planned construction areas. Approximate areas where soil excavation, grading, staging, and re-use of soils with levels less than Method 1 S-1 risk standards occurred on-site in accordance with the RAM Plan are depicted on **Figure 2-1**. Information related to each excavation area completed during this reporting period, including, field observations and screening results, amount and size of stockpiles generated, and laboratory analytical data and re-use options for the stockpiles generated from each area are detailed in the soil management section below.

2.1 SOIL MANAGEMENT

During selected excavation activities, AECOM personnel observed and screened soils for the purposes of providing input relative to the segregation, management, and sampling of soils. Excavated soils were inspected and field screened via standard jar headspace methods for total volatile organic compounds (TVOC) using a 10.6 eV photoionization detector (PID) calibrated to an isobutylene standard. A PID response value of 10 parts per million by volume (ppmv) combined with visual/olfactory observations was used to segregate potentially impacted soil from soil that may be suitable for reuse on-site. All excavated soils were segregated into stockpiles based on soil quantity (each pile contained a maximum of 200 cubic yards), PID threshold, or discreet excavation area. Subsequently, each stockpile was sampled for analysis of site constituents of concern (COCs) including: volatile organic compounds (VOCs), extractable petroleum hydrocarbons (EPH), volatile petroleum hydrocarbons (VPH), and total arsenic, chromium, copper, lead, zinc, and cyanide. Analytical results were reviewed to determine if the soil could be re-used on-site within the site boundaries (concentrations all below Method 1 S-1

Soil Standards) or if it is necessary to transport the stockpile off-site for either disposal or recycling at an appropriate facility (concentrations above Method 1 S-1 Soil Standards).

Stockpiled soil was staged in the parking area to the north of Building 1A (eastern parking lot area), as shown on **Figure 2-1**. Soil was stockpiled on 6 mil poly sheeting and covered with 6 mil poly sheeting at the end of each day. Soils that were excavated and temporarily stored in the stockpiles for screening are described below and presented in **Figure 2-2**. A minor amount of soil in the two hydrant and the floor drain trench locations was not stockpiled for reuse but was placed back where it was excavated from after site improvements. Currently, less than the 4,500 cubic yards noted in the RAM Plan have been managed under this RAM.

2.1.1 Wastewater Tight Tank and Associated Trenching– Stockpiles 4 and 5

Excavation for the installation of a 2,000-gallon underground wastewater tight tank to receive interior floor drainage and the associated underground piping beneath Building 1 leading to the tank was completed in two phases. The excavation for the tight tank installation was performed first, and then excavation of interior and exterior trenches for the associated piping was performed.

The excavation for the tight tank was completed on July 12, 2017 and extended to a maximum depth of 8.5 feet below ground surface (ft bgs). Groundwater was identified at the base of the excavation (approximately 8 ft bgs); however, it was determined that the excavation could be completed and the tight tank installed without needing to remove or otherwise manage groundwater. Field screening within the top five feet of the excavation did not identify concentrations of TVOC above the screening level of 10 ppmv. PID readings collected from the top five feet of the excavation ranged from ND (non-detect) to 0.3 ppmv. Field screening of soils from five ft bgs to the bottom of the excavation (8.5 ft bgs) ranged from 0.2 to 1,168 ppmv. The deepest soils in the excavation exhibited a petroleum odor and were observed to have slight grey staining.

The soils from the ground surface to five ft bgs (approximately 20 cubic yards) were placed into Stockpile 4. Due to the detection of TVOCs above the screening level of 10 ppm in deep soils below five feet from this excavation, along with the observed odors and staining, these deeper soils (approximately 20 cubic yards) were segregated into a separate stockpile (Stockpile 5). Composite soil samples were collected from 5 locations within each stockpile and submitted to

Eurofins Spectrum Analytical, Inc. (Eurofins) of Agawam, Massachusetts for analysis of site COCs in accordance with the RAM Plan. Laboratory analytical results from both Stockpile 4 and Stockpile 5 did not identify concentrations of COCs above Method 1 S-1 Soil Standards. Based on the analytical results, it was determined that soil from both stockpiles could be re-used within the boundaries of the site. Due to the field screening values, staining, and odors initially identified in soil placed in Stockpile 5, additional field observations and soil screening were performed on August 28, 2017 on this soil during the spreading of this pile in the designated re-use area to ensure that re-use of the soil did not result in any visual or olfactory public nuisance. These efforts included four additional PID grab samples for screening (1.0 to 21.8 ppmv), as well as field observations for staining and odors. No impacts were observed and Stockpile 5 soil was re-used on site.

The trenching for the piping and floor drains leading from Building 1 to the tight tank was completed on July 19, 2017 (exterior) and July 20, 2017 (interior). The exterior piping trenches extended to a maximum depth of four ft bgs and the interior trenches dug for the installation of trench drains extended to a maximum depth of 3 ft bgs. Field screening during the exterior and interior trenching activities did not identify concentrations of TVOC above 5 ppmv. PID readings collected from soils within the trench excavations ranged from ND to 3.2 ppmv. No odors or staining were observed within the soils. Soils generated during the trench excavations were temporarily staged adjacent to the trench and most soils were re-used within the trench after the installation of the piping. The small amount of excess soil generated from the trench excavations was added to Stockpile 4, as this soil was similar to soil generated from the same depth interval during tight tank excavation, which was compiled into Stockpile 4.

Additional details related to the stockpiles are included on **Table 2-1**. Laboratory analytical results from the stockpile samples are summarized on **Table 2-2** and copies of the laboratory analytical reports are included as **Appendix A**.

2.1.2 Drainage Swale Excavations- Stockpiles 1, 3, 6, 7, 8, and 9

Excavation and grading was completed from July 11 through August 3, 2017 in accordance with the site's approved storm water management plan to form drainage swales along the entire eastern

and northern edges of the parking lot, and at two swale locations within the eastern parking lot (EPL).

Excavations for the swales extended to a maximum depth of three ft bgs. Field screening during swale excavation and grading activities did not identify concentrations of TVOC above the 10 ppmv level. PID readings collected ranged from ND to 0.8 ppmv. No odors or staining were observed within the soils. These soils were segregated into six separate stockpiles, based on the total amount of soil generated (stockpiles were kept to a maximum volume of approximately 200 cubic yards), and their locations. Composite soil samples were collected from multiple locations in each stockpile and submitted to Eurofins for analysis of site COCs in accordance with the RAM Plan. Laboratory analytical results from all six of the stockpiles generated during the swale excavations (Stockpiles 1, 3, 6, 7, 8 and 9) did not identify concentrations of COCs above Method 1 S-1 Soil Standards. Based on the analytical results, it was determined that soil from these stockpiles could be re-used within the boundaries of the site. On-site re-use areas are shown on **Figure 2-1.**

Additional details related to the stockpiles are included on **Table 2-1**. Laboratory analytical results from the stockpile samples are summarized on **Table 2-2** and copies of the laboratory analytical reports are included as **Appendix A**.

2.1.3 Utility, Hydrant, and Curbing Excavations – Stockpiles 2 and 10

Excavation for the removal and re-location of a fire hydrant located to the southeast of Building 1 was completed on July 10, 2017. Excavation and test-pitting related to the hydrant re-location extended to a maximum depth of 5.5 ft bgs. Field screening during these activities did not identify concentrations of TVOC above the instruments detection limit of 0.1 ppmv. No odors or stained soil were observed. Soils generated during the hydrant excavations were temporarily staged adjacent to the excavation and re-used within the excavations. No soils were stockpiled during the fire hydrant re-location activities.

Excavation for new drainage trenches associated with catch basins located in the parking area immediately adjacent to the northeastern corner of Building 1 were completed on July 10, 2017. These trenches extended to a maximum depth of four ft bgs. Field screening of these trenches identified concentrations of TOVs from ND to 209 ppmv. Soils from the top 1.5 ft were noted to

have a slight petroleum odor. The soils removed from the drainage trenches (approximately 12 cubic yards) were placed into Stockpile 2. A composite soil sample was collected from the stockpile and submitted to Eurofins for analysis of site COCs in accordance with the RAM Plan. Laboratory analytical results from Stockpile 2 did not identify concentrations of COCs above Method 1 S-1 Soil Standards. Based on the analytical results, it was determined that soil from Stockpile 2 could be re-used within the boundaries of the site.

Excavation for the installation of new curbing was performed on August 10 and 11, 2017. The soil was not screened as it was considered surficial soil (less than one and one-half foot bgs) immediately beneath the pavement. The soil was stockpiled (Stockpile 10). A composite soil sample was collected from the stockpile and submitted to Eurofins for analysis of site COCs in accordance with the RAM Plan. Laboratory analytical results from Stockpile 10 identified concentrations of C_{19}–C_{36} aliphatic hydrocarbons above Method 1 S-1, S-2, and S-3 Soil Standards. Based on the analytical results, it was determined that soil from Stockpile 10 could not be re-used on-site and is required to be managed as remediation waste. This soil is staged on-site pending additional waste characterization, profiling, and removal.

Additional details related to the stockpiles are included on **Table 2-1**. Laboratory analytical results from the stockpile samples are summarized on **Table 2-2** and copies of the laboratory analytical reports are included as **Appendix A**.

2.2 AIR MONITORING

During exterior excavation activities, ambient air around the work zone was monitored for potential vapors emanating from the soil using a PID. During the ambient air monitoring, levels above background were not detected; therefore, it was not necessary to manage or control the migration of vapors during excavation activities.

In addition to air monitoring using a PID, particulate monitoring was completed by AECOM during selected RAM excavation work. A PM-10 dust meter was utilized to collect baseline and real-time particulate readings within and at the perimeter of the interior and exterior work areas before and during excavation activities. AECOM did not observe excessive visible dust during excavation activities reviewed and real-time particulate readings did not indicate the need to utilize additional dust control measures beyond what was already being implemented.

Additionally, access to the work zones was limited, and passage of trespassers/workers through the work zones during excavation was observed to be minimal. Exposure to dust by potential receptors was further limited as site workers (other than construction workers) within the RAM area consisted mostly of people within cars driving through the exterior parking areas.

2.3 GROUNDWATER MANAGEMENT

As discussed previously, groundwater was encountered during excavation activities completed for the installation of the wastewater tight tank adjacent to Building 1; however, it was determined that dewatering was not necessary to complete construction activities in this area. To date, the management of groundwater has not been necessary as part of this RAM.

Section 3
Remediation Waste

Impacted soil (concentrations of COCs above Method 1 S-1 Standards) has not been identified during RAM activities completed to date, with the exception of approximately 20 cubic yards of soil (Stockpile 10). Results from this stockpile identified one EPH fraction at concentrations above Method 1 S-1, S-2, and S-3 Soil Standards. This stockpile remains on-site pending additional waste characterization sampling, profiling, and removal off-site. These soils will be transported off-site under a MassDEP Bill of Lading or hazardous waste manifest to a licensed receiving facility in accordance with 310 CRM 40.0030. All other stockpiles (Stockpiles 1 through 9) have been distributed to designated re-use areas on-site (**Figure 2-1**), as allowable, based on laboratory analytical results below S-1 Soil Standards. Dewatering has not been required to facilitate excavation activities completed to date.

Section 4
Future RAM Activities

Additional activities related to the implementation of the RAM and the approximate timeline for these activities are discussed below.

4.1 FUTURE RAM ACTIVITIES

The initial phase of excavation and grading activities at the site is complete. Additional phases of work are scheduled to take place within the next six months. Any additional excavation work within the site boundaries will continue to be conducted in accordance with the RAM Plan, submitted in July 2017. Additional activities associated with this RAM are anticipated to be completed within six months of this RAM Status Report and will be documented in a RAM Completion Report.

4.2 FUTURE MCP SUBMITTALS

In accordance with the MCP, specifically 310 CMR 40.0446, AECOM will submit a RAM Completion Report within 60 days following completion of the RAM. Otherwise, RAM Status Reports will be submitted in compliance with the MCP, every six months until a RAM Completion Report is submitted.

Section 5
LSP Opinion and Certification

The seal and signature of David Austin, the LSP of this RAM Status Report No. 1, is included in the RAM Transmittal Form (BWSC 106) filed via eDEP. It is the opinion of the LSP-of-Record, David Austin, that to the best of his knowledge, information and belief, the response actions that are the subject of this RAM (i) are being implemented in accordance with the applicable provision of M.G.L. c.21E and 310 CMR 40.000, (ii) are appropriate and reasonable to accomplish the purposes of such response actions as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR40.0000, and (iii) comply with the identified provisions of all orders, permits, and approvals identified in this submittal.

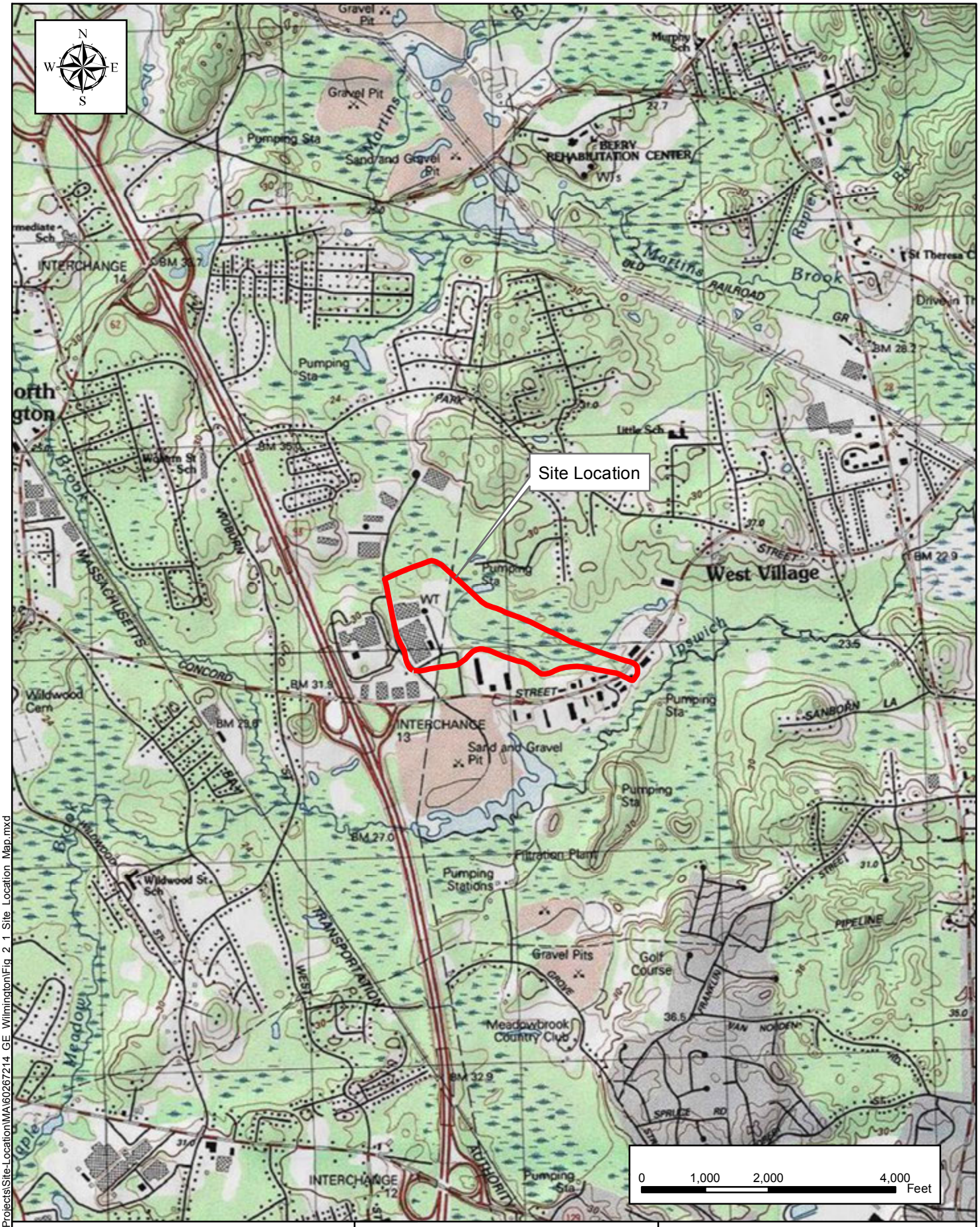
Section 6
References

1. AECOM, 2017. Release Abatement Measure Plan, Former General Electric Facility, 50 Fordham Road, Wilmington, MA, RTN 3-0518. July 2017.

2. MassDEP, 1997. Real-Time Air Monitoring at Construction and Remediation Sites To Estimate Risks of Contaminated Dust Migration, October 1997.

3. MassDEP, 2014. Massachusetts Contingency Plan, 310 CMR 40.0000, December 31, 2007, Amended April 25, 2014 and June 20, 2014.

FIGURES



Path: L:\Gisprojects\Projects\Site-Location\MA\60267214 GE Wilmington\Fig 2 1 Site Location Map.mxd

AECOM	Former GE Facility 50 Fordham Road, Wilmington, MA		SITE LOCATION MAP
	DATE: 01/25/2017	PROJECT: 60478638	FIGURE: 1-1

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Project Management Initials: Designer: K.P.B. Checked: S.O. Approved: A.T. ANSI B 11" x 17"

POND
AGFA/ COMPUGRAPHIC CORP.
COMPUGRAPHIC/MSM/ AVCO/TEXTRON
COMPUGRAPHIC CORP.
AGFA COMPUGRAPHICS
CONCORD STREET
#60 MSM INDUSTRIES
#62 WILMINGTON MASONRY
IPSWICH RIVER
PACETTI CORP./ VAL-KE MACHINE
SURREY LANE
PRESTIGE INTERNATIONAL
POND
TRAIL
REDMOND AVENUE
#71 DL MAHER CO.
KALLBERG PARK
CHF PRODUCTS
#70 STERLING
DEPENDABLE MASONRY/ U-DO-IT DELI
DYAR SALES AND MACHINERY
ELECTR DYNAM INC.
DRAKE BAKERIES
MARRIOT FOODS
SULLIVAN TIRE
SANBORN TRANSPORT
STICKNEY WELL ROAD
FURBISH POND LANE
GROUND OBSCURED BY DENSE TREES
COMMON LAND V
LMC PROPERTIES INC.
CENTRE TRUCKING
ACCESS PATH
MELANSON
#87 HOWLAND DEVEL
LILY TRUCKING
STICKNEY WELL
FURBISH POND
W.E 76.9
W.E 77.0
#91 (FED EX)
#90 ST. JOHNSBURY TRUCKING
WETLANDS AREA
CB-2
#95 YRC FREIGHT (ROADWAY EXPRESS)
OUTFALL 002
OUTFALL 001
CULVERT
FORMER METAL CHIP DISPOSAL AREA
WATER TANK
GUARD SHACK
2003 TREATMENT BUILDING
PUMP HOUSE/ VAULT
BLDG. 3
OIL HOUSE
OLD TREATMENT BLDG.
FORMER TANK FARM LOCATION
#99 INTERNATIONAL FAMILY CHURCH (FORMERLY CONVERSE INC.)
BUILDING 2 (AMETEK)
BUILDING 1A (K1 SPEED; CRANBARRY)
BUILDING 1
FORMER TANK F
PARKING AREA
FORDHAM ROAD
VARIOUS COMMERCIAL
CONCORD STREET
CONSTRUCTION AREA
PARKING AREA

LEGEND

- BUILDING
- FORMER BUILDING
- APPROXIMATE PROPERTY LINE
- APPROXIMATE TOWN LINE
- EDGE OF PAVEMENT
- FENCE LINE
- CULVERT
- WELL LOCATION
- WATER SUPPLY WELL LOCATION
- WATER BODY
- APPROXIMATE EDGE OF WATER/STREAM
- APPROXIMATE EDGE OF WETLANDS
- MCP SITE BOUNDARY

Horizontal: NAD83
Vertical: NGVD29

160 0 320
GRAPHIC SCALE IN FEET

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

SITE PLAN

AECOM

60478638 2017-09-15

FIGURE: 1-2

TOWN OF NORTH READING
TOWN OF WILMINGTON

W.E 76.9

STICKNEY WELL

W.E 77.0

FURBISH POND

TRAIL

COLES EXPRESS

CB-2

ROADWAY EXPRESS

NEW DRAINAGE SWALE TO BE EXCAVATED

NEW DRAINAGE SWALES

NEW DRAINAGE SWALE

TEMPORARY SOIL STOCKPILE AREA

EASTERN PARKING LOT AREA

2003 TREATMENT BUILDING

INTERNATIONAL FAMILY CHURCH (FORMERLY CONVERSE INC.)

WASTE WATER TREATMENT PLANT

SEWAGE TREATMENT PLANT

WASTEWATER TIGHT TANK INSTALLED

FORMER FIRE HYDRANT LOCATION

APPROXIMATE NEW HYDRANT LOCATION

BUILDING 1A

DRAINAGE AND UTILITY EXCAVATIONS

BUILDING 2
(AMETEK)

BUILDING 1

PARKING AREA

FLOOR DRAINS INSTALLED

AREA FOR ON-SITE SOIL (<S-1) REUSE

AREAS FOR ON-SITE SOIL (<S-1) REUSE

VARIOUS COMERCIAL

CONCORD STREET

FORDHAM ROAD

KEYTECH INSTRUMENT

LEGEND

- APPROXIMATE PROPERTY LINE
- APPROXIMATE TOWN LINE
- MCP SITE BOUNDARY
- AUL BOUNDARY
- BOUNDARIES ARE APPROXIMATE
- AREAS EXCAVATED AS PART OF RAM AS OF 8/11/17
- AREAS USED FOR SOIL RELOCATION (<S-1)

NORTH

0' 150' 300' 600'

APPROXIMATE SCALE IN FEET
1"=300'

AECOM

Figure: 2-1

SOIL EXCAVATION, GRADING AND RE-USE AREAS

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

Date: 2017-10-4

60478638

TOWN OF NORTH READING
TOWN OF WILMINGTON
W.E 76.9
STICKNEY WELL
W.E 77.0
FURBISH POND
TRAIL
COLES EXPRESS
CB-2
ROADWAY EXPRESS
NEW DRAINAGE SWALE TO BE EXCAVATED
NEW DRAINAGE SWALES
SP#7
SP#9
SP#6
SP#3
SP#8
TEMPORARY SOIL STOCKPILE AREA
NEW DRAINAGE SWALE
SP#10 (Curbing)
EASTERN PARKING LOT AREA
SP#1
2003 TREATMENT BUILDING
SP#9
INTERNATIONAL FAMILY CHURCH (FORMERLY CONVERSE INC.)
WASTE WATER TREATMENT PLANT
SEWAGE TREATMENT PLANT
WASTEWATER TIGHT TANK INSTALLED
FORMER FIRE HYDRANT LOCATION
SP#2
BUILDING 1A
APPROXIMATE NEW HYDRANT LOCATION
DRAINAGE AND UTILITY EXCAVATIONS
BUILDING 1
SP#4 (0-5 FT)
SP#5 (5-8 FT)
AREA FOR ON-SITE SOIL (<S-1) REUSE
BUILDING 2
(AMETEK)
PARKING AREA
FLOOR DRAINS INSTALLED
AREAS FOR ON-SITE SOIL (<S-1) REUSE
VARIOUS COMERCIAL
CONCORD STREET
KEYTECH INSTRUMENT
FORDHAM ROAD

LEGEND

- APPROXIMATE PROPERTY LINE
- APPROXIMATE TOWN LINE
- MCP SITE BOUNDARY
- AUL BOUNDARY
- BOUNDARIES ARE APPROXIMATE
- AREAS EXCAVATED AS PART OF RAM AS OF 8/11/17
- AREAS USED FOR SOIL RELOCATION (<S-1)
- SOIL STOCKPILE GENERATED FROM DESIGNATED EXCAVATION AREAS OR CURBING

NORTH

0' 150' 300' 600'

APPROXIMATE SCALE IN FEET
1"=300'

AECOM
Figure: 2-2

SOIL STOCKPILE GENERATION AREAS

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

Date: 2017-10-6

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Project Management Initials: Designer: K.P.B. Checked: S.O. Approved: A.T. ANSI B 11" x 17"

TABLES

Table 2-1
Summary of Soil Analytical Results - RAM Stockpile Sampling
Former GE Facility, 50 Fordham Rd, Wilmington, MA

Stockpile ID	Soil Excavation Location	Stockpile Generation Date(s)	Approx. Volume (cy)	Stockpile Sample Date	Sample Results Received	Stockpile Sample ID	Sample Results	Soil End Use	Final Soil Location	Stockpile Discrete Sample Screening (ranges in ppm)
1	Swale near GZA-102 wells	7/6/17-7/10/17	240	7/10/2017	7/15/2017	SP1_071017-1	All < S1	Re-use on-site	Southern re-use area	5 samples: (0.0 - 0.2)
2	Drainage trench by loading dock	7/10/2017	12	7/10/2017	7/15/2017	SP2_071017-1	All < S1	Re-use on-site	Southern re-use area	5 samples: (0.2 - 2.3)
3	Southern area of swales east of EPL	7/11/17 - 7/18/17	200	7/18/2017	7/24/2017	SP3_071817-1	All < S1	Re-use on-site	Northern re-use area	5 samples: (0.0 - 0.1)
4	Tight tank soils 0-5 ft bgs	7/12/2017	20	7/12/2017	7/19/2017	SP4_071217-1	All < S1	Re-use on-site	Northern re-use area	5 samples: (0.0 - 0.1)
5	Tight tank soils 5-8.5 ft bgs	7/12/2017	20	7/12/2017	7/19/2017	SP5_071217-1	All < S1	Re-use on-site	Northern re-use area	5 samples: (13.2 - 335.8)
6	Southern middle area of swales east of EPL	7/18/17-7/26/17	200	7/26/2017	8/2/2017	SP6_072617-1	All < S1	Re-use on-site	Southern re-use area and lot east of Building 1	5 samples: (all 0.0)
7	Northern area of swales north of EPL	7/20/2017	120	7/20/2017	7/26/2017	SP7_072017-1	All < S1	Re-use on-site	Re-use area east of Bulding 1	5 samples: (0.0 - 0.2)
8	Northern area of swales north and east of EPL	7/21/17-7/31/17	240	7/31/2017	8/7/2017	SP8_073117-1	All < S1	Re-use on-site	Re-use area east of Bulding 1	6 samples: (all 0.0)
9	Northeastern area of swales northeastern corner of EPL	7/31/17-8/3/17	150	8/3/2017	8/10/2017	SP9_080317-1	All < S1	Re-use on-site	Re-use area east of Bulding 1	5 samples: (0.0 - 0.1)
10	Curbing trench soils from 0-1.5 ft bgs	8/10/17-8/11/17	20	8/11/2017	8/15/2017	SP10_081117-1	EPH >S1	Off site recycling or disposal	stockpile remains pending profiling	Not measured

Table 2-2
Summary of Soil Analytical Results - RAM Stockpile Sampling
Former GE Facility, 50 Fordham Rd, Wilmington, MA

Client ID: Lab ID: Matrix: Sample Date:	**MA Method 1 S-1 Soil & GW 1**	**MA Method 1 S-1 Soil & GW 2**	**MA Method 1 S-1 Soil & GW 3**	**SP1_071017-1 SC36812-03 Soil 10-Jul-17**	**SP2_071017-1 SC36812-02 Soil 10-Jul-17**	**SP3_071817-1 SC37123-02 Soil 18-Jul-17**	**SP4_071217-1 SC36934-02 Soil 12-Jul-17**	**SP5_071217-1 SC36934-03 Soil 12-Jul-17**	**SP6_072617-1 SC37220-02 Soil 26-Jul-17**	**SP7_072017-1 SC37220-02 Soil 20-Jul-17**
MADEP EPH 5/2004 R (mg/kg dry)										
C9-C18 Aliphatic Hydrocarbons	1000	1000	1000	< 10.4	< 10.4	<10.7	< 10.4	< 10.8	< 10.9	< 11.1
C19-C36 Aliphatic Hydrocarbons	3000	3000	3000	**19.5**	<10.4	<10.7	**51.2**	**18**	**33.4**	< 11.1
C11-C22 Aromatic Hydrocarbons	1000	1000	1000	**16.9**	<10.4	**11.3**	**35.4**	**18.4**	**23.3**	< 11.1
MADEP VPH 5/2004 Rev. 1.1 (mg/kg)										
C5-C8 Aliphatic Hydrocarbons	100	100	100	< 5.22	< 4.92	< 1.02	< 1.77	**3.4**	< 0.740	< 0.863
C9-C12 Aliphatic Hydrocarbons	1000	1000	1000	**1.58**	< 0.328	< 0.342	< 0.591	**20**	< 0.247	< 0.288
C9-C10 Aromatic Hydrocarbons	100	100	100	**0.994**	< 0.328	< 0.342	< 0.591	**19**	< 0.543	< 0.288
Total Metals SW846 6010C (mg/kg)										
Arsenic	20	20	20	**7.44**	**8.16**	**8.34**	**7.2**	**7.72**	**10.2**	**11.8**
Chromium	100	100	100	**9.89**	**10.9**	**13**	**17.7**	**12.3**	**10.7**	**21.1**
Copper	NE	NE	NE	**6.09**	**6.25**	**7.16**	**11.9**	**10.9**	**9.27**	**8.52**
Lead	200	200	200	**11.8**	**6.17**	**10.8**	**10.1**	**10.4**	**15**	**7.56**
Zinc	1000	1000	1000	**34.5**	**19.5**	**21.9**	**44.8**	**25.4**	**20.4**	**20.9**
Total Cyanide SW9010C										
Cyanide	30	30	30	< 0.54	< 0.53	<0.54	<0.53	<0.46	<0.55	<0.56
VOC SW846 8260C (µg/kg)										
1,1,2-Trichlorotrifluoroethane (Freon 113)	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Acetone	6000	50000	400000	< 46.4	< 48.2	< 50.0	< 76.6	< 66.8	< 49.0	< 55.1
Benzene	2000	40000	40000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Bromobenzene	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Bromochloromethane	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Bromodichloromethane	100	100	30000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Bromoform	100	1000	300000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Bromomethane	500	500	30000	< 9.29	< 9.64	< 10.0	< 15.3	< 13.4	< 9.80	< 11.0
2-Butanone (MEK)	4000	50000	400000	< 9.29	< 9.64	< 10.0	< 15.3	< 13.4	< 9.80	< 11.0
n-Butylbenzene	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
sec-Butylbenzene	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
tert-Butylbenzene	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Carbon disulfide	NE	NE	NE	< 9.29	< 9.64	< 10.0	< 15.3	< 13.4	< 9.80	< 11.0
Carbon tetrachloride	10000	5000	30000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Chlorobenzene	1000	3000	100000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Chloroethane	NE	NE	NE	< 9.29	< 9.64	< 10.0	< 15.3	< 13.4	< 9.80	< 11.0
Chloroform	400	200	500000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Chloromethane	NE	NE	NE	< 9.29	< 9.64	< 10.0	< 15.3	< 13.4	< 9.80	< 11.0
2-Chlorotoluene	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
4-Chlorotoluene	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,2-Dibromo-3-chloropropane	NE	NE	NE	< 9.29	< 9.64	< 10.0	< 15.3	< 13.4	< 9.80	< 11.0
Dibromochloromethane	5	30	20000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,2-Dibromoethane (EDB)	100	100	1000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Dibromomethane	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,2-Dichlorobenzene	9000	100000	300000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,3-Dichlorobenzene	3000	100000	100000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,4-Dichlorobenzene	700	1000	80000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Dichlorodifluoromethane (Freon12)	NE	NE	NE	< 9.29	< 9.64	< 10.0	< 15.3	< 13.4	< 9.80	< 11.0
1,1-Dichloroethane	400	9000	500000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,2-Dichloroethane	100	100	20000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,1-Dichloroethene	3000	40000	500000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
cis-1,2-Dichloroethene	300	100	100000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
trans-1,2-Dichloroethene	1000	1000	500000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,2-Dichloropropane	100	100	30000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,3-Dichloropropane	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
2,2-Dichloropropane	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,1-Dichloropropene	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
cis-1,3-Dichloropropene	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
trans-1,3-Dichloropropene	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Ethylbenzene	40000	500000	500000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Hexachlorobutadiene	30000	30000	30000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
2-Hexanone (MBK)	NE	NE	NE	< 9.29	< 9.64	< 10.0	< 15.3	< 13.4	< 9.80	< 11.0
Isopropylbenzene	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
4-Isopropyltoluene	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Methyl tert-butyl ether	100	100000	100000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
4-Methyl-2-pentanone (MIBK)	400	50000	400000	< 9.29	< 9.64	< 10.0	< 15.3	< 13.4	< 9.80	< 11.0
Methylene chloride	100	4000	400000	< 9.29	< 9.64	< 10.0	< 15.3	< 13.4	< 9.80	< 11.0
Naphthalene	4000	20000	500000	< 4.64	**11.9**	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
n-Propylbenzene	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Styrene	3000	4000	70000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,1,1,2-Tetrachloroethane	100	100	80000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,1,2,2-Tetrachloroethane	5	20	10000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Tetrachloroethene	1000	10000	30000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Toluene	30000	500000	500000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,2,3-Trichlorobenzene	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,2,4-Trichlorobenzene	2000	6000	700000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,1,1-Trichloroethane	30000	500000	500000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,1,2-Trichloroethane	100	2000	40000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Trichloroethene	300	300	30000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Trichlorofluoromethane (Freon 11)	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,2,3-Trichloropropane	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,2,4-Trimethylbenzene	NE	NE	NE	< 4.64	**18.6**	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,3,5-Trimethylbenzene	NE	NE	NE	< 4.64	**5.02**	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Vinyl chloride	900	700	1000	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
m,p-Xylene	400	100	500	< 9.29	**11.6**	< 10.0	< 15.3	< 13.4	< 9.80	< 11.0
o-Xylene				< 4.64	**6.32**	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Tetrahydrofuran	NE	NE	NE	< 9.29	< 9.64	< 10.0	< 15.3	< 13.4	< 9.80	< 11.0
Ethyl ether	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Tert-amyl methyl ether	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Ethyl tert-butyl ether	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
Di-isopropyl ether	NE	NE	NE	< 4.64	< 4.82	< 5.00	< 7.66	< 6.68	< 4.90	< 5.51
1,4-Dioxane	200	6000	20000	< 92.9	< 96.4	< 100	< 153	< 134	< 98.0	< 110

Notes:
SP: Excavated Soil Stock Pile
< - Non-detect at laboratory detection limit (detection limit shown after <)
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Sample Type N = normal sample, FD = duplicate sample
mg/kg - milligrams per kilograms
NE = not established
Detections are bolded
MCP - Massachusetts Contingency Plan
Exceedance of Method 1 S1 Standards are yellow highlighted

Table 2-2
Summary of Soil Analytical Results - RAM Stockpile Sampling
Former GE Facility, 50 Fordham Rd, Wilmington, MA

Client ID: Lab ID: Matrix: Sample Date:	**MA Method 1 S-1 Soil & GW 1**	**MA Method 1 S-1 Soil & GW 2**	**MA Method 1 S-1 Soil & GW 3**	**SP8_073117-1 SC37605-02 Soil 20-Jul-17**	**SP8_073117-2 SC37605-03 (DUP) Soil 20-Jul-17**	**SP9_080317-1 SC37797-02 Soil 3-Aug-17**	**SP10_081117-1 SC38055-02 Soil 11-Aug-17**
MADEP EPH 5/2004 R (mg/kg dry)							
C9-C18 Aliphatic Hydrocarbons	1000	1000	1000	< 10.6	< 10.7	< 10.8	< 104
C19-C36 Aliphatic Hydrocarbons	3000	3000	3000	< 10.6	< 10.7	< 10.8	**5,460**
C11-C22 Aromatic Hydrocarbons	1000	1000	1000	< 10.6	< 10.7	< 10.8	< 104
MADEP VPH 5/2004 Rev. 1.1 (mg/kg)							
C5-C8 Aliphatic Hydrocarbons	100	100	100	< 0.722	< 0.752	< 0.802	< 0.703
C9-C12 Aliphatic Hydrocarbons	1000	1000	1000	< 0.241	< 0.251	< 0.428	< 0.234
C9-C10 Aromatic Hydrocarbons	100	100	100	**0.275**	< 0.251	< 0.428	< 0.234
Total Metals SW846 6010C (mg/kg)							
Arsenic	20	20	20	**11.1**	**12.8**	**11.8**	**7.41**
Chromium	100	100	100	**16.3**	**11.7**	**14.2**	**12.6**
Copper	NE	NE	NE	**7.6**	**8.21**	**7.3**	**7.47**
Lead	200	200	200	**8.85**	**7.93**	**7.46**	**8.73**
Zinc	1000	1000	1000	**17.7**	**15**	**19.2**	**26.1**
Total Cyanide SW9010C							
Cyanide	30	30	30	<0.477	<0.412	< 0.369	< 0.437
VOC SW846 8260C (µg/kg)							
1,1,2-Trichlorotrifluoroethane (Freon 113)	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
Acetone	6000	50000	400000	< 49.9	< 48.9	< 48.5	< 47.9
Benzene	2000	40000	40000	< 4.99	< 4.89	< 4.85	< 4.79
Bromobenzene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
Bromochloromethane	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
Bromodichloromethane	100	100	30000	< 4.99	< 4.89	< 4.85	< 4.79
Bromoform	100	1000	300000	< 4.99	< 4.89	< 4.85	< 4.79
Bromomethane	500	500	30000	< 9.98	< 9.78	< 9.71	< 9.59
2-Butanone (MEK)	4000	50000	400000	< 9.98	< 9.78	< 9.71	< 9.59
n-Butylbenzene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
sec-Butylbenzene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
tert-Butylbenzene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
Carbon disulfide	NE	NE	NE	< 9.98	< 9.78	< 9.71	< 9.59
Carbon tetrachloride	10000	5000	30000	< 4.99	< 4.89	< 4.85	< 4.79
Chlorobenzene	1000	3000	100000	< 4.99	< 4.89	< 4.85	< 4.79
Chloroethane	NE	NE	NE	< 9.98	< 9.78	< 9.71	< 9.59
Chloroform	400	200	500000	< 4.99	< 4.89	< 4.85	< 4.79
Chloromethane	NE	NE	NE	< 9.98	< 9.78	< 9.71	< 9.59
2-Chlorotoluene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
4-Chlorotoluene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
1,2-Dibromo-3-chloropropane	NE	NE	NE	< 9.98	< 9.78	< 9.71	< 9.59
Dibromochloromethane	5	30	20000	< 4.99	< 4.89	< 4.85	< 4.79
1,2-Dibromoethane (EDB)	100	100	1000	< 4.99	< 4.89	< 4.85	< 4.79
Dibromomethane	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
1,2-Dichlorobenzene	9000	100000	300000	< 4.99	< 4.89	< 4.85	< 4.79
1,3-Dichlorobenzene	3000	100000	100000	< 4.99	< 4.89	< 4.85	< 4.79
1,4-Dichlorobenzene	700	1000	80000	< 4.99	< 4.89	< 4.85	< 4.79
Dichlorodifluoromethane (Freon12)	NE	NE	NE	< 9.98	< 9.78	< 9.71	< 9.59
1,1-Dichloroethane	400	9000	500000	< 4.99	< 4.89	< 4.85	< 4.79
1,2-Dichloroethane	100	100	20000	< 4.99	< 4.89	< 4.85	< 4.79
1,1-Dichloroethene	3000	40000	500000	< 4.99	< 4.89	< 4.85	< 4.79
cis-1,2-Dichloroethene	300	100	100000	< 4.99	< 4.89	< 4.85	< 4.79
trans-1,2-Dichloroethene	1000	1000	500000	< 4.99	< 4.89	< 4.85	< 4.79
1,2-Dichloropropane	100	100	30000	< 4.99	< 4.89	< 4.85	< 4.79
1,3-Dichloropropane	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
2,2-Dichloropropane	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
1,1-Dichloropropene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
cis-1,3-Dichloropropene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
trans-1,3-Dichloropropene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
Ethylbenzene	40000	500000	500000	< 4.99	< 4.89	< 4.85	< 4.79
Hexachlorobutadiene	30000	30000	30000	< 4.99	< 4.89	< 4.85	< 4.79
2-Hexanone (MBK)	NE	NE	NE	< 9.98	< 9.78	< 9.71	< 9.59
Isopropylbenzene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
4-Isopropyltoluene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
Methyl tert-butyl ether	100	100000	100000	< 4.99	< 4.89	< 4.85	< 4.79
4-Methyl-2-pentanone (MIBK)	400	50000	400000	< 9.98	< 9.78	< 9.71	< 9.59
Methylene chloride	100	4000	400000	< 9.98	< 9.78	< 9.71	< 9.59
Naphthalene	4000	20000	500000	< 4.99	< 4.89	< 4.85	< 4.79
n-Propylbenzene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
Styrene	3000	4000	70000	< 4.99	< 4.89	< 4.85	< 4.79
1,1,1,2-Tetrachloroethane	100	100	80000	< 4.99	< 4.89	< 4.85	< 4.79
1,1,2,2-Tetrachloroethane	5	20	10000	< 4.99	< 4.89	< 4.85	< 4.79
Tetrachloroethene	1000	10000	30000	< 4.99	< 4.89	< 4.85	< 4.79
Toluene	30000	500000	500000	< 4.99	< 4.89	< 4.85	< 4.79
1,2,3-Trichlorobenzene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
1,2,4-Trichlorobenzene	2000	6000	700000	< 4.99	< 4.89	< 4.85	< 4.79
1,1,1-Trichloroethane	30000	500000	500000	< 4.99	< 4.89	< 4.85	< 4.79
1,1,2-Trichloroethane	100	2000	40000	< 4.99	< 4.89	< 4.85	< 4.79
Trichloroethene	300	300	30000	< 4.99	< 4.89	< 4.85	< 4.79
Trichlorofluoromethane (Freon 11)	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
1,2,3-Trichloropropane	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
1,2,4-Trimethylbenzene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
1,3,5-Trimethylbenzene	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
Vinyl chloride	900	700	1000	< 4.99	< 4.89	< 4.85	< 4.79
m,p-Xylene	400	100	500	< 9.98	< 9.78	< 9.71	< 9.59
o-Xylene				< 4.99	< 4.89	< 4.85	< 4.79
Tetrahydrofuran	NE	NE	NE	< 9.98	< 9.78	< 9.71	< 9.59
Ethyl ether	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
Tert-amyl methyl ether	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
Ethyl tert-butyl ether	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
Di-isopropyl ether	NE	NE	NE	< 4.99	< 4.89	< 4.85	< 4.79
1,4-Dioxane	200	6000	20000	< 99.8	< 97.8	< 97.1	< 95.9

Notes:
SP: Excavated Soil Stock Pile
< - Non-detect at laboratory detection limit (detection limit shown after <)
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Sample Type N = normal sample, FD = duplicate sample
mg/kg - milligrams per kilograms
NE = not established
Detections are bolded
MCP - Massachusetts Contingency Plan
Exceedance of Method 1 S1 Standards are yellow highlighted

APPENDIX A – LABORATORY ANALYTICAL REPORTS

eurofins | Spectrum Analytical

☐ Final Report
☑ Revised Report

Report Date:
20-Jul-17 14:32

Laboratory Report
SC36812

AECOM Environment
250 Apollo Drive
Chelmsford, MA 01824
Attn: Art Taddeo

Project: LMC-Wilmington- 40 Fordham Rd. - MA
Project #: 60478638.5.01

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Rebecca Merz
Quality Services Manager

Rebecca Merz

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 33 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC36812

Project: LMC-Wilmington- 40 Fordham Rd. - MA

Project Number: 60478638.5.01

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC36812-01	TB-071017	Methanol/DI	10-Jul-17 13:00	11-Jul-17 16:40
SC36812-02	SP2_071017-1	Soil	10-Jul-17 13:30	11-Jul-17 16:40
SC36812-03	SP1_071017-1	Soil	10-Jul-17 14:50	11-Jul-17 16:40

The following outlines the condition of all VPH samples contained within this report upon laboratory receipt.

Matrices	Soil		
Containers	✓ Satisfactory		
Sample Preservative	**Aqueous** (acid preserved)	✓ N/A pH≤2 pH>2	
	Soil or Sediment	N/A Samples not received in Methanol	ml Methanol/g soil ✓ 1:1 +/-25% Other
		✓ Samples received in Methanol: ✓ covering soil/sediment not covering soil/sediment	
		Samples received in air-tight container	
Temperature	✓ Received on ice	Received at 4 ± 2 ºC ✓ Other: 1.6ºC	

Were all QA/QC procedures followed as required by the VPH method? *Yes*
Were any significant modifications made to the VPH method as specified in section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrices	Soil
Containers	✓ Satisfactory
Aqueous Preservative	✓ N/A pH≤2 pH>2 pH adjusted to <2 in lab
Temperature	✓ Received on ice Received at 4 ± 2 ºC ✓ Other: 1.6ºC

Were all QA/QC procedures followed as required by the EPH method? *Yes*
Were any significant modifications made to the EPH method as specified in Section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

I attest that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Authorized by:

Christina A. White
Laboratory Director

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.	**Project #:** 60478638.5.01
Project Location: LMC-Wilmington- 40 Fordham Rd. - MA	**RTN:**
This form provides certifications for the following data set:	SC36812-01 through SC36812-03
Matrices: Methanol/DI Soil	

CAM Protocol

✓ 8260 VOC CAM II A	7470/7471 Hg CAM III B	✓ MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	✓ MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B

Affirmative responses to questions A through F are required for Presumptive Certainty status

A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	✓ Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?	✓ Yes No

Responses to questions G, H and I below are required for Presumptive Certainty status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	Yes ✓ No

***Data User Note:* Data that achieve Presumptive Certainty status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ✓ No

All negative responses are addressed in a case narrative on the cover page of this report.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Christina A. White
Laboratory Director
Date: 7/20/2017

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 1.6 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

All VOC soils samples submitted and analyzed in methanol will have a minimum dilution factor of 50. This is the minimum amount of solvent allowed on the instrumentation without causing interference. Soils are run on a manual load instrument. 100ug of sample (MEOH) is spiked into 5ml DI water along with the surrogate and added directly onto the instrument. Additional dilution factors may be required to keep analyte concentration within instrument calibration range.

Method SW846 5035A is designed to use on samples containing low levels of VOCs, ranging from 0.5 to 200 ug/Kg. Target analytes that are less responsive to purge and trap may be present at concentrations over 200ug/Kg but may not be reportable in the methanol preserved vial (SW846 5030). This is the result of the inherent dilution factor required for the methanol preservation.

July 19, 2017 Report Revision Case Narrative:

This report has been revised to update the analyte list for EPH carbon ranges.

July 20, 2017 Report Revision Case Narrative:

This report has been revised to include MA CAM certification form per client request.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

MADEP EPH 5/2004 R

Calibration:

1706028

Analyte quantified by quadratic equation type calibration.

C19-C36 Aliphatic Hydrocarbons
C9-C18 Aliphatic Hydrocarbons
Unadjusted C11-C22 Aromatic Hydrocarbons

This affected the following samples:

S705195-ICV1

Laboratory Control Samples:

MADEP EPH 5/2004 R

Laboratory Control Samples:

1711803 BSD

C19-C36 Aliphatic Hydrocarbons RPD 53% (25%) is outside individual acceptance criteria.

C9-C18 Aliphatic Hydrocarbons RPD 65% (25%) is outside individual acceptance criteria.

SW846 8260C

Calibration:

1707022

Analyte quantified by quadratic equation type calibration.

1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
2-Hexanone (MBK)
4-Isopropyltoluene
Bromoform
cis-1,3-Dichloropropene
Ethyl tert-butyl ether
Naphthalene
n-Butylbenzene
o-Xylene
sec-Butylbenzene
Styrene
Tert-amyl methyl ether
tert-Butylbenzene

This affected the following samples:

1711813-BLK1
1711813-BS1
1711813-BSD1
1711929-BLK1
1711929-BS1
1711929-BSD1
S706189-ICV1
S706203-CCV1
S706238-CCV1
SP1_071017-1
SP2_071017-1
TB-071017

Laboratory Control Samples:

1711929 BS/BSD

Bromomethane percent recoveries (132/131) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

SP1_071017-1

Samples:

S706203-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

Bromomethane (22.2%)

SW846 8260C

Samples:

S706203-CCV1

This affected the following samples:

1711813-BLK1
1711813-BS1
1711813-BSD1
SP2_071017-1
TB-071017

S706238-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,1,1-Trichloroethane (22.1%)
1,1-Dichloropropene (21.0%)
2,2-Dichloropropane (29.4%)
Bromomethane (32.0%)
Carbon tetrachloride (24.5%)
n-Propylbenzene (23.0%)
Trichlorofluoromethane (Freon 11) (26.3%)

This affected the following samples:

1711929-BLK1
1711929-BS1
1711929-BSD1
SP1_071017-1

Sample Acceptance Check Form

Client:	AECOM Environment - Chelmsford, MA
Project:	LMC-Wilmington- 40 Fordham Rd. - MA / 60478638.5.01
Work Order:	SC36812
Sample(s) received on:	7/11/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC36812-02 **Client ID:** SP2_071017-1

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Unadjusted C9-C12 Aliphatic Hydrocarbons	0.619	D	0.328	mg/kg	MADEP VPH 5/2004 Rev. 1.1
Arsenic	8.16		1.57	mg/kg	SW846 6010C
Chromium	10.9		1.05	mg/kg	SW846 6010C
Copper	6.25		1.05	mg/kg	SW846 6010C
Lead	6.17		1.57	mg/kg	SW846 6010C
Zinc	19.5		1.05	mg/kg	SW846 6010C
1,2,4-Trimethylbenzene	18.6		4.82	µg/kg	SW846 8260C
1,3,5-Trimethylbenzene	5.02		4.82	µg/kg	SW846 8260C
m,p-Xylene	11.6		9.64	µg/kg	SW846 8260C
Naphthalene	11.9		4.82	µg/kg	SW846 8260C
o-Xylene	6.32		4.82	µg/kg	SW846 8260C

