PHASE II SUBSURFACE INVESTIGATION REPORT
RESIDENTIAL/UNDEVELOPED PROPERTY
100 KENNEDY CIRCLE
NEWTON, MASSACHUSETTS

SUBMITTED TO:

Ms. Amy Zarechian
Newton Housing Authority
82 Lincoln Street
Newton Highlands, Massachusetts 02641

PREPARED BY:

June 16, 2017
Coneco Project No. 9684

CONECO
Engineers & Scientists

ENVIRONMENTAL
ECOLOGICAL
ENERGY
SURVEY
CIVIL

June 16, 2017
Coneco Project No. 9684

Ms. Amy Zarechian
Newton Housing Authority
82 Lincoln Street
Newton Highlands, Massachusetts 02641

RE: Phase II Subsurface Investigation Report
Residential/Undeveloped Property
100 Kennedy Circle
Newton, Massachusetts

Dear Ms. Zarechian:

Pursuant to our proposal, Coneco Engineers & Scientists, Incorporated (Coneco) has conducted a Phase II Subsurface Investigation at the above-referenced property, hereinafter, the "Site." This investigation was intended to obtain qualitative and quantitative data to determine whether potential oil and/or hazardous materials (OHM) have impacted soil and/or groundwater at the Site. Such a release could represent a liability to the property owner or operator under the Massachusetts Oil and Hazardous Materials Release Prevention and Response Act, Chapter 21E of the Massachusetts General Laws. Procedures employed in this Subsurface Investigation were performed in accordance with the "Massachusetts Contingency Plan" (MCP), 310 CMR 40.0000, and were consistent with guidelines as presented in the American Society for Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process* (ASTM E 1903-11).

Coneco's investigations and findings are detailed in the attached report. If there are any questions, please contact the undersigned.

Respectfully Submitted,
Coneco Engineers & Scientists, Incorporated

Shannen N. Loll
Environmental Scientist

Marc E. Brochu, P.G., L.S.P
Project Manager

SNL:EMW:MEB
Z:\\9684 - Phase II Subsurface Investigation

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1.0 SITE OVERVIEW

Environmental conditions of the residential/undeveloped property located at 100 Kennedy Circle in the City of Newton, Massachusetts were evaluated in a manner consistent with guidelines as presented in the American Society for Testing and Materials (ASTM) *Phase II Environmental Site Assessment Process* (ASTM E1903-11). This investigation was intended to describe current subsurface Site conditions and to establish if there is evidence that a release of oil and/or hazardous materials (OHM) has occurred at the Site. Such a release could represent a liability to the property owner under Massachusetts Oil and Hazardous Materials Release Prevention and Response Act, Chapter 21E of the Massachusetts General Laws. Procedures employed in this Subsurface Investigation were performed in accordance with the "Massachusetts Contingency Plan" (MCP), 310 CMR 40.0000. The Site consists of a portion of the Jackson Gardens Housing Development and is approximately 25,200 square feet in size. The Site includes moderately to heavily wooded areas in the northeastern portion and a community building in the southwestern portion. The Site building is constructed on a poured concrete foundation with a brick and masonry frame and siding, and a pitched asphalt-shingled roof.

A Phase I Environmental Site Assessment (ESA) was prepared by McPhail Associates, LLC (McPhail) for the Site in May 2014. Based on the information provided in the Phase I ESA, historical and municipal records indicate that the Site was previously occupied by a contractor's yard from the late 1800s to the early 1900s. Sanborn Maps depict the Site as an automotive junk yard and second hand automotive part storage area with several residential structures in the northern portion of the Site until the 1960s. Findings of Phase I ESA are discussed in Section 2.0.

A Site Locus Map and Site Plans are provided for reference as Figure 1 and Figure 2 & 2A, respectively. Site Photographs are included in Appendix 1.

1.1 Site Parameters

Assessor's Designation:	The Newton Assessor's Office identifies the Site as a portion of Lot 98 on Assessor's Map 290.	
Coordinates:	Latitude 41.21316°	Longitude -71.11449°
	UTM 4,691,947 meters N	UTM 319,171 meters E (Zone 19)
Ownership:	The Newton County Registry of Deeds indicates that the Newton Housing Authority has owned the Site since December 15, 1961. The Middlesex County Registry of Deeds legal description of the Site is recorded in Book 09954, beginning on Page 206.	
Structures:	A one-story building with a basement is located in the southwestern portion of the Site and was originally constructed in the early 1960s. The Site building is constructed on a poured concrete foundation with	

	a brick and masonry frame with brick exterior walls, and a pitched asphalt-shingled roof.
Current Occupancy:	The Site building is utilized as a community center for the Jackson Gardens Housing Development.
Utilities:	The Site building is currently serviced by overhead electric and telecommunication lines, as well as underground municipal water and sewer lines. The Site building is currently heated by natural gas. The Site building was previously heated by fuel oil, which was stored in an underground storage tank (UST) located southwest of the building. According to the Phase I ESA, the UST was reportedly filled with sand and abandoned in place. The date of UST abandonment is unknown.
Site Access/ Barriers:	The Site can be accessed from the northwest by curb cuts along Kennedy Circle. Chain-link fencing bounds the Site to the east and south.
Surface Water:	Coneco did not observe surface water bodies at the Site. The nearest surface water body is identified as Charles River, located approximately 2,500 feet northeast of the Site.

1.2 Sensitive Receptors

A Massachusetts Office of Geographic Information (MassGIS) DEP Phase I Site Assessment Map, generated online at http://maps.massgis.state.ma.us/images/dep/mcp/mcp.htm, was prepared for the Site and the surrounding area on June 5, 2017. Based on data presented in the MassGIS DEP Phase I Site Assessment Map, a portion of the Site is located within a Protected Open Space. No additional relevant features were noted with a 500-foot radius of the Site. Based on Coneco's review of available information, the Site is not located within the geographic boundaries of a current or potential groundwater resource area. Based on information provided by the City of Newton Department of Health and Human Services, no public or private potable water wells are located in the vicinity of the Site. The nearest body of water is approximately 2,700 feet to the northeast of the Site. The MassGIS DEP Phase I Site Assessment Map is available for reference as Figure 3.

1.3 Reporting Categories

Under the MCP, soil and groundwater at a specific property is classified into reporting categories based upon its location relative to sensitive receptors. These reporting categories have specific RCs for soil and groundwater and are used in evaluating concentrations of OHM. The reporting categories for the Site are presented below.

1.3.1 Soil Categories

The soil reporting categories for the Site, based upon observations made during Coneco's field activities and information obtained from the MassDEP Phase I Site Assessment Map for the Site, are presented in Table 1.

Table 1 - Soil Reporting Categories

RCS-1 Criteria	RCS-1 Classification
1) at or within 500 feet of a residential dwelling, a residentially-zoned property, school, playground, recreational area or park	**Yes**
2) within the geographic boundaries of a groundwater resource area categorized as RCGW-1	No

Note: Reporting Category for soil based on 310 CMR 40.0361.

The Site is zoned for residential purposes; therefore, soil at the Site is subject to the RCS-1 classification.

1.3.2 Groundwater Categories

In accordance with 310 CMR 40.0362, groundwater samples at the Site are classified as either RCGW-1 or RCGW-2 based on the criteria presented in Table 2. The groundwater classification evaluation for the Site is based upon a MassDEP Phase I Site Assessment Map included for reference as Figure 3, and information available from the City of Newton Department of Health and Humans Services and the DEP.

Table 2 - RCGW-1 Reporting Categories for Groundwater Samples

RCGW-1 Criteria	RCGW-1 Classification
1) within the Zone II for a public water supply and/or Town Water Protection District?	No
2) within an Interim Wellhead Protection Area	No
3) within a Potentially Productive Aquifer	No
4) within the Zone A of a Class A surface water body used as a public water supply	No
5) at any point located 500 or more feet from a public water supply distribution pipeline unless the groundwater is located under a parcel of land where any portion of that parcel is less than 500 feet from a public water supply distribution pipeline.	No
6) within a Municipal Aquifer Protection District	No
7) at any groundwater sampling point located within 500 feet of a private water supply well	No

Note: Reporting Category for groundwater based on 310 CMR 40.0362.

Groundwater monitoring wells installed at the Site are not located within the limits of a current or potential surface water or groundwater resource area. Personnel of the City of Newton Department of Health and Human Services were unaware of any public or private water supply wells within the vicinity of the Site. Additionally, no records pertaining to private water supply wells within 500 feet of the Site were identified at the City of Newton Department of Health and Human Services, City of Newton Water Supply Division, or in the DEP Well Search Program. As a result, none of the RCGW-1 criteria apply to the Site, and groundwater at the Site is subject to RCGW-2 classification.

2.0 PREVIOUS WORKS

McPhail completed a Phase I ESA for the Site dated May 20, 2014. The investigation identified the following Recognized Environmental Conditions (RECs).

- The historic use of the Site as an automotive junk yard and second-hand automotive part storage yard from the 1930s to the 1960s; and

- The presence of a fuel oil UST adjacent to the Site building. The tank was reportedly filled with sand and abandoned in place. The Newton Fire Department did not have permits or records of removal on-file for the UST. Therefore, McPhail determined that the UST is likely still in place.

Based on the identified RECs, Coneco conducted a limited subsurface investigation at the Site to determine if soil and/or groundwater conditions have been impacted in relation to the identified RECs.

3.0 SUBSURFACE INVESTIGATION

3.1 Ground Penetrating Radar Survey

On May 26, 2017, TPI Environmental, Incorporated (TPI) of Hanson, Massachusetts, with oversight provided by Coneco, conducted a geophysical survey across the southwestern portion of the Site in the concrete sidewalk area and within the landscaped area at the Site. The purpose of the geophysical survey was to aid in the identification of the UST.

The geophysical survey was accomplished utilizing Fisher TW-6 electromagnetic metal detection (TW-6 EM) and ground penetrating radar (GPR). The GPR system locates underground objects and layers by transmitting a pulse of electromagnetic energy into the ground and recording any reflections off interfaces between materials with differing dielectric properties. Since the dielectric constant of most soils and metals are vastly different, metallic tanks, pipelines, and often foundations produce strong characteristic reflected pulses. Disturbed soils, miscellaneous fill, and high soil moisture content may attenuate the transmitted radar signal and make targets more difficult to recognize and limit the depth of investigation. The geophysical survey was performed in accordance with accepted industry standards to the full capabilities of the instruments employed. Coneco accepts no responsibility for limits of the survey resolution due to unforeseen, Site-specific subsurface conditions.

Based on the findings of the geophysical survey, TPI detected the presence of a suspected UST and associated fill lines located approximately 20 feet southwest of the Site building. This UST is likely the abandoned UST identified by McPhail in the 2014 Phase I ESA. Additionally, an underground natural gas line was identified approximately 40 feet southwest of the Site building. A copy of the TPI Geophysical Survey Site Plan is included as Appendix 2.

3.2 Soil Boring Advancement

Coneco provided oversight for the advancement of seven (7) Geoprobe® soil borings at the Site, designated GP-01 through GP-07, on May 26, 2017. The soil borings were advanced by personnel of New England Geotech (NEG) of Jamestown, Rhode Island. Soil boring locations were selected in order to collect data to evaluate potential areas of concern based on historical Site use and identified RECs. GP-02 through GP-04 were advanced near the abandoned UST to identify a potential release from this tank. GP-01 and GP-05 through GP-07 were advanced throughout the remainder of the Site to assess overall subsurface conditions. Geoprobe® soil borings were advanced to a depth of approximately 12 to 25 feet below grade, or until refusal was encountered, using a Geoprobe® 6600 truck-mounted drill rig. Soil samples were collected continuously from grade to the maximum depth of each boring utilizing a 5-foot long, 2-inch inner diameter MacroCore® sampler. Bedrock was

encountered during the advancement of the soil boring GP-04 at 18.5 feet below surface grade. The presence of groundwater was apparent in all seven (7) borings at depths ranging from approximately 8 to 18 feet below grade. Coneco's standard operating procedures for Geoprobe® soil borings are provided for reference in Appendix 3. The locations of the soil borings can be referenced on Figure 2 and Figure 2A.

Overburden stratigraphy within the borings generally consisted of gravelly sand, underlain by gravelly, fine sand to the bottom of the borings. Olfactory evidence of potential OHM impact was observed in soil borings GP-01 from 1 to 5 feet below grade. Complete soil boring logs are provided for reference in Appendix 4.

3.3 Soil Boring Screening

Representative soil samples collected from the Geoprobe® soil borings were placed in clean, tightly sealed glass jars topped with aluminum foil cover liners for in-field headspace screening of volatile compounds using a RAE Systems MiniRae 2000 PID with a 10.6 eV lamp, calibrated to an isobutylene standard. Headspace screening procedures were performed in accordance with DEP Policy WSC 94-400. PID results indicated headspace concentrations for soil samples collected from the Site ranging from below the instrument quantification limit of 0.2 parts per million (ppm) to 158.4 ppm [in GP-01 (1'-3')]. Headspace concentrations are displayed on the soil boring logs provided for reference in Appendix 4.

3.4 Soil Sampling

Following PID screening, select soil samples collected on May 26, 2017 were submitted to Eurofins Spectrum Analytical, Incorporated (ESAI), an independent, Massachusetts and National Environmental Laboratory Accreditation Program (NELAP)-certified analytical laboratory located in Agawam, Massachusetts for one or more of the following analyses: extractable petroleum hydrocarbons (EPH) by the DEP Method, volatile organic compounds (VOCs) by EPA Method 8260, polychlorinated biphenyls (PCBs) by EPA Method 8082, RCRA 8 Metals by EPA 6000/7000 series and/or volatile petroleum hydrocarbons (VPH) by DEP Method. Soil samples were selected for submittal based on quantitative field screening data as well as visual and olfactory evidence of OHM impact. If no evidence of a release of OHM was identified, submitted soil samples were selected for analysis based on depth relative to the groundwater table to best evaluate the potential for release(s) of OHM at the Site. Laboratory analytical results for soil are discussed in Section 4.1.

Soil samples were labeled based on the soil boring identification and depth [e.g. GP-01(1'-3')]. Soil samples were preserved as follows: EPH, PCBs, and RCRA 8 Metals in 8-ounce amber glass jars; VPH in 40-mil volatile organic analysis (VOA) vials preserved with 15-mL CH_3OH with a 1:1 ratio of sample to preservative; and VOCs in 40-mil VOA vials preserved with 15-mL CH_3OH and 5-mL de-ionized water with a 1:1 ratio of sample to preservative according to the standard field collection and preservation techniques. Soil samples were either kept on ice in a cooler or in a refrigerator cooled to 4 degrees Celsius during transport.

3.5 Monitoring Well Installation

Groundwater monitoring wells identified as CMW-01 through CMW-03 were installed in soil borings GP-03, GP-01, and GP-06, respectively, on May 26, 2017. Monitoring wells CMW-01 through CMW-03 were each constructed with a 10-foot long, 2-inch ID, schedule 40 slotted PVC well screen from the base of the well with solid PVC riser pipe from the top of the slotted screen to grade. The monitoring wells were installed in accordance with the Massachusetts DEP Standard Reference for Monitoring Wells (BWSC-Policy 310-91 and SDDW Supplement). Following monitoring well installation, No. 2 sand was placed in the annulus surrounding the screened portion of each well. A layer of bentonite was then placed atop the No. 2 sand, and native materials were installed from above the bentonite to just below surface grade. The standard operating procedures for the installation of monitoring wells are provided for reference in Appendix 3. Complete monitoring well construction reports are provided for reference in Appendix 4. The locations of the monitoring wells and other relevant Site features can be referenced in Figure 2 and Figure 2A.

3.6 Groundwater Gauging and Sampling

Prior to the collection of groundwater samples on June 1, 2017, Coneco gauged the newly installed monitoring wells, designated CMW-01 and CMW-02, for depth to groundwater. Gauging and sampling was conducted with respect to monitoring wells CMW-01 and CMW-02 based on their proximity to the abandoned UST and the former salvage yard, respectively; CMW-03 was omitted due to its location in the undeveloped portion of the Site and was installed in the event that further assessment of groundwater was required. Depth to groundwater measurements were made at each groundwater monitoring well to the nearest 0.01-foot from the reference point located at the top of the PVC well casing using a Solinst® oil/water interface probe. No measurable non-aqueous phase liquid (NAPL) was detected during groundwater gauging activities conducted on June 1, 2017 in the gauged monitoring wells at the Site.

Following groundwater gauging activities on June 1, 2017, Coneco collected groundwater samples from monitoring wells CMW-01 and CMW-02. The standard operating procedure for the sampling of monitoring wells is provided for reference in Appendix 3. No sheen or odors indicative of a release of OHM were observed during monitoring well development associated with the sampling event. Coneco measured the temperature, specific conductivity, and pH of groundwater in each well using an Oakton model 35 temperature, pH, and conductivity meter. A summary of the groundwater screening results is included in Table 3. Groundwater sampling field sheets are provided for reference in Appendix 5.

Table 3 - Groundwater Field Monitoring Data (June 1, 2017)

Monitoring Well	Depth to Water[1]	Total Well Depth[1]	pH[2]	Temperature[3]	Specific Conductivity[4]
CMW-01	13.35	16.91	7.88	14.9	222
CMW-02	14.19	18.66	7.64	12.5	913

Notes:
1) Gauging data presented in feet.
2) pH presented in standard units.
3) Temperature presented in degrees Celsius.
4) Specific Conductivity presented in microsiemens.

The groundwater samples collected on June 1, 2017 were submitted to ESAI for analysis of EPH by the DEP Method, VPH by the DEP Method, RCRA-8 Metals (dissolved) by EPA 6000/7000 series methods, and VOCs by EPA Method 8260. The groundwater samples were preserved as follows: EPH samples in 1-liter amber glass jars preserved with hydrochloric acid (HCl), RCRA 8 Metals samples in 500-mL plastic jars preserved with nitric acid (HNO_3), and VPH and VOC samples in 40-mL VOA vials preserved with HCl, according to the standard field collection and preservation techniques. Samples were either kept on ice in a cooler or in a refrigerator cooled to 4 degrees Celsius during transport from the field to the laboratory. Groundwater analytical results are presented in Section 4.2.

4.0 LABORATORY ANALYTICAL RESULTS

4.1 Soil Analytical Results

Select soil samples collected from soil borings GP-01, GP-02, GP-04, GP-06, and GP-07 were submitted to ESAI for one or more the following analyses: EPH by the DEP Method, PCBs by EPA Method 8082, VPH by the DEP Method, RCRA-8 by EPA series 6000/7000 series, and VOCs by EPA Method 8260. Soil samples were identified according to soil boring designation and depth collected. Laboratory analytical results for the samples are presented in Table 4. The laboratory narrative, analytical data, quality assurance/quality control (QA/QC), analytical methods, and chain of custody form are included for reference in Appendix 6.

Table 4 - Soil Analytical Results (Detections Only)

Analyte	GP-01 (1-3)[1]	GP-02 (11-13)	GP-04 (13-15)	GP-06 (3-5)	GP-07 (3-5)	RCS-1[2]
EPH by DEP Method						
Benzo (a) anthracene	0.423[3]	<0.347[4]	<0.341	<0.360	<0.389	40
Benzo (a) Pyrene	0.396	<0.347	<0.341	<0.360	<0.389	7
Benzo (b) fluoranthene	0.356	<0.347	<0.341	<0.360	<0.389	40
C_{11}-C_{22} Aromatic Hydrocarbons	12.4	<10.4	<10.3	<10.8	<11.7	3,000
C_9-C_{18} Aliphatic Hydrocarbons	32.2	12.8	<10.3	<10.8	<11.7	3,000
Chrysene	0.415	<0.347	<0.341	<0.360	<0.389	400
Fluorathene	0.892	<0.347	<0.341	<0.360	<0.389	3,000
Phenathrene	0.715	<0.347	<0.341	<0.360	<0.389	1,000
Pyrene	0.777	<0.347	<0.341	<0.360	<0.389	3,000
Total Metals by 6000/7000						
Arsenic	5.43	N/A[5]	N/A	2.85	9.99	20
Barium	37.5	N/A	N/A	27.1	33.1	3,000
Cadmium	2.58	N/A	N/A	1.31	2.08	100
Chromium	12.5	N/A	N/A	14.4	13.2	3,000
Lead	119	N/A	N/A	3.36	40.3	600
Mercury	0.375	N/A	N/A	<0.0310	0.0726	30
PCBs by EPA Method 8082						
Aroclor- 1260	0.129	<0.00209	<0.00208	<0.00216	<0.00236	4
VOCs by EPA Method 8260						
4-Isoproptoluene	0.0103	<0.00555	<0.00526	<0.00546	<0.00683	NS[6]
Trichlorofluoromethane	<0.00482	<0.00555	<0.00526	<0.00546	<0.1751	1,000

Notes:
1) Sample identification and depth collected (feet).
2) RCS-1 Reportable Concentrations are listed in 310 CMR 40.0974 and derived in Section 2.1.
3) Analytical results and Reportable Concentrations are reported in milligrams per kilogram (mg/kg).
4) < indicates the analyte was not detected above the specified laboratory quantification limit.
5) N/A indicates that the sample was not analyzed for this specific method.
6) NS indicates no standard in the MCP for this specific method.

As summarized in Table 4, no concentrations of EPH, VPH, VOCs, PCBs, or RCRA 8 Metals were detected above the applicable RCS-1 RCs in the soil samples submitted for laboratory analysis from GP-01, GP-02, GP-04, GP-06, and GP-07. The laboratory quantification limits for the non-detected target analytes achieved during analysis of the soil samples collected from the Site are below the applicable RCs.

4.2 Groundwater Analytical Results

Groundwater samples collected from monitoring wells CMW-01 and CMW-02 on June 2, 2017 were submitted to ESAI for one or more of the following analyses: EPH by the DEP

Method, VOCs by EPA Method 8260, VPH by DEP Method, and dissolved RCRA 8 Metals by EPA Method 6000/7000 series. Laboratory analytical results for dissolved Soluble Metals carbon fraction ranges are presented in Table 5. For non-detected analytes, the laboratory quantification limits achieved during the analysis of the groundwater samples were below the applicable RCs. The laboratory narrative, analytical data, QA/QC, analytical methods, and chain of custody form are included for reference in Appendix 6.

Table 5 - Groundwater Analytical Results (Detections Only)

Analyte	CMW-01[1]	CMW-02	RCGW-2[2]
Soluble Metals by EPA 6000/7000 Series			
Barium (dissolved)	0.0871[3]	0.284	50

Notes: 1) Sample identification.
2) RCGW-2 Reportable Concentrations are listed in 310 CMR 40.1600 and derived in Section 5.2.
3) Analytical results and Reportable Concentrations are reported in milligrams per liter (mg/l).

As summarized above in Table 5, laboratory analysis of groundwater samples indicated no concentrations of EPH, VOCs, VPH, or soluble metals (with the exception of Barium) in excess of the applicable RCGW-2 Reportable Concentrations. The laboratory quantification limits for the non-detect target analytes achieved during analysis of the groundwater samples collected at the Site are below the applicable RCs.

4.3 Analytical Data Quality Assurance and Quality Control

Coneco has reviewed laboratory procedures, field sample QA/QC, and laboratory reporting requirements for analytical data used in support of assessment and evaluation decisions at the Site pursuant to DEP's *Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods Used in Support of Response Actions for the Massachusetts Contingency Plan* (MCP) (DEP Publication WSC-02-320). This Compendium of Analytical Methods (CAM) provides (a) information and guidance to all parties on analytical and data quality issues, and (b) requirements and specifications for those parties who wish to obtain "Presumptive Certainty" for satisfying the data quality requirements of the MCP at 310 CMR 40.0017 and 310 CMR 40.0191(2)(c).
Sample collection, preservation, and logging procedures at the Site were conducted in accordance with Coneco's standard operating procedures, the *Standard Reference for Monitoring Wells,* the CAM guidelines, and the MCP. Laboratory procedures conducted by ESAI included method-specific QA/QC requirements and performance standards. Coneco's review of laboratory documentation, including analytical results, narratives, and chain of custodies provided by ESAI for samples collected from the Site, identified no departures from the requirements specified at 310 CMR 40.0017 and 40.0191.

Coneco evaluated information provided by ESAI concerning sample integrity, chain-of-custody procedures, quality assurance and quality control, and necessary report components. Details regarding any identified non-conformances can be found in the laboratory data, laboratory QA/QC, methods, and the chain-of-custody forms included as Appendix 6.

It is the opinion of Coneco that the presented laboratory data is in compliance with the applicable MCP Analytical Method standards and laboratory QC requirements. As such, this data is considered to be usable without adjustment for Site Characterization decisions made pursuant to 310 CMR 40.0000.

5.0 SUMMARY OF FINDINGS

Results for the Subsurface Investigation conducted at the Site, identified as 100 Kennedy Circle in Newton, Massachusetts were evaluated in a manner consistent with guidelines as presented in the MCP (310 CMR 40.0000) and ASTM *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process* (ASTM E 1903-11). Based on the information and observations described herein, the following is a summary of findings:

- On May 26, 2017, TPI, with oversight provided by Coneco, conducted a geophysical survey of portions of the Site to aid in the identification of an abandoned UST. Based on the results of GPR survey, TPI detected a UST to the southwest of the Site building.

- On May 26, 2017, Coneco provided oversight for the advancement of seven (7) soil borings at the Site, three (3) of which were completed as groundwater monitoring wells. Soil boring and groundwater monitoring well locations were selected to collect data for evaluation of potential areas of concern relative to historical and current Site use.

- Select soil samples collected from the soil borings were submitted to ESAI for laboratory analysis of EPH, VOCs, RCRA 8 Metals, PCBs, and VPH. No analyte concentrations in excess of the applicable RCS-1 RCs, were identified in any of the submitted soil samples.

- On June 1, 2017, Coneco gauged and sampled the newly installed monitoring wells at the Site. Groundwater was encountered at depths ranging from 13.35 to 14.19 feet below surface grade. No measurable NAPL was detected during groundwater gauging activities in the monitoring wells at the Site.

- Groundwater samples collected from the newly installed on-Site groundwater monitoring wells were submitted to ESAI for laboratory analysis of dissolved RCRA 8 Metals, VPH, EPH, and VOCs. No analyte concentrations in excess of the applicable RCGW-2 RCs were identified in any of the submitted groundwater samples.

Based on the findings of the subsurface investigation, no concentrations of EPH, PCBs, VOCs, VPH and/or metals were detected in excess of the applicable DEP RCS-1 Reportable Concentrations in soil or in excess of the applicable RCGW-2 Reportable Concentrations in groundwater at the Site. The laboratory quantification limits for the non-detect target analytes achieved during the analysis of the soil and groundwater samples collected from the Site are below the applicable RCs.

The soil and groundwater data collected during this investigation do not indicate a release of OHM to soil or groundwater associated with former automotive repair operations at the Site. No release condition requiring notification to the DEP has been identified as a result of the findings of this subsurface investigation. However, based on the findings of the geophysical survey conducted as part of the subsurface investigation, a suspected UST and associated fuel lines were identified southwest of the Site building. As such, Coneco recommends the following:

- Coneco recommends the removal of the UST and associated fuel lines in accordance with applicable regulations, including the collection and analysis of post-UST removal confirmatory soil and/or groundwater samples.

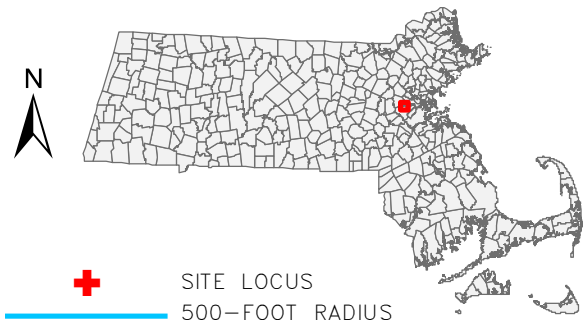
6.0 LIMITATIONS

This assessment was performed at the Client's request utilizing methods and procedures consistent with good commercial or customary practice designed to conform with acceptable industry standards. This report is exclusively for the use and benefit of the Client, identified on the cover page of this report, and is not for the use or benefit of, nor may it be relied upon by, any other person or entity without the advance written consent of Coneco.

The conclusions expressed by Coneco in this report are based solely on the references cited. Observations were made under the conditions stated. Information provided by federal, state, and local agencies contacted was relied upon as accurate and complete. The purpose of this study was to establish via a limited scope of work whether there is evidence that a release of OHM has occurred at the Site or that a threat of release exists. This report represents Coneco's opinion relative to such evidence. Unless otherwise specified in the scope of work, Coneco accepts no responsibility for client performance of recommendations as may be offered in this report. No attempt was made to investigate Site owner or operator compliance with federal, state, or local laws and regulations in connection with Site usage.

With specific regard to subsurface explorations, data obtained from specific soil and groundwater sampling points may not be wholly representative of the nature of subsurface conditions at locations other than the actual test boring and monitoring well location on the date the samples were obtained. Variable conditions may only become evident upon further sampling, analysis, and/or exploration or prior to anticipated future construction activities. Should additional information become available concerning this Site or neighboring properties in the future, that information should be made available to Coneco for review so that the conclusions presented in this report may be modified as necessary.

LATITUDE: 42.21316° LONGITUDE: −71.11449°
UTM: 4,691,947 N 319,171 E (Zone 19)



SITE LOCUS
500−FOOT RADIUS
0.5−MILE RADIUS

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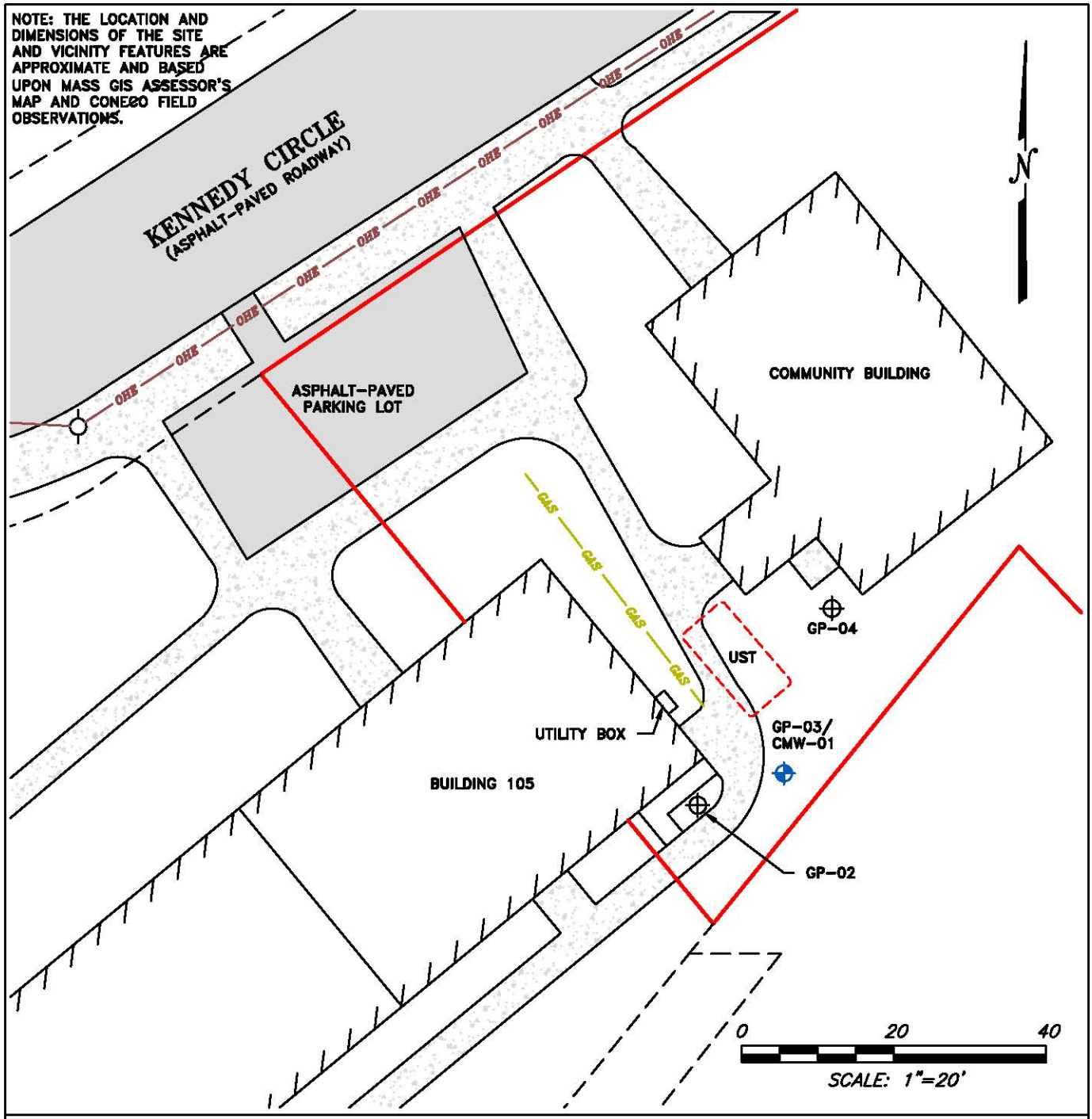
Engineers & Scientists
OFFICES THROUGHOUT NEW ENGLAND (800) 548−3355

SITE LOCUS MAP
RESIDENTIAL/UNDEVELOPED PROPERTY
100 KENNEDY CIRCLE
NEWTON, MASSACHUSETTS

SCALE	PROJECT NO.	DRAWING NUMBER
1:25,000	9684	FIGURE 1



LEGEND

SITE BOUNDARY	UTILITY POLE
PROPERTY BOUNDARIES	MONITORING WELL LOCATION
OVERHEAD ELECTRICAL LINES	TEST BORING LOCATION
UNDERGROUND GAS LINES	

CONECO
Engineers & Scientists

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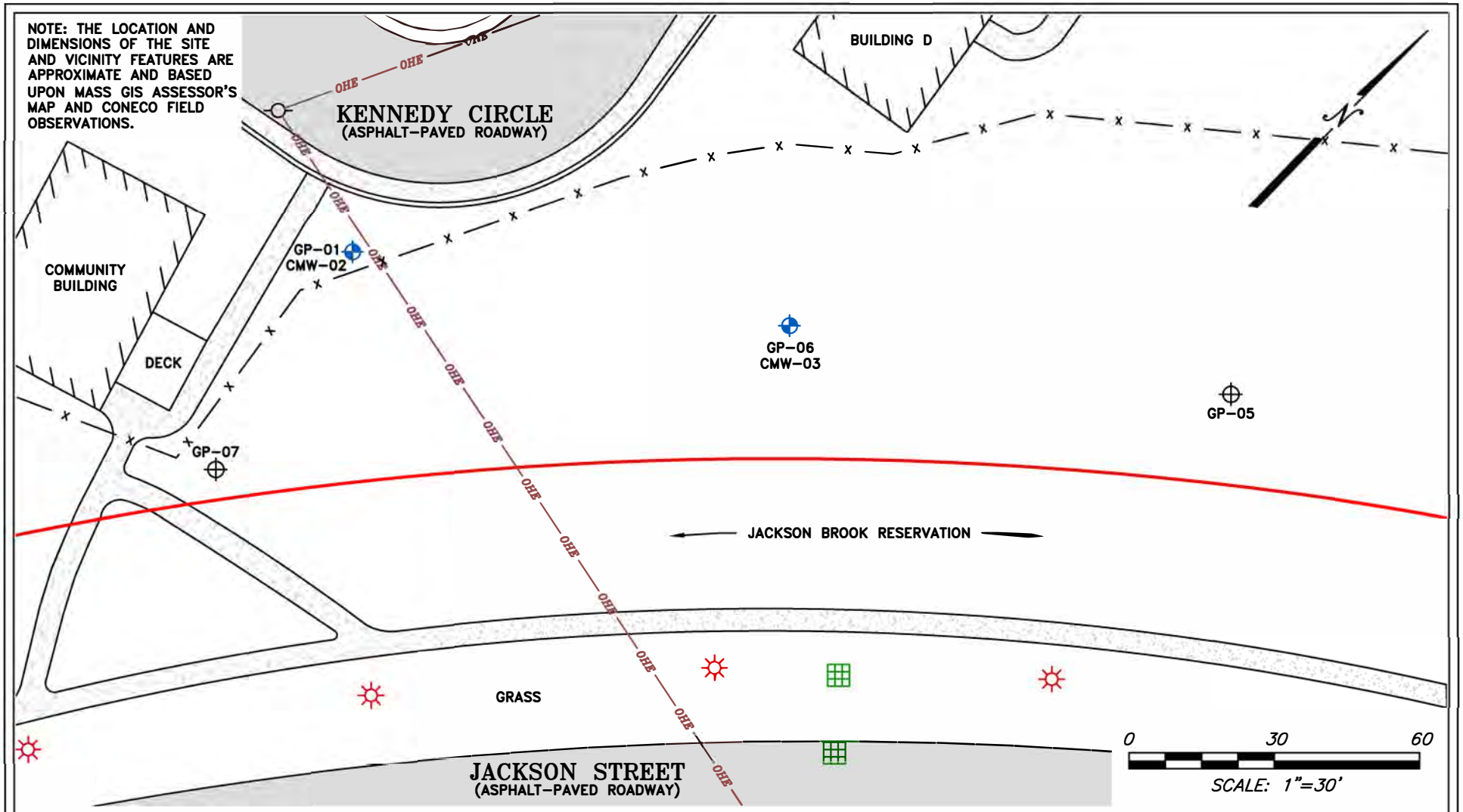
SITE PLAN

RESIDENTIAL/UNDEVELOPED PROPERTY
100 KENNEDY CIRCLE
NEWTON, MASSACHUSETTS

	DRAWN	CHECKED	CAD FILE NO.
BY	WCB	SNL	Z://9684-Figure 2.dwg
DATE	6/6/17	6/16/17	

SCALE	PROJECT NO.	DRAWING NUMBER
1" = 20'	9684	FIGURE 2



LEGEND

- SITE BOUNDARY
- OVERHEAD ELECTRICAL LINES
- CHAIN LINK FENCE
- LIGHT POLE
- BORING LOCATION
- MONITORING WELL LOCATION
- UTILITY POLE
- STORM WATER CATCH BASIN

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	DRAWN	CHECKED	CAD FILE NO.
BY	WCB	SNL	Z://9684-Figure 2A.dwg
DATE	6/6/17	6/16/17	

SITE PLAN

RESIDENTIAL/UNDEVELOPED PROPERTY
100 KENNEDY CIRCLE
NEWTON, MASSACHUSETTS

SCALE	PROJECT NO.	DRAWING NUMBER
1" = 30'	9684	FIGURE 2A

MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

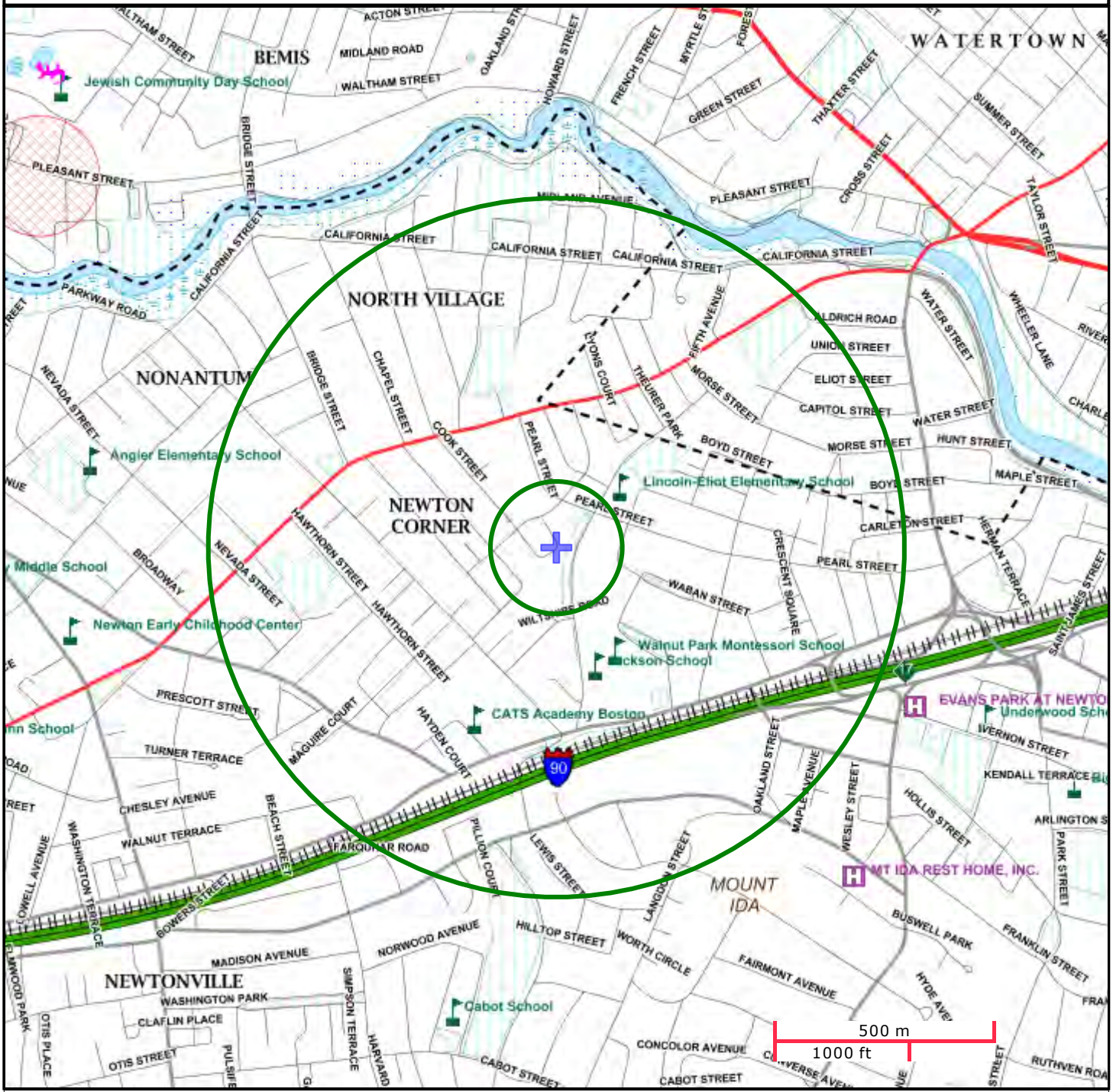
Site Information:

100 KENNEDY CIRCLE NEWTON, MA

NAD83 UTM Meters:
4691941mN , 319166mE (Zone: 19)
June 12, 2017

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: http://www.mass.gov/mgis/.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential

Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

DRAWING NUMBER
FIGURE 3

SITE PHOTOGRAPHS

Photo 1
View of the Site looking in a southwesterly direction towards Building 105 on May 26, 2017.

Photo 2
Overview of the Site looking in a southeasterly direction between building 105 and the community building on May 26, 2017.

Photo 3
View of the GP-02 through GP-04, and the marked UST looking from a southly direction on May 26, 2017.

Photo 4
View of GP-07 in the eastern portion of the Site looking in a westerly direction on May 26, 2017.

CONECO Engineers & Scientists OFFICES THROUGHOUT NEW ENGLAND (800) 548-3355			SITE PHOTOGRAPHS RESIDENTIAL/ UNDEVELOPED PROPERTY 100 KENNEDY CIRCLE NEWTON, MASSACHUSETTS
PHOTOGRAPHER	DATE	CHECKED	
PHL	6/7/2017	MEB	CONECO PROJECT NO. 9684

TPI GEOPHYSICAL SURVEY REPORT

June 5th, 2017

Emily Wassmer
Coneco Engineers and Scientists
4 First St
Bridgewater, MA 02324

Project: Geophysical Survey – 100 Kennedy Circle, Newton, MA

Dear Emily;

The following is a brief letter report detailing the results of the geophysical survey performed at the above referenced site. Site maps and/or pertinent ground penetrating radar (GPR) transects are contained in the report and Appendix A. It would be helpful to review Appendix A and the site maps when reading this report. TPI's standard practice is to indicate the results of the geophysical survey by marking all identified utility lines, tanks, and GPR anomalies etc. with chalk, paint or flags. It should be noted that this report is a means of transferring data and results of data interpretation, which was performed during the time allotted for the fieldwork.

Project Scope and Visual Site Inspection

TPI Environmental, Inc. (TPI) was contracted by Coneco Engineers and Scientists (client) to scan areas of concern (AOC) at the above referenced location to confirm or deny the presence of a potential underground storage tank (UST). Additionally, TPI was tasked with tracing an electric line that descends a utility pole in the northeast section of the work area. The site consists of an apartment complex located at the above address and as indicated in Figure 1. Upon arrival to the site on May 26th, 2017, TPI reviewed the site history with the client and performed a site walk to search for evidence of USTs. During the site walk the following areas of interest were noted;

- TPI noted a fill port in the walkway as indicated in Figure 1. A cutoff vent pipe was also noted in the vicinity.

Methodology

Geophysical surveys are typically accomplished by employing the following techniques; GPR, Fisher TW6 electromagnetic metal detection (TW6 EM), a Geonics EM61-MK2 Time – Domain Electromagnetic Detector unit (EM61), radio frequency line locating (RF), and magnetics. Known utilities are typically traced with the RF unit, GPR, and the TW6 EM unit depending on the size, matrix and conductive properties of the line. The EM61 is a high power, high sensitivity metal detector capable of detecting both ferrous and non-ferrous metal. The TW6 EM unit sounds an audible alarm in the presence of a large mass of metal such as an UST. A description and discussion of these geophysical methods as well as TPI's standard procedures for performing geophysical surveys is found in Appendix A. In general, "blind surveys" are typically performed by initially scanning the site with a TW6 EM unit and/or an EM61 unit and noting areas of relatively high EM response. Then locations with high EM response are further investigated with GPR. EM units are typically not effective and practical in areas underlain with reinforced concrete and/or the presence of ubiquitous metallic objects.