Lab ID: SC36812-03 **Client ID:** SP1_071017-1

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
C11-C22 Aromatic Hydrocarbons	16.9		10.4	mg/kg	MADEP EPH 5/2004 R
C19-C36 Aliphatic Hydrocarbons	19.5		10.4	mg/kg	MADEP EPH 5/2004 R
Unadjusted C11-C22 Aromatic Hydrocarbons	16.9		10.4	mg/kg	MADEP EPH 5/2004 R
C9-C10 Aromatic Hydrocarbons	0.994	D	0.348	mg/kg	MADEP VPH 5/2004 Rev. 1.1
C9-C12 Aliphatic Hydrocarbons	1.58	D	0.348	mg/kg	MADEP VPH 5/2004 Rev. 1.1
Unadjusted C9-C12 Aliphatic Hydrocarbons	2.58	D	0.348	mg/kg	MADEP VPH 5/2004 Rev. 1.1
Arsenic	7.44		1.56	mg/kg	SW846 6010C
Chromium	9.89		1.04	mg/kg	SW846 6010C
Copper	6.09		1.04	mg/kg	SW846 6010C
Lead	11.8		1.56	mg/kg	SW846 6010C
Zinc	34.5		1.04	mg/kg	SW846 6010C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-071017	60478638.5.01	Methanol/DI	10-Jul-17 13:00	11-Jul-17
SC36812-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5035A Soil (low level)													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00	2.54	1	SW846 8260C	12-Jul-17	12-Jul-17	GMA	1711813	
67-64-1	Acetone	< 50.0		µg/kg wet	50.0	20.0	1	"	"	"	"	"	
71-43-2	Benzene	< 5.00		µg/kg wet	5.00	1.32	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 5.00		µg/kg wet	5.00	1.34	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 5.00		µg/kg wet	5.00	2.52	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.00		µg/kg wet	5.00	3.34	1	"	"	"	"	"	
75-25-2	Bromoform	< 5.00		µg/kg wet	5.00	4.77	1	"	"	"	"	"	
74-83-9	Bromomethane	< 10.0		µg/kg wet	10.0	4.52	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 10.0		µg/kg wet	10.0	8.94	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 5.00		µg/kg wet	5.00	1.43	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 5.00		µg/kg wet	5.00	0.91	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 5.00		µg/kg wet	5.00	1.12	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 10.0		µg/kg wet	10.0	3.20	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 5.00		µg/kg wet	5.00	4.09	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 5.00		µg/kg wet	5.00	1.56	1	"	"	"	"	"	
75-00-3	Chloroethane	< 10.0		µg/kg wet	10.0	2.78	1	"	"	"	"	"	
67-66-3	Chloroform	< 5.00		µg/kg wet	5.00	2.68	1	"	"	"	"	"	
74-87-3	Chloromethane	< 10.0		µg/kg wet	10.0	2.06	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 5.00		µg/kg wet	5.00	1.24	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 5.00		µg/kg wet	5.00	1.18	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0	7.22	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.00		µg/kg wet	5.00	3.39	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00	3.36	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 5.00		µg/kg wet	5.00	2.60	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.30	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.08	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.48	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0	1.90	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 5.00		µg/kg wet	5.00	1.31	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 5.00		µg/kg wet	5.00	1.79	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00	1.86	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00	2.65	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 5.00		µg/kg wet	5.00	2.59	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 5.00		µg/kg wet	5.00	2.36	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 5.00		µg/kg wet	5.00	1.61	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00	3.02	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.00		µg/kg wet	5.00	0.72	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 5.00		µg/kg wet	5.00	2.51	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0	6.14	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 5.00		µg/kg wet	5.00	0.98	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-071017	60478638.5.01	Methanol/DI	10-Jul-17 13:00	11-Jul-17
SC36812-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
99-87-6	4-Isopropyltoluene	< 5.00		µg/kg wet	5.00	1.08	1	SW846 8260C	12-Jul-17	12-Jul-17	GMA	1711813	
1634-04-4	Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00	1.84	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0	2.57	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 10.0		µg/kg wet	10.0	1.98	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.00		µg/kg wet	5.00	2.98	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 5.00		µg/kg wet	5.00	0.81	1	"	"	"	"	"	
100-42-5	Styrene	< 5.00		µg/kg wet	5.00	1.00	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00	4.25	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00	4.23	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 5.00		µg/kg wet	5.00	1.71	1	"	"	"	"	"	
108-88-3	Toluene	< 5.00		µg/kg wet	5.00	1.62	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00	1.76	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00	3.68	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00	1.66	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00	3.62	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 5.00		µg/kg wet	5.00	1.36	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00	2.70	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00	3.75	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00	1.22	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00	0.86	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 5.00		µg/kg wet	5.00	1.69	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0		µg/kg wet	10.0	0.90	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.00		µg/kg wet	5.00	1.40	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 10.0		µg/kg wet	10.0	7.88	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.00		µg/kg wet	5.00	4.53	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00	1.67	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00	2.70	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 5.00		µg/kg wet	5.00	0.93	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 100		µg/kg wet	100	86.8	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*94*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*116*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP2_071017-1 SC36812-02	60478638.5.01	Soil	10-Jul-17 13:30	11-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			BD	1711785	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 5.87 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 4.82		µg/kg dry	4.82	2.44	1	SW846 8260C	12-Jul-17	12-Jul-17	GMA	1711813	
67-64-1	Acetone	< 48.2		µg/kg dry	48.2	19.3	1	"	"	"	"	"	
71-43-2	Benzene	< 4.82		µg/kg dry	4.82	1.28	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 4.82		µg/kg dry	4.82	1.29	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 4.82		µg/kg dry	4.82	2.43	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 4.82		µg/kg dry	4.82	3.21	1	"	"	"	"	"	
75-25-2	Bromoform	< 4.82		µg/kg dry	4.82	4.60	1	"	"	"	"	"	
74-83-9	Bromomethane	< 9.64		µg/kg dry	9.64	4.35	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 9.64		µg/kg dry	9.64	8.61	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 4.82		µg/kg dry	4.82	1.38	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 4.82		µg/kg dry	4.82	0.88	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 4.82		µg/kg dry	4.82	1.08	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 9.64		µg/kg dry	9.64	3.08	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 4.82		µg/kg dry	4.82	3.94	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 4.82		µg/kg dry	4.82	1.51	1	"	"	"	"	"	
75-00-3	Chloroethane	< 9.64		µg/kg dry	9.64	2.67	1	"	"	"	"	"	
67-66-3	Chloroform	< 4.82		µg/kg dry	4.82	2.59	1	"	"	"	"	"	
74-87-3	Chloromethane	< 9.64		µg/kg dry	9.64	1.99	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 4.82		µg/kg dry	4.82	1.20	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 4.82		µg/kg dry	4.82	1.13	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 9.64		µg/kg dry	9.64	6.96	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 4.82		µg/kg dry	4.82	3.27	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 4.82		µg/kg dry	4.82	3.23	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 4.82		µg/kg dry	4.82	2.51	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 4.82		µg/kg dry	4.82	1.25	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 4.82		µg/kg dry	4.82	1.05	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 4.82		µg/kg dry	4.82	1.43	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 9.64		µg/kg dry	9.64	1.83	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 4.82		µg/kg dry	4.82	1.26	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 4.82		µg/kg dry	4.82	1.72	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 4.82		µg/kg dry	4.82	2.52	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 4.82		µg/kg dry	4.82	1.79	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 4.82		µg/kg dry	4.82	2.55	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 4.82		µg/kg dry	4.82	2.52	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 4.82		µg/kg dry	4.82	2.50	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 4.82		µg/kg dry	4.82	2.27	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 4.82		µg/kg dry	4.82	1.55	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 4.82		µg/kg dry	4.82	2.91	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 4.82		µg/kg dry	4.82	2.53	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 4.82		µg/kg dry	4.82	0.69	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP2_071017-1	60478638.5.01	Soil	10-Jul-17 13:30	11-Jul-17
SC36812-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260							Initial weight: 5.87 g						
87-68-3	Hexachlorobutadiene	< 4.82		µg/kg dry	4.82	2.42	1	SW846 8260C	12-Jul-17	12-Jul-17	GMA	1711813	
591-78-6	2-Hexanone (MBK)	< 9.64		µg/kg dry	9.64	5.91	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 4.82		µg/kg dry	4.82	0.95	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 4.82		µg/kg dry	4.82	1.04	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 4.82		µg/kg dry	4.82	1.77	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 9.64		µg/kg dry	9.64	2.48	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 9.64		µg/kg dry	9.64	1.91	1	"	"	"	"	"	
91-20-3	Naphthalene	**11.9**		µg/kg dry	4.82	2.87	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 4.82		µg/kg dry	4.82	0.78	1	"	"	"	"	"	
100-42-5	Styrene	< 4.82		µg/kg dry	4.82	0.97	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 4.82		µg/kg dry	4.82	4.10	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 4.82		µg/kg dry	4.82	4.08	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 4.82		µg/kg dry	4.82	1.65	1	"	"	"	"	"	
108-88-3	Toluene	< 4.82		µg/kg dry	4.82	1.56	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 4.82		µg/kg dry	4.82	1.69	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 4.82		µg/kg dry	4.82	3.55	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 4.82		µg/kg dry	4.82	1.60	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 4.82		µg/kg dry	4.82	3.49	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 4.82		µg/kg dry	4.82	1.32	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 4.82		µg/kg dry	4.82	2.60	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 4.82		µg/kg dry	4.82	3.61	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	**18.6**		µg/kg dry	4.82	1.17	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	**5.02**		µg/kg dry	4.82	0.83	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 4.82		µg/kg dry	4.82	1.63	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	**11.6**		µg/kg dry	9.64	0.87	1	"	"	"	"	"	
95-47-6	o-Xylene	**6.32**		µg/kg dry	4.82	1.35	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 9.64		µg/kg dry	9.64	7.59	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 4.82		µg/kg dry	4.82	4.37	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 4.82		µg/kg dry	4.82	1.61	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 4.82		µg/kg dry	4.82	2.60	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 4.82		µg/kg dry	4.82	0.90	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 96.4		µg/kg dry	96.4	83.7	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*100*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*115*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*			*70-130 %*			"	"	"	"	"	
MADEP VPH Carbon Ranges Prepared by method VPH - EPA 5035A Soil							Initial weight: 12.7 g						
	C5-C8 Aliphatic Hydrocarbons	< 4.92	D	mg/kg dry	4.92	0.191	50	MADEP VPH 5/2004 Rev. 1.1	13-Jul-17	13-Jul-17	SD	1711913	
	C9-C12 Aliphatic Hydrocarbons	< 0.328	D	mg/kg dry	0.328	0.137	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP2_071017-1 SC36812-02	60478638.5.01	Soil	10-Jul-17 13:30	11-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH Carbon Ranges							Initial weight: 12.7 g						
	C9-C10 Aromatic Hydrocarbons	< 0.328	D	mg/kg dry	0.328	0.0398	50	MADEP VPH 5/2004 Rev. 1.1	13-Jul-17	13-Jul-17	SD	1711913	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 4.92	D	mg/kg dry	4.92	0.153	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	**0.619**	D	mg/kg dry	0.328	0.174	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*91*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*81*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Carbon Ranges Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 10.4		mg/kg dry	10.4	1.46	1	MADEP EPH 5/2004 R	12-Jul-17	14-Jul-17	EDT	1711803	
	C19-C36 Aliphatic Hydrocarbons	< 10.4		mg/kg dry	10.4	1.47	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 10.4		mg/kg dry	10.4	4.98	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 10.4		mg/kg dry	10.4	4.98	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*89*			*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*73*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*79*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods Prepared by method SW846 3051A													
7440-38-2	Arsenic	**8.16**		mg/kg dry	1.57	0.199	1	SW846 6010C	12-Jul-17	12-Jul-17	JMW/TBC	1711786	
7440-47-3	Chromium	**10.9**		mg/kg dry	1.05	0.139	1	"	"	"	"	"	
7440-50-8	Copper	**6.25**		mg/kg dry	1.05	0.251	1	"	"	13-Jul-17	"	"	
7439-92-1	Lead	**6.17**		mg/kg dry	1.57	0.222	1	"	"	12-Jul-17	"	"	
7440-66-6	Zinc	**19.5**		mg/kg dry	1.05	0.809	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**94.3**		%			1	SM2540 G (11) Mod.	12-Jul-17	12-Jul-17	BD	1711828	
Subcontracted Analyses													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
	Percent Solid	**94**		%			1	SW846-%Solid		12-Jul-17 10:47	MACT0	'[none]'	
Prepared by method 393461-													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
57-12-5	Total Cyanide (SW9010C Distill.)	< 0.53		mg/Kg	0.53	0.53	1	SW9012B	12-Jul-17	13-Jul-17 07:17	MACT0	393461A	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP1_071017-1 SC36812-03	60478638.5.01	Soil	10-Jul-17 14:50	11-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			BD	1711785	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 6 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 4.64		µg/kg dry	4.64	2.35	1	SW846 8260C	13-Jul-17	13-Jul-17	GMA	1711929	
67-64-1	Acetone	< 46.4		µg/kg dry	46.4	18.6	1	"	"	"	"	"	
71-43-2	Benzene	< 4.64		µg/kg dry	4.64	1.23	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 4.64		µg/kg dry	4.64	1.24	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 4.64		µg/kg dry	4.64	2.35	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 4.64		µg/kg dry	4.64	3.10	1	"	"	"	"	"	
75-25-2	Bromoform	< 4.64		µg/kg dry	4.64	4.43	1	"	"	"	"	"	
74-83-9	Bromomethane	< 9.29		µg/kg dry	9.29	4.19	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 9.29		µg/kg dry	9.29	8.30	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 4.64		µg/kg dry	4.64	1.33	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 4.64		µg/kg dry	4.64	0.85	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 4.64		µg/kg dry	4.64	1.04	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 9.29		µg/kg dry	9.29	2.97	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 4.64		µg/kg dry	4.64	3.80	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 4.64		µg/kg dry	4.64	1.45	1	"	"	"	"	"	
75-00-3	Chloroethane	< 9.29		µg/kg dry	9.29	2.58	1	"	"	"	"	"	
67-66-3	Chloroform	< 4.64		µg/kg dry	4.64	2.49	1	"	"	"	"	"	
74-87-3	Chloromethane	< 9.29		µg/kg dry	9.29	1.92	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 4.64		µg/kg dry	4.64	1.16	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 4.64		µg/kg dry	4.64	1.09	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 9.29		µg/kg dry	9.29	6.71	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 4.64		µg/kg dry	4.64	3.15	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 4.64		µg/kg dry	4.64	3.12	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 4.64		µg/kg dry	4.64	2.42	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 4.64		µg/kg dry	4.64	1.21	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 4.64		µg/kg dry	4.64	1.01	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 4.64		µg/kg dry	4.64	1.37	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 9.29		µg/kg dry	9.29	1.76	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 4.64		µg/kg dry	4.64	1.22	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 4.64		µg/kg dry	4.64	1.66	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 4.64		µg/kg dry	4.64	2.43	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 4.64		µg/kg dry	4.64	1.72	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 4.64		µg/kg dry	4.64	2.46	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 4.64		µg/kg dry	4.64	2.43	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 4.64		µg/kg dry	4.64	2.41	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 4.64		µg/kg dry	4.64	2.19	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 4.64		µg/kg dry	4.64	1.50	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 4.64		µg/kg dry	4.64	2.80	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 4.64		µg/kg dry	4.64	2.44	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 4.64		µg/kg dry	4.64	0.67	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP1_071017-1 SC36812-03	60478638.5.01	Soil	10-Jul-17 14:50	11-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260							Initial weight: 6 g						
87-68-3	Hexachlorobutadiene	< 4.64		µg/kg dry	4.64	2.33	1	SW846 8260C	13-Jul-17	13-Jul-17	GMA	1711929	
591-78-6	2-Hexanone (MBK)	< 9.29		µg/kg dry	9.29	5.70	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 4.64		µg/kg dry	4.64	0.91	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 4.64		µg/kg dry	4.64	1.00	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 4.64		µg/kg dry	4.64	1.71	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 9.29		µg/kg dry	9.29	2.39	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 9.29		µg/kg dry	9.29	1.84	1	"	"	"	"	"	
91-20-3	Naphthalene	< 4.64		µg/kg dry	4.64	2.76	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 4.64		µg/kg dry	4.64	0.75	1	"	"	"	"	"	
100-42-5	Styrene	< 4.64		µg/kg dry	4.64	0.93	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 4.64		µg/kg dry	4.64	3.95	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 4.64		µg/kg dry	4.64	3.93	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 4.64		µg/kg dry	4.64	1.59	1	"	"	"	"	"	
108-88-3	Toluene	< 4.64		µg/kg dry	4.64	1.50	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 4.64		µg/kg dry	4.64	1.63	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 4.64		µg/kg dry	4.64	3.42	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 4.64		µg/kg dry	4.64	1.54	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 4.64		µg/kg dry	4.64	3.37	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 4.64		µg/kg dry	4.64	1.27	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 4.64		µg/kg dry	4.64	2.50	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 4.64		µg/kg dry	4.64	3.48	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 4.64		µg/kg dry	4.64	1.13	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 4.64		µg/kg dry	4.64	0.80	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 4.64		µg/kg dry	4.64	1.57	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 9.29		µg/kg dry	9.29	0.84	1	"	"	"	"	"	
95-47-6	o-Xylene	< 4.64		µg/kg dry	4.64	1.30	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 9.29		µg/kg dry	9.29	7.32	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 4.64		µg/kg dry	4.64	4.21	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 4.64		µg/kg dry	4.64	1.55	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 4.64		µg/kg dry	4.64	2.50	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 4.64		µg/kg dry	4.64	0.86	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 92.9		µg/kg dry	92.9	80.7	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*87*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*98*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*123*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*107*			*70-130 %*			"	"	"	"	"	
MADEP VPH Carbon Ranges Prepared by method VPH - EPA 5035A Soil							Initial weight: 11.77 g						
	C5-C8 Aliphatic Hydrocarbons	< 5.22	D	mg/kg dry	5.22	0.202	50	MADEP VPH 5/2004 Rev. 1.1	13-Jul-17	13-Jul-17	SD	1711913	
	C9-C12 Aliphatic Hydrocarbons	**1.58**	D	mg/kg dry	0.348	0.145	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP1_071017-1 SC36812-03	60478638.5.01	Soil	10-Jul-17 14:50	11-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH Carbon Ranges							Initial weight: 11.77 g						
	C9-C10 Aromatic Hydrocarbons	**0.994**	D	mg/kg dry	0.348	0.0423	50	MADEP VPH 5/2004 Rev. 1.1	13-Jul-17	13-Jul-17	SD	1711913	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 5.22	D	mg/kg dry	5.22	0.162	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	**2.58**	D	mg/kg dry	0.348	0.185	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*87*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*77*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Carbon Ranges Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 10.4		mg/kg dry	10.4	1.45	1	MADEP EPH 5/2004 R	12-Jul-17	14-Jul-17	EDT	1711803	
	C19-C36 Aliphatic Hydrocarbons	**19.5**		mg/kg dry	10.4	1.47	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	**16.9**		mg/kg dry	10.4	4.96	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	**16.9**		mg/kg dry	10.4	4.96	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*84*			*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*89*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*102*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3051A													
7440-38-2	Arsenic	**7.44**		mg/kg dry	1.56	0.197	1	SW846 6010C	12-Jul-17	12-Jul-17	JMW/TBC	1711786	
7440-47-3	Chromium	**9.89**		mg/kg dry	1.04	0.138	1	"	"	"	"	"	
7440-50-8	Copper	**6.09**		mg/kg dry	1.04	0.249	1	"	"	13-Jul-17	"	"	
7439-92-1	Lead	**11.8**		mg/kg dry	1.56	0.220	1	"	"	12-Jul-17	"	"	
7440-66-6	Zinc	**34.5**		mg/kg dry	1.04	0.804	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**95.0**		%			1	SM2540 G (11) Mod.	12-Jul-17	12-Jul-17	BD	1711828	
Subcontracted Analyses													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
	Percent Solid	**93**		%			1	SW846-%Solid		12-Jul-17 10:47	MACT0	'[none]'	
Prepared by method 393461-													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
57-12-5	Total Cyanide (SW9010C Distill.)	< 0.54		mg/Kg	0.54	0.54	1	SW9012B	12-Jul-17	13-Jul-17 07:18	MACT0	393461A	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP VPH 5/2004 Rev. 1.1										
Batch 1711913 - VPH - EPA 5035A Soil										
Blank (1711913-BLK1)					Prepared & Analyzed: 13-Jul-17					
C5-C8 Aliphatic Hydrocarbons	< 3.75	D	mg/kg wet	3.75						
C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
C9-C10 Aromatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Unadjusted C5-C8 Aliphatic Hydrocarbons	< 3.75	D	mg/kg wet	3.75						
Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Surrogate: 2,5-Dibromotoluene (FID)	*48.6*		µg/kg		*50.0*		*97*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*42.3*		µg/kg		*50.0*		*85*	*70-130*		
LCS (1711913-BS1)					Prepared & Analyzed: 13-Jul-17					
C5-C8 Aliphatic Hydrocarbons	**77.5**	D	µg/kg		60.0		129	70-130		
C9-C12 Aliphatic Hydrocarbons	**57.2**	D	µg/kg		60.0		95	70-130		
C9-C10 Aromatic Hydrocarbons	**23.2**	D	µg/kg		20.0		116	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**237**	D	µg/kg		200		118	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**80.4**	D	µg/kg		80.0		101	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*52.5*		µg/kg		*50.0*		*105*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*46.2*		µg/kg		*50.0*		*92*	*70-130*		
LCS Dup (1711913-BSD1)					Prepared & Analyzed: 13-Jul-17					
C5-C8 Aliphatic Hydrocarbons	**72.7**	D	µg/kg		60.0		121	70-130	6	25
C9-C12 Aliphatic Hydrocarbons	**60.1**	D	µg/kg		60.0		100	70-130	5	25
C9-C10 Aromatic Hydrocarbons	**22.1**	D	µg/kg		20.0		110	70-130	5	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**224**	D	µg/kg		200		112	70-130	6	25
Unadjusted C9-C12 Aliphatic Hydrocarbons	**82.1**	D	µg/kg		80.0		103	70-130	2	25
Surrogate: 2,5-Dibromotoluene (FID)	*50.9*		µg/kg		*50.0*		*102*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*45.0*		µg/kg		*50.0*		*90*	*70-130*		
SW846 8260C										
Batch 1711813 - SW846 5035A Soil (low level)										
Blank (1711813-BLK1)					Prepared & Analyzed: 12-Jul-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00						
Acetone	< 50.0		µg/kg wet	50.0						
Benzene	< 5.00		µg/kg wet	5.00						
Bromobenzene	< 5.00		µg/kg wet	5.00						
Bromochloromethane	< 5.00		µg/kg wet	5.00						
Bromodichloromethane	< 5.00		µg/kg wet	5.00						
Bromoform	< 5.00		µg/kg wet	5.00						
Bromomethane	< 10.0		µg/kg wet	10.0						
2-Butanone (MEK)	< 10.0		µg/kg wet	10.0						
n-Butylbenzene	< 5.00		µg/kg wet	5.00						
sec-Butylbenzene	< 5.00		µg/kg wet	5.00						
tert-Butylbenzene	< 5.00		µg/kg wet	5.00						
Carbon disulfide	< 10.0		µg/kg wet	10.0						
Carbon tetrachloride	< 5.00		µg/kg wet	5.00						
Chlorobenzene	< 5.00		µg/kg wet	5.00						
Chloroethane	< 10.0		µg/kg wet	10.0						
Chloroform	< 5.00		µg/kg wet	5.00						
Chloromethane	< 10.0		µg/kg wet	10.0						
2-Chlorotoluene	< 5.00		µg/kg wet	5.00						
4-Chlorotoluene	< 5.00		µg/kg wet	5.00						
1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1711813 - SW846 5035A Soil (low level)										
Blank (1711813-BLK1)					Prepared & Analyzed: 12-Jul-17					
Dibromochloromethane	< 5.00		µg/kg wet	5.00						
1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00						
Dibromomethane	< 5.00		µg/kg wet	5.00						
1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0						
1,1-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,2-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,1-Dichloroethene	< 5.00		µg/kg wet	5.00						
cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
1,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,3-Dichloropropane	< 5.00		µg/kg wet	5.00						
2,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,1-Dichloropropene	< 5.00		µg/kg wet	5.00						
cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
Ethylbenzene	< 5.00		µg/kg wet	5.00						
Hexachlorobutadiene	< 5.00		µg/kg wet	5.00						
2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0						
Isopropylbenzene	< 5.00		µg/kg wet	5.00						
4-Isopropyltoluene	< 5.00		µg/kg wet	5.00						
Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0						
Methylene chloride	< 10.0		µg/kg wet	10.0						
Naphthalene	< 5.00		µg/kg wet	5.00						
n-Propylbenzene	< 5.00		µg/kg wet	5.00						
Styrene	< 5.00		µg/kg wet	5.00						
1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
Tetrachloroethene	< 5.00		µg/kg wet	5.00						
Toluene	< 5.00		µg/kg wet	5.00						
1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00						
1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00						
Trichloroethene	< 5.00		µg/kg wet	5.00						
Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00						
1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00						
1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
Vinyl chloride	< 5.00		µg/kg wet	5.00						
m,p-Xylene	< 10.0		µg/kg wet	10.0						
o-Xylene	< 5.00		µg/kg wet	5.00						
Tetrahydrofuran	< 10.0		µg/kg wet	10.0						
Ethyl ether	< 5.00		µg/kg wet	5.00						
Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00						
Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
Di-isopropyl ether	< 5.00		µg/kg wet	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1711813 - SW846 5035A Soil (low level)										
Blank (1711813-BLK1)							Prepared & Analyzed: 12-Jul-17			
1,4-Dioxane	< 100		µg/kg wet	100						
Surrogate: 4-Bromofluorobenzene	*43.3*		µg/kg		*50.0*		*87*	*70-130*		
Surrogate: Toluene-d8	*50.0*		µg/kg		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*59.3*		µg/kg		*50.0*		*119*	*70-130*		
Surrogate: Dibromofluoromethane	*52.0*		µg/kg		*50.0*		*104*	*70-130*		
LCS (1711813-BS1)							Prepared & Analyzed: 12-Jul-17			
1,1,2-Trichlorotrifluoroethane (Freon 113)	**21.6**		µg/kg		20.0		108	70-130		
Acetone	**21.1**		µg/kg		20.0		106	70-130		
Benzene	**22.3**		µg/kg		20.0		111	70-130		
Bromobenzene	**21.0**		µg/kg		20.0		105	70-130		
Bromochloromethane	**20.7**		µg/kg		20.0		103	70-130		
Bromodichloromethane	**21.2**		µg/kg		20.0		106	70-130		
Bromoform	**20.1**		µg/kg		20.0		100	70-130		
Bromomethane	**22.8**		µg/kg		20.0		114	70-130		
2-Butanone (MEK)	**18.8**		µg/kg		20.0		94	70-130		
n-Butylbenzene	**17.9**		µg/kg		20.0		89	70-130		
sec-Butylbenzene	**20.0**		µg/kg		20.0		100	70-130		
tert-Butylbenzene	**20.0**		µg/kg		20.0		100	70-130		
Carbon disulfide	**21.6**		µg/kg		20.0		108	70-130		
Carbon tetrachloride	**22.6**		µg/kg		20.0		113	70-130		
Chlorobenzene	**21.1**		µg/kg		20.0		105	70-130		
Chloroethane	**19.4**		µg/kg		20.0		97	70-130		
Chloroform	**21.0**		µg/kg		20.0		105	70-130		
Chloromethane	**21.9**		µg/kg		20.0		110	70-130		
2-Chlorotoluene	**21.8**		µg/kg		20.0		109	70-130		
4-Chlorotoluene	**20.8**		µg/kg		20.0		104	70-130		
1,2-Dibromo-3-chloropropane	**18.8**		µg/kg		20.0		94	70-130		
Dibromochloromethane	**19.7**		µg/kg		20.0		98	70-130		
1,2-Dibromoethane (EDB)	**20.5**		µg/kg		20.0		102	70-130		
Dibromomethane	**20.3**		µg/kg		20.0		102	70-130		
1,2-Dichlorobenzene	**19.6**		µg/kg		20.0		98	70-130		
1,3-Dichlorobenzene	**21.4**		µg/kg		20.0		107	70-130		
1,4-Dichlorobenzene	**20.1**		µg/kg		20.0		101	70-130		
Dichlorodifluoromethane (Freon12)	**22.4**		µg/kg		20.0		112	70-130		
1,1-Dichloroethane	**21.8**		µg/kg		20.0		109	70-130		
1,2-Dichloroethane	**21.0**		µg/kg		20.0		105	70-130		
1,1-Dichloroethene	**22.2**		µg/kg		20.0		111	70-130		
cis-1,2-Dichloroethene	**21.2**		µg/kg		20.0		106	70-130		
trans-1,2-Dichloroethene	**21.1**		µg/kg		20.0		106	70-130		
1,2-Dichloropropane	**20.7**		µg/kg		20.0		104	70-130		
1,3-Dichloropropane	**20.4**		µg/kg		20.0		102	70-130		
2,2-Dichloropropane	**21.8**		µg/kg		20.0		109	70-130		
1,1-Dichloropropene	**21.8**		µg/kg		20.0		109	70-130		
cis-1,3-Dichloropropene	**18.8**		µg/kg		20.0		94	70-130		
trans-1,3-Dichloropropene	**21.7**		µg/kg		20.0		108	70-130		
Ethylbenzene	**21.8**		µg/kg		20.0		109	70-130		
Hexachlorobutadiene	**19.5**		µg/kg		20.0		98	70-130		
2-Hexanone (MBK)	**19.2**		µg/kg		20.0		96	70-130		
Isopropylbenzene	**21.1**		µg/kg		20.0		105	70-130		
4-Isopropyltoluene	**19.2**		µg/kg		20.0		96	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1711813 - SW846 5035A Soil (low level)										
LCS (1711813-BS1)					Prepared & Analyzed: 12-Jul-17					
Methyl tert-butyl ether	**19.6**		µg/kg		20.0		98	70-130		
4-Methyl-2-pentanone (MIBK)	**18.6**		µg/kg		20.0		93	70-130		
Methylene chloride	**20.6**		µg/kg		20.0		103	70-130		
Naphthalene	**19.8**		µg/kg		20.0		99	70-130		
n-Propylbenzene	**22.0**		µg/kg		20.0		110	70-130		
Styrene	**19.2**		µg/kg		20.0		96	70-130		
1,1,1,2-Tetrachloroethane	**21.5**		µg/kg		20.0		107	70-130		
1,1,2,2-Tetrachloroethane	**19.8**		µg/kg		20.0		99	70-130		
Tetrachloroethene	**20.2**		µg/kg		20.0		101	70-130		
Toluene	**21.4**		µg/kg		20.0		107	70-130		
1,2,3-Trichlorobenzene	**19.4**		µg/kg		20.0		97	70-130		
1,2,4-Trichlorobenzene	**18.7**		µg/kg		20.0		94	70-130		
1,1,1-Trichloroethane	**22.3**		µg/kg		20.0		111	70-130		
1,1,2-Trichloroethane	**20.6**		µg/kg		20.0		103	70-130		
Trichloroethene	**21.9**		µg/kg		20.0		110	70-130		
Trichlorofluoromethane (Freon 11)	**21.5**		µg/kg		20.0		108	70-130		
1,2,3-Trichloropropane	**20.8**		µg/kg		20.0		104	70-130		
1,2,4-Trimethylbenzene	**19.5**		µg/kg		20.0		97	70-130		
1,3,5-Trimethylbenzene	**19.9**		µg/kg		20.0		99	70-130		
Vinyl chloride	**22.2**		µg/kg		20.0		111	70-130		
m,p-Xylene	**21.8**		µg/kg		20.0		109	70-130		
o-Xylene	**19.4**		µg/kg		20.0		97	70-130		
Tetrahydrofuran	**20.7**		µg/kg		20.0		104	70-130		
Ethyl ether	**21.6**		µg/kg		20.0		108	70-130		
Tert-amyl methyl ether	**20.0**		µg/kg		20.0		100	70-130		
Ethyl tert-butyl ether	**19.7**		µg/kg		20.0		98	70-130		
Di-isopropyl ether	**19.5**		µg/kg		20.0		97	70-130		
1,4-Dioxane	**180**		µg/kg		200		90	70-130		
Surrogate: 4-Bromofluorobenzene	*51.8*		µg/kg		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*49.9*		µg/kg		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.2*		µg/kg		*50.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*49.4*		µg/kg		*50.0*		*99*	*70-130*		
LCS Dup (1711813-BSD1)					Prepared & Analyzed: 12-Jul-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**21.3**		µg/kg		20.0		107	70-130	1	30
Acetone	**20.3**		µg/kg		20.0		102	70-130	4	30
Benzene	**22.0**		µg/kg		20.0		110	70-130	1	30
Bromobenzene	**20.9**		µg/kg		20.0		105	70-130	0.2	30
Bromochloromethane	**21.1**		µg/kg		20.0		105	70-130	2	30
Bromodichloromethane	**21.8**		µg/kg		20.0		109	70-130	3	30
Bromoform	**20.0**		µg/kg		20.0		100	70-130	0.4	30
Bromomethane	**24.0**		µg/kg		20.0		120	70-130	5	30
2-Butanone (MEK)	**19.0**		µg/kg		20.0		95	70-130	1	30
n-Butylbenzene	**17.9**		µg/kg		20.0		90	70-130	0.06	30
sec-Butylbenzene	**19.4**		µg/kg		20.0		97	70-130	3	30
tert-Butylbenzene	**19.6**		µg/kg		20.0		98	70-130	2	30
Carbon disulfide	**21.2**		µg/kg		20.0		106	70-130	2	30
Carbon tetrachloride	**22.3**		µg/kg		20.0		112	70-130	1	30
Chlorobenzene	**20.8**		µg/kg		20.0		104	70-130	1	30
Chloroethane	**19.7**		µg/kg		20.0		98	70-130	1	30
Chloroform	**20.8**		µg/kg		20.0		104	70-130	1	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1711813 - SW846 5035A Soil (low level)										
LCS Dup (1711813-BSD1)					Prepared & Analyzed: 12-Jul-17					
Chloromethane	**21.1**		µg/kg		20.0		106	70-130	4	30
2-Chlorotoluene	**21.6**		µg/kg		20.0		108	70-130	0.7	30
4-Chlorotoluene	**20.4**		µg/kg		20.0		102	70-130	2	30
1,2-Dibromo-3-chloropropane	**18.6**		µg/kg		20.0		93	70-130	1	30
Dibromochloromethane	**19.7**		µg/kg		20.0		98	70-130	0.1	30
1,2-Dibromoethane (EDB)	**20.8**		µg/kg		20.0		104	70-130	2	30
Dibromomethane	**21.0**		µg/kg		20.0		105	70-130	3	30
1,2-Dichlorobenzene	**19.8**		µg/kg		20.0		99	70-130	1	30
1,3-Dichlorobenzene	**21.1**		µg/kg		20.0		106	70-130	2	30
1,4-Dichlorobenzene	**20.4**		µg/kg		20.0		102	70-130	1	30
Dichlorodifluoromethane (Freon12)	**21.9**		µg/kg		20.0		110	70-130	2	30
1,1-Dichloroethane	**21.4**		µg/kg		20.0		107	70-130	2	30
1,2-Dichloroethane	**20.1**		µg/kg		20.0		101	70-130	4	30
1,1-Dichloroethene	**21.6**		µg/kg		20.0		108	70-130	3	30
cis-1,2-Dichloroethene	**21.4**		µg/kg		20.0		107	70-130	1	30
trans-1,2-Dichloroethene	**21.3**		µg/kg		20.0		106	70-130	0.7	30
1,2-Dichloropropane	**21.0**		µg/kg		20.0		105	70-130	1	30
1,3-Dichloropropane	**20.3**		µg/kg		20.0		101	70-130	0.5	30
2,2-Dichloropropane	**21.2**		µg/kg		20.0		106	70-130	3	30
1,1-Dichloropropene	**21.6**		µg/kg		20.0		108	70-130	0.6	30
cis-1,3-Dichloropropene	**18.7**		µg/kg		20.0		94	70-130	0.7	30
trans-1,3-Dichloropropene	**21.6**		µg/kg		20.0		108	70-130	0.5	30
Ethylbenzene	**21.4**		µg/kg		20.0		107	70-130	2	30
Hexachlorobutadiene	**19.4**		µg/kg		20.0		97	70-130	0.8	30
2-Hexanone (MBK)	**19.2**		µg/kg		20.0		96	70-130	0.1	30
Isopropylbenzene	**20.7**		µg/kg		20.0		104	70-130	2	30
4-Isopropyltoluene	**19.4**		µg/kg		20.0		97	70-130	1	30
Methyl tert-butyl ether	**20.0**		µg/kg		20.0		100	70-130	2	30
4-Methyl-2-pentanone (MIBK)	**18.8**		µg/kg		20.0		94	70-130	1	30
Methylene chloride	**20.7**		µg/kg		20.0		104	70-130	0.4	30
Naphthalene	**20.0**		µg/kg		20.0		100	70-130	1	30
n-Propylbenzene	**21.5**		µg/kg		20.0		108	70-130	2	30
Styrene	**18.9**		µg/kg		20.0		95	70-130	1	30
1,1,1,2-Tetrachloroethane	**21.4**		µg/kg		20.0		107	70-130	0.6	30
1,1,2,2-Tetrachloroethane	**20.3**		µg/kg		20.0		101	70-130	3	30
Tetrachloroethene	**20.1**		µg/kg		20.0		100	70-130	0.8	30
Toluene	**21.2**		µg/kg		20.0		106	70-130	0.8	30
1,2,3-Trichlorobenzene	**19.4**		µg/kg		20.0		97	70-130	0.3	30
1,2,4-Trichlorobenzene	**18.6**		µg/kg		20.0		93	70-130	0.8	30
1,1,1-Trichloroethane	**22.2**		µg/kg		20.0		111	70-130	0.4	30
1,1,2-Trichloroethane	**20.6**		µg/kg		20.0		103	70-130	0.1	30
Trichloroethene	**21.0**		µg/kg		20.0		105	70-130	4	30
Trichlorofluoromethane (Freon 11)	**21.1**		µg/kg		20.0		106	70-130	2	30
1,2,3-Trichloropropane	**20.7**		µg/kg		20.0		104	70-130	0.2	30
1,2,4-Trimethylbenzene	**18.9**		µg/kg		20.0		94	70-130	3	30
1,3,5-Trimethylbenzene	**19.6**		µg/kg		20.0		98	70-130	1	30
Vinyl chloride	**22.0**		µg/kg		20.0		110	70-130	1	30
m,p-Xylene	**21.6**		µg/kg		20.0		108	70-130	0.9	30
o-Xylene	**19.3**		µg/kg		20.0		96	70-130	0.8	30
Tetrahydrofuran	**21.4**		µg/kg		20.0		107	70-130	3	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1711813 - SW846 5035A Soil (low level)										
LCS Dup (1711813-BSD1)					Prepared & Analyzed: 12-Jul-17					
Ethyl ether	**22.0**		µg/kg		20.0		110	70-130	2	30
Tert-amyl methyl ether	**19.8**		µg/kg		20.0		99	70-130	0.7	30
Ethyl tert-butyl ether	**19.9**		µg/kg		20.0		99	70-130	0.9	30
Di-isopropyl ether	**19.8**		µg/kg		20.0		99	70-130	2	30
1,4-Dioxane	**195**		µg/kg		200		98	70-130	8	30
Surrogate: 4-Bromofluorobenzene	*50.6*		µg/kg		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*50.0*		µg/kg		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.4*		µg/kg		*50.0*		*97*	*70-130*		
Surrogate: Dibromofluoromethane	*49.0*		µg/kg		*50.0*		*98*	*70-130*		
Batch 1711929 - SW846 5035A Soil (low level)										
Blank (1711929-BLK1)					Prepared & Analyzed: 13-Jul-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00						
Acetone	< 50.0		µg/kg wet	50.0						
Benzene	< 5.00		µg/kg wet	5.00						
Bromobenzene	< 5.00		µg/kg wet	5.00						
Bromochloromethane	< 5.00		µg/kg wet	5.00						
Bromodichloromethane	< 5.00		µg/kg wet	5.00						
Bromoform	< 5.00		µg/kg wet	5.00						
Bromomethane	< 10.0		µg/kg wet	10.0						
2-Butanone (MEK)	< 10.0		µg/kg wet	10.0						
n-Butylbenzene	< 5.00		µg/kg wet	5.00						
sec-Butylbenzene	< 5.00		µg/kg wet	5.00						
tert-Butylbenzene	< 5.00		µg/kg wet	5.00						
Carbon disulfide	< 10.0		µg/kg wet	10.0						
Carbon tetrachloride	< 5.00		µg/kg wet	5.00						
Chlorobenzene	< 5.00		µg/kg wet	5.00						
Chloroethane	< 10.0		µg/kg wet	10.0						
Chloroform	< 5.00		µg/kg wet	5.00						
Chloromethane	< 10.0		µg/kg wet	10.0						
2-Chlorotoluene	< 5.00		µg/kg wet	5.00						
4-Chlorotoluene	< 5.00		µg/kg wet	5.00						
1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0						
Dibromochloromethane	< 5.00		µg/kg wet	5.00						
1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00						
Dibromomethane	< 5.00		µg/kg wet	5.00						
1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0						
1,1-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,2-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,1-Dichloroethene	< 5.00		µg/kg wet	5.00						
cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
1,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,3-Dichloropropane	< 5.00		µg/kg wet	5.00						
2,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,1-Dichloropropene	< 5.00		µg/kg wet	5.00						
cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1711929 - SW846 5035A Soil (low level)										
Blank (1711929-BLK1)					Prepared & Analyzed: 13-Jul-17					
Ethylbenzene	< 5.00		µg/kg wet	5.00						
Hexachlorobutadiene	< 5.00		µg/kg wet	5.00						
2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0						
Isopropylbenzene	< 5.00		µg/kg wet	5.00						
4-Isopropyltoluene	< 5.00		µg/kg wet	5.00						
Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0						
Methylene chloride	< 10.0		µg/kg wet	10.0						
Naphthalene	< 5.00		µg/kg wet	5.00						
n-Propylbenzene	< 5.00		µg/kg wet	5.00						
Styrene	< 5.00		µg/kg wet	5.00						
1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
Tetrachloroethene	< 5.00		µg/kg wet	5.00						
Toluene	< 5.00		µg/kg wet	5.00						
1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00						
1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00						
Trichloroethene	< 5.00		µg/kg wet	5.00						
Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00						
1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00						
1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
Vinyl chloride	< 5.00		µg/kg wet	5.00						
m,p-Xylene	< 10.0		µg/kg wet	10.0						
o-Xylene	< 5.00		µg/kg wet	5.00						
Tetrahydrofuran	< 10.0		µg/kg wet	10.0						
Ethyl ether	< 5.00		µg/kg wet	5.00						
Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00						
Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
Di-isopropyl ether	< 5.00		µg/kg wet	5.00						
1,4-Dioxane	< 100		µg/kg wet	100						
Surrogate: 4-Bromofluorobenzene	*46.3*		µg/kg		*50.0*		*93*	*70-130*		
Surrogate: Toluene-d8	*50.0*		µg/kg		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*58.6*		µg/kg		*50.0*		*117*	*70-130*		
Surrogate: Dibromofluoromethane	*52.2*		µg/kg		*50.0*		*104*	*70-130*		
LCS (1711929-BS1)					Prepared & Analyzed: 13-Jul-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**25.2**		µg/kg		20.0		126	70-130		
Acetone	**25.4**		µg/kg		20.0		127	70-130		
Benzene	**23.6**		µg/kg		20.0		118	70-130		
Bromobenzene	**22.0**		µg/kg		20.0		110	70-130		
Bromochloromethane	**21.7**		µg/kg		20.0		108	70-130		
Bromodichloromethane	**21.8**		µg/kg		20.0		109	70-130		
Bromoform	**21.0**		µg/kg		20.0		105	70-130		
Bromomethane	**26.4**		µg/kg		20.0		132	70-130		
2-Butanone (MEK)	**20.7**		µg/kg		20.0		104	70-130		
n-Butylbenzene	**23.4**		µg/kg		20.0		117	70-130		
sec-Butylbenzene	**22.4**		µg/kg		20.0		112	70-130		
tert-Butylbenzene	**21.4**		µg/kg		20.0		107	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1711929 - SW846 5035A Soil (low level)										
LCS (1711929-BS1)					Prepared & Analyzed: 13-Jul-17					
Carbon disulfide	**23.3**		µg/kg		20.0		116	70-130		
Carbon tetrachloride	**24.8**		µg/kg		20.0		124	70-130		
Chlorobenzene	**21.9**		µg/kg		20.0		110	70-130		
Chloroethane	**23.1**		µg/kg		20.0		115	70-130		
Chloroform	**21.7**		µg/kg		20.0		109	70-130		
Chloromethane	**21.5**		µg/kg		20.0		108	70-130		
2-Chlorotoluene	**23.6**		µg/kg		20.0		118	70-130		
4-Chlorotoluene	**22.8**		µg/kg		20.0		114	70-130		
1,2-Dibromo-3-chloropropane	**21.1**		µg/kg		20.0		106	70-130		
Dibromochloromethane	**20.6**		µg/kg		20.0		103	70-130		
1,2-Dibromoethane (EDB)	**21.6**		µg/kg		20.0		108	70-130		
Dibromomethane	**21.2**		µg/kg		20.0		106	70-130		
1,2-Dichlorobenzene	**21.2**		µg/kg		20.0		106	70-130		
1,3-Dichlorobenzene	**23.5**		µg/kg		20.0		118	70-130		
1,4-Dichlorobenzene	**22.0**		µg/kg		20.0		110	70-130		
Dichlorodifluoromethane (Freon12)	**23.1**		µg/kg		20.0		116	70-130		
1,1-Dichloroethane	**22.8**		µg/kg		20.0		114	70-130		
1,2-Dichloroethane	**21.2**		µg/kg		20.0		106	70-130		
1,1-Dichloroethene	**24.1**		µg/kg		20.0		120	70-130		
cis-1,2-Dichloroethene	**22.7**		µg/kg		20.0		113	70-130		
trans-1,2-Dichloroethene	**22.8**		µg/kg		20.0		114	70-130		
1,2-Dichloropropane	**21.4**		µg/kg		20.0		107	70-130		
1,3-Dichloropropane	**21.3**		µg/kg		20.0		107	70-130		
2,2-Dichloropropane	**25.8**		µg/kg		20.0		129	70-130		
1,1-Dichloropropene	**24.7**		µg/kg		20.0		123	70-130		
cis-1,3-Dichloropropene	**20.0**		µg/kg		20.0		100	70-130		
trans-1,3-Dichloropropene	**23.7**		µg/kg		20.0		118	70-130		
Ethylbenzene	**22.9**		µg/kg		20.0		114	70-130		
Hexachlorobutadiene	**23.8**		µg/kg		20.0		119	70-130		
2-Hexanone (MBK)	**19.8**		µg/kg		20.0		99	70-130		
Isopropylbenzene	**22.9**		µg/kg		20.0		114	70-130		
4-Isopropyltoluene	**22.6**		µg/kg		20.0		113	70-130		
Methyl tert-butyl ether	**21.1**		µg/kg		20.0		106	70-130		
4-Methyl-2-pentanone (MIBK)	**19.4**		µg/kg		20.0		97	70-130		
Methylene chloride	**21.4**		µg/kg		20.0		107	70-130		
Naphthalene	**21.4**		µg/kg		20.0		107	70-130		
n-Propylbenzene	**24.8**		µg/kg		20.0		124	70-130		
Styrene	**20.5**		µg/kg		20.0		103	70-130		
1,1,1,2-Tetrachloroethane	**22.0**		µg/kg		20.0		110	70-130		
1,1,2,2-Tetrachloroethane	**20.6**		µg/kg		20.0		103	70-130		
Tetrachloroethene	**23.3**		µg/kg		20.0		116	70-130		
Toluene	**22.7**		µg/kg		20.0		114	70-130		
1,2,3-Trichlorobenzene	**20.7**		µg/kg		20.0		104	70-130		
1,2,4-Trichlorobenzene	**21.8**		µg/kg		20.0		109	70-130		
1,1,1-Trichloroethane	**24.3**		µg/kg		20.0		121	70-130		
1,1,2-Trichloroethane	**21.5**		µg/kg		20.0		108	70-130		
Trichloroethene	**22.7**		µg/kg		20.0		114	70-130		
Trichlorofluoromethane (Freon 11)	**25.4**		µg/kg		20.0		127	70-130		
1,2,3-Trichloropropane	**22.0**		µg/kg		20.0		110	70-130		
1,2,4-Trimethylbenzene	**21.6**		µg/kg		20.0		108	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1711929 - SW846 5035A Soil (low level)										
LCS (1711929-BS1)					Prepared & Analyzed: 13-Jul-17					
1,3,5-Trimethylbenzene	**21.9**		µg/kg		20.0		109	70-130		
Vinyl chloride	**23.4**		µg/kg		20.0		117	70-130		
m,p-Xylene	**23.8**		µg/kg		20.0		119	70-130		
o-Xylene	**20.5**		µg/kg		20.0		102	70-130		
Tetrahydrofuran	**21.6**		µg/kg		20.0		108	70-130		
Ethyl ether	**22.6**		µg/kg		20.0		113	70-130		
Tert-amyl methyl ether	**22.0**		µg/kg		20.0		110	70-130		
Ethyl tert-butyl ether	**21.3**		µg/kg		20.0		107	70-130		
Di-isopropyl ether	**20.6**		µg/kg		20.0		103	70-130		
1,4-Dioxane	**191**		µg/kg		200		95	70-130		
Surrogate: 4-Bromofluorobenzene	*51.2*		µg/kg		*50.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*50.4*		µg/kg		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.6*		µg/kg		*50.0*		*97*	*70-130*		
Surrogate: Dibromofluoromethane	*49.7*		µg/kg		*50.0*		*99*	*70-130*		
LCS Dup (1711929-BSD1)					Prepared & Analyzed: 13-Jul-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**23.3**		µg/kg		20.0		116	70-130	8	30
Acetone	**22.3**		µg/kg		20.0		111	70-130	13	30
Benzene	**23.2**		µg/kg		20.0		116	70-130	2	30
Bromobenzene	**21.8**		µg/kg		20.0		109	70-130	0.8	30
Bromochloromethane	**21.6**		µg/kg		20.0		108	70-130	0.4	30
Bromodichloromethane	**21.4**		µg/kg		20.0		107	70-130	1	30
Bromoform	**21.0**		µg/kg		20.0		105	70-130	0.3	30
Bromomethane	**26.1**		µg/kg		20.0		131	70-130	1	30
2-Butanone (MEK)	**20.4**		µg/kg		20.0		102	70-130	2	30
n-Butylbenzene	**20.8**		µg/kg		20.0		104	70-130	12	30
sec-Butylbenzene	**21.3**		µg/kg		20.0		107	70-130	5	30
tert-Butylbenzene	**21.1**		µg/kg		20.0		106	70-130	1	30
Carbon disulfide	**22.5**		µg/kg		20.0		113	70-130	3	30
Carbon tetrachloride	**24.2**		µg/kg		20.0		121	70-130	2	30
Chlorobenzene	**21.5**		µg/kg		20.0		108	70-130	2	30
Chloroethane	**23.2**		µg/kg		20.0		116	70-130	0.5	30
Chloroform	**21.7**		µg/kg		20.0		109	70-130	0.1	30
Chloromethane	**21.0**		µg/kg		20.0		105	70-130	3	30
2-Chlorotoluene	**22.9**		µg/kg		20.0		114	70-130	3	30
4-Chlorotoluene	**21.8**		µg/kg		20.0		109	70-130	5	30
1,2-Dibromo-3-chloropropane	**20.4**		µg/kg		20.0		102	70-130	4	30
Dibromochloromethane	**20.2**		µg/kg		20.0		101	70-130	2	30
1,2-Dibromoethane (EDB)	**21.5**		µg/kg		20.0		108	70-130	0.5	30
Dibromomethane	**20.7**		µg/kg		20.0		103	70-130	2	30
1,2-Dichlorobenzene	**20.8**		µg/kg		20.0		104	70-130	2	30
1,3-Dichlorobenzene	**22.6**		µg/kg		20.0		113	70-130	4	30
1,4-Dichlorobenzene	**21.1**		µg/kg		20.0		105	70-130	4	30
Dichlorodifluoromethane (Freon12)	**21.6**		µg/kg		20.0		108	70-130	7	30
1,1-Dichloroethane	**22.3**		µg/kg		20.0		111	70-130	2	30
1,2-Dichloroethane	**21.4**		µg/kg		20.0		107	70-130	0.8	30
1,1-Dichloroethene	**23.3**		µg/kg		20.0		116	70-130	3	30
cis-1,2-Dichloroethene	**22.4**		µg/kg		20.0		112	70-130	0.9	30
trans-1,2-Dichloroethene	**22.6**		µg/kg		20.0		113	70-130	1	30
1,2-Dichloropropane	**21.4**		µg/kg		20.0		107	70-130	0.05	30
1,3-Dichloropropane	**21.2**		µg/kg		20.0		106	70-130	0.6	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1711929 - SW846 5035A Soil (low level)										
LCS Dup (1711929-BSD1)					Prepared & Analyzed: 13-Jul-17					
2,2-Dichloropropane	**24.9**		µg/kg		20.0		125	70-130	4	30
1,1-Dichloropropene	**23.1**		µg/kg		20.0		116	70-130	6	30
cis-1,3-Dichloropropene	**20.1**		µg/kg		20.0		100	70-130	0.1	30
trans-1,3-Dichloropropene	**23.0**		µg/kg		20.0		115	70-130	3	30
Ethylbenzene	**22.4**		µg/kg		20.0		112	70-130	2	30
Hexachlorobutadiene	**21.2**		µg/kg		20.0		106	70-130	12	30
2-Hexanone (MBK)	**20.5**		µg/kg		20.0		103	70-130	3	30
Isopropylbenzene	**22.1**		µg/kg		20.0		111	70-130	3	30
4-Isopropyltoluene	**21.4**		µg/kg		20.0		107	70-130	6	30
Methyl tert-butyl ether	**21.1**		µg/kg		20.0		105	70-130	0.3	30
4-Methyl-2-pentanone (MIBK)	**19.9**		µg/kg		20.0		100	70-130	2	30
Methylene chloride	**21.2**		µg/kg		20.0		106	70-130	1	30
Naphthalene	**21.2**		µg/kg		20.0		106	70-130	1	30
n-Propylbenzene	**23.4**		µg/kg		20.0		117	70-130	5	30
Styrene	**20.3**		µg/kg		20.0		102	70-130	1	30
1,1,1,2-Tetrachloroethane	**21.9**		µg/kg		20.0		109	70-130	0.7	30
1,1,2,2-Tetrachloroethane	**21.0**		µg/kg		20.0		105	70-130	2	30
Tetrachloroethene	**21.8**		µg/kg		20.0		109	70-130	7	30
Toluene	**22.1**		µg/kg		20.0		110	70-130	3	30
1,2,3-Trichlorobenzene	**20.5**		µg/kg		20.0		103	70-130	1	30
1,2,4-Trichlorobenzene	**20.6**		µg/kg		20.0		103	70-130	6	30
1,1,1-Trichloroethane	**23.7**		µg/kg		20.0		118	70-130	3	30
1,1,2-Trichloroethane	**21.2**		µg/kg		20.0		106	70-130	1	30
Trichloroethene	**21.6**		µg/kg		20.0		108	70-130	5	30
Trichlorofluoromethane (Freon 11)	**24.4**		µg/kg		20.0		122	70-130	4	30
1,2,3-Trichloropropane	**22.1**		µg/kg		20.0		110	70-130	0.5	30
1,2,4-Trimethylbenzene	**20.6**		µg/kg		20.0		103	70-130	4	30
1,3,5-Trimethylbenzene	**21.1**		µg/kg		20.0		105	70-130	4	30
Vinyl chloride	**22.7**		µg/kg		20.0		114	70-130	3	30
m,p-Xylene	**22.8**		µg/kg		20.0		114	70-130	4	30
o-Xylene	**20.2**		µg/kg		20.0		101	70-130	1	30
Tetrahydrofuran	**21.4**		µg/kg		20.0		107	70-130	0.9	30
Ethyl ether	**22.6**		µg/kg		20.0		113	70-130	0.1	30
Tert-amyl methyl ether	**21.5**		µg/kg		20.0		108	70-130	2	30
Ethyl tert-butyl ether	**21.2**		µg/kg		20.0		106	70-130	0.3	30
Di-isopropyl ether	**20.5**		µg/kg		20.0		102	70-130	0.5	30
1,4-Dioxane	**208**		µg/kg		200		104	70-130	9	30
Surrogate: 4-Bromofluorobenzene	*51.4*		µg/kg		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*50.3*		µg/kg		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.4*		µg/kg		*50.0*		*97*	*70-130*		
Surrogate: Dibromofluoromethane	*49.5*		µg/kg		*50.0*		*99*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1711803 - SW846 3546										
Blank (1711803-BLK1)						Prepared: 12-Jul-17 Analyzed: 14-Jul-17				
C9-C18 Aliphatic Hydrocarbons	< 9.94		mg/kg wet	9.94						
C19-C36 Aliphatic Hydrocarbons	< 9.94		mg/kg wet	9.94						
C11-C22 Aromatic Hydrocarbons	< 9.94		mg/kg wet	9.94						
Unadjusted C11-C22 Aromatic Hydrocarbons	< 9.94		mg/kg wet	9.94						
Total Petroleum Hydrocarbons	< 29.8		mg/kg wet	29.8						
Unadjusted Total Petroleum Hydrocarbons	< 29.8		mg/kg wet	29.8						
Surrogate: 1-Chlorooctadecane	*2.30*		mg/kg wet		*3.31*		*70*	*40-140*		
Surrogate: Ortho-Terphenyl	*2.98*		mg/kg wet		*3.31*		*90*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.46*		mg/kg wet		*2.65*		*93*	*40-140*		
LCS (1711803-BS1)						Prepared: 12-Jul-17 Analyzed: 14-Jul-17				
C9-C18 Aliphatic Hydrocarbons	**14.8**		mg/kg wet	9.89	19.8		75	40-140		
C19-C36 Aliphatic Hydrocarbons	**26.7**		mg/kg wet	9.89	26.4		101	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**49.8**		mg/kg wet	9.89	44.8		111	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.64			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.64			0-200		
Surrogate: 1-Chlorooctadecane	*1.73*		mg/kg wet		*3.30*		*52*	*40-140*		
Surrogate: Ortho-Terphenyl	*1.92*		mg/kg wet		*3.30*		*58*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*1.98*		mg/kg wet		*2.64*		*75*	*40-140*		
LCS (1711803-BS2)						Prepared: 12-Jul-17 Analyzed: 14-Jul-17				
C9-C18 Aliphatic Hydrocarbons	**21.3**		mg/kg wet	10.0	20.0		106	40-140		
C19-C36 Aliphatic Hydrocarbons	**28.0**		mg/kg wet	10.0	26.7		105	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**50.9**		mg/kg wet	10.0	45.3		112	40-140		
Surrogate: 1-Chlorooctadecane	*1.73*		mg/kg wet		*3.33*		*52*	*40-140*		
Surrogate: Ortho-Terphenyl	*1.74*		mg/kg wet		*3.33*		*52*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*1.84*		mg/kg wet		*2.67*		*69*	*40-140*		
LCS Dup (1711803-BSD1)						Prepared: 12-Jul-17 Analyzed: 14-Jul-17				
C9-C18 Aliphatic Hydrocarbons	**29.2**	QR2	mg/kg wet	9.95	39.8		73	40-140	65	25
C19-C36 Aliphatic Hydrocarbons	**45.7**	QR2	mg/kg wet	9.95	53.1		86	40-140	53	25
Unadjusted C11-C22 Aromatic Hydrocarbons	**48.7**		mg/kg wet	9.95	45.1		108	40-140	2	25
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		200
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		200
Surrogate: 1-Chlorooctadecane	*3.39*		mg/kg wet		*3.32*		*102*	*40-140*		
Surrogate: Ortho-Terphenyl	*1.66*		mg/kg wet		*3.32*		*50*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*1.90*		mg/kg wet		*2.65*		*72*	*40-140*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 6010C										
Batch 1711786 - SW846 3051A										
Blank (1711786-BLK1)					Prepared: 12-Jul-17 Analyzed: 13-Jul-17					
Copper	< 0.944		mg/kg wet	0.944						
Arsenic	< 1.42		mg/kg wet	1.42						
Chromium	< 0.944		mg/kg wet	0.944						
Lead	< 1.42		mg/kg wet	1.42						
Zinc	< 0.944		mg/kg wet	0.944						
Reference (1711786-SRM1)					Prepared & Analyzed: 12-Jul-17					
Chromium	**32.4**		mg/kg wet	1.00	32.9		98	79.1-121.1		
Lead	**36.9**		mg/kg wet	1.50	43.3		85	82-118		
Zinc	**96.0**		mg/kg wet	1.00	100		96	82.3-117.2		
Copper	**24.5**		mg/kg wet	1.00	28.6		86	80.5-119.7		
Arsenic	**26.5**		mg/kg wet	1.50	28.9		92	75.1-124.9		
Reference (1711786-SRM2)					Prepared & Analyzed: 12-Jul-17					
Arsenic	**26.0**		mg/kg wet	1.50	29.0		90	75.1-124.9		
Chromium	**29.9**		mg/kg wet	1.00	33.0		91	79.1-121.1		
Lead	**35.8**		mg/kg wet	1.50	43.5		82	82-118		
Copper	**23.6**		mg/kg wet	1.00	28.6		82	80.5-119.7		
Zinc	**90.6**		mg/kg wet	1.00	101		90	82.3-117.2		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW9012B										
Batch 393461A - 393461-										
BLK (BY57405-BLK)						Prepared: 12-Jul-17 Analyzed: 13-Jul-17				
Total Cyanide (SW9010C Distill.)	< 0.50		mg/Kg	0.50				-		
DUP (BY57405-DUP)			**Source: BY57405**			Prepared: 12-Jul-17 Analyzed: 13-Jul-17				
Total Cyanide (SW9010C Distill.)	< 0.53		mg/Kg	0.53				-	NC	20
LCS (BY57405-LCS)						Prepared: 12-Jul-17 Analyzed: 13-Jul-17				
Total Cyanide (SW9010C Distill.)	**0.2920**		mg/Kg	0.50	999984741		98.3	80-120		20
MS (BY57405-MS)			**Source: BY57405**			Prepared: 12-Jul-17 Analyzed: 13-Jul-17				
Total Cyanide (SW9010C Distill.)	**10.25**		mg/Kg	0.50	00000149(		102	75-125		20

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S706301				
Calibration Check (S706301-CCV1)				
C9-C18 Aliphatic Hydrocarbons	221358.9	235455.8	17.9	25
C19-C36 Aliphatic Hydrocarbons	199237.2	157321.2	0.1	25
Unadjusted C11-C22 Aromatic Hydrocarbons	188677	208506.5	21.8	25
Calibration Check (S706301-CCV2)				
C9-C18 Aliphatic Hydrocarbons	221358.9	232810.9	16.6	25
C19-C36 Aliphatic Hydrocarbons	199237.2	145517.2	-7.6	25
Unadjusted C11-C22 Aromatic Hydrocarbons	188677	175542.8	2.7	25

The following list indicates the date and time low-level VOC soil/sediment samples were placed in the freezer at the lab:

SC36812-02	*SP2_071017-1*	7/11/2017 4:40 PM
SC36812-03	*SP1_071017-1*	7/11/2017 4:40 PM

Notes and Definitions

D	Data reported from a dilution
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC36812-11

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 3 day per PO 17393
- All TATs subject to laboratory approval
- Min. 24-hr notification needed for rushes
- Samples disposed after 30 days unless otherwise instructed.