Geophysical Survey Results

The geophysical survey at this site was accomplished with the TW6 EM, RF, and GPR units. The EM survey was performed throughout accessible sections of the UST Scan Area with the exception of areas within four feet of metallic objects (reinforced concrete slabs, metal fences, metal doors etc.). The GPR survey was performed around known metallic objects and over metallic anomalies identified during the EM survey. Known utilities were traced with RF and confirmed with GPR. Results of the geophysical survey were marked on the ground with paint and a map of the survey results is contained in this report. Results of the geophysical survey are as follows;

- TPI detected a 14' x 9' UST-style anomaly at ~3' below grade as indicated in Figure 1. TPI marked private utilities in the immediate vicinity of the anomaly and cleared three soil borings.
- The utility pole electric line was traced and marked as indicated in Figure 1.

TPI completes non-intrusive geophysical surveys using equipment and techniques representing best available technology. TPI does not accept responsibility for survey limitations due to inherent technological limitations or unforeseen and varying site-specific conditions such as metal-reinforced concrete. In practical terms, TPI serves to reduce the risk of encountering subsurface utilities during excavation operations or greatly increase the chance of locating man made subsurface objects depending on the goal of the project. The results of this investigation should only be used as a tool and should not be considered a guarantee regarding the presence or absence of USTs or piping.

If you should have any questions or concerns, please do not hesitate to contact us.

Your Project Team at TPI:

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President
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Dustin Lutz
Geologist/P.M.
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LEGEND

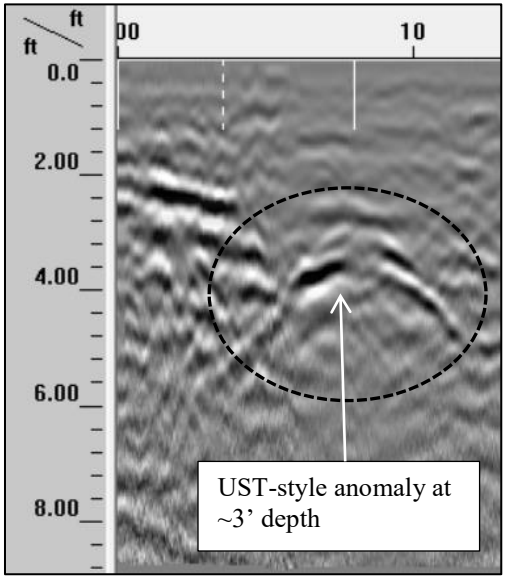
- Electric
- Water
- Steam
- Gas
- Utility pole
- UST-style anomaly
- Fill port

TPI environmental	Scale	100 Kennedy Circle, Newton, MA		Figure 1
	NTS	Client: Coneco	Date: 5/26/17	Geophysical Survey Results

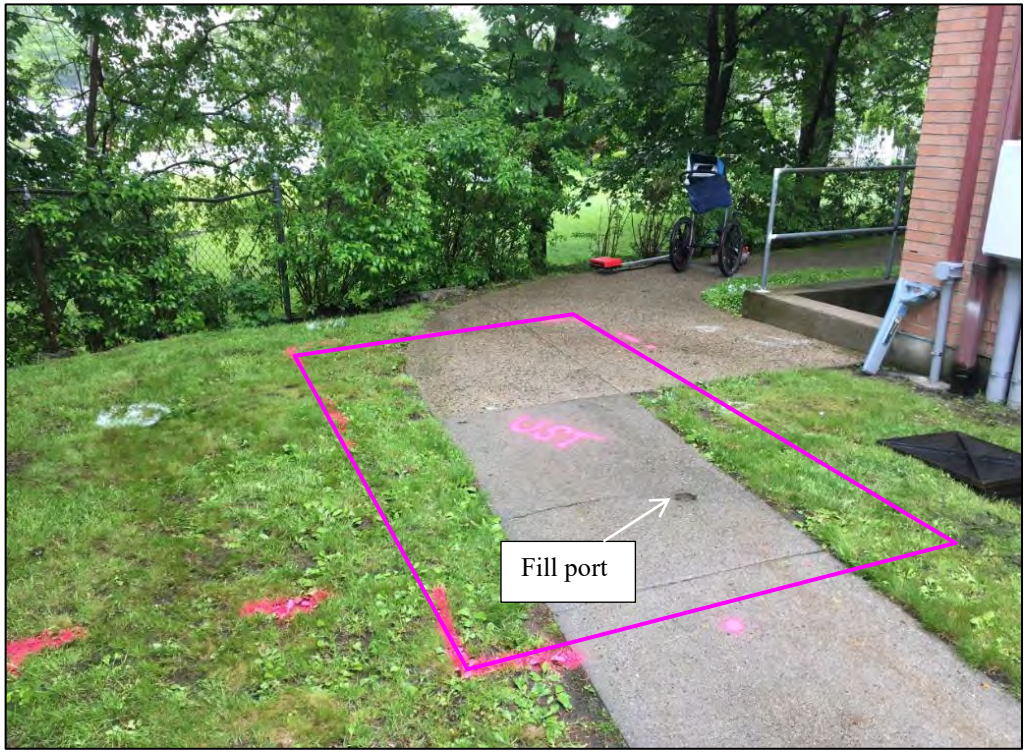
Appendix A

GPR Transect, Site Photo, and Survey Methods

GPR Transect 222
West across UST



Site Photo 1
Looking south across UST

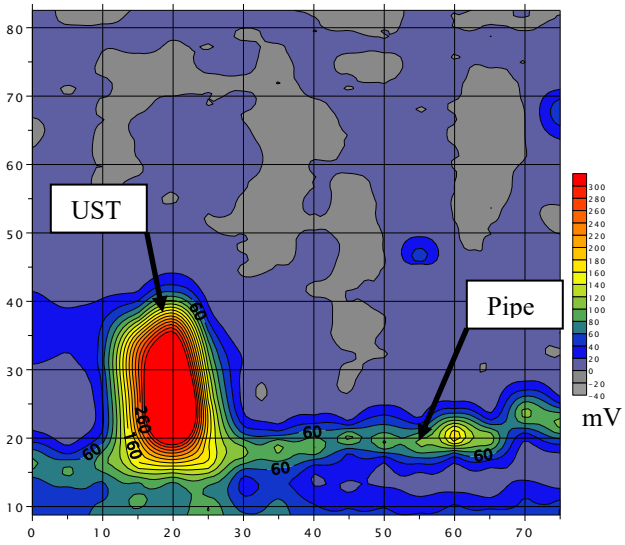


Attachment A
TPI's Geophysical Survey Equipment & Methods

Geonics EM61-MK2

The EM61 is a high resolution time-domain metal detector which is used to detect ferrous and non-ferrous metallic objects. It consists of a powerful transmitter that generates a pulsed primary magnetic field, which induces eddy currents in nearby metallic objects. The decay of these currents is measured by two receiver coils mounted on the coil assembly. The responses are recorded and displayed by an integrated computer based digital data logger with real time numeric and graphic display. Two ports on the logger allows simultaneous collection of EM and GPS data. For further processing and interpretation data can be transferred to a laptop computer in the field and a color contoured map of the EM61 reponse is prepared (see below).

EM61 Color Contoured Map



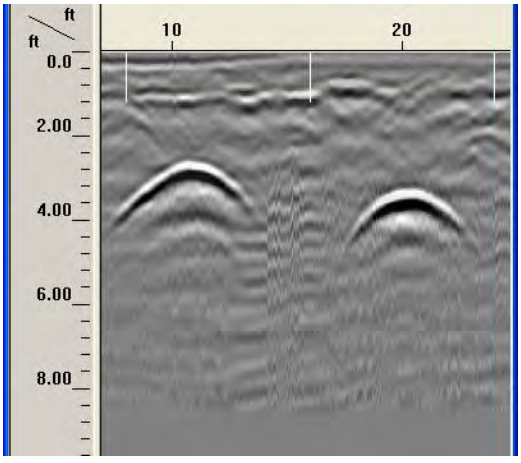
The EM61-MK2 detects a single 55 gallon drum at a depth of over 10-feet beneath the instrument, yet it is relatively insentsitive to interference from nearby surface metal such as fences, buildings, cars, etc. By making the measurement at a relatively long time after termination of the primary pulse, the response is practically independent of the electrical conductivity of the ground.

Due to its unique coil arrangements, the response curve is a single well defined positive peak greatly facilitating quick and accurate location of the target, the depth of which can usually be estimated from the width of the response and/or from relative response from each of the two receiver coils.

GPR

This method is one of the most powerful and cost effective methods of locating man made objects and stratigraphic layers in the subsurface. It is an active method that transmits electromagnetic pulses into the ground, the radar pulses are reflected from materials or layers of differing dielectric and electrical conductive properties. The GPR computer measures the elapsed time in billionths of a second (nanoseconds) from when the pulses are sent and when they are received back at the surface that can then be converted to depth. Results of the radar scan are displayed as a continuous cross-section of the subsurface on the computer screen in real time. Metallic materials such as tanks, pipes, conduits, rebar etc. have vastly different dielectric properties then soils so there reflections are striking and relatively easy to identify. Pipes and tanks constructed of PVC, concrete, and terracotta also produce distinct reflections, however, these reflections are typically not as striking as metallic materials. A typical radar image of two metallic underground storage tanks is found below.

GPR Image of Two Metallic USTs



GPR surveys are conducted with the most advanced GPR equipment currently available

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Attachment A
TPI's Geophysical Survey Equipment & Methods

including a Geophysical Survey Systems (GSSI) SIR-3000 subsurface radar unit with a 400 MHz antenna. The 400 MHz antenna has a depth range of approximately 20-feet and other antennas may be employed with the system depending on specific site conditions and objectives of the survey. The GPR transect data may be saved on the internal hard drive and transferred to a PC for storage, printing, and post processing. GSSI is the world leader in the development of GPR systems and was the first company to commercialize GPR in 1970. GPR hardware and software has improved dramatically over the last several years allowing for relatively rapid and economical GPR surveys. With 3-dimensional capabilities, the latest GPR software takes data processing a step farther then the former 2-dimensional viewing method. Three-dimensional visualization helps you to see the whole picture, giving you a powerful tool to interpret complex utility layouts and identify subtle linear features that may have otherwise been missed.

GPR surveys are typically conducted by searching for GPR hyperbolas indicative of subsurface pipes or tanks signatures in the vicinity of known entities. Theses signatures are marked on the ground and areas progressively further from the known entity are scanned and marked. This process is continued until the GPR operator performed enough scans to determine and mark the subsurface pipe, tank or anomaly. During this process the GPR data is typically not saved due to the immense size of the data files. After this phase of the GPR survey is completed, representative GPR transects or grids are performed and saved for the report and post processing. Some of the factors that may negatively affect GPR results include clay soils, rebar in concrete, high moisture content, depth of the target, and the integrity, size, and material of the target.

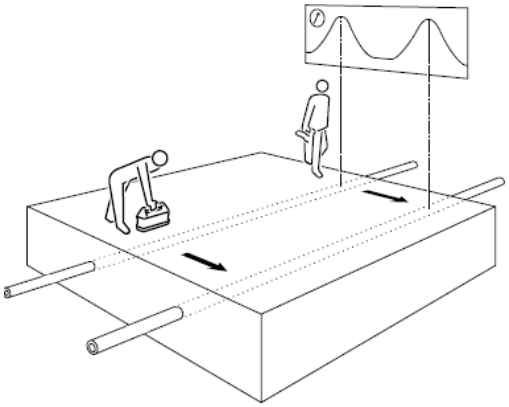
TW-6 EM Unit

TPI routinely employs a Fisher TW-6 electromagnetic metal detector when performing GPR surveys. The TW-6 creates an electromagnetic field with a transmitting coil and measures the strength of that field with a receiving coil. As the TW-6 passes over electrically conductive materials such as metal tanks or drums the field is distorted and the instrument produces an audible alarm based on the degree of the distortion. The TW-6 can detect conductive materials the size of drums or small tanks to depths of 10-feet. The instrument is actually a relatively poor metal detector which makes it ideal for locating large conductive materials such as metal drums, medium to large metal pipes, reinforced concrete pipes, and metal tanks. A more sensitive metal detector would produce "false positives" on small pieces of metal that are typically found in fill and throughout developed sites. If the survey area is underlain by reinforced concrete or cars and other large surficial metallic features are within 10-feet, the TW-6 will not be useful.

Line Locating

Line locating is performed with a Radiodetection RD400 PXL-2 line locator with a 433 HCTX-2 transmitter. The transmitter emits a specific radio or electromagnetic signal which is indirectly induced or directly conducted onto the metallic line. The transmitter is capable of producing frequencies of 512 Hz, 8 kHz, or 33 kHz and the receiver is configured for the specific transmitted frequency. The induced signal is coupled with the line by either using an induction clamp which surrounds an exposed line or placing the transmitter above a buried line and transmitting the signal to it. The receiver may also be used in a passive locate mode (power) to identify the presence of current carrying lines. Nonmetallic lines may also be located by snaking a sonde down accessible lines with push rods. A sonde is a small transmitter that emits a specific electromagnetic frequency which can be detected by the receiver at depths of 12 to 16-feet.

Inductive Sweep With Transmitter/Receiver



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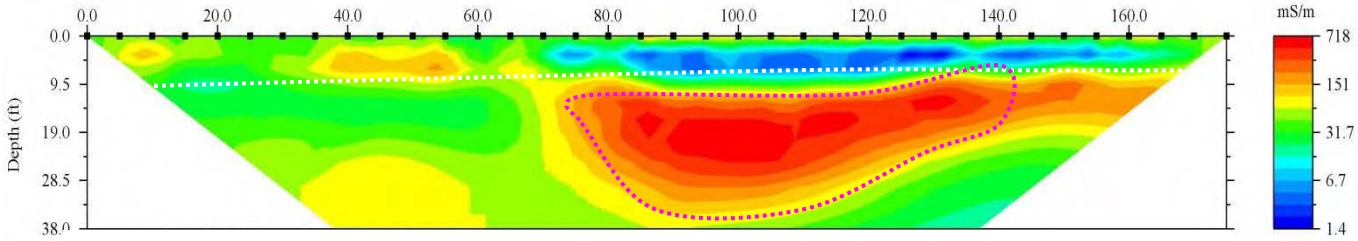
Attachment A
TPI's Geophysical Survey Equipment & Methods

Resistivity

TPI conducts subsurface resistivity surveys using the AGI SuperSting R8 IP Earth Resistivity and IP Meter. The SuperSting unit measures the voltage drop of an induced electrical current across numerous electrodes as it travels through the electrically heterogenous subsurface. Multiple survey profiles are completed in this manner based upon the specific conditions of the field area in order to assemble a complete characterization of the ground resistivity properties. The resistivity data is then processed and examined for evidence of significant subsurface features including bedrock surfaces, perched groundwater tables, cavities/sinkholes, or potential contaminant plumes.

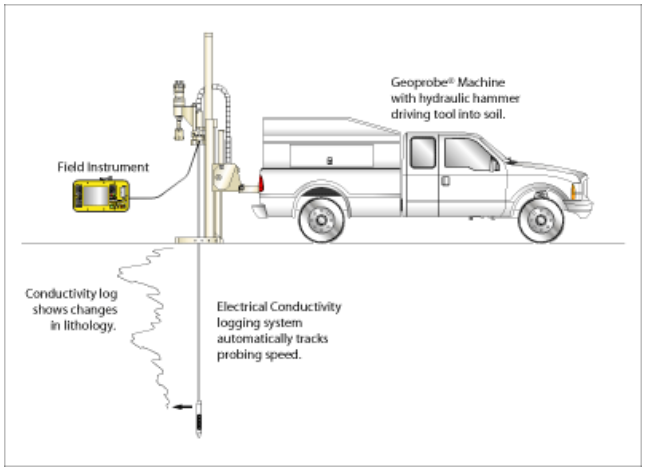
AGI SuperSting R8 IP Earth Resistivity and IP Meter assembly.



Resistivity pseudosection across a backfilled canal. Approximately 10' of high resistivity/low conductivity surficial fill (blue) over low resistivity/high conductivity canal backfill (orange-red).

Down-hole Conductivity

TPI is also able to collect down-hole soil conductivity data with an electric conductivity probe. The EC probe is driven into the subsurface by a direct push unit. A current is induced in the native soil between two contacts at opposite ends of the probe. The soil conductivity is then calculated based upon the ratio of induced current to resultant voltage across the probe. Down-hole EC profiling is particularly useful in the efficient determination of soil grain size (permeable sands vs impermeable clays), water content, and metal content.



Electrical conductivity probe

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STANDARD OPERATING PROCEDURES

Standard Operating Procedure: Geoprobe® Sampling In Overburden Materials

Discussion:

Test boring programs in unconsolidated overburden materials may be conducted using a variety of drilling techniques. While most borings associated with site assessment techniques are performed using a hollow-stem auger, a less expensive method of obtaining soil samples is using Geoprobe® equipment. The powerful aspect of this technique is the versatility and mobility of the equipment both on the interior and exterior of site buildings. Samples can be obtained at depths up to 100 feet in a variety of geological conditions and locations. A 1.5-inch inside diameter (ID) macro core sampler is driven through overburden deposits using a pneumatically or electrically operated hammer. Collected within this macro core is a continuous soil sample available for field screening or more detailed laboratory analysis.

Procedure:

1) All Geoprobe® activities are continuously inspected by a qualified CONECO geologist or engineer. The inspector is familiar with the selected sampling program and is responsible for QA/QC procedures. Boring logs and field notes, as well as procedural changes, are the responsibility of the inspector.

2) All Geoprobe® equipment is decontaminated prior to initial use and during activities at the site

3) The 4-foot long macro core sampler (2 inch ID) is prepared by inserting a PETG (acetate) liner inside the macro core. Depending on the desired sampling depths, 3-foot or 1-foot extension rods are then placed on the opposite end of the macro core. Acetate liners are replaced after each sampling run.

4) Beginning from the surface, the macro core sampler is driven through overburden materials using a pneumatically or electrically operated hammer. Once the core sampler has been driven through the desired depths, it is removed using an extractor jack. The PETG liner containing the soil sample is then removed from the macro core and emptied onto a clean surface.

5) Descriptions of the sample materials, stratigraphy, as well as sampling activities are recorded on the test boring log. Soil samples, when recovered, are placed in appropriate containers for PID screening and laboratory analysis, if required.

6) Any excess soil samples obtained during boring activities will remain on-Site. Those soils exhibiting PID levels of 10 ppm or greater will be segregated and either containerized or placed on and covered with 6-mil polyethylene.

Standard Operating Procedure: Monitoring Well Installation

Discussion:

Proper installation of monitoring wells is an essential element to an accurate hydrologic or site assessment investigation. Installation of monitoring wells typically consists of a 2 inch inside diameter (ID) Schedule 40 PVC well screen (0.1 inch slot size) and similar solid riser pipe. The screened interval is usually 10 feet in length and is centered at the apparent groundwater surface at the time of installation. One inch or four inch ID screen and riser may also be used depending on the constraints and objectives of the drilling program.

Procedure:

1) Upon completion of the test boring, the preassembled well screen and riser, with bottom plug siltation trap, is inserted into the borehole or more commonly, into the hollow stem auger or casing, as removing the auger flights can cause the surrounding formation to prematurely collapse on the well screen.

2) The well assembly is positioned at the desired depth and the annular space between the sidewall and well casing assembly is then backfilled with a clean, well sorted silica sand to a depth at least one foot above the well screen/riser connection. The screen and riser pipe is installed to be vertically plumb.

3) Once the sand filter pack is emplaced to the proper depth below grade (measured with tape), a divider seal, most commonly bentonite pellets, is inserted into to the annular space until a six-inch to 1-foot thick impermeable seal is formed around the casing.

4) The method for the backfilling the remainder of the annular space is determined by the qualified CONECO personnel. Typically, native material removed from the borehole having a PID reading below 10 ppm is then used to backfill the remaining annular space. Alternative backfill materials include concrete slurry or bentonite/water mixtures. The well riser is then fitted with a top plug and a locking protective casing or road box.

5) The protective casing or road box is securely cemented in place over the well. The cement seal is at a minimum one foot thick. If a road box is used, it is cemented flush with the pavement surface. If used, other protective casings should be grouted in place at least 0.5 feet above grade and identified with flagging.

Standard Operating Procedure: Monitoring Well Sampling

Discussion:

Water standing in a well prior to development and sampling may not be representative of true groundwater quality in the aquifer. It is therefore necessary to first purge the well of all stagnant water so that a representative groundwater sample can be obtained. Depending upon the monitoring well construction and hydraulic characteristics of the aquifer, well development may be conducted by manual bailing or with a submersible pump. Bailing is most appropriate for low yield or deep wells, whereas a pump may be suitable for higher yield wells or where sampling within a discrete zone is necessary.

Procedure:

1) Using a clean groundwater sensor indicator determine the depth to the water table and determine the total depth of the well and record in the field logbook. Depth to groundwater should be measured from a specified reference point on the PVC riser pipe.

   Then calculate the volume of standing water using the following equation:

   $v = \pi r^2 h$ where:

   v = one well volume of water (generally converted to gallons)
   - for inches multiply by 4.33×10^{-3}
   - for feet multiply by 7.48 to give gallons

   $\pi = 3.14$

   r = the radius of the well, measured as the inside diameter of the well divided by 2

   h = the height of the water column in the well

   Sample Calculation:

   Assume: r = 2-inch ID = 0.16-foot ID

   h = 1 foot

   $v = 3.14 * (0.16 \text{ ft}/2)^2 * (1 \text{ foot}) * (7.48 \text{ gal}/\text{ft}^3)$

   v= 0.16 gal

   3v = 0.48 gal

   Therefore, as a rule of thumb, approximately 0.5 gallons of water must be purged from the well for each foot of water present in the monitoring well column.

2) Calculate the number of bailer volumes or the duration of pumping required to evacuate at least three well volumes.

3) Evacuate well water to a small bucket or vessel (<0.5 gallons) in which the pH and specific conductivity probes have been placed.

4) Purging should continue until pH, temperature, and specific conductivity values do not vary appreciably; a minimum of three well volumes have been removed; and a stabilization in the silt content of the evacuated water has been achieved. Care should be taken so that the bailer line does not come in contact with the ground.

5) Record final pH, temperature, and specific conductivity values in field log book.

6) Prior to sampling, allow an equilibration period (minimum of 10 minutes).

7) Decontaminate all downhole purging equipment after use in one well using applicable standard operating procedures. If a disposable bailer or tubing is used, discard after one use. Discard the line used to support the bailer between wells.

8) A new pair of disposable gloves shall be worn for each individual well sampling.

9) Samples should be collected and containerized in order of decreasing sensitivity to volatilization.

   The following order should be used in collection of samples:

   VOCs
   semi-VOCs
   Petroleum Hydrocarbons
   Metals
   PCBs

10) Minimize agitation of sample during collection to prevent possible volatilization of components present in the sample.

11) Care must be taken to eliminate entry of or contact with any substance other than the water sample and the interior surface of the sampling container.

12) Samples submitted for VOC analysis should not contain any air bubbles.

13) Samples submitted for dissolved metals analysis should be filtered in the field, using CONECO's filtration and pump system. Acidification of the sample should not be performed until the sample has been properly filtered.

14) When full, sampling containers should be securely capped, wiped off, appropriately labeled, and refrigerated until their delivery to the laboratory.

15) Complete the chain of custody form.

Discussion:

Sample materials collected in the field are placed in tightly sealed clean glass jars to be screened for volatile compounds using either a HNU Model PI-101 or HW-101 photoionization detector (PID). CONECO utilizes the HW-101 when the field personnel consider moisture to be a potential variable. The PIDs can be used to detect organic or inorganic compounds with specific ionization potentials, however, individual compounds cannot be discriminated. Therefore, the results for total volatile vapor concentrations are expressed in the meter reading which the manufacturer defines as parts per million (ppm) of an equivalent amount of benzene. The limit of detectability of the screening procedure is 0.1 ppm.

Each instrument is cleaned and calibrated in accordance with the manufacturer's specifications on a regular basis. CONECO maintains individual maintenance and calibration logs for each PID. Prior to use in the field, the PID is calibrated using a benzene standard or equivalent (isobutylene) and the calibration data is logged.

Procedure:

1) Prior to use in the field, the photoionization detector (PID) is to be calibrated in accordance to manufacturers specifications.

2) Place the sample in an eight or ten-ounce jar until the jar is approximately half-full. Place thick aluminum foil over the mouth of the jar to create an effective seal. Shake the sample jar for 15 seconds and let stand at temperatures above 50^{o} F.

3) After 10 to 15 minutes of equilibration time, shake the sample jar a second time and position the container for sampling. Puncture the aluminum foil seal with the PID probe tip, making sure that the probe tip does not come in contact with the sample material.

4) Observe the instrument meter and record the highest reading. The meter reading will most often peak within five seconds and steadily decrease as ambient air is introduced into the medium. If erratic variation is noted in the meter reading, the sample will be retested. Weather conditions are to be noted in conjunction with the PID data.

Standard Operating Procedure: Decontamination of Sampling Equipment

Discussion:

In most cases sampling equipment will either be dedicated on-Site or disposed of following use in a specific well, eliminating the need for decontamination of sampling equipment. In those cases where decontamination of sampling equipment is required, the method chosen will be one that removes Site contaminants from the equipment without interference with the chemical analyses to be performed. The general decontamination methodology for in-lab and field decontamination procedures is as follows:

Procedure:

1) Wash equipment with a non-phosphate detergent solution (e.g. Alconox, Liqui-nox).

2) Rinse thoroughly with de-ionized water.

3) Rinse thoroughly with methanol.

4) Rinse thoroughly with de-ionized water.

5) Repeat procedure between each sampling location.

6) If sampling for dissolved metals is being conducted, an additional rinse with a weak hydrochloric acid solution and de-ionized water should be performed.

7) If sampling for PCBs is being performed, an additional rinse with a weak hexane solution and de-ionized water should be conducted.

8) Care should be taken to ensure that no rinse waters runoff to environmentally sensitive area.

SOIL BORING AND MONITORING WELL LOGS

CONECO ENGINEERS & SCIENTISTS	GEOPROBE SOIL BORING & MONITORING WELL REPORT

PROJECT:	9684	BORING NO.	GP-01/CMW-02
LOCATION:	100 Kennedy Circle, Newtown, MA	PAGE 1 OF	2
DRILLING CO:	New England Geotech	DATE STARTED:	5/26/2017
EQUIPMENT:	Traack-Mounted Geoprobe 7822DT	DATE FINISHED:	5/26/2017
DRILLED BY:	Maynor Mendoza	SURFACE ELEVATION:	Unknown
INSPECTED BY:	Pat Lydon		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
~18'	In-situ

	ROD	SAMPLER	CORE BAR
TYPE:	Geoprobe	Macro-core	Geoprobe
SIZE ID:	1" ID	2" ID	2.25" OD
PENETRATION:	5'	5'	5'

DEPTH (ft)	SAMPLING DEPTH FROM - TO	WELL DATA	WATER TABLE (ft)	SAMPLE DATA: LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)
0.0	0-1'			0'-1' : Top soil	SS-01	60/36	8.9
	1-3'			1'-2' : Gravelly sand : 80% medium sand, 20% fine gravel; dark brown, dry, no odor 2'-4.5' : Urban Fill : brick and concrete	SS-02		158.4
	3-5'				SS-03		95.4
5.0				4.5'-9' : Gravely Sand : 75% medium sand, 25% fine gravel, trace concrete, brown to			
	5-7'				SS-04	60/22	26.7
	7-9'				SS-05		7.9
	9-11'			9'-18' Gravelly Sand : 70% medium sand, 20% cobbles, 10% fine gravel; light brown, dry, no odor, brick 15'-16'	SS-06		0.8
10.0						60/30	
	11-13'				SS-07		0.9
	13-15'		▽		SS-08		1.5
15.0							
	15-17'				SS-09	60/60	44.6
	17-19'				SS-10		7.9
				18'-25' : Sand : 100% fine sand; light gray, wet, no odor			
	19-21'				SS-11		0.7
20.0							

Native Materials
Bentonite
Sand
2" PVC Well Screen
2" PVC Well Riser
▽ Denotes approximate groundwater elevation

GENERAL REMARKS:
Soil samples submitted for laboratory analysis of EPH, VPH, VOCs, MCP 14 Metals and PCBs from the 1'-3' depth interval.
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
ND means "Not Detected" above instrument above instrument detection limit (0.1 ppm)

Bottom of Boring: 25'
Screen Interval: 7-17'
Sand: 14-25'

CONECO ENGINEERS & SCIENTISTS	GEOPROBE SOIL BORING & MONITORING WELL REPORT

PROJECT:	9684	BORING NO.	GP-01/CMW-02
LOCATION:	100 Kennedy Circle, Newtown, MA	PAGE 2 OF	2
DRILLING CO:	New England Geotech	DATE STARTED:	5/26/2017
EQUIPMENT:	Traack-Mounted Geoprobe 7822DT	DATE FINISHED:	5/26/2017
DRILLED BY:	Maynor Mendoza	SURFACE ELEVATION:	Unknown
INSPECTED BY:	Pat Lydon		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
~18'	In-situ

	ROD	SAMPLER	CORE BAR
TYPE:	Geoprobe	Macro-core	Geoprobe
SIZE ID:	1" ID	2" ID	2.25" OD
PENETRATION:	5'	5'	5'

DEPTH (ft)	SAMPLING DEPTH FROM - TO	WELL DATA	WATER TABLE (ft)	SAMPLE DATA: LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)
20.0	0-1'					60/42	
	1-3'				SS-12		3.7
	3-5'				SS-13		1.4
25.0				25': Bottom of Boring			
	5-7'						
	7-9'						
30.0	9-11'						
	11-13'						
	13-15'		▽				
35.0							
	15-17'						
	17-19'						
4.0	19-21'						

Native Materials
Bentonite
Sand
2" PVC Well Screen
2" PVC Well Riser
▽ Denotes approximate groundwater elevation

GENERAL REMARKS:
Soil samples submitted for laboratory analysis of EPH, VPH, VOCs, MCP 14 Metals and PCBs from the 1'-3' depth interval.
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
ND means "Not Detected" above instrument above instrument detection limit (0.1 ppm)

Bottom of Boring: 25'
Screen Interval: 7-17'
Sand: 14-25'

CONECO ENGINEERS & SCIENTISTS — GEOPROBE SOIL BORING REPORT

PROJECT:	9684	BORING NO.	GP-02
LOCATION:	100 Kennedy Circle, Newtown, MA	PAGE 1 OF	1
DRILLING CO:	New England Geotech	DATE STARTED:	5/26/2017
EQUIPMENT:	Track-Mounted GeoProbe 7822DT	DATE FINISHED:	5/26/2017
DRILLED BY:	Maynor Mendoza	SURFACE ELEVATION:	Unknown
INSPECTED BY:	Pat Lydon		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: X

DEPTH	STABILIZATION TIME

	ROD	SAMPLER	CORE BAR
TYPE:	Geoprobe	Macro-core	Geoprobe
SIZE ID:	1" ID	1.25" ID	NA
PENETRATION:	2'	2'	NA

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	WATER TABLE (ft)	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)
0.0	0-1'		0'-1' : Top Soil	SS-01	60 / 21	10.1
	1-3'		1'-9' : Gravelly sand: 65% medium sand, 20% cobble, 15% fine gravel; medium brown, dry, no odor, Brick at 9'	SS-02		ND
	3-5'			SS-03		4.7
5.0						
	5-7'			SS-04	60 / 16	ND
	7-9'			SS-05		ND
	9-11'		9'-12' : Gravelly sand: 80% medium sand, 20% fine gravel; light brown, dry, no odor	SS-06		4.1
10.0					60 / 44	
	11-13'			SS-07		6
	13-15'		12'-13.5' : Cobble/boulder 13.5'-14' : Gravely sand: 80% medium sand, 20% fine gravel; light brown,dry, no odor 14'-18' : Sand: 100% fine sand; gray, wet, no odor	SS-08		5.5
15.0						
	15-17'			SS-09	60 / 20	ND
	17-19'			SS-10		ND
	19-20'					
20.0			19'-20' : Boulder	SS-11		ND

GENERAL REMARKS

Headspace screening conducted using a MiniRae Model 3000 PID, calibrated to a 100 ppm isobutylene standard
ND indicates "Not detected" above instrument detection limit (0.1 ppm)

CONECO ENGINEERS & SCIENTISTS	GEOPROBE SOIL BORING & MONITORING WELL REPORT

PROJECT:	9684	BORING NO.	GP-03/CMW-01
LOCATION:	100 Kennedy Circle, Newtown, MA	PAGE 1 OF	1
DRILLING CO:	New England Geotech	DATE STARTED:	5/26/2017
EQUIPMENT:	Traack-Mounted Geoprobe 7822DT	DATE FINISHED:	5/26/2017
DRILLED BY:	Maynor Mendoza	SURFACE ELEVATION:	Unknown
INSPECTED BY:	Pat Lydon		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED:

DEPTH	STABILIZATION TIME
~18'	In-situ

	ROD	SAMPLER	CORE BAR
TYPE:	Geoprobe	Macro-core	Geoprobe
SIZE ID:	1" ID	2" ID	2.25" OD
PENETRATION:	5'	5'	5'

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	WELL DATA	WATER TABLE (ft)	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)
0.0	0-1'			0'-1' : Top soil	SS-01	60/26	23.2
	1-3'			1'-4' : Gravelly sand : 70% medium sand, 20% cobble; brown to black, dry, no odor	SS-02		ND
	3-5'				SS-03		2.6
5.0				4'13': Gravelly samd: 70% medium sand, 20% cobble, 10% fine gravel; light brown, dry, no odor, 13'-14' boulders			
	5-7'				SS-04	60/31	0.9
	7-9'				SS-05		1.4
	9-11'				SS-06		ND
10.0						60/41	
	11-13'			13'-17': Sand: 100% fine sand, light brown, wet, no odor	SS-07		0.7
	13-15'		▽		SS-08		1.0
15.0							
	15-17'			17'-20' : Cobble/boulders	SS-09	60/35	1.4
	17-19'				SS-10		0.7
	19-21'			20' : Bottom of Boring			
20.0							

Native Materials
Bentonite
Sand
2" PVC Well Screen
2" PVC Well Riser
Denotes approximate groundwater elevation

GENERAL REMARKS:
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
ND means "Not Detected" above instrument above instrument detection limit (0.1 ppm)
Bottom of Boring: 20'
Screen Interval: 7-17'
Sand: 14-25'
Bentonite: 0-1'

CONECO ENGINEERS & SCIENTISTS — GEOPROBE SOIL BORING REPORT

PROJECT:	9684	BORING NO.	GP-04
LOCATION:	100 Kennedy Cirlce, Newtown, MA	PAGE 1 OF	1
DRILLING CO:	New England Geotech	DATE STARTED:	5/26/2017
EQUIPMENT:	Track-Mounted GeoProbe 7822DT	DATE FINISHED:	5/26/2017
DRILLED BY:	Maynor Mendoza	SURFACE ELEVATION:	Unknown
INSPECTED BY:	Pat Lydon		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: X

DEPTH	STABILIZATION TIME

	ROD	SAMPLER	CORE BAR
TYPE:	Geoprobe	Macro-core	Geoprobe
SIZE ID:	1" ID	1.25" ID	NA
PENETRATION:	2'	2'	NA

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	WATER TABLE (ft)	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)
0.0	0-1'		0'-1' : Top soil	SS-01	60/40	1.0
	1-3'		1'-2' : Gravelly sand: 80% medium sand, 20% cobble; black, dry, no odor	SS-02		3.2
	3-5'		2'-5' : Gravelly sand: 90% fine sand, 10% gravel; light brown, dry, no odor	SS-03		1.4
5.0						
	5-7'		5'-6.5' : Gravelly sand: 70% medium sand, 30% boulders; light brown, dry, no odor, glass fragments	SS-04	60/12	ND
	7-9'		6.5'-11' : Gravelly sand: 70% medium sand, 30% gravel; orange to light brown, dry, no odor	SS-05		ND
	9-11'			SS-06		ND
10.0						
					60/45	
	11-13'		11'-15' : Gravelly sand: 90% sand, 10% gravel; light brown, boulder 13'-14', dry, no odor	SS-07		1.3
	13-15'			SS-08		4.8
15.0						
	15-17'		15'-17' : Gravelly sand: 90% sand, 10% fine gravel; gray, damp, no odor	SS-09	60/26	ND
	17-18'		17'-18.5' : Cobble/boulders	SS-10		ND
			18.5' Bottom of Boring			
20.0						

GENERAL REMARKS

Headspace screening conducted using a MiniRae Model 3000 PID, calibrated to a 100 ppm isobutylene standard
ND indicates "Not detected" above instrument detection limit (0.1 ppm)

CONECO ENGINEERS & SCIENTISTS — GEOPROBE SOIL BORING REPORT

PROJECT:	9684	BORING NO.	GP-05
LOCATION:	100 Kennedy Cirlce, Newtown, MA	PAGE 1 OF	1
DRILLING CO:	New England Geotech	DATE STARTED:	5/26/2017
EQUIPMENT:	Track-Mounted Geoprobe 7822DT	DATE FINISHED:	5/26/2017
DRILLED BY:	Maynor Mendoza	SURFACE ELEVATION:	Unknown
INSPECTED BY:	Pat Lydon		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
~4'	In-situ

	ROD	SAMPLER	CORE BAR
TYPE:	Geoprobe	Macro-core	Geoprobe
SIZE ID:	1" ID	1.25" ID	NA
PENETRATION:	2'	2'	NA

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	WATER TABLE (ft)	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)
0.0	0-1'		0'-1' : Top soil	SS-01	48/18	ND
	1-3'		1'-6' : Gravelly sand: 60% medium sand, 40% fine gravel; dark brown, dry to wet, no odor,	SS-02		ND
	3-5'			SS-03		ND
5.0		▽				
	5-7'			SS-04	48/36	ND
			6'-12' : Gravelly sand: 80% coarse sand; 20% fine gravel			
	7-9'			SS-05		0.2
	9-11'			SS-06		ND
10.0					48/42	
	11-12'			SS-07		ND
			12' : Bottom of Boring			
15.0						
20.0						

GENERAL REMARKS

Headspace screening conducted using a MiniRae Model 3000 PID, calibrated to a 100 ppm isobutylene standard
ND indicates "Not detected" above instrument detection limit (0.1 ppm)

CONECO ENGINEERS & SCIENTISTS	GEOPROBE SOIL BORING & MONITORING WELL REPORT

PROJECT:	9684	BORING NO.	GP-06/CMW-03
LOCATION:	100 Kennedy Circle, Newton, MA	PAGE 1 OF	1
DRILLING CO:	New England Geotech	DATE STARTED:	5/26/2017
EQUIPMENT:	Track-Mounted GeoProbe 7822DT	DATE FINISHED:	5/26/2017
DRILLED BY:	Maynor Mendoza	SURFACE ELEVATION:	Unknown
INSPECTED BY:	Pat Lydon		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
~4'	In-situ

	ROD	SAMPLER	CORE BAR
TYPE:	Geoprobe	Macro-core	Geoprobe
SIZE ID:	1" ID	2" ID	2.25" OD
PENETRATION:	5'	5'	5'

				SAMPLE DATA			
DEPTH (ft)	SAMPLING DEPTH FROM - TO	WELL DATA	WATER TABLE (ft)	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)
0.0	0-1'			0'-1' : Top soil	SS-01	48/12	NR
	1-3'			1'-3' : Gravelly sand: 80% medium gravel sand, 20% fine gravel; black, dry, no odor	SS-02		NR
	3-5'			3'-7' : Gravelly sand: 60% course sand, 40% fine gravel; light brown, wet at 4', no odor	SS-03		NR
5.0	5-7'				SS-04	48/15	NR
	7-9'			7'-12' : Sand: 100% fine sand; light brown, wet	SS-05		NR
	9-11'				SS-06		NR
10.0						48/12	
	11-12'				SS-07		NR
				12' Bottom of Boring			
15.0							
20.0							

Native Materials
Bentonite
Sand
2" PVC Well Screen
2" PVC Well Riser
Denotes approximate groundwater elevation

GENERAL REMARKS:
Soil samples submitted for laboratory analysis EPH, VPH, VOCs, MCP-14 Metals, and PCBs at 3'-5' depth interval.
Headspace screening conducted using a MiniRAE Model 3000 PID, calibrated to a 100 ppm isobutylene standard.
ND means "Not Detected" above instrument above instrument detection limit (0.1 ppm)
NR means not enough recovery for headspace screenings.
Bottom of Boring: 12'
Screen Interval: 1-10'
Sand: .5-10'

CONECO ENGINEERS & SCIENTISTS — GEOPROBE SOIL BORING REPORT

PROJECT:	9684	BORING NO.	GP-07
LOCATION:	100 Kennedy Cirlce, Newtown, MA	PAGE 1 OF	1
DRILLING CO:	New England Geotech	DATE STARTED:	5/26/2017
EQUIPMENT:	Track Mounted GeoProbe 7822 DT	DATE FINISHED:	5/26/2017
DRILLED BY:	Maynor Mendoza	SURFACE ELEVATION:	Unknown
INSPECTED BY:	Pat Lydon		

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED: ____

DEPTH	STABILIZATION TIME
~3'	In-situ

	ROD	SAMPLER	CORE BAR
TYPE:	Geoprobe	Macro-core	Geoprobe
SIZE ID:	1" ID	1.25" ID	NA
PENETRATION:	2'	2'	NA

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	WATER TABLE (ft)	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	FIELD SCREENING (ppm)
0.0	0-1'		0'-1' : Top soil	SS-01	48/27	ND
	1-3'		1'-3' : Gravelly sand: 60% medium sand, 40% fine gravel; dark brown, dry, no odor	SS-02		ND
	3-5'	▽	3'-7' : Sand: 100% medium sand; Brown, damp to wet, no odor	SS-03		ND
5.0						
	5-7'			SS-04	48/28	ND
	7-9'		7'-12' : Clay: 100% silty clay; light gray, wet, no odor	SS-05		ND
	9-12'			SS-06		ND
10.0						
					48/34	
			12' : Bottom of boring			
15.0						
20.0						

GENERAL REMARKS

Headspace screening conducted using a MiniRae Model 3000 PID, calibrated to a 100 ppm isobutylene standard
ND indicates "Not detected" above instrument detection limit (0.1 ppm)

GROUNDWATER SAMPLING FIELD SHEETS

CONECO ENGINEERS & SCIENTISTS	LOW FLOW GROUNDWATER SAMPLING

PROJECT: 9684
LOCATION: 100 Kennedy Circle Newton, MA
SAMPLED BY: MPB

WELL ID: CMW-01
DATE: 6/1/2017
TIME: 1:15pm

WELL INTEGRITY

	YES	NO
Protective casing secure	■	☐
Concrete collar intact	■	☐
PVC stick-up intact	■	☐
Well cap present	■	☐
Security lock present	☐	☐

PID SCREENING (ppmV) (if required)
Background: n/a
Well mouth: n/a

DEPTH TO NAPL (ft): n/a
THICKNESS OF NAPL (ft): n/a

PROTECTIVE CASING STICK-UP FROM GROUND (ft): n/a

RISER STICK-UP FROM GROUND (ft): n/a

WELL DIAMETER
■ 2 inch
☐ 4 inch
☐ 6 inch
☐ _____

WELL MATERIAL
■ PVC ☐ SS
☐ _____

WELL DEPTH: 16.91

WATER DEPTH: 13.35

REFERENCE POINT
■ Top of riser
☐ Top of casing
☐ Pen mark
☐ North
☐

DEPTH OF PUMP INTAKE
_____ feet

WATER COLUMN HEIGHT: 5.56 ft x
■ .16 gal/ft (2 in)
☐ .65 gal/ft (4 in)
☐ 1.5 gal/ft (6 in)
☐ _ gal/ft (__ in)

VOLUME OF WATER IN WELL: 0.89 gallons
VOLUME OF WATER PURGED: 2.7 gallons
Note: Volume = (r^2)h(0.163)

FIELD WATER QUALITY MEASUREMENTS

Time	13:35				
Volume Purged (gallons)	2.7 gallons (dry)				
Temperature (°C)	14.9				
Conductivity (µmhos/cm)	222.0				
Dissolved Oxygen (mg/L)					
pH (Std. units)	7.88				
ORP/Eh (millivolts)					
Turbidity (NTU)					
Flow (ml/min)					
Depth to water (ft)					

PUMP TYPE

	Purge	Sample
Peristaltic Pump	☐	☐
Submersible Pump	■	■
Bladder pump	☐	☐
Other: _____	☐	☐

DESCRIPTION OF SAMPLING EQUIPMENT (MODEL AND S/N)

Analytical Parameter	Filtered (Y/N)	Preservation	Volume/Contianers	Time Collected	Date
CMW-01	Y	HNO3	(2) 500mL Plastic	1:40PM	6/1/2017
CMW-01	N	HCl	(2) 1L Amber	1:43PM	6/1/2017
CMW-01	N	HCl	(6) 40mL VOA	1:47PM	6/1/2017

CONECO ENGINEERS & SCIENTISTS

LOW FLOW GROUNDWATER SAMPLING

PROJECT: 9684
LOCATION: 100 Kennedy Circle Newton, MA
SAMPLED BY: MPB

WELL ID: CMW-02
DATE: 6/1/2017
TIME: 2:16pm

WELL INTEGRITY

	YES	NO
Protective casing secure	■	☐
Concrete collar intact	■	☐
PVC stick-up intact	■	☐
Well cap present	■	☐
Security lock present	☐	☐

PID SCREENING (ppmV) (if required)
Background: n/a
Well mouth: n/a

DEPTH TO NAPL (ft): n/a
THICKNESS OF NAPL (ft): n/a

PROTECTIVE CASING STICK-UP FROM GROUND (ft): n/a

RISER STICK-UP FROM GROUND (ft): n/a

WELL DIAMETER
■ 2 inch
☐ 4 inch
☐ 6 inch
☐ _____

WELL MATERIAL
■ PVC ☐ SS
☐ _____

WELL DEPTH: 16.91

WATER DEPTH: 13.35

REFERENCE POINT
■ Top of riser
☐ Top of casing
☐ Pen mark
☐ North
☐

DEPTH OF PUMP INTAKE
_____ feet

WATER COLUMN HEIGHT: 4.47 ft x
■ 16 gal/ft (2 in)
☐ 65 gal/ft (4 in)
☐ . 5 gal/ft (6 in)
☐ _ gal/ft (__ in)

VOLUME OF WATER IN WELL: 0.71 gallons
VOLUME OF WATER PURGED: 2.1 gallons
Note: Volume = (r^2)h(0.163)

FIELD WATER QUALITY MEASUREMENTS

Time	14:30				
Temperature (°C)	12.5				
Conductivity (µmhos/cm)	913.0				
Dissolved Oxygen (mg/L)					
pH (Std. units)	7.64				
ORP/Eh (millivolts)					
Turbidity (NTU)					
Flow (ml/min)					
Depth to water (ft)					

PUMP TYPE

	Purge	Sample
Peristaltic Pump	☐	☐
Submersible Pump	■	■
Bladder pump	☐	☐
Other: _____	☐	☐

DESCRIPTION OF SAMPLING EQUIPMENT (MODEL AND S/N)

Analytical Parameter	Filtered (Y/N)	Preservation	Volume/Contianers	Time Collected	Date
CMW-02	Y	HNO3	(2) 500mL Plastic	2:34PM	6/1/2017
CMW-02	N	HCl	(2) 1L Amber	2:38PM	6/1/2017
CMW-02	N	HCl	(6) 40mL VOA	2:42PM	6/1/2017

LABORATORY ANALYTICAL DOCUMENTATION

eurofins | Spectrum Analytical

☑ Final Report
☐ Revised Report

Report Date:
06-Jun-17 16:54

Laboratory Report
SC35241

Coneco Environmental
4 First Street
Bridgewater, MA 02324
Attn: Marc Brochu

Project: 100 Kennedy Cir. - Newton, MA
Project #: 9684

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:

Christina White
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 55 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: SC35241

Project: 100 Kennedy Cir. - Newton, MA

Project Number: 9684

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC35241-01	GP-01 (1-3)	Soil	26-May-17 09:00	31-May-17 18:25
SC35241-02	GP-02 (11-13)	Soil	26-May-17 10:15	31-May-17 18:25
SC35241-03	GP-04 (13-15)	Soil	26-May-17 11:00	31-May-17 18:25
SC35241-04	GP-06 (3-5)	Soil	26-May-17 12:10	31-May-17 18:25
SC35241-05	GP-07 (3-5)	Soil	26-May-17 12:50	31-May-17 18:25

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: 0.2ºC	

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*

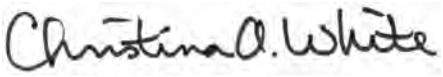
The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

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: 0.2ºC	

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 #:** 9684
Project Location: 100 Kennedy Cir. - Newton, MA	**RTN:**
This form provides certifications for the following data set:	SC35241-01 through SC35241-05
Matrices: 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

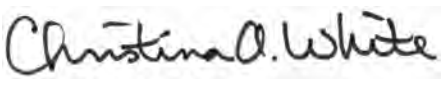
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	Yes ✓ No

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: 6/6/2017

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 0.2 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.