Report To: AECom
250 Apollo Dr.
Chelmsford, MA 01824

Telephone #: 978-905-2100
Project Mgr: Art Tadder

Invoice To:

P.O No.: Quote #:

Project No: 60478638.5.01
Site Name: LMC Wilmington
Location: 40 Fordham Rd Wilmington State: MA
Sampler(s): Tom Croft

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= ice 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	List Preservative Code below: 7,9 / 11 / 7 / 11	Analysis: VOCs	EPH (ice chem cmpds)	VPH (ice chem cmpds)	As, Cr, Cu, Pb, Zn, cyanide	Check if chlorinated
SC36812-11	TB-071017	7-10-17	1300	G	SO	2					X				☐
	ASP														☐
02	SP2_071017-1	7-10-17	1330	C	SO	2/3	1				X	X	X	X	☐
03	SP1_071017-1	7-10-17	1450	C	SO	2/3	1				X	X	X	X	☐
															☐
															☐
															☐
															☐
															☐
															☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other:
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp °C
	DBK	7-11-17	1427	Observed 1.6
	CD	7-11-17	1640	Correction Factor 0
				Corrected 1.6
				IR ID # 02

☐ EDD format:
☒ E-mail to: Lori.Herberich@aecom.com
Arthur.Tadder@aecom.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☒ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

'[none]'

Subcontracted Analyses

SC36812-02 (SP2_071017-1)
SC36812-03 (SP1_071017-1)

1711786

Total Metals by EPA 6000/7000 Series Methods

1711786-BLK1
1711786-SRM1
1711786-SRM2
SC36812-02 (SP2_071017-1)
SC36812-03 (SP1_071017-1)

1711803

Extractable Petroleum Hydrocarbons

1711803-BLK1
1711803-BS1
1711803-BS2
1711803-BSD1
SC36812-02 (SP2_071017-1)
SC36812-03 (SP1_071017-1)

1711813

Volatile Organic Compounds

1711813-BLK1
1711813-BS1
1711813-BSD1
SC36812-01 (TB-071017)
SC36812-02 (SP2_071017-1)

1711828

General Chemistry Parameters

SC36812-02 (SP2_071017-1)
SC36812-03 (SP1_071017-1)

1711913

Volatile Organic Compounds

1711913-BLK1
1711913-BS1
1711913-BSD1
SC36812-02 (SP2_071017-1)
SC36812-03 (SP1_071017-1)

1711929

Volatile Organic Compounds

1711929-BLK1
1711929-BS1
1711929-BSD1
SC36812-03 (SP1_071017-1)

393461A

Subcontracted Analyses

BY57405-BLK
BY57405-DUP
BY57405-LCS
BY57405-MS
SC36812-02 (SP2_071017-1)
SC36812-03 (SP1_071017-1)

S704286

Volatile Organic Compounds

S704286-CAL1
S704286-CAL2
S704286-CAL3
S704286-CAL4
S704286-CAL5
S704286-CAL6
S704286-CAL7
S704286-ICV1
S704286-LCV1

S705195

Extractable Petroleum Hydrocarbons

S705195-CAL1
S705195-CAL2
S705195-CAL3
S705195-CAL4
S705195-CAL5
S705195-CAL6
S705195-CAL7
S705195-CAL8
S705195-CAL9
S705195-ICV1
S705195-LCV1

S706189

Volatile Organic Compounds

S706189-CAL1
S706189-CAL2
S706189-CAL3
S706189-CAL4
S706189-CAL5
S706189-CAL6
S706189-CAL7
S706189-CAL8
S706189-CAL9
S706189-ICV1
S706189-LCV1
S706189-TUN1

S706203

Volatile Organic Compounds

S706203-CCV1
S706203-TUN1

S706227

Volatile Organic Compounds

S706227-CCV1
S706227-CCV2

S706238

Volatile Organic Compounds

S706238-CCV1
S706238-TUN1

S706301

Extractable Petroleum Hydrocarbons

S706301-CCV1
S706301-CCV2

eurofins | Spectrum Analytical

☐ Final Report
☑ Revised Report

Report Date:
20-Jul-17 14:35

Laboratory Report
SC36934

AECOM Environment
250 Apollo Drive
Chelmsford, MA 01824
Attn: Art Taddeo

Project: LMC-Wilmington- 40 Fordham Rd. - MA
Project #: 60478638.5.01

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Rebecca Merz
Quality Services Manager

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 31 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC36934

Project: LMC-Wilmington- 40 Fordham Rd. - MA

Project Number: 60478638.5.01

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC36934-01	TB-071217	Methanol/DI	12-Jul-17 12:00	13-Jul-17 17:53
SC36934-02	SP4-071217-1	Soil	12-Jul-17 12:40	13-Jul-17 17:53
SC36934-03	SP5-071217-1	Soil	12-Jul-17 13:30	13-Jul-17 17:53

The following outlines the condition of all VPH samples contained within this report upon laboratory receipt.

Matrices	Soil		
Containers	✓ Satisfactory		
Sample Preservative	**Aqueous** (acid preserved)	✓ N/A pH≤2 pH>2	
	Soil or Sediment	N/A Samples not received in Methanol	ml Methanol/g soil 1:1 +/-25% ✓ Other
		✓ Samples received in Methanol: ✓ covering soil/sediment not covering soil/sediment	
		Samples received in air-tight container	
Temperature	✓ Received on ice ✓ Received at 4 ± 2 ºC		

Were all QA/QC procedures followed as required by the VPH method? *Yes*
Were any significant modifications made to the VPH method as specified in section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrices	Soil
Containers	✓ Satisfactory
Aqueous Preservative	✓ N/A pH≤2 pH>2 pH adjusted to <2 in lab
Temperature	✓ Received on ice ✓ Received at 4 ± 2 ºC

Were all QA/QC procedures followed as required by the EPH method? *Yes*
Were any significant modifications made to the EPH method as specified in Section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

I attest that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Authorized by:

Christina A. White
Laboratory Director

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc. **Project #:** 60478638.5.01

Project Location: LMC-Wilmington- 40 Fordham Rd. - MA **RTN:**

This form provides certifications for the following data set: SC36934-01 through SC36934-03

Matrices: Methanol/DI
Soil

CAM Protocol

✓ 8260 VOC CAM II A	7470/7471 Hg CAM III B	✓ MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	✓ MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B

Affirmative responses to questions A through F are required for Presumptive Certainty status

A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	✓ Yes	No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	✓ Yes	No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	✓ Yes	No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	✓ Yes	No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	✓ Yes Yes	No No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?	✓ Yes	No

Responses to questions G, H and I below are required for Presumptive Certainty status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	Yes	✓ No

***Data User Note:* Data that achieve Presumptive Certainty status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	Yes	✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes	✓ No

All negative responses are addressed in a case narrative on the cover page of this report.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Christina A. White
Laboratory Director
Date: 7/20/2017

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 4.1 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

All VOC soils samples submitted and analyzed in methanol will have a minimum dilution factor of 50. This is the minimum amount of solvent allowed on the instrumentation without causing interference. Soils are run on a manual load instrument. 100ug of sample (MEOH) is spiked into 5ml DI water along with the surrogate and added directly onto the instrument. Additional dilution factors may be required to keep analyte concentration within instrument calibration range.

Method SW846 5035A is designed to use on samples containing low levels of VOCs, ranging from 0.5 to 200 ug/Kg. Target analytes that are less responsive to purge and trap may be present at concentrations over 200ug/Kg but may not be reportable in the methanol preserved vial (SW846 5030). This is the result of the inherent dilution factor required for the methanol preservation.

July 20, 2017 Report Revision Case Narrative:

This report has been revised to include the MA CAM certification form per client request.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

MADEP EPH 5/2004 R

Calibration:

1707035

Analyte quantified by quadratic equation type calibration.

Unadjusted C11-C22 Aromatic Hydrocarbons

This affected the following samples:

S706321-ICV1
S706321-ICV2

S706321-ICV3

Analyte percent recovery is outside individual acceptance criteria.

C19-C36 Aliphatic Hydrocarbons (78%)

MADEP EPH 5/2004 R

Calibration:

S706321-ICV3

This affected the following samples:

1712068-BLK1
1712068-BS1
1712068-BS2
1712068-BSD1
S706395-CCV1
S706395-CCV2
S706399-CCV1
S706399-CCV2
S706402-CCV1
S706402-CCV2
SP4-071217-1
SP5-071217-1

MADEP VPH 5/2004 Rev. 1.1

Samples:

SC36934-02 *SP4-071217-1*

The VOC preserved soil sample is not within the 1:1 weight to volume ratio as recommended by SW846 method 5035A but may be within the 1:1 volume to volume ratio. This variance may affect the final reporting limit.

SC36934-03 *SP5-071217-1*

The VOC preserved soil sample is not within the 1:1 weight to volume ratio as recommended by SW846 method 5035A but may be within the 1:1 volume to volume ratio. This variance may affect the final reporting limit.

SW846 6010C

Duplicates:

1712055-DUP1 *Source: SC36934-02*

The RPD exceeded the QC control limits; however precision is demonstrated with acceptable RPD values for MS/MSD.

Arsenic
Copper
Lead

SW846 8260C

Calibration:

1707022

SW846 8260C

Calibration:

1707022

Analyte quantified by quadratic equation type calibration.

1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
2-Hexanone (MBK)
4-Isopropyltoluene
Bromoform
cis-1,3-Dichloropropene
Ethyl tert-butyl ether
Naphthalene
n-Butylbenzene
o-Xylene
sec-Butylbenzene
Styrene
Tert-amyl methyl ether
tert-Butylbenzene

This affected the following samples:

1712161-BLK1
1712161-BS1
1712161-BSD1
S706189-ICV1
S706318-CCV1
SP4-071217-1
SP5-071217-1
TB-071217

Laboratory Control Samples:

1712161 BS/BSD

Carbon tetrachloride percent recoveries (136/135) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

SP4-071217-1
SP5-071217-1
TB-071217

Samples:

S706318-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,1,1,2-Tetrachloroethane (22.7%)
1,1,1-Trichloroethane (22.0%)
Bromomethane (25.9%)
Carbon tetrachloride (34.9%)
Trichlorofluoromethane (Freon 11) (22.6%)

Analyte percent drift is outside individual acceptance criteria (20), but within overall method allowances.

Bromoform (30.0%)

SW846 8260C

Samples:

S706318-CCV1

This affected the following samples:

1712161-BLK1
1712161-BS1
1712161-BSD1
SP4-071217-1
SP5-071217-1
TB-071217

SC36934-03 *SP5-071217-1*

Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogates with three required by program methods.

4-Bromofluorobenzene

Sample Acceptance Check Form

Client:	AECOM Environment - Chelmsford, MA
Project:	LMC-Wilmington- 40 Fordham Rd. - MA / 60478638.5.01
Work Order:	SC36934
Sample(s) received on:	7/13/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC36934-02 **Client ID:** SP4-071217-1

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
C11-C22 Aromatic Hydrocarbons	35.4		10.4	mg/kg	MADEP EPH 5/2004 R
C19-C36 Aliphatic Hydrocarbons	51.2		10.4	mg/kg	MADEP EPH 5/2004 R
Unadjusted C11-C22 Aromatic Hydrocarbons	35.6		10.4	mg/kg	MADEP EPH 5/2004 R
Total Solids @ 104C	93.6		0.1	%	SM2540B-97
Arsenic	7.20		1.60	mg/kg	SW846 6010C
Chromium	17.7		1.07	mg/kg	SW846 6010C
Copper	11.9		1.07	mg/kg	SW846 6010C
Lead	10.1		1.60	mg/kg	SW846 6010C
Zinc	44.8		1.07	mg/kg	SW846 6010C

Lab ID: SC36934-03 **Client ID:** SP5-071217-1

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
C11-C22 Aromatic Hydrocarbons	18.4		10.8	mg/kg	MADEP EPH 5/2004 R
C19-C36 Aliphatic Hydrocarbons	18.0		10.8	mg/kg	MADEP EPH 5/2004 R
Unadjusted C11-C22 Aromatic Hydrocarbons	18.4		10.8	mg/kg	MADEP EPH 5/2004 R
C5-C8 Aliphatic Hydrocarbons	3.40	D	1.82	mg/kg	MADEP VPH 5/2004 Rev. 1.1
C9-C10 Aromatic Hydrocarbons	19.0	D	0.606	mg/kg	MADEP VPH 5/2004 Rev. 1.1
C9-C12 Aliphatic Hydrocarbons	20.0	D	0.606	mg/kg	MADEP VPH 5/2004 Rev. 1.1
Unadjusted C5-C8 Aliphatic Hydrocarbons	3.51	D	1.82	mg/kg	MADEP VPH 5/2004 Rev. 1.1
Unadjusted C9-C12 Aliphatic Hydrocarbons	39.1	D	0.606	mg/kg	MADEP VPH 5/2004 Rev. 1.1
Total Solids @ 104C	91.2		0.1	%	SM2540B-97
Arsenic	7.72		1.54	mg/kg	SW846 6010C
Chromium	12.3		1.03	mg/kg	SW846 6010C
Copper	10.9		1.03	mg/kg	SW846 6010C
Lead	10.4		1.54	mg/kg	SW846 6010C
Zinc	25.4		1.03	mg/kg	SW846 6010C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-071217 SC36934-01	60478638.5.01	Methanol/DI	12-Jul-17 12:00	13-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5035A Soil (low level)													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00	2.54	1	SW846 8260C	17-Jul-17	17-Jul-17	MP	1712161	
67-64-1	Acetone	< 50.0		µg/kg wet	50.0	20.0	1	"	"	"	"	"	
71-43-2	Benzene	< 5.00		µg/kg wet	5.00	1.32	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 5.00		µg/kg wet	5.00	1.34	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 5.00		µg/kg wet	5.00	2.52	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.00		µg/kg wet	5.00	3.34	1	"	"	"	"	"	
75-25-2	Bromoform	< 5.00		µg/kg wet	5.00	4.77	1	"	"	"	"	"	
74-83-9	Bromomethane	< 10.0		µg/kg wet	10.0	4.52	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 10.0		µg/kg wet	10.0	8.94	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 5.00		µg/kg wet	5.00	1.43	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 5.00		µg/kg wet	5.00	0.91	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 5.00		µg/kg wet	5.00	1.12	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 10.0		µg/kg wet	10.0	3.20	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 5.00		µg/kg wet	5.00	4.09	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 5.00		µg/kg wet	5.00	1.56	1	"	"	"	"	"	
75-00-3	Chloroethane	< 10.0		µg/kg wet	10.0	2.78	1	"	"	"	"	"	
67-66-3	Chloroform	< 5.00		µg/kg wet	5.00	2.68	1	"	"	"	"	"	
74-87-3	Chloromethane	< 10.0		µg/kg wet	10.0	2.06	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 5.00		µg/kg wet	5.00	1.24	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 5.00		µg/kg wet	5.00	1.18	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0	7.22	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.00		µg/kg wet	5.00	3.39	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00	3.36	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 5.00		µg/kg wet	5.00	2.60	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.30	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.08	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.48	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0	1.90	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 5.00		µg/kg wet	5.00	1.31	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 5.00		µg/kg wet	5.00	1.79	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00	1.86	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00	2.65	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 5.00		µg/kg wet	5.00	2.59	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 5.00		µg/kg wet	5.00	2.36	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 5.00		µg/kg wet	5.00	1.61	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00	3.02	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.00		µg/kg wet	5.00	0.72	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 5.00		µg/kg wet	5.00	2.51	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0	6.14	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 5.00		µg/kg wet	5.00	0.98	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-071217 SC36934-01	60478638.5.01	Methanol/DI	12-Jul-17 12:00	13-Jul-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
99-87-6	4-Isopropyltoluene	< 5.00		µg/kg wet	5.00	1.08	1	SW846 8260C	17-Jul-17	17-Jul-17	MP	1712161	
1634-04-4	Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00	1.84	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0	2.57	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 10.0		µg/kg wet	10.0	1.98	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.00		µg/kg wet	5.00	2.98	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 5.00		µg/kg wet	5.00	0.81	1	"	"	"	"	"	
100-42-5	Styrene	< 5.00		µg/kg wet	5.00	1.00	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00	4.25	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00	4.23	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 5.00		µg/kg wet	5.00	1.71	1	"	"	"	"	"	
108-88-3	Toluene	< 5.00		µg/kg wet	5.00	1.62	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00	1.76	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00	3.68	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00	1.66	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00	3.62	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 5.00		µg/kg wet	5.00	1.36	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00	2.70	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00	3.75	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00	1.22	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00	0.86	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 5.00		µg/kg wet	5.00	1.69	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0		µg/kg wet	10.0	0.90	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.00		µg/kg wet	5.00	1.40	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 10.0		µg/kg wet	10.0	7.88	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.00		µg/kg wet	5.00	4.53	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00	1.67	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00	2.70	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 5.00		µg/kg wet	5.00	0.93	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 100		µg/kg wet	100	86.8	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*96*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*116*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*110*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP4-071217-1 SC36934-02	60478638.5.01	Soil	12-Jul-17 12:40	13-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			BD	1712115	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 3.73 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 7.66		µg/kg dry	7.66	3.88	1	SW846 8260C	17-Jul-17	17-Jul-17	MP	1712161	
67-64-1	Acetone	< 76.6		µg/kg dry	76.6	30.6	1	"	"	"	"	"	
71-43-2	Benzene	< 7.66		µg/kg dry	7.66	2.03	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 7.66		µg/kg dry	7.66	2.05	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 7.66		µg/kg dry	7.66	3.87	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 7.66		µg/kg dry	7.66	5.11	1	"	"	"	"	"	
75-25-2	Bromoform	< 7.66		µg/kg dry	7.66	7.31	1	"	"	"	"	"	
74-83-9	Bromomethane	< 15.3		µg/kg dry	15.3	6.92	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 15.3		µg/kg dry	15.3	13.7	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 7.66		µg/kg dry	7.66	2.19	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 7.66		µg/kg dry	7.66	1.39	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 7.66		µg/kg dry	7.66	1.72	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 15.3		µg/kg dry	15.3	4.90	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 7.66		µg/kg dry	7.66	6.27	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 7.66		µg/kg dry	7.66	2.40	1	"	"	"	"	"	
75-00-3	Chloroethane	< 15.3		µg/kg dry	15.3	4.25	1	"	"	"	"	"	
67-66-3	Chloroform	< 7.66		µg/kg dry	7.66	4.11	1	"	"	"	"	"	
74-87-3	Chloromethane	< 15.3		µg/kg dry	15.3	3.16	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 7.66		µg/kg dry	7.66	1.91	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 7.66		µg/kg dry	7.66	1.80	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 15.3		µg/kg dry	15.3	11.1	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 7.66		µg/kg dry	7.66	5.19	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 7.66		µg/kg dry	7.66	5.14	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 7.66		µg/kg dry	7.66	3.98	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 7.66		µg/kg dry	7.66	1.99	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 7.66		µg/kg dry	7.66	1.66	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 7.66		µg/kg dry	7.66	2.27	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 15.3		µg/kg dry	15.3	2.90	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 7.66		µg/kg dry	7.66	2.01	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 7.66		µg/kg dry	7.66	2.74	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 7.66		µg/kg dry	7.66	4.01	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 7.66		µg/kg dry	7.66	2.84	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 7.66		µg/kg dry	7.66	4.06	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 7.66		µg/kg dry	7.66	4.01	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 7.66		µg/kg dry	7.66	3.97	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 7.66		µg/kg dry	7.66	3.62	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 7.66		µg/kg dry	7.66	2.47	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 7.66		µg/kg dry	7.66	4.62	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 7.66		µg/kg dry	7.66	4.02	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 7.66		µg/kg dry	7.66	1.10	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP4-071217-1	60478638.5.01	Soil	12-Jul-17 12:40	13-Jul-17
SC36934-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260							Initial weight: 3.73 g						
87-68-3	Hexachlorobutadiene	< 7.66		µg/kg dry	7.66	3.84	1	SW846 8260C	17-Jul-17	17-Jul-17	MP	1712161	
591-78-6	2-Hexanone (MBK)	< 15.3		µg/kg dry	15.3	9.40	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 7.66		µg/kg dry	7.66	1.51	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 7.66		µg/kg dry	7.66	1.65	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 7.66		µg/kg dry	7.66	2.82	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 15.3		µg/kg dry	15.3	3.94	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 15.3		µg/kg dry	15.3	3.04	1	"	"	"	"	"	
91-20-3	Naphthalene	< 7.66		µg/kg dry	7.66	4.56	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 7.66		µg/kg dry	7.66	1.24	1	"	"	"	"	"	
100-42-5	Styrene	< 7.66		µg/kg dry	7.66	1.54	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 7.66		µg/kg dry	7.66	6.51	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 7.66		µg/kg dry	7.66	6.48	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 7.66		µg/kg dry	7.66	2.62	1	"	"	"	"	"	
108-88-3	Toluene	< 7.66		µg/kg dry	7.66	2.48	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 7.66		µg/kg dry	7.66	2.69	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 7.66		µg/kg dry	7.66	5.64	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 7.66		µg/kg dry	7.66	2.54	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 7.66		µg/kg dry	7.66	5.55	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 7.66		µg/kg dry	7.66	2.09	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 7.66		µg/kg dry	7.66	4.13	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 7.66		µg/kg dry	7.66	5.74	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 7.66		µg/kg dry	7.66	1.86	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 7.66		µg/kg dry	7.66	1.32	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 7.66		µg/kg dry	7.66	2.59	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 15.3		µg/kg dry	15.3	1.38	1	"	"	"	"	"	
95-47-6	o-Xylene	< 7.66		µg/kg dry	7.66	2.14	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 15.3		µg/kg dry	15.3	12.1	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 7.66		µg/kg dry	7.66	6.94	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 7.66		µg/kg dry	7.66	2.56	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 7.66		µg/kg dry	7.66	4.13	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 7.66		µg/kg dry	7.66	1.42	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 153		µg/kg dry	153	133	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*87*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*115*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*109*			*70-130 %*			"	"	"	"	"	
MADEP VPH Carbon Ranges			VC10										
Prepared by method VPH - EPA 5035A Soil							Initial weight: 7.11 g						
	C5-C8 Aliphatic Hydrocarbons	< 1.77	D	mg/kg dry	1.77	0.343	50	MADEP VPH 5/2004 Rev. 1.1	17-Jul-17	17-Jul-17	SD	1712047	
	C9-C12 Aliphatic Hydrocarbons	< 0.591	D	mg/kg dry	0.591	0.246	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP4-071217-1 SC36934-02	60478638.5.01	Soil	12-Jul-17 12:40	13-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH Carbon Ranges			VC10										
						Initial weight: 7.11 g							
	C9-C10 Aromatic Hydrocarbons	< 0.591	D	mg/kg dry	0.591	0.0717	50	MADEP VPH 5/2004 Rev. 1.1	17-Jul-17	17-Jul-17	SD	1712047	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 1.77	D	mg/kg dry	1.77	0.275	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.591	D	mg/kg dry	0.591	0.313	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*85*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*96*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Carbon Ranges Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 10.4		mg/kg dry	10.4	1.45	1	MADEP EPH 5/2004 R	14-Jul-17	18-Jul-17	EDT	1712068	
	C19-C36 Aliphatic Hydrocarbons	**51.2**		mg/kg dry	10.4	1.47	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	**35.4**		mg/kg dry	10.4	4.97	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	**35.6**		mg/kg dry	10.4	4.97	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*68*			*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*96*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*116*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods Prepared by method SW846 3050B													
7440-38-2	Arsenic	**7.20**		mg/kg dry	1.60	0.202	1	SW846 6010C	14-Jul-17	17-Jul-17	jmw/tbc	1712055	
7440-47-3	Chromium	**17.7**		mg/kg dry	1.07	0.142	1	"	"	"	"	"	
7440-50-8	Copper	**11.9**		mg/kg dry	1.07	0.256	1	"	"	18-Jul-17	"	"	
7439-92-1	Lead	**10.1**		mg/kg dry	1.60	0.226	1	"	"	"	"	"	
7440-66-6	Zinc	**44.8**		mg/kg dry	1.07	0.825	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**92.4**		%			1	SM2540 G (11) Mod.	14-Jul-17	14-Jul-17	BD	1712052	
Subcontracted Analyses Prepared by method 393815-SM2													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
	Total Solids @ 104C	**93.6**		%	0.1	0.1	1	SM2540B-97		17-Jul-17 09:51	MACT0	393815A	
Prepared by method 393958-													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
57-12-5	Total Cyanide (SW9010C Distill.)	< 0.53		mg/Kg	0.53	0.53	1	SW9012B	16-Jul-17	17-Jul-17 09:49	MACT0	393958A	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP5-071217-1 SC36934-03	60478638.5.01	Soil	12-Jul-17 13:30	13-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			BD	1712115	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 4.36 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 6.68		µg/kg dry	6.68	3.39	1	SW846 8260C	17-Jul-17	17-Jul-17	MP	1712161	
67-64-1	Acetone	< 66.8		µg/kg dry	66.8	26.7	1	"	"	"	"	"	
71-43-2	Benzene	< 6.68		µg/kg dry	6.68	1.77	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 6.68		µg/kg dry	6.68	1.78	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 6.68		µg/kg dry	6.68	3.37	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 6.68		µg/kg dry	6.68	4.46	1	"	"	"	"	"	
75-25-2	Bromoform	< 6.68		µg/kg dry	6.68	6.37	1	"	"	"	"	"	
74-83-9	Bromomethane	< 13.4		µg/kg dry	13.4	6.03	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 13.4		µg/kg dry	13.4	11.9	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 6.68		µg/kg dry	6.68	1.91	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 6.68		µg/kg dry	6.68	1.22	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 6.68		µg/kg dry	6.68	1.50	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 13.4		µg/kg dry	13.4	4.28	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 6.68		µg/kg dry	6.68	5.47	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 6.68		µg/kg dry	6.68	2.09	1	"	"	"	"	"	
75-00-3	Chloroethane	< 13.4		µg/kg dry	13.4	3.71	1	"	"	"	"	"	
67-66-3	Chloroform	< 6.68		µg/kg dry	6.68	3.59	1	"	"	"	"	"	
74-87-3	Chloromethane	< 13.4		µg/kg dry	13.4	2.76	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 6.68		µg/kg dry	6.68	1.66	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 6.68		µg/kg dry	6.68	1.57	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 13.4		µg/kg dry	13.4	9.65	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 6.68		µg/kg dry	6.68	4.53	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 6.68		µg/kg dry	6.68	4.48	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 6.68		µg/kg dry	6.68	3.47	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 6.68		µg/kg dry	6.68	1.74	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 6.68		µg/kg dry	6.68	1.45	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 6.68		µg/kg dry	6.68	1.98	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 13.4		µg/kg dry	13.4	2.53	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 6.68		µg/kg dry	6.68	1.75	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 6.68		µg/kg dry	6.68	2.39	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 6.68		µg/kg dry	6.68	3.49	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 6.68		µg/kg dry	6.68	2.48	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 6.68		µg/kg dry	6.68	3.54	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 6.68		µg/kg dry	6.68	3.50	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 6.68		µg/kg dry	6.68	3.46	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 6.68		µg/kg dry	6.68	3.15	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 6.68		µg/kg dry	6.68	2.15	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 6.68		µg/kg dry	6.68	4.03	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 6.68		µg/kg dry	6.68	3.51	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 6.68		µg/kg dry	6.68	0.96	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP5-071217-1	60478638.5.01	Soil	12-Jul-17 13:30	13-Jul-17
SC36934-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260							Initial weight: 4.36 g						
87-68-3	Hexachlorobutadiene	< 6.68		µg/kg dry	6.68	3.35	1	SW846 8260C	17-Jul-17	17-Jul-17	MP	1712161	
591-78-6	2-Hexanone (MBK)	< 13.4		µg/kg dry	13.4	8.20	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 6.68		µg/kg dry	6.68	1.32	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 6.68		µg/kg dry	6.68	1.44	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 6.68		µg/kg dry	6.68	2.46	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 13.4		µg/kg dry	13.4	3.43	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 13.4		µg/kg dry	13.4	2.65	1	"	"	"	"	"	
91-20-3	Naphthalene	< 6.68		µg/kg dry	6.68	3.98	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 6.68		µg/kg dry	6.68	1.08	1	"	"	"	"	"	
100-42-5	Styrene	< 6.68		µg/kg dry	6.68	1.34	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 6.68		µg/kg dry	6.68	5.68	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 6.68		µg/kg dry	6.68	5.65	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 6.68		µg/kg dry	6.68	2.28	1	"	"	"	"	"	
108-88-3	Toluene	< 6.68		µg/kg dry	6.68	2.16	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 6.68		µg/kg dry	6.68	2.35	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 6.68		µg/kg dry	6.68	4.92	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 6.68		µg/kg dry	6.68	2.22	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 6.68		µg/kg dry	6.68	4.84	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 6.68		µg/kg dry	6.68	1.82	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 6.68		µg/kg dry	6.68	3.60	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 6.68		µg/kg dry	6.68	5.01	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 6.68		µg/kg dry	6.68	1.62	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 6.68		µg/kg dry	6.68	1.15	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 6.68		µg/kg dry	6.68	2.26	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 13.4		µg/kg dry	13.4	1.20	1	"	"	"	"	"	
95-47-6	o-Xylene	< 6.68		µg/kg dry	6.68	1.87	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 13.4		µg/kg dry	13.4	10.5	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 6.68		µg/kg dry	6.68	6.05	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 6.68		µg/kg dry	6.68	2.23	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 6.68		µg/kg dry	6.68	3.60	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 6.68		µg/kg dry	6.68	1.24	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 134		µg/kg dry	134	116	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*254*	SGCMS VOC		*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*106*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*122*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*113*			*70-130 %*			"	"	"	"	"	
MADEP VPH Carbon Ranges			VC10										
Prepared by method VPH - EPA 5035A Soil							Initial weight: 6.99 g						
	C5-C8 Aliphatic Hydrocarbons	**3.40**	D	mg/kg dry	1.82	0.352	50	MADEP VPH 5/2004 Rev. 1.1	17-Jul-17	17-Jul-17	SD	1712047	
	C9-C12 Aliphatic Hydrocarbons	**20.0**	D	mg/kg dry	0.606	0.252	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP5-071217-1 SC36934-03	60478638.5.01	Soil	12-Jul-17 13:30	13-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH Carbon Ranges			VC10										
						Initial weight: 6.99 g							
	C9-C10 Aromatic Hydrocarbons	**19.0**	D	mg/kg dry	0.606	0.0736	50	MADEP VPH 5/2004 Rev. 1.1	17-Jul-17	17-Jul-17	SD	1712047	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	**3.51**	D	mg/kg dry	1.82	0.282	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	**39.1**	D	mg/kg dry	0.606	0.321	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*87*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*97*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Carbon Ranges Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 10.8		mg/kg dry	10.8	1.51	1	MADEP EPH 5/2004 R	14-Jul-17	18-Jul-17	EDT	1712068	
	C19-C36 Aliphatic Hydrocarbons	**18.0**		mg/kg dry	10.8	1.52	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	**18.4**		mg/kg dry	10.8	5.15	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	**18.4**		mg/kg dry	10.8	5.15	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*75*			*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*100*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*116*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3050B													
7440-38-2	Arsenic	**7.72**		mg/kg dry	1.54	0.196	1	SW846 6010C	14-Jul-17	17-Jul-17	jmw/tbc	1712055	
7440-47-3	Chromium	**12.3**		mg/kg dry	1.03	0.137	1	"	"	"	"	"	
7440-50-8	Copper	**10.9**		mg/kg dry	1.03	0.247	1	"	"	18-Jul-17	"	"	
7439-92-1	Lead	**10.4**		mg/kg dry	1.54	0.218	1	"	"	"	"	"	
7440-66-6	Zinc	**25.4**		mg/kg dry	1.03	0.797	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**91.9**		%			1	SM2540 G (11) Mod.	14-Jul-17	14-Jul-17	BD	1712052	
Subcontracted Analyses													
Prepared by method 393815-SM2													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
	Total Solids @ 104C	**91.2**		%	0.1	0.1	1	SM2540B-97		17-Jul-17 09:52	MACT0	393815A	
Prepared by method 393958-													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
57-12-5	Total Cyanide (SW9010C Distill.)	< 0.46		mg/Kg	0.46	0.46	1	SW9012B	16-Jul-17	17-Jul-17 09:50	MACT0	393958A	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP VPH 5/2004 Rev. 1.1										
Batch 1712047 - VPH - EPA 5035A Soil										
Blank (1712047-BLK1)						Prepared & Analyzed: 17-Jul-17				
C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
C9-C10 Aromatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Surrogate: 2,5-Dibromotoluene (FID)	*41.1*		µg/kg		*50.0*		*82*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*46.5*		µg/kg		*50.0*		*93*	*70-130*		
LCS (1712047-BS1)						Prepared & Analyzed: 17-Jul-17				
C5-C8 Aliphatic Hydrocarbons	**49.0**	D	µg/kg		60.0		82	70-130		
C9-C12 Aliphatic Hydrocarbons	**60.3**	D	µg/kg		60.0		100	70-130		
C9-C10 Aromatic Hydrocarbons	**20.2**	D	µg/kg		20.0		101	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**186**	D	µg/kg		200		93	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**80.5**	D	µg/kg		80.0		101	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*44.5*		µg/kg		*50.0*		*89*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*50.4*		µg/kg		*50.0*		*101*	*70-130*		
LCS Dup (1712047-BSD1)						Prepared & Analyzed: 17-Jul-17				
C5-C8 Aliphatic Hydrocarbons	**45.5**	D	µg/kg		60.0		76	70-130	7	25
C9-C12 Aliphatic Hydrocarbons	**60.4**	D	µg/kg		60.0		101	70-130	0.2	25
C9-C10 Aromatic Hydrocarbons	**21.2**	D	µg/kg		20.0		106	70-130	5	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**190**	D	µg/kg		200		95	70-130	2	25
Unadjusted C9-C12 Aliphatic Hydrocarbons	**81.6**	D	µg/kg		80.0		102	70-130	1	25
Surrogate: 2,5-Dibromotoluene (FID)	*43.9*		µg/kg		*50.0*		*88*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*49.7*		µg/kg		*50.0*		*99*	*70-130*		
SW846 8260C										
Batch 1712161 - SW846 5035A Soil (low level)										
Blank (1712161-BLK1)						Prepared & Analyzed: 17-Jul-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00						
Acetone	< 50.0		µg/kg wet	50.0						
Benzene	< 5.00		µg/kg wet	5.00						
Bromobenzene	< 5.00		µg/kg wet	5.00						
Bromochloromethane	< 5.00		µg/kg wet	5.00						
Bromodichloromethane	< 5.00		µg/kg wet	5.00						
Bromoform	< 5.00		µg/kg wet	5.00						
Bromomethane	< 10.0		µg/kg wet	10.0						
2-Butanone (MEK)	< 10.0		µg/kg wet	10.0						
n-Butylbenzene	< 5.00		µg/kg wet	5.00						
sec-Butylbenzene	< 5.00		µg/kg wet	5.00						
tert-Butylbenzene	< 5.00		µg/kg wet	5.00						
Carbon disulfide	< 10.0		µg/kg wet	10.0						
Carbon tetrachloride	< 5.00		µg/kg wet	5.00						
Chlorobenzene	< 5.00		µg/kg wet	5.00						
Chloroethane	< 10.0		µg/kg wet	10.0						
Chloroform	< 5.00		µg/kg wet	5.00						
Chloromethane	< 10.0		µg/kg wet	10.0						
2-Chlorotoluene	< 5.00		µg/kg wet	5.00						
4-Chlorotoluene	< 5.00		µg/kg wet	5.00						
1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712161 - SW846 5035A Soil (low level)										
Blank (1712161-BLK1)					Prepared & Analyzed: 17-Jul-17					
Dibromochloromethane	< 5.00		µg/kg wet	5.00						
1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00						
Dibromomethane	< 5.00		µg/kg wet	5.00						
1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0						
1,1-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,2-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,1-Dichloroethene	< 5.00		µg/kg wet	5.00						
cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
1,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,3-Dichloropropane	< 5.00		µg/kg wet	5.00						
2,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,1-Dichloropropene	< 5.00		µg/kg wet	5.00						
cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
Ethylbenzene	< 5.00		µg/kg wet	5.00						
Hexachlorobutadiene	< 5.00		µg/kg wet	5.00						
2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0						
Isopropylbenzene	< 5.00		µg/kg wet	5.00						
4-Isopropyltoluene	< 5.00		µg/kg wet	5.00						
Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0						
Methylene chloride	< 10.0		µg/kg wet	10.0						
Naphthalene	< 5.00		µg/kg wet	5.00						
n-Propylbenzene	< 5.00		µg/kg wet	5.00						
Styrene	< 5.00		µg/kg wet	5.00						
1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
Tetrachloroethene	< 5.00		µg/kg wet	5.00						
Toluene	< 5.00		µg/kg wet	5.00						
1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00						
1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00						
Trichloroethene	< 5.00		µg/kg wet	5.00						
Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00						
1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00						
1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
Vinyl chloride	< 5.00		µg/kg wet	5.00						
m,p-Xylene	< 10.0		µg/kg wet	10.0						
o-Xylene	< 5.00		µg/kg wet	5.00						
Tetrahydrofuran	< 10.0		µg/kg wet	10.0						
Ethyl ether	< 5.00		µg/kg wet	5.00						
Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00						
Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
Di-isopropyl ether	< 5.00		µg/kg wet	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712161 - SW846 5035A Soil (low level)										
Blank (1712161-BLK1)							Prepared & Analyzed: 17-Jul-17			
1,4-Dioxane	< 100		µg/kg wet	100						
Surrogate: 4-Bromofluorobenzene	*45.0*		µg/kg		*50.0*		*90*	*70-130*		
Surrogate: Toluene-d8	*50.6*		µg/kg		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*59.9*		µg/kg		*50.0*		*120*	*70-130*		
Surrogate: Dibromofluoromethane	*57.1*		µg/kg		*50.0*		*114*	*70-130*		
LCS (1712161-BS1)							Prepared & Analyzed: 17-Jul-17			
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.6**		µg/kg		20.0		103	70-130		
Acetone	**22.3**		µg/kg		20.0		111	70-130		
Benzene	**22.9**		µg/kg		20.0		115	70-130		
Bromobenzene	**22.7**		µg/kg		20.0		114	70-130		
Bromochloromethane	**22.2**		µg/kg		20.0		111	70-130		
Bromodichloromethane	**22.9**		µg/kg		20.0		114	70-130		
Bromoform	**25.3**		µg/kg		20.0		127	70-130		
Bromomethane	**24.4**		µg/kg		20.0		122	70-130		
2-Butanone (MEK)	**18.9**		µg/kg		20.0		94	70-130		
n-Butylbenzene	**18.6**		µg/kg		20.0		93	70-130		
sec-Butylbenzene	**21.8**		µg/kg		20.0		109	70-130		
tert-Butylbenzene	**21.3**		µg/kg		20.0		107	70-130		
Carbon disulfide	**20.6**		µg/kg		20.0		103	70-130		
Carbon tetrachloride	**27.1**	QC2	µg/kg		20.0		136	70-130		
Chlorobenzene	**22.3**		µg/kg		20.0		112	70-130		
Chloroethane	**21.6**		µg/kg		20.0		108	70-130		
Chloroform	**21.9**		µg/kg		20.0		110	70-130		
Chloromethane	**21.4**		µg/kg		20.0		107	70-130		
2-Chlorotoluene	**22.7**		µg/kg		20.0		114	70-130		
4-Chlorotoluene	**21.7**		µg/kg		20.0		109	70-130		
1,2-Dibromo-3-chloropropane	**18.6**		µg/kg		20.0		93	70-130		
Dibromochloromethane	**22.9**		µg/kg		20.0		114	70-130		
1,2-Dibromoethane (EDB)	**21.1**		µg/kg		20.0		105	70-130		
Dibromomethane	**21.4**		µg/kg		20.0		107	70-130		
1,2-Dichlorobenzene	**20.4**		µg/kg		20.0		102	70-130		
1,3-Dichlorobenzene	**23.2**		µg/kg		20.0		116	70-130		
1,4-Dichlorobenzene	**21.0**		µg/kg		20.0		105	70-130		
Dichlorodifluoromethane (Freon12)	**22.8**		µg/kg		20.0		114	70-130		
1,1-Dichloroethane	**22.4**		µg/kg		20.0		112	70-130		
1,2-Dichloroethane	**20.8**		µg/kg		20.0		104	70-130		
1,1-Dichloroethene	**20.4**		µg/kg		20.0		102	70-130		
cis-1,2-Dichloroethene	**22.4**		µg/kg		20.0		112	70-130		
trans-1,2-Dichloroethene	**22.2**		µg/kg		20.0		111	70-130		
1,2-Dichloropropane	**20.9**		µg/kg		20.0		105	70-130		
1,3-Dichloropropane	**20.0**		µg/kg		20.0		100	70-130		
2,2-Dichloropropane	**22.7**		µg/kg		20.0		114	70-130		
1,1-Dichloropropene	**22.7**		µg/kg		20.0		114	70-130		
cis-1,3-Dichloropropene	**19.1**		µg/kg		20.0		96	70-130		
trans-1,3-Dichloropropene	**22.5**		µg/kg		20.0		112	70-130		
Ethylbenzene	**22.9**		µg/kg		20.0		114	70-130		
Hexachlorobutadiene	**21.4**		µg/kg		20.0		107	70-130		
2-Hexanone (MBK)	**17.2**		µg/kg		20.0		86	70-130		
Isopropylbenzene	**22.5**		µg/kg		20.0		113	70-130		
4-Isopropyltoluene	**20.3**		µg/kg		20.0		102	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712161 - SW846 5035A Soil (low level)										
LCS (1712161-BS1)						Prepared & Analyzed: 17-Jul-17				
Methyl tert-butyl ether	**19.1**		µg/kg		20.0		96	70-130		
4-Methyl-2-pentanone (MIBK)	**17.0**		µg/kg		20.0		85	70-130		
Methylene chloride	**21.2**		µg/kg		20.0		106	70-130		
Naphthalene	**19.2**		µg/kg		20.0		96	70-130		
n-Propylbenzene	**23.6**		µg/kg		20.0		118	70-130		
Styrene	**20.4**		µg/kg		20.0		102	70-130		
1,1,1,2-Tetrachloroethane	**24.7**		µg/kg		20.0		124	70-130		
1,1,2,2-Tetrachloroethane	**20.5**		µg/kg		20.0		102	70-130		
Tetrachloroethene	**22.2**		µg/kg		20.0		111	70-130		
Toluene	**21.8**		µg/kg		20.0		109	70-130		
1,2,3-Trichlorobenzene	**19.1**		µg/kg		20.0		96	70-130		
1,2,4-Trichlorobenzene	**18.9**		µg/kg		20.0		95	70-130		
1,1,1-Trichloroethane	**24.6**		µg/kg		20.0		123	70-130		
1,1,2-Trichloroethane	**20.6**		µg/kg		20.0		103	70-130		
Trichloroethene	**22.5**		µg/kg		20.0		112	70-130		
Trichlorofluoromethane (Freon 11)	**25.0**		µg/kg		20.0		125	70-130		
1,2,3-Trichloropropane	**21.8**		µg/kg		20.0		109	70-130		
1,2,4-Trimethylbenzene	**20.8**		µg/kg		20.0		104	70-130		
1,3,5-Trimethylbenzene	**21.3**		µg/kg		20.0		107	70-130		
Vinyl chloride	**22.7**		µg/kg		20.0		113	70-130		
m,p-Xylene	**23.3**		µg/kg		20.0		117	70-130		
o-Xylene	**20.3**		µg/kg		20.0		102	70-130		
Tetrahydrofuran	**19.5**		µg/kg		20.0		98	70-130		
Ethyl ether	**17.4**		µg/kg		20.0		87	70-130		
Tert-amyl methyl ether	**20.2**		µg/kg		20.0		101	70-130		
Ethyl tert-butyl ether	**19.3**		µg/kg		20.0		96	70-130		
Di-isopropyl ether	**18.7**		µg/kg		20.0		94	70-130		
1,4-Dioxane	**190**		µg/kg		200		95	70-130		
Surrogate: 4-Bromofluorobenzene	*52.0*		µg/kg		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*49.2*		µg/kg		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*46.9*		µg/kg		*50.0*		*94*	*70-130*		
Surrogate: Dibromofluoromethane	*50.3*		µg/kg		*50.0*		*101*	*70-130*		
LCS Dup (1712161-BSD1)						Prepared & Analyzed: 17-Jul-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**23.6**		µg/kg		20.0		118	70-130	14	30
Acetone	**21.2**		µg/kg		20.0		106	70-130	5	30
Benzene	**22.3**		µg/kg		20.0		111	70-130	3	30
Bromobenzene	**22.9**		µg/kg		20.0		114	70-130	0.7	30
Bromochloromethane	**22.4**		µg/kg		20.0		112	70-130	1	30
Bromodichloromethane	**22.8**		µg/kg		20.0		114	70-130	0.3	30
Bromoform	**26.0**		µg/kg		20.0		130	70-130	3	30
Bromomethane	**25.2**		µg/kg		20.0		126	70-130	3	30
2-Butanone (MEK)	**19.1**		µg/kg		20.0		95	70-130	1	30
n-Butylbenzene	**18.0**		µg/kg		20.0		90	70-130	4	30
sec-Butylbenzene	**21.4**		µg/kg		20.0		107	70-130	2	30
tert-Butylbenzene	**21.0**		µg/kg		20.0		105	70-130	2	30
Carbon disulfide	**23.6**		µg/kg		20.0		118	70-130	14	30
Carbon tetrachloride	**27.0**	QC2	µg/kg		20.0		135	70-130	0.6	30
Chlorobenzene	**22.2**		µg/kg		20.0		111	70-130	0.7	30
Chloroethane	**21.7**		µg/kg		20.0		109	70-130	0.6	30
Chloroform	**21.9**		µg/kg		20.0		109	70-130	0.2	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712161 - SW846 5035A Soil (low level)										
LCS Dup (1712161-BSD1)					Prepared & Analyzed: 17-Jul-17					
Chloromethane	**21.0**		µg/kg		20.0		105	70-130	2	30
2-Chlorotoluene	**22.4**		µg/kg		20.0		112	70-130	1	30
4-Chlorotoluene	**21.3**		µg/kg		20.0		106	70-130	2	30
1,2-Dibromo-3-chloropropane	**18.2**		µg/kg		20.0		91	70-130	2	30
Dibromochloromethane	**23.3**		µg/kg		20.0		117	70-130	2	30
1,2-Dibromoethane (EDB)	**21.4**		µg/kg		20.0		107	70-130	2	30
Dibromomethane	**21.5**		µg/kg		20.0		107	70-130	0.3	30
1,2-Dichlorobenzene	**20.0**		µg/kg		20.0		100	70-130	2	30
1,3-Dichlorobenzene	**22.7**		µg/kg		20.0		114	70-130	2	30
1,4-Dichlorobenzene	**20.6**		µg/kg		20.0		103	70-130	2	30
Dichlorodifluoromethane (Freon12)	**22.6**		µg/kg		20.0		113	70-130	0.8	30
1,1-Dichloroethane	**22.4**		µg/kg		20.0		112	70-130	0.04	30
1,2-Dichloroethane	**20.8**		µg/kg		20.0		104	70-130	0.3	30
1,1-Dichloroethene	**22.4**		µg/kg		20.0		112	70-130	10	30
cis-1,2-Dichloroethene	**22.4**		µg/kg		20.0		112	70-130	0.09	30
trans-1,2-Dichloroethene	**22.1**		µg/kg		20.0		111	70-130	0.1	30
1,2-Dichloropropane	**21.1**		µg/kg		20.0		106	70-130	0.9	30
1,3-Dichloropropane	**20.3**		µg/kg		20.0		102	70-130	2	30
2,2-Dichloropropane	**22.5**		µg/kg		20.0		112	70-130	1	30
1,1-Dichloropropene	**22.9**		µg/kg		20.0		114	70-130	0.7	30
cis-1,3-Dichloropropene	**19.2**		µg/kg		20.0		96	70-130	0.6	30
trans-1,3-Dichloropropene	**22.6**		µg/kg		20.0		113	70-130	0.7	30
Ethylbenzene	**22.6**		µg/kg		20.0		113	70-130	1	30
Hexachlorobutadiene	**20.2**		µg/kg		20.0		101	70-130	6	30
2-Hexanone (MBK)	**18.2**		µg/kg		20.0		91	70-130	6	30
Isopropylbenzene	**22.0**		µg/kg		20.0		110	70-130	2	30
4-Isopropyltoluene	**19.8**		µg/kg		20.0		99	70-130	3	30
Methyl tert-butyl ether	**20.1**		µg/kg		20.0		101	70-130	5	30
4-Methyl-2-pentanone (MIBK)	**17.4**		µg/kg		20.0		87	70-130	2	30
Methylene chloride	**21.4**		µg/kg		20.0		107	70-130	1	30
Naphthalene	**18.9**		µg/kg		20.0		94	70-130	2	30
n-Propylbenzene	**22.7**		µg/kg		20.0		114	70-130	4	30
Styrene	**20.4**		µg/kg		20.0		102	70-130	0.05	30
1,1,1,2-Tetrachloroethane	**24.5**		µg/kg		20.0		123	70-130	0.7	30
1,1,2,2-Tetrachloroethane	**21.1**		µg/kg		20.0		106	70-130	3	30
Tetrachloroethene	**21.8**		µg/kg		20.0		109	70-130	2	30
Toluene	**22.1**		µg/kg		20.0		111	70-130	1	30
1,2,3-Trichlorobenzene	**18.8**		µg/kg		20.0		94	70-130	2	30
1,2,4-Trichlorobenzene	**18.3**		µg/kg		20.0		91	70-130	3	30
1,1,1-Trichloroethane	**24.4**		µg/kg		20.0		122	70-130	0.7	30
1,1,2-Trichloroethane	**21.3**		µg/kg		20.0		107	70-130	3	30
Trichloroethene	**22.3**		µg/kg		20.0		111	70-130	0.9	30
Trichlorofluoromethane (Freon 11)	**24.5**		µg/kg		20.0		123	70-130	2	30
1,2,3-Trichloropropane	**22.2**		µg/kg		20.0		111	70-130	1	30
1,2,4-Trimethylbenzene	**20.4**		µg/kg		20.0		102	70-130	2	30
1,3,5-Trimethylbenzene	**21.2**		µg/kg		20.0		106	70-130	0.6	30
Vinyl chloride	**22.5**		µg/kg		20.0		112	70-130	1	30
m,p-Xylene	**22.8**		µg/kg		20.0		114	70-130	2	30
o-Xylene	**19.8**		µg/kg		20.0		99	70-130	2	30
Tetrahydrofuran	**20.8**		µg/kg		20.0		104	70-130	6	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712161 - SW846 5035A Soil (low level)										
LCS Dup (1712161-BSD1)					Prepared & Analyzed: 17-Jul-17					
Ethyl ether	**21.7**		µg/kg		20.0		108	70-130	22	30
Tert-amyl methyl ether	**20.8**		µg/kg		20.0		104	70-130	3	30
Ethyl tert-butyl ether	**19.6**		µg/kg		20.0		98	70-130	2	30
Di-isopropyl ether	**19.0**		µg/kg		20.0		95	70-130	2	30
1,4-Dioxane	**187**		µg/kg		200		93	70-130	2	30
Surrogate: 4-Bromofluorobenzene	*52.2*		µg/kg		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*49.7*		µg/kg		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*47.4*		µg/kg		*50.0*		*95*	*70-130*		
Surrogate: Dibromofluoromethane	*51.0*		µg/kg		*50.0*		*102*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1712068 - SW846 3546										
Blank (1712068-BLK1)						Prepared: 14-Jul-17 Analyzed: 18-Jul-17				
C9-C18 Aliphatic Hydrocarbons	< 9.87		mg/kg wet	9.87						
C19-C36 Aliphatic Hydrocarbons	< 9.87		mg/kg wet	9.87						
C11-C22 Aromatic Hydrocarbons	< 9.87		mg/kg wet	9.87						
Unadjusted C11-C22 Aromatic Hydrocarbons	< 9.87		mg/kg wet	9.87						
Total Petroleum Hydrocarbons	< 29.6		mg/kg wet	29.6						
Unadjusted Total Petroleum Hydrocarbons	< 29.6		mg/kg wet	29.6						
Surrogate: 1-Chlorooctadecane	*4.06*		mg/kg wet		*6.58*		*62*	*40-140*		
Surrogate: Ortho-Terphenyl	*5.16*		mg/kg wet		*6.58*		*78*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.35*		mg/kg wet		*2.63*		*89*	*40-140*		
LCS (1712068-BS1)						Prepared: 14-Jul-17 Analyzed: 18-Jul-17				
C9-C18 Aliphatic Hydrocarbons	**15.5**		mg/kg wet	9.99	20.0		78	40-140		
C19-C36 Aliphatic Hydrocarbons	**23.3**		mg/kg wet	9.99	26.7		87	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**44.4**		mg/kg wet	9.99	45.3		98	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.67			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.67			0-200		
Surrogate: 1-Chlorooctadecane	*2.21*		mg/kg wet		*3.33*		*66*	*40-140*		
Surrogate: Ortho-Terphenyl	*4.67*		mg/kg wet		*3.33*		*140*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.53*		mg/kg wet		*2.67*		*95*	*40-140*		
LCS (1712068-BS2)						Prepared: 14-Jul-17 Analyzed: 17-Jul-17				
C9-C18 Aliphatic Hydrocarbons	**21.1**		mg/kg wet	10.0	20.0		105	40-140		
C19-C36 Aliphatic Hydrocarbons	**18.0**		mg/kg wet	10.0	26.7		68	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**38.2**		mg/kg wet	10.0	45.3		84	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.67			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.67			0-200		
Surrogate: 1-Chlorooctadecane	*2.58*		mg/kg wet		*3.33*		*77*	*40-140*		
Surrogate: Ortho-Terphenyl	*4.11*		mg/kg wet		*3.33*		*123*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.41*		mg/kg wet		*2.67*		*90*	*40-140*		
LCS Dup (1712068-BSD1)						Prepared: 14-Jul-17 Analyzed: 18-Jul-17				
C9-C18 Aliphatic Hydrocarbons	**17.4**		mg/kg wet	9.95	19.9		88	40-140	12	25
C19-C36 Aliphatic Hydrocarbons	**23.3**		mg/kg wet	9.95	26.5		88	40-140	0.1	25
Unadjusted C11-C22 Aromatic Hydrocarbons	**46.6**		mg/kg wet	9.95	45.1		103	40-140	5	25
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		200
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		200
Surrogate: 1-Chlorooctadecane	*2.25*		mg/kg wet		*3.32*		*68*	*40-140*		
Surrogate: Ortho-Terphenyl	*4.58*		mg/kg wet		*3.32*		*138*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.54*		mg/kg wet		*2.65*		*96*	*40-140*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 6010C										
Batch 1712055 - SW846 3050B										
Blank (1712055-BLK1)					Prepared: 14-Jul-17 Analyzed: 18-Jul-17					
Zinc	< 0.942		mg/kg wet	0.942						
Lead	< 1.41		mg/kg wet	1.41						
Copper	< 0.942		mg/kg wet	0.942						
Chromium	< 0.942		mg/kg wet	0.942						
Arsenic	< 1.41		mg/kg wet	1.41						
Duplicate (1712055-DUP1)			**Source: SC36934-02**		Prepared: 14-Jul-17 Analyzed: 18-Jul-17					
Lead	**12.5**	QR6	mg/kg dry	1.48		10.1			21	20
Copper	**14.7**	QR6	mg/kg dry	0.984		11.9			21	20
Chromium	**15.4**		mg/kg dry	0.984		17.7			14	20
Arsenic	**11.6**	QR6	mg/kg dry	1.48		7.20			47	20
Zinc	**41.1**		mg/kg dry	0.984		44.8			9	20
Matrix Spike (1712055-MS1)			**Source: SC36934-02**		Prepared: 14-Jul-17 Analyzed: 18-Jul-17					
Copper	**149**		mg/kg dry	1.08	135	11.9	102	75-125		
Arsenic	**122**		mg/kg dry	1.62	135	7.20	85	75-125		
Chromium	**137**		mg/kg dry	1.08	135	17.7	89	75-125		
Lead	**118**		mg/kg dry	1.62	135	10.1	80	75-125		
Zinc	**152**		mg/kg dry	1.08	135	44.8	80	75-125		
Matrix Spike Dup (1712055-MSD1)			**Source: SC36934-02**		Prepared: 14-Jul-17 Analyzed: 17-Jul-17					
Arsenic	**114**		mg/kg dry	1.50	125	7.20	85	75-125	7	20
Chromium	**124**		mg/kg dry	1.00	125	17.7	85	75-125	10	20
Copper	**142**		mg/kg dry	1.00	125	11.9	104	75-125	5	20
Lead	**109**		mg/kg dry	1.50	125	10.1	79	75-125	8	20
Zinc	**150**		mg/kg dry	1.00	125	44.8	84	75-125	1	20
Post Spike (1712055-PS1)			**Source: SC36934-02**		Prepared: 14-Jul-17 Analyzed: 18-Jul-17					
Copper	**145**		mg/kg dry	1.07	133	11.9	100	80-120		
Lead	**122**		mg/kg dry	1.60	133	10.1	84	80-120		
Chromium	**132**		mg/kg dry	1.07	133	17.7	86	80-120		
Zinc	**153**		mg/kg dry	1.07	133	44.8	81	80-120		
Arsenic	**125**		mg/kg dry	1.60	133	7.20	88	80-120		
Reference (1712055-SRM1)					Prepared: 14-Jul-17 Analyzed: 18-Jul-17					
Copper	**75.7**		mg/kg wet	1.00	78.4		97	81.7-117.6		
Zinc	**96.4**		mg/kg wet	1.00	114		84	83-117		
Lead	**61.0**		mg/kg wet	1.50	71.2		86	82-117.3		
Chromium	**46.1**		mg/kg wet	1.00	52.2		88	80.1-119.6		
Arsenic	**13.4**		mg/kg wet	1.50	15.2		89	70.3-130.1		
Reference (1712055-SRM2)					Prepared: 14-Jul-17 Analyzed: 17-Jul-17					
Arsenic	**12.9**		mg/kg wet	1.50	14.9		87	70.3-130.1		
Copper	**76.0**		mg/kg wet	1.00	77.2		98	81.7-117.6		
Lead	**60.5**		mg/kg wet	1.50	70.2		86	82-117.3		
Zinc	**95.8**		mg/kg wet	1.00	113		85	83-117		
Chromium	**44.7**		mg/kg wet	1.00	51.5		87	80.1-119.6		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SM2540 G (11) Mod.										
Batch 1712052 - General Preparation										
Duplicate (1712052-DUP1)			**Source: SC36934-02**			Prepared & Analyzed: 14-Jul-17				
% Solids	**93.3**		%			92.4			1	5
Duplicate (1712052-DUP2)			**Source: SC36934-03**			Prepared & Analyzed: 14-Jul-17				
% Solids	**91.8**		%			91.9			0.07	5

Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SM2540B-97										
Batch 393815A - 393815-SM2										
BLK (BY58468-BLK)						Prepared & Analyzed: 17-Jul-17				
Total Solids @ 104C	< 0.1		%	0.1	100			-		
DUP (BY58468-DUP)			**Source: BY58468**			Prepared: Analyzed: 17-Jul-17				
Total Solids @ 104C	**25.8**		%	0.1	100			-	1.2	30
LCS (BY58468-LCS)						Prepared: Analyzed: 17-Jul-17				
Total Solids @ 104C	**100.0**		%	0.1	100		100	75-125		30
SW9012B										
Batch 393958A - 393958-										
BLK (BY57146-BLK)						Prepared: 16-Jul-17 Analyzed: 17-Jul-17				
Total Cyanide (SW9010C Distill.)	< 0.50		mg/Kg	0.50				-		
DUP (BY57146-DUP)			**Source: BY57146**			Prepared: 16-Jul-17 Analyzed: 17-Jul-17				
Total Cyanide (SW9010C Distill.)	< 0.50		mg/Kg	0.50				-	NC	20
LCS (BY57146-LCS)						Prepared: 16-Jul-17 Analyzed: 17-Jul-17				
Total Cyanide (SW9010C Distill.)	**0.3030**		mg/Kg	0.50	999984741		101	80-120		20
MS (BY57146-MS)			**Source: BY57146**			Prepared: 16-Jul-17 Analyzed: 17-Jul-17				
Total Cyanide (SW9010C Distill.)	**10.50**		mg/Kg	0.50	00000149(		105	75-125		20

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S706399				
Calibration Check (S706399-CCV1)				
C9-C18 Aliphatic Hydrocarbons	705447.3	577081.7	-18.2	25
C19-C36 Aliphatic Hydrocarbons	652122.9	485792.8	-9.1	25
Unadjusted C11-C22 Aromatic Hydrocarbons	21.98022	19.14085	5.7	25
Calibration Check (S706399-CCV2)				
C9-C18 Aliphatic Hydrocarbons	705447.3	627357	-11.1	25
C19-C36 Aliphatic Hydrocarbons	652122.9	511283.5	-4.0	25
Unadjusted C11-C22 Aromatic Hydrocarbons	21.98022	19.24974	6.4	25

The following list indicates the date and time low-level VOC soil/sediment samples were placed in the freezer at the lab:

SC36934-02	*SP4-071217-1*	7/13/2017 5:53 PM
SC36934-03	*SP5-071217-1*	7/13/2017 5:53 PM

Notes and Definitions

D	Data reported from a dilution
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
QR6	The RPD exceeded the QC control limits; however precision is demonstrated with acceptable RPD values for MS/MSD.
SGCMSVOC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogates with three required by program methods.
VC10	The VOC preserved soil sample is not within the 1:1 weight to volume ratio as recommended by SW846 method 5035A but may be within the 1:1 volume to volume ratio. This variance may affect the final reporting limit.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC36934 JW

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☐ Standard TAT - 7 to 10 business days

☒ Rush TAT - Date Needed: 3 day

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: AECOM
250 Apollo Dr
Chelmsford, MA 01824

Telephone #: 978-905-2100
Project Mgr: Art Taddeo

Invoice To:

P.O No.: Quote #:

Project No: 60478638.5.01
Site Name: LMC Wilmington
Location: 40 Fordham Rd, Wilmington State: MA
Sampler(s): Dylan Potter

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= ICe 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: VOCs	EPH (carbon ranges)	VPH (carbon ranges)	As, Cr, Cu, Pb, Zn, cyanide					Check if chlorinated
										List Preservative Code below: 7,9	11	7	11					
SC36934-01	TB-071217	7/12/17	1200	G	SO	2				X								☐
02	SP4-071217-1	7/12/17	1240	G	SO	3	1			X	X	X	X					☐
03	SP5-071217-1	7/12/17	1330	G	SO	3	1			X	X	X	X					☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☐ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other:
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp °C
Dylan Potter	[signature]	7-12-17	2:45	Observed 4.1
[signature]	[signature]	7/13/17	10:30	Correction Factor
			1753	Corrected 4.1
				IR ID # C1

☐ EDD format:
☒ E-mail to: Lori.Herberich@aecom.com
Arthur.Taddeo@aecom.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☒ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

1712047

Volatile Organic Compounds

1712047-BLK1
1712047-BS1
1712047-BSD1
SC36934-02 (SP4-071217-1)
SC36934-03 (SP5-071217-1)

1712052

General Chemistry Parameters

1712052-DUP1
1712052-DUP2
SC36934-02 (SP4-071217-1)
SC36934-03 (SP5-071217-1)

1712055

Total Metals by EPA 6000/7000 Series Methods

1712055-BLK1
1712055-DUP1
1712055-MS1
1712055-MSD1
1712055-PS1
1712055-SRM1
1712055-SRM2
SC36934-02 (SP4-071217-1)
SC36934-03 (SP5-071217-1)

1712068

Extractable Petroleum Hydrocarbons

1712068-BLK1
1712068-BS1
1712068-BS2
1712068-BSD1
SC36934-02 (SP4-071217-1)
SC36934-03 (SP5-071217-1)

1712161

Volatile Organic Compounds

1712161-BLK1
1712161-BS1
1712161-BSD1
SC36934-01 (TB-071217)
SC36934-02 (SP4-071217-1)
SC36934-03 (SP5-071217-1)

393815A

Subcontracted Analyses

BY58468-BLK
BY58468-DUP
BY58468-LCS
SC36934-02 (SP4-071217-1)
SC36934-03 (SP5-071217-1)

393958A

Subcontracted Analyses

BY57146-BLK
BY57146-DUP
BY57146-LCS
BY57146-MS
SC36934-02 (SP4-071217-1)
SC36934-03 (SP5-071217-1)

S703723

Volatile Organic Compounds

S703723-CAL1
S703723-CAL2
S703723-CAL3
S703723-CAL4
S703723-CAL5
S703723-CAL6
S703723-CAL7
S703723-ICV1
S703723-LCV1

S706189

Volatile Organic Compounds

S706189-CAL1
S706189-CAL2
S706189-CAL3
S706189-CAL4
S706189-CAL5
S706189-CAL6
S706189-CAL7
S706189-CAL8
S706189-CAL9
S706189-ICV1
S706189-LCV1
S706189-TUN1

S706315

Volatile Organic Compounds

S706315-CCV1
S706315-CCV2

S706318

Volatile Organic Compounds

S706318-CCV1
S706318-TUN1

S706321

Extractable Petroleum Hydrocarbons

S706321-CAL1
S706321-CAL2
S706321-CAL3
S706321-CAL4
S706321-CAL5
S706321-CAL6
S706321-CAL7
S706321-CAL8
S706321-CAL9
S706321-CALA
S706321-CALB
S706321-CALC
S706321-CALD
S706321-CALE
S706321-CALF
S706321-CALG
S706321-CALH
S706321-CALI
S706321-CALJ
S706321-ICV1
S706321-ICV2
S706321-ICV3
S706321-LCV1
S706321-LCV2
S706321-TUN1

S706395

Extractable Petroleum Hydrocarbons

S706395-CCV1
S706395-CCV2
S706395-TUN1

S706399

Extractable Petroleum Hydrocarbons

S706399-CCV1
S706399-CCV2
S706399-TUN1

S706402

Extractable Petroleum Hydrocarbons

S706402-CCV1
S706402-CCV2
S706402-TUN1

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☑ Final Report
☐ Revised Report

Report Date:
21-Jul-17 17:37

Laboratory Report
SC37123

AECOM Environment
250 Apollo Drive
Chelmsford, MA 01824
Attn: Art Taddeo

Project: LMC-Wilmington- 40 Fordham Rd. - MA
Project #: 60478638.5.01

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Rebecca Merz
Quality Services Manager

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 26 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC37123

Project: LMC-Wilmington- 40 Fordham Rd. - MA

Project Number: 60478638.5.01

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC37123-01	TB-071817	Methanol/DI	18-Jul-17 13:15	18-Jul-17 17:12
SC37123-02	SP3_071817-1	Soil	18-Jul-17 13:30	18-Jul-17 17:12

The following outlines the condition of all VPH samples contained within this report upon laboratory receipt.

Matrices	Soil		
Containers	✓ Satisfactory		
Sample Preservative	**Aqueous** (acid preserved)	✓ N/A pH≤2 pH>2	
	Soil or Sediment	N/A Samples not received in Methanol	ml Methanol/g soil ✓ 1:1 +/-25% Other
		✓ Samples received in Methanol: ✓ covering soil/sediment not covering soil/sediment	
		Samples received in air-tight container	
Temperature	✓ Received on ice ✓ Received at 4 ± 2 ºC		

Were all QA/QC procedures followed as required by the VPH method? *Yes*
Were any significant modifications made to the VPH method as specified in section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrices	Soil
Containers	✓ Satisfactory
Aqueous Preservative	✓ N/A pH≤2 pH>2 pH adjusted to <2 in lab
Temperature	✓ Received on ice ✓ Received at 4 ± 2 ºC

Were all QA/QC procedures followed as required by the EPH method? *Yes*
Were any significant modifications made to the EPH method as specified in Section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

I attest that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Authorized by:

Christina A. White
Laboratory Director

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.	**Project #:** 60478638.5.01
Project Location: LMC-Wilmington- 40 Fordham Rd. - MA	**RTN:**
This form provides certifications for the following data set:	SC37123-01 through SC37123-02
Matrices: Methanol/DI Soil	

CAM Protocol

✓ 8260 VOC CAM II A	7470/7471 Hg CAM III B	✓ MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	✓ MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B

Affirmative responses to questions A through F are required for Presumptive Certainty status

A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	✓ Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?	✓ Yes No

Responses to questions G, H and I below are required for Presumptive Certainty status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	Yes ✓ No

<u>Data User Note:</u> Data that achieve Presumptive Certainty status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ✓ No

All negative responses are addressed in a case narrative on the cover page of this report.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Christina A. White
Laboratory Director
Date: 7/21/2017

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 4.4 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

All VOC soils samples submitted and analyzed in methanol will have a minimum dilution factor of 50. This is the minimum amount of solvent allowed on the instrumentation without causing interference. Soils are run on a manual load instrument. 100ug of sample (MEOH) is spiked into 5ml DI water along with the surrogate and added directly onto the instrument. Additional dilution factors may be required to keep analyte concentration within instrument calibration range.

Method SW846 5035A is designed to use on samples containing low levels of VOCs, ranging from 0.5 to 200 ug/Kg. Target analytes that are less responsive to purge and trap may be present at concentrations over 200ug/Kg but may not be reportable in the methanol preserved vial (SW846 5030). This is the result of the inherent dilution factor required for the methanol preservation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

MADEP EPH 5/2004 R

Calibration:

1707043

Analyte quantified by quadratic equation type calibration.

C19-C36 Aliphatic Hydrocarbons

This affected the following samples:

1712429-BLK1
1712429-BS1
1712429-BS2
1712429-BSD1
S706487-ICV2
S706517-CCV1
S706517-CCV2
SP3_071817-1

Laboratory Control Samples:

1712429 BSD

MADEP EPH 5/2004 R

Laboratory Control Samples:

1712429 BSD

Unadjusted C11-C22 Aromatic Hydrocarbons RPD 63% (25%) is outside individual acceptance criteria.

SW846 8260C

Calibration:

1707042

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,4-Dioxane
2-Hexanone (MBK)
4-Methyl-2-pentanone (MIBK)
Bromoform
Dibromochloromethane
Naphthalene
trans-1,3-Dichloropropene

This affected the following samples:

1712340-BLK1
1712340-BS1
1712340-BSD1
S706417-CCV1
S706452-ICV1
SP3_071817-1
TB-071817

Laboratory Control Samples:

1712340 BS/BSD

Tetrahydrofuran percent recoveries (74/67) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

SP3_071817-1
TB-071817

Samples:

S706417-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

Bromomethane (-26.8%)
Carbon disulfide (-20.1%)
cis-1,3-Dichloropropene (-20.9%)
Methyl tert-butyl ether (-20.3%)

Analyte percent drift is outside individual acceptance criteria (20), but within overall method allowances.

1,4-Dioxane (-24.9%)
2-Hexanone (MBK) (-25.2%)
4-Methyl-2-pentanone (MIBK) (-28.2%)
Dibromochloromethane (-23.2%)
Naphthalene (-24.9%)
Tetrahydrofuran (-25.2%)
trans-1,3-Dichloropropene (-24.0%)

SW846 8260C

Samples:

S706417-CCV1

This affected the following samples:

1712340-BLK1
1712340-BS1
1712340-BSD1
SP3_071817-1
TB-071817

Sample Acceptance Check Form

Client:	AECOM Environment - Chelmsford, MA
Project:	LMC-Wilmington- 40 Fordham Rd. - MA / 60478638.5.01
Work Order:	SC37123
Sample(s) received on:	7/18/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC37123-02 **Client ID:** SP3_071817-1

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
C11-C22 Aromatic Hydrocarbons	11.3		10.7	mg/kg	MADEP EPH 5/2004 R
Unadjusted C11-C22 Aromatic Hydrocarbons	11.3		10.7	mg/kg	MADEP EPH 5/2004 R
Arsenic	8.34		1.55	mg/kg	SW846 6010C
Chromium	13.0		1.04	mg/kg	SW846 6010C
Copper	7.16		1.04	mg/kg	SW846 6010C
Lead	10.8		1.55	mg/kg	SW846 6010C
Zinc	21.9		1.04	mg/kg	SW846 6010C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-071817	60478638.5.01	Methanol/DI	18-Jul-17 13:15	18-Jul-17
SC37123-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5035A Soil (low level)													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00	2.54	1	SW846 8260C	20-Jul-17	20-Jul-17	MP	1712340	
67-64-1	Acetone	< 50.0		µg/kg wet	50.0	20.0	1	"	"	"	"	"	
71-43-2	Benzene	< 5.00		µg/kg wet	5.00	1.32	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 5.00		µg/kg wet	5.00	1.34	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 5.00		µg/kg wet	5.00	2.52	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.00		µg/kg wet	5.00	3.34	1	"	"	"	"	"	
75-25-2	Bromoform	< 5.00		µg/kg wet	5.00	4.77	1	"	"	"	"	"	
74-83-9	Bromomethane	< 10.0		µg/kg wet	10.0	4.52	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 10.0		µg/kg wet	10.0	8.94	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 5.00		µg/kg wet	5.00	1.43	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 5.00		µg/kg wet	5.00	0.91	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 5.00		µg/kg wet	5.00	1.12	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 10.0		µg/kg wet	10.0	3.20	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 5.00		µg/kg wet	5.00	4.09	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 5.00		µg/kg wet	5.00	1.56	1	"	"	"	"	"	
75-00-3	Chloroethane	< 10.0		µg/kg wet	10.0	2.78	1	"	"	"	"	"	
67-66-3	Chloroform	< 5.00		µg/kg wet	5.00	2.68	1	"	"	"	"	"	
74-87-3	Chloromethane	< 10.0		µg/kg wet	10.0	2.06	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 5.00		µg/kg wet	5.00	1.24	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 5.00		µg/kg wet	5.00	1.18	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0	7.22	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.00		µg/kg wet	5.00	3.39	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00	3.36	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 5.00		µg/kg wet	5.00	2.60	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.30	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.08	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.48	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0	1.90	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 5.00		µg/kg wet	5.00	1.31	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 5.00		µg/kg wet	5.00	1.79	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00	1.86	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00	2.65	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 5.00		µg/kg wet	5.00	2.59	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 5.00		µg/kg wet	5.00	2.36	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 5.00		µg/kg wet	5.00	1.61	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00	3.02	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.00		µg/kg wet	5.00	0.72	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 5.00		µg/kg wet	5.00	2.51	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0	6.14	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 5.00		µg/kg wet	5.00	0.98	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-071817	60478638.5.01	Methanol/DI	18-Jul-17 13:15	18-Jul-17
SC37123-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
99-87-6	4-Isopropyltoluene	< 5.00		µg/kg wet	5.00	1.08	1	SW846 8260C	20-Jul-17	20-Jul-17	MP	1712340	
1634-04-4	Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00	1.84	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0	2.57	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 10.0		µg/kg wet	10.0	1.98	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.00		µg/kg wet	5.00	3.45	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 5.00		µg/kg wet	5.00	0.81	1	"	"	"	"	"	
100-42-5	Styrene	< 5.00		µg/kg wet	5.00	1.00	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00	4.25	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00	4.23	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 5.00		µg/kg wet	5.00	1.71	1	"	"	"	"	"	
108-88-3	Toluene	< 5.00		µg/kg wet	5.00	1.62	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00	1.76	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00	3.68	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00	1.66	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00	3.62	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 5.00		µg/kg wet	5.00	1.36	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00	2.70	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00	3.75	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00	1.22	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00	0.86	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 5.00		µg/kg wet	5.00	1.69	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0		µg/kg wet	10.0	0.90	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.00		µg/kg wet	5.00	1.40	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 10.0		µg/kg wet	10.0	7.88	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.00		µg/kg wet	5.00	4.53	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00	1.67	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00	2.70	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 5.00		µg/kg wet	5.00	0.93	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 100		µg/kg wet	100	86.8	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*91*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*88*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*104*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*91*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP3_071817-1 SC37123-02	60478638.5.01	Soil	18-Jul-17 13:30	18-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			BD	1712416	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 6.05 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 4.79		µg/kg dry	4.79	2.43	1	SW846 8260C	20-Jul-17	20-Jul-17	MP	1712340	
67-64-1	Acetone	< 47.9		µg/kg dry	47.9	19.2	1	"	"	"	"	"	
71-43-2	Benzene	< 4.79		µg/kg dry	4.79	1.27	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 4.79		µg/kg dry	4.79	1.28	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 4.79		µg/kg dry	4.79	2.42	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 4.79		µg/kg dry	4.79	3.20	1	"	"	"	"	"	
75-25-2	Bromoform	< 4.79		µg/kg dry	4.79	4.57	1	"	"	"	"	"	
74-83-9	Bromomethane	< 9.58		µg/kg dry	9.58	4.33	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 9.58		µg/kg dry	9.58	8.57	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 4.79		µg/kg dry	4.79	1.37	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 4.79		µg/kg dry	4.79	0.87	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 4.79		µg/kg dry	4.79	1.07	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 9.58		µg/kg dry	9.58	3.07	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 4.79		µg/kg dry	4.79	3.92	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 4.79		µg/kg dry	4.79	1.50	1	"	"	"	"	"	
75-00-3	Chloroethane	< 9.58		µg/kg dry	9.58	2.66	1	"	"	"	"	"	
67-66-3	Chloroform	< 4.79		µg/kg dry	4.79	2.57	1	"	"	"	"	"	
74-87-3	Chloromethane	< 9.58		µg/kg dry	9.58	1.98	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 4.79		µg/kg dry	4.79	1.19	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 4.79		µg/kg dry	4.79	1.13	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 9.58		µg/kg dry	9.58	6.92	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 4.79		µg/kg dry	4.79	3.25	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 4.79		µg/kg dry	4.79	3.22	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 4.79		µg/kg dry	4.79	2.49	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 4.79		µg/kg dry	4.79	1.25	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 4.79		µg/kg dry	4.79	1.04	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 4.79		µg/kg dry	4.79	1.42	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 9.58		µg/kg dry	9.58	1.82	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 4.79		µg/kg dry	4.79	1.26	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 4.79		µg/kg dry	4.79	1.72	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 4.79		µg/kg dry	4.79	2.51	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 4.79		µg/kg dry	4.79	1.78	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 4.79		µg/kg dry	4.79	2.54	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 4.79		µg/kg dry	4.79	2.51	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 4.79		µg/kg dry	4.79	2.48	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 4.79		µg/kg dry	4.79	2.26	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 4.79		µg/kg dry	4.79	1.54	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 4.79		µg/kg dry	4.79	2.89	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 4.79		µg/kg dry	4.79	2.52	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 4.79		µg/kg dry	4.79	0.69	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP3_071817-1	60478638.5.01	Soil	18-Jul-17 13:30	18-Jul-17
SC37123-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260							Initial weight: 6.05 g						
87-68-3	Hexachlorobutadiene	< 4.79		µg/kg dry	4.79	2.41	1	SW846 8260C	20-Jul-17	20-Jul-17	MP	1712340	
591-78-6	2-Hexanone (MBK)	< 9.58		µg/kg dry	9.58	5.88	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 4.79		µg/kg dry	4.79	0.94	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 4.79		µg/kg dry	4.79	1.03	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 4.79		µg/kg dry	4.79	1.76	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 9.58		µg/kg dry	9.58	2.46	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 9.58		µg/kg dry	9.58	1.90	1	"	"	"	"	"	
91-20-3	Naphthalene	< 4.79		µg/kg dry	4.79	2.85	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 4.79		µg/kg dry	4.79	0.78	1	"	"	"	"	"	
100-42-5	Styrene	< 4.79		µg/kg dry	4.79	0.96	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 4.79		µg/kg dry	4.79	4.07	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 4.79		µg/kg dry	4.79	4.05	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 4.79		µg/kg dry	4.79	1.64	1	"	"	"	"	"	
108-88-3	Toluene	< 4.79		µg/kg dry	4.79	1.55	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 4.79		µg/kg dry	4.79	1.68	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 4.79		µg/kg dry	4.79	3.53	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 4.79		µg/kg dry	4.79	1.59	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 4.79		µg/kg dry	4.79	3.47	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 4.79		µg/kg dry	4.79	1.31	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 4.79		µg/kg dry	4.79	2.58	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 4.79		µg/kg dry	4.79	3.59	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 4.79		µg/kg dry	4.79	1.16	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 4.79		µg/kg dry	4.79	0.82	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 4.79		µg/kg dry	4.79	1.62	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 9.58		µg/kg dry	9.58	0.86	1	"	"	"	"	"	
95-47-6	o-Xylene	< 4.79		µg/kg dry	4.79	1.34	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 9.58		µg/kg dry	9.58	7.55	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 4.79		µg/kg dry	4.79	4.34	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 4.79		µg/kg dry	4.79	1.60	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 4.79		µg/kg dry	4.79	2.58	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 4.79		µg/kg dry	4.79	0.89	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 95.8		µg/kg dry	95.8	83.2	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*88*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*88*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*106*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*92*			*70-130 %*			"	"	"	"	"	
MADEP VPH Carbon Ranges Prepared by method VPH - EPA 5035A Soil							Initial weight: 12.43 g						
	C5-C8 Aliphatic Hydrocarbons	< 1.02	D	mg/kg dry	1.02	0.198	50	MADEP VPH 5/2004 Rev. 1.1	20-Jul-17	20-Jul-17	SD	1712481	
	C9-C12 Aliphatic Hydrocarbons	< 0.342	D	mg/kg dry	0.342	0.142	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP3_071817-1 SC37123-02	60478638.5.01	Soil	18-Jul-17 13:30	18-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH Carbon Ranges						Initial weight: 12.43 g							
	C9-C10 Aromatic Hydrocarbons	< 0.342	D	mg/kg dry	0.342	0.0415	50	MADEP VPH 5/2004 Rev. 1.1	20-Jul-17	20-Jul-17	SD	1712481	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 1.02	D	mg/kg dry	1.02	0.159	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.342	D	mg/kg dry	0.342	0.181	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*76*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*86*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Carbon Ranges Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 10.7		mg/kg dry	10.7	1.49	1	MADEP EPH 5/2004 R	20-Jul-17	21-Jul-17	EDT	1712429	
	C19-C36 Aliphatic Hydrocarbons	< 10.7		mg/kg dry	10.7	1.51	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	**11.3**		mg/kg dry	10.7	5.10	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	**11.3**		mg/kg dry	10.7	5.10	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*65*			*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*88*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*85*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3050B													
7440-38-2	Arsenic	**8.34**		mg/kg dry	1.55	0.197	1	SW846 6010C	19-Jul-17	20-Jul-17	JLC	1712365	
7440-47-3	Chromium	**13.0**		mg/kg dry	1.04	0.138	1	"	"	"	"	"	
7440-50-8	Copper	**7.16**		mg/kg dry	1.04	0.248	1	"	"	"	"	"	
7439-92-1	Lead	**10.8**		mg/kg dry	1.55	0.219	1	"	"	"	"	"	
7440-66-6	Zinc	**21.9**		mg/kg dry	1.04	0.801	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**93.3**		%			1	SM2540 G (11) Mod.	19-Jul-17	19-Jul-17	BD	1712370	
Subcontracted Analyses													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
	Percent Solid	**93**		%			1	SW846-%Solid		20-Jul-17 22:45	MACT0	'[none]'	
Prepared by method 394688-													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
57-12-5	Total Cyanide (SW9010C Distill.)	< 0.54		mg/Kg	0.54	0.54	1	SW9012B	20-Jul-17	21-Jul-17 07:39	MACT0	394688A	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP VPH 5/2004 Rev. 1.1										
Batch 1712481 - VPH - EPA 5035A Soil										
Blank (1712481-BLK1)					Prepared & Analyzed: 20-Jul-17					
C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
C9-C10 Aromatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Surrogate: 2,5-Dibromotoluene (FID)	*40.9*		µg/kg		*50.0*		*82*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*46.3*		µg/kg		*50.0*		*93*	*70-130*		
LCS (1712481-BS1)					Prepared & Analyzed: 20-Jul-17					
C5-C8 Aliphatic Hydrocarbons	**48.8**	D	µg/kg		60.0		81	70-130		
C9-C12 Aliphatic Hydrocarbons	**57.4**	D	µg/kg		60.0		96	70-130		
C9-C10 Aromatic Hydrocarbons	**21.9**	D	µg/kg		20.0		110	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**201**	D	µg/kg		200		101	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**79.3**	D	µg/kg		80.0		99	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*35.5*		µg/kg		*50.0*		*71*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*40.2*		µg/kg		*50.0*		*80*	*70-130*		
LCS Dup (1712481-BSD1)					Prepared & Analyzed: 20-Jul-17					
C5-C8 Aliphatic Hydrocarbons	**49.3**	D	µg/kg		60.0		82	70-130	1	25
C9-C12 Aliphatic Hydrocarbons	**50.4**	D	µg/kg		60.0		84	70-130	13	25
C9-C10 Aromatic Hydrocarbons	**19.8**	D	µg/kg		20.0		99	70-130	10	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**185**	D	µg/kg		200		92	70-130	9	25
Unadjusted C9-C12 Aliphatic Hydrocarbons	**70.2**	D	µg/kg		80.0		88	70-130	12	25
Surrogate: 2,5-Dibromotoluene (FID)	*36.1*		µg/kg		*50.0*		*72*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*39.4*		µg/kg		*50.0*		*79*	*70-130*		
SW846 8260C										
Batch 1712340 - SW846 5035A Soil (low level)										
Blank (1712340-BLK1)					Prepared & Analyzed: 20-Jul-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00						
Acetone	< 50.0		µg/kg wet	50.0						
Benzene	< 5.00		µg/kg wet	5.00						
Bromobenzene	< 5.00		µg/kg wet	5.00						
Bromochloromethane	< 5.00		µg/kg wet	5.00						
Bromodichloromethane	< 5.00		µg/kg wet	5.00						
Bromoform	< 5.00		µg/kg wet	5.00						
Bromomethane	< 10.0		µg/kg wet	10.0						
2-Butanone (MEK)	< 10.0		µg/kg wet	10.0						
n-Butylbenzene	< 5.00		µg/kg wet	5.00						
sec-Butylbenzene	< 5.00		µg/kg wet	5.00						
tert-Butylbenzene	< 5.00		µg/kg wet	5.00						
Carbon disulfide	< 10.0		µg/kg wet	10.0						
Carbon tetrachloride	< 5.00		µg/kg wet	5.00						
Chlorobenzene	< 5.00		µg/kg wet	5.00						
Chloroethane	< 10.0		µg/kg wet	10.0						
Chloroform	< 5.00		µg/kg wet	5.00						
Chloromethane	< 10.0		µg/kg wet	10.0						
2-Chlorotoluene	< 5.00		µg/kg wet	5.00						
4-Chlorotoluene	< 5.00		µg/kg wet	5.00						
1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712340 - SW846 5035A Soil (low level)										
Blank (1712340-BLK1)					Prepared & Analyzed: 20-Jul-17					
Dibromochloromethane	< 5.00		µg/kg wet	5.00						
1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00						
Dibromomethane	< 5.00		µg/kg wet	5.00						
1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0						
1,1-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,2-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,1-Dichloroethene	< 5.00		µg/kg wet	5.00						
cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
1,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,3-Dichloropropane	< 5.00		µg/kg wet	5.00						
2,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,1-Dichloropropene	< 5.00		µg/kg wet	5.00						
cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
Ethylbenzene	< 5.00		µg/kg wet	5.00						
Hexachlorobutadiene	< 5.00		µg/kg wet	5.00						
2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0						
Isopropylbenzene	< 5.00		µg/kg wet	5.00						
4-Isopropyltoluene	< 5.00		µg/kg wet	5.00						
Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0						
Methylene chloride	< 10.0		µg/kg wet	10.0						
Naphthalene	< 5.00		µg/kg wet	5.00						
n-Propylbenzene	< 5.00		µg/kg wet	5.00						
Styrene	< 5.00		µg/kg wet	5.00						
1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
Tetrachloroethene	< 5.00		µg/kg wet	5.00						
Toluene	< 5.00		µg/kg wet	5.00						
1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00						
1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00						
Trichloroethene	< 5.00		µg/kg wet	5.00						
Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00						
1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00						
1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
Vinyl chloride	< 5.00		µg/kg wet	5.00						
m,p-Xylene	< 10.0		µg/kg wet	10.0						
o-Xylene	< 5.00		µg/kg wet	5.00						
Tetrahydrofuran	< 10.0		µg/kg wet	10.0						
Ethyl ether	< 5.00		µg/kg wet	5.00						
Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00						
Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
Di-isopropyl ether	< 5.00		µg/kg wet	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712340 - SW846 5035A Soil (low level)										
Blank (1712340-BLK1)							Prepared & Analyzed: 20-Jul-17			
1,4-Dioxane	< 100		µg/kg wet	100						
Surrogate: 4-Bromofluorobenzene	*44.9*		µg/kg		*50.0*		*90*	*70-130*		
Surrogate: Toluene-d8	*44.9*		µg/kg		*50.0*		*90*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*57.9*		µg/kg		*50.0*		*116*	*70-130*		
Surrogate: Dibromofluoromethane	*49.1*		µg/kg		*50.0*		*98*	*70-130*		
LCS (1712340-BS1)							Prepared & Analyzed: 20-Jul-17			
1,1,2-Trichlorotrifluoroethane (Freon 113)	**16.1**		µg/kg		20.0		80	70-130		
Acetone	**17.0**		µg/kg		20.0		85	70-130		
Benzene	**17.1**		µg/kg		20.0		85	70-130		
Bromobenzene	**21.8**		µg/kg		20.0		109	70-130		
Bromochloromethane	**16.5**		µg/kg		20.0		82	70-130		
Bromodichloromethane	**15.5**		µg/kg		20.0		77	70-130		
Bromoform	**17.8**		µg/kg		20.0		89	70-130		
Bromomethane	**13.9**		µg/kg		20.0		70	70-130		
2-Butanone (MEK)	**19.7**		µg/kg		20.0		99	70-130		
n-Butylbenzene	**21.6**		µg/kg		20.0		108	70-130		
sec-Butylbenzene	**22.2**		µg/kg		20.0		111	70-130		
tert-Butylbenzene	**22.3**		µg/kg		20.0		111	70-130		
Carbon disulfide	**14.9**		µg/kg		20.0		74	70-130		
Carbon tetrachloride	**15.3**		µg/kg		20.0		77	70-130		
Chlorobenzene	**21.5**		µg/kg		20.0		108	70-130		
Chloroethane	**14.3**		µg/kg		20.0		72	70-130		
Chloroform	**16.4**		µg/kg		20.0		82	70-130		
Chloromethane	**16.8**		µg/kg		20.0		84	70-130		
2-Chlorotoluene	**18.7**		µg/kg		20.0		93	70-130		
4-Chlorotoluene	**22.3**		µg/kg		20.0		111	70-130		
1,2-Dibromo-3-chloropropane	**20.0**		µg/kg		20.0		100	70-130		
Dibromochloromethane	**14.7**		µg/kg		20.0		74	70-130		
1,2-Dibromoethane (EDB)	**16.3**		µg/kg		20.0		82	70-130		
Dibromomethane	**16.4**		µg/kg		20.0		82	70-130		
1,2-Dichlorobenzene	**23.3**		µg/kg		20.0		117	70-130		
1,3-Dichlorobenzene	**22.2**		µg/kg		20.0		111	70-130		
1,4-Dichlorobenzene	**22.0**		µg/kg		20.0		110	70-130		
Dichlorodifluoromethane (Freon12)	**18.2**		µg/kg		20.0		91	70-130		
1,1-Dichloroethane	**16.6**		µg/kg		20.0		83	70-130		
1,2-Dichloroethane	**16.1**		µg/kg		20.0		80	70-130		
1,1-Dichloroethene	**16.7**		µg/kg		20.0		84	70-130		
cis-1,2-Dichloroethene	**17.3**		µg/kg		20.0		86	70-130		
trans-1,2-Dichloroethene	**16.4**		µg/kg		20.0		82	70-130		
1,2-Dichloropropane	**16.4**		µg/kg		20.0		82	70-130		
1,3-Dichloropropane	**16.0**		µg/kg		20.0		80	70-130		
2,2-Dichloropropane	**15.4**		µg/kg		20.0		77	70-130		
1,1-Dichloropropene	**16.0**		µg/kg		20.0		80	70-130		
cis-1,3-Dichloropropene	**14.8**		µg/kg		20.0		74	70-130		
trans-1,3-Dichloropropene	**14.4**		µg/kg		20.0		72	70-130		
Ethylbenzene	**22.3**		µg/kg		20.0		112	70-130		
Hexachlorobutadiene	**21.4**		µg/kg		20.0		107	70-130		
2-Hexanone (MBK)	**15.0**		µg/kg		20.0		75	70-130		
Isopropylbenzene	**22.6**		µg/kg		20.0		113	70-130		
4-Isopropyltoluene	**23.2**		µg/kg		20.0		116	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712340 - SW846 5035A Soil (low level)										
LCS (1712340-BS1)					Prepared & Analyzed: 20-Jul-17					
Methyl tert-butyl ether	**15.6**		µg/kg		20.0		78	70-130		
4-Methyl-2-pentanone (MIBK)	**14.7**		µg/kg		20.0		74	70-130		
Methylene chloride	**15.8**		µg/kg		20.0		79	70-130		
Naphthalene	**18.0**		µg/kg		20.0		90	70-130		
n-Propylbenzene	**22.3**		µg/kg		20.0		111	70-130		
Styrene	**20.7**		µg/kg		20.0		103	70-130		
1,1,1,2-Tetrachloroethane	**21.1**		µg/kg		20.0		105	70-130		
1,1,2,2-Tetrachloroethane	**20.8**		µg/kg		20.0		104	70-130		
Tetrachloroethene	**16.9**		µg/kg		20.0		84	70-130		
Toluene	**16.8**		µg/kg		20.0		84	70-130		
1,2,3-Trichlorobenzene	**20.8**		µg/kg		20.0		104	70-130		
1,2,4-Trichlorobenzene	**19.8**		µg/kg		20.0		99	70-130		
1,1,1-Trichloroethane	**16.5**		µg/kg		20.0		82	70-130		
1,1,2-Trichloroethane	**16.3**		µg/kg		20.0		82	70-130		
Trichloroethene	**16.9**		µg/kg		20.0		84	70-130		
Trichlorofluoromethane (Freon 11)	**18.8**		µg/kg		20.0		94	70-130		
1,2,3-Trichloropropane	**20.6**		µg/kg		20.0		103	70-130		
1,2,4-Trimethylbenzene	**21.8**		µg/kg		20.0		109	70-130		
1,3,5-Trimethylbenzene	**21.0**		µg/kg		20.0		105	70-130		
Vinyl chloride	**17.1**		µg/kg		20.0		85	70-130		
m,p-Xylene	**22.2**		µg/kg		20.0		111	70-130		
o-Xylene	**22.7**		µg/kg		20.0		114	70-130		
Tetrahydrofuran	**14.8**		µg/kg		20.0		74	70-130		
Ethyl ether	**17.2**		µg/kg		20.0		86	70-130		
Tert-amyl methyl ether	**16.1**		µg/kg		20.0		81	70-130		
Ethyl tert-butyl ether	**15.8**		µg/kg		20.0		79	70-130		
Di-isopropyl ether	**15.8**		µg/kg		20.0		79	70-130		
1,4-Dioxane	**150**		µg/kg		200		75	70-130		
Surrogate: 4-Bromofluorobenzene	*48.5*		µg/kg		*50.0*		*97*	*70-130*		
Surrogate: Toluene-d8	*43.9*		µg/kg		*50.0*		*88*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*47.3*		µg/kg		*50.0*		*95*	*70-130*		
Surrogate: Dibromofluoromethane	*46.5*		µg/kg		*50.0*		*93*	*70-130*		
LCS Dup (1712340-BSD1)					Prepared & Analyzed: 20-Jul-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**15.1**		µg/kg		20.0		76	70-130	6	30
Acetone	**17.8**		µg/kg		20.0		89	70-130	5	30
Benzene	**17.0**		µg/kg		20.0		85	70-130	0.3	30
Bromobenzene	**22.0**		µg/kg		20.0		110	70-130	1	30
Bromochloromethane	**16.7**		µg/kg		20.0		84	70-130	1	30
Bromodichloromethane	**15.6**		µg/kg		20.0		78	70-130	0.6	30
Bromoform	**17.9**		µg/kg		20.0		89	70-130	0.3	30
Bromomethane	**14.0**		µg/kg		20.0		70	70-130	0.6	30
2-Butanone (MEK)	**20.3**		µg/kg		20.0		102	70-130	3	30
n-Butylbenzene	**21.5**		µg/kg		20.0		107	70-130	0.6	30
sec-Butylbenzene	**21.8**		µg/kg		20.0		109	70-130	2	30
tert-Butylbenzene	**22.1**		µg/kg		20.0		111	70-130	0.6	30
Carbon disulfide	**14.8**		µg/kg		20.0		74	70-130	0.7	30
Carbon tetrachloride	**15.0**		µg/kg		20.0		75	70-130	2	30
Chlorobenzene	**21.5**		µg/kg		20.0		108	70-130	0.1	30
Chloroethane	**15.4**		µg/kg		20.0		77	70-130	7	30
Chloroform	**16.1**		µg/kg		20.0		81	70-130	2	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712340 - SW846 5035A Soil (low level)										
LCS Dup (1712340-BSD1)					Prepared & Analyzed: 20-Jul-17					
Chloromethane	**17.3**		µg/kg		20.0		86	70-130	3	30
2-Chlorotoluene	**18.6**		µg/kg		20.0		93	70-130	0.3	30
4-Chlorotoluene	**22.0**		µg/kg		20.0		110	70-130	1	30
1,2-Dibromo-3-chloropropane	**21.4**		µg/kg		20.0		107	70-130	6	30
Dibromochloromethane	**14.6**		µg/kg		20.0		73	70-130	1	30
1,2-Dibromoethane (EDB)	**16.2**		µg/kg		20.0		81	70-130	0.7	30
Dibromomethane	**16.6**		µg/kg		20.0		83	70-130	0.8	30
1,2-Dichlorobenzene	**23.4**		µg/kg		20.0		117	70-130	0.4	30
1,3-Dichlorobenzene	**22.2**		µg/kg		20.0		111	70-130	0.09	30
1,4-Dichlorobenzene	**22.7**		µg/kg		20.0		114	70-130	3	30
Dichlorodifluoromethane (Freon12)	**17.5**		µg/kg		20.0		88	70-130	4	30
1,1-Dichloroethane	**16.3**		µg/kg		20.0		81	70-130	2	30
1,2-Dichloroethane	**15.8**		µg/kg		20.0		79	70-130	2	30
1,1-Dichloroethene	**16.6**		µg/kg		20.0		83	70-130	1	30
cis-1,2-Dichloroethene	**17.1**		µg/kg		20.0		85	70-130	1	30
trans-1,2-Dichloroethene	**16.2**		µg/kg		20.0		81	70-130	0.7	30
1,2-Dichloropropane	**16.4**		µg/kg		20.0		82	70-130	0.1	30
1,3-Dichloropropane	**16.3**		µg/kg		20.0		82	70-130	2	30
2,2-Dichloropropane	**15.0**		µg/kg		20.0		75	70-130	3	30
1,1-Dichloropropene	**15.8**		µg/kg		20.0		79	70-130	1	30
cis-1,3-Dichloropropene	**14.8**		µg/kg		20.0		74	70-130	0.3	30
trans-1,3-Dichloropropene	**14.6**		µg/kg		20.0		73	70-130	1	30
Ethylbenzene	**22.1**		µg/kg		20.0		110	70-130	1	30
Hexachlorobutadiene	**20.8**		µg/kg		20.0		104	70-130	3	30
2-Hexanone (MBK)	**15.1**		µg/kg		20.0		75	70-130	0.2	30
Isopropylbenzene	**22.6**		µg/kg		20.0		113	70-130	0.2	30
4-Isopropyltoluene	**23.0**		µg/kg		20.0		115	70-130	0.9	30
Methyl tert-butyl ether	**15.7**		µg/kg		20.0		79	70-130	0.8	30
4-Methyl-2-pentanone (MIBK)	**14.1**		µg/kg		20.0		70	70-130	5	30
Methylene chloride	**15.7**		µg/kg		20.0		78	70-130	0.6	30
Naphthalene	**19.0**		µg/kg		20.0		95	70-130	5	30
n-Propylbenzene	**22.1**		µg/kg		20.0		110	70-130	1	30
Styrene	**20.6**		µg/kg		20.0		103	70-130	0.3	30
1,1,1,2-Tetrachloroethane	**20.9**		µg/kg		20.0		105	70-130	0.7	30
1,1,2,2-Tetrachloroethane	**21.7**		µg/kg		20.0		109	70-130	4	30
Tetrachloroethene	**16.6**		µg/kg		20.0		83	70-130	1	30
Toluene	**16.5**		µg/kg		20.0		83	70-130	1	30
1,2,3-Trichlorobenzene	**21.1**		µg/kg		20.0		106	70-130	1	30
1,2,4-Trichlorobenzene	**20.2**		µg/kg		20.0		101	70-130	2	30
1,1,1-Trichloroethane	**16.1**		µg/kg		20.0		81	70-130	2	30
1,1,2-Trichloroethane	**16.9**		µg/kg		20.0		84	70-130	3	30
Trichloroethene	**16.6**		µg/kg		20.0		83	70-130	2	30
Trichlorofluoromethane (Freon 11)	**18.5**		µg/kg		20.0		92	70-130	2	30
1,2,3-Trichloropropane	**21.3**		µg/kg		20.0		107	70-130	3	30
1,2,4-Trimethylbenzene	**21.7**		µg/kg		20.0		109	70-130	0.3	30
1,3,5-Trimethylbenzene	**20.8**		µg/kg		20.0		104	70-130	0.9	30
Vinyl chloride	**16.6**		µg/kg		20.0		83	70-130	3	30
m,p-Xylene	**22.0**		µg/kg		20.0		110	70-130	0.8	30
o-Xylene	**22.1**		µg/kg		20.0		111	70-130	3	30
Tetrahydrofuran	**13.4**	QM9	µg/kg		20.0		67	70-130	11	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712340 - SW846 5035A Soil (low level)										
LCS Dup (1712340-BSD1)					Prepared & Analyzed: 20-Jul-17					
Ethyl ether	**17.5**		µg/kg		20.0		87	70-130	2	30
Tert-amyl methyl ether	**16.0**		µg/kg		20.0		80	70-130	0.8	30
Ethyl tert-butyl ether	**16.0**		µg/kg		20.0		80	70-130	0.7	30
Di-isopropyl ether	**16.0**		µg/kg		20.0		80	70-130	1	30
1,4-Dioxane	**157**		µg/kg		200		79	70-130	5	30
Surrogate: 4-Bromofluorobenzene	*48.4*		µg/kg		*50.0*		*97*	*70-130*		
Surrogate: Toluene-d8	*43.5*		µg/kg		*50.0*		*87*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.4*		µg/kg		*50.0*		*97*	*70-130*		
Surrogate: Dibromofluoromethane	*46.4*		µg/kg		*50.0*		*93*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1712429 - SW846 3546										
Blank (1712429-BLK1)					Prepared: 20-Jul-17 Analyzed: 21-Jul-17					
C9-C18 Aliphatic Hydrocarbons	< 9.83		mg/kg wet	9.83						
C19-C36 Aliphatic Hydrocarbons	< 9.83		mg/kg wet	9.83						
C11-C22 Aromatic Hydrocarbons	< 9.83		mg/kg wet	9.83						
Unadjusted C11-C22 Aromatic Hydrocarbons	< 9.83		mg/kg wet	9.83						
Total Petroleum Hydrocarbons	< 29.5		mg/kg wet	29.5						
Unadjusted Total Petroleum Hydrocarbons	< 29.5		mg/kg wet	29.5						
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.95*		mg/kg wet		*3.28*		*60*	*40-140*		
Surrogate: Ortho-Terphenyl	*2.98*		mg/kg wet		*3.28*		*91*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.30*		mg/kg wet		*2.62*		*88*	*40-140*		
LCS (1712429-BS1)					Prepared: 20-Jul-17 Analyzed: 21-Jul-17					
C9-C18 Aliphatic Hydrocarbons	**19.3**		mg/kg wet	9.94	39.8		48	40-140		
C19-C36 Aliphatic Hydrocarbons	**24.6**		mg/kg wet	9.94	53.0		46	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**41.5**		mg/kg wet	9.94	45.1		92	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		
Surrogate: 1-Chlorooctadecane	*2.19*		mg/kg wet		*3.31*		*66*	*40-140*		
Surrogate: Ortho-Terphenyl	*2.40*		mg/kg wet		*3.31*		*72*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.41*		mg/kg wet		*2.65*		*91*	*40-140*		
LCS (1712429-BS2)					Prepared: 20-Jul-17 Analyzed: 21-Jul-17					
C9-C18 Aliphatic Hydrocarbons	**16.2**		mg/kg wet	10.0	20.0		81	40-140		
C19-C36 Aliphatic Hydrocarbons	**21.4**		mg/kg wet	10.0	26.7		80	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**44.4**		mg/kg wet	10.0	45.3		98	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.67			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.67			0-200		
Surrogate: 1-Chlorooctadecane	*2.15*		mg/kg wet		*3.33*		*64*	*40-140*		
Surrogate: Ortho-Terphenyl	*2.58*		mg/kg wet		*3.33*		*77*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.55*		mg/kg wet		*2.67*		*96*	*40-140*		
LCS Dup (1712429-BSD1)					Prepared: 20-Jul-17 Analyzed: 21-Jul-17					
C9-C18 Aliphatic Hydrocarbons	**18.5**		mg/kg wet	9.92	39.7		47	40-140	4	25
C19-C36 Aliphatic Hydrocarbons	**22.3**		mg/kg wet	9.92	52.9		42	40-140	10	25
Unadjusted C11-C22 Aromatic Hydrocarbons	**79.6**	QR2	mg/kg wet	9.92	90.0		88	40-140	63	25
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		5.29			0-200		200
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		5.29			0-200		200
Surrogate: 1-Chlorooctadecane	*2.72*		mg/kg wet		*6.62*		*41*	*40-140*		
Surrogate: Ortho-Terphenyl	*8.79*		mg/kg wet		*6.62*		*133*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*4.57*		mg/kg wet		*5.29*		*86*	*40-140*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 6010C										
Batch 1712365 - SW846 3050B										
Blank (1712365-BLK1)					Prepared: 19-Jul-17 Analyzed: 20-Jul-17					
Zinc	< 0.952		mg/kg wet	0.952						
Lead	< 1.43		mg/kg wet	1.43						
Copper	< 0.952		mg/kg wet	0.952						
Chromium	< 0.952		mg/kg wet	0.952						
Arsenic	< 1.43		mg/kg wet	1.43						
Duplicate (1712365-DUP1)			**Source: SC37123-02**		Prepared: 19-Jul-17 Analyzed: 20-Jul-17					
Zinc	**25.7**		mg/kg dry	1.01		21.9			16	20
Chromium	**14.4**		mg/kg dry	1.01		13.0			10	20
Copper	**8.34**		mg/kg dry	1.01		7.16			15	20
Lead	**11.8**		mg/kg dry	1.52		10.8			9	20
Arsenic	**8.47**		mg/kg dry	1.52		8.34			2	20
Matrix Spike (1712365-MS1)			**Source: SC37123-02**		Prepared: 19-Jul-17 Analyzed: 20-Jul-17					
Zinc	**123**		mg/kg dry	1.02	127	21.9	79	75-125		
Chromium	**133**		mg/kg dry	1.02	127	13.0	94	75-125		
Copper	**133**		mg/kg dry	1.02	127	7.16	99	75-125		
Lead	**116**		mg/kg dry	1.53	127	10.8	83	75-125		
Arsenic	**119**		mg/kg dry	1.53	127	8.34	87	75-125		
Matrix Spike Dup (1712365-MSD1)			**Source: SC37123-02**		Prepared: 19-Jul-17 Analyzed: 20-Jul-17					
Zinc	**123**		mg/kg dry	1.02	127	21.9	79	75-125	0.08	20
Lead	**116**		mg/kg dry	1.52	127	10.8	83	75-125	0.3	20
Copper	**133**		mg/kg dry	1.02	127	7.16	99	75-125	0.02	20
Arsenic	**118**		mg/kg dry	1.52	127	8.34	86	75-125	1	20
Chromium	**133**		mg/kg dry	1.02	127	13.0	94	75-125	0.02	20
Post Spike (1712365-PS1)			**Source: SC37123-02**		Prepared: 19-Jul-17 Analyzed: 20-Jul-17					
Zinc	**130**		mg/kg dry	1.04	129	21.9	84	80-120		
Chromium	**136**		mg/kg dry	1.04	129	13.0	95	80-120		
Copper	**135**		mg/kg dry	1.04	129	7.16	99	80-120		
Arsenic	**125**		mg/kg dry	1.55	129	8.34	90	80-120		
Lead	**124**		mg/kg dry	1.55	129	10.8	87	80-120		
Reference (1712365-SRM1)					Prepared: 19-Jul-17 Analyzed: 20-Jul-17					
Arsenic	**14.0**		mg/kg wet	1.50	15.4		91	70.3-130.1		
Chromium	**45.4**		mg/kg wet	1.00	52.9		86	80.1-119.6		
Copper	**71.1**		mg/kg wet	1.00	79.4		90	81.7-117.6		
Lead	**59.6**		mg/kg wet	1.50	72.1		83	82-117.3		
Zinc	**100**		mg/kg wet	1.00	116		87	83-117		
Reference (1712365-SRM2)					Prepared: 19-Jul-17 Analyzed: 20-Jul-17					
Arsenic	**14.4**		mg/kg wet	1.50	14.9		96	70.3-130.1		
Chromium	**48.1**		mg/kg wet	1.00	51.4		94	80.1-119.6		
Copper	**73.6**		mg/kg wet	1.00	77.0		95	81.7-117.6		
Lead	**61.2**		mg/kg wet	1.50	70.0		88	82-117.3		
Zinc	**99.6**		mg/kg wet	1.00	112		89	83-117		

Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW9012B										
Batch 394688A - 394688-										
BLK (BY64651-BLK)						Prepared: 20-Jul-17 Analyzed: 21-Jul-17				
Total Cyanide (SW9010C Distill.)	< 0.50		mg/Kg	0.50				-		
DUP (BY64651-DUP)			**Source: BY64651**			Prepared: 20-Jul-17 Analyzed: 21-Jul-17				
Total Cyanide (SW9010C Distill.)	< 0.50		mg/Kg	0.50				-	NC	20
LCS (BY64651-LCS)						Prepared: 20-Jul-17 Analyzed: 21-Jul-17				
Total Cyanide (SW9010C Distill.)	**0.3150**		mg/Kg	0.50	999984741		106	80-120		20
MS (BY64651-MS)			**Source: BY64651**			Prepared: 20-Jul-17 Analyzed: 21-Jul-17				
Total Cyanide (SW9010C Distill.)	**10.20**		mg/Kg	0.50	00000149(		102	75-125		20

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S706517				
Calibration Check (S706517-CCV1)				
C9-C18 Aliphatic Hydrocarbons	246108.3	208332.7	0.7	25
C19-C36 Aliphatic Hydrocarbons	334013.4	184965.7	-15.4	25
Unadjusted C11-C22 Aromatic Hydrocarbons	212040.5	164705.6	9.4	25
Naphthalene (aliphatic fraction)	178410.1			
2-Methylnaphthalene (aliphatic fraction)	175120			
Calibration Check (S706517-CCV2)				
C9-C18 Aliphatic Hydrocarbons	246108.3	210179	1.7	25
C19-C36 Aliphatic Hydrocarbons	334013.4	177499.7	-20.0	25
Unadjusted C11-C22 Aromatic Hydrocarbons	212040.5	162299.6	7.6	25
Naphthalene (aliphatic fraction)	178410.1			
2-Methylnaphthalene (aliphatic fraction)	175120			

The following list indicates the date and time low-level VOC soil/sediment samples were placed in the freezer at the lab:

SC37123-02	*SP3_071817-1*	7/18/2017 5:12 PM

Notes and Definitions

D	Data reported from a dilution
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC37123-JV1

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☐ Standard TAT - 7 to 10 business days

☒ Rush TAT - Date Needed: 3 day

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

RR # 173946

Report To: AECOM
250 Apollo Dr.
Chelmsford, MA 01824

Telephone #: 978-905-7200
Project Mgr: Art Tadlock

Invoice To:

P.O No.: Quote #:

Project No: 60478638.5.01
Site Name: LMC Wilmington
Location: 40 Fordham Rd, Wilmington State: MA
Sampler(s): Tom Stott

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= Ice 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	List Preservative Code below: 7,9 / 11 / 7 / 11	Analysis: VOCs	EPH (Carbon ranges only)	VPH (Carbon ranges only)	As, Cr, Pb, Cu, Zn, cyanide	Check if chlorinated
SC37123-1	TB-071817	7-18-17	1315	G	S	2					X				☐
V 02	SP3_071817-1	7-18-17	1330	~~G~~ C	S	3	1				X	X	X	X	☐
															☐
															☐
															☐
															☐
															☐
															☐
															☐
															☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☑ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other:
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:
		7-18-17	1480
		7/18/17	1712

Temp °C
Observed: 4.4
Correction Factor: 0
Corrected: 4.4
IR ID #: 01

☐ EDD format:
☒ E-mail to: Lori.Herberich@aecom.com
Arthur.Tadlock@aecom.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☒ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

'[none]'

Subcontracted Analyses

SC37123-02 (SP3_071817-1)

1712340

Volatile Organic Compounds

1712340-BLK1
1712340-BS1
1712340-BSD1
SC37123-01 (TB-071817)
SC37123-02 (SP3_071817-1)

1712365

Total Metals by EPA 6000/7000 Series Methods

1712365-BLK1
1712365-DUP1
1712365-MS1
1712365-MSD1
1712365-PS1
1712365-SRM1
1712365-SRM2
SC37123-02 (SP3_071817-1)

1712370

General Chemistry Parameters

SC37123-02 (SP3_071817-1)

1712429

Extractable Petroleum Hydrocarbons

1712429-BLK1
1712429-BS1
1712429-BS2
1712429-BSD1
SC37123-02 (SP3_071817-1)

1712481

Volatile Organic Compounds

1712481-BLK1
1712481-BS1
1712481-BSD1
SC37123-02 (SP3_071817-1)

394688A

Subcontracted Analyses

BY64651-BLK
BY64651-DUP
BY64651-LCS
BY64651-MS
SC37123-02 (SP3_071817-1)

S703723

Volatile Organic Compounds

S703723-CAL1
S703723-CAL2
S703723-CAL3
S703723-CAL4
S703723-CAL5
S703723-CAL6
S703723-CAL7
S703723-ICV1
S703723-LCV1

S706417

Volatile Organic Compounds

S706417-CCV1
S706417-TUN1

S706452

Volatile Organic Compounds

S706452-CAL1
S706452-CAL2
S706452-CAL3
S706452-CAL4
S706452-CAL5
S706452-CAL6
S706452-CAL7
S706452-CAL8
S706452-CAL9
S706452-ICV1
S706452-LCV1
S706452-TUN1

S706462

Volatile Organic Compounds

S706462-CCV1
S706462-CCV2

S706487

Extractable Petroleum Hydrocarbons

S706487-CAL1
S706487-CAL2
S706487-CAL3
S706487-CAL4
S706487-CAL5
S706487-CAL6
S706487-CAL7
S706487-CAL8
S706487-CAL9
S706487-CALA
S706487-CALB
S706487-CALC
S706487-CALD
S706487-ICV1
S706487-ICV2
S706487-LCV1

S706517

Extractable Petroleum Hydrocarbons

S706517-CCV1
S706517-CCV2

eurofins | Spectrum Analytical

☑ Final Report
☐ Revised Report

Report Date:
26-Jul-17 11:07

Laboratory Report
SC37220

AECOM Environment
250 Apollo Drive
Chelmsford, MA 01824
Attn: Art Taddeo

Project: LMC-Wilmington- 40 Fordham Rd. - MA
Project #: 60478638.5.01

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Rebecca Merz
Quality Services Manager

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 26 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC37220

Project: LMC-Wilmington- 40 Fordham Rd. - MA

Project Number: 60478638.5.01

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC37220-01	TB_072017	Methanol/DI	20-Jul-17 12:30	20-Jul-17 15:00
SC37220-02	SP7_072017-1	Soil	20-Jul-17 12:40	20-Jul-17 15:00

The following outlines the condition of all VPH samples contained within this report upon laboratory receipt.