VOA vials preserved with deionized water were received frozen upon custody transfer to laboratory representative.

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:

1703011

MADEP EPH 5/2004 R

Calibration:

1703011

Analyte quantified by quadratic equation type calibration.

2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Anthracene
Benzo (a) anthracene
Benzo (a) pyrene
Benzo (b) fluoranthene
Benzo (g,h,i) perylene
Benzo (k) fluoranthene
C19-C36 Aliphatic Hydrocarbons
C9-C18 Aliphatic Hydrocarbons
Chrysene
Dibenzo (a,h) anthracene
Fluoranthene
Fluorene
Indeno (1,2,3-cd) pyrene
Naphthalene
Phenanthrene
Pyrene
Unadjusted C11-C22 Aromatic Hydrocarbons

This affected the following samples:

S702868-ICV1
S702868-ICV2

MADEP VPH 5/2004 Rev. 1.1

Laboratory Control Samples:

1709064-BSD1

RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.

n-Decane

Samples:

SC35241-02 *GP-02 (11-13)*

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.

SC35241-03 *GP-04 (13-15)*

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 8260C

Calibration:

1705035

Analyte quantified by quadratic equation type calibration.

Bromoform

SW846 8260C

Calibration:

1705035

This affected the following samples:

1709058-BLK1
1709058-BS1
1709058-BSD1
1709128-BLK1
1709128-BS1
1709128-BSD1
GP-01 (1-3)
GP-02 (11-13)
GP-04 (13-15)
GP-06 (3-5)
GP-07 (3-5)
S704867-ICV1
S704946-CCV1
S704946-CCV2
S704976-CCV1

Laboratory Control Samples:

1709058 BS/BSD

1,1,2-Trichlorotrifluoroethane (Freon 113) percent recoveries (138/130) 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:

GP-02 (11-13)
GP-04 (13-15)
GP-06 (3-5)
GP-07 (3-5)

1,4-Dioxane percent recoveries (70/58) 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:

GP-02 (11-13)
GP-04 (13-15)
GP-06 (3-5)
GP-07 (3-5)

Bromomethane percent recoveries (139/152) 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:

GP-02 (11-13)
GP-04 (13-15)
GP-06 (3-5)
GP-07 (3-5)

Carbon disulfide percent recoveries (136/118) 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:

GP-02 (11-13)
GP-04 (13-15)
GP-06 (3-5)
GP-07 (3-5)

Trichlorofluoromethane (Freon 11) percent recoveries (133/129) 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:

GP-02 (11-13)
GP-04 (13-15)
GP-06 (3-5)
GP-07 (3-5)

SW846 8260C

Laboratory Control Samples:

1709128 BS/BSD

1,1,2-Trichlorotrifluoroethane (Freon 113) percent recoveries (136/129) 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:

GP-01 (1-3)

Bromomethane percent recoveries (161/141) 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:

GP-01 (1-3)

Trichlorofluoromethane (Freon 11) percent recoveries (139/128) 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:

GP-01 (1-3)

Samples:

S704946-CCV1

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

1,1,2-Trichlorotrifluoroethane (Freon 113) (38.5%)
1,2,3-Trichloropropane (20.4%)
1,4-Dioxane (-29.7%)
Carbon disulfide (36.3%)
Carbon tetrachloride (27.1%)
Trichlorofluoromethane (Freon 11) (33.1%)

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

Bromomethane (39.2%)

This affected the following samples:

1709058-BLK1
1709058-BS1
1709058-BSD1
GP-02 (11-13)
GP-04 (13-15)
GP-06 (3-5)
GP-07 (3-5)

S704946-CCV2

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

1,1,1,2-Tetrachloroethane (21.0%)
1,1,2-Trichlorotrifluoroethane (Freon 113) (82.0%)
1,1-Dichloroethene (33.7%)
1,4-Dioxane (-34.3%)
2-Hexanone (MBK) (-21.5%)
Bromodichloromethane (21.1%)
Carbon disulfide (197%)
Carbon tetrachloride (28.2%)
Naphthalene (-23.1%)
Trichlorofluoromethane (Freon 11) (38.7%)

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

Bromomethane (54.9%)

SW846 8260C

Samples:

S704946-CCV2

This affected the following samples:

1709058-BLK1
1709058-BS1
1709058-BSD1
GP-02 (11-13)
GP-04 (13-15)
GP-06 (3-5)
GP-07 (3-5)

S704976-CCV1

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

1,1,2-Trichlorotrifluoroethane (Freon 113) (35.5%)
1,1-Dichloroethene (28.8%)
1,4-Dioxane (-27.4%)
Carbon disulfide (26.8%)
Carbon tetrachloride (28.8%)
Naphthalene (-20.1%)
Trichlorofluoromethane (Freon 11) (38.7%)

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

Bromomethane (61.0%)

This affected the following samples:

1709128-BLK1
1709128-BS1
1709128-BSD1
GP-01 (1-3)

Sample Acceptance Check Form

Client:	Coneco Environmental - Bridgewater, MA
Project:	100 Kennedy Cir. - Newton, MA / 9684
Work Order:	SC35241
Sample(s) received on:	5/31/2017

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 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: SC35241-01 **Client ID:** GP-01 (1-3)

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Benzo (a) anthracene	0.423		0.351	mg/kg	MADEP EPH 5/2004 R
Benzo (a) pyrene	0.396		0.351	mg/kg	MADEP EPH 5/2004 R
Benzo (b) fluoranthene	0.356		0.351	mg/kg	MADEP EPH 5/2004 R
C11-C22 Aromatic Hydrocarbons	12.4		10.5	mg/kg	MADEP EPH 5/2004 R
C9-C18 Aliphatic Hydrocarbons	32.2		10.5	mg/kg	MADEP EPH 5/2004 R
Chrysene	0.415		0.351	mg/kg	MADEP EPH 5/2004 R
Fluoranthene	0.892		0.351	mg/kg	MADEP EPH 5/2004 R
Phenanthrene	0.715		0.351	mg/kg	MADEP EPH 5/2004 R
Pyrene	0.777		0.351	mg/kg	MADEP EPH 5/2004 R
Unadjusted C11-C22 Aromatic Hydrocarbons	17.5		10.5	mg/kg	MADEP EPH 5/2004 R
Arsenic	5.43		1.51	mg/kg	SW846 6010C
Barium	37.5		1.01	mg/kg	SW846 6010C
Cadmium	2.58		0.504	mg/kg	SW846 6010C
Chromium	12.5		1.01	mg/kg	SW846 6010C
Lead	119		1.51	mg/kg	SW846 6010C
Mercury	0.375		0.0293	mg/kg	SW846 7471B
Aroclor-1260 [2C]	129		20.7	µg/kg	SW846 8082A
4-Isopropyltoluene	10.3		4.82	µg/kg	SW846 8260C

Lab ID: SC35241-02 **Client ID:** GP-02 (11-13)

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
C9-C18 Aliphatic Hydrocarbons	12.8		10.4	mg/kg	MADEP EPH 5/2004 R

Lab ID: SC35241-04 **Client ID:** GP-06 (3-5)

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	2.85		1.54	mg/kg	SW846 6010C
Barium	27.1		1.03	mg/kg	SW846 6010C
Cadmium	1.31		0.514	mg/kg	SW846 6010C
Chromium	14.4		1.03	mg/kg	SW846 6010C
Lead	3.36		1.54	mg/kg	SW846 6010C

Lab ID: SC35241-05 **Client ID:** GP-07 (3-5)

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	9.99		1.69	mg/kg	SW846 6010C
Barium	33.1		1.13	mg/kg	SW846 6010C
Cadmium	2.08		0.564	mg/kg	SW846 6010C
Chromium	13.2		1.13	mg/kg	SW846 6010C
Lead	40.3		1.69	mg/kg	SW846 6010C
Mercury	0.0726		0.0317	mg/kg	SW846 7471B
Trichlorofluoromethane (Freon 11)	7.51		6.83	µg/kg	SW846 8260C

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
GP-01 (1-3)	9684	Soil	26-May-17 09:00	31-May-17
SC35241-01				

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	1709054	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 5.91 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 4.82		µg/kg dry	4.82	2.44	1	SW846 8260C	02-Jun-17	02-Jun-17	MP	1709128	
67-64-1	Acetone	< 48.2		µg/kg dry	48.2	19.3	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 4.82		µg/kg dry	4.82	4.63	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	< 9.63		µg/kg dry	9.63	4.35	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 9.63		µg/kg dry	9.63	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	< 9.63		µg/kg dry	9.63	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	< 9.63		µg/kg dry	9.63	2.67	1	"	"	"	"	"	
67-66-3	Chloroform	< 4.82		µg/kg dry	4.82	2.59	1	"	"	"	"	"	
74-87-3	Chloromethane	< 9.63		µg/kg dry	9.63	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	< 9.63		µg/kg dry	9.63	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	2.50	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)	< 9.63		µg/kg dry	9.63	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	2.90	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 4.82		µg/kg dry	4.82	2.53	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-01 (1-3)	9684	Soil	26-May-17 09:00	31-May-17
SC35241-01				

Volatile Organic Compounds

Volatile Organic Compounds by SW846 8260

Initial weight: 5.91 g

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
100-41-4	Ethylbenzene	< 4.82		µg/kg dry	4.82	0.69	1	SW846 8260C	02-Jun-17	02-Jun-17	MP	1709128	
87-68-3	Hexachlorobutadiene	< 4.82		µg/kg dry	4.82	2.42	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 9.63		µg/kg dry	9.63	5.91	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 4.82		µg/kg dry	4.82	0.95	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	10.3		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)	< 9.63		µg/kg dry	9.63	2.48	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 9.63		µg/kg dry	9.63	1.91	1	"	"	"	"	"	
91-20-3	Naphthalene	< 4.82		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	4.09	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 4.82		µg/kg dry	4.82	4.07	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	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 4.82		µg/kg dry	4.82	1.51	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	1.31	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	< 4.82		µg/kg dry	4.82	1.17	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 4.82		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	< 9.63		µg/kg dry	9.63	0.87	1	"	"	"	"	"	
95-47-6	o-Xylene	< 4.82		µg/kg dry	4.82	1.35	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 9.63		µg/kg dry	9.63	7.59	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 4.82		µg/kg dry	4.82	4.36	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	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 48.2		µg/kg dry	48.2	31.5	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 96.3		µg/kg dry	96.3	83.7	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-butene	< 24.1		µg/kg dry	24.1	11.0	1	"	"	"	"	"	
64-17-5	Ethanol	< 963		µg/kg dry	963	180	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*94*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*116*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*108*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-01 (1-3)	9684	Soil	26-May-17 09:00	31-May-17
SC35241-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3546													
12674-11-2	Aroclor-1016	< 20.7		µg/kg dry	20.7	9.28	1	SW846 8082A	01-Jun-17	01-Jun-17	IMR	1709052	
11104-28-2	Aroclor-1221	< 20.7		µg/kg dry	20.7	11.0	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 20.7		µg/kg dry	20.7	10.4	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 20.7		µg/kg dry	20.7	20.4	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 20.7		µg/kg dry	20.7	18.9	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 20.7		µg/kg dry	20.7	13.5	1	"	"	"	"	"	
11096-82-5	Aroclor-1260 [2C]	**129**		µg/kg dry	20.7	12.0	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 20.7		µg/kg dry	20.7	18.1	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 20.7		µg/kg dry	20.7	9.34	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*80*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*85*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*110*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*110*			*30-150 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	**32.2**		mg/kg dry	10.5	1.47	1	MADEP EPH 5/2004 R	01-Jun-17	04-Jun-17	SM	1709048	
	C19-C36 Aliphatic Hydrocarbons	< 10.5		mg/kg dry	10.5	1.49	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	**12.4**		mg/kg dry	10.5	5.03	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	**17.5**		mg/kg dry	10.5	5.03	1	"	"	"	"	"	
91-20-3	Naphthalene	< 0.351		mg/kg dry	0.351	0.312	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 0.351		mg/kg dry	0.351	0.302	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 0.351		mg/kg dry	0.351	0.139	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 0.351		mg/kg dry	0.351	0.348	1	"	"	"	"	"	
86-73-7	Fluorene	< 0.351		mg/kg dry	0.351	0.315	1	"	"	"	"	"	
85-01-8	Phenanthrene	**0.715**		mg/kg dry	0.351	0.304	1	"	"	"	"	"	
120-12-7	Anthracene	< 0.351		mg/kg dry	0.351	0.302	1	"	"	"	"	"	
206-44-0	Fluoranthene	**0.892**		mg/kg dry	0.351	0.133	1	"	"	"	"	"	
129-00-0	Pyrene	**0.777**		mg/kg dry	0.351	0.135	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	**0.423**		mg/kg dry	0.351	0.333	1	"	"	"	"	"	
218-01-9	Chrysene	**0.415**		mg/kg dry	0.351	0.332	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	**0.356**		mg/kg dry	0.351	0.289	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 0.351		mg/kg dry	0.351	0.185	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	**0.396**		mg/kg dry	0.351	0.314	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.351		mg/kg dry	0.351	0.234	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.351		mg/kg dry	0.351	0.225	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 0.351		mg/kg dry	0.351	0.230	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*105*			*40-140 %*			"	"	"	"	"	

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Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-01 (1-3)	9684	Soil	26-May-17 09:00	31-May-17
SC35241-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
MADEP EPH													
84-15-1	*Ortho-Terphenyl*	*63*			*40-140 %*			MADEP EPH 5/2004 R	01-Jun-17	04-Jun-17	SM	1709048	
321-60-8	*2-Fluorobiphenyl*	*57*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3051A													
7440-22-4	Silver	< 1.51		mg/kg dry	1.51	0.163	1	SW846 6010C	01-Jun-17	01-Jun-17	EDT	1709087	
7440-38-2	Arsenic	**5.43**		mg/kg dry	1.51	0.192	1	"	"	"	"	"	
7440-39-3	Barium	**37.5**		mg/kg dry	1.01	0.119	1	"	"	02-Jun-17	"	"	
7440-43-9	Cadmium	**2.58**		mg/kg dry	0.504	0.0261	1	"	"	01-Jun-17	"	"	
7440-47-3	Chromium	**12.5**		mg/kg dry	1.01	0.134	1	"	"	"	"	"	
7439-97-6	Mercury	**0.375**		mg/kg dry	0.0293	0.0081	1	SW846 7471B	"	01-Jun-17	LNB	1709088	
Prepared by method SW846 3051A													
7439-92-1	Lead	**119**		mg/kg dry	1.51	0.214	1	SW846 6010C	"	01-Jun-17	EDT	1709087	
7782-49-2	Selenium	< 1.51		mg/kg dry	1.51	0.289	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**94.0**		%			1	SM2540 G (11) Mod.	01-Jun-17	01-Jun-17	CMB	1709080	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-02 (11-13)	9684	Soil	26-May-17 10:15	31-May-17
SC35241-02				

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	1709054	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 5.06 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.55		µg/kg dry	5.55	2.81	1	SW846 8260C	01-Jun-17	01-Jun-17	MP	1709058	
67-64-1	Acetone	< 55.5		µg/kg dry	55.5	22.2	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 5.55		µg/kg dry	5.55	5.34	1	"	"	"	"	"	
71-43-2	Benzene	< 5.55		µg/kg dry	5.55	1.47	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 5.55		µg/kg dry	5.55	1.48	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 5.55		µg/kg dry	5.55	2.80	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.55		µg/kg dry	5.55	3.70	1	"	"	"	"	"	
75-25-2	Bromoform	< 5.55		µg/kg dry	5.55	5.30	1	"	"	"	"	"	
74-83-9	Bromomethane	< 11.1		µg/kg dry	11.1	5.01	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 11.1		µg/kg dry	11.1	9.93	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 5.55		µg/kg dry	5.55	1.59	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 5.55		µg/kg dry	5.55	1.01	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 5.55		µg/kg dry	5.55	1.24	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 11.1		µg/kg dry	11.1	3.55	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 5.55		µg/kg dry	5.55	4.54	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 5.55		µg/kg dry	5.55	1.74	1	"	"	"	"	"	
75-00-3	Chloroethane	< 11.1		µg/kg dry	11.1	3.08	1	"	"	"	"	"	
67-66-3	Chloroform	< 5.55		µg/kg dry	5.55	2.98	1	"	"	"	"	"	
74-87-3	Chloromethane	< 11.1		µg/kg dry	11.1	2.29	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 5.55		µg/kg dry	5.55	1.38	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 5.55		µg/kg dry	5.55	1.30	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 11.1		µg/kg dry	11.1	8.02	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.55		µg/kg dry	5.55	3.76	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.55		µg/kg dry	5.55	3.73	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 5.55		µg/kg dry	5.55	2.89	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.55		µg/kg dry	5.55	1.44	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.55		µg/kg dry	5.55	1.20	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.55		µg/kg dry	5.55	1.64	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 11.1		µg/kg dry	11.1	2.10	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 5.55		µg/kg dry	5.55	1.45	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 5.55		µg/kg dry	5.55	1.99	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 5.55		µg/kg dry	5.55	2.90	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 5.55		µg/kg dry	5.55	2.06	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 5.55		µg/kg dry	5.55	2.94	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 5.55		µg/kg dry	5.55	2.91	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 5.55		µg/kg dry	5.55	2.88	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 5.55		µg/kg dry	5.55	2.62	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 5.55		µg/kg dry	5.55	1.79	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.55		µg/kg dry	5.55	3.35	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.55		µg/kg dry	5.55	2.91	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-02 (11-13)	9684	Soil	26-May-17 10:15	31-May-17
SC35241-02				