Matrices	Soil		
Containers	✓ Satisfactory		
Sample Preservative	**Aqueous** (acid preserved)	✓ N/A pH≤2 pH>2	
	Soil or Sediment	N/A Samples not received in Methanol	ml Methanol/g soil ✓ 1:1 +/-25% Other
		✓ Samples received in Methanol: ✓ covering soil/sediment not covering soil/sediment	
		Samples received in air-tight container	
Temperature	✓ Received on ice	Received at 4 ± 2 ºC ✓ Other: 1.0ºC	

Were all QA/QC procedures followed as required by the VPH method? *Yes*
Were any significant modifications made to the VPH method as specified in section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrices	Soil
Containers	✓ Satisfactory
Aqueous Preservative	✓ N/A pH≤2 pH>2 pH adjusted to <2 in lab
Temperature	✓ Received on ice Received at 4 ± 2 ºC ✓ Other: 1.0ºC

Were all QA/QC procedures followed as required by the EPH method? *Yes*
Were any significant modifications made to the EPH method as specified in Section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

I attest that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Authorized by:

Christina A. White
Laboratory Director

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.	**Project #:** 60478638.5.01
Project Location: LMC-Wilmington- 40 Fordham Rd. - MA	**RTN:**
This form provides certifications for the following data set:	SC37220-01 through SC37220-02
Matrices: Methanol/DI Soil	

CAM Protocol

✓ 8260 VOC CAM II A	7470/7471 Hg CAM III B	✓ MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	✓ MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B

Affirmative responses to questions A through F are required for Presumptive Certainty status

A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	✓ Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?	✓ Yes No

Responses to questions G, H and I below are required for Presumptive Certainty status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	Yes ✓ No

***Data User Note:* Data that achieve Presumptive Certainty status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ✓ No

All negative responses are addressed in a case narrative on the cover page of this report.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Christina A. White
Laboratory Director
Date: 7/26/2017

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 1.0 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

All VOC soils samples submitted and analyzed in methanol will have a minimum dilution factor of 50. This is the minimum amount of solvent allowed on the instrumentation without causing interference. Soils are run on a manual load instrument. 100ug of sample (MEOH) is spiked into 5ml DI water along with the surrogate and added directly onto the instrument. Additional dilution factors may be required to keep analyte concentration within instrument calibration range.

Method SW846 5035A is designed to use on samples containing low levels of VOCs, ranging from 0.5 to 200 ug/Kg. Target analytes that are less responsive to purge and trap may be present at concentrations over 200ug/Kg but may not be reportable in the methanol preserved vial (SW846 5030). This is the result of the inherent dilution factor required for the methanol preservation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

MADEP EPH 5/2004 R

Calibration:

1707040

Analyte quantified by quadratic equation type calibration.

Unadjusted C11-C22 Aromatic Hydrocarbons

This affected the following samples:

S706407-ICV1
S706407-ICV2

SW846 8260C

Calibration:

1707042

SW846 8260C

Calibration:

1707042

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,4-Dioxane
2-Hexanone (MBK)
4-Methyl-2-pentanone (MIBK)
Bromoform
Dibromochloromethane
Naphthalene
trans-1,3-Dichloropropene

This affected the following samples:

1712571-BLK1
1712571-BS1
1712571-BSD1
S706452-ICV1
S706545-CCV1
SP7_072017-1
TB_072017

Laboratory Control Samples:

1712571 BS/BSD

Acetone percent recoveries (146/125) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

SP7_072017-1
TB_072017

Hexachlorobutadiene percent recoveries (130/132) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

SP7_072017-1
TB_072017

Samples:

S706545-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,2-Dichlorobenzene (25.3%)
4-Isopropyltoluene (29.7%)
Hexachlorobutadiene (32.5%)
Isopropylbenzene (26.0%)
n-Butylbenzene (25.5%)
n-Propylbenzene (25.6%)
Trichlorofluoromethane (Freon 11) (-20.4%)

Analyte percent drift is outside individual acceptance criteria (20), but within overall method allowances.

4-Methyl-2-pentanone (MIBK) (-23.2%)
Acetone (24.8%)
Dibromochloromethane (-20.2%)

SW846 8260C

Samples:

S706545-CCV1

This affected the following samples:

1712571-BLK1
1712571-BS1
1712571-BSD1
SP7_072017-1
TB_072017

SW9012B

BY50161-MS

This parameter is outside laboratory ms/msd specified recovery limits.

Total Cyanide (SW9010C Distill.)

Sample Acceptance Check Form

Client:	AECOM Environment - Chelmsford, MA
Project:	LMC-Wilmington- 40 Fordham Rd. - MA / 60478638.5.01
Work Order:	SC37220
Sample(s) received on:	7/20/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC37220-02 **Client ID:** SP7_072017-1

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	11.8		1.55	mg/kg	SW846 6010C
Chromium	21.1		1.03	mg/kg	SW846 6010C
Copper	8.52		1.03	mg/kg	SW846 6010C
Lead	7.56		1.55	mg/kg	SW846 6010C
Zinc	20.9		1.03	mg/kg	SW846 6010C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB_072017 SC37220-01	60478638.5.01	Methanol/DI	20-Jul-17 12:30	20-Jul-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5035A Soil (low level)													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00	2.54	1	SW846 8260C	21-Jul-17	24-Jul-17	MP	1712571	
67-64-1	Acetone	< 50.0		µg/kg wet	50.0	20.0	1	"	"	"	"	"	
71-43-2	Benzene	< 5.00		µg/kg wet	5.00	1.32	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 5.00		µg/kg wet	5.00	1.34	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 5.00		µg/kg wet	5.00	2.52	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.00		µg/kg wet	5.00	3.34	1	"	"	"	"	"	
75-25-2	Bromoform	< 5.00		µg/kg wet	5.00	4.77	1	"	"	"	"	"	
74-83-9	Bromomethane	< 10.0		µg/kg wet	10.0	4.52	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 10.0		µg/kg wet	10.0	8.94	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 5.00		µg/kg wet	5.00	1.43	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 5.00		µg/kg wet	5.00	0.91	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 5.00		µg/kg wet	5.00	1.12	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 10.0		µg/kg wet	10.0	3.20	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 5.00		µg/kg wet	5.00	4.09	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 5.00		µg/kg wet	5.00	1.56	1	"	"	"	"	"	
75-00-3	Chloroethane	< 10.0		µg/kg wet	10.0	2.78	1	"	"	"	"	"	
67-66-3	Chloroform	< 5.00		µg/kg wet	5.00	2.68	1	"	"	"	"	"	
74-87-3	Chloromethane	< 10.0		µg/kg wet	10.0	2.06	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 5.00		µg/kg wet	5.00	1.24	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 5.00		µg/kg wet	5.00	1.18	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0	7.22	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.00		µg/kg wet	5.00	3.39	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00	3.36	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 5.00		µg/kg wet	5.00	2.60	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.30	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.08	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.48	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0	1.90	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 5.00		µg/kg wet	5.00	1.31	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 5.00		µg/kg wet	5.00	1.79	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00	1.86	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00	2.65	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 5.00		µg/kg wet	5.00	2.59	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 5.00		µg/kg wet	5.00	2.36	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 5.00		µg/kg wet	5.00	1.61	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00	3.02	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.00		µg/kg wet	5.00	0.72	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 5.00		µg/kg wet	5.00	2.51	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0	6.14	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 5.00		µg/kg wet	5.00	0.98	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB_072017	60478638.5.01	Methanol/DI	20-Jul-17 12:30	20-Jul-17
SC37220-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
99-87-6	4-Isopropyltoluene	< 5.00		µg/kg wet	5.00	1.08	1	SW846 8260C	21-Jul-17	24-Jul-17	MP	1712571	
1634-04-4	Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00	1.84	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0	2.57	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 10.0		µg/kg wet	10.0	1.98	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.00		µg/kg wet	5.00	2.98	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 5.00		µg/kg wet	5.00	0.81	1	"	"	"	"	"	
100-42-5	Styrene	< 5.00		µg/kg wet	5.00	1.00	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00	4.25	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00	4.23	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 5.00		µg/kg wet	5.00	1.71	1	"	"	"	"	"	
108-88-3	Toluene	< 5.00		µg/kg wet	5.00	1.62	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00	1.76	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00	3.68	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00	1.66	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00	3.62	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 5.00		µg/kg wet	5.00	1.36	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00	2.70	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00	3.75	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00	1.22	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00	0.86	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 5.00		µg/kg wet	5.00	1.69	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0		µg/kg wet	10.0	0.90	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.00		µg/kg wet	5.00	1.40	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 10.0		µg/kg wet	10.0	7.88	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.00		µg/kg wet	5.00	4.53	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00	1.67	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00	2.70	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 5.00		µg/kg wet	5.00	0.93	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 100		µg/kg wet	100	86.8	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*91*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*88*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*100*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*90*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP7_072017-1 SC37220-02	60478638.5.01	Soil	20-Jul-17 12:40	20-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			BD	1712539	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 5.73 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.51		µg/kg dry	5.51	2.79	1	SW846 8260C	21-Jul-17	24-Jul-17	MP	1712571	
67-64-1	Acetone	< 55.1		µg/kg dry	55.1	22.0	1	"	"	"	"	"	
71-43-2	Benzene	< 5.51		µg/kg dry	5.51	1.46	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 5.51		µg/kg dry	5.51	1.47	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 5.51		µg/kg dry	5.51	2.78	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.51		µg/kg dry	5.51	3.67	1	"	"	"	"	"	
75-25-2	Bromoform	< 5.51		µg/kg dry	5.51	5.26	1	"	"	"	"	"	
74-83-9	Bromomethane	< 11.0		µg/kg dry	11.0	4.97	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 11.0		µg/kg dry	11.0	9.85	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 5.51		µg/kg dry	5.51	1.58	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 5.51		µg/kg dry	5.51	1.00	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 5.51		µg/kg dry	5.51	1.23	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 11.0		µg/kg dry	11.0	3.53	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 5.51		µg/kg dry	5.51	4.51	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 5.51		µg/kg dry	5.51	1.72	1	"	"	"	"	"	
75-00-3	Chloroethane	< 11.0		µg/kg dry	11.0	3.06	1	"	"	"	"	"	
67-66-3	Chloroform	< 5.51		µg/kg dry	5.51	2.96	1	"	"	"	"	"	
74-87-3	Chloromethane	< 11.0		µg/kg dry	11.0	2.28	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 5.51		µg/kg dry	5.51	1.37	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 5.51		µg/kg dry	5.51	1.29	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 11.0		µg/kg dry	11.0	7.96	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.51		µg/kg dry	5.51	3.74	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.51		µg/kg dry	5.51	3.70	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 5.51		µg/kg dry	5.51	2.86	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.51		µg/kg dry	5.51	1.43	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.51		µg/kg dry	5.51	1.20	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.51		µg/kg dry	5.51	1.63	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 11.0		µg/kg dry	11.0	2.09	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 5.51		µg/kg dry	5.51	1.44	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 5.51		µg/kg dry	5.51	1.97	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 5.51		µg/kg dry	5.51	2.88	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 5.51		µg/kg dry	5.51	2.04	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 5.51		µg/kg dry	5.51	2.92	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 5.51		µg/kg dry	5.51	2.89	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 5.51		µg/kg dry	5.51	2.85	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 5.51		µg/kg dry	5.51	2.60	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 5.51		µg/kg dry	5.51	1.77	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.51		µg/kg dry	5.51	3.32	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.51		µg/kg dry	5.51	2.89	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.51		µg/kg dry	5.51	0.79	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP7_072017-1	60478638.5.01	Soil	20-Jul-17 12:40	20-Jul-17
SC37220-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260							Initial weight: 5.73 g						
87-68-3	Hexachlorobutadiene	< 5.51		µg/kg dry	5.51	2.77	1	SW846 8260C	21-Jul-17	24-Jul-17	MP	1712571	
591-78-6	2-Hexanone (MBK)	< 11.0		µg/kg dry	11.0	6.76	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 5.51		µg/kg dry	5.51	1.09	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 5.51		µg/kg dry	5.51	1.18	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.51		µg/kg dry	5.51	2.03	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 11.0		µg/kg dry	11.0	2.83	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 11.0		µg/kg dry	11.0	2.19	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.51		µg/kg dry	5.51	3.28	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 5.51		µg/kg dry	5.51	0.89	1	"	"	"	"	"	
100-42-5	Styrene	< 5.51		µg/kg dry	5.51	1.11	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 5.51		µg/kg dry	5.51	4.68	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.51		µg/kg dry	5.51	4.66	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 5.51		µg/kg dry	5.51	1.88	1	"	"	"	"	"	
108-88-3	Toluene	< 5.51		µg/kg dry	5.51	1.78	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 5.51		µg/kg dry	5.51	1.93	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.51		µg/kg dry	5.51	4.06	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.51		µg/kg dry	5.51	1.83	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 5.51		µg/kg dry	5.51	3.99	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 5.51		µg/kg dry	5.51	1.50	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.51		µg/kg dry	5.51	2.97	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 5.51		µg/kg dry	5.51	4.13	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 5.51		µg/kg dry	5.51	1.34	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 5.51		µg/kg dry	5.51	0.95	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 5.51		µg/kg dry	5.51	1.86	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 11.0		µg/kg dry	11.0	0.99	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.51		µg/kg dry	5.51	1.54	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 11.0		µg/kg dry	11.0	8.68	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.51		µg/kg dry	5.51	4.99	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 5.51		µg/kg dry	5.51	1.84	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 5.51		µg/kg dry	5.51	2.97	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 5.51		µg/kg dry	5.51	1.02	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 110		µg/kg dry	110	95.7	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*84*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*88*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*107*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*92*			*70-130 %*			"	"	"	"	"	
MADEP VPH Carbon Ranges													
Prepared by method VPH - EPA 5035A Soil							Initial weight: 16.37 g						
	C5-C8 Aliphatic Hydrocarbons	< 0.863	D	mg/kg dry	0.863	0.167	50	MADEP VPH 5/2004 Rev. 1.1	21-Jul-17	21-Jul-17	SD	1712563	
	C9-C12 Aliphatic Hydrocarbons	< 0.288	D	mg/kg dry	0.288	0.120	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP7_072017-1 SC37220-02	60478638.5.01	Soil	20-Jul-17 12:40	20-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH Carbon Ranges							Initial weight: 16.37 g						
	C9-C10 Aromatic Hydrocarbons	< 0.288	D	mg/kg dry	0.288	0.0349	50	MADEP VPH 5/2004 Rev. 1.1	21-Jul-17	21-Jul-17	SD	1712563	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.863	D	mg/kg dry	0.863	0.134	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.288	D	mg/kg dry	0.288	0.152	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*80*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*91*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Carbon Ranges Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 11.1		mg/kg dry	11.1	1.55	1	MADEP EPH 5/2004 R	24-Jul-17	25-Jul-17	EDT	1712636	
	C19-C36 Aliphatic Hydrocarbons	< 11.1		mg/kg dry	11.1	1.56	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 11.1		mg/kg dry	11.1	5.29	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 11.1		mg/kg dry	11.1	5.29	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*71*			*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*63*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*66*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods Prepared by method SW846 3050B													
7440-22-4	Silver	< 1.55		mg/kg dry	1.55	0.167	1	SW846 6010C	21-Jul-17	25-Jul-17	jlc/tbc	1712546	
7440-38-2	Arsenic	**11.8**		mg/kg dry	1.55	0.196	1	"	"	"	"	"	
7440-47-3	Chromium	**21.1**		mg/kg dry	1.03	0.137	1	"	"	"	"	"	
7440-50-8	Copper	**8.52**		mg/kg dry	1.03	0.248	1	"	"	"	"	"	
7439-92-1	Lead	**7.56**		mg/kg dry	1.55	0.219	1	"	"	"	"	"	
7440-66-6	Zinc	**20.9**		mg/kg dry	1.03	0.799	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**89.1**		%			1	SM2540 G (11) Mod.	20-Jul-17	20-Jul-17	BD	1712516	
Subcontracted Analyses													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
	Percent Solid	**89**		%			1	SW846-%Solid		21-Jul-17 21:55	M-CT0	'[none]'	
Prepared by method 394935-													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
57-12-5	Total Cyanide (SW9010C Distill.)	< 0.56		mg/Kg	0.56	0.56	1	SW9012B	23-Jul-17	24-Jul-17 08:05	M-CT0	394935A	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP VPH 5/2004 Rev. 1.1										
Batch 1712563 - VPH - EPA 5035A Soil										
Blank (1712563-BLK1)					Prepared & Analyzed: 21-Jul-17					
C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
C9-C10 Aromatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Surrogate: 2,5-Dibromotoluene (FID)	*41.1*		µg/kg		*50.0*		*82*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*46.4*		µg/kg		*50.0*		*93*	*70-130*		
LCS (1712563-BS1)					Prepared & Analyzed: 21-Jul-17					
C5-C8 Aliphatic Hydrocarbons	**49.1**	D	µg/kg		60.0		82	70-130		
C9-C12 Aliphatic Hydrocarbons	**57.5**	D	µg/kg		60.0		96	70-130		
C9-C10 Aromatic Hydrocarbons	**23.1**	D	µg/kg		20.0		116	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**208**	D	µg/kg		200		104	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**80.7**	D	µg/kg		80.0		101	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*40.7*		µg/kg		*50.0*		*81*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*46.1*		µg/kg		*50.0*		*92*	*70-130*		
LCS Dup (1712563-BSD1)					Prepared & Analyzed: 21-Jul-17					
C5-C8 Aliphatic Hydrocarbons	**45.6**	D	µg/kg		60.0		76	70-130	7	25
C9-C12 Aliphatic Hydrocarbons	**61.6**	D	µg/kg		60.0		103	70-130	7	25
C9-C10 Aromatic Hydrocarbons	**22.7**	D	µg/kg		20.0		113	70-130	2	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**202**	D	µg/kg		200		101	70-130	3	25
Unadjusted C9-C12 Aliphatic Hydrocarbons	**84.2**	D	µg/kg		80.0		105	70-130	4	25
Surrogate: 2,5-Dibromotoluene (FID)	*41.8*		µg/kg		*50.0*		*84*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*46.8*		µg/kg		*50.0*		*94*	*70-130*		
SW846 8260C										
Batch 1712571 - SW846 5035A Soil (low level)										
Blank (1712571-BLK1)					Prepared & Analyzed: 24-Jul-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00						
Acetone	< 50.0		µg/kg wet	50.0						
Benzene	< 5.00		µg/kg wet	5.00						
Bromobenzene	< 5.00		µg/kg wet	5.00						
Bromochloromethane	< 5.00		µg/kg wet	5.00						
Bromodichloromethane	< 5.00		µg/kg wet	5.00						
Bromoform	< 5.00		µg/kg wet	5.00						
Bromomethane	< 10.0		µg/kg wet	10.0						
2-Butanone (MEK)	< 10.0		µg/kg wet	10.0						
n-Butylbenzene	< 5.00		µg/kg wet	5.00						
sec-Butylbenzene	< 5.00		µg/kg wet	5.00						
tert-Butylbenzene	< 5.00		µg/kg wet	5.00						
Carbon disulfide	< 10.0		µg/kg wet	10.0						
Carbon tetrachloride	< 5.00		µg/kg wet	5.00						
Chlorobenzene	< 5.00		µg/kg wet	5.00						
Chloroethane	< 10.0		µg/kg wet	10.0						
Chloroform	< 5.00		µg/kg wet	5.00						
Chloromethane	< 10.0		µg/kg wet	10.0						
2-Chlorotoluene	< 5.00		µg/kg wet	5.00						
4-Chlorotoluene	< 5.00		µg/kg wet	5.00						
1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712571 - SW846 5035A Soil (low level)										
Blank (1712571-BLK1)					Prepared & Analyzed: 24-Jul-17					
Dibromochloromethane	< 5.00		µg/kg wet	5.00						
1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00						
Dibromomethane	< 5.00		µg/kg wet	5.00						
1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0						
1,1-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,2-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,1-Dichloroethene	< 5.00		µg/kg wet	5.00						
cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
1,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,3-Dichloropropane	< 5.00		µg/kg wet	5.00						
2,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,1-Dichloropropene	< 5.00		µg/kg wet	5.00						
cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
Ethylbenzene	< 5.00		µg/kg wet	5.00						
Hexachlorobutadiene	< 5.00		µg/kg wet	5.00						
2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0						
Isopropylbenzene	< 5.00		µg/kg wet	5.00						
4-Isopropyltoluene	< 5.00		µg/kg wet	5.00						
Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0						
Methylene chloride	< 10.0		µg/kg wet	10.0						
Naphthalene	< 5.00		µg/kg wet	5.00						
n-Propylbenzene	< 5.00		µg/kg wet	5.00						
Styrene	< 5.00		µg/kg wet	5.00						
1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
Tetrachloroethene	< 5.00		µg/kg wet	5.00						
Toluene	< 5.00		µg/kg wet	5.00						
1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00						
1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00						
Trichloroethene	< 5.00		µg/kg wet	5.00						
Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00						
1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00						
1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
Vinyl chloride	< 5.00		µg/kg wet	5.00						
m,p-Xylene	< 10.0		µg/kg wet	10.0						
o-Xylene	< 5.00		µg/kg wet	5.00						
Tetrahydrofuran	< 10.0		µg/kg wet	10.0						
Ethyl ether	< 5.00		µg/kg wet	5.00						
Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00						
Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
Di-isopropyl ether	< 5.00		µg/kg wet	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712571 - SW846 5035A Soil (low level)										
Blank (1712571-BLK1)							Prepared & Analyzed: 24-Jul-17			
1,4-Dioxane	< 100		µg/kg wet	100						
Surrogate: 4-Bromofluorobenzene	*45.5*		µg/kg		*50.0*		*91*	*70-130*		
Surrogate: Toluene-d8	*44.8*		µg/kg		*50.0*		*90*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*54.0*		µg/kg		*50.0*		*108*	*70-130*		
Surrogate: Dibromofluoromethane	*47.5*		µg/kg		*50.0*		*95*	*70-130*		
LCS (1712571-BS1)							Prepared & Analyzed: 24-Jul-17			
1,1,2-Trichlorotrifluoroethane (Freon 113)	**17.3**		µg/kg		20.0		86	70-130		
Acetone	**29.1**		µg/kg		20.0		146	70-130		
Benzene	**18.6**		µg/kg		20.0		93	70-130		
Bromobenzene	**22.7**		µg/kg		20.0		113	70-130		
Bromochloromethane	**17.6**		µg/kg		20.0		88	70-130		
Bromodichloromethane	**16.1**		µg/kg		20.0		80	70-130		
Bromoform	**18.2**		µg/kg		20.0		91	70-130		
Bromomethane	**19.2**		µg/kg		20.0		96	70-130		
2-Butanone (MEK)	**16.1**		µg/kg		20.0		81	70-130		
n-Butylbenzene	**25.1**		µg/kg		20.0		126	70-130		
sec-Butylbenzene	**23.6**		µg/kg		20.0		118	70-130		
tert-Butylbenzene	**23.8**		µg/kg		20.0		119	70-130		
Carbon disulfide	**16.2**		µg/kg		20.0		81	70-130		
Carbon tetrachloride	**16.2**		µg/kg		20.0		81	70-130		
Chlorobenzene	**22.8**		µg/kg		20.0		114	70-130		
Chloroethane	**19.1**		µg/kg		20.0		96	70-130		
Chloroform	**17.1**		µg/kg		20.0		85	70-130		
Chloromethane	**16.6**		µg/kg		20.0		83	70-130		
2-Chlorotoluene	**20.3**		µg/kg		20.0		102	70-130		
4-Chlorotoluene	**23.6**		µg/kg		20.0		118	70-130		
1,2-Dibromo-3-chloropropane	**20.0**		µg/kg		20.0		100	70-130		
Dibromochloromethane	**15.4**		µg/kg		20.0		77	70-130		
1,2-Dibromoethane (EDB)	**17.0**		µg/kg		20.0		85	70-130		
Dibromomethane	**16.8**		µg/kg		20.0		84	70-130		
1,2-Dichlorobenzene	**23.8**		µg/kg		20.0		119	70-130		
1,3-Dichlorobenzene	**23.7**		µg/kg		20.0		119	70-130		
1,4-Dichlorobenzene	**23.4**		µg/kg		20.0		117	70-130		
Dichlorodifluoromethane (Freon12)	**16.1**		µg/kg		20.0		81	70-130		
1,1-Dichloroethane	**17.7**		µg/kg		20.0		89	70-130		
1,2-Dichloroethane	**16.2**		µg/kg		20.0		81	70-130		
1,1-Dichloroethene	**18.5**		µg/kg		20.0		93	70-130		
cis-1,2-Dichloroethene	**18.4**		µg/kg		20.0		92	70-130		
trans-1,2-Dichloroethene	**18.0**		µg/kg		20.0		90	70-130		
1,2-Dichloropropane	**18.0**		µg/kg		20.0		90	70-130		
1,3-Dichloropropane	**17.0**		µg/kg		20.0		85	70-130		
2,2-Dichloropropane	**17.9**		µg/kg		20.0		90	70-130		
1,1-Dichloropropene	**17.8**		µg/kg		20.0		89	70-130		
cis-1,3-Dichloropropene	**16.7**		µg/kg		20.0		83	70-130		
trans-1,3-Dichloropropene	**16.1**		µg/kg		20.0		81	70-130		
Ethylbenzene	**23.8**		µg/kg		20.0		119	70-130		
Hexachlorobutadiene	**26.0**		µg/kg		20.0		130	70-130		
2-Hexanone (MBK)	**17.2**		µg/kg		20.0		86	70-130		
Isopropylbenzene	**23.8**		µg/kg		20.0		119	70-130		
4-Isopropyltoluene	**25.5**		µg/kg		20.0		128	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712571 - SW846 5035A Soil (low level)										
LCS (1712571-BS1)					Prepared & Analyzed: 24-Jul-17					
Methyl tert-butyl ether	**16.8**		µg/kg		20.0		84	70-130		
4-Methyl-2-pentanone (MIBK)	**16.1**		µg/kg		20.0		80	70-130		
Methylene chloride	**17.0**		µg/kg		20.0		85	70-130		
Naphthalene	**21.4**		µg/kg		20.0		107	70-130		
n-Propylbenzene	**24.0**		µg/kg		20.0		120	70-130		
Styrene	**22.5**		µg/kg		20.0		112	70-130		
1,1,1,2-Tetrachloroethane	**21.5**		µg/kg		20.0		107	70-130		
1,1,2,2-Tetrachloroethane	**21.2**		µg/kg		20.0		106	70-130		
Tetrachloroethene	**18.9**		µg/kg		20.0		94	70-130		
Toluene	**18.4**		µg/kg		20.0		92	70-130		
1,2,3-Trichlorobenzene	**24.0**		µg/kg		20.0		120	70-130		
1,2,4-Trichlorobenzene	**23.5**		µg/kg		20.0		118	70-130		
1,1,1-Trichloroethane	**17.4**		µg/kg		20.0		87	70-130		
1,1,2-Trichloroethane	**17.6**		µg/kg		20.0		88	70-130		
Trichloroethene	**18.1**		µg/kg		20.0		91	70-130		
Trichlorofluoromethane (Freon 11)	**17.0**		µg/kg		20.0		85	70-130		
1,2,3-Trichloropropane	**21.3**		µg/kg		20.0		106	70-130		
1,2,4-Trimethylbenzene	**23.6**		µg/kg		20.0		118	70-130		
1,3,5-Trimethylbenzene	**22.9**		µg/kg		20.0		114	70-130		
Vinyl chloride	**17.7**		µg/kg		20.0		88	70-130		
m,p-Xylene	**23.5**		µg/kg		20.0		117	70-130		
o-Xylene	**23.8**		µg/kg		20.0		119	70-130		
Tetrahydrofuran	**15.5**		µg/kg		20.0		78	70-130		
Ethyl ether	**19.4**		µg/kg		20.0		97	70-130		
Tert-amyl methyl ether	**16.0**		µg/kg		20.0		80	70-130		
Ethyl tert-butyl ether	**17.4**		µg/kg		20.0		87	70-130		
Di-isopropyl ether	**17.2**		µg/kg		20.0		86	70-130		
1,4-Dioxane	**160**		µg/kg		200		80	70-130		
Surrogate: 4-Bromofluorobenzene	*48.4*		µg/kg		*50.0*		*97*	*70-130*		
Surrogate: Toluene-d8	*44.9*		µg/kg		*50.0*		*90*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*45.1*		µg/kg		*50.0*		*90*	*70-130*		
Surrogate: Dibromofluoromethane	*45.6*		µg/kg		*50.0*		*91*	*70-130*		
LCS Dup (1712571-BSD1)					Prepared & Analyzed: 24-Jul-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**17.8**		µg/kg		20.0		89	70-130	3	30
Acetone	**25.0**		µg/kg		20.0		125	70-130	15	30
Benzene	**19.4**		µg/kg		20.0		97	70-130	4	30
Bromobenzene	**23.8**		µg/kg		20.0		119	70-130	5	30
Bromochloromethane	**18.4**		µg/kg		20.0		92	70-130	5	30
Bromodichloromethane	**16.8**		µg/kg		20.0		84	70-130	4	30
Bromoform	**19.8**		µg/kg		20.0		99	70-130	9	30
Bromomethane	**19.7**		µg/kg		20.0		99	70-130	3	30
2-Butanone (MEK)	**19.7**		µg/kg		20.0		99	70-130	20	30
n-Butylbenzene	**25.1**		µg/kg		20.0		125	70-130	0.04	30
sec-Butylbenzene	**23.8**		µg/kg		20.0		119	70-130	1	30
tert-Butylbenzene	**23.6**		µg/kg		20.0		118	70-130	0.6	30
Carbon disulfide	**16.8**		µg/kg		20.0		84	70-130	4	30
Carbon tetrachloride	**16.7**		µg/kg		20.0		84	70-130	3	30
Chlorobenzene	**23.7**		µg/kg		20.0		119	70-130	4	30
Chloroethane	**18.7**		µg/kg		20.0		93	70-130	2	30
Chloroform	**17.9**		µg/kg		20.0		89	70-130	5	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712571 - SW846 5035A Soil (low level)										
LCS Dup (1712571-BSD1)					Prepared & Analyzed: 24-Jul-17					
Chloromethane	**16.7**		µg/kg		20.0		84	70-130	0.7	30
2-Chlorotoluene	**20.9**		µg/kg		20.0		105	70-130	3	30
4-Chlorotoluene	**23.7**		µg/kg		20.0		118	70-130	0.4	30
1,2-Dibromo-3-chloropropane	**21.6**		µg/kg		20.0		108	70-130	8	30
Dibromochloromethane	**16.0**		µg/kg		20.0		80	70-130	3	30
1,2-Dibromoethane (EDB)	**18.0**		µg/kg		20.0		90	70-130	6	30
Dibromomethane	**17.4**		µg/kg		20.0		87	70-130	4	30
1,2-Dichlorobenzene	**25.1**		µg/kg		20.0		125	70-130	5	30
1,3-Dichlorobenzene	**23.4**		µg/kg		20.0		117	70-130	1	30
1,4-Dichlorobenzene	**23.8**		µg/kg		20.0		119	70-130	2	30
Dichlorodifluoromethane (Freon12)	**16.5**		µg/kg		20.0		82	70-130	2	30
1,1-Dichloroethane	**18.3**		µg/kg		20.0		92	70-130	3	30
1,2-Dichloroethane	**16.7**		µg/kg		20.0		84	70-130	3	30
1,1-Dichloroethene	**19.0**		µg/kg		20.0		95	70-130	3	30
cis-1,2-Dichloroethene	**19.0**		µg/kg		20.0		95	70-130	3	30
trans-1,2-Dichloroethene	**18.4**		µg/kg		20.0		92	70-130	2	30
1,2-Dichloropropane	**18.6**		µg/kg		20.0		93	70-130	3	30
1,3-Dichloropropane	**17.9**		µg/kg		20.0		89	70-130	5	30
2,2-Dichloropropane	**19.0**		µg/kg		20.0		95	70-130	6	30
1,1-Dichloropropene	**18.3**		µg/kg		20.0		92	70-130	3	30
cis-1,3-Dichloropropene	**17.4**		µg/kg		20.0		87	70-130	4	30
trans-1,3-Dichloropropene	**17.0**		µg/kg		20.0		85	70-130	5	30
Ethylbenzene	**23.8**		µg/kg		20.0		119	70-130	0.2	30
Hexachlorobutadiene	**26.5**	QM9	µg/kg		20.0		132	70-130	2	30
2-Hexanone (MBK)	**17.1**		µg/kg		20.0		86	70-130	0.8	30
Isopropylbenzene	**25.2**		µg/kg		20.0		126	70-130	6	30
4-Isopropyltoluene	**25.9**		µg/kg		20.0		130	70-130	2	30
Methyl tert-butyl ether	**17.6**		µg/kg		20.0		88	70-130	5	30
4-Methyl-2-pentanone (MIBK)	**15.4**		µg/kg		20.0		77	70-130	4	30
Methylene chloride	**17.7**		µg/kg		20.0		88	70-130	4	30
Naphthalene	**19.3**		µg/kg		20.0		96	70-130	11	30
n-Propylbenzene	**25.1**		µg/kg		20.0		126	70-130	4	30
Styrene	**23.4**		µg/kg		20.0		117	70-130	4	30
1,1,1,2-Tetrachloroethane	**22.8**		µg/kg		20.0		114	70-130	6	30
1,1,2,2-Tetrachloroethane	**23.0**		µg/kg		20.0		115	70-130	8	30
Tetrachloroethene	**19.7**		µg/kg		20.0		99	70-130	4	30
Toluene	**19.1**		µg/kg		20.0		95	70-130	3	30
1,2,3-Trichlorobenzene	**23.7**		µg/kg		20.0		118	70-130	1	30
1,2,4-Trichlorobenzene	**23.1**		µg/kg		20.0		116	70-130	2	30
1,1,1-Trichloroethane	**17.8**		µg/kg		20.0		89	70-130	2	30
1,1,2-Trichloroethane	**18.2**		µg/kg		20.0		91	70-130	3	30
Trichloroethene	**18.8**		µg/kg		20.0		94	70-130	4	30
Trichlorofluoromethane (Freon 11)	**15.9**		µg/kg		20.0		80	70-130	7	30
1,2,3-Trichloropropane	**22.6**		µg/kg		20.0		113	70-130	6	30
1,2,4-Trimethylbenzene	**24.0**		µg/kg		20.0		120	70-130	2	30
1,3,5-Trimethylbenzene	**23.3**		µg/kg		20.0		117	70-130	2	30
Vinyl chloride	**18.0**		µg/kg		20.0		90	70-130	2	30
m,p-Xylene	**23.2**		µg/kg		20.0		116	70-130	1	30
o-Xylene	**23.8**		µg/kg		20.0		119	70-130	0.2	30
Tetrahydrofuran	**16.8**		µg/kg		20.0		84	70-130	8	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1712571 - SW846 5035A Soil (low level)										
LCS Dup (1712571-BSD1)					Prepared & Analyzed: 24-Jul-17					
Ethyl ether	**19.8**		µg/kg		20.0		99	70-130	2	30
Tert-amyl methyl ether	**17.0**		µg/kg		20.0		85	70-130	6	30
Ethyl tert-butyl ether	**18.1**		µg/kg		20.0		91	70-130	4	30
Di-isopropyl ether	**17.9**		µg/kg		20.0		90	70-130	4	30
1,4-Dioxane	**167**		µg/kg		200		84	70-130	5	30
Surrogate: 4-Bromofluorobenzene	*48.2*		µg/kg		*50.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*45.0*		µg/kg		*50.0*		*90*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*45.2*		µg/kg		*50.0*		*90*	*70-130*		
Surrogate: Dibromofluoromethane	*45.5*		µg/kg		*50.0*		*91*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1712636 - SW846 3546										
Blank (1712636-BLK1)					Prepared: 24-Jul-17 Analyzed: 25-Jul-17					
C9-C18 Aliphatic Hydrocarbons	< 9.91		mg/kg wet	9.91						
C19-C36 Aliphatic Hydrocarbons	< 9.91		mg/kg wet	9.91						
C11-C22 Aromatic Hydrocarbons	< 9.91		mg/kg wet	9.91						
Unadjusted C11-C22 Aromatic Hydrocarbons	< 9.91		mg/kg wet	9.91						
Total Petroleum Hydrocarbons	< 29.7		mg/kg wet	29.7						
Unadjusted Total Petroleum Hydrocarbons	< 29.7		mg/kg wet	29.7						
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
Surrogate: 1-Chlorooctadecane	*2.53*		mg/kg wet		*3.30*		*77*	*40-140*		
Surrogate: Ortho-Terphenyl	*2.19*		mg/kg wet		*3.30*		*66*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*1.56*		mg/kg wet		*2.64*		*59*	*40-140*		
LCS (1712636-BS1)					Prepared: 24-Jul-17 Analyzed: 25-Jul-17					
C9-C18 Aliphatic Hydrocarbons	**22.8**		mg/kg wet	9.96	39.8		57	40-140		
C19-C36 Aliphatic Hydrocarbons	**35.0**		mg/kg wet	9.96	53.1		66	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**54.8**		mg/kg wet	9.96	45.2		121	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.66			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.66			0-200		
Surrogate: 1-Chlorooctadecane	*3.20*		mg/kg wet		*3.32*		*96*	*40-140*		
Surrogate: Ortho-Terphenyl	*3.33*		mg/kg wet		*3.32*		*100*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*3.19*		mg/kg wet		*2.66*		*120*	*40-140*		
LCS (1712636-BS2)					Prepared: 24-Jul-17 Analyzed: 25-Jul-17					
C9-C18 Aliphatic Hydrocarbons	**21.0**		mg/kg wet	10.0	40.0		52	40-140		
C19-C36 Aliphatic Hydrocarbons	**29.5**		mg/kg wet	10.0	53.3		55	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**42.1**		mg/kg wet	10.0	45.3		93	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.67			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.67			0-200		
Surrogate: 1-Chlorooctadecane	*3.19*		mg/kg wet		*3.33*		*96*	*40-140*		
Surrogate: Ortho-Terphenyl	*2.73*		mg/kg wet		*3.33*		*82*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.54*		mg/kg wet		*2.67*		*95*	*40-140*		
LCS Dup (1712636-BSD1)					Prepared: 24-Jul-17 Analyzed: 25-Jul-17					
C9-C18 Aliphatic Hydrocarbons	**21.3**		mg/kg wet	9.93	39.7		54	40-140	7	25
C19-C36 Aliphatic Hydrocarbons	**30.8**		mg/kg wet	9.93	53.0		58	40-140	13	25
Unadjusted C11-C22 Aromatic Hydrocarbons	**43.6**		mg/kg wet	9.93	45.0		97	40-140	23	25
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		200
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		200
Surrogate: 1-Chlorooctadecane	*3.28*		mg/kg wet		*3.31*		*99*	*40-140*		
Surrogate: Ortho-Terphenyl	*2.69*		mg/kg wet		*3.31*		*81*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.59*		mg/kg wet		*2.65*		*98*	*40-140*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 6010C										
Batch 1712546 - SW846 3050B										
Blank (1712546-BLK1)					Prepared: 21-Jul-17 Analyzed: 25-Jul-17					
Arsenic	< 1.40		mg/kg wet	1.40						
Chromium	< 0.931		mg/kg wet	0.931						
Copper	< 0.931		mg/kg wet	0.931						
Lead	< 1.40		mg/kg wet	1.40						
Zinc	< 0.931		mg/kg wet	0.931						
Silver	< 1.40		mg/kg wet	1.40						
Reference (1712546-SRM1)					Prepared: 21-Jul-17 Analyzed: 25-Jul-17					
Lead	**63.0**		mg/kg wet	1.50	71.1		89	82-117.3		
Silver	**15.8**		mg/kg wet	1.50	18.6		85	75.8-124.2		
Arsenic	**14.3**		mg/kg wet	1.50	15.1		94	70.3-130.1		
Copper	**73.4**		mg/kg wet	1.00	78.3		94	81.7-117.6		
Zinc	**100**		mg/kg wet	1.00	114		88	83-117		
Chromium	**47.2**		mg/kg wet	1.00	52.2		90	80.1-119.6		
Reference (1712546-SRM2)					Prepared: 21-Jul-17 Analyzed: 25-Jul-17					
Silver	**16.0**		mg/kg wet	1.50	18.5		86	75.8-124.2		
Arsenic	**14.0**		mg/kg wet	1.50	15.0		94	70.3-130.1		
Chromium	**47.7**		mg/kg wet	1.00	51.8		92	80.1-119.6		
Copper	**75.2**		mg/kg wet	1.00	77.6		97	81.7-117.6		
Lead	**61.2**		mg/kg wet	1.50	70.5		87	82-117.3		
Zinc	**100**		mg/kg wet	1.00	113		89	83-117		

Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW9012B										
Batch 394935A - 394935-										
BLK (BY50161-BLK)						Prepared: 23-Jul-17 Analyzed: 24-Jul-17				
Total Cyanide (SW9010C Distill.)	< 0.50		mg/Kg	0.50				-		
DUP (BY50161-DUP)			**Source: BY50161**			Prepared: 23-Jul-17 Analyzed: 24-Jul-17				
Total Cyanide (SW9010C Distill.)	**16.5**		mg/Kg	0.55				-	9.8	20
LCS (BY50161-LCS)						Prepared: 23-Jul-17 Analyzed: 24-Jul-17				
Total Cyanide (SW9010C Distill.)	**0.2870**		mg/Kg	0.50	999984741		96.2	80-120		20
MS (BY50161-MS)			**Source: BY50161**			Prepared: 23-Jul-17 Analyzed: 24-Jul-17				
Total Cyanide (SW9010C Distill.)	**29.45**	m	mg/Kg	0.50	00000149(		128	75-125		20

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S706611				
Calibration Check (S706611-CCV1)				
C9-C18 Aliphatic Hydrocarbons	705447.3	626815	-11.1	25
C19-C36 Aliphatic Hydrocarbons	652122.9	492533.3	-7.8	25
Unadjusted C11-C22 Aromatic Hydrocarbons	21.98022	16.16389	-12.8	25
Calibration Check (S706611-CCV2)				
C9-C18 Aliphatic Hydrocarbons	705447.3	663500.7	-5.9	25
C19-C36 Aliphatic Hydrocarbons	652122.9	511761.3	-3.9	25
Unadjusted C11-C22 Aromatic Hydrocarbons	21.98022	18.50243	1.7	25

The following list indicates the date and time low-level VOC soil/sediment samples were placed in the freezer at the lab:

SC37220-02	*SP7_072017-1*	7/20/2017 3:00 PM

Notes and Definitions

D	Data reported from a dilution
m	This parameter is outside laboratory ms/msd specified recovery limits.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC37220 JH

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
- ☑ Rush TAT - Date Needed: 3 DAY TAT

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: AECOM
250 Apollo Dr.
Chelmsford, MA 01824

Telephone #: 978-905-2100
Project Mgr: Art Tadder

Invoice To:

P.O No.: Quote #:

Project No: 60473638.5.01
Site Name: LMC Wilmington
Location: 40 Fordham Rd, Wilmington State: MA
Sampler(s): Tom Craft

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	List Preservative Code below: 7,9 / 7 / 11 / 11 — Analysis: VOCs (8260)	VPH ranges - carbon	EPH ranges - carbon	Pb, Cu, Zn, Ni, As, cyanide	Check if chlorinated
SC37220-01	TB-07 2017	7-2017	1230	G	S	2				X				☐
↓ 02	SPT_072017-1	↓	1240	C	S	3	1			X	X	X	X	☐
														☐
														☐
														☐
														☐
														☐
														☐
														☐
														☐
														☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☒ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other:
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp °C
		7-28-17	1252	Observed 1.0
DSR		7/28/17	1500	Correction Factor 0
				Corrected 1.0 @ 7/27/17
				IR ID # 01

☐ EDD format:
☒ E-mail to: Lori.Herbrich@aecom.com
Arthur.Tadder@aecom.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☒ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

'[none]'

Subcontracted Analyses

SC37220-02 (SP7_072017-1)

1712516

General Chemistry Parameters

SC37220-02 (SP7_072017-1)

1712546

Total Metals by EPA 6000/7000 Series Methods

1712546-BLK1
1712546-SRM1
1712546-SRM2
SC37220-02 (SP7_072017-1)

1712563

Volatile Organic Compounds

1712563-BLK1
1712563-BS1
1712563-BSD1
SC37220-02 (SP7_072017-1)

1712571

Volatile Organic Compounds

1712571-BLK1
1712571-BS1
1712571-BSD1
SC37220-01 (TB_072017)
SC37220-02 (SP7_072017-1)

1712636

Extractable Petroleum Hydrocarbons

1712636-BLK1
1712636-BS1
1712636-BS2
1712636-BSD1
SC37220-02 (SP7_072017-1)

394935A

Subcontracted Analyses

BY50161-BLK
BY50161-DUP
BY50161-LCS
BY50161-MS
SC37220-02 (SP7_072017-1)

S703723

Volatile Organic Compounds

S703723-CAL1
S703723-CAL2
S703723-CAL3
S703723-CAL4
S703723-CAL5
S703723-CAL6
S703723-CAL7
S703723-ICV1
S703723-LCV1

S706407

Extractable Petroleum Hydrocarbons

S706407-CAL1
S706407-CAL2
S706407-CAL3
S706407-CAL4
S706407-CAL5
S706407-CAL6
S706407-CAL7
S706407-CAL8
S706407-CAL9
S706407-CALA
S706407-CALB
S706407-CALC
S706407-CALD
S706407-CALE
S706407-CALF
S706407-CALG
S706407-CALH
S706407-CALI
S706407-CALJ
S706407-ICV1
S706407-ICV2
S706407-ICV3
S706407-LCV1
S706407-LCV2
S706407-TUN1

S706452

Volatile Organic Compounds

S706452-CAL1
S706452-CAL2
S706452-CAL3
S706452-CAL4
S706452-CAL5
S706452-CAL6
S706452-CAL7
S706452-CAL8
S706452-CAL9
S706452-ICV1
S706452-LCV1
S706452-TUN1

S706496

Volatile Organic Compounds

S706496-CCV1
S706496-CCV2

S706545

Volatile Organic Compounds

S706545-CCV1
S706545-TUN1

S706611

Extractable Petroleum Hydrocarbons

S706611-CCV1
S706611-CCV2
S706611-TUN1

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☑ Final Report
☐ Revised Report

Report Date:
07-Aug-17 14:52

Laboratory Report
SC37605

AECOM Environment
250 Apollo Drive
Chelmsford, MA 01824
Attn: Art Taddeo

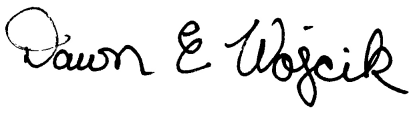
Project: LMC-Wilmington- 40 Fordham Rd. - MA
Project #: 60478638.5.01

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director



Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 35 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC37605

Project: LMC-Wilmington- 40 Fordham Rd. - MA

Project Number: 60478638.5.01

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC37605-01	TB-073117	Methanol/DI	31-Jul-17 11:00	31-Jul-17 16:35
SC37605-02	SB8_073117-1	Soil	31-Jul-17 11:20	31-Jul-17 16:35
SC37605-03	SB8_073117-2	Soil	31-Jul-17 11:25	31-Jul-17 16:35

The following outlines the condition of all VPH samples contained within this report upon laboratory receipt.

Matrices	Soil		
Containers	✓ Satisfactory		
Sample Preservative	**Aqueous** (acid preserved)	✓ N/A pH≤2 pH>2	
	Soil or Sediment	N/A Samples not received in Methanol	ml Methanol/g soil ✓ 1:1 +/-25% Other
		✓ Samples received in Methanol: ✓ covering soil/sediment not covering soil/sediment	
		Samples received in air-tight container	
Temperature	✓ Received on ice ✓ Received at 4 ± 2 ºC		

Were all QA/QC procedures followed as required by the VPH method? *Yes*
Were any significant modifications made to the VPH method as specified in section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrices	Soil
Containers	✓ Satisfactory
Aqueous Preservative	✓ N/A pH≤2 pH>2 pH adjusted to <2 in lab
Temperature	✓ Received on ice ✓ Received at 4 ± 2 ºC

Were all QA/QC procedures followed as required by the EPH method? *Yes*
Were any significant modifications made to the EPH method as specified in Section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

I attest that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Authorized by:

Christina A. White
Laboratory Director

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.	**Project #:** 60478638.5.01
Project Location: LMC-Wilmington- 40 Fordham Rd. - MA	**RTN:**
This form provides certifications for the following data set:	SC37605-01 through SC37605-03
Matrices: Methanol/DI Soil	

CAM Protocol

✓ 8260 VOC CAM II A	7470/7471 Hg CAM III B	✓ MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	✓ MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes ✓ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	✓ Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?	✓ Yes No

Responses to questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	Yes ✓ No

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ✓ No

All negative responses are addressed in a case narrative on the cover page of this report.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Christina A. White
Laboratory Director
Date: 8/7/2017

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 2.5 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

All VOC soils samples submitted and analyzed in methanol will have a minimum dilution factor of 50. This is the minimum amount of solvent allowed on the instrumentation without causing interference. Soils are run on a manual load instrument. 100ug of sample (MEOH) is spiked into 5ml DI water along with the surrogate and added directly onto the instrument. Additional dilution factors may be required to keep analyte concentration within instrument calibration range.

Method SW846 5035A is designed to use on samples containing low levels of VOCs, ranging from 0.5 to 200 ug/Kg. Target analytes that are less responsive to purge and trap may be present at concentrations over 200ug/Kg but may not be reportable in the methanol preserved vial (SW846 5030). This is the result of the inherent dilution factor required for the methanol preservation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

MADEP EPH 5/2004 R

Calibration:

1707043

Analyte quantified by quadratic equation type calibration.

C19-C36 Aliphatic Hydrocarbons

MADEP EPH 5/2004 R

Calibration:

1707043

This affected the following samples:

1713206-BLK1
1713206-BS1
1713206-BS2
1713206-BSD1
1713206-MS1
1713206-MSD1
S706487-ICV2
S706924-CCV1
S706924-CCV2
S706924-CCV3
S706945-CCV1
S706945-CCV2
SB8_073117-1
SB8_073117-2

Laboratory Control Samples:

1713206 BSD

C19-C36 Aliphatic Hydrocarbons RPD 28% (25%) is outside individual acceptance criteria.

Spikes:

1713206-MS1 *Source: SC37605-02*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

C9-C18 Aliphatic Hydrocarbons

1713206-MSD1 *Source: SC37605-02*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

C9-C18 Aliphatic Hydrocarbons

SW846 8260C

Calibration:

1707042

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,4-Dioxane
2-Hexanone (MBK)
4-Methyl-2-pentanone (MIBK)
Bromoform
Dibromochloromethane
Naphthalene
trans-1,3-Dichloropropene

SW846 8260C

Calibration:

1707042

This affected the following samples:

1713227-BLK1
1713227-BS1
1713227-BSD1
1713227-MS1
1713227-MSD1
S706452-ICV1
S706843-CCV1
SB8_073117-1
SB8_073117-2
TB-073117

Laboratory Control Samples:

1713227 BSD

Acetone RPD 34% (30%) is outside individual acceptance criteria.

Spikes:

1713227-MS1 *Source: SC37605-02*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
4-Isopropyltoluene
Acetone
Carbon disulfide
Carbon tetrachloride
Ethyl ether
Hexachlorobutadiene
Naphthalene
n-Butylbenzene
n-Propylbenzene
sec-Butylbenzene
Styrene
tert-Butylbenzene
Tetrachloroethene

1713227-MSD1 *Source: SC37605-02*

RPD out of acceptance range.

4-Isopropyltoluene
Acetone
Hexachlorobutadiene
n-Butylbenzene

SW846 8260C

Spikes:

1713227-MSD1 *Source: SC37605-02*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
4-Isopropyltoluene
Acetone
Carbon disulfide
Hexachlorobutadiene
Naphthalene
n-Butylbenzene

Samples:

S706843-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,1,1-Trichloroethane (-21.1%)
1,2-Dichloroethane (-22.9%)
2,2-Dichloropropane (-20.7%)
Bromodichloromethane (-24.0%)
Carbon disulfide (-24.3%)
Carbon tetrachloride (-28.3%)
Dichlorodifluoromethane (Freon12) (-20.1%)
Tert-amyl methyl ether (-20.4%)

Analyte percent drift is outside individual acceptance criteria (20), but within overall method allowances.