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: 5.06 g							
100-41-4	Ethylbenzene	< 5.55		µg/kg dry	5.55	0.80	1	SW846 8260C	01-Jun-17	01-Jun-17	MP	1709058	
87-68-3	Hexachlorobutadiene	< 5.55		µg/kg dry	5.55	2.79	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 11.1		µg/kg dry	11.1	6.81	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 5.55		µg/kg dry	5.55	1.09	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 5.55		µg/kg dry	5.55	1.19	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.55		µg/kg dry	5.55	2.04	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 11.1		µg/kg dry	11.1	2.85	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 11.1		µg/kg dry	11.1	2.20	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.55		µg/kg dry	5.55	3.30	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 5.55		µg/kg dry	5.55	0.90	1	"	"	"	"	"	
100-42-5	Styrene	< 5.55		µg/kg dry	5.55	1.12	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 5.55		µg/kg dry	5.55	4.72	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.55		µg/kg dry	5.55	4.70	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 5.55		µg/kg dry	5.55	1.90	1	"	"	"	"	"	
108-88-3	Toluene	< 5.55		µg/kg dry	5.55	1.80	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 5.55		µg/kg dry	5.55	1.95	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.55		µg/kg dry	5.55	4.09	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 5.55		µg/kg dry	5.55	1.74	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.55		µg/kg dry	5.55	1.84	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 5.55		µg/kg dry	5.55	4.03	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 5.55		µg/kg dry	5.55	1.52	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.55		µg/kg dry	5.55	2.99	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 5.55		µg/kg dry	5.55	4.16	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 5.55		µg/kg dry	5.55	1.35	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 5.55		µg/kg dry	5.55	0.95	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 5.55		µg/kg dry	5.55	1.88	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 11.1		µg/kg dry	11.1	1.00	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.55		µg/kg dry	5.55	1.55	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 11.1		µg/kg dry	11.1	8.75	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.55		µg/kg dry	5.55	5.03	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 5.55		µg/kg dry	5.55	1.85	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 5.55		µg/kg dry	5.55	2.99	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 5.55		µg/kg dry	5.55	1.03	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 55.5		µg/kg dry	55.5	36.3	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 111		µg/kg dry	111	96.4	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-butene	< 27.8		µg/kg dry	27.8	12.7	1	"	"	"	"	"	
64-17-5	Ethanol	< 1110		µg/kg dry	1110	207	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*93*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*115*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*107*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-02 (11-13)	9684	Soil	26-May-17 10:15	31-May-17
SC35241-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH			VC10										
Prepared by method VPH - EPA 5035A Soil							Initial weight: 21.94 g						
	C5-C8 Aliphatic Hydrocarbons	< 0.590	D	mg/kg dry	0.590	0.114	50	MADEP VPH 5/2004 Rev. 1.1	01-Jun-17	01-Jun-17	SD	1709064	
	C9-C12 Aliphatic Hydrocarbons	< 0.197	D	mg/kg dry	0.197	0.0819	50	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 0.197	D	mg/kg dry	0.197	0.0239	50	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.590	D	mg/kg dry	0.590	0.0917	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.197	D	mg/kg dry	0.197	0.104	50	"	"	"	"	"	
71-43-2	Benzene	< 0.0394	D	mg/kg dry	0.0394	0.0111	50	"	"	"	"	"	
100-41-4	Ethylbenzene	< 0.0394	D	mg/kg dry	0.0394	0.0140	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 0.0394	D	mg/kg dry	0.0394	0.0192	50	"	"	"	"	"	
91-20-3	Naphthalene	< 0.0394	D	mg/kg dry	0.0394	0.0189	50	"	"	"	"	"	
108-88-3	Toluene	< 0.0394	D	mg/kg dry	0.0394	0.0140	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 0.0787	D	mg/kg dry	0.0787	0.0309	50	"	"	"	"	"	
95-47-6	o-Xylene	< 0.0394	D	mg/kg dry	0.0394	0.0129	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*105*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*105*			*70-130 %*			"	"	"	"	"	
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3546													
12674-11-2	Aroclor-1016	< 20.9		µg/kg dry	20.9	9.36	1	SW846 8082A	01-Jun-17	01-Jun-17	IMR	1709052	
11104-28-2	Aroclor-1221	< 20.9		µg/kg dry	20.9	11.1	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 20.9		µg/kg dry	20.9	10.5	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 20.9		µg/kg dry	20.9	20.6	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 20.9		µg/kg dry	20.9	19.1	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 20.9		µg/kg dry	20.9	13.7	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 20.9		µg/kg dry	20.9	11.2	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 20.9		µg/kg dry	20.9	18.2	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 20.9		µg/kg dry	20.9	9.43	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*85*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*85*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*125*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*100*			*30-150 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	**12.8**		mg/kg dry	10.4	1.46	1	MADEP EPH 5/2004 R	01-Jun-17	04-Jun-17	SM	1709048	
	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	4.97	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-02 (11-13)	9684	Soil	26-May-17 10:15	31-May-17
SC35241-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
MADEP EPH													
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 10.4		mg/kg dry	10.4	4.97	1	MADEP EPH 5/2004 R	01-Jun-17	04-Jun-17	SM	1709048	
91-20-3	Naphthalene	< 0.347		mg/kg dry	0.347	0.309	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 0.347		mg/kg dry	0.347	0.298	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 0.347		mg/kg dry	0.347	0.138	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 0.347		mg/kg dry	0.347	0.344	1	"	"	"	"	"	
86-73-7	Fluorene	< 0.347		mg/kg dry	0.347	0.312	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 0.347		mg/kg dry	0.347	0.300	1	"	"	"	"	"	
120-12-7	Anthracene	< 0.347		mg/kg dry	0.347	0.298	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 0.347		mg/kg dry	0.347	0.131	1	"	"	"	"	"	
129-00-0	Pyrene	< 0.347		mg/kg dry	0.347	0.133	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 0.347		mg/kg dry	0.347	0.330	1	"	"	"	"	"	
218-01-9	Chrysene	< 0.347		mg/kg dry	0.347	0.328	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 0.347		mg/kg dry	0.347	0.286	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 0.347		mg/kg dry	0.347	0.182	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 0.347		mg/kg dry	0.347	0.311	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.347		mg/kg dry	0.347	0.232	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.347		mg/kg dry	0.347	0.222	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 0.347		mg/kg dry	0.347	0.227	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*85*			*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*74*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*64*			*40-140 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**94.2**		%			1	SM2540 G (11) Mod.	01-Jun-17	01-Jun-17	CMB	1709080	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-04 (13-15)	9684	Soil	26-May-17 11:00	31-May-17
SC35241-03				

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	1709054	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 5.18 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.26		µg/kg dry	5.26	2.67	1	SW846 8260C	01-Jun-17	01-Jun-17	MP	1709058	
67-64-1	Acetone	< 52.6		µg/kg dry	52.6	21.0	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 5.26		µg/kg dry	5.26	5.05	1	"	"	"	"	"	
71-43-2	Benzene	< 5.26		µg/kg dry	5.26	1.39	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 5.26		µg/kg dry	5.26	1.40	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 5.26		µg/kg dry	5.26	2.65	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.26		µg/kg dry	5.26	3.51	1	"	"	"	"	"	
75-25-2	Bromoform	< 5.26		µg/kg dry	5.26	5.02	1	"	"	"	"	"	
74-83-9	Bromomethane	< 10.5		µg/kg dry	10.5	4.75	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 10.5		µg/kg dry	10.5	9.40	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 5.26		µg/kg dry	5.26	1.50	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 5.26		µg/kg dry	5.26	0.96	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 5.26		µg/kg dry	5.26	1.18	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 10.5		µg/kg dry	10.5	3.36	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 5.26		µg/kg dry	5.26	4.30	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 5.26		µg/kg dry	5.26	1.65	1	"	"	"	"	"	
75-00-3	Chloroethane	< 10.5		µg/kg dry	10.5	2.92	1	"	"	"	"	"	
67-66-3	Chloroform	< 5.26		µg/kg dry	5.26	2.82	1	"	"	"	"	"	
74-87-3	Chloromethane	< 10.5		µg/kg dry	10.5	2.17	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 5.26		µg/kg dry	5.26	1.31	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 5.26		µg/kg dry	5.26	1.24	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 10.5		µg/kg dry	10.5	7.60	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.26		µg/kg dry	5.26	3.56	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.26		µg/kg dry	5.26	3.53	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 5.26		µg/kg dry	5.26	2.73	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.26		µg/kg dry	5.26	1.37	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.26		µg/kg dry	5.26	1.14	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.26		µg/kg dry	5.26	1.56	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.5		µg/kg dry	10.5	1.99	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 5.26		µg/kg dry	5.26	1.38	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 5.26		µg/kg dry	5.26	1.88	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 5.26		µg/kg dry	5.26	2.75	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 5.26		µg/kg dry	5.26	1.95	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 5.26		µg/kg dry	5.26	2.79	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 5.26		µg/kg dry	5.26	2.75	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 5.26		µg/kg dry	5.26	2.72	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 5.26		µg/kg dry	5.26	2.48	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 5.26		µg/kg dry	5.26	1.69	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.26		µg/kg dry	5.26	3.17	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.26		µg/kg dry	5.26	2.76	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-04 (13-15)	9684	Soil	26-May-17 11:00	31-May-17
SC35241-03				

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: 5.18 g							
100-41-4	Ethylbenzene	< 5.26		µg/kg dry	5.26	0.76	1	SW846 8260C	01-Jun-17	01-Jun-17	MP	1709058	
87-68-3	Hexachlorobutadiene	< 5.26		µg/kg dry	5.26	2.64	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 10.5		µg/kg dry	10.5	6.45	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 5.26		µg/kg dry	5.26	1.04	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 5.26		µg/kg dry	5.26	1.13	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.26		µg/kg dry	5.26	1.93	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.5		µg/kg dry	10.5	2.70	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 10.5		µg/kg dry	10.5	2.09	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.26		µg/kg dry	5.26	3.13	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 5.26		µg/kg dry	5.26	0.85	1	"	"	"	"	"	
100-42-5	Styrene	< 5.26		µg/kg dry	5.26	1.06	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 5.26		µg/kg dry	5.26	4.47	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.26		µg/kg dry	5.26	4.45	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 5.26		µg/kg dry	5.26	1.80	1	"	"	"	"	"	
108-88-3	Toluene	< 5.26		µg/kg dry	5.26	1.70	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 5.26		µg/kg dry	5.26	1.85	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.26		µg/kg dry	5.26	3.87	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 5.26		µg/kg dry	5.26	1.65	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.26		µg/kg dry	5.26	1.75	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 5.26		µg/kg dry	5.26	3.81	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 5.26		µg/kg dry	5.26	1.44	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.26		µg/kg dry	5.26	2.83	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 5.26		µg/kg dry	5.26	3.94	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 5.26		µg/kg dry	5.26	1.28	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 5.26		µg/kg dry	5.26	0.90	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 5.26		µg/kg dry	5.26	1.78	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.5		µg/kg dry	10.5	0.95	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.26		µg/kg dry	5.26	1.47	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 10.5		µg/kg dry	10.5	8.28	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.26		µg/kg dry	5.26	4.76	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 5.26		µg/kg dry	5.26	1.76	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 5.26		µg/kg dry	5.26	2.83	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 5.26		µg/kg dry	5.26	0.98	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 52.6		µg/kg dry	52.6	34.4	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 105		µg/kg dry	105	91.3	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 26.3		µg/kg dry	26.3	12.0	1	"	"	"	"	"	
64-17-5	Ethanol	< 1050		µg/kg dry	1050	196	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*92*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*116*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*107*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-04 (13-15)	9684	Soil	26-May-17 11:00	31-May-17
SC35241-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH			VC10										
Prepared by method VPH - EPA 5035A Soil							Initial weight: 21.48 g						
	C5-C8 Aliphatic Hydrocarbons	< 0.580	D	mg/kg dry	0.580	0.112	50	MADEP VPH 5/2004 Rev. 1.1	01-Jun-17	01-Jun-17	SD	1709064	
	C9-C12 Aliphatic Hydrocarbons	< 0.193	D	mg/kg dry	0.193	0.0804	50	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 0.193	D	mg/kg dry	0.193	0.0235	50	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 0.580	D	mg/kg dry	0.580	0.0900	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 0.193	D	mg/kg dry	0.193	0.102	50	"	"	"	"	"	
71-43-2	Benzene	< 0.0386	D	mg/kg dry	0.0386	0.0109	50	"	"	"	"	"	
100-41-4	Ethylbenzene	< 0.0386	D	mg/kg dry	0.0386	0.0137	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 0.0386	D	mg/kg dry	0.0386	0.0189	50	"	"	"	"	"	
91-20-3	Naphthalene	< 0.0386	D	mg/kg dry	0.0386	0.0186	50	"	"	"	"	"	
108-88-3	Toluene	< 0.0386	D	mg/kg dry	0.0386	0.0138	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 0.0773	D	mg/kg dry	0.0773	0.0304	50	"	"	"	"	"	
95-47-6	o-Xylene	< 0.0386	D	mg/kg dry	0.0386	0.0126	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*107*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*105*			*70-130 %*			"	"	"	"	"	
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3546													
12674-11-2	Aroclor-1016	< 20.8		µg/kg dry	20.8	9.32	1	SW846 8082A	01-Jun-17	01-Jun-17	IMR	1709052	
11104-28-2	Aroclor-1221	< 20.8		µg/kg dry	20.8	11.1	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 20.8		µg/kg dry	20.8	10.4	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 20.8		µg/kg dry	20.8	20.5	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 20.8		µg/kg dry	20.8	19.0	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 20.8		µg/kg dry	20.8	13.6	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 20.8		µg/kg dry	20.8	11.1	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 20.8		µg/kg dry	20.8	18.1	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 20.8		µg/kg dry	20.8	9.38	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*80*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*80*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*115*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*120*			*30-150 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH													
Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 10.3		mg/kg dry	10.3	1.43	1	MADEP EPH 5/2004 R	01-Jun-17	04-Jun-17	SM	1709048	
	C19-C36 Aliphatic Hydrocarbons	< 10.3		mg/kg dry	10.3	1.45	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 10.3		mg/kg dry	10.3	4.89	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-04 (13-15)	9684	Soil	26-May-17 11:00	31-May-17
SC35241-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
MADEP EPH													
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 10.3		mg/kg dry	10.3	4.89	1	MADEP EPH 5/2004 R	01-Jun-17	04-Jun-17	SM	1709048	
91-20-3	Naphthalene	< 0.341		mg/kg dry	0.341	0.303	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 0.341		mg/kg dry	0.341	0.293	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 0.341		mg/kg dry	0.341	0.135	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 0.341		mg/kg dry	0.341	0.338	1	"	"	"	"	"	
86-73-7	Fluorene	< 0.341		mg/kg dry	0.341	0.307	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 0.341		mg/kg dry	0.341	0.295	1	"	"	"	"	"	
120-12-7	Anthracene	< 0.341		mg/kg dry	0.341	0.293	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 0.341		mg/kg dry	0.341	0.129	1	"	"	"	"	"	
129-00-0	Pyrene	< 0.341		mg/kg dry	0.341	0.131	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 0.341		mg/kg dry	0.341	0.324	1	"	"	"	"	"	
218-01-9	Chrysene	< 0.341		mg/kg dry	0.341	0.323	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 0.341		mg/kg dry	0.341	0.281	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 0.341		mg/kg dry	0.341	0.179	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 0.341		mg/kg dry	0.341	0.306	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.341		mg/kg dry	0.341	0.228	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.341		mg/kg dry	0.341	0.218	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 0.341		mg/kg dry	0.341	0.224	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*94*			*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*67*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*64*			*40-140 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**95.8**		%			1	SM2540 G (11) Mod.	01-Jun-17	01-Jun-17	CMB	1709082	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-06 (3-5)	9684	Soil	26-May-17 12:10	31-May-17
SC35241-04				

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	1709054	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 5.39 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.46		µg/kg dry	5.46	2.77	1	SW846 8260C	01-Jun-17	01-Jun-17	MP	1709058	
67-64-1	Acetone	< 54.6		µg/kg dry	54.6	21.9	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 5.46		µg/kg dry	5.46	5.25	1	"	"	"	"	"	
71-43-2	Benzene	< 5.46		µg/kg dry	5.46	1.45	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 5.46		µg/kg dry	5.46	1.46	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 5.46		µg/kg dry	5.46	2.76	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.46		µg/kg dry	5.46	3.64	1	"	"	"	"	"	
75-25-2	Bromoform	< 5.46		µg/kg dry	5.46	5.21	1	"	"	"	"	"	
74-83-9	Bromomethane	< 10.9		µg/kg dry	10.9	4.93	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 10.9		µg/kg dry	10.9	9.77	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 5.46		µg/kg dry	5.46	1.56	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 5.46		µg/kg dry	5.46	0.99	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 5.46		µg/kg dry	5.46	1.22	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 10.9		µg/kg dry	10.9	3.50	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 5.46		µg/kg dry	5.46	4.47	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 5.46		µg/kg dry	5.46	1.71	1	"	"	"	"	"	
75-00-3	Chloroethane	< 10.9		µg/kg dry	10.9	3.03	1	"	"	"	"	"	
67-66-3	Chloroform	< 5.46		µg/kg dry	5.46	2.93	1	"	"	"	"	"	
74-87-3	Chloromethane	< 10.9		µg/kg dry	10.9	2.26	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 5.46		µg/kg dry	5.46	1.36	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 5.46		µg/kg dry	5.46	1.28	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 10.9		µg/kg dry	10.9	7.90	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.46		µg/kg dry	5.46	3.70	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.46		µg/kg dry	5.46	3.67	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 5.46		µg/kg dry	5.46	2.84	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.46		µg/kg dry	5.46	1.42	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.46		µg/kg dry	5.46	1.19	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.46		µg/kg dry	5.46	1.62	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.9		µg/kg dry	10.9	2.07	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 5.46		µg/kg dry	5.46	1.43	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 5.46		µg/kg dry	5.46	1.96	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 5.46		µg/kg dry	5.46	2.86	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 5.46		µg/kg dry	5.46	2.03	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 5.46		µg/kg dry	5.46	2.90	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 5.46		µg/kg dry	5.46	2.86	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 5.46		µg/kg dry	5.46	2.83	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 5.46		µg/kg dry	5.46	2.58	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 5.46		µg/kg dry	5.46	1.76	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.46		µg/kg dry	5.46	3.29	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.46		µg/kg dry	5.46	2.87	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-06 (3-5)	9684	Soil	26-May-17 12:10	31-May-17
SC35241-04				

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: 5.39 g							
100-41-4	Ethylbenzene	< 5.46		µg/kg dry	5.46	0.79	1	SW846 8260C	01-Jun-17	01-Jun-17	MP	1709058	
87-68-3	Hexachlorobutadiene	< 5.46		µg/kg dry	5.46	2.74	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 10.9		µg/kg dry	10.9	6.70	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 5.46		µg/kg dry	5.46	1.08	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 5.46		µg/kg dry	5.46	1.17	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.46		µg/kg dry	5.46	2.01	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.9		µg/kg dry	10.9	2.81	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 10.9		µg/kg dry	10.9	2.17	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.46		µg/kg dry	5.46	3.25	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 5.46		µg/kg dry	5.46	0.89	1	"	"	"	"	"	
100-42-5	Styrene	< 5.46		µg/kg dry	5.46	1.10	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 5.46		µg/kg dry	5.46	4.64	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.46		µg/kg dry	5.46	4.62	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 5.46		µg/kg dry	5.46	1.87	1	"	"	"	"	"	
108-88-3	Toluene	< 5.46		µg/kg dry	5.46	1.77	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 5.46		µg/kg dry	5.46	1.92	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.46		µg/kg dry	5.46	4.03	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 5.46		µg/kg dry	5.46	1.72	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.46		µg/kg dry	5.46	1.81	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 5.46		µg/kg dry	5.46	3.96	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 5.46		µg/kg dry	5.46	1.49	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.46		µg/kg dry	5.46	2.95	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 5.46		µg/kg dry	5.46	4.10	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 5.46		µg/kg dry	5.46	1.33	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 5.46		µg/kg dry	5.46	0.94	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 5.46		µg/kg dry	5.46	1.85	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.9		µg/kg dry	10.9	0.98	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.46		µg/kg dry	5.46	1.53	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 10.9		µg/kg dry	10.9	8.61	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.46		µg/kg dry	5.46	4.95	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 5.46		µg/kg dry	5.46	1.83	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 5.46		µg/kg dry	5.46	2.95	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 5.46		µg/kg dry	5.46	1.02	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 54.6		µg/kg dry	54.6	35.8	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 109		µg/kg dry	109	94.9	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-butene	< 27.3		µg/kg dry	27.3	12.5	1	"	"	"	"	"	
64-17-5	Ethanol	< 1090		µg/kg dry	1090	204	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*92*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*117*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*108*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-06 (3-5)	9684	Soil	26-May-17 12:10	31-May-17
SC35241-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3546													
12674-11-2	Aroclor-1016	< 21.6		µg/kg dry	21.6	9.66	1	SW846 8082A	01-Jun-17	01-Jun-17	IMR	1709052	
11104-28-2	Aroclor-1221	< 21.6		µg/kg dry	21.6	11.5	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 21.6		µg/kg dry	21.6	10.8	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 21.6		µg/kg dry	21.6	21.3	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 21.6		µg/kg dry	21.6	19.7	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 21.6		µg/kg dry	21.6	14.1	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 21.6		µg/kg dry	21.6	11.5	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 21.6		µg/kg dry	21.6	18.8	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 21.6		µg/kg dry	21.6	9.72	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*80*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*90*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*105*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*120*			*30-150 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 10.8		mg/kg dry	10.8	1.51	1	MADEP EPH 5/2004 R	01-Jun-17	04-Jun-17	SM	1709048	
	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	5.15	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 10.8		mg/kg dry	10.8	5.15	1	"	"	"	"	"	
91-20-3	Naphthalene	< 0.360		mg/kg dry	0.360	0.320	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 0.360		mg/kg dry	0.360	0.309	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 0.360		mg/kg dry	0.360	0.143	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 0.360		mg/kg dry	0.360	0.357	1	"	"	"	"	"	
86-73-7	Fluorene	< 0.360		mg/kg dry	0.360	0.323	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 0.360		mg/kg dry	0.360	0.311	1	"	"	"	"	"	
120-12-7	Anthracene	< 0.360		mg/kg dry	0.360	0.309	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 0.360		mg/kg dry	0.360	0.136	1	"	"	"	"	"	
129-00-0	Pyrene	< 0.360		mg/kg dry	0.360	0.138	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 0.360		mg/kg dry	0.360	0.342	1	"	"	"	"	"	
218-01-9	Chrysene	< 0.360		mg/kg dry	0.360	0.341	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 0.360		mg/kg dry	0.360	0.296	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 0.360		mg/kg dry	0.360	0.189	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 0.360		mg/kg dry	0.360	0.322	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.360		mg/kg dry	0.360	0.240	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.360		mg/kg dry	0.360	0.230	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 0.360		mg/kg dry	0.360	0.236	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*102*			*40-140 %*			"	"	"	"	"	

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Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-06 (3-5)	9684	Soil	26-May-17 12:10	31-May-17
SC35241-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
MADEP EPH													
84-15-1	*Ortho-Terphenyl*	*75*			*40-140 %*			MADEP EPH 5/2004 R	01-Jun-17	04-Jun-17	SM	1709048	
321-60-8	*2-Fluorobiphenyl*	*67*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3051A													
7440-22-4	Silver	< 1.54		mg/kg dry	1.54	0.167	1	SW846 6010C	01-Jun-17	01-Jun-17	EDT	1709087	
7440-38-2	Arsenic	**2.85**		mg/kg dry	1.54	0.195	1	"	"	"	"	"	
7440-39-3	Barium	**27.1**		mg/kg dry	1.03	0.121	1	"	"	02-Jun-17	"	"	
7440-43-9	Cadmium	**1.31**		mg/kg dry	0.514	0.0266	1	"	"	01-Jun-17	"	"	
7440-47-3	Chromium	**14.4**		mg/kg dry	1.03	0.137	1	"	"	"	"	"	
7439-97-6	Mercury	< 0.0310		mg/kg dry	0.0310	0.0086	1	SW846 7471B	"	01-Jun-17	LNB	1709088	
Prepared by method SW846 3051A													
7439-92-1	Lead	**3.36**		mg/kg dry	1.54	0.218	1	SW846 6010C	"	01-Jun-17	EDT	1709087	
7782-49-2	Selenium	< 1.54		mg/kg dry	1.54	0.294	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**92.1**		%			1	SM2540 G (11) Mod.	01-Jun-17	01-Jun-17	CMB	1709082	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-07 (3-5)	9684	Soil	26-May-17 12:50	31-May-17
SC35241-05				

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	1709054	
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5035A Soil (low level)							Initial weight: 5.06 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 6.83		µg/kg dry	6.83	3.46	1	SW846 8260C	01-Jun-17	01-Jun-17	MP	1709058	
67-64-1	Acetone	< 68.3		µg/kg dry	68.3	27.3	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 6.83		µg/kg dry	6.83	6.56	1	"	"	"	"	"	
71-43-2	Benzene	< 6.83		µg/kg dry	6.83	1.81	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 6.83		µg/kg dry	6.83	1.82	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 6.83		µg/kg dry	6.83	3.45	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 6.83		µg/kg dry	6.83	4.55	1	"	"	"	"	"	
75-25-2	Bromoform	< 6.83		µg/kg dry	6.83	6.51	1	"	"	"	"	"	
74-83-9	Bromomethane	< 13.7		µg/kg dry	13.7	6.16	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 13.7		µg/kg dry	13.7	12.2	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 6.83		µg/kg dry	6.83	1.95	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 6.83		µg/kg dry	6.83	1.24	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 6.83		µg/kg dry	6.83	1.53	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 13.7		µg/kg dry	13.7	4.37	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 6.83		µg/kg dry	6.83	5.58	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 6.83		µg/kg dry	6.83	2.14	1	"	"	"	"	"	
75-00-3	Chloroethane	< 13.7		µg/kg dry	13.7	3.79	1	"	"	"	"	"	
67-66-3	Chloroform	< 6.83		µg/kg dry	6.83	3.67	1	"	"	"	"	"	
74-87-3	Chloromethane	< 13.7		µg/kg dry	13.7	2.82	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 6.83		µg/kg dry	6.83	1.70	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 6.83		µg/kg dry	6.83	1.60	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 13.7		µg/kg dry	13.7	9.86	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 6.83		µg/kg dry	6.83	4.63	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 6.83		µg/kg dry	6.83	4.58	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 6.83		µg/kg dry	6.83	3.55	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 6.83		µg/kg dry	6.83	1.77	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 6.83		µg/kg dry	6.83	1.48	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 6.83		µg/kg dry	6.83	2.02	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 13.7		µg/kg dry	13.7	2.59	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 6.83		µg/kg dry	6.83	1.79	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 6.83		µg/kg dry	6.83	2.44	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 6.83		µg/kg dry	6.83	3.57	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 6.83		µg/kg dry	6.83	2.53	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 6.83		µg/kg dry	6.83	3.62	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 6.83		µg/kg dry	6.83	3.58	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 6.83		µg/kg dry	6.83	3.54	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 6.83		µg/kg dry	6.83	3.22	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 6.83		µg/kg dry	6.83	2.20	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 6.83		µg/kg dry	6.83	4.12	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 6.83		µg/kg dry	6.83	3.58	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-07 (3-5)	9684	Soil	26-May-17 12:50	31-May-17
SC35241-05				

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: 5.06 g							
100-41-4	Ethylbenzene	< 6.83		µg/kg dry	6.83	0.98	1	SW846 8260C	01-Jun-17	01-Jun-17	MP	1709058	
87-68-3	Hexachlorobutadiene	< 6.83		µg/kg dry	6.83	3.43	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 13.7		µg/kg dry	13.7	8.38	1	"	"	"	"	"	
98-82-8	Isopropylbenzene	< 6.83		µg/kg dry	6.83	1.34	1	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	< 6.83		µg/kg dry	6.83	1.47	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 6.83		µg/kg dry	6.83	2.51	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 13.7		µg/kg dry	13.7	3.51	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 13.7		µg/kg dry	13.7	2.71	1	"	"	"	"	"	
91-20-3	Naphthalene	< 6.83		µg/kg dry	6.83	4.06	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 6.83		µg/kg dry	6.83	1.11	1	"	"	"	"	"	
100-42-5	Styrene	< 6.83		µg/kg dry	6.83	1.37	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 6.83		µg/kg dry	6.83	5.80	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 6.83		µg/kg dry	6.83	5.77	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 6.83		µg/kg dry	6.83	2.33	1	"	"	"	"	"	
108-88-3	Toluene	< 6.83		µg/kg dry	6.83	2.21	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 6.83		µg/kg dry	6.83	2.40	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 6.83		µg/kg dry	6.83	5.03	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 6.83		µg/kg dry	6.83	2.14	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 6.83		µg/kg dry	6.83	2.27	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 6.83		µg/kg dry	6.83	4.95	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 6.83		µg/kg dry	6.83	1.86	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	**7.51**		µg/kg dry	6.83	3.68	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 6.83		µg/kg dry	6.83	5.12	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 6.83		µg/kg dry	6.83	1.66	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 6.83		µg/kg dry	6.83	1.17	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 6.83		µg/kg dry	6.83	2.31	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 13.7		µg/kg dry	13.7	1.23	1	"	"	"	"	"	
95-47-6	o-Xylene	< 6.83		µg/kg dry	6.83	1.91	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 13.7		µg/kg dry	13.7	10.8	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 6.83		µg/kg dry	6.83	6.18	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 6.83		µg/kg dry	6.83	2.28	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 6.83		µg/kg dry	6.83	3.68	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 6.83		µg/kg dry	6.83	1.27	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 68.3		µg/kg dry	68.3	44.7	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 137		µg/kg dry	137	119	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-butene	< 34.1		µg/kg dry	34.1	15.6	1	"	"	"	"	"	
64-17-5	Ethanol	< 1370		µg/kg dry	1370	255	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*	*117*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*109*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-07 (3-5)	9684	Soil	26-May-17 12:50	31-May-17
SC35241-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3546													
12674-11-2	Aroclor-1016	< 23.6		µg/kg dry	23.6	10.6	1	SW846 8082A	01-Jun-17	01-Jun-17	IMR	1709052	
11104-28-2	Aroclor-1221	< 23.6		µg/kg dry	23.6	12.6	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 23.6		µg/kg dry	23.6	11.8	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 23.6		µg/kg dry	23.6	23.3	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 23.6		µg/kg dry	23.6	21.6	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 23.6		µg/kg dry	23.6	15.5	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 23.6		µg/kg dry	23.6	12.7	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 23.6		µg/kg dry	23.6	20.6	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 23.6		µg/kg dry	23.6	10.7	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*85*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*90*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*130*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*110*			*30-150 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Prepared by method SW846 3546													
	C9-C18 Aliphatic Hydrocarbons	< 11.7		mg/kg dry	11.7	1.63	1	MADEP EPH 5/2004 R	01-Jun-17	04-Jun-17	SM	1709048	
	C19-C36 Aliphatic Hydrocarbons	< 11.7		mg/kg dry	11.7	1.65	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 11.7		mg/kg dry	11.7	5.57	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 11.7		mg/kg dry	11.7	5.57	1	"	"	"	"	"	
91-20-3	Naphthalene	< 0.389		mg/kg dry	0.389	0.346	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 0.389		mg/kg dry	0.389	0.334	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 0.389		mg/kg dry	0.389	0.154	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 0.389		mg/kg dry	0.389	0.386	1	"	"	"	"	"	
86-73-7	Fluorene	< 0.389		mg/kg dry	0.389	0.349	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 0.389		mg/kg dry	0.389	0.336	1	"	"	"	"	"	
120-12-7	Anthracene	< 0.389		mg/kg dry	0.389	0.334	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 0.389		mg/kg dry	0.389	0.147	1	"	"	"	"	"	
129-00-0	Pyrene	< 0.389		mg/kg dry	0.389	0.150	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 0.389		mg/kg dry	0.389	0.369	1	"	"	"	"	"	
218-01-9	Chrysene	< 0.389		mg/kg dry	0.389	0.368	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 0.389		mg/kg dry	0.389	0.320	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 0.389		mg/kg dry	0.389	0.204	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 0.389		mg/kg dry	0.389	0.348	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.389		mg/kg dry	0.389	0.259	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.389		mg/kg dry	0.389	0.249	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 0.389		mg/kg dry	0.389	0.255	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*116*			*40-140 %*			"	"	"	"	"	

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Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GP-07 (3-5)	9684	Soil	26-May-17 12:50	31-May-17
SC35241-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
MADEP EPH													
84-15-1	*Ortho-Terphenyl*	*72*			*40-140 %*			MADEP EPH 5/2004 R	01-Jun-17	04-Jun-17	SM	1709048	
321-60-8	*2-Fluorobiphenyl*	*44*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3051A													
7440-22-4	Silver	< 1.69		mg/kg dry	1.69	0.183	1	SW846 6010C	01-Jun-17	01-Jun-17	EDT	1709087	
7440-38-2	Arsenic	**9.99**		mg/kg dry	1.69	0.214	1	"	"	"	"	"	
7440-39-3	Barium	**33.1**		mg/kg dry	1.13	0.133	1	"	"	02-Jun-17	"	"	
7440-43-9	Cadmium	**2.08**		mg/kg dry	0.564	0.0292	1	"	"	01-Jun-17	"	"	
7440-47-3	Chromium	**13.2**		mg/kg dry	1.13	0.150	1	"	"	"	"	"	
7439-97-6	Mercury	**0.0726**		mg/kg dry	0.0317	0.0088	1	SW846 7471B	"	01-Jun-17	LNB	1709088	
Prepared by method SW846 3051A													
7439-92-1	Lead	**40.3**		mg/kg dry	1.69	0.239	1	SW846 6010C	"	01-Jun-17	EDT	1709087	
7782-49-2	Selenium	< 1.69		mg/kg dry	1.69	0.323	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**84.1**		%			1	SM2540 G (11) Mod.	01-Jun-17	01-Jun-17	CMB	1709082	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP VPH 5/2004 Rev. 1.1										
Batch 1709064 - VPH - EPA 5035A Soil										
Blank (1709064-BLK1)					Prepared & Analyzed: 01-Jun-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						
Benzene	< 0.0500	D	mg/kg wet	0.0500						
Ethylbenzene	< 0.0500	D	mg/kg wet	0.0500						
Methyl tert-butyl ether	< 0.0500	D	mg/kg wet	0.0500						
Naphthalene	< 0.0500	D	mg/kg wet	0.0500						
Toluene	< 0.0500	D	mg/kg wet	0.0500						
m,p-Xylene	< 0.100	D	mg/kg wet	0.100						
o-Xylene	< 0.0500	D	mg/kg wet	0.0500						
2-Methylpentane	< 0.0500	D	mg/kg wet	0.0500						
n-Nonane	< 0.100	D	mg/kg wet	0.100						
n-Pentane	< 0.100	D	mg/kg wet	0.100						
1,2,4-Trimethylbenzene	< 0.0500	D	mg/kg wet	0.0500						
2,2,4-Trimethylpentane	< 0.0500	D	mg/kg wet	0.0500						
n-Butylcyclohexane	< 0.0500	D	mg/kg wet	0.0500						
n-Decane	< 0.0500	D	mg/kg wet	0.0500						
Surrogate: 2,5-Dibromotoluene (FID)	*49.6*		µg/kg		*50.0*		*99*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*49.4*		µg/kg		*50.0*		*99*	*70-130*		
LCS (1709064-BS1)					Prepared & Analyzed: 01-Jun-17					
C5-C8 Aliphatic Hydrocarbons	**57.5**	D	µg/kg		60.0		96	70-130		
C9-C12 Aliphatic Hydrocarbons	**57.4**	D	µg/kg		60.0		96	70-130		
C9-C10 Aromatic Hydrocarbons	**20.5**	D	µg/kg		20.0		102	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**197**	D	µg/kg		200		98	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**77.8**	D	µg/kg		80.0		97	70-130		
Benzene	**19.4**	D	µg/kg		20.0		97	70-130		
Ethylbenzene	**19.9**	D	µg/kg		20.0		99	70-130		
Methyl tert-butyl ether	**19.3**	D	µg/kg		20.0		97	70-130		
Naphthalene	**19.1**	D	µg/kg		20.0		96	70-130		
Toluene	**19.6**	D	µg/kg		20.0		98	70-130		
m,p-Xylene	**40.9**	D	µg/kg		40.0		102	70-130		
o-Xylene	**20.2**	D	µg/kg		20.0		101	70-130		
2-Methylpentane	**16.7**	D	µg/kg		20.0		83	70-130		
n-Nonane	**16.1**	D	µg/kg		20.0		81	70-130		
n-Pentane	**17.6**	D	µg/kg		20.0		88	70-130		
1,2,4-Trimethylbenzene	**20.5**	D	µg/kg		20.0		102	70-130		
2,2,4-Trimethylpentane	**17.7**	D	µg/kg		20.0		88	70-130		
n-Butylcyclohexane	**17.1**	D	µg/kg		20.0		86	70-130		
n-Decane	**16.4**	D	µg/kg		20.0		82	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*48.8*		µg/kg		*50.0*		*98*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*50.8*		µg/kg		*50.0*		*102*	*70-130*		
LCS Dup (1709064-BSD1)					Prepared & Analyzed: 01-Jun-17					
C5-C8 Aliphatic Hydrocarbons	**58.1**	D	µg/kg		60.0		97	70-130	0.9	25
C9-C12 Aliphatic Hydrocarbons	**72.1**	D	µg/kg		60.0		120	70-130	23	25
C9-C10 Aromatic Hydrocarbons	**20.9**	D	µg/kg		20.0		104	70-130	2	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**201**	D	µg/kg		200		100	70-130	2	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP VPH 5/2004 Rev. 1.1										
Batch 1709064 - VPH - EPA 5035A Soil										
LCS Dup (1709064-BSD1)					Prepared & Analyzed: 01-Jun-17					
Unadjusted C9-C12 Aliphatic Hydrocarbons	**93.0**	D	µg/kg		80.0		116	70-130	18	25
Benzene	**19.7**	D	µg/kg		20.0		99	70-130	2	25
Ethylbenzene	**20.6**	D	µg/kg		20.0		103	70-130	4	25
Methyl tert-butyl ether	**19.7**	D	µg/kg		20.0		98	70-130	2	25
Naphthalene	**20.0**	D	µg/kg		20.0		100	70-130	5	25
Toluene	**20.2**	D	µg/kg		20.0		101	70-130	3	25
m,p-Xylene	**41.6**	D	µg/kg		40.0		104	70-130	2	25
o-Xylene	**20.8**	D	µg/kg		20.0		104	70-130	3	25
2-Methylpentane	**18.5**	D	µg/kg		20.0		93	70-130	10	25
n-Nonane	**20.1**	D	µg/kg		20.0		101	70-130	22	25
n-Pentane	**19.7**	D	µg/kg		20.0		98	70-130	11	25
1,2,4-Trimethylbenzene	**20.9**	D	µg/kg		20.0		104	70-130	2	25
2,2,4-Trimethylpentane	**19.6**	D	µg/kg		20.0		98	70-130	11	25
n-Butylcyclohexane	**21.3**	D	µg/kg		20.0		107	70-130	22	25
n-Decane	**24.2**	QR9, D	µg/kg		20.0		121	70-130	38	25
Surrogate: 2,5-Dibromotoluene (FID)	*53.7*		µg/kg		*50.0*		*107*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*54.9*		µg/kg		*50.0*		*110*	*70-130*		
SW846 8260C										
Batch 1709058 - SW846 5035A Soil (low level)										
Blank (1709058-BLK1)					Prepared & Analyzed: 01-Jun-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00						
Acetone	< 50.0		µg/kg wet	50.0						
Acrylonitrile	< 5.00		µg/kg wet	5.00						
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						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1709058 - SW846 5035A Soil (low level)										
Blank (1709058-BLK1)					Prepared & Analyzed: 01-Jun-17					
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						
1,3,5-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						
Tert-Butanol / butyl alcohol	< 50.0		µg/kg wet	50.0						
1,4-Dioxane	< 100		µg/kg wet	100						
trans-1,4-Dichloro-2-butene	< 25.0		µg/kg wet	25.0						
Ethanol	< 1000		µg/kg wet	1000						
Surrogate: 4-Bromofluorobenzene	*46.8*		µg/kg		*50.0*		*94*	*70-130*		
Surrogate: Toluene-d8	*50.2*		µg/kg		*50.0*		*100*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1709058 - SW846 5035A Soil (low level)										
Blank (1709058-BLK1)						Prepared & Analyzed: 01-Jun-17				
Surrogate: 1,2-Dichloroethane-d4	*58.8*		µg/kg		*50.0*		*118*	*70-130*		
Surrogate: Dibromofluoromethane	*54.1*		µg/kg		*50.0*		*108*	*70-130*		
LCS (1709058-BS1)						Prepared & Analyzed: 01-Jun-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**27.7**	QM9	µg/kg		20.0		138	70-130		
Acetone	**23.4**		µg/kg		20.0		117	70-130		
Acrylonitrile	**20.8**		µg/kg		20.0		104	70-130		
Benzene	**22.7**		µg/kg		20.0		114	70-130		
Bromobenzene	**21.2**		µg/kg		20.0		106	70-130		
Bromochloromethane	**22.6**		µg/kg		20.0		113	70-130		
Bromodichloromethane	**23.9**		µg/kg		20.0		120	70-130		
Bromoform	**22.3**		µg/kg		20.0		111	70-130		
Bromomethane	**27.8**		µg/kg		20.0		139	70-130		
2-Butanone (MEK)	**20.1**		µg/kg		20.0		100	70-130		
n-Butylbenzene	**23.8**		µg/kg		20.0		119	70-130		
sec-Butylbenzene	**21.8**		µg/kg		20.0		109	70-130		
tert-Butylbenzene	**21.7**		µg/kg		20.0		108	70-130		
Carbon disulfide	**27.3**	QM9	µg/kg		20.0		136	70-130		
Carbon tetrachloride	**25.4**		µg/kg		20.0		127	70-130		
Chlorobenzene	**21.4**		µg/kg		20.0		107	70-130		
Chloroethane	**23.0**		µg/kg		20.0		115	70-130		
Chloroform	**22.0**		µg/kg		20.0		110	70-130		
Chloromethane	**22.7**		µg/kg		20.0		114	70-130		
2-Chlorotoluene	**22.2**		µg/kg		20.0		111	70-130		
4-Chlorotoluene	**22.0**		µg/kg		20.0		110	70-130		
1,2-Dibromo-3-chloropropane	**23.7**		µg/kg		20.0		118	70-130		
Dibromochloromethane	**22.8**		µg/kg		20.0		114	70-130		
1,2-Dibromoethane (EDB)	**20.7**		µg/kg		20.0		103	70-130		
Dibromomethane	**22.1**		µg/kg		20.0		111	70-130		
1,2-Dichlorobenzene	**22.4**		µg/kg		20.0		112	70-130		
1,3-Dichlorobenzene	**22.0**		µg/kg		20.0		110	70-130		
1,4-Dichlorobenzene	**22.6**		µg/kg		20.0		113	70-130		
Dichlorodifluoromethane (Freon12)	**22.6**		µg/kg		20.0		113	70-130		
1,1-Dichloroethane	**23.4**		µg/kg		20.0		117	70-130		
1,2-Dichloroethane	**22.0**		µg/kg		20.0		110	70-130		
1,1-Dichloroethene	**23.8**		µg/kg		20.0		119	70-130		
cis-1,2-Dichloroethene	**21.8**		µg/kg		20.0		109	70-130		
trans-1,2-Dichloroethene	**22.2**		µg/kg		20.0		111	70-130		
1,2-Dichloropropane	**23.1**		µg/kg		20.0		116	70-130		
1,3-Dichloropropane	**21.4**		µg/kg		20.0		107	70-130		
2,2-Dichloropropane	**23.4**		µg/kg		20.0		117	70-130		
1,1-Dichloropropene	**23.0**		µg/kg		20.0		115	70-130		
cis-1,3-Dichloropropene	**21.9**		µg/kg		20.0		110	70-130		
trans-1,3-Dichloropropene	**21.2**		µg/kg		20.0		106	70-130		
Ethylbenzene	**21.6**		µg/kg		20.0		108	70-130		
Hexachlorobutadiene	**23.8**		µg/kg		20.0		119	70-130		
2-Hexanone (MBK)	**17.3**		µg/kg		20.0		86	70-130		
Isopropylbenzene	**21.7**		µg/kg		20.0		109	70-130		
4-Isopropyltoluene	**23.5**		µg/kg		20.0		118	70-130		
Methyl tert-butyl ether	**20.3**		µg/kg		20.0		102	70-130		
4-Methyl-2-pentanone (MIBK)	**19.3**		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 1709058 - SW846 5035A Soil (low level)										
LCS (1709058-BS1)					Prepared & Analyzed: 01-Jun-17					
Methylene chloride	**22.2**		µg/kg		20.0		111	70-130		
Naphthalene	**17.6**		µg/kg		20.0		88	70-130		
n-Propylbenzene	**22.8**		µg/kg		20.0		114	70-130		
Styrene	**20.6**		µg/kg		20.0		103	70-130		
1,1,1,2-Tetrachloroethane	**23.2**		µg/kg		20.0		116	70-130		
1,1,2,2-Tetrachloroethane	**21.0**		µg/kg		20.0		105	70-130		
Tetrachloroethene	**22.5**		µg/kg		20.0		112	70-130		
Toluene	**22.8**		µg/kg		20.0		114	70-130		
1,2,3-Trichlorobenzene	**22.0**		µg/kg		20.0		110	70-130		
1,2,4-Trichlorobenzene	**22.7**		µg/kg		20.0		113	70-130		
1,3,5-Trichlorobenzene	**23.8**		µg/kg		20.0		119	70-130		
1,1,1-Trichloroethane	**23.3**		µg/kg		20.0		116	70-130		
1,1,2-Trichloroethane	**22.7**		µg/kg		20.0		113	70-130		
Trichloroethene	**22.0**		µg/kg		20.0		110	70-130		
Trichlorofluoromethane (Freon 11)	**26.6**	QM9	µg/kg		20.0		133	70-130		
1,2,3-Trichloropropane	**24.1**		µg/kg		20.0		120	70-130		
1,2,4-Trimethylbenzene	**21.4**		µg/kg		20.0		107	70-130		
1,3,5-Trimethylbenzene	**21.6**		µg/kg		20.0		108	70-130		
Vinyl chloride	**23.1**		µg/kg		20.0		116	70-130		
m,p-Xylene	**21.4**		µg/kg		20.0		107	70-130		
o-Xylene	**21.0**		µg/kg		20.0		105	70-130		
Tetrahydrofuran	**19.6**		µg/kg		20.0		98	70-130		
Ethyl ether	**22.0**		µg/kg		20.0		110	70-130		
Tert-amyl methyl ether	**20.5**		µg/kg		20.0		102	70-130		
Ethyl tert-butyl ether	**21.1**		µg/kg		20.0		106	70-130		
Di-isopropyl ether	**22.6**		µg/kg		20.0		113	70-130		
Tert-Butanol / butyl alcohol	**180**		µg/kg		200		90	70-130		
1,4-Dioxane	**141**		µg/kg		200		70	70-130		
trans-1,4-Dichloro-2-butene	**20.8**		µg/kg		20.0		104	70-130		
Ethanol	**358**		µg/kg		400		90	70-130		
Surrogate: 4-Bromofluorobenzene	*47.2*		µg/kg		*50.0*		*94*	*70-130*		
Surrogate: Toluene-d8	*50.5*		µg/kg		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.2*		µg/kg		*50.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*51.4*		µg/kg		*50.0*		*103*	*70-130*		
LCS Dup (1709058-BSD1)					Prepared & Analyzed: 01-Jun-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**26.0**		µg/kg		20.0		130	70-130	7	30
Acetone	**22.4**		µg/kg		20.0		112	70-130	5	30
Acrylonitrile	**20.5**		µg/kg		20.0		103	70-130	1	30
Benzene	**22.6**		µg/kg		20.0		113	70-130	0.5	30
Bromobenzene	**21.7**		µg/kg		20.0		108	70-130	2	30
Bromochloromethane	**22.1**		µg/kg		20.0		111	70-130	2	30
Bromodichloromethane	**23.4**		µg/kg		20.0		117	70-130	2	30
Bromoform	**22.5**		µg/kg		20.0		112	70-130	0.9	30
Bromomethane	**30.4**		µg/kg		20.0		152	70-130	9	30
2-Butanone (MEK)	**19.3**		µg/kg		20.0		97	70-130	4	30
n-Butylbenzene	**23.2**		µg/kg		20.0		116	70-130	3	30
sec-Butylbenzene	**22.1**		µg/kg		20.0		110	70-130	1	30
tert-Butylbenzene	**22.0**		µg/kg		20.0		110	70-130	2	30
Carbon disulfide	**23.6**		µg/kg		20.0		118	70-130	14	30
Carbon tetrachloride	**24.6**		µg/kg		20.0		123	70-130	3	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1709058 - SW846 5035A Soil (low level)										
LCS Dup (1709058-BSD1)					Prepared & Analyzed: 01-Jun-17					
Chlorobenzene	**21.7**		µg/kg		20.0		108	70-130	1	30
Chloroethane	**23.0**		µg/kg		20.0		115	70-130	0.2	30
Chloroform	**21.4**		µg/kg		20.0		107	70-130	3	30
Chloromethane	**22.0**		µg/kg		20.0		110	70-130	3	30
2-Chlorotoluene	**22.4**		µg/kg		20.0		112	70-130	0.9	30
4-Chlorotoluene	**22.3**		µg/kg		20.0		112	70-130	2	30
1,2-Dibromo-3-chloropropane	**23.0**		µg/kg		20.0		115	70-130	3	30
Dibromochloromethane	**22.3**		µg/kg		20.0		112	70-130	2	30
1,2-Dibromoethane (EDB)	**20.3**		µg/kg		20.0		102	70-130	2	30
Dibromomethane	**21.9**		µg/kg		20.0		109	70-130	1	30
1,2-Dichlorobenzene	**22.2**		µg/kg		20.0		111	70-130	1	30
1,3-Dichlorobenzene	**22.4**		µg/kg		20.0		112	70-130	2	30
1,4-Dichlorobenzene	**22.0**		µg/kg		20.0		110	70-130	3	30
Dichlorodifluoromethane (Freon12)	**22.1**		µg/kg		20.0		110	70-130	2	30
1,1-Dichloroethane	**23.1**		µg/kg		20.0		115	70-130	1	30
1,2-Dichloroethane	**21.6**		µg/kg		20.0		108	70-130	2	30
1,1-Dichloroethene	**23.7**		µg/kg		20.0		118	70-130	0.8	30
cis-1,2-Dichloroethene	**21.7**		µg/kg		20.0		109	70-130	0.4	30
trans-1,2-Dichloroethene	**21.9**		µg/kg		20.0		109	70-130	2	30
1,2-Dichloropropane	**22.8**		µg/kg		20.0		114	70-130	1	30
1,3-Dichloropropane	**21.5**		µg/kg		20.0		108	70-130	0.7	30
2,2-Dichloropropane	**23.0**		µg/kg		20.0		115	70-130	2	30
1,1-Dichloropropene	**22.6**		µg/kg		20.0		113	70-130	2	30
cis-1,3-Dichloropropene	**21.6**		µg/kg		20.0		108	70-130	1	30
trans-1,3-Dichloropropene	**21.6**		µg/kg		20.0		108	70-130	2	30
Ethylbenzene	**21.7**		µg/kg		20.0		109	70-130	0.9	30
Hexachlorobutadiene	**22.7**		µg/kg		20.0		114	70-130	5	30
2-Hexanone (MBK)	**15.9**		µg/kg		20.0		79	70-130	8	30
Isopropylbenzene	**22.0**		µg/kg		20.0		110	70-130	1	30
4-Isopropyltoluene	**22.7**		µg/kg		20.0		113	70-130	4	30
Methyl tert-butyl ether	**20.4**		µg/kg		20.0		102	70-130	0.3	30
4-Methyl-2-pentanone (MIBK)	**18.4**		µg/kg		20.0		92	70-130	4	30
Methylene chloride	**22.0**		µg/kg		20.0		110	70-130	0.9	30
Naphthalene	**17.5**		µg/kg		20.0		88	70-130	0.7	30
n-Propylbenzene	**23.1**		µg/kg		20.0		116	70-130	1	30
Styrene	**21.0**		µg/kg		20.0		105	70-130	2	30
1,1,1,2-Tetrachloroethane	**23.7**		µg/kg		20.0		118	70-130	2	30
1,1,2,2-Tetrachloroethane	**21.3**		µg/kg		20.0		106	70-130	1	30
Tetrachloroethene	**22.5**		µg/kg		20.0		112	70-130	0	30
Toluene	**22.6**		µg/kg		20.0		113	70-130	1	30
1,2,3-Trichlorobenzene	**21.5**		µg/kg		20.0		107	70-130	3	30
1,2,4-Trichlorobenzene	**22.2**		µg/kg		20.0		111	70-130	2	30
1,3,5-Trichlorobenzene	**23.1**		µg/kg		20.0		115	70-130	3	30
1,1,1-Trichloroethane	**23.1**		µg/kg		20.0		116	70-130	0.8	30
1,1,2-Trichloroethane	**22.1**		µg/kg		20.0		111	70-130	3	30
Trichloroethene	**21.1**		µg/kg		20.0		105	70-130	4	30
Trichlorofluoromethane (Freon 11)	**25.8**		µg/kg		20.0		129	70-130	3	30
1,2,3-Trichloropropane	**18.2**		µg/kg		20.0		91	70-130	28	30
1,2,4-Trimethylbenzene	**22.1**		µg/kg		20.0		110	70-130	3	30
1,3,5-Trimethylbenzene	**22.0**		µg/kg		20.0		110	70-130	2	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1709058 - SW846 5035A Soil (low level)										
LCS Dup (1709058-BSD1)					Prepared & Analyzed: 01-Jun-17					
Vinyl chloride	**22.7**		µg/kg		20.0		114	70-130	2	30
m,p-Xylene	**21.7**		µg/kg		20.0		108	70-130	1	30
o-Xylene	**21.5**		µg/kg		20.0		108	70-130	2	30
Tetrahydrofuran	**21.6**		µg/kg		20.0		108	70-130	10	30
Ethyl ether	**22.2**		µg/kg		20.0		111	70-130	0.9	30
Tert-amyl methyl ether	**20.3**		µg/kg		20.0		102	70-130	0.6	30
Ethyl tert-butyl ether	**21.3**		µg/kg		20.0		106	70-130	0.6	30
Di-isopropyl ether	**22.6**		µg/kg		20.0		113	70-130	0.09	30
Tert-Butanol / butyl alcohol	**173**		µg/kg		200		86	70-130	4	30
1,4-Dioxane	**117**		µg/kg		200		58	70-130	18	30
trans-1,4-Dichloro-2-butene	**21.2**		µg/kg		20.0		106	70-130	2	30
Ethanol	**339**		µg/kg		400		85	70-130	5	30
Surrogate: 4-Bromofluorobenzene	*48.9*		µg/kg		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*50.9*		µg/kg		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.0*		µg/kg		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*52.0*		µg/kg		*50.0*		*104*	*70-130*		
Batch 1709128 - SW846 5035A Soil (low level)										
Blank (1709128-BLK1)					Prepared & Analyzed: 02-Jun-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00		µg/kg wet	5.00						
Acetone	< 50.0		µg/kg wet	50.0						
Acrylonitrile	< 5.00		µg/kg wet	5.00						
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						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1709128 - SW846 5035A Soil (low level)										
Blank (1709128-BLK1)					Prepared & Analyzed: 02-Jun-17					
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						
1,3,5-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						
Tert-Butanol / butyl alcohol	< 50.0		µg/kg wet	50.0						
1,4-Dioxane	< 100		µg/kg wet	100						
trans-1,4-Dichloro-2-butene	< 25.0		µg/kg wet	25.0						
Ethanol	< 1000		µg/kg wet	1000						
Surrogate: 4-Bromofluorobenzene	*46.6*		µg/kg		*50.0*		*93*	*70-130*		
Surrogate: Toluene-d8	*50.1*		µg/kg		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*59.4*		µg/kg		*50.0*		*119*	*70-130*		
Surrogate: Dibromofluoromethane	*54.0*		µg/kg		*50.0*		*108*	*70-130*		
LCS (1709128-BS1)					Prepared & Analyzed: 02-Jun-17					