Dibromochloromethane (-27.1%)
trans-1,3-Dichloropropene (-22.1%)

This affected the following samples:

1713227-BLK1
1713227-BS1
1713227-BSD1
1713227-MS1
1713227-MSD1
SB8_073117-1
SB8_073117-2
TB-073117

Sample Acceptance Check Form

Client:	AECOM Environment - Chelmsford, MA
Project:	LMC-Wilmington- 40 Fordham Rd. - MA / 60478638.5.01
Work Order:	SC37605
Sample(s) received on:	7/31/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC37605-02 **Client ID:** SB8_073117-1

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
C9-C10 Aromatic Hydrocarbons	0.275	D	0.241	mg/kg	MADEP VPH 5/2004 Rev. 1.1
Unadjusted C5-C8 Aliphatic Hydrocarbons	0.779	D	0.722	mg/kg	MADEP VPH 5/2004 Rev. 1.1
Unadjusted C9-C12 Aliphatic Hydrocarbons	0.293	D	0.241	mg/kg	MADEP VPH 5/2004 Rev. 1.1
Arsenic	11.1		1.52	mg/kg	SW846 6010C
Chromium	16.3		1.01	mg/kg	SW846 6010C
Copper	7.60		1.01	mg/kg	SW846 6010C
Lead	8.85		1.52	mg/kg	SW846 6010C
Zinc	17.7		1.01	mg/kg	SW846 6010C

Lab ID: SC37605-03 **Client ID:** SB8_073117-2

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	12.8		1.59	mg/kg	SW846 6010C
Chromium	11.7		1.06	mg/kg	SW846 6010C
Copper	8.21		1.06	mg/kg	SW846 6010C
Lead	7.93		1.49	mg/kg	SW846 6010C
Zinc	15.0		0.992	mg/kg	SW846 6010C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-073117 SC37605-01	60478638.5.01	Methanol/DI	31-Jul-17 11:00	31-Jul-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5035A Soil (low level)													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00	2.54	1	SW846 8260C	01-Aug-17	01-Aug-17	MP	1713227	
67-64-1	Acetone	< 50.0		µg/kg wet	50.0	20.0	1	"	"	"	"	"	
71-43-2	Benzene	< 5.00		µg/kg wet	5.00	1.32	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 5.00		µg/kg wet	5.00	1.34	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 5.00		µg/kg wet	5.00	2.52	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.00		µg/kg wet	5.00	3.34	1	"	"	"	"	"	
75-25-2	Bromoform	< 5.00		µg/kg wet	5.00	4.77	1	"	"	"	"	"	
74-83-9	Bromomethane	< 10.0		µg/kg wet	10.0	4.52	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 10.0		µg/kg wet	10.0	8.94	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 5.00		µg/kg wet	5.00	1.43	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 5.00		µg/kg wet	5.00	0.91	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 5.00		µg/kg wet	5.00	1.12	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 10.0		µg/kg wet	10.0	3.20	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 5.00		µg/kg wet	5.00	4.09	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 5.00		µg/kg wet	5.00	1.56	1	"	"	"	"	"	
75-00-3	Chloroethane	< 10.0		µg/kg wet	10.0	2.78	1	"	"	"	"	"	
67-66-3	Chloroform	< 5.00		µg/kg wet	5.00	2.68	1	"	"	"	"	"	
74-87-3	Chloromethane	< 10.0		µg/kg wet	10.0	2.06	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 5.00		µg/kg wet	5.00	1.24	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 5.00		µg/kg wet	5.00	1.18	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0	7.22	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.00		µg/kg wet	5.00	3.39	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00	3.36	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 5.00		µg/kg wet	5.00	2.60	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.30	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.08	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.48	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0	1.90	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 5.00		µg/kg wet	5.00	1.31	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 5.00		µg/kg wet	5.00	1.79	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00	1.86	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00	2.65	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 5.00		µg/kg wet	5.00	2.59	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 5.00		µg/kg wet	5.00	2.36	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 5.00		µg/kg wet	5.00	1.61	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00	3.02	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.00		µg/kg wet	5.00	0.72	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 5.00		µg/kg wet	5.00	2.51	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0	6.14	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 5.00		µg/kg wet	5.00	0.98	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-073117 SC37605-01	60478638.5.01	Methanol/DI	31-Jul-17 11:00	31-Jul-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
99-87-6	4-Isopropyltoluene	< 5.00		µg/kg wet	5.00	1.08	1	SW846 8260C	01-Aug-17	01-Aug-17	MP	1713227	
1634-04-4	Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00	1.84	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0	2.57	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 10.0		µg/kg wet	10.0	1.98	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.00		µg/kg wet	5.00	2.98	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 5.00		µg/kg wet	5.00	0.81	1	"	"	"	"	"	
100-42-5	Styrene	< 5.00		µg/kg wet	5.00	1.00	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00	4.25	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00	4.23	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 5.00		µg/kg wet	5.00	1.71	1	"	"	"	"	"	
108-88-3	Toluene	< 5.00		µg/kg wet	5.00	1.62	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00	1.76	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00	3.68	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00	1.66	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00	3.62	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 5.00		µg/kg wet	5.00	1.36	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00	2.70	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00	3.75	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00	1.22	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00	0.86	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 5.00		µg/kg wet	5.00	1.69	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0		µg/kg wet	10.0	0.90	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.00		µg/kg wet	5.00	1.40	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 10.0		µg/kg wet	10.0	7.88	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.00		µg/kg wet	5.00	4.53	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00	1.67	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00	2.70	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 5.00		µg/kg wet	5.00	0.93	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 100		µg/kg wet	100	86.8	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*91*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*92*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*108*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*95*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB8_073117-1 SC37605-02	60478638.5.01	Soil	31-Jul-17 11:20	31-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			BD	1713297	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 5.79 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 4.99		µg/kg dry	4.99	2.53	1	SW846 8260C	01-Aug-17	01-Aug-17	MP	1713227	
67-64-1	Acetone	< 49.9		µg/kg dry	49.9	19.9	1	"	"	"	"	"	
71-43-2	Benzene	< 4.99		µg/kg dry	4.99	1.32	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 4.99		µg/kg dry	4.99	1.33	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 4.99		µg/kg dry	4.99	2.52	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 4.99		µg/kg dry	4.99	3.33	1	"	"	"	"	"	
75-25-2	Bromoform	< 4.99		µg/kg dry	4.99	4.76	1	"	"	"	"	"	
74-83-9	Bromomethane	< 9.98		µg/kg dry	9.98	4.50	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 9.98		µg/kg dry	9.98	8.92	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 4.99		µg/kg dry	4.99	1.43	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 4.99		µg/kg dry	4.99	0.91	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 4.99		µg/kg dry	4.99	1.12	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 9.98		µg/kg dry	9.98	3.19	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 4.99		µg/kg dry	4.99	4.08	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 4.99		µg/kg dry	4.99	1.56	1	"	"	"	"	"	
75-00-3	Chloroethane	< 9.98		µg/kg dry	9.98	2.77	1	"	"	"	"	"	
67-66-3	Chloroform	< 4.99		µg/kg dry	4.99	2.68	1	"	"	"	"	"	
74-87-3	Chloromethane	< 9.98		µg/kg dry	9.98	2.06	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 4.99		µg/kg dry	4.99	1.24	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 4.99		µg/kg dry	4.99	1.17	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 9.98		µg/kg dry	9.98	7.21	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 4.99		µg/kg dry	4.99	3.38	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 4.99		µg/kg dry	4.99	3.35	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 4.99		µg/kg dry	4.99	2.59	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 4.99		µg/kg dry	4.99	1.30	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 4.99		µg/kg dry	4.99	1.08	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 4.99		µg/kg dry	4.99	1.48	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 9.98		µg/kg dry	9.98	1.89	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 4.99		µg/kg dry	4.99	1.31	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 4.99		µg/kg dry	4.99	1.79	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 4.99		µg/kg dry	4.99	2.61	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 4.99		µg/kg dry	4.99	1.85	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 4.99		µg/kg dry	4.99	2.64	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 4.99		µg/kg dry	4.99	2.61	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 4.99		µg/kg dry	4.99	2.58	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 4.99		µg/kg dry	4.99	2.35	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 4.99		µg/kg dry	4.99	1.61	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 4.99		µg/kg dry	4.99	3.01	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 4.99		µg/kg dry	4.99	2.62	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 4.99		µg/kg dry	4.99	0.72	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB8_073117-1	60478638.5.01	Soil	31-Jul-17 11:20	31-Jul-17
SC37605-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260							Initial weight: 5.79 g						
87-68-3	Hexachlorobutadiene	< 4.99		µg/kg dry	4.99	2.50	1	SW846 8260C	01-Aug-17	01-Aug-17	MP	1713227	
591-78-6	2-Hexanone (MBK)	< 9.98		µg/kg dry	9.98	6.12	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 4.99		µg/kg dry	4.99	0.98	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 4.99		µg/kg dry	4.99	1.07	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 4.99		µg/kg dry	4.99	1.84	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 9.98		µg/kg dry	9.98	2.56	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 9.98		µg/kg dry	9.98	1.98	1	"	"	"	"	"	
91-20-3	Naphthalene	< 4.99		µg/kg dry	4.99	2.97	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 4.99		µg/kg dry	4.99	0.81	1	"	"	"	"	"	
100-42-5	Styrene	< 4.99		µg/kg dry	4.99	1.00	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 4.99		µg/kg dry	4.99	4.24	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 4.99		µg/kg dry	4.99	4.22	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 4.99		µg/kg dry	4.99	1.71	1	"	"	"	"	"	
108-88-3	Toluene	< 4.99		µg/kg dry	4.99	1.62	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 4.99		µg/kg dry	4.99	1.75	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 4.99		µg/kg dry	4.99	3.68	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 4.99		µg/kg dry	4.99	1.66	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 4.99		µg/kg dry	4.99	3.62	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 4.99		µg/kg dry	4.99	1.36	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 4.99		µg/kg dry	4.99	2.69	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 4.99		µg/kg dry	4.99	3.74	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 4.99		µg/kg dry	4.99	1.21	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 4.99		µg/kg dry	4.99	0.86	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 4.99		µg/kg dry	4.99	1.69	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 9.98		µg/kg dry	9.98	0.90	1	"	"	"	"	"	
95-47-6	o-Xylene	< 4.99		µg/kg dry	4.99	1.40	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 9.98		µg/kg dry	9.98	7.86	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 4.99		µg/kg dry	4.99	4.52	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 4.99		µg/kg dry	4.99	1.67	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 4.99		µg/kg dry	4.99	2.69	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 4.99		µg/kg dry	4.99	0.93	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 99.8		µg/kg dry	99.8	86.6	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*89*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*91*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*111*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*97*			*70-130 %*			"	"	"	"	"	
MADEP VPH Carbon Ranges													
Prepared by method VPH - EPA 5035A Soil							Initial weight: 18.06 g						
	C5-C8 Aliphatic Hydrocarbons	< 0.722	D	mg/kg dry	0.722	0.140	50	MADEP VPH 5/2004 Rev. 1.1	03-Aug-17	03-Aug-17	SD	1713349	
	C9-C12 Aliphatic Hydrocarbons	< 0.241	D	mg/kg dry	0.241	0.100	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB8_073117-1 SC37605-02	60478638.5.01	Soil	31-Jul-17 11:20	31-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH Carbon Ranges							Initial weight: 18.06 g						
	C9-C10 Aromatic Hydrocarbons	**0.275**	D	mg/kg dry	0.241	0.0292	50	MADEP VPH 5/2004 Rev. 1.1	03-Aug-17	03-Aug-17	SD	1713349	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	**0.779**	D	mg/kg dry	0.722	0.112	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	**0.293**	D	mg/kg dry	0.241	0.127	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*81*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*94*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Carbon Ranges Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 10.6		mg/kg dry	10.6	1.48	1	MADEP EPH 5/2004 R	01-Aug-17	03-Aug-17	EDT	1713206	
	C19-C36 Aliphatic Hydrocarbons	< 10.6		mg/kg dry	10.6	1.49	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 10.6		mg/kg dry	10.6	5.04	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 10.6		mg/kg dry	10.6	5.04	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*72*			*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*125*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*126*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3050B													
7440-38-2	Arsenic	**11.1**		mg/kg dry	1.52	0.192	1	SW846 6010C	01-Aug-17	02-Aug-17	JLC	1713234	
7440-47-3	Chromium	**16.3**		mg/kg dry	1.01	0.135	1	"	"	"	"	"	
7440-50-8	Copper	**7.60**		mg/kg dry	1.01	0.243	1	"	"	"	"	"	
Prepared by method SW846 3051A													
7439-92-1	Lead	**8.85**		mg/kg dry	1.52	0.214	1	"	04-Aug-17	07-Aug-17	"	1713421	
7440-66-6	Zinc	**17.7**		mg/kg dry	1.01	0.783	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**93.3**		%			1	SM2540 G (11) Mod.	01-Aug-17	01-Aug-17	BD	1713233	
Prepared by method SW846 9010B													
57-12-5	Cyanide (total)	< 0.477		mg/kg dry	0.477	0.348	1	SW846 9012B	03-Aug-17	03-Aug-17	RLT	1713388	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB8_073117-2 SC37605-03	60478638.5.01	Soil	31-Jul-17 11:25	31-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			BD	1713297	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 5.99 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 4.89		µg/kg dry	4.89	2.48	1	SW846 8260C	01-Aug-17	01-Aug-17	MP	1713227	
67-64-1	Acetone	< 48.9		µg/kg dry	48.9	19.5	1	"	"	"	"	"	
71-43-2	Benzene	< 4.89		µg/kg dry	4.89	1.30	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 4.89		µg/kg dry	4.89	1.30	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 4.89		µg/kg dry	4.89	2.47	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 4.89		µg/kg dry	4.89	3.26	1	"	"	"	"	"	
75-25-2	Bromoform	< 4.89		µg/kg dry	4.89	4.66	1	"	"	"	"	"	
74-83-9	Bromomethane	< 9.78		µg/kg dry	9.78	4.41	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 9.78		µg/kg dry	9.78	8.74	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 4.89		µg/kg dry	4.89	1.40	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 4.89		µg/kg dry	4.89	0.89	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 4.89		µg/kg dry	4.89	1.09	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 9.78		µg/kg dry	9.78	3.13	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 4.89		µg/kg dry	4.89	4.00	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 4.89		µg/kg dry	4.89	1.53	1	"	"	"	"	"	
75-00-3	Chloroethane	< 9.78		µg/kg dry	9.78	2.71	1	"	"	"	"	"	
67-66-3	Chloroform	< 4.89		µg/kg dry	4.89	2.62	1	"	"	"	"	"	
74-87-3	Chloromethane	< 9.78		µg/kg dry	9.78	2.02	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 4.89		µg/kg dry	4.89	1.22	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 4.89		µg/kg dry	4.89	1.15	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 9.78		µg/kg dry	9.78	7.06	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 4.89		µg/kg dry	4.89	3.31	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 4.89		µg/kg dry	4.89	3.28	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 4.89		µg/kg dry	4.89	2.54	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 4.89		µg/kg dry	4.89	1.27	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 4.89		µg/kg dry	4.89	1.06	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 4.89		µg/kg dry	4.89	1.45	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 9.78		µg/kg dry	9.78	1.85	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 4.89		µg/kg dry	4.89	1.28	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 4.89		µg/kg dry	4.89	1.75	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 4.89		µg/kg dry	4.89	2.56	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 4.89		µg/kg dry	4.89	1.81	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 4.89		µg/kg dry	4.89	2.59	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 4.89		µg/kg dry	4.89	2.56	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 4.89		µg/kg dry	4.89	2.53	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 4.89		µg/kg dry	4.89	2.31	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 4.89		µg/kg dry	4.89	1.57	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 4.89		µg/kg dry	4.89	2.95	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 4.89		µg/kg dry	4.89	2.57	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 4.89		µg/kg dry	4.89	0.70	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB8_073117-2	60478638.5.01	Soil	31-Jul-17 11:25	31-Jul-17
SC37605-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260							Initial weight: 5.99 g						
87-68-3	Hexachlorobutadiene	< 4.89		µg/kg dry	4.89	2.45	1	SW846 8260C	01-Aug-17	01-Aug-17	MP	1713227	
591-78-6	2-Hexanone (MBK)	< 9.78		µg/kg dry	9.78	6.00	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 4.89		µg/kg dry	4.89	0.96	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 4.89		µg/kg dry	4.89	1.05	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 4.89		µg/kg dry	4.89	1.80	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 9.78		µg/kg dry	9.78	2.51	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 9.78		µg/kg dry	9.78	1.94	1	"	"	"	"	"	
91-20-3	Naphthalene	< 4.89		µg/kg dry	4.89	2.91	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 4.89		µg/kg dry	4.89	0.79	1	"	"	"	"	"	
100-42-5	Styrene	< 4.89		µg/kg dry	4.89	0.98	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 4.89		µg/kg dry	4.89	4.15	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 4.89		µg/kg dry	4.89	4.13	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 4.89		µg/kg dry	4.89	1.67	1	"	"	"	"	"	
108-88-3	Toluene	< 4.89		µg/kg dry	4.89	1.58	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 4.89		µg/kg dry	4.89	1.72	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 4.89		µg/kg dry	4.89	3.60	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 4.89		µg/kg dry	4.89	1.62	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 4.89		µg/kg dry	4.89	3.54	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 4.89		µg/kg dry	4.89	1.33	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 4.89		µg/kg dry	4.89	2.63	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 4.89		µg/kg dry	4.89	3.67	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 4.89		µg/kg dry	4.89	1.19	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 4.89		µg/kg dry	4.89	0.84	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 4.89		µg/kg dry	4.89	1.65	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 9.78		µg/kg dry	9.78	0.88	1	"	"	"	"	"	
95-47-6	o-Xylene	< 4.89		µg/kg dry	4.89	1.37	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 9.78		µg/kg dry	9.78	7.70	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 4.89		µg/kg dry	4.89	4.43	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 4.89		µg/kg dry	4.89	1.63	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 4.89		µg/kg dry	4.89	2.63	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 4.89		µg/kg dry	4.89	0.91	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 97.8		µg/kg dry	97.8	84.9	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*88*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*91*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*110*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*96*			*70-130 %*			"	"	"	"	"	
MADEP VPH Carbon Ranges Prepared by method VPH - EPA 5035A Soil							Initial weight: 17.47 g						
	C5-C8 Aliphatic Hydrocarbons	< 0.752	D	mg/kg dry	0.752	0.146	50	MADEP VPH 5/2004 Rev. 1.1	03-Aug-17	03-Aug-17	SD	1713349	
	C9-C12 Aliphatic Hydrocarbons	< 0.251	D	mg/kg dry	0.251	0.104	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB8_073117-2 SC37605-03	60478638.5.01	Soil	31-Jul-17 11:25	31-Jul-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH Carbon Ranges							Initial weight: 17.47 g						
	C9-C10 Aromatic Hydrocarbons	< 0.251	D	mg/kg dry	0.251	0.0304	50	MADEP VPH 5/2004 Rev. 1.1	03-Aug-17	03-Aug-17	SD	1713349	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.752	D	mg/kg dry	0.752	0.117	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.251	D	mg/kg dry	0.251	0.133	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*82*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*95*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Carbon Ranges Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 10.7		mg/kg dry	10.7	1.49	1	MADEP EPH 5/2004 R	01-Aug-17	03-Aug-17	EDT	1713206	
	C19-C36 Aliphatic Hydrocarbons	< 10.7		mg/kg dry	10.7	1.51	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 10.7		mg/kg dry	10.7	5.10	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 10.7		mg/kg dry	10.7	5.10	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*91*			*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*108*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*110*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3050B													
7440-38-2	Arsenic	**12.8**		mg/kg dry	1.59	0.202	1	SW846 6010C	01-Aug-17	02-Aug-17	JLC	1713234	
7440-47-3	Chromium	**11.7**		mg/kg dry	1.06	0.141	1	"	"	"	"	"	
7440-50-8	Copper	**8.21**		mg/kg dry	1.06	0.255	1	"	"	"	"	"	
Prepared by method SW846 3051A													
7439-92-1	Lead	**7.93**		mg/kg dry	1.49	0.210	1	"	04-Aug-17	07-Aug-17	"	1713421	
7440-66-6	Zinc	**15.0**		mg/kg dry	0.992	0.768	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**92.8**		%			1	SM2540 G (11) Mod.	01-Aug-17	01-Aug-17	BD	1713233	
Prepared by method SW846 9010B													
57-12-5	Cyanide (total)	< 0.412		mg/kg dry	0.412	0.300	1	SW846 9012B	03-Aug-17	03-Aug-17	RLT	1713388	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP VPH 5/2004 Rev. 1.1										
Batch 1713349 - VPH - EPA 5035A Soil										
Blank (1713349-BLK1)					Prepared & Analyzed: 03-Aug-17					
C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
C9-C10 Aromatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Surrogate: 2,5-Dibromotoluene (FID)	*38.9*		µg/kg		*50.0*		*78*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*45.8*		µg/kg		*50.0*		*92*	*70-130*		
LCS (1713349-BS1)					Prepared & Analyzed: 03-Aug-17					
C5-C8 Aliphatic Hydrocarbons	**43.5**	D	µg/kg		60.0		73	70-130		
C9-C12 Aliphatic Hydrocarbons	**59.8**	D	µg/kg		60.0		100	70-130		
C9-C10 Aromatic Hydrocarbons	**22.8**	D	µg/kg		20.0		114	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**199**	D	µg/kg		200		99	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**82.6**	D	µg/kg		80.0		103	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*40.5*		µg/kg		*50.0*		*81*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*47.0*		µg/kg		*50.0*		*94*	*70-130*		
LCS Dup (1713349-BSD1)					Prepared & Analyzed: 03-Aug-17					
C5-C8 Aliphatic Hydrocarbons	**42.2**	D	µg/kg		60.0		70	70-130	3	25
C9-C12 Aliphatic Hydrocarbons	**57.9**	D	µg/kg		60.0		97	70-130	3	25
C9-C10 Aromatic Hydrocarbons	**23.2**	D	µg/kg		20.0		116	70-130	2	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**200**	D	µg/kg		200		100	70-130	0.3	25
Unadjusted C9-C12 Aliphatic Hydrocarbons	**81.1**	D	µg/kg		80.0		101	70-130	2	25
Surrogate: 2,5-Dibromotoluene (FID)	*40.2*		µg/kg		*50.0*		*80*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*46.9*		µg/kg		*50.0*		*94*	*70-130*		
Duplicate (1713349-DUP1)			**Source: SC37605-02**		Prepared & Analyzed: 03-Aug-17					
C5-C8 Aliphatic Hydrocarbons	**0.748**	D	mg/kg dry	0.722		0.712			5	50
C9-C12 Aliphatic Hydrocarbons	< 0.241	D	mg/kg dry	0.241		BRL				50
C9-C10 Aromatic Hydrocarbons	**0.271**	D	mg/kg dry	0.241		0.275			2	50
Unadjusted C5-C8 Aliphatic Hydrocarbons	**0.785**	D	mg/kg dry	0.722		0.779			0.7	50
Unadjusted C9-C12 Aliphatic Hydrocarbons	**0.293**	D	mg/kg dry	0.241		0.293			0.03	50
Surrogate: 2,5-Dibromotoluene (FID)	*41.2*		µg/kg		*50.0*		*82*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*47.7*		µg/kg		*50.0*		*95*	*70-130*		
Matrix Spike (1713349-MS1)			**Source: SC37605-02**		Prepared & Analyzed: 03-Aug-17					
C5-C8 Aliphatic Hydrocarbons	**75.1**	D	µg/kg		60.0	16.0	98	70-130		
C9-C12 Aliphatic Hydrocarbons	**70.2**	D	µg/kg		60.0	0.399	116	70-130		
C9-C10 Aromatic Hydrocarbons	**23.3**	D	µg/kg		20.0	6.18	86	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**245**	D	µg/kg		200	17.5	114	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**93.6**	D	µg/kg		80.0	6.58	109	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*42.4*		µg/kg		*50.0*		*85*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*48.6*		µg/kg		*50.0*		*97*	*70-130*		
Matrix Spike Dup (1713349-MSD1)			**Source: SC37605-02**		Prepared & Analyzed: 03-Aug-17					
C5-C8 Aliphatic Hydrocarbons	**68.1**	D	µg/kg		60.0	16.0	87	70-130	10	50
C9-C12 Aliphatic Hydrocarbons	**67.0**	D	µg/kg		60.0	0.399	111	70-130	5	50
C9-C10 Aromatic Hydrocarbons	**21.9**	D	µg/kg		20.0	6.18	79	70-130	6	50
Unadjusted C5-C8 Aliphatic Hydrocarbons	**237**	D	µg/kg		200	17.5	110	70-130	3	50

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP VPH 5/2004 Rev. 1.1										
Batch 1713349 - VPH - EPA 5035A Soil										
Matrix Spike Dup (1713349-MSD1)			**Source: SC37605-02**		Prepared & Analyzed: 03-Aug-17					
Unadjusted C9-C12 Aliphatic Hydrocarbons	**88.9**	D	µg/kg		80.0	6.58	103	70-130	5	50
Surrogate: 2,5-Dibromotoluene (FID)	*41.1*		µg/kg		*50.0*		*82*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*47.9*		µg/kg		*50.0*		*96*	*70-130*		
SW846 8260C										
Batch 1713227 - SW846 5035A Soil (low level)										
Blank (1713227-BLK1)					Prepared & Analyzed: 01-Aug-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00						
Acetone	< 50.0		µg/kg wet	50.0						
Benzene	< 5.00		µg/kg wet	5.00						
Bromobenzene	< 5.00		µg/kg wet	5.00						
Bromochloromethane	< 5.00		µg/kg wet	5.00						
Bromodichloromethane	< 5.00		µg/kg wet	5.00						
Bromoform	< 5.00		µg/kg wet	5.00						
Bromomethane	< 10.0		µg/kg wet	10.0						
2-Butanone (MEK)	< 10.0		µg/kg wet	10.0						
n-Butylbenzene	< 5.00		µg/kg wet	5.00						
sec-Butylbenzene	< 5.00		µg/kg wet	5.00						
tert-Butylbenzene	< 5.00		µg/kg wet	5.00						
Carbon disulfide	< 10.0		µg/kg wet	10.0						
Carbon tetrachloride	< 5.00		µg/kg wet	5.00						
Chlorobenzene	< 5.00		µg/kg wet	5.00						
Chloroethane	< 10.0		µg/kg wet	10.0						
Chloroform	< 5.00		µg/kg wet	5.00						
Chloromethane	< 10.0		µg/kg wet	10.0						
2-Chlorotoluene	< 5.00		µg/kg wet	5.00						
4-Chlorotoluene	< 5.00		µg/kg wet	5.00						
1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0						
Dibromochloromethane	< 5.00		µg/kg wet	5.00						
1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00						
Dibromomethane	< 5.00		µg/kg wet	5.00						
1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0						
1,1-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,2-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,1-Dichloroethene	< 5.00		µg/kg wet	5.00						
cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
1,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,3-Dichloropropane	< 5.00		µg/kg wet	5.00						
2,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,1-Dichloropropene	< 5.00		µg/kg wet	5.00						
cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
Ethylbenzene	< 5.00		µg/kg wet	5.00						
Hexachlorobutadiene	< 5.00		µg/kg wet	5.00						
2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0						
Isopropylbenzene	< 5.00		µg/kg wet	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713227 - SW846 5035A Soil (low level)										
Blank (1713227-BLK1)					Prepared & Analyzed: 01-Aug-17					
4-Isopropyltoluene	< 5.00		µg/kg wet	5.00						
Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0						
Methylene chloride	< 10.0		µg/kg wet	10.0						
Naphthalene	< 5.00		µg/kg wet	5.00						
n-Propylbenzene	< 5.00		µg/kg wet	5.00						
Styrene	< 5.00		µg/kg wet	5.00						
1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
Tetrachloroethene	< 5.00		µg/kg wet	5.00						
Toluene	< 5.00		µg/kg wet	5.00						
1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00						
1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00						
Trichloroethene	< 5.00		µg/kg wet	5.00						
Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00						
1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00						
1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
Vinyl chloride	< 5.00		µg/kg wet	5.00						
m,p-Xylene	< 10.0		µg/kg wet	10.0						
o-Xylene	< 5.00		µg/kg wet	5.00						
Tetrahydrofuran	< 10.0		µg/kg wet	10.0						
Ethyl ether	< 5.00		µg/kg wet	5.00						
Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00						
Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
Di-isopropyl ether	< 5.00		µg/kg wet	5.00						
1,4-Dioxane	< 100		µg/kg wet	100						
Surrogate: 4-Bromofluorobenzene	*46.4*		µg/kg		*50.0*		*93*	*70-130*		
Surrogate: Toluene-d8	*45.8*		µg/kg		*50.0*		*92*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.6*		µg/kg		*50.0*		*103*	*70-130*		
Surrogate: Dibromofluoromethane	*46.1*		µg/kg		*50.0*		*92*	*70-130*		
LCS (1713227-BS1)					Prepared & Analyzed: 01-Aug-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**16.1**		µg/kg		20.0		81	70-130		
Acetone	**18.2**		µg/kg		20.0		91	70-130		
Benzene	**18.2**		µg/kg		20.0		91	70-130		
Bromobenzene	**21.6**		µg/kg		20.0		108	70-130		
Bromochloromethane	**17.6**		µg/kg		20.0		88	70-130		
Bromodichloromethane	**15.2**		µg/kg		20.0		76	70-130		
Bromoform	**17.4**		µg/kg		20.0		87	70-130		
Bromomethane	**18.8**		µg/kg		20.0		94	70-130		
2-Butanone (MEK)	**19.7**		µg/kg		20.0		98	70-130		
n-Butylbenzene	**22.6**		µg/kg		20.0		113	70-130		
sec-Butylbenzene	**22.2**		µg/kg		20.0		111	70-130		
tert-Butylbenzene	**21.9**		µg/kg		20.0		109	70-130		
Carbon disulfide	**15.1**		µg/kg		20.0		76	70-130		
Carbon tetrachloride	**14.4**		µg/kg		20.0		72	70-130		
Chlorobenzene	**21.2**		µg/kg		20.0		106	70-130		
Chloroethane	**23.4**		µg/kg		20.0		117	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713227 - SW846 5035A Soil (low level)										
LCS (1713227-BS1)						Prepared & Analyzed: 01-Aug-17				
Chloroform	**16.3**		µg/kg		20.0		82	70-130		
Chloromethane	**17.7**		µg/kg		20.0		89	70-130		
2-Chlorotoluene	**19.7**		µg/kg		20.0		98	70-130		
4-Chlorotoluene	**22.0**		µg/kg		20.0		110	70-130		
1,2-Dibromo-3-chloropropane	**19.6**		µg/kg		20.0		98	70-130		
Dibromochloromethane	**14.6**		µg/kg		20.0		73	70-130		
1,2-Dibromoethane (EDB)	**17.5**		µg/kg		20.0		87	70-130		
Dibromomethane	**16.6**		µg/kg		20.0		83	70-130		
1,2-Dichlorobenzene	**22.9**		µg/kg		20.0		115	70-130		
1,3-Dichlorobenzene	**21.9**		µg/kg		20.0		109	70-130		
1,4-Dichlorobenzene	**21.9**		µg/kg		20.0		109	70-130		
Dichlorodifluoromethane (Freon12)	**16.0**		µg/kg		20.0		80	70-130		
1,1-Dichloroethane	**17.0**		µg/kg		20.0		85	70-130		
1,2-Dichloroethane	**15.4**		µg/kg		20.0		77	70-130		
1,1-Dichloroethene	**17.6**		µg/kg		20.0		88	70-130		
cis-1,2-Dichloroethene	**18.0**		µg/kg		20.0		90	70-130		
trans-1,2-Dichloroethene	**17.5**		µg/kg		20.0		87	70-130		
1,2-Dichloropropane	**17.6**		µg/kg		20.0		88	70-130		
1,3-Dichloropropane	**17.4**		µg/kg		20.0		87	70-130		
2,2-Dichloropropane	**15.9**		µg/kg		20.0		79	70-130		
1,1-Dichloropropene	**16.8**		µg/kg		20.0		84	70-130		
cis-1,3-Dichloropropene	**16.2**		µg/kg		20.0		81	70-130		
trans-1,3-Dichloropropene	**15.6**		µg/kg		20.0		78	70-130		
Ethylbenzene	**22.0**		µg/kg		20.0		110	70-130		
Hexachlorobutadiene	**21.6**		µg/kg		20.0		108	70-130		
2-Hexanone (MBK)	**17.1**		µg/kg		20.0		86	70-130		
Isopropylbenzene	**22.3**		µg/kg		20.0		111	70-130		
4-Isopropyltoluene	**23.4**		µg/kg		20.0		117	70-130		
Methyl tert-butyl ether	**17.8**		µg/kg		20.0		89	70-130		
4-Methyl-2-pentanone (MIBK)	**17.4**		µg/kg		20.0		87	70-130		
Methylene chloride	**16.8**		µg/kg		20.0		84	70-130		
Naphthalene	**22.8**		µg/kg		20.0		114	70-130		
n-Propylbenzene	**22.3**		µg/kg		20.0		112	70-130		
Styrene	**21.1**		µg/kg		20.0		106	70-130		
1,1,1,2-Tetrachloroethane	**20.5**		µg/kg		20.0		103	70-130		
1,1,2,2-Tetrachloroethane	**22.2**		µg/kg		20.0		111	70-130		
Tetrachloroethene	**17.8**		µg/kg		20.0		89	70-130		
Toluene	**17.6**		µg/kg		20.0		88	70-130		
1,2,3-Trichlorobenzene	**23.4**		µg/kg		20.0		117	70-130		
1,2,4-Trichlorobenzene	**22.0**		µg/kg		20.0		110	70-130		
1,1,1-Trichloroethane	**15.8**		µg/kg		20.0		79	70-130		
1,1,2-Trichloroethane	**17.8**		µg/kg		20.0		89	70-130		
Trichloroethene	**17.5**		µg/kg		20.0		88	70-130		
Trichlorofluoromethane (Freon 11)	**17.0**		µg/kg		20.0		85	70-130		
1,2,3-Trichloropropane	**21.5**		µg/kg		20.0		108	70-130		
1,2,4-Trimethylbenzene	**22.8**		µg/kg		20.0		114	70-130		
1,3,5-Trimethylbenzene	**22.0**		µg/kg		20.0		110	70-130		
Vinyl chloride	**17.0**		µg/kg		20.0		85	70-130		
m,p-Xylene	**22.3**		µg/kg		20.0		112	70-130		
o-Xylene	**22.4**		µg/kg		20.0		112	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713227 - SW846 5035A Soil (low level)										
LCS (1713227-BS1)						Prepared & Analyzed: 01-Aug-17				
Tetrahydrofuran	**17.1**		µg/kg		20.0		85	70-130		
Ethyl ether	**19.7**		µg/kg		20.0		99	70-130		
Tert-amyl methyl ether	**15.9**		µg/kg		20.0		80	70-130		
Ethyl tert-butyl ether	**18.0**		µg/kg		20.0		90	70-130		
Di-isopropyl ether	**17.2**		µg/kg		20.0		86	70-130		
1,4-Dioxane	**182**		µg/kg		200		91	70-130		
Surrogate: 4-Bromofluorobenzene	*48.8*		µg/kg		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*45.4*		µg/kg		*50.0*		*91*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*43.5*		µg/kg		*50.0*		*87*	*70-130*		
Surrogate: Dibromofluoromethane	*45.0*		µg/kg		*50.0*		*90*	*70-130*		
LCS Dup (1713227-BSD1)						Prepared & Analyzed: 01-Aug-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**15.8**		µg/kg		20.0		79	70-130	2	30
Acetone	**25.6**	QR2	µg/kg		20.0		128	70-130	34	30
Benzene	**17.9**		µg/kg		20.0		89	70-130	2	30
Bromobenzene	**21.2**		µg/kg		20.0		106	70-130	2	30
Bromochloromethane	**17.5**		µg/kg		20.0		88	70-130	0.7	30
Bromodichloromethane	**14.9**		µg/kg		20.0		75	70-130	2	30
Bromoform	**17.1**		µg/kg		20.0		85	70-130	2	30
Bromomethane	**18.5**		µg/kg		20.0		93	70-130	2	30
2-Butanone (MEK)	**20.8**		µg/kg		20.0		104	70-130	5	30
n-Butylbenzene	**22.4**		µg/kg		20.0		112	70-130	0.8	30
sec-Butylbenzene	**21.7**		µg/kg		20.0		109	70-130	2	30
tert-Butylbenzene	**21.4**		µg/kg		20.0		107	70-130	2	30
Carbon disulfide	**14.9**		µg/kg		20.0		74	70-130	2	30
Carbon tetrachloride	**14.0**		µg/kg		20.0		70	70-130	2	30
Chlorobenzene	**21.0**		µg/kg		20.0		105	70-130	1	30
Chloroethane	**23.3**		µg/kg		20.0		116	70-130	0.6	30
Chloroform	**16.0**		µg/kg		20.0		80	70-130	2	30
Chloromethane	**16.6**		µg/kg		20.0		83	70-130	7	30
2-Chlorotoluene	**19.6**		µg/kg		20.0		98	70-130	0.7	30
4-Chlorotoluene	**21.7**		µg/kg		20.0		109	70-130	1	30
1,2-Dibromo-3-chloropropane	**20.2**		µg/kg		20.0		101	70-130	3	30
Dibromochloromethane	**14.5**		µg/kg		20.0		73	70-130	0.3	30
1,2-Dibromoethane (EDB)	**17.4**		µg/kg		20.0		87	70-130	0.4	30
Dibromomethane	**17.2**		µg/kg		20.0		86	70-130	3	30
1,2-Dichlorobenzene	**22.9**		µg/kg		20.0		115	70-130	0.04	30
1,3-Dichlorobenzene	**21.6**		µg/kg		20.0		108	70-130	1	30
1,4-Dichlorobenzene	**21.5**		µg/kg		20.0		107	70-130	2	30
Dichlorodifluoromethane (Freon12)	**15.6**		µg/kg		20.0		78	70-130	2	30
1,1-Dichloroethane	**16.6**		µg/kg		20.0		83	70-130	2	30
1,2-Dichloroethane	**15.3**		µg/kg		20.0		76	70-130	0.9	30
1,1-Dichloroethene	**17.3**		µg/kg		20.0		86	70-130	1	30
cis-1,2-Dichloroethene	**17.8**		µg/kg		20.0		89	70-130	1	30
trans-1,2-Dichloroethene	**17.5**		µg/kg		20.0		88	70-130	0.06	30
1,2-Dichloropropane	**17.6**		µg/kg		20.0		88	70-130	0.2	30
1,3-Dichloropropane	**17.2**		µg/kg		20.0		86	70-130	0.6	30
2,2-Dichloropropane	**15.6**		µg/kg		20.0		78	70-130	2	30
1,1-Dichloropropene	**16.7**		µg/kg		20.0		83	70-130	0.6	30
cis-1,3-Dichloropropene	**16.2**		µg/kg		20.0		81	70-130	0.06	30
trans-1,3-Dichloropropene	**15.6**		µg/kg		20.0		78	70-130	0.1	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713227 - SW846 5035A Soil (low level)										
LCS Dup (1713227-BSD1)					Prepared & Analyzed: 01-Aug-17					
Ethylbenzene	**21.7**		µg/kg		20.0		108	70-130	1	30
Hexachlorobutadiene	**21.5**		µg/kg		20.0		108	70-130	0.1	30
2-Hexanone (MBK)	**14.4**		µg/kg		20.0		72	70-130	17	30
Isopropylbenzene	**21.9**		µg/kg		20.0		109	70-130	2	30
4-Isopropyltoluene	**23.0**		µg/kg		20.0		115	70-130	2	30
Methyl tert-butyl ether	**17.5**		µg/kg		20.0		88	70-130	2	30
4-Methyl-2-pentanone (MIBK)	**15.2**		µg/kg		20.0		76	70-130	13	30
Methylene chloride	**16.5**		µg/kg		20.0		83	70-130	2	30
Naphthalene	**23.4**		µg/kg		20.0		117	70-130	2	30
n-Propylbenzene	**22.1**		µg/kg		20.0		110	70-130	1	30
Styrene	**20.9**		µg/kg		20.0		105	70-130	0.8	30
1,1,1,2-Tetrachloroethane	**19.9**		µg/kg		20.0		99	70-130	3	30
1,1,2,2-Tetrachloroethane	**21.7**		µg/kg		20.0		109	70-130	2	30
Tetrachloroethene	**17.4**		µg/kg		20.0		87	70-130	2	30
Toluene	**17.4**		µg/kg		20.0		87	70-130	1	30
1,2,3-Trichlorobenzene	**23.4**		µg/kg		20.0		117	70-130	0.1	30
1,2,4-Trichlorobenzene	**22.2**		µg/kg		20.0		111	70-130	1	30
1,1,1-Trichloroethane	**15.7**		µg/kg		20.0		78	70-130	0.7	30
1,1,2-Trichloroethane	**17.6**		µg/kg		20.0		88	70-130	1	30
Trichloroethene	**17.1**		µg/kg		20.0		86	70-130	2	30
Trichlorofluoromethane (Freon 11)	**19.8**		µg/kg		20.0		99	70-130	15	30
1,2,3-Trichloropropane	**21.5**		µg/kg		20.0		108	70-130	0.09	30
1,2,4-Trimethylbenzene	**22.4**		µg/kg		20.0		112	70-130	2	30
1,3,5-Trimethylbenzene	**21.5**		µg/kg		20.0		108	70-130	2	30
Vinyl chloride	**16.6**		µg/kg		20.0		83	70-130	2	30
m,p-Xylene	**21.9**		µg/kg		20.0		110	70-130	2	30
o-Xylene	**21.9**		µg/kg		20.0		109	70-130	3	30
Tetrahydrofuran	**15.8**		µg/kg		20.0		79	70-130	8	30
Ethyl ether	**19.1**		µg/kg		20.0		95	70-130	3	30
Tert-amyl methyl ether	**16.0**		µg/kg		20.0		80	70-130	0.7	30
Ethyl tert-butyl ether	**17.7**		µg/kg		20.0		89	70-130	1	30
Di-isopropyl ether	**17.1**		µg/kg		20.0		85	70-130	0.9	30
1,4-Dioxane	**189**		µg/kg		200		94	70-130	4	30
Surrogate: 4-Bromofluorobenzene	*48.8*		µg/kg		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*45.6*		µg/kg		*50.0*		*91*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*43.4*		µg/kg		*50.0*		*87*	*70-130*		
Surrogate: Dibromofluoromethane	*45.1*		µg/kg		*50.0*		*90*	*70-130*		
Matrix Spike (1713227-MS1)			**Source: SC37605-02**		Prepared & Analyzed: 01-Aug-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**14.3**		µg/kg		20.0	0.00	72	70-130		
Acetone	**40.0**	QM7	µg/kg		20.0	0.00	200	70-130		
Benzene	**17.0**		µg/kg		20.0	0.00	85	70-130		
Bromobenzene	**15.4**		µg/kg		20.0	0.00	77	70-130		
Bromochloromethane	**17.9**		µg/kg		20.0	0.00	90	70-130		
Bromodichloromethane	**14.7**		µg/kg		20.0	0.00	74	70-130		
Bromoform	**16.5**		µg/kg		20.0	0.00	82	70-130		
Bromomethane	**18.3**		µg/kg		20.0	0.00	92	70-130		
2-Butanone (MEK)	**18.7**		µg/kg		20.0	0.00	94	70-130		
n-Butylbenzene	**9.12**	QM7	µg/kg		20.0	0.00	46	70-130		
sec-Butylbenzene	**10.8**	QM7	µg/kg		20.0	0.00	54	70-130		
tert-Butylbenzene	**11.7**	QM7	µg/kg		20.0	0.00	59	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713227 - SW846 5035A Soil (low level)										
Matrix Spike (1713227-MS1)			**Source: SC37605-02**		Prepared & Analyzed: 01-Aug-17					
Carbon disulfide	**12.8**	QM7	µg/kg		20.0	0.00	64	70-130		
Carbon tetrachloride	**12.9**	QM7	µg/kg		20.0	0.00	65	70-130		
Chlorobenzene	**17.0**		µg/kg		20.0	0.00	85	70-130		
Chloroethane	**23.4**		µg/kg		20.0	0.00	117	70-130		
Chloroform	**16.3**		µg/kg		20.0	0.00	81	70-130		
Chloromethane	**16.5**		µg/kg		20.0	0.00	83	70-130		
2-Chlorotoluene	**17.0**		µg/kg		20.0	0.00	85	70-130		
4-Chlorotoluene	**14.4**		µg/kg		20.0	0.00	72	70-130		
1,2-Dibromo-3-chloropropane	**20.0**		µg/kg		20.0	0.00	100	70-130		
Dibromochloromethane	**14.1**		µg/kg		20.0	0.00	70	70-130		
1,2-Dibromoethane (EDB)	**18.4**		µg/kg		20.0	0.00	92	70-130		
Dibromomethane	**18.4**		µg/kg		20.0	0.00	92	70-130		
1,2-Dichlorobenzene	**13.7**	QM7	µg/kg		20.0	0.00	69	70-130		
1,3-Dichlorobenzene	**12.4**	QM7	µg/kg		20.0	0.00	62	70-130		
1,4-Dichlorobenzene	**13.4**	QM7	µg/kg		20.0	0.00	67	70-130		
Dichlorodifluoromethane (Freon12)	**15.8**		µg/kg		20.0	0.00	79	70-130		
1,1-Dichloroethane	**16.8**		µg/kg		20.0	0.00	84	70-130		
1,2-Dichloroethane	**16.8**		µg/kg		20.0	0.00	84	70-130		
1,1-Dichloroethene	**17.0**		µg/kg		20.0	0.00	85	70-130		
cis-1,2-Dichloroethene	**17.3**		µg/kg		20.0	0.00	87	70-130		
trans-1,2-Dichloroethene	**16.1**		µg/kg		20.0	0.00	81	70-130		
1,2-Dichloropropane	**17.2**		µg/kg		20.0	0.00	86	70-130		
1,3-Dichloropropane	**18.2**		µg/kg		20.0	0.00	91	70-130		
2,2-Dichloropropane	**15.6**		µg/kg		20.0	0.00	78	70-130		
1,1-Dichloropropene	**14.5**		µg/kg		20.0	0.00	72	70-130		
cis-1,3-Dichloropropene	**14.5**		µg/kg		20.0	0.00	72	70-130		
trans-1,3-Dichloropropene	**14.5**		µg/kg		20.0	0.00	73	70-130		
Ethylbenzene	**16.2**		µg/kg		20.0	0.00	81	70-130		
Hexachlorobutadiene	**5.23**	QM7	µg/kg		20.0	0.00	26	70-130		
2-Hexanone (MBK)	**16.8**		µg/kg		20.0	0.00	84	70-130		
Isopropylbenzene	**14.5**		µg/kg		20.0	0.00	73	70-130		
4-Isopropyltoluene	**11.7**	QM7	µg/kg		20.0	0.00	58	70-130		
Methyl tert-butyl ether	**18.8**		µg/kg		20.0	0.00	94	70-130		
4-Methyl-2-pentanone (MIBK)	**18.8**		µg/kg		20.0	0.00	94	70-130		
Methylene chloride	**16.7**		µg/kg		20.0	0.00	84	70-130		
Naphthalene	**9.99**	QM7	µg/kg		20.0	0.00	50	70-130		
n-Propylbenzene	**13.0**	QM7	µg/kg		20.0	0.00	65	70-130		
Styrene	**12.8**	QM7	µg/kg		20.0	0.00	64	70-130		
1,1,1,2-Tetrachloroethane	**17.2**		µg/kg		20.0	0.00	86	70-130		
1,1,2,2-Tetrachloroethane	**22.3**		µg/kg		20.0	0.00	112	70-130		
Tetrachloroethene	**13.1**	QM7	µg/kg		20.0	0.00	66	70-130		
Toluene	**15.2**		µg/kg		20.0	0.00	76	70-130		
1,2,3-Trichlorobenzene	**7.42**	QM7	µg/kg		20.0	0.00	37	70-130		
1,2,4-Trichlorobenzene	**7.92**	QM7	µg/kg		20.0	0.00	40	70-130		
1,1,1-Trichloroethane	**15.3**		µg/kg		20.0	0.00	76	70-130		
1,1,2-Trichloroethane	**18.2**		µg/kg		20.0	0.00	91	70-130		
Trichloroethene	**15.4**		µg/kg		20.0	0.00	77	70-130		
Trichlorofluoromethane (Freon 11)	**20.5**		µg/kg		20.0	0.00	103	70-130		
1,2,3-Trichloropropane	**23.8**		µg/kg		20.0	0.00	119	70-130		
1,2,4-Trimethylbenzene	**12.9**	QM7	µg/kg		20.0	0.00	64	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713227 - SW846 5035A Soil (low level)										
Matrix Spike (1713227-MS1)			**Source: SC37605-02**		Prepared & Analyzed: 01-Aug-17					
1,3,5-Trimethylbenzene	**12.2**	QM7	µg/kg		20.0	0.00	61	70-130		
Vinyl chloride	**16.3**		µg/kg		20.0	0.00	81	70-130		
m,p-Xylene	**16.0**		µg/kg		20.0	0.00	80	70-130		
o-Xylene	**16.8**		µg/kg		20.0	0.00	84	70-130		
Tetrahydrofuran	**20.6**		µg/kg		20.0	0.00	103	70-130		
Ethyl ether	**27.9**	QM7	µg/kg		20.0	0.00	139	70-130		
Tert-amyl methyl ether	**17.8**		µg/kg		20.0	0.00	89	70-130		
Ethyl tert-butyl ether	**17.7**		µg/kg		20.0	0.00	89	70-130		
Di-isopropyl ether	**16.5**		µg/kg		20.0	0.00	83	70-130		
1,4-Dioxane	**220**		µg/kg		200	0.00	110	70-130		
Surrogate: 4-Bromofluorobenzene	*48.8*		µg/kg		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*45.4*		µg/kg		*50.0*		*91*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.2*		µg/kg		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*47.4*		µg/kg		*50.0*		*95*	*70-130*		
Matrix Spike Dup (1713227-MSD1)			**Source: SC37605-02**		Prepared & Analyzed: 01-Aug-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**15.1**		µg/kg		20.0	0.00	75	70-130	5	30
Acetone	**27.5**	QM7, QR5	µg/kg		20.0	0.00	138	70-130	37	30
Benzene	**17.0**		µg/kg		20.0	0.00	85	70-130	0.2	30
Bromobenzene	**17.0**		µg/kg		20.0	0.00	85	70-130	10	30
Bromochloromethane	**18.0**		µg/kg		20.0	0.00	90	70-130	0.2	30
Bromodichloromethane	**14.7**		µg/kg		20.0	0.00	74	70-130	0.2	30
Bromoform	**17.2**		µg/kg		20.0	0.00	86	70-130	4	30
Bromomethane	**16.6**		µg/kg		20.0	0.00	83	70-130	10	30
2-Butanone (MEK)	**18.0**		µg/kg		20.0	0.00	90	70-130	4	30
n-Butylbenzene	**13.4**	QM7, QR5	µg/kg		20.0	0.00	67	70-130	38	30
sec-Butylbenzene	**14.6**		µg/kg		20.0	0.00	73	70-130	30	30
tert-Butylbenzene	**15.7**		µg/kg		20.0	0.00	78	70-130	29	30
Carbon disulfide	**13.0**	QM7	µg/kg		20.0	0.00	65	70-130	2	30
Carbon tetrachloride	**14.0**		µg/kg		20.0	0.00	70	70-130	8	30
Chlorobenzene	**18.3**		µg/kg		20.0	0.00	92	70-130	8	30
Chloroethane	**22.8**		µg/kg		20.0	0.00	114	70-130	2	30
Chloroform	**16.2**		µg/kg		20.0	0.00	81	70-130	0.7	30
Chloromethane	**16.9**		µg/kg		20.0	0.00	85	70-130	2	30
2-Chlorotoluene	**15.0**		µg/kg		20.0	0.00	75	70-130	12	30
4-Chlorotoluene	**15.8**		µg/kg		20.0	0.00	79	70-130	9	30
1,2-Dibromo-3-chloropropane	**19.9**		µg/kg		20.0	0.00	99	70-130	0.7	30
Dibromochloromethane	**14.2**		µg/kg		20.0	0.00	71	70-130	1	30
1,2-Dibromoethane (EDB)	**18.2**		µg/kg		20.0	0.00	91	70-130	0.8	30
Dibromomethane	**18.0**		µg/kg		20.0	0.00	90	70-130	2	30
1,2-Dichlorobenzene	**16.2**		µg/kg		20.0	0.00	81	70-130	17	30
1,3-Dichlorobenzene	**14.8**		µg/kg		20.0	0.00	74	70-130	17	30
1,4-Dichlorobenzene	**15.7**		µg/kg		20.0	0.00	79	70-130	16	30
Dichlorodifluoromethane (Freon12)	**15.1**		µg/kg		20.0	0.00	76	70-130	4	30
1,1-Dichloroethane	**16.6**		µg/kg		20.0	0.00	83	70-130	1	30
1,2-Dichloroethane	**16.6**		µg/kg		20.0	0.00	83	70-130	1	30
1,1-Dichloroethene	**16.8**		µg/kg		20.0	0.00	84	70-130	1	30
cis-1,2-Dichloroethene	**17.2**		µg/kg		20.0	0.00	86	70-130	0.6	30
trans-1,2-Dichloroethene	**16.3**		µg/kg		20.0	0.00	81	70-130	1	30
1,2-Dichloropropane	**17.1**		µg/kg		20.0	0.00	86	70-130	0.2	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713227 - SW846 5035A Soil (low level)										
Matrix Spike Dup (1713227-MSD1)			**Source: SC37605-02**		Prepared & Analyzed: 01-Aug-17					
1,3-Dichloropropane	**17.9**		µg/kg		20.0	0.00	89	70-130	2	30
2,2-Dichloropropane	**15.6**		µg/kg		20.0	0.00	78	70-130	0.06	30
1,1-Dichloropropene	**15.2**		µg/kg		20.0	0.00	76	70-130	5	30
cis-1,3-Dichloropropene	**14.8**		µg/kg		20.0	0.00	74	70-130	2	30
trans-1,3-Dichloropropene	**14.7**		µg/kg		20.0	0.00	74	70-130	1	30
Ethylbenzene	**18.3**		µg/kg		20.0	0.00	92	70-130	13	30
Hexachlorobutadiene	**9.03**	QM7, QR5	µg/kg		20.0	0.00	45	70-130	53	30
2-Hexanone (MBK)	**16.1**		µg/kg		20.0	0.00	80	70-130	4	30
Isopropylbenzene	**17.6**		µg/kg		20.0	0.00	88	70-130	19	30
4-Isopropyltoluene	**16.1**	QM7, QR5	µg/kg		20.0	0.00	81	70-130	32	30
Methyl tert-butyl ether	**18.3**		µg/kg		20.0	0.00	92	70-130	3	30
4-Methyl-2-pentanone (MIBK)	**18.2**		µg/kg		20.0	0.00	91	70-130	3	30
Methylene chloride	**16.5**		µg/kg		20.0	0.00	82	70-130	2	30
Naphthalene	**10.2**	QM7	µg/kg		20.0	0.00	51	70-130	2	30
n-Propylbenzene	**16.2**		µg/kg		20.0	0.00	81	70-130	22	30
Styrene	**14.5**		µg/kg		20.0	0.00	72	70-130	13	30
1,1,1,2-Tetrachloroethane	**18.3**		µg/kg		20.0	0.00	92	70-130	6	30
1,1,2,2-Tetrachloroethane	**22.8**		µg/kg		20.0	0.00	114	70-130	2	30
Tetrachloroethene	**14.7**		µg/kg		20.0	0.00	74	70-130	12	30
Toluene	**15.8**		µg/kg		20.0	0.00	79	70-130	3	30
1,2,3-Trichlorobenzene	**8.92**	QM7	µg/kg		20.0	0.00	45	70-130	18	30
1,2,4-Trichlorobenzene	**9.32**	QM7	µg/kg		20.0	0.00	47	70-130	16	30
1,1,1-Trichloroethane	**15.8**		µg/kg		20.0	0.00	79	70-130	3	30
1,1,2-Trichloroethane	**18.2**		µg/kg		20.0	0.00	91	70-130	0.2	30
Trichloroethene	**15.9**		µg/kg		20.0	0.00	80	70-130	4	30
Trichlorofluoromethane (Freon 11)	**16.6**		µg/kg		20.0	0.00	83	70-130	21	30
1,2,3-Trichloropropane	**24.2**		µg/kg		20.0	0.00	121	70-130	2	30
1,2,4-Trimethylbenzene	**15.6**		µg/kg		20.0	0.00	78	70-130	19	30
1,3,5-Trimethylbenzene	**15.3**		µg/kg		20.0	0.00	77	70-130	23	30
Vinyl chloride	**16.1**		µg/kg		20.0	0.00	80	70-130	1	30
m,p-Xylene	**18.2**		µg/kg		20.0	0.00	91	70-130	13	30
o-Xylene	**18.5**		µg/kg		20.0	0.00	92	70-130	10	30
Tetrahydrofuran	**20.0**		µg/kg		20.0	0.00	100	70-130	3	30
Ethyl ether	**21.2**		µg/kg		20.0	0.00	106	70-130	27	30
Tert-amyl methyl ether	**17.4**		µg/kg		20.0	0.00	87	70-130	2	30
Ethyl tert-butyl ether	**17.1**		µg/kg		20.0	0.00	86	70-130	4	30
Di-isopropyl ether	**16.1**		µg/kg		20.0	0.00	81	70-130	2	30
1,4-Dioxane	**222**		µg/kg		200	0.00	111	70-130	1	30
Surrogate: 4-Bromofluorobenzene	*48.8*		µg/kg		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*45.2*		µg/kg		*50.0*		*90*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.4*		µg/kg		*50.0*		*103*	*70-130*		
Surrogate: Dibromofluoromethane	*48.0*		µg/kg		*50.0*		*96*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1713206 - SW846 3546										
Blank (1713206-BLK1)					Prepared: 01-Aug-17 Analyzed: 02-Aug-17					
C9-C18 Aliphatic Hydrocarbons	< 9.97		mg/kg wet	9.97						
C19-C36 Aliphatic Hydrocarbons	< 9.97		mg/kg wet	9.97						
C11-C22 Aromatic Hydrocarbons	< 9.97		mg/kg wet	9.97						
Unadjusted C11-C22 Aromatic Hydrocarbons	< 9.97		mg/kg wet	9.97						
Total Petroleum Hydrocarbons	< 29.9		mg/kg wet	29.9						
Unadjusted Total Petroleum Hydrocarbons	< 29.9		mg/kg wet	29.9						
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
Surrogate: 1-Chlorooctadecane	*3.52*		mg/kg wet		*3.32*		*106*	*40-140*		
Surrogate: Ortho-Terphenyl	*3.88*		mg/kg wet		*3.32*		*117*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*3.19*		mg/kg wet		*2.66*		*120*	*40-140*		
LCS (1713206-BS1)					Prepared: 01-Aug-17 Analyzed: 02-Aug-17					
C9-C18 Aliphatic Hydrocarbons	**14.2**		mg/kg wet	9.97	19.9		71	40-140		
C19-C36 Aliphatic Hydrocarbons	**17.4**		mg/kg wet	9.97	26.6		66	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**46.6**		mg/kg wet	9.97	45.2		103	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.66			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.66			0-200		
Surrogate: 1-Chlorooctadecane	*3.45*		mg/kg wet		*3.32*		*104*	*40-140*		
Surrogate: Ortho-Terphenyl	*3.36*		mg/kg wet		*3.32*		*101*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.81*		mg/kg wet		*2.66*		*106*	*40-140*		
LCS (1713206-BS2)					Prepared: 01-Aug-17 Analyzed: 02-Aug-17					
C9-C18 Aliphatic Hydrocarbons	**13.9**		mg/kg wet	10.0	20.0		69	40-140		
C19-C36 Aliphatic Hydrocarbons	**10.9**		mg/kg wet	10.0	26.7		41	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**42.3**		mg/kg wet	10.0	45.3		93	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.67			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.67			0-200		
Surrogate: 1-Chlorooctadecane	*3.17*		mg/kg wet		*3.33*		*95*	*40-140*		
Surrogate: Ortho-Terphenyl	*3.15*		mg/kg wet		*3.33*		*95*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.66*		mg/kg wet		*2.67*		*100*	*40-140*		
LCS Dup (1713206-BSD1)					Prepared: 01-Aug-17 Analyzed: 02-Aug-17					
C9-C18 Aliphatic Hydrocarbons	**15.4**		mg/kg wet	9.93	19.9		78	40-140	8	25
C19-C36 Aliphatic Hydrocarbons	**23.1**	QR2	mg/kg wet	9.93	26.5		87	40-140	28	25
Unadjusted C11-C22 Aromatic Hydrocarbons	**49.5**		mg/kg wet	9.93	45.0		110	40-140	6	25
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		200
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		200
Surrogate: 1-Chlorooctadecane	*3.62*		mg/kg wet		*3.31*		*109*	*40-140*		
Surrogate: Ortho-Terphenyl	*3.54*		mg/kg wet		*3.31*		*107*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.96*		mg/kg wet		*2.65*		*112*	*40-140*		
Matrix Spike (1713206-MS1)			**Source: SC37605-02**		Prepared: 01-Aug-17 Analyzed: 03-Aug-17					
C9-C18 Aliphatic Hydrocarbons	**19.3**	QM7	mg/kg dry	10.6	42.5	4.19	35	40-140		
C19-C36 Aliphatic Hydrocarbons	**31.4**		mg/kg dry	10.6	56.7	2.61	51	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**32.7**		mg/kg dry	10.6	48.2	BRL	68	40-140		
Surrogate: 1-Chlorooctadecane	*4.47*		mg/kg dry		*3.54*		*126*	*40-140*		
Surrogate: Ortho-Terphenyl	*4.45*		mg/kg dry		*3.54*		*126*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*3.47*		mg/kg dry		*2.83*		*122*	*40-140*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1713206 - SW846 3546										
Matrix Spike Dup (1713206-MSD1)			**Source: SC37605-02**			Prepared: 01-Aug-17 Analyzed: 03-Aug-17				
C9-C18 Aliphatic Hydrocarbons	**14.7**	QM7	mg/kg dry	10.6	42.5	4.19	25	40-140	26	50
C19-C36 Aliphatic Hydrocarbons	**31.5**		mg/kg dry	10.6	56.7	2.61	51	40-140	0.2	50
Unadjusted C11-C22 Aromatic Hydrocarbons	**31.0**		mg/kg dry	10.6	48.2	BRL	64	40-140	5	50
Surrogate: 1-Chlorooctadecane	*4.01*		mg/kg dry		*3.54*		*113*	*40-140*		
Surrogate: Ortho-Terphenyl	*4.88*		mg/kg dry		*3.54*		*138*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*3.92*		mg/kg dry		*2.83*		*138*	*40-140*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 6010C										
Batch 1713234 - SW846 3050B										
Blank (1713234-BLK1)					Prepared: 01-Aug-17 Analyzed: 02-Aug-17					
Arsenic	< 1.48		mg/kg wet	1.48						
Chromium	< 0.985		mg/kg wet	0.985						
Copper	< 0.985		mg/kg wet	0.985						
Duplicate (1713234-DUP1)			**Source: SC37605-02**		Prepared: 01-Aug-17 Analyzed: 02-Aug-17					
Copper	**8.15**		mg/kg dry	0.997		7.60			7	20
Chromium	**15.9**		mg/kg dry	0.997		16.3			2	20
Arsenic	**12.6**		mg/kg dry	1.50		11.1			12	20
Matrix Spike (1713234-MS1)			**Source: SC37605-02**		Prepared: 01-Aug-17 Analyzed: 02-Aug-17					
Copper	**118**		mg/kg dry	1.02	127	7.60	87	75-125		
Chromium	**124**		mg/kg dry	1.02	127	16.3	84	75-125		
Arsenic	**115**		mg/kg dry	1.53	127	11.1	81	75-125		
Matrix Spike Dup (1713234-MSD1)			**Source: SC37605-02**		Prepared: 01-Aug-17 Analyzed: 02-Aug-17					
Arsenic	**117**		mg/kg dry	1.54	128	11.1	83	75-125	2	20
Chromium	**125**		mg/kg dry	1.03	128	16.3	84	75-125	0.9	20
Copper	**120**		mg/kg dry	1.03	128	7.60	87	75-125	2	20
Post Spike (1713234-PS1)			**Source: SC37605-02**		Prepared: 01-Aug-17 Analyzed: 02-Aug-17					
Chromium	**124**		mg/kg dry	1.01	127	16.3	85	80-120		
Copper	**121**		mg/kg dry	1.01	127	7.60	90	80-120		
Arsenic	**117**		mg/kg dry	1.52	127	11.1	84	80-120		
Reference (1713234-SRM1)					Prepared: 01-Aug-17 Analyzed: 02-Aug-17					
Chromium	**42.2**		mg/kg wet	1.00	51.7		82	80.1-119.6		
Arsenic	**11.9**		mg/kg wet	1.50	15.0		80	70.3-130.1		
Copper	**63.8**		mg/kg wet	1.00	77.5		82	81.7-117.6		
Reference (1713234-SRM2)					Prepared: 01-Aug-17 Analyzed: 02-Aug-17					
Arsenic	**12.3**		mg/kg wet	1.50	15.1		82	70.3-130.1		
Chromium	**43.5**		mg/kg wet	1.00	51.9		84	80.1-119.6		
Copper	**65.2**		mg/kg wet	1.00	77.9		84	81.7-117.6		
Batch 1713421 - SW846 3051A										
Blank (1713421-BLK1)					Prepared: 04-Aug-17 Analyzed: 07-Aug-17					
Zinc	< 0.966		mg/kg wet	0.966						
Lead	< 1.45		mg/kg wet	1.45						
Duplicate (1713421-DUP1)			**Source: SC37605-02**		Prepared: 04-Aug-17 Analyzed: 07-Aug-17					
Lead	**8.03**		mg/kg dry	1.51		8.85			10	20
Zinc	**17.2**		mg/kg dry	1.01		17.7			3	20
Matrix Spike (1713421-MS1)			**Source: SC37605-02**		Prepared: 04-Aug-17 Analyzed: 07-Aug-17					
Lead	**124**		mg/kg dry	1.50	125	8.85	92	75-125		
Zinc	**136**		mg/kg dry	1.00	125	17.7	94	75-125		
Matrix Spike Dup (1713421-MSD1)			**Source: SC37605-02**		Prepared: 04-Aug-17 Analyzed: 07-Aug-17					
Lead	**129**		mg/kg dry	1.60	133	8.85	90	75-125	3	20
Zinc	**140**		mg/kg dry	1.07	133	17.7	92	75-125	3	20
Post Spike (1713421-PS1)			**Source: SC37605-02**		Prepared: 04-Aug-17 Analyzed: 07-Aug-17					
Lead	**120**		mg/kg dry	1.52	126	8.85	88	80-120		
Zinc	**131**		mg/kg dry	1.01	126	17.7	89	80-120		
Reference (1713421-SRM1)					Prepared: 04-Aug-17 Analyzed: 07-Aug-17					
Zinc	**101**		mg/kg wet	1.00	114		89	83-117		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 6010C										
Batch 1713421 - SW846 3051A										
Reference (1713421-SRM1)					Prepared: 04-Aug-17 Analyzed: 07-Aug-17					
Lead	**63.7**		mg/kg wet	1.50	71.1		90	82-117.3		
Reference (1713421-SRM2)					Prepared: 04-Aug-17 Analyzed: 07-Aug-17					
Zinc	**104**		mg/kg wet	1.00	113		91	83-117		
Lead	**65.8**		mg/kg wet	1.50	70.7		93	82-117.3		
Batch S707030 - 1713421										
Serial Dilution (S707030-SRD1)			**Source: SC37605-02**		Prepared: 04-Aug-17 Analyzed: 07-Aug-17					
Zinc	**20.3**		mg/kg dry	5.06		17.7			14	10
Lead	**10.1**		mg/kg dry	7.59		8.85			14	10

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SM2540 G (11) Mod.										
Batch 1713233 - General Preparation										
Duplicate (1713233-DUP2)			**Source: SC37605-02**			Prepared & Analyzed: 01-Aug-17				
% Solids	**93.0**		%			93.3			0.3	5
SW846 9012B										
Batch 1713388 - General Preparation										
Blank (1713388-BLK1)						Prepared & Analyzed: 03-Aug-17				
Cyanide (total)	< 0.500		mg/kg wet	0.500						
Blank (1713388-BLK2)						Prepared & Analyzed: 03-Aug-17				
Cyanide (total)	< 0.500		mg/kg wet	0.500						
LCS (1713388-BS1)						Prepared & Analyzed: 03-Aug-17				
Cyanide (total)	**40.2**		mg/kg wet	0.500	40.0		100	90-110		
LCS (1713388-BS2)						Prepared & Analyzed: 03-Aug-17				
Cyanide (total)	**20.4**		mg/kg wet	0.500	20.0		102	90-110		
LCS (1713388-BS3)						Prepared & Analyzed: 03-Aug-17				
Cyanide (total)	**43.0**		mg/kg wet	0.500	40.0		108	90-110		
LCS (1713388-BS4)						Prepared & Analyzed: 03-Aug-17				
Cyanide (total)	**19.2**		mg/kg wet	0.500	20.0		96	90-110		
Duplicate (1713388-DUP1)			**Source: SC37605-02**			Prepared & Analyzed: 03-Aug-17				
Cyanide (total)	< 0.399		mg/kg dry	0.399		BRL				35
Matrix Spike (1713388-MS1)			**Source: SC37605-02**			Prepared & Analyzed: 03-Aug-17				
Cyanide (total)	**8.60**		mg/kg dry	0.446	8.91	BRL	97	90-110		
Matrix Spike Dup (1713388-MSD1)			**Source: SC37605-02**			Prepared & Analyzed: 03-Aug-17				
Cyanide (total)	**10.2**		mg/kg dry	0.524	10.5	BRL	98	90-110	17	35
Reference (1713388-SRM1)						Prepared & Analyzed: 03-Aug-17				
Cyanide (total)	**37.6**		mg/kg wet	1.09	65.2		58	39.4-183		

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S706924				
Calibration Check (S706924-CCV1)				
C9-C18 Aliphatic Hydrocarbons	246108.3	229849.8	11.7	25
C19-C36 Aliphatic Hydrocarbons	334013.4	192508.8	-10.6	25
Unadjusted C11-C22 Aromatic Hydrocarbons	212040.5	164165.6	9.0	25
Naphthalene (aliphatic fraction)	178410.1			
2-Methylnaphthalene (aliphatic fraction)	175120			
Calibration Check (S706924-CCV2)				
C9-C18 Aliphatic Hydrocarbons	246108.3	241904.4	0.4	25
C19-C36 Aliphatic Hydrocarbons	334013.4	185670.2	-14.8	25
Unadjusted C11-C22 Aromatic Hydrocarbons	212040.5	147260.8	-2.9	25
Naphthalene (aliphatic fraction)	178410.1			
2-Methylnaphthalene (aliphatic fraction)	175120			
Calibration Check (S706924-CCV3)				
C9-C18 Aliphatic Hydrocarbons	246108.3	256192.9	6.3	25
C19-C36 Aliphatic Hydrocarbons	334013.4	179585.9	-18.6	25
Unadjusted C11-C22 Aromatic Hydrocarbons	212040.5	172615.4	15.8	25
Naphthalene (aliphatic fraction)	178410.1			
2-Methylnaphthalene (aliphatic fraction)	175120			

The following list indicates the date and time low-level VOC soil/sediment samples were placed in the freezer at the lab:

SC37605-02	*SB8_073117-1*	7/31/2017 4:35 PM
SC37605-03	*SB8_073117-2*	7/31/2017 4:35 PM

Notes and Definitions

D	Data reported from a dilution
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QR5	RPD out of acceptance range.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC37605 JLH

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☐ Standard TAT - 7 to 10 business days

☒ Rush TAT - Date Needed: 3 day

All TATs subject to laboratory approval PER RR 1749

Min. 24-hr notification needed for rushes

Samples disposed after 30 days unless otherwise instructed.

Report To: AECOM
250 Apollo Dr.
Chelmsford, MA 01824

Telephone #: 978-905-2100
Project Mgr: Art Taddeo

Invoice To:

P.O No.: Quote #:

Project No: 60478638 5.01

Site Name: LMC Wilmington

Location: 40 Fordham Rd, Wilmington State: MA

Sampler(s): Tom Craft

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= 10 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: List Preservative Code below: 7,9	7	11	11					Check if chlorinated
										VOCs	VPH - carbon ranges	EPH - carbon ranges	Cr, Cu, Pb, Zn, As, Cyanide					
SC37605-01	TB-073117	7-31-17	1100	G	S	2				X								☐
-02	SP8_073117-1	7-31-17	1120	C	S	9	3			X	X	X	X	→	MS	MSD		☐
-03	SP8_073117-2	7-31-17	1125	C	S	3	1			X	X	X	X					☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☒ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other:
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:
		7-31-17	1303
		7/31/17	1655

Temp °C: Observed 2.5; Correction Factor 0; Corrected 2.5; IR ID # C2

☐ EDD format:
☒ E-mail to: Arthur.Taddeo@aecom.com
Lori.Herberich@aecom.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☒ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

1713206

Extractable Petroleum Hydrocarbons

1713206-BLK1
1713206-BS1
1713206-BS2
1713206-BSD1
1713206-MS1
1713206-MSD1
SC37605-02 (SB8_073117-1)
SC37605-03 (SB8_073117-2)

1713227

Volatile Organic Compounds

1713227-BLK1
1713227-BS1
1713227-BSD1
1713227-MS1
1713227-MSD1
SC37605-01 (TB-073117)
SC37605-02 (SB8_073117-1)
SC37605-03 (SB8_073117-2)

1713233

General Chemistry Parameters

1713233-DUP2
SC37605-02 (SB8_073117-1)
SC37605-03 (SB8_073117-2)

1713234

Total Metals by EPA 6000/7000 Series Methods

1713234-BLK1
1713234-DUP1
1713234-MS1
1713234-MSD1
1713234-PS1
1713234-SRM1
1713234-SRM2
SC37605-02 (SB8_073117-1)
SC37605-03 (SB8_073117-2)

1713349

Volatile Organic Compounds

1713349-BLK1
1713349-BS1
1713349-BSD1
1713349-DUP1
1713349-MS1
1713349-MSD1
SC37605-02 (SB8_073117-1)
SC37605-03 (SB8_073117-2)

1713388

General Chemistry Parameters

1713388-BLK1
1713388-BLK2
1713388-BS1
1713388-BS2
1713388-BS3
1713388-BS4
1713388-DUP1
1713388-MS1
1713388-MSD1
1713388-SRM1
SC37605-02 (SB8_073117-1)
SC37605-03 (SB8_073117-2)

1713421

Total Metals by EPA 6000/7000 Series Methods

1713421-BLK1
1713421-DUP1
1713421-MS1
1713421-MSD1
1713421-PS1
1713421-SRM1
1713421-SRM2
SC37605-02 (SB8_073117-1)
SC37605-03 (SB8_073117-2)

S703723

Volatile Organic Compounds

S703723-CAL1
S703723-CAL2
S703723-CAL3
S703723-CAL4
S703723-CAL5
S703723-CAL6
S703723-CAL7
S703723-ICV1
S703723-LCV1

S706452

Volatile Organic Compounds

S706452-CAL1
S706452-CAL2
S706452-CAL3
S706452-CAL4
S706452-CAL5
S706452-CAL6
S706452-CAL7
S706452-CAL8
S706452-CAL9
S706452-ICV1
S706452-LCV1
S706452-TUN1

S706487

Extractable Petroleum Hydrocarbons

S706487-CAL1
S706487-CAL2
S706487-CAL3
S706487-CAL4
S706487-CAL5
S706487-CAL6
S706487-CAL7
S706487-CAL8
S706487-CAL9
S706487-CALA
S706487-CALB
S706487-CALC
S706487-CALD
S706487-ICV1
S706487-ICV2
S706487-LCV1

S706843

Volatile Organic Compounds

S706843-CCV1
S706843-TUN1

S706903

Volatile Organic Compounds

S706903-CCV1
S706903-CCV2

S706924

Extractable Petroleum Hydrocarbons

S706924-CCV1
S706924-CCV2
S706924-CCV3

S706930

General Chemistry Parameters

S706930-CAL1
S706930-CAL2
S706930-CAL3
S706930-CAL4
S706930-CAL5
S706930-CAL6
S706930-CAL7
S706930-ICB1
S706930-ICV1

S706931

General Chemistry Parameters

S706931-CCB1
S706931-CCB2
S706931-CCB3
S706931-CCV1
S706931-CCV2
S706931-CCV3
S706931-CRL1
S706931-CRL2
S706931-CRL3
S706931-HCV1
S706931-LCV1

S706945

Extractable Petroleum Hydrocarbons

S706945-CCV1
S706945-CCV2

S707030

Total Metals by EPA 6000/7000 Series Methods

S707030-SRD1

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☑ Final Report
☐ Revised Report

Report Date:
10-Aug-17 14:04

Laboratory Report
SC37797

AECOM Environment
250 Apollo Drive
Chelmsford, MA 01824
Attn: Art Taddeo

Project: LMC-Wilmington- 40 Fordham Rd. - MA
Project #: 60478638.5.01

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Nicole Leja
President

Nicole Leja

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 25 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

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Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC37797

Project: LMC-Wilmington- 40 Fordham Rd. - MA

Project Number: 60478638.5.01

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC37797-01	TB-080317	Methanol/Deionized Water	03-Aug-17 10:20	04-Aug-17 16:02
SC37797-02	SP9_080317-1	Soil	03-Aug-17 10:30	04-Aug-17 16:02

The following outlines the condition of all VPH samples contained within this report upon laboratory receipt.

Matrices	Soil		
Containers	✓ Satisfactory		
Sample Preservative	**Aqueous** (acid preserved)	✓ N/A pH≤2 pH>2	
	Soil or Sediment	N/A Samples not received in Methanol	ml Methanol/g soil ✓ 1:1 +/-25% Other
		✓ Samples received in Methanol: ✓ covering soil/sediment not covering soil/sediment	
		Samples received in air-tight container	
Temperature	Received on ice ✓ Received at 4 ± 2 ºC		

Were all QA/QC procedures followed as required by the VPH method? *Yes*
Were any significant modifications made to the VPH method as specified in section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrices	Soil			
Containers	✓ Satisfactory			
Aqueous Preservative	✓ N/A	pH≤2	pH>2	pH adjusted to <2 in lab
Temperature	Received on ice	✓ Received at 4 ± 2 ºC		

Were all QA/QC procedures followed as required by the EPH method? *Yes*
Were any significant modifications made to the EPH method as specified in Section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

I attest that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Authorized by:

Christina A. White
Laboratory Director

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.	**Project #:** 60478638.5.01
Project Location: LMC-Wilmington- 40 Fordham Rd. - MA	**RTN:**
This form provides certifications for the following data set:	SC37797-01 through SC37797-02
Matrices: Methanol/Deionized Water Soil	

CAM Protocol

✓ 8260 VOC CAM II A	7470/7471 Hg CAM III B	✓ MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	✓ MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B

Affirmative responses to questions A through F are required for Presumptive Certainty status

A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	✓ Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?	✓ Yes No

Responses to questions G, H and I below are required for Presumptive Certainty status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	Yes ✓ No

***Data User Note:* Data that achieve Presumptive Certainty status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ✓ No

All negative responses are addressed in a case narrative on the cover page of this report.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Christina A. White
Laboratory Director
Date: 8/10/2017

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 4.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

All VOC soils samples submitted and analyzed in methanol will have a minimum dilution factor of 50. This is the minimum amount of solvent allowed on the instrumentation without causing interference. Soils are run on a manual load instrument. 100ug of sample (MEOH) is spiked into 5ml DI water along with the surrogate and added directly onto the instrument. Additional dilution factors may be required to keep analyte concentration within instrument calibration range.

Method SW846 5035A is designed to use on samples containing low levels of VOCs, ranging from 0.5 to 200 ug/Kg. Target analytes that are less responsive to purge and trap may be present at concentrations over 200ug/Kg but may not be reportable in the methanol preserved vial (SW846 5030). This is the result of the inherent dilution factor required for the methanol preservation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

MADEP EPH 5/2004 R

Calibration:

1707040

Analyte quantified by quadratic equation type calibration.

Unadjusted C11-C22 Aromatic Hydrocarbons

This affected the following samples:

S706407-ICV1
S706407-ICV2

Laboratory Control Samples:

1713590 BSD

C19-C36 Aliphatic Hydrocarbons RPD 67% (25%) is outside individual acceptance criteria.

C9-C18 Aliphatic Hydrocarbons RPD 57% (25%) is outside individual acceptance criteria.

1713590-BS1

MADEP EPH 5/2004 R

Laboratory Control Samples:

1713590-BS1

The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

C19-C36 Aliphatic Hydrocarbons
C9-C18 Aliphatic Hydrocarbons

SW846 6010C

Laboratory Control Samples:

1713567 SRM/SRMD

Lead percent recoveries (85/77) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

SP9_080317-1

SW846 8260C

Calibration:

1707042

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,4-Dioxane
2-Hexanone (MBK)
4-Methyl-2-pentanone (MIBK)
Bromoform
Dibromochloromethane
Naphthalene
trans-1,3-Dichloropropene

This affected the following samples:

1713564-BLK1
1713564-BS1
1713564-BSD1
S706452-ICV1
S707021-CCV1
SP9_080317-1
TB-080317

Sample Acceptance Check Form

Client:	AECOM Environment - Chelmsford, MA
Project:	LMC-Wilmington- 40 Fordham Rd. - MA / 60478638.5.01
Work Order:	SC37797
Sample(s) received on:	8/4/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples refrigerated upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC37797-02 **Client ID:** SP9_080317-1

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	11.8		1.64	mg/kg	SW846 6010C
Chromium	14.2		1.09	mg/kg	SW846 6010C
Copper	7.30		1.09	mg/kg	SW846 6010C
Lead	7.46		1.64	mg/kg	SW846 6010C
Zinc	19.2		1.06	mg/kg	SW846 6010C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-080317 SC37797-01	60478638.5.01	Methanol/Deionized Water	03-Aug-17 10:20	04-Aug-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5035A Soil (low level)													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00	2.54	1	SW846 8260C	07-Aug-17	07-Aug-17	MP	1713564	
67-64-1	Acetone	< 50.0		µg/kg wet	50.0	20.0	1	"	"	"	"	"	
71-43-2	Benzene	< 5.00		µg/kg wet	5.00	1.32	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 5.00		µg/kg wet	5.00	1.34	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 5.00		µg/kg wet	5.00	2.52	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.00		µg/kg wet	5.00	3.34	1	"	"	"	"	"	
75-25-2	Bromoform	< 5.00		µg/kg wet	5.00	4.77	1	"	"	"	"	"	
74-83-9	Bromomethane	< 10.0		µg/kg wet	10.0	4.52	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 10.0		µg/kg wet	10.0	8.94	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 5.00		µg/kg wet	5.00	1.43	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 5.00		µg/kg wet	5.00	0.91	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 5.00		µg/kg wet	5.00	1.12	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 10.0		µg/kg wet	10.0	3.20	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 5.00		µg/kg wet	5.00	4.09	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 5.00		µg/kg wet	5.00	1.56	1	"	"	"	"	"	
75-00-3	Chloroethane	< 10.0		µg/kg wet	10.0	2.78	1	"	"	"	"	"	
67-66-3	Chloroform	< 5.00		µg/kg wet	5.00	2.68	1	"	"	"	"	"	
74-87-3	Chloromethane	< 10.0		µg/kg wet	10.0	2.06	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 5.00		µg/kg wet	5.00	1.24	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 5.00		µg/kg wet	5.00	1.18	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0	7.22	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.00		µg/kg wet	5.00	3.39	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00	3.36	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 5.00		µg/kg wet	5.00	2.60	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.30	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.08	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.48	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0	1.90	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 5.00		µg/kg wet	5.00	1.31	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 5.00		µg/kg wet	5.00	1.79	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00	1.86	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00	2.65	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 5.00		µg/kg wet	5.00	2.59	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 5.00		µg/kg wet	5.00	2.36	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 5.00		µg/kg wet	5.00	1.61	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00	3.02	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.00		µg/kg wet	5.00	0.72	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 5.00		µg/kg wet	5.00	2.51	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0	6.14	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 5.00		µg/kg wet	5.00	0.98	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB-080317 SC37797-01	60478638.5.01	Methanol/Deionized Water	03-Aug-17 10:20	04-Aug-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
99-87-6	4-Isopropyltoluene	< 5.00		µg/kg wet	5.00	1.08	1	SW846 8260C	07-Aug-17	07-Aug-17	MP	1713564	
1634-04-4	Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00	1.84	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0	2.57	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 10.0		µg/kg wet	10.0	1.98	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.00		µg/kg wet	5.00	2.98	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 5.00		µg/kg wet	5.00	0.81	1	"	"	"	"	"	
100-42-5	Styrene	< 5.00		µg/kg wet	5.00	1.00	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00	4.25	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00	4.23	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 5.00		µg/kg wet	5.00	1.71	1	"	"	"	"	"	
108-88-3	Toluene	< 5.00		µg/kg wet	5.00	1.62	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00	1.76	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00	3.68	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00	1.66	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00	3.62	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 5.00		µg/kg wet	5.00	1.36	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00	2.70	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00	3.75	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00	1.22	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00	0.86	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 5.00		µg/kg wet	5.00	1.69	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0		µg/kg wet	10.0	0.90	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.00		µg/kg wet	5.00	1.40	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 10.0		µg/kg wet	10.0	7.88	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.00		µg/kg wet	5.00	4.53	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00	1.67	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00	2.70	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 5.00		µg/kg wet	5.00	0.93	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 100		µg/kg wet	100	86.8	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*93*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*94*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*106*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*95*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP9_080317-1 SC37797-02	60478638.5.01	Soil	03-Aug-17 10:30	04-Aug-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			BD	1713514	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 6.27 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 4.85		µg/kg dry	4.85	2.46	1	SW846 8260C	07-Aug-17	07-Aug-17	MP	1713564	
67-64-1	Acetone	< 48.5		µg/kg dry	48.5	19.4	1	"	"	"	"	"	
71-43-2	Benzene	< 4.85		µg/kg dry	4.85	1.29	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 4.85		µg/kg dry	4.85	1.30	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 4.85		µg/kg dry	4.85	2.45	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 4.85		µg/kg dry	4.85	3.24	1	"	"	"	"	"	
75-25-2	Bromoform	< 4.85		µg/kg dry	4.85	4.63	1	"	"	"	"	"	
74-83-9	Bromomethane	< 9.71		µg/kg dry	9.71	4.38	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 9.71		µg/kg dry	9.71	8.68	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 4.85		µg/kg dry	4.85	1.39	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 4.85		µg/kg dry	4.85	0.88	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 4.85		µg/kg dry	4.85	1.09	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 9.71		µg/kg dry	9.71	3.11	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 4.85		µg/kg dry	4.85	3.97	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 4.85		µg/kg dry	4.85	1.52	1	"	"	"	"	"	
75-00-3	Chloroethane	< 9.71		µg/kg dry	9.71	2.69	1	"	"	"	"	"	
67-66-3	Chloroform	< 4.85		µg/kg dry	4.85	2.61	1	"	"	"	"	"	
74-87-3	Chloromethane	< 9.71		µg/kg dry	9.71	2.01	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 4.85		µg/kg dry	4.85	1.21	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 4.85		µg/kg dry	4.85	1.14	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 9.71		µg/kg dry	9.71	7.02	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 4.85		µg/kg dry	4.85	3.29	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 4.85		µg/kg dry	4.85	3.26	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 4.85		µg/kg dry	4.85	2.52	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 4.85		µg/kg dry	4.85	1.26	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 4.85		µg/kg dry	4.85	1.05	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 4.85		µg/kg dry	4.85	1.44	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 9.71		µg/kg dry	9.71	1.84	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 4.85		µg/kg dry	4.85	1.27	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 4.85		µg/kg dry	4.85	1.74	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 4.85		µg/kg dry	4.85	2.54	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 4.85		µg/kg dry	4.85	1.80	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 4.85		µg/kg dry	4.85	2.57	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 4.85		µg/kg dry	4.85	2.54	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 4.85		µg/kg dry	4.85	2.51	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 4.85		µg/kg dry	4.85	2.29	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 4.85		µg/kg dry	4.85	1.56	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 4.85		µg/kg dry	4.85	2.93	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 4.85		µg/kg dry	4.85	2.55	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 4.85		µg/kg dry	4.85	0.70	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP9_080317-1	60478638.5.01	Soil	03-Aug-17 10:30	04-Aug-17
SC37797-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260							Initial weight: 6.27 g						
87-68-3	Hexachlorobutadiene	< 4.85		µg/kg dry	4.85	2.44	1	SW846 8260C	07-Aug-17	07-Aug-17	MP	1713564	
591-78-6	2-Hexanone (MBK)	< 9.71		µg/kg dry	9.71	5.96	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 4.85		µg/kg dry	4.85	0.96	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 4.85		µg/kg dry	4.85	1.04	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 4.85		µg/kg dry	4.85	1.79	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 9.71		µg/kg dry	9.71	2.50	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 9.71		µg/kg dry	9.71	1.93	1	"	"	"	"	"	
91-20-3	Naphthalene	< 4.85		µg/kg dry	4.85	2.89	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 4.85		µg/kg dry	4.85	0.79	1	"	"	"	"	"	
100-42-5	Styrene	< 4.85		µg/kg dry	4.85	0.98	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 4.85		µg/kg dry	4.85	4.13	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 4.85		µg/kg dry	4.85	4.11	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 4.85		µg/kg dry	4.85	1.66	1	"	"	"	"	"	
108-88-3	Toluene	< 4.85		µg/kg dry	4.85	1.57	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 4.85		µg/kg dry	4.85	1.70	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 4.85		µg/kg dry	4.85	3.58	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 4.85		µg/kg dry	4.85	1.61	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 4.85		µg/kg dry	4.85	3.52	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 4.85		µg/kg dry	4.85	1.33	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 4.85		µg/kg dry	4.85	2.62	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 4.85		µg/kg dry	4.85	3.64	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 4.85		µg/kg dry	4.85	1.18	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 4.85		µg/kg dry	4.85	0.84	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 4.85		µg/kg dry	4.85	1.64	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 9.71		µg/kg dry	9.71	0.87	1	"	"	"	"	"	
95-47-6	o-Xylene	< 4.85		µg/kg dry	4.85	1.36	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 9.71		µg/kg dry	9.71	7.65	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 4.85		µg/kg dry	4.85	4.40	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 4.85		µg/kg dry	4.85	1.62	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 4.85		µg/kg dry	4.85	2.62	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 4.85		µg/kg dry	4.85	0.90	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 97.1		µg/kg dry	97.1	84.3	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*89*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*94*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*108*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*98*			*70-130 %*			"	"	"	"	"	
MADEP VPH Carbon Ranges Prepared by method VPH - EPA 5035A Soil							Initial weight: 16.91 g						
	C5-C8 Aliphatic Hydrocarbons	< 0.802	D	mg/kg dry	0.802	0.155	50	MADEP VPH 5/2004 Rev. 1.1	08-Aug-17	08-Aug-17	SD	1713631	
	C9-C12 Aliphatic Hydrocarbons	< 0.428	D	mg/kg dry	0.428	0.111	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP9_080317-1 SC37797-02	60478638.5.01	Soil	03-Aug-17 10:30	04-Aug-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH Carbon Ranges							Initial weight: 16.91 g						
	C9-C10 Aromatic Hydrocarbons	< 0.428	D	mg/kg dry	0.428	0.0325	50	MADEP VPH 5/2004 Rev. 1.1	08-Aug-17	08-Aug-17	SD	1713631	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.802	D	mg/kg dry	0.802	0.125	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.428	D	mg/kg dry	0.428	0.142	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*77*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*91*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Carbon Ranges Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 10.8		mg/kg dry	10.8	1.51	1	MADEP EPH 5/2004 R	08-Aug-17	09-Aug-17	EDT	1713590	
	C19-C36 Aliphatic Hydrocarbons	< 10.8		mg/kg dry	10.8	1.53	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 10.8		mg/kg dry	10.8	5.17	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 10.8		mg/kg dry	10.8	5.17	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*87*			*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*127*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*127*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3050B													
7440-38-2	Arsenic	**11.8**		mg/kg dry	1.64	0.207	1	SW846 6010C	07-Aug-17	09-Aug-17	TBC	1713567	
7440-47-3	Chromium	**14.2**		mg/kg dry	1.09	0.145	1	"	"	"	"	"	
7440-50-8	Copper	**7.30**		mg/kg dry	1.09	0.262	1	"	"	"	"	"	
7439-92-1	Lead	**7.46**		mg/kg dry	1.64	0.231	1	"	"	"	"	"	
Prepared by method SW846 3051A													
7440-66-6	Zinc	**19.2**		mg/kg dry	1.06	0.821	1	"	10-Aug-17	10-Aug-17	"	1713781	
General Chemistry Parameters													
	% Solids	**91.2**		%			1	SM2540 G (11) Mod.	07-Aug-17	07-Aug-17	BD	1713560	
Prepared by method SW846 9010B													
57-12-5	Cyanide (total)	< 0.369		mg/kg dry	0.369	0.269	1	SW846 9012B	09-Aug-17	09-Aug-17	RLT	1713698	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP VPH 5/2004 Rev. 1.1										
Batch 1713631 - VPH - EPA 5035A Soil										
Blank (1713631-BLK1)					Prepared & Analyzed: 08-Aug-17					
C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
C9-C12 Aliphatic Hydrocarbons	< 0.400	D	mg/kg wet	0.400						
C9-C10 Aromatic Hydrocarbons	< 0.400	D	mg/kg wet	0.400						
Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.400	D	mg/kg wet	0.400						
Surrogate: 2,5-Dibromotoluene (FID)	*39.5*		µg/kg		*50.0*		*79*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*45.3*		µg/kg		*50.0*		*91*	*70-130*		
LCS (1713631-BS1)					Prepared & Analyzed: 08-Aug-17					
C5-C8 Aliphatic Hydrocarbons	**48.7**	D	µg/kg		60.0		81	70-130		
C9-C12 Aliphatic Hydrocarbons	**59.3**	D	µg/kg		60.0		99	70-130		
C9-C10 Aromatic Hydrocarbons	**20.3**	D	µg/kg		20.0		102	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**188**	D	µg/kg		200		94	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**79.7**	D	µg/kg		80.0		100	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*40.4*		µg/kg		*50.0*		*81*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*47.1*		µg/kg		*50.0*		*94*	*70-130*		
LCS Dup (1713631-BSD1)					Prepared & Analyzed: 08-Aug-17					
C5-C8 Aliphatic Hydrocarbons	**45.4**	D	µg/kg		60.0		76	70-130	7	25
C9-C12 Aliphatic Hydrocarbons	**59.4**	D	µg/kg		60.0		99	70-130	0.09	25
C9-C10 Aromatic Hydrocarbons	**21.9**	D	µg/kg		20.0		109	70-130	7	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**191**	D	µg/kg		200		96	70-130	2	25
Unadjusted C9-C12 Aliphatic Hydrocarbons	**81.3**	D	µg/kg		80.0		102	70-130	2	25
Surrogate: 2,5-Dibromotoluene (FID)	*40.4*		µg/kg		*50.0*		*81*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*46.8*		µg/kg		*50.0*		*94*	*70-130*		
SW846 8260C										
Batch 1713564 - SW846 5035A Soil (low level)										
Blank (1713564-BLK1)					Prepared & Analyzed: 07-Aug-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00						
Acetone	< 50.0		µg/kg wet	50.0						
Benzene	< 5.00		µg/kg wet	5.00						
Bromobenzene	< 5.00		µg/kg wet	5.00						
Bromochloromethane	< 5.00		µg/kg wet	5.00						
Bromodichloromethane	< 5.00		µg/kg wet	5.00						
Bromoform	< 5.00		µg/kg wet	5.00						
Bromomethane	< 10.0		µg/kg wet	10.0						
2-Butanone (MEK)	< 10.0		µg/kg wet	10.0						
n-Butylbenzene	< 5.00		µg/kg wet	5.00						
sec-Butylbenzene	< 5.00		µg/kg wet	5.00						
tert-Butylbenzene	< 5.00		µg/kg wet	5.00						
Carbon disulfide	< 10.0		µg/kg wet	10.0						
Carbon tetrachloride	< 5.00		µg/kg wet	5.00						
Chlorobenzene	< 5.00		µg/kg wet	5.00						
Chloroethane	< 10.0		µg/kg wet	10.0						
Chloroform	< 5.00		µg/kg wet	5.00						
Chloromethane	< 10.0		µg/kg wet	10.0						
2-Chlorotoluene	< 5.00		µg/kg wet	5.00						
4-Chlorotoluene	< 5.00		µg/kg wet	5.00						
1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713564 - SW846 5035A Soil (low level)										
Blank (1713564-BLK1)					Prepared & Analyzed: 07-Aug-17					
Dibromochloromethane	< 5.00		µg/kg wet	5.00						
1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00						
Dibromomethane	< 5.00		µg/kg wet	5.00						
1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0						
1,1-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,2-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,1-Dichloroethene	< 5.00		µg/kg wet	5.00						
cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
1,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,3-Dichloropropane	< 5.00		µg/kg wet	5.00						
2,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,1-Dichloropropene	< 5.00		µg/kg wet	5.00						
cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
Ethylbenzene	< 5.00		µg/kg wet	5.00						
Hexachlorobutadiene	< 5.00		µg/kg wet	5.00						
2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0						
Isopropylbenzene	< 5.00		µg/kg wet	5.00						
4-Isopropyltoluene	< 5.00		µg/kg wet	5.00						
Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0						
Methylene chloride	< 10.0		µg/kg wet	10.0						
Naphthalene	< 5.00		µg/kg wet	5.00						
n-Propylbenzene	< 5.00		µg/kg wet	5.00						
Styrene	< 5.00		µg/kg wet	5.00						
1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
Tetrachloroethene	< 5.00		µg/kg wet	5.00						
Toluene	< 5.00		µg/kg wet	5.00						
1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00						
1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00						
Trichloroethene	< 5.00		µg/kg wet	5.00						
Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00						
1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00						
1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
Vinyl chloride	< 5.00		µg/kg wet	5.00						
m,p-Xylene	< 10.0		µg/kg wet	10.0						
o-Xylene	< 5.00		µg/kg wet	5.00						
Tetrahydrofuran	< 10.0		µg/kg wet	10.0						
Ethyl ether	< 5.00		µg/kg wet	5.00						
Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00						
Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
Di-isopropyl ether	< 5.00		µg/kg wet	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713564 - SW846 5035A Soil (low level)										
Blank (1713564-BLK1)							Prepared & Analyzed: 07-Aug-17			
1,4-Dioxane	< 100		µg/kg wet	100						
Surrogate: 4-Bromofluorobenzene	*47.6*		µg/kg		*50.0*		*95*	*70-130*		
Surrogate: Toluene-d8	*47.7*		µg/kg		*50.0*		*95*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.1*		µg/kg		*50.0*		*106*	*70-130*		
Surrogate: Dibromofluoromethane	*47.8*		µg/kg		*50.0*		*96*	*70-130*		
LCS (1713564-BS1)							Prepared & Analyzed: 07-Aug-17			
1,1,2-Trichlorotrifluoroethane (Freon 113)	**17.4**		µg/kg		20.0		87	70-130		
Acetone	**20.7**		µg/kg		20.0		103	70-130		
Benzene	**19.5**		µg/kg		20.0		98	70-130		
Bromobenzene	**21.3**		µg/kg		20.0		107	70-130		
Bromochloromethane	**18.9**		µg/kg		20.0		94	70-130		
Bromodichloromethane	**16.6**		µg/kg		20.0		83	70-130		
Bromoform	**17.4**		µg/kg		20.0		87	70-130		
Bromomethane	**20.6**		µg/kg		20.0		103	70-130		
2-Butanone (MEK)	**20.9**		µg/kg		20.0		105	70-130		
n-Butylbenzene	**20.0**		µg/kg		20.0		100	70-130		
sec-Butylbenzene	**21.7**		µg/kg		20.0		108	70-130		
tert-Butylbenzene	**21.6**		µg/kg		20.0		108	70-130		
Carbon disulfide	**17.0**		µg/kg		20.0		85	70-130		
Carbon tetrachloride	**16.4**		µg/kg		20.0		82	70-130		
Chlorobenzene	**21.0**		µg/kg		20.0		105	70-130		
Chloroethane	**22.4**		µg/kg		20.0		112	70-130		
Chloroform	**17.7**		µg/kg		20.0		89	70-130		
Chloromethane	**18.2**		µg/kg		20.0		91	70-130		
2-Chlorotoluene	**19.2**		µg/kg		20.0		96	70-130		
4-Chlorotoluene	**21.3**		µg/kg		20.0		106	70-130		
1,2-Dibromo-3-chloropropane	**19.2**		µg/kg		20.0		96	70-130		
Dibromochloromethane	**16.0**		µg/kg		20.0		80	70-130		
1,2-Dibromoethane (EDB)	**18.6**		µg/kg		20.0		93	70-130		
Dibromomethane	**18.2**		µg/kg		20.0		91	70-130		
1,2-Dichlorobenzene	**21.7**		µg/kg		20.0		108	70-130		
1,3-Dichlorobenzene	**21.6**		µg/kg		20.0		108	70-130		
1,4-Dichlorobenzene	**20.5**		µg/kg		20.0		103	70-130		
Dichlorodifluoromethane (Freon12)	**18.6**		µg/kg		20.0		93	70-130		
1,1-Dichloroethane	**18.4**		µg/kg		20.0		92	70-130		
1,2-Dichloroethane	**16.9**		µg/kg		20.0		85	70-130		
1,1-Dichloroethene	**19.4**		µg/kg		20.0		97	70-130		
cis-1,2-Dichloroethene	**19.2**		µg/kg		20.0		96	70-130		
trans-1,2-Dichloroethene	**18.5**		µg/kg		20.0		93	70-130		
1,2-Dichloropropane	**18.8**		µg/kg		20.0		94	70-130		
1,3-Dichloropropane	**18.5**		µg/kg		20.0		92	70-130		
2,2-Dichloropropane	**16.1**		µg/kg		20.0		80	70-130		
1,1-Dichloropropene	**17.9**		µg/kg		20.0		90	70-130		
cis-1,3-Dichloropropene	**16.6**		µg/kg		20.0		83	70-130		
trans-1,3-Dichloropropene	**16.2**		µg/kg		20.0		81	70-130		
Ethylbenzene	**21.5**		µg/kg		20.0		108	70-130		
Hexachlorobutadiene	**20.2**		µg/kg		20.0		101	70-130		
2-Hexanone (MBK)	**16.7**		µg/kg		20.0		83	70-130		
Isopropylbenzene	**22.0**		µg/kg		20.0		110	70-130		
4-Isopropyltoluene	**21.6**		µg/kg		20.0		108	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713564 - SW846 5035A Soil (low level)										
LCS (1713564-BS1)					Prepared & Analyzed: 07-Aug-17					
Methyl tert-butyl ether	**18.1**		µg/kg		20.0		91	70-130		
4-Methyl-2-pentanone (MIBK)	**16.5**		µg/kg		20.0		82	70-130		
Methylene chloride	**18.2**		µg/kg		20.0		91	70-130		
Naphthalene	**19.3**		µg/kg		20.0		96	70-130		
n-Propylbenzene	**21.6**		µg/kg		20.0		108	70-130		
Styrene	**20.0**		µg/kg		20.0		100	70-130		
1,1,1,2-Tetrachloroethane	**20.2**		µg/kg		20.0		101	70-130		
1,1,2,2-Tetrachloroethane	**21.6**		µg/kg		20.0		108	70-130		
Tetrachloroethene	**18.5**		µg/kg		20.0		93	70-130		
Toluene	**18.7**		µg/kg		20.0		94	70-130		
1,2,3-Trichlorobenzene	**21.9**		µg/kg		20.0		110	70-130		
1,2,4-Trichlorobenzene	**20.4**		µg/kg		20.0		102	70-130		
1,1,1-Trichloroethane	**17.7**		µg/kg		20.0		88	70-130		
1,1,2-Trichloroethane	**18.9**		µg/kg		20.0		94	70-130		
Trichloroethene	**18.8**		µg/kg		20.0		94	70-130		
Trichlorofluoromethane (Freon 11)	**22.4**		µg/kg		20.0		112	70-130		
1,2,3-Trichloropropane	**21.5**		µg/kg		20.0		108	70-130		
1,2,4-Trimethylbenzene	**21.8**		µg/kg		20.0		109	70-130		
1,3,5-Trimethylbenzene	**20.6**		µg/kg		20.0		103	70-130		
Vinyl chloride	**18.9**		µg/kg		20.0		94	70-130		
m,p-Xylene	**21.8**		µg/kg		20.0		109	70-130		
o-Xylene	**22.1**		µg/kg		20.0		111	70-130		
Tetrahydrofuran	**16.5**		µg/kg		20.0		82	70-130		
Ethyl ether	**21.2**		µg/kg		20.0		106	70-130		
Tert-amyl methyl ether	**17.4**		µg/kg		20.0		87	70-130		
Ethyl tert-butyl ether	**18.4**		µg/kg		20.0		92	70-130		
Di-isopropyl ether	**17.6**		µg/kg		20.0		88	70-130		
1,4-Dioxane	**178**		µg/kg		200		89	70-130		
Surrogate: 4-Bromofluorobenzene	*50.8*		µg/kg		*50.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*47.3*		µg/kg		*50.0*		*95*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*45.3*		µg/kg		*50.0*		*91*	*70-130*		
Surrogate: Dibromofluoromethane	*47.0*		µg/kg		*50.0*		*94*	*70-130*		
LCS Dup (1713564-BSD1)					Prepared & Analyzed: 07-Aug-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**17.1**		µg/kg		20.0		85	70-130	2	30
Acetone	**23.6**		µg/kg		20.0		118	70-130	13	30
Benzene	**19.3**		µg/kg		20.0		97	70-130	1	30
Bromobenzene	**21.2**		µg/kg		20.0		106	70-130	0.3	30
Bromochloromethane	**19.0**		µg/kg		20.0		95	70-130	0.6	30
Bromodichloromethane	**16.5**		µg/kg		20.0		82	70-130	0.5	30
Bromoform	**17.4**		µg/kg		20.0		87	70-130	0.5	30
Bromomethane	**20.3**		µg/kg		20.0		101	70-130	2	30
2-Butanone (MEK)	**19.5**		µg/kg		20.0		97	70-130	7	30
n-Butylbenzene	**19.6**		µg/kg		20.0		98	70-130	2	30
sec-Butylbenzene	**21.0**		µg/kg		20.0		105	70-130	3	30
tert-Butylbenzene	**21.3**		µg/kg		20.0		107	70-130	1	30
Carbon disulfide	**16.7**		µg/kg		20.0		83	70-130	2	30
Carbon tetrachloride	**16.1**		µg/kg		20.0		80	70-130	2	30
Chlorobenzene	**20.6**		µg/kg		20.0		103	70-130	2	30
Chloroethane	**23.2**		µg/kg		20.0		116	70-130	3	30
Chloroform	**17.5**		µg/kg		20.0		87	70-130	1	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713564 - SW846 5035A Soil (low level)										
LCS Dup (1713564-BSD1)					Prepared & Analyzed: 07-Aug-17					
Chloromethane	**19.3**		µg/kg		20.0		96	70-130	6	30
2-Chlorotoluene	**19.1**		µg/kg		20.0		95	70-130	0.5	30
4-Chlorotoluene	**21.0**		µg/kg		20.0		105	70-130	1	30
1,2-Dibromo-3-chloropropane	**19.2**		µg/kg		20.0		96	70-130	0.1	30
Dibromochloromethane	**16.1**		µg/kg		20.0		80	70-130	0.4	30
1,2-Dibromoethane (EDB)	**18.6**		µg/kg		20.0		93	70-130	0	30
Dibromomethane	**18.0**		µg/kg		20.0		90	70-130	1	30
1,2-Dichlorobenzene	**21.4**		µg/kg		20.0		107	70-130	1	30
1,3-Dichlorobenzene	**21.2**		µg/kg		20.0		106	70-130	2	30
1,4-Dichlorobenzene	**20.5**		µg/kg		20.0		102	70-130	0.4	30
Dichlorodifluoromethane (Freon12)	**18.1**		µg/kg		20.0		91	70-130	3	30
1,1-Dichloroethane	**18.3**		µg/kg		20.0		91	70-130	0.7	30
1,2-Dichloroethane	**16.8**		µg/kg		20.0		84	70-130	0.4	30
1,1-Dichloroethene	**15.7**		µg/kg		20.0		78	70-130	21	30
cis-1,2-Dichloroethene	**19.2**		µg/kg		20.0		96	70-130	0.1	30
trans-1,2-Dichloroethene	**18.4**		µg/kg		20.0		92	70-130	0.9	30
1,2-Dichloropropane	**18.8**		µg/kg		20.0		94	70-130	0.4	30
1,3-Dichloropropane	**18.4**		µg/kg		20.0		92	70-130	0.4	30
2,2-Dichloropropane	**15.8**		µg/kg		20.0		79	70-130	2	30
1,1-Dichloropropene	**17.8**		µg/kg		20.0		89	70-130	0.9	30
cis-1,3-Dichloropropene	**16.6**		µg/kg		20.0		83	70-130	0.2	30
trans-1,3-Dichloropropene	**16.3**		µg/kg		20.0		81	70-130	0.4	30
Ethylbenzene	**21.2**		µg/kg		20.0		106	70-130	2	30
Hexachlorobutadiene	**19.9**		µg/kg		20.0		99	70-130	2	30
2-Hexanone (MBK)	**16.5**		µg/kg		20.0		82	70-130	1	30
Isopropylbenzene	**21.5**		µg/kg		20.0		107	70-130	2	30
4-Isopropyltoluene	**21.1**		µg/kg		20.0		105	70-130	2	30
Methyl tert-butyl ether	**18.2**		µg/kg		20.0		91	70-130	0.6	30
4-Methyl-2-pentanone (MIBK)	**15.7**		µg/kg		20.0		79	70-130	5	30
Methylene chloride	**17.9**		µg/kg		20.0		90	70-130	1	30
Naphthalene	**20.8**		µg/kg		20.0		104	70-130	8	30
n-Propylbenzene	**21.0**		µg/kg		20.0		105	70-130	3	30
Styrene	**19.8**		µg/kg		20.0		99	70-130	1	30
1,1,1,2-Tetrachloroethane	**20.0**		µg/kg		20.0		100	70-130	1	30
1,1,2,2-Tetrachloroethane	**21.6**		µg/kg		20.0		108	70-130	0.5	30
Tetrachloroethene	**18.6**		µg/kg		20.0		93	70-130	0.5	30
Toluene	**18.8**		µg/kg		20.0		94	70-130	0.6	30
1,2,3-Trichlorobenzene	**21.8**		µg/kg		20.0		109	70-130	0.7	30
1,2,4-Trichlorobenzene	**19.9**		µg/kg		20.0		100	70-130	2	30
1,1,1-Trichloroethane	**17.5**		µg/kg		20.0		87	70-130	1	30
1,1,2-Trichloroethane	**18.9**		µg/kg		20.0		94	70-130	0	30
Trichloroethene	**18.5**		µg/kg		20.0		92	70-130	2	30
Trichlorofluoromethane (Freon 11)	**22.5**		µg/kg		20.0		112	70-130	0.5	30
1,2,3-Trichloropropane	**21.0**		µg/kg		20.0		105	70-130	2	30
1,2,4-Trimethylbenzene	**21.4**		µg/kg		20.0		107	70-130	2	30
1,3,5-Trimethylbenzene	**20.4**		µg/kg		20.0		102	70-130	1	30
Vinyl chloride	**18.4**		µg/kg		20.0		92	70-130	3	30
m,p-Xylene	**21.3**		µg/kg		20.0		106	70-130	3	30
o-Xylene	**21.7**		µg/kg		20.0		109	70-130	2	30
Tetrahydrofuran	**16.3**		µg/kg		20.0		82	70-130	1	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713564 - SW846 5035A Soil (low level)										
LCS Dup (1713564-BSD1)					Prepared & Analyzed: 07-Aug-17					
Ethyl ether	**20.3**		µg/kg		20.0		102	70-130	4	30
Tert-amyl methyl ether	**17.4**		µg/kg		20.0		87	70-130	0	30
Ethyl tert-butyl ether	**18.5**		µg/kg		20.0		92	70-130	0.4	30
Di-isopropyl ether	**17.8**		µg/kg		20.0		89	70-130	1	30
1,4-Dioxane	**173**		µg/kg		200		86	70-130	3	30
Surrogate: 4-Bromofluorobenzene	*50.1*		µg/kg		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*47.5*		µg/kg		*50.0*		*95*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*45.8*		µg/kg		*50.0*		*92*	*70-130*		
Surrogate: Dibromofluoromethane	*47.5*		µg/kg		*50.0*		*95*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1713590 - SW846 3546										
Blank (1713590-BLK1)						Prepared: 08-Aug-17 Analyzed: 09-Aug-17				
C9-C18 Aliphatic Hydrocarbons	< 9.88		mg/kg wet	9.88						
C19-C36 Aliphatic Hydrocarbons	< 9.88		mg/kg wet	9.88						
C11-C22 Aromatic Hydrocarbons	< 9.88		mg/kg wet	9.88						
Unadjusted C11-C22 Aromatic Hydrocarbons	< 9.88		mg/kg wet	9.88						
Total Petroleum Hydrocarbons	< 29.6		mg/kg wet	29.6						
Unadjusted Total Petroleum Hydrocarbons	< 29.6		mg/kg wet	29.6						
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
Surrogate: 1-Chlorooctadecane	*2.34*		mg/kg wet		*3.29*		*71*	*40-140*		
Surrogate: Ortho-Terphenyl	*3.57*		mg/kg wet		*3.29*		*108*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*3.21*		mg/kg wet		*2.63*		*122*	*40-140*		
LCS (1713590-BS1)						Prepared: 08-Aug-17 Analyzed: 09-Aug-17				
C9-C18 Aliphatic Hydrocarbons	**39.5**	QR2	mg/kg wet	9.93	39.7		100	40-140		
C19-C36 Aliphatic Hydrocarbons	**56.7**	QR2	mg/kg wet	9.93	52.9		107	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**39.9**		mg/kg wet	9.93	45.0		89	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		
Surrogate: 1-Chlorooctadecane	*6.13*		mg/kg wet		*6.62*		*93*	*40-140*		
Surrogate: Ortho-Terphenyl	*3.11*		mg/kg wet		*6.62*		*47*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.65*		mg/kg wet		*2.65*		*100*	*40-140*		
LCS (1713590-BS2)						Prepared: 08-Aug-17 Analyzed: 09-Aug-17				
C9-C18 Aliphatic Hydrocarbons	**31.6**		mg/kg wet	10.0	40.0		79	40-140		
C19-C36 Aliphatic Hydrocarbons	**43.6**		mg/kg wet	10.0	53.3		82	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**41.0**		mg/kg wet	10.0	45.3		91	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.67			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.67			0-200		
Surrogate: 1-Chlorooctadecane	*7.96*		mg/kg wet		*6.67*		*119*	*40-140*		
Surrogate: Ortho-Terphenyl	*3.11*		mg/kg wet		*6.67*		*47*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.63*		mg/kg wet		*2.67*		*99*	*40-140*		
LCS Dup (1713590-BSD1)						Prepared: 08-Aug-17 Analyzed: 09-Aug-17				
C9-C18 Aliphatic Hydrocarbons	**21.9**	QR2	mg/kg wet	9.92	39.7		55	40-140	57	25
C19-C36 Aliphatic Hydrocarbons	**28.1**	QR2	mg/kg wet	9.92	52.9		53	40-140	67	25
Unadjusted C11-C22 Aromatic Hydrocarbons	**42.7**		mg/kg wet	9.92	45.0		95	40-140	7	25
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		200
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.65			0-200		200
Surrogate: 1-Chlorooctadecane	*4.92*		mg/kg wet		*6.61*		*74*	*40-140*		
Surrogate: Ortho-Terphenyl	*3.20*		mg/kg wet		*6.61*		*48*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.71*		mg/kg wet		*2.65*		*102*	*40-140*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 6010C										
Batch 1713567 - SW846 3050B										
Blank (1713567-BLK1)						Prepared: 07-Aug-17 Analyzed: 09-Aug-17				
Copper	< 0.958		mg/kg wet	0.958						
Lead	< 1.44		mg/kg wet	1.44						
Chromium	< 0.958		mg/kg wet	0.958						
Arsenic	< 1.44		mg/kg wet	1.44						
Reference (1713567-SRM1)						Prepared: 07-Aug-17 Analyzed: 09-Aug-17				
Copper	**74.0**		mg/kg wet	1.00	78.8		94	81.7-117.6		
Lead	**60.5**		mg/kg wet	1.50	71.6		85	82-117.3		
Chromium	**49.9**		mg/kg wet	1.00	52.5		95	80.1-119.6		
Arsenic	**14.7**		mg/kg wet	1.50	15.2		96	70.3-130.1		
Reference (1713567-SRM2)						Prepared: 07-Aug-17 Analyzed: 09-Aug-17				
Chromium	**47.3**		mg/kg wet	1.00	52.5		90	80.1-119.6		
Copper	**70.1**		mg/kg wet	1.00	78.7		89	81.7-117.6		
Lead	**54.7**	QM9	mg/kg wet	1.50	71.5		77	82-117.3		
Arsenic	**13.2**		mg/kg wet	1.50	15.2		87	70.3-130.1		
Batch 1713781 - SW846 3051A										
Blank (1713781-BLK1)						Prepared & Analyzed: 10-Aug-17				
Zinc	< 0.957		mg/kg wet	0.957						
Reference (1713781-SRM1)						Prepared & Analyzed: 10-Aug-17				
Zinc	**106**		mg/kg wet	1.00	113		94	83-117		
Reference (1713781-SRM2)						Prepared & Analyzed: 10-Aug-17				
Zinc	**110**		mg/kg wet	1.00	113		97	83-117		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 9012B										
Batch 1713698 - General Preparation										
Blank (1713698-BLK1)						Prepared & Analyzed: 09-Aug-17				
Cyanide (total)	< 0.500		mg/kg wet	0.500						
LCS (1713698-BS1)						Prepared & Analyzed: 09-Aug-17				
Cyanide (total)	**38.1**		mg/kg wet	0.500	40.0		95	90-110		
LCS (1713698-BS2)						Prepared & Analyzed: 09-Aug-17				
Cyanide (total)	**19.8**		mg/kg wet	0.500	20.0		99	90-110		
Reference (1713698-SRM1)						Prepared & Analyzed: 09-Aug-17				
Cyanide (total)	**81.9**		mg/kg wet	1.05	65.2		126	39.4-183		

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S707115				
Calibration Check (S707115-CCV1)				
C9-C18 Aliphatic Hydrocarbons	705447.3	731787.3	3.7	25
C19-C36 Aliphatic Hydrocarbons	652122.9	608350.8	15.3	25
Unadjusted C11-C22 Aromatic Hydrocarbons	21.98022	18.66762	-4.1	25
Calibration Check (S707115-CCV2)				
C9-C18 Aliphatic Hydrocarbons	705447.3	786234	11.5	25
C19-C36 Aliphatic Hydrocarbons	652122.9	622044.8	18.1	25
Unadjusted C11-C22 Aromatic Hydrocarbons	21.98022	16.78527	-9.0	25

The following list indicates the date and time low-level VOC soil/sediment samples were placed in the freezer at the lab:

SC37797-02	*SP9_080317-1*	8/4/2017 4:02 PM

Notes and Definitions

D	Data reported from a dilution
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

1 SC 37797

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☐ Standard TAT - 7 to 10 business days

☒ Rush TAT - Date Needed: 3 Day

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

RR# 17510

Report To: AECOM
250 Apollo Dr.
Chelmsford, MA 01824

Telephone #: 978-905-2100
Project Mgr: Art Taddeo

Invoice To:

P.O No.: Quote #:

Project No: 60478630.5.01
Site Name: LMC Wilmington
Location: 40 Fordham Rd, Wilmington State: MA
Sampler(s): Tom Catt

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= ICe 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	List Preservative Code below: 7,9	7	11	11	11				Check if chlorinated
										Containers					Analysis: VOCs	VPH - carbon ranges	EPH - carbon ranges	Cu, Co, As, Pb, Zn, arsenic	Cyanide				
37797-01	TB-080317	8-3-17	1020	G	S	2									X								☐
↓-02	SB9_080317-1	8-3-17	1030	C	S	3	1								X	X	X	X	X				☐
																							☐
																							☐
																							☐
																							☐
																							☐
																							☐
																							☐
																							☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☒ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other:
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:
		8/4/17	1052
		8/4/17	1602

Temp °C: Observed 4.3; Correction Factor 0; Corrected 4.3; IR ID# 01

☐ EDD format:
☒ E-mail to: Arthur.Taddeo@aecom.com
Lori.Herbert@aecom.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☐ Iced ☒ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

1713560

General Chemistry Parameters

SC37797-02 (SP9_080317-1)

1713564

Volatile Organic Compounds

1713564-BLK1
1713564-BS1
1713564-BSD1
SC37797-01 (TB-080317)
SC37797-02 (SP9_080317-1)

1713567

Total Metals by EPA 6000/7000 Series Methods

1713567-BLK1
1713567-SRM1
1713567-SRM2
SC37797-02 (SP9_080317-1)

1713590

Extractable Petroleum Hydrocarbons

1713590-BLK1
1713590-BS1
1713590-BS2
1713590-BSD1
SC37797-02 (SP9_080317-1)

1713631

Volatile Organic Compounds

1713631-BLK1
1713631-BS1
1713631-BSD1
SC37797-02 (SP9_080317-1)

1713698

General Chemistry Parameters

1713698-BLK1
1713698-BS1
1713698-BS2
1713698-SRM1
SC37797-02 (SP9_080317-1)

1713781

Total Metals by EPA 6000/7000 Series Methods

1713781-BLK1
1713781-SRM1
1713781-SRM2
SC37797-02 (SP9_080317-1)

S703723

Volatile Organic Compounds

S703723-CAL1
S703723-CAL2
S703723-CAL3
S703723-CAL4
S703723-CAL5
S703723-CAL6
S703723-CAL7
S703723-ICV1
S703723-LCV1

S706407

Extractable Petroleum Hydrocarbons

S706407-CAL1
S706407-CAL2
S706407-CAL3
S706407-CAL4
S706407-CAL5
S706407-CAL6
S706407-CAL7
S706407-CAL8
S706407-CAL9
S706407-CALA
S706407-CALB
S706407-CALC
S706407-CALD
S706407-CALE
S706407-CALF
S706407-CALG
S706407-CALH
S706407-CALI
S706407-CALJ
S706407-ICV1
S706407-ICV2
S706407-ICV3
S706407-LCV1
S706407-LCV2
S706407-TUN1

S706452

Volatile Organic Compounds

S706452-CAL1
S706452-CAL2
S706452-CAL3
S706452-CAL4
S706452-CAL5
S706452-CAL6
S706452-CAL7
S706452-CAL8
S706452-CAL9
S706452-ICV1
S706452-LCV1
S706452-TUN1

S707021

Volatile Organic Compounds

S707021-CCV1
S707021-TUN1

S707045

Volatile Organic Compounds

S707045-CCV1
S707045-CCV2

S707095

General Chemistry Parameters

S707095-CCB1
S707095-CCB2
S707095-CCV1
S707095-CCV2
S707095-CRL1
S707095-CRL2
S707095-HCV1
S707095-LCV1

S707108

General Chemistry Parameters

S707108-CAL1
S707108-CAL2
S707108-CAL3
S707108-CAL4
S707108-CAL5
S707108-CAL6
S707108-CAL7
S707108-ICV1

S707115

Extractable Petroleum Hydrocarbons

S707115-CCV1
S707115-CCV2
S707115-TUN1

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☑ Final Report
☐ Revised Report

Report Date:
15-Aug-17 16:45

Laboratory Report
SC38055

AECOM Environment
250 Apollo Drive
Chelmsford, MA 01824
Attn: Art Taddeo

Project: LMC-Wilmington- 40 Fordham Rd. - MA
Project #: 60478638.5.01

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director

Dawn E Wojcik

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 26 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC38055

Project: LMC-Wilmington- 40 Fordham Rd. - MA

Project Number: 60478638.5.01

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC38055-01	TB_081117	Methanol/Deionized Water	11-Aug-17 10:15	11-Aug-17 17:17
SC38055-02	SP10_081117-1	Soil	11-Aug-17 10:20	11-Aug-17 17:17

The following outlines the condition of all VPH samples contained within this report upon laboratory receipt.

Matrices	Soil		
Containers	✓ Satisfactory		
Sample Preservative	**Aqueous** (acid preserved)	✓ N/A pH≤2 pH>2	
	Soil or Sediment	N/A Samples not received in Methanol	ml Methanol/g soil ✓ 1:1 +/-25% Other
		✓ Samples received in Methanol: ✓ covering soil/sediment not covering soil/sediment	
		Samples received in air-tight container	
Temperature	✓ Received on ice ✓ Received at 4 ± 2 ºC		

Were all QA/QC procedures followed as required by the VPH method? *Yes*
Were any significant modifications made to the VPH method as specified in section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrices	Soil
Containers	✓ Satisfactory
Aqueous Preservative	✓ N/A pH≤2 pH>2 pH adjusted to <2 in lab
Temperature	✓ Received on ice ✓ Received at 4 ± 2 ºC

Were all QA/QC procedures followed as required by the EPH method? *Yes*
Were any significant modifications made to the EPH method as specified in Section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

I attest that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Authorized by:

Christina A. White
Laboratory Director

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.	**Project #:** 60478638.5.01
Project Location: LMC-Wilmington- 40 Fordham Rd. - MA	**RTN:**
This form provides certifications for the following data set:	SC38055-01 through SC38055-02
Matrices: Methanol/Deionized Water Soil	

CAM Protocol

✓ 8260 VOC CAM II A	7470/7471 Hg CAM III B	✓ MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	✓ MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B

Affirmative responses to questions A through F are required for Presumptive Certainty status

A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	✓ Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?	✓ Yes No

Responses to questions G, H and I below are required for Presumptive Certainty status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	Yes ✓ No

***Data User Note:* Data that achieve Presumptive Certainty status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ✓ No

All negative responses are addressed in a case narrative on the cover page of this report.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Christina A. White
Laboratory Director
Date: 8/15/2017

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 2.6 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

All VOC soils samples submitted and analyzed in methanol will have a minimum dilution factor of 50. This is the minimum amount of solvent allowed on the instrumentation without causing interference. Soils are run on a manual load instrument. 100ug of sample (MEOH) is spiked into 5ml DI water along with the surrogate and added directly onto the instrument. Additional dilution factors may be required to keep analyte concentration within instrument calibration range.

Method SW846 5035A is designed to use on samples containing low levels of VOCs, ranging from 0.5 to 200 ug/Kg. Target analytes that are less responsive to purge and trap may be present at concentrations over 200ug/Kg but may not be reportable in the methanol preserved vial (SW846 5030). This is the result of the inherent dilution factor required for the methanol preservation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

MADEP EPH 5/2004 R

Calibration:

1707043

Analyte quantified by quadratic equation type calibration.

C19-C36 Aliphatic Hydrocarbons

This affected the following samples:

1713892-BLK1
1713892-BS1
1713892-BS2
1713892-BSD1
S706487-ICV2
SP10_081117-1

Laboratory Control Samples:

1713892 BSD

C19-C36 Aliphatic Hydrocarbons RPD 51% (25%) is outside individual acceptance criteria.

Samples:

MADEP EPH 5/2004 R

Samples:

SC38055-02 *SP10_081117-1*

The Reporting Limit has been raised to account for matrix interference.

1-Chlorooctadecane
2-Fluorobiphenyl
C11-C22 Aromatic Hydrocarbons
C19-C36 Aliphatic Hydrocarbons
C9-C18 Aliphatic Hydrocarbons
Ortho-Terphenyl
Unadjusted C11-C22 Aromatic Hydrocarbons

The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.

1-Chlorooctadecane
2-Fluorobiphenyl
Ortho-Terphenyl

The upper linear range for carbon chains is defined by peak height not concentration. Based on the maximum peak height for this fraction it is shown to be within the linear range of the detector and therefore not diluted further.

C19-C36 Aliphatic Hydrocarbons

SW846 8260C

Calibration:

1707042

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,4-Dioxane
2-Hexanone (MBK)
4-Methyl-2-pentanone (MIBK)
Bromoform
Dibromochloromethane
Naphthalene
trans-1,3-Dichloropropene

This affected the following samples:

1713937-BLK1
1713937-BS1
1713937-BSD1
S706452-ICV1
S707230-CCV1
SP10_081117-1
TB_081117

Laboratory Control Samples:

1713937 BS/BSD

Acetone percent recoveries (155/149) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

SP10_081117-1
TB_081117

SW846 8260C

Laboratory Control Samples:

1713937 BS/BSD

Carbon disulfide percent recoveries (74/66) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

SP10_081117-1
TB_081117

Ethyl ether percent recoveries (145/129) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

SP10_081117-1
TB_081117

Samples:

S707230-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,1,2-Trichlorotrifluoroethane (Freon 113) (-23.3%)
1,2-Dichlorobenzene (24.5%)
4-Isopropyltoluene (23.2%)
Carbon disulfide (-25.5%)
Ethyl ether (44.7%)
Methylene chloride (-25.1%)

Analyte percent drift is outside individual acceptance criteria (20), but within overall method allowances.

Acetone (55.0%)
Dibromochloromethane (-22.6%)

This affected the following samples:

1713937-BLK1
1713937-BS1
1713937-BSD1
SP10_081117-1
TB_081117

Sample Acceptance Check Form

Client:	AECOM Environment - Chelmsford, MA
Project:	LMC-Wilmington- 40 Fordham Rd. - MA / 60478638.5.01
Work Order:	SC38055
Sample(s) received on:	8/11/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC38055-02 **Client ID:** SP10_081117-1

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
C19-C36 Aliphatic Hydrocarbons	5460	D, CCE	104	mg/kg	MADEP EPH 5/2004 R
Arsenic	7.41		1.55	mg/kg	SW846 6010C
Chromium	12.6		1.04	mg/kg	SW846 6010C
Copper	7.47		1.04	mg/kg	SW846 6010C
Lead	8.73		1.55	mg/kg	SW846 6010C
Zinc	26.1		1.04	mg/kg	SW846 6010C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB_081117 SC38055-01	60478638.5.01	Methanol/Deionized Water	11-Aug-17 10:15	11-Aug-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5035A Soil (low level)													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00	2.54	1	SW846 8260C	14-Aug-17	14-Aug-17	MP	1713937	
67-64-1	Acetone	< 50.0		µg/kg wet	50.0	20.0	1	"	"	"	"	"	
71-43-2	Benzene	< 5.00		µg/kg wet	5.00	1.32	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 5.00		µg/kg wet	5.00	1.34	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 5.00		µg/kg wet	5.00	2.52	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.00		µg/kg wet	5.00	3.34	1	"	"	"	"	"	
75-25-2	Bromoform	< 5.00		µg/kg wet	5.00	4.77	1	"	"	"	"	"	
74-83-9	Bromomethane	< 10.0		µg/kg wet	10.0	4.52	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 10.0		µg/kg wet	10.0	8.94	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 5.00		µg/kg wet	5.00	1.43	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 5.00		µg/kg wet	5.00	0.91	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 5.00		µg/kg wet	5.00	1.12	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 10.0		µg/kg wet	10.0	3.20	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 5.00		µg/kg wet	5.00	4.09	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 5.00		µg/kg wet	5.00	1.56	1	"	"	"	"	"	
75-00-3	Chloroethane	< 10.0		µg/kg wet	10.0	2.78	1	"	"	"	"	"	
67-66-3	Chloroform	< 5.00		µg/kg wet	5.00	2.68	1	"	"	"	"	"	
74-87-3	Chloromethane	< 10.0		µg/kg wet	10.0	2.06	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 5.00		µg/kg wet	5.00	1.24	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 5.00		µg/kg wet	5.00	1.18	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0	7.22	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.00		µg/kg wet	5.00	3.39	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00	3.36	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 5.00		µg/kg wet	5.00	2.60	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.30	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.08	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00	1.48	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0	1.90	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 5.00		µg/kg wet	5.00	1.31	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 5.00		µg/kg wet	5.00	1.79	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00	1.86	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00	2.65	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 5.00		µg/kg wet	5.00	2.59	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 5.00		µg/kg wet	5.00	2.36	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 5.00		µg/kg wet	5.00	1.61	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00	3.02	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00	2.62	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.00		µg/kg wet	5.00	0.72	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 5.00		µg/kg wet	5.00	2.51	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0	6.14	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 5.00		µg/kg wet	5.00	0.98	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB_081117 SC38055-01	60478638.5.01	Methanol/Deionized Water	11-Aug-17 10:15	11-Aug-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
99-87-6	4-Isopropyltoluene	< 5.00		µg/kg wet	5.00	1.08	1	SW846 8260C	14-Aug-17	14-Aug-17	MP	1713937	
1634-04-4	Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00	1.84	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0	2.57	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 10.0		µg/kg wet	10.0	1.98	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.00		µg/kg wet	5.00	2.98	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 5.00		µg/kg wet	5.00	0.81	1	"	"	"	"	"	
100-42-5	Styrene	< 5.00		µg/kg wet	5.00	1.00	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00	4.25	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00	4.23	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 5.00		µg/kg wet	5.00	1.71	1	"	"	"	"	"	
108-88-3	Toluene	< 5.00		µg/kg wet	5.00	1.62	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00	1.76	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00	3.68	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00	1.66	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00	3.62	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 5.00		µg/kg wet	5.00	1.36	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00	2.70	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00	3.75	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00	1.22	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00	0.86	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 5.00		µg/kg wet	5.00	1.69	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0		µg/kg wet	10.0	0.90	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.00		µg/kg wet	5.00	1.40	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 10.0		µg/kg wet	10.0	7.88	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.00		µg/kg wet	5.00	4.53	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00	1.67	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00	2.70	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 5.00		µg/kg wet	5.00	0.93	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 100		µg/kg wet	100	86.8	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*88*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*89*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*111*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*96*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP10_081117-1 SC38055-02	60478638.5.01	Soil	11-Aug-17 10:20	11-Aug-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Prepared by method Volatiles													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			BD	1713906	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 5.72 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 4.79		µg/kg dry	4.79	2.43	1	SW846 8260C	14-Aug-17	14-Aug-17	MP	1713937	
67-64-1	Acetone	< 47.9		µg/kg dry	47.9	19.2	1	"	"	"	"	"	
71-43-2	Benzene	< 4.79		µg/kg dry	4.79	1.27	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 4.79		µg/kg dry	4.79	1.28	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 4.79		µg/kg dry	4.79	2.42	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 4.79		µg/kg dry	4.79	3.20	1	"	"	"	"	"	
75-25-2	Bromoform	< 4.79		µg/kg dry	4.79	4.57	1	"	"	"	"	"	
74-83-9	Bromomethane	< 9.59		µg/kg dry	9.59	4.33	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 9.59		µg/kg dry	9.59	8.57	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 4.79		µg/kg dry	4.79	1.37	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 4.79		µg/kg dry	4.79	0.87	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 4.79		µg/kg dry	4.79	1.07	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 9.59		µg/kg dry	9.59	3.07	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 4.79		µg/kg dry	4.79	3.92	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 4.79		µg/kg dry	4.79	1.50	1	"	"	"	"	"	
75-00-3	Chloroethane	< 9.59		µg/kg dry	9.59	2.66	1	"	"	"	"	"	
67-66-3	Chloroform	< 4.79		µg/kg dry	4.79	2.57	1	"	"	"	"	"	
74-87-3	Chloromethane	< 9.59		µg/kg dry	9.59	1.98	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 4.79		µg/kg dry	4.79	1.19	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 4.79		µg/kg dry	4.79	1.13	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 9.59		µg/kg dry	9.59	6.93	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 4.79		µg/kg dry	4.79	3.25	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 4.79		µg/kg dry	4.79	3.22	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 4.79		µg/kg dry	4.79	2.49	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 4.79		µg/kg dry	4.79	1.25	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 4.79		µg/kg dry	4.79	1.04	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 4.79		µg/kg dry	4.79	1.42	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 9.59		µg/kg dry	9.59	1.82	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 4.79		µg/kg dry	4.79	1.26	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 4.79		µg/kg dry	4.79	1.72	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 4.79		µg/kg dry	4.79	2.51	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 4.79		µg/kg dry	4.79	1.78	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 4.79		µg/kg dry	4.79	2.54	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 4.79		µg/kg dry	4.79	2.51	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 4.79		µg/kg dry	4.79	2.48	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 4.79		µg/kg dry	4.79	2.26	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 4.79		µg/kg dry	4.79	1.54	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 4.79		µg/kg dry	4.79	2.89	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 4.79		µg/kg dry	4.79	2.52	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 4.79		µg/kg dry	4.79	0.69	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP10_081117-1	60478638.5.01	Soil	11-Aug-17 10:20	11-Aug-17
SC38055-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260							Initial weight: 5.72 g						
87-68-3	Hexachlorobutadiene	< 4.79		µg/kg dry	4.79	2.41	1	SW846 8260C	14-Aug-17	14-Aug-17	MP	1713937	
591-78-6	2-Hexanone (MBK)	< 9.59		µg/kg dry	9.59	5.88	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 4.79		µg/kg dry	4.79	0.94	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 4.79		µg/kg dry	4.79	1.03	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 4.79		µg/kg dry	4.79	1.76	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 9.59		µg/kg dry	9.59	2.46	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 9.59		µg/kg dry	9.59	1.90	1	"	"	"	"	"	
91-20-3	Naphthalene	< 4.79		µg/kg dry	4.79	2.85	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 4.79		µg/kg dry	4.79	0.78	1	"	"	"	"	"	
100-42-5	Styrene	< 4.79		µg/kg dry	4.79	0.96	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 4.79		µg/kg dry	4.79	4.07	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 4.79		µg/kg dry	4.79	4.05	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 4.79		µg/kg dry	4.79	1.64	1	"	"	"	"	"	
108-88-3	Toluene	< 4.79		µg/kg dry	4.79	1.55	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 4.79		µg/kg dry	4.79	1.68	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 4.79		µg/kg dry	4.79	3.53	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 4.79		µg/kg dry	4.79	1.59	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 4.79		µg/kg dry	4.79	3.47	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 4.79		µg/kg dry	4.79	1.31	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 4.79		µg/kg dry	4.79	2.58	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 4.79		µg/kg dry	4.79	3.59	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 4.79		µg/kg dry	4.79	1.16	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 4.79		µg/kg dry	4.79	0.82	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 4.79		µg/kg dry	4.79	1.62	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 9.59		µg/kg dry	9.59	0.86	1	"	"	"	"	"	
95-47-6	o-Xylene	< 4.79		µg/kg dry	4.79	1.34	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 9.59		µg/kg dry	9.59	7.55	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 4.79		µg/kg dry	4.79	4.34	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 4.79		µg/kg dry	4.79	1.60	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 4.79		µg/kg dry	4.79	2.58	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 4.79		µg/kg dry	4.79	0.89	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 95.9		µg/kg dry	95.9	83.2	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*82*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*89*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*123*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*104*			*70-130 %*			"	"	"	"	"	
MADEP VPH Carbon Ranges Prepared by method VPH - EPA 5035A Soil							Initial weight: 17.57 g						
	C5-C8 Aliphatic Hydrocarbons	< 0.703	D	mg/kg dry	0.703	0.136	50	MADEP VPH 5/2004 Rev. 1.1	14-Aug-17	14-Aug-17	SD	1713935	
	C9-C12 Aliphatic Hydrocarbons	< 0.234	D	mg/kg dry	0.234	0.0975	50	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SP10_081117-1 SC38055-02	60478638.5.01	Soil	11-Aug-17 10:20	11-Aug-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH Carbon Ranges							Initial weight: 17.57 g						
	C9-C10 Aromatic Hydrocarbons	< 0.234	D	mg/kg dry	0.234	0.0284	50	MADEP VPH 5/2004 Rev. 1.1	14-Aug-17	14-Aug-17	SD	1713935	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.703	D	mg/kg dry	0.703	0.109	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.234	D	mg/kg dry	0.234	0.124	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*81*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*95*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Carbon Ranges Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 104	D, R01	mg/kg dry	104	14.5	10	MADEP EPH 5/2004 R	14-Aug-17	15-Aug-17	EDT	1713892	
	C19-C36 Aliphatic Hydrocarbons	**5,460**	D, CCE, R01	mg/kg dry	104	14.6	10	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 104	D, R01	mg/kg dry	104	49.4	10	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 104	D, R01	mg/kg dry	104	49.4	10	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*0*	R01, S01		*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*0*	R01, S01		*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*0*	R01, S01		*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3051A													
7440-38-2	Arsenic	**7.41**		mg/kg dry	1.55	0.197	1	SW846 6010C	14-Aug-17	15-Aug-17	TBC	1713897	
7440-47-3	Chromium	**12.6**		mg/kg dry	1.04	0.138	1	"	"	"	"	"	
7440-50-8	Copper	**7.47**		mg/kg dry	1.04	0.249	1	"	"	"	"	"	
7439-92-1	Lead	**8.73**		mg/kg dry	1.55	0.220	1	"	"	"	"	"	
7440-66-6	Zinc	**26.1**		mg/kg dry	1.04	0.802	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**95.7**		%			1	SM2540 G (11) Mod.	14-Aug-17	14-Aug-17	BD	1713947	
Prepared by method SW846 9010B													
57-12-5	Cyanide (total)	< 0.437		mg/kg dry	0.437	0.369	1	SW846 9012B	15-Aug-17	15-Aug-17	RLT	1713985	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP VPH 5/2004 Rev. 1.1										
Batch 1713935 - VPH - EPA 5035A Soil										
Blank (1713935-BLK1)					Prepared & Analyzed: 14-Aug-17					
C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
C9-C10 Aromatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.750	D	mg/kg wet	0.750						
Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.250	D	mg/kg wet	0.250						
Surrogate: 2,5-Dibromotoluene (FID)	*37.6*		µg/kg		*50.0*		*75*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*45.2*		µg/kg		*50.0*		*90*	*70-130*		
LCS (1713935-BS1)					Prepared & Analyzed: 14-Aug-17					
C5-C8 Aliphatic Hydrocarbons	**42.0**	D	µg/kg		60.0		70	70-130		
C9-C12 Aliphatic Hydrocarbons	**54.5**	D	µg/kg		60.0		91	70-130		
C9-C10 Aromatic Hydrocarbons	**22.4**	D	µg/kg		20.0		112	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**202**	D	µg/kg		200		101	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**76.9**	D	µg/kg		80.0		96	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*42.8*		µg/kg		*50.0*		*86*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*51.1*		µg/kg		*50.0*		*102*	*70-130*		
LCS Dup (1713935-BSD1)					Prepared & Analyzed: 14-Aug-17					
C5-C8 Aliphatic Hydrocarbons	**42.8**	D	µg/kg		60.0		71	70-130	2	25
C9-C12 Aliphatic Hydrocarbons	**56.3**	D	µg/kg		60.0		94	70-130	3	25
C9-C10 Aromatic Hydrocarbons	**23.2**	D	µg/kg		20.0		116	70-130	3	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**202**	D	µg/kg		200		101	70-130	0.4	25
Unadjusted C9-C12 Aliphatic Hydrocarbons	**79.4**	D	µg/kg		80.0		99	70-130	3	25
Surrogate: 2,5-Dibromotoluene (FID)	*41.8*		µg/kg		*50.0*		*84*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*50.1*		µg/kg		*50.0*		*100*	*70-130*		
SW846 8260C										
Batch 1713937 - SW846 5035A Soil (low level)										
Blank (1713937-BLK1)					Prepared & Analyzed: 14-Aug-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00						
Acetone	< 50.0		µg/kg wet	50.0						
Benzene	< 5.00		µg/kg wet	5.00						
Bromobenzene	< 5.00		µg/kg wet	5.00						
Bromochloromethane	< 5.00		µg/kg wet	5.00						
Bromodichloromethane	< 5.00		µg/kg wet	5.00						
Bromoform	< 5.00		µg/kg wet	5.00						
Bromomethane	< 10.0		µg/kg wet	10.0						
2-Butanone (MEK)	< 10.0		µg/kg wet	10.0						
n-Butylbenzene	< 5.00		µg/kg wet	5.00						
sec-Butylbenzene	< 5.00		µg/kg wet	5.00						
tert-Butylbenzene	< 5.00		µg/kg wet	5.00						
Carbon disulfide	< 10.0		µg/kg wet	10.0						
Carbon tetrachloride	< 5.00		µg/kg wet	5.00						
Chlorobenzene	< 5.00		µg/kg wet	5.00						
Chloroethane	< 10.0		µg/kg wet	10.0						
Chloroform	< 5.00		µg/kg wet	5.00						
Chloromethane	< 10.0		µg/kg wet	10.0						
2-Chlorotoluene	< 5.00		µg/kg wet	5.00						
4-Chlorotoluene	< 5.00		µg/kg wet	5.00						
1,2-Dibromo-3-chloropropane	< 10.0		µg/kg wet	10.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713937 - SW846 5035A Soil (low level)										
Blank (1713937-BLK1)					Prepared & Analyzed: 14-Aug-17					
Dibromochloromethane	< 5.00		µg/kg wet	5.00						
1,2-Dibromoethane (EDB)	< 5.00		µg/kg wet	5.00						
Dibromomethane	< 5.00		µg/kg wet	5.00						
1,2-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,3-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
1,4-Dichlorobenzene	< 5.00		µg/kg wet	5.00						
Dichlorodifluoromethane (Freon12)	< 10.0		µg/kg wet	10.0						
1,1-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,2-Dichloroethane	< 5.00		µg/kg wet	5.00						
1,1-Dichloroethene	< 5.00		µg/kg wet	5.00						
cis-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
trans-1,2-Dichloroethene	< 5.00		µg/kg wet	5.00						
1,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,3-Dichloropropane	< 5.00		µg/kg wet	5.00						
2,2-Dichloropropane	< 5.00		µg/kg wet	5.00						
1,1-Dichloropropene	< 5.00		µg/kg wet	5.00						
cis-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
trans-1,3-Dichloropropene	< 5.00		µg/kg wet	5.00						
Ethylbenzene	< 5.00		µg/kg wet	5.00						
Hexachlorobutadiene	< 5.00		µg/kg wet	5.00						
2-Hexanone (MBK)	< 10.0		µg/kg wet	10.0						
Isopropylbenzene	< 5.00		µg/kg wet	5.00						
4-Isopropyltoluene	< 5.00		µg/kg wet	5.00						
Methyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/kg wet	10.0						
Methylene chloride	< 10.0		µg/kg wet	10.0						
Naphthalene	< 5.00		µg/kg wet	5.00						
n-Propylbenzene	< 5.00		µg/kg wet	5.00						
Styrene	< 5.00		µg/kg wet	5.00						
1,1,1,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
1,1,2,2-Tetrachloroethane	< 5.00		µg/kg wet	5.00						
Tetrachloroethene	< 5.00		µg/kg wet	5.00						
Toluene	< 5.00		µg/kg wet	5.00						
1,2,3-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,2,4-Trichlorobenzene	< 5.00		µg/kg wet	5.00						
1,1,1-Trichloroethane	< 5.00		µg/kg wet	5.00						
1,1,2-Trichloroethane	< 5.00		µg/kg wet	5.00						
Trichloroethene	< 5.00		µg/kg wet	5.00						
Trichlorofluoromethane (Freon 11)	< 5.00		µg/kg wet	5.00						
1,2,3-Trichloropropane	< 5.00		µg/kg wet	5.00						
1,2,4-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
1,3,5-Trimethylbenzene	< 5.00		µg/kg wet	5.00						
Vinyl chloride	< 5.00		µg/kg wet	5.00						
m,p-Xylene	< 10.0		µg/kg wet	10.0						
o-Xylene	< 5.00		µg/kg wet	5.00						
Tetrahydrofuran	< 10.0		µg/kg wet	10.0						
Ethyl ether	< 5.00		µg/kg wet	5.00						
Tert-amyl methyl ether	< 5.00		µg/kg wet	5.00						
Ethyl tert-butyl ether	< 5.00		µg/kg wet	5.00						
Di-isopropyl ether	< 5.00		µg/kg wet	5.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713937 - SW846 5035A Soil (low level)										
Blank (1713937-BLK1)							Prepared & Analyzed: 14-Aug-17			
1,4-Dioxane	< 100		µg/kg wet	100						
Surrogate: 4-Bromofluorobenzene	*44.6*		µg/kg		*50.0*		*89*	*70-130*		
Surrogate: Toluene-d8	*49.3*		µg/kg		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*56.2*		µg/kg		*50.0*		*112*	*70-130*		
Surrogate: Dibromofluoromethane	*48.4*		µg/kg		*50.0*		*97*	*70-130*		
LCS (1713937-BS1)							Prepared & Analyzed: 14-Aug-17			
1,1,2-Trichlorotrifluoroethane (Freon 113)	**15.3**		µg/kg		20.0		77	70-130		
Acetone	**31.0**		µg/kg		20.0		155	70-130		
Benzene	**19.2**		µg/kg		20.0		96	70-130		
Bromobenzene	**23.4**		µg/kg		20.0		117	70-130		
Bromochloromethane	**18.1**		µg/kg		20.0		91	70-130		
Bromodichloromethane	**16.4**		µg/kg		20.0		82	70-130		
Bromoform	**18.8**		µg/kg		20.0		94	70-130		
Bromomethane	**21.7**		µg/kg		20.0		108	70-130		
2-Butanone (MEK)	**19.0**		µg/kg		20.0		95	70-130		
n-Butylbenzene	**22.8**		µg/kg		20.0		114	70-130		
sec-Butylbenzene	**23.6**		µg/kg		20.0		118	70-130		
tert-Butylbenzene	**23.9**		µg/kg		20.0		120	70-130		
Carbon disulfide	**14.9**		µg/kg		20.0		74	70-130		
Carbon tetrachloride	**16.4**		µg/kg		20.0		82	70-130		
Chlorobenzene	**23.4**		µg/kg		20.0		117	70-130		
Chloroethane	**22.5**		µg/kg		20.0		112	70-130		
Chloroform	**17.5**		µg/kg		20.0		87	70-130		
Chloromethane	**18.6**		µg/kg		20.0		93	70-130		
2-Chlorotoluene	**20.0**		µg/kg		20.0		100	70-130		
4-Chlorotoluene	**23.4**		µg/kg		20.0		117	70-130		
1,2-Dibromo-3-chloropropane	**21.3**		µg/kg		20.0		106	70-130		
Dibromochloromethane	**15.5**		µg/kg		20.0		77	70-130		
1,2-Dibromoethane (EDB)	**17.6**		µg/kg		20.0		88	70-130		
Dibromomethane	**17.7**		µg/kg		20.0		88	70-130		
1,2-Dichlorobenzene	**24.9**		µg/kg		20.0		125	70-130		
1,3-Dichlorobenzene	**23.7**		µg/kg		20.0		119	70-130		
1,4-Dichlorobenzene	**23.7**		µg/kg		20.0		118	70-130		
Dichlorodifluoromethane (Freon12)	**18.0**		µg/kg		20.0		90	70-130		
1,1-Dichloroethane	**18.3**		µg/kg		20.0		91	70-130		
1,2-Dichloroethane	**16.4**		µg/kg		20.0		82	70-130		
1,1-Dichloroethene	**17.0**		µg/kg		20.0		85	70-130		
cis-1,2-Dichloroethene	**18.6**		µg/kg		20.0		93	70-130		
trans-1,2-Dichloroethene	**18.1**		µg/kg		20.0		91	70-130		
1,2-Dichloropropane	**18.6**		µg/kg		20.0		93	70-130		
1,3-Dichloropropane	**17.6**		µg/kg		20.0		88	70-130		
2,2-Dichloropropane	**17.5**		µg/kg		20.0		87	70-130		
1,1-Dichloropropene	**17.5**		µg/kg		20.0		87	70-130		
cis-1,3-Dichloropropene	**16.6**		µg/kg		20.0		83	70-130		
trans-1,3-Dichloropropene	**16.3**		µg/kg		20.0		82	70-130		
Ethylbenzene	**23.9**		µg/kg		20.0		120	70-130		
Hexachlorobutadiene	**23.2**		µg/kg		20.0		116	70-130		
2-Hexanone (MBK)	**16.4**		µg/kg		20.0		82	70-130		
Isopropylbenzene	**24.0**		µg/kg		20.0		120	70-130		
4-Isopropyltoluene	**24.6**		µg/kg		20.0		123	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713937 - SW846 5035A Soil (low level)										
LCS (1713937-BS1)						Prepared & Analyzed: 14-Aug-17				
Methyl tert-butyl ether	**17.5**		µg/kg		20.0		88	70-130		
4-Methyl-2-pentanone (MIBK)	**16.5**		µg/kg		20.0		82	70-130		
Methylene chloride	**15.0**		µg/kg		20.0		75	70-130		
Naphthalene	**22.3**		µg/kg		20.0		112	70-130		
n-Propylbenzene	**23.8**		µg/kg		20.0		119	70-130		
Styrene	**22.6**		µg/kg		20.0		113	70-130		
1,1,1,2-Tetrachloroethane	**23.3**		µg/kg		20.0		116	70-130		
1,1,2,2-Tetrachloroethane	**23.8**		µg/kg		20.0		119	70-130		
Tetrachloroethene	**18.2**		µg/kg		20.0		91	70-130		
Toluene	**18.6**		µg/kg		20.0		93	70-130		
1,2,3-Trichlorobenzene	**23.8**		µg/kg		20.0		119	70-130		
1,2,4-Trichlorobenzene	**22.0**		µg/kg		20.0		110	70-130		
1,1,1-Trichloroethane	**17.7**		µg/kg		20.0		88	70-130		
1,1,2-Trichloroethane	**18.3**		µg/kg		20.0		91	70-130		
Trichloroethene	**18.4**		µg/kg		20.0		92	70-130		
Trichlorofluoromethane (Freon 11)	**23.8**		µg/kg		20.0		119	70-130		
1,2,3-Trichloropropane	**23.2**		µg/kg		20.0		116	70-130		
1,2,4-Trimethylbenzene	**23.6**		µg/kg		20.0		118	70-130		
1,3,5-Trimethylbenzene	**22.5**		µg/kg		20.0		113	70-130		
Vinyl chloride	**19.1**		µg/kg		20.0		95	70-130		
m,p-Xylene	**23.0**		µg/kg		20.0		115	70-130		
o-Xylene	**23.9**		µg/kg		20.0		120	70-130		
Tetrahydrofuran	**16.8**		µg/kg		20.0		84	70-130		
Ethyl ether	**29.0**	QM9	µg/kg		20.0		145	70-130		
Tert-amyl methyl ether	**16.7**		µg/kg		20.0		84	70-130		
Ethyl tert-butyl ether	**18.1**		µg/kg		20.0		90	70-130		
Di-isopropyl ether	**17.3**		µg/kg		20.0		87	70-130		
1,4-Dioxane	**168**		µg/kg		200		84	70-130		
Surrogate: 4-Bromofluorobenzene	*49.2*		µg/kg		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*44.6*		µg/kg		*50.0*		*89*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*45.0*		µg/kg		*50.0*		*90*	*70-130*		
Surrogate: Dibromofluoromethane	*45.3*		µg/kg		*50.0*		*91*	*70-130*		
LCS Dup (1713937-BSD1)						Prepared & Analyzed: 14-Aug-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**14.1**		µg/kg		20.0		71	70-130	8	30
Acetone	**29.7**		µg/kg		20.0		149	70-130	4	30
Benzene	**18.8**		µg/kg		20.0		94	70-130	2	30
Bromobenzene	**23.1**		µg/kg		20.0		116	70-130	1	30
Bromochloromethane	**15.8**		µg/kg		20.0		79	70-130	13	30
Bromodichloromethane	**16.0**		µg/kg		20.0		80	70-130	2	30
Bromoform	**19.0**		µg/kg		20.0		95	70-130	1	30
Bromomethane	**21.4**		µg/kg		20.0		107	70-130	1	30
2-Butanone (MEK)	**15.7**		µg/kg		20.0		79	70-130	19	30
n-Butylbenzene	**22.5**		µg/kg		20.0		112	70-130	2	30
sec-Butylbenzene	**23.3**		µg/kg		20.0		116	70-130	1	30
tert-Butylbenzene	**23.2**		µg/kg		20.0		116	70-130	3	30
Carbon disulfide	**13.2**	QM9	µg/kg		20.0		66	70-130	12	30
Carbon tetrachloride	**16.0**		µg/kg		20.0		80	70-130	2	30
Chlorobenzene	**23.1**		µg/kg		20.0		116	70-130	1	30
Chloroethane	**21.4**		µg/kg		20.0		107	70-130	5	30
Chloroform	**15.2**		µg/kg		20.0		76	70-130	14	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713937 - SW846 5035A Soil (low level)										
LCS Dup (1713937-BSD1)					Prepared & Analyzed: 14-Aug-17					
Chloromethane	**18.1**		µg/kg		20.0		90	70-130	3	30
2-Chlorotoluene	**19.7**		µg/kg		20.0		99	70-130	2	30
4-Chlorotoluene	**22.8**		µg/kg		20.0		114	70-130	2	30
1,2-Dibromo-3-chloropropane	**22.3**		µg/kg		20.0		112	70-130	5	30
Dibromochloromethane	**15.2**		µg/kg		20.0		76	70-130	1	30
1,2-Dibromoethane (EDB)	**17.7**		µg/kg		20.0		88	70-130	0.6	30
Dibromomethane	**17.3**		µg/kg		20.0		86	70-130	2	30
1,2-Dichlorobenzene	**24.5**		µg/kg		20.0		123	70-130	2	30
1,3-Dichlorobenzene	**23.2**		µg/kg		20.0		116	70-130	2	30
1,4-Dichlorobenzene	**23.3**		µg/kg		20.0		117	70-130	2	30
Dichlorodifluoromethane (Freon12)	**17.6**		µg/kg		20.0		88	70-130	2	30
1,1-Dichloroethane	**15.0**		µg/kg		20.0		75	70-130	20	30
1,2-Dichloroethane	**16.4**		µg/kg		20.0		82	70-130	0.1	30
1,1-Dichloroethene	**16.2**		µg/kg		20.0		81	70-130	4	30
cis-1,2-Dichloroethene	**15.9**		µg/kg		20.0		79	70-130	16	30
trans-1,2-Dichloroethene	**15.3**		µg/kg		20.0		76	70-130	17	30
1,2-Dichloropropane	**18.2**		µg/kg		20.0		91	70-130	2	30
1,3-Dichloropropane	**17.7**		µg/kg		20.0		88	70-130	0.1	30
2,2-Dichloropropane	**15.2**		µg/kg		20.0		76	70-130	14	30
1,1-Dichloropropene	**17.3**		µg/kg		20.0		87	70-130	0.9	30
cis-1,3-Dichloropropene	**16.4**		µg/kg		20.0		82	70-130	1	30
trans-1,3-Dichloropropene	**16.1**		µg/kg		20.0		80	70-130	1	30
Ethylbenzene	**23.8**		µg/kg		20.0		119	70-130	0.4	30
Hexachlorobutadiene	**23.0**		µg/kg		20.0		115	70-130	1	30
2-Hexanone (MBK)	**16.0**		µg/kg		20.0		80	70-130	3	30
Isopropylbenzene	**24.0**		µg/kg		20.0		120	70-130	0.08	30
4-Isopropyltoluene	**24.3**		µg/kg		20.0		122	70-130	1	30
Methyl tert-butyl ether	**15.0**		µg/kg		20.0		75	70-130	16	30
4-Methyl-2-pentanone (MIBK)	**15.2**		µg/kg		20.0		76	70-130	8	30
Methylene chloride	**15.0**		µg/kg		20.0		75	70-130	0.1	30
Naphthalene	**22.6**		µg/kg		20.0		113	70-130	1	30
n-Propylbenzene	**23.2**		µg/kg		20.0		116	70-130	2	30
Styrene	**22.2**		µg/kg		20.0		111	70-130	2	30
1,1,1,2-Tetrachloroethane	**22.6**		µg/kg		20.0		113	70-130	3	30
1,1,2,2-Tetrachloroethane	**23.8**		µg/kg		20.0		119	70-130	0.1	30
Tetrachloroethene	**17.8**		µg/kg		20.0		89	70-130	2	30
Toluene	**18.1**		µg/kg		20.0		90	70-130	3	30
1,2,3-Trichlorobenzene	**24.2**		µg/kg		20.0		121	70-130	2	30
1,2,4-Trichlorobenzene	**22.0**		µg/kg		20.0		110	70-130	0	30
1,1,1-Trichloroethane	**17.5**		µg/kg		20.0		87	70-130	1	30
1,1,2-Trichloroethane	**17.8**		µg/kg		20.0		89	70-130	2	30
Trichloroethene	**17.8**		µg/kg		20.0		89	70-130	4	30
Trichlorofluoromethane (Freon 11)	**23.4**		µg/kg		20.0		117	70-130	2	30
1,2,3-Trichloropropane	**23.2**		µg/kg		20.0		116	70-130	0.04	30
1,2,4-Trimethylbenzene	**23.2**		µg/kg		20.0		116	70-130	2	30
1,3,5-Trimethylbenzene	**22.2**		µg/kg		20.0		111	70-130	2	30
Vinyl chloride	**18.5**		µg/kg		20.0		92	70-130	3	30
m,p-Xylene	**23.8**		µg/kg		20.0		119	70-130	4	30
o-Xylene	**24.2**		µg/kg		20.0		121	70-130	1	30
Tetrahydrofuran	**14.0**		µg/kg		20.0		70	70-130	18	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1713937 - SW846 5035A Soil (low level)										
LCS Dup (1713937-BSD1)					Prepared & Analyzed: 14-Aug-17					
Ethyl ether	**25.7**		µg/kg		20.0		129	70-130	12	30
Tert-amyl methyl ether	**16.4**		µg/kg		20.0		82	70-130	2	30
Ethyl tert-butyl ether	**15.6**		µg/kg		20.0		78	70-130	14	30
Di-isopropyl ether	**14.0**		µg/kg		20.0		70	70-130	21	30
1,4-Dioxane	**165**		µg/kg		200		82	70-130	2	30
Surrogate: 4-Bromofluorobenzene	*49.0*		µg/kg		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*44.0*		µg/kg		*50.0*		*88*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*41.8*		µg/kg		*50.0*		*84*	*70-130*		
Surrogate: Dibromofluoromethane	*41.0*		µg/kg		*50.0*		*82*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1713892 - SW846 3546										
Blank (1713892-BLK1)						Prepared: 14-Aug-17 Analyzed: 15-Aug-17				
C9-C18 Aliphatic Hydrocarbons	< 9.97		mg/kg wet	9.97						
C19-C36 Aliphatic Hydrocarbons	< 9.97		mg/kg wet	9.97						
C11-C22 Aromatic Hydrocarbons	< 9.97		mg/kg wet	9.97						
Unadjusted C11-C22 Aromatic Hydrocarbons	< 9.97		mg/kg wet	9.97						
Total Petroleum Hydrocarbons	< 29.9		mg/kg wet	29.9						
Unadjusted Total Petroleum Hydrocarbons	< 29.9		mg/kg wet	29.9						
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.62*		mg/kg wet		*3.32*		*49*	*40-140*		
Surrogate: Ortho-Terphenyl	*2.85*		mg/kg wet		*3.32*		*86*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.67*		mg/kg wet		*2.66*		*100*	*40-140*		
LCS (1713892-BS1)						Prepared: 14-Aug-17 Analyzed: 15-Aug-17				
C9-C18 Aliphatic Hydrocarbons	**19.6**		mg/kg wet	9.97	19.9		98	40-140		
C19-C36 Aliphatic Hydrocarbons	**24.7**		mg/kg wet	9.97	26.6		93	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**36.6**		mg/kg wet	9.97	45.2		81	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.66			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.66			0-200		
Surrogate: 1-Chlorooctadecane	*4.25*		mg/kg wet		*3.32*		*128*	*40-140*		
Surrogate: Ortho-Terphenyl	*3.34*		mg/kg wet		*3.32*		*100*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*3.16*		mg/kg wet		*2.66*		*119*	*40-140*		
LCS (1713892-BS2)						Prepared: 14-Aug-17 Analyzed: 15-Aug-17				
C9-C18 Aliphatic Hydrocarbons	**20.8**		mg/kg wet	10.0	20.0		104	40-140		
C19-C36 Aliphatic Hydrocarbons	**25.3**		mg/kg wet	10.0	26.7		95	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**32.1**		mg/kg wet	10.0	45.3		71	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.67			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.67			0-200		
Surrogate: 1-Chlorooctadecane	*5.08*		mg/kg wet		*6.67*		*76*	*40-140*		
Surrogate: Ortho-Terphenyl	*2.90*		mg/kg wet		*6.67*		*43*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*2.77*		mg/kg wet		*2.67*		*104*	*40-140*		
LCS Dup (1713892-BSD1)						Prepared: 14-Aug-17 Analyzed: 15-Aug-17				
C9-C18 Aliphatic Hydrocarbons	**15.7**		mg/kg wet	9.89	19.8		79	40-140	22	25
C19-C36 Aliphatic Hydrocarbons	**14.6**	QR2	mg/kg wet	9.89	26.4		55	40-140	51	25
Unadjusted C11-C22 Aromatic Hydrocarbons	**39.3**		mg/kg wet	9.89	44.8		88	40-140	7	25
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.64			0-200		200
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		2.64			0-200		200
Surrogate: 1-Chlorooctadecane	*3.05*		mg/kg wet		*3.30*		*93*	*40-140*		
Surrogate: Ortho-Terphenyl	*3.39*		mg/kg wet		*3.30*		*103*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*3.21*		mg/kg wet		*2.64*		*122*	*40-140*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 6010C										
Batch 1713897 - SW846 3051A										
Blank (1713897-BLK1)					Prepared: 14-Aug-17 Analyzed: 15-Aug-17					
Chromium	< 0.959		mg/kg wet	0.959						
Copper	< 0.959		mg/kg wet	0.959						
Lead	< 1.44		mg/kg wet	1.44						
Zinc	< 0.959		mg/kg wet	0.959						
Arsenic	< 1.44		mg/kg wet	1.44						
Duplicate (1713897-DUP1)			**Source: SC38055-02**		Prepared: 14-Aug-17 Analyzed: 15-Aug-17					
Zinc	**23.2**		mg/kg dry	0.975		26.1			12	20
Arsenic	**7.10**		mg/kg dry	1.46		7.41			4	20
Chromium	**12.2**		mg/kg dry	0.975		12.6			3	20
Copper	**8.39**		mg/kg dry	0.975		7.47			12	20
Lead	**8.00**		mg/kg dry	1.46		8.73			9	20
Matrix Spike (1713897-MS1)			**Source: SC38055-02**		Prepared: 14-Aug-17 Analyzed: 15-Aug-17					
Copper	**134**		mg/kg dry	0.977	122	7.47	103	75-125		
Lead	**120**		mg/kg dry	1.47	122	8.73	91	75-125		
Zinc	**142**		mg/kg dry	0.977	122	26.1	95	75-125		
Chromium	**132**		mg/kg dry	0.977	122	12.6	98	75-125		
Arsenic	**126**		mg/kg dry	1.47	122	7.41	97	75-125		
Matrix Spike Dup (1713897-MSD1)			**Source: SC38055-02**		Prepared: 14-Aug-17 Analyzed: 15-Aug-17					
Arsenic	**125**		mg/kg dry	1.46	122	7.41	97	75-125	0.5	20
Chromium	**130**		mg/kg dry	0.974	122	12.6	97	75-125	1	20
Copper	**133**		mg/kg dry	0.974	122	7.47	103	75-125	0.4	20
Lead	**118**		mg/kg dry	1.46	122	8.73	90	75-125	2	20
Zinc	**140**		mg/kg dry	0.974	122	26.1	93	75-125	1	20
Post Spike (1713897-PS1)			**Source: SC38055-02**		Prepared: 14-Aug-17 Analyzed: 15-Aug-17					
Arsenic	**135**		mg/kg dry	1.55	130	7.41	98	80-120		
Zinc	**149**		mg/kg dry	1.04	130	26.1	95	80-120		
Lead	**128**		mg/kg dry	1.55	130	8.73	92	80-120		
Chromium	**140**		mg/kg dry	1.04	130	12.6	98	80-120		
Copper	**141**		mg/kg dry	1.04	130	7.47	103	80-120		
Reference (1713897-SRM1)					Prepared: 14-Aug-17 Analyzed: 15-Aug-17					
Arsenic	**14.0**		mg/kg wet	1.50	15.2		92	70.3-130.1		
Chromium	**48.5**		mg/kg wet	1.00	52.5		92	80.1-119.6		
Copper	**76.2**		mg/kg wet	1.00	78.8		97	81.7-117.6		
Lead	**65.1**		mg/kg wet	1.50	71.6		91	82-117.3		
Zinc	**103**		mg/kg wet	1.00	115		89	83-117		
Reference (1713897-SRM2)					Prepared: 14-Aug-17 Analyzed: 15-Aug-17					
Copper	**77.7**		mg/kg wet	1.00	78.7		99	81.7-117.6		
Chromium	**48.6**		mg/kg wet	1.00	52.4		93	80.1-119.6		
Lead	**65.0**		mg/kg wet	1.50	71.5		91	82-117.3		
Zinc	**105**		mg/kg wet	1.00	115		92	83-117		
Arsenic	**14.4**		mg/kg wet	1.50	15.2		95	70.3-130.1		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 9012B										
Batch 1713985 - General Preparation										
Blank (1713985-BLK1)						Prepared & Analyzed: 15-Aug-17				
Cyanide (total)	< 0.500		mg/kg wet	0.500						
LCS (1713985-BS1)						Prepared & Analyzed: 15-Aug-17				
Cyanide (total)	**31.1**		mg/kg wet	0.500	30.0		104	90-110		
Duplicate (1713985-DUP1)			**Source: SC38055-02**			Prepared & Analyzed: 15-Aug-17				
Cyanide (total)	< 0.450		mg/kg dry	0.450		BRL				35
Matrix Spike (1713985-MS1)			**Source: SC38055-02**			Prepared & Analyzed: 15-Aug-17				
Cyanide (total)	**24.1**		mg/kg dry	0.398	23.9	BRL	101	90-110		
Matrix Spike Dup (1713985-MSD1)			**Source: SC38055-02**			Prepared & Analyzed: 15-Aug-17				
Cyanide (total)	**29.1**		mg/kg dry	0.459	27.5	BRL	106	90-110	19	35
Reference (1713985-SRM1)						Prepared & Analyzed: 15-Aug-17				
Cyanide (total)	**66.1**		mg/kg wet	1.68	65.2		101	39.4-183		

Analyte(s)	Average RF	CCRF	% D	Limit

The following list indicates the date and time low-level VOC soil/sediment samples were placed in the freezer at the lab:

SC38055-02	*SP10_081117-1*	8/11/2017 5:17 PM

Notes and Definitions

CCE	The upper linear range for carbon chains is defined by peak height not concentration. Based on the maximum peak height for this fraction it is shown to be within the linear range of the detector and therefore not diluted further.
D	Data reported from a dilution
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
R01	The Reporting Limit has been raised to account for matrix interference.
S01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC38055 BM

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☐ Standard TAT - 7 to 10 business days

☒ Rush TAT - Date Needed: 8/16/17

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: AECOM
250 Apollo Dr.
Chelmsford, MA

Telephone #:

Project Mgr: Art Tadder

Invoice To:

P.O No.: Quote #:

Project No: 60478638.5.01

Site Name: LMC-Wilmington

Location: 40 Fordham Rd, Wilmington State: MA

Sampler(s): Tom Croft

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= ice 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	List Preservative Code below: 7,9	7	11	11	11	Analysis: VOCs	VPH-carbon ranges	EPH-carbon ranges	As, Cu, Cr	Pb, Zn, Cyanide	Check if chlorinated
SC38055-01	TB-081117	8-11-17	1015	G	S	2									X					☐
↓ 02	SP10_081117-1	↓	1020	C	S	3	1								X	X	X	X	X	☐
																				☐
																				☐
																				☐
																				☐
																				☐
																				☐
																				☐
																				☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☒ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☒ No QC
☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other:
State-specific reporting standards:

2.6
0 TB
2.6
04

Relinquished by:	Received by:	Date:	Time:
DSR	DSR	8/11/17	1:05
DSR	Victoria Wallace	8/11/17	1717

Temp °C
Observed: 5.7
Correction Factor: 0
Corrected: 5.7
IR ID #: 01

☐ EDD format:
☒ E-mail to: Arthur.Tadder@aecom.com
Lori.Herbericks@aecom.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☒ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

1713892

Extractable Petroleum Hydrocarbons

1713892-BLK1
1713892-BS1
1713892-BS2
1713892-BSD1
SC38055-02 (SP10_081117-1)

1713897

Total Metals by EPA 6000/7000 Series Methods

1713897-BLK1
1713897-DUP1
1713897-MS1
1713897-MSD1
1713897-PS1
1713897-SRM1
1713897-SRM2
SC38055-02 (SP10_081117-1)

1713935

Volatile Organic Compounds

1713935-BLK1
1713935-BS1
1713935-BSD1
SC38055-02 (SP10_081117-1)

1713937

Volatile Organic Compounds

1713937-BLK1
1713937-BS1
1713937-BSD1
SC38055-01 (TB_081117)
SC38055-02 (SP10_081117-1)

1713947

General Chemistry Parameters

SC38055-02 (SP10_081117-1)

1713985

General Chemistry Parameters

1713985-BLK1
1713985-BS1
1713985-DUP1
1713985-MS1
1713985-MSD1
1713985-SRM1
SC38055-02 (SP10_081117-1)

S703723

Volatile Organic Compounds

S703723-CAL1
S703723-CAL2
S703723-CAL3
S703723-CAL4
S703723-CAL5
S703723-CAL6
S703723-CAL7
S703723-ICV1
S703723-LCV1

S706452

Volatile Organic Compounds

S706452-CAL1
S706452-CAL2
S706452-CAL3
S706452-CAL4
S706452-CAL5
S706452-CAL6
S706452-CAL7
S706452-CAL8
S706452-CAL9
S706452-ICV1
S706452-LCV1
S706452-TUN1

S706487

Extractable Petroleum Hydrocarbons

S706487-CAL1
S706487-CAL2
S706487-CAL3
S706487-CAL4
S706487-CAL5
S706487-CAL6
S706487-CAL7
S706487-CAL8
S706487-CAL9
S706487-CALA
S706487-CALB
S706487-CALC
S706487-CALD
S706487-ICV1
S706487-ICV2
S706487-LCV1

S707230

Volatile Organic Compounds

S707230-CCV1
S707230-TUN1

S707236

Volatile Organic Compounds

S707236-CCV1
S707236-CCV2