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1709128 - SW846 5035A Soil (low level)										
LCS (1709128-BS1)						Prepared & Analyzed: 02-Jun-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**27.1**	QM9	µg/kg		20.0		136	70-130		
Acetone	**22.0**		µg/kg		20.0		110	70-130		
Acrylonitrile	**20.4**		µg/kg		20.0		102	70-130		
Benzene	**22.6**		µg/kg		20.0		113	70-130		
Bromobenzene	**20.6**		µg/kg		20.0		103	70-130		
Bromochloromethane	**22.0**		µg/kg		20.0		110	70-130		
Bromodichloromethane	**23.2**		µg/kg		20.0		116	70-130		
Bromoform	**21.6**		µg/kg		20.0		108	70-130		
Bromomethane	**32.2**	QM9	µg/kg		20.0		161	70-130		
2-Butanone (MEK)	**19.7**		µg/kg		20.0		99	70-130		
n-Butylbenzene	**22.5**		µg/kg		20.0		112	70-130		
sec-Butylbenzene	**21.7**		µg/kg		20.0		108	70-130		
tert-Butylbenzene	**21.3**		µg/kg		20.0		107	70-130		
Carbon disulfide	**25.4**		µg/kg		20.0		127	70-130		
Carbon tetrachloride	**25.8**		µg/kg		20.0		129	70-130		
Chlorobenzene	**21.1**		µg/kg		20.0		105	70-130		
Chloroethane	**23.6**		µg/kg		20.0		118	70-130		
Chloroform	**21.8**		µg/kg		20.0		109	70-130		
Chloromethane	**23.6**		µg/kg		20.0		118	70-130		
2-Chlorotoluene	**21.6**		µg/kg		20.0		108	70-130		
4-Chlorotoluene	**21.4**		µg/kg		20.0		107	70-130		
1,2-Dibromo-3-chloropropane	**22.7**		µg/kg		20.0		113	70-130		
Dibromochloromethane	**21.9**		µg/kg		20.0		110	70-130		
1,2-Dibromoethane (EDB)	**20.0**		µg/kg		20.0		100	70-130		
Dibromomethane	**21.6**		µg/kg		20.0		108	70-130		
1,2-Dichlorobenzene	**21.1**		µg/kg		20.0		105	70-130		
1,3-Dichlorobenzene	**21.5**		µg/kg		20.0		108	70-130		
1,4-Dichlorobenzene	**21.5**		µg/kg		20.0		107	70-130		
Dichlorodifluoromethane (Freon12)	**23.7**		µg/kg		20.0		118	70-130		
1,1-Dichloroethane	**23.7**		µg/kg		20.0		119	70-130		
1,2-Dichloroethane	**21.5**		µg/kg		20.0		108	70-130		
1,1-Dichloroethene	**25.8**		µg/kg		20.0		129	70-130		
cis-1,2-Dichloroethene	**21.6**		µg/kg		20.0		108	70-130		
trans-1,2-Dichloroethene	**22.3**		µg/kg		20.0		112	70-130		
1,2-Dichloropropane	**23.0**		µg/kg		20.0		115	70-130		
1,3-Dichloropropane	**21.1**		µg/kg		20.0		106	70-130		
2,2-Dichloropropane	**23.9**		µg/kg		20.0		120	70-130		
1,1-Dichloropropene	**22.8**		µg/kg		20.0		114	70-130		
cis-1,3-Dichloropropene	**20.9**		µg/kg		20.0		105	70-130		
trans-1,3-Dichloropropene	**20.9**		µg/kg		20.0		104	70-130		
Ethylbenzene	**21.5**		µg/kg		20.0		108	70-130		
Hexachlorobutadiene	**23.4**		µg/kg		20.0		117	70-130		
2-Hexanone (MBK)	**16.4**		µg/kg		20.0		82	70-130		
Isopropylbenzene	**21.2**		µg/kg		20.0		106	70-130		
4-Isopropyltoluene	**22.2**		µg/kg		20.0		111	70-130		
Methyl tert-butyl ether	**19.7**		µg/kg		20.0		99	70-130		
4-Methyl-2-pentanone (MIBK)	**18.2**		µg/kg		20.0		91	70-130		
Methylene chloride	**22.2**		µg/kg		20.0		111	70-130		
Naphthalene	**16.0**		µg/kg		20.0		80	70-130		
n-Propylbenzene	**22.7**		µg/kg		20.0		114	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1709128 - SW846 5035A Soil (low level)										
LCS (1709128-BS1)						Prepared & Analyzed: 02-Jun-17				
Styrene	**20.0**		µg/kg		20.0		100	70-130		
1,1,1,2-Tetrachloroethane	**23.1**		µg/kg		20.0		115	70-130		
1,1,2,2-Tetrachloroethane	**20.5**		µg/kg		20.0		103	70-130		
Tetrachloroethene	**22.5**		µg/kg		20.0		112	70-130		
Toluene	**22.3**		µg/kg		20.0		112	70-130		
1,2,3-Trichlorobenzene	**20.5**		µg/kg		20.0		103	70-130		
1,2,4-Trichlorobenzene	**21.0**		µg/kg		20.0		105	70-130		
1,3,5-Trichlorobenzene	**22.5**		µg/kg		20.0		113	70-130		
1,1,1-Trichloroethane	**23.7**		µg/kg		20.0		119	70-130		
1,1,2-Trichloroethane	**21.7**		µg/kg		20.0		108	70-130		
Trichloroethene	**21.8**		µg/kg		20.0		109	70-130		
Trichlorofluoromethane (Freon 11)	**27.7**	QM9	µg/kg		20.0		139	70-130		
1,2,3-Trichloropropane	**23.2**		µg/kg		20.0		116	70-130		
1,2,4-Trimethylbenzene	**21.1**		µg/kg		20.0		106	70-130		
1,3,5-Trimethylbenzene	**21.3**		µg/kg		20.0		106	70-130		
Vinyl chloride	**24.0**		µg/kg		20.0		120	70-130		
m,p-Xylene	**21.0**		µg/kg		20.0		105	70-130		
o-Xylene	**20.6**		µg/kg		20.0		103	70-130		
Tetrahydrofuran	**19.2**		µg/kg		20.0		96	70-130		
Ethyl ether	**21.6**		µg/kg		20.0		108	70-130		
Tert-amyl methyl ether	**19.9**		µg/kg		20.0		99	70-130		
Ethyl tert-butyl ether	**20.3**		µg/kg		20.0		102	70-130		
Di-isopropyl ether	**22.4**		µg/kg		20.0		112	70-130		
Tert-Butanol / butyl alcohol	**183**		µg/kg		200		91	70-130		
1,4-Dioxane	**145**		µg/kg		200		73	70-130		
trans-1,4-Dichloro-2-butene	**20.6**		µg/kg		20.0		103	70-130		
Ethanol	**395**		µg/kg		400		99	70-130		
Surrogate: 4-Bromofluorobenzene	*48.5*		µg/kg		*50.0*		*97*	*70-130*		
Surrogate: Toluene-d8	*50.7*		µg/kg		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.0*		µg/kg		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*52.1*		µg/kg		*50.0*		*104*	*70-130*		
LCS Dup (1709128-BSD1)						Prepared & Analyzed: 02-Jun-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**25.8**		µg/kg		20.0		129	70-130	5	30
Acetone	**23.5**		µg/kg		20.0		117	70-130	7	30
Acrylonitrile	**20.5**		µg/kg		20.0		103	70-130	0.4	30
Benzene	**21.5**		µg/kg		20.0		108	70-130	5	30
Bromobenzene	**19.6**		µg/kg		20.0		98	70-130	5	30
Bromochloromethane	**21.1**		µg/kg		20.0		106	70-130	4	30
Bromodichloromethane	**22.5**		µg/kg		20.0		112	70-130	3	30
Bromoform	**20.8**		µg/kg		20.0		104	70-130	4	30
Bromomethane	**28.1**		µg/kg		20.0		141	70-130	14	30
2-Butanone (MEK)	**19.8**		µg/kg		20.0		99	70-130	0.5	30
n-Butylbenzene	**21.5**		µg/kg		20.0		108	70-130	4	30
sec-Butylbenzene	**20.2**		µg/kg		20.0		101	70-130	7	30
tert-Butylbenzene	**19.9**		µg/kg		20.0		100	70-130	7	30
Carbon disulfide	**23.8**		µg/kg		20.0		119	70-130	6	30
Carbon tetrachloride	**24.2**		µg/kg		20.0		121	70-130	6	30
Chlorobenzene	**19.9**		µg/kg		20.0		100	70-130	6	30
Chloroethane	**22.7**		µg/kg		20.0		113	70-130	4	30
Chloroform	**21.1**		µg/kg		20.0		105	70-130	3	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1709128 - SW846 5035A Soil (low level)										
LCS Dup (1709128-BSD1)					Prepared & Analyzed: 02-Jun-17					
Chloromethane	**22.2**		µg/kg		20.0		111	70-130	7	30
2-Chlorotoluene	**20.2**		µg/kg		20.0		101	70-130	7	30
4-Chlorotoluene	**20.2**		µg/kg		20.0		101	70-130	6	30
1,2-Dibromo-3-chloropropane	**21.5**		µg/kg		20.0		108	70-130	5	30
Dibromochloromethane	**21.4**		µg/kg		20.0		107	70-130	3	30
1,2-Dibromoethane (EDB)	**19.6**		µg/kg		20.0		98	70-130	2	30
Dibromomethane	**20.7**		µg/kg		20.0		103	70-130	4	30
1,2-Dichlorobenzene	**20.4**		µg/kg		20.0		102	70-130	3	30
1,3-Dichlorobenzene	**20.4**		µg/kg		20.0		102	70-130	6	30
1,4-Dichlorobenzene	**20.6**		µg/kg		20.0		103	70-130	4	30
Dichlorodifluoromethane (Freon12)	**22.7**		µg/kg		20.0		114	70-130	4	30
1,1-Dichloroethane	**22.5**		µg/kg		20.0		112	70-130	5	30
1,2-Dichloroethane	**21.0**		µg/kg		20.0		105	70-130	3	30
1,1-Dichloroethene	**23.9**		µg/kg		20.0		120	70-130	7	30
cis-1,2-Dichloroethene	**20.6**		µg/kg		20.0		103	70-130	5	30
trans-1,2-Dichloroethene	**21.2**		µg/kg		20.0		106	70-130	5	30
1,2-Dichloropropane	**21.7**		µg/kg		20.0		109	70-130	6	30
1,3-Dichloropropane	**20.7**		µg/kg		20.0		104	70-130	2	30
2,2-Dichloropropane	**22.4**		µg/kg		20.0		112	70-130	6	30
1,1-Dichloropropene	**21.8**		µg/kg		20.0		109	70-130	5	30
cis-1,3-Dichloropropene	**20.5**		µg/kg		20.0		103	70-130	2	30
trans-1,3-Dichloropropene	**20.2**		µg/kg		20.0		101	70-130	3	30
Ethylbenzene	**20.1**		µg/kg		20.0		100	70-130	7	30
Hexachlorobutadiene	**22.0**		µg/kg		20.0		110	70-130	6	30
2-Hexanone (MBK)	**17.0**		µg/kg		20.0		85	70-130	3	30
Isopropylbenzene	**19.9**		µg/kg		20.0		100	70-130	6	30
4-Isopropyltoluene	**21.0**		µg/kg		20.0		105	70-130	5	30
Methyl tert-butyl ether	**19.9**		µg/kg		20.0		99	70-130	0.8	30
4-Methyl-2-pentanone (MIBK)	**19.1**		µg/kg		20.0		95	70-130	4	30
Methylene chloride	**21.3**		µg/kg		20.0		107	70-130	4	30
Naphthalene	**16.0**		µg/kg		20.0		80	70-130	0.1	30
n-Propylbenzene	**21.2**		µg/kg		20.0		106	70-130	7	30
Styrene	**18.9**		µg/kg		20.0		95	70-130	6	30
1,1,1,2-Tetrachloroethane	**21.8**		µg/kg		20.0		109	70-130	6	30
1,1,2,2-Tetrachloroethane	**20.1**		µg/kg		20.0		100	70-130	2	30
Tetrachloroethene	**21.2**		µg/kg		20.0		106	70-130	6	30
Toluene	**21.2**		µg/kg		20.0		106	70-130	5	30
1,2,3-Trichlorobenzene	**20.0**		µg/kg		20.0		100	70-130	2	30
1,2,4-Trichlorobenzene	**20.6**		µg/kg		20.0		103	70-130	2	30
1,3,5-Trichlorobenzene	**21.5**		µg/kg		20.0		107	70-130	5	30
1,1,1-Trichloroethane	**22.5**		µg/kg		20.0		112	70-130	5	30
1,1,2-Trichloroethane	**21.1**		µg/kg		20.0		106	70-130	3	30
Trichloroethene	**20.8**		µg/kg		20.0		104	70-130	5	30
Trichlorofluoromethane (Freon 11)	**25.6**		µg/kg		20.0		128	70-130	8	30
1,2,3-Trichloropropane	**17.5**		µg/kg		20.0		88	70-130	28	30
1,2,4-Trimethylbenzene	**20.0**		µg/kg		20.0		100	70-130	5	30
1,3,5-Trimethylbenzene	**20.0**		µg/kg		20.0		100	70-130	6	30
Vinyl chloride	**22.6**		µg/kg		20.0		113	70-130	6	30
m,p-Xylene	**19.7**		µg/kg		20.0		98	70-130	6	30
o-Xylene	**19.4**		µg/kg		20.0		97	70-130	6	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1709128 - SW846 5035A Soil (low level)										
LCS Dup (1709128-BSD1)					Prepared & Analyzed: 02-Jun-17					
Tetrahydrofuran	**19.0**		µg/kg		20.0		95	70-130	2	30
Ethyl ether	**22.1**		µg/kg		20.0		110	70-130	2	30
Tert-amyl methyl ether	**19.7**		µg/kg		20.0		98	70-130	1	30
Ethyl tert-butyl ether	**20.7**		µg/kg		20.0		104	70-130	2	30
Di-isopropyl ether	**21.7**		µg/kg		20.0		109	70-130	3	30
Tert-Butanol / butyl alcohol	**184**		µg/kg		200		92	70-130	0.7	30
1,4-Dioxane	**142**		µg/kg		200		71	70-130	2	30
trans-1,4-Dichloro-2-butene	**20.7**		µg/kg		20.0		104	70-130	0.8	30
Ethanol	**384**		µg/kg		400		96	70-130	3	30
Surrogate: 4-Bromofluorobenzene	*47.8*		µg/kg		*50.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*50.3*		µg/kg		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.5*		µg/kg		*50.0*		*103*	*70-130*		
Surrogate: Dibromofluoromethane	*51.9*		µg/kg		*50.0*		*104*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8082A										
Batch 1709052 - SW846 3546										
Blank (1709052-BLK1)					Prepared & Analyzed: 01-Jun-17					
Aroclor-1016	< 19.7		µg/kg wet	19.7						
Aroclor-1016 [2C]	< 19.7		µg/kg wet	19.7						
Aroclor-1221	< 19.7		µg/kg wet	19.7						
Aroclor-1221 [2C]	< 19.7		µg/kg wet	19.7						
Aroclor-1232	< 19.7		µg/kg wet	19.7						
Aroclor-1232 [2C]	< 19.7		µg/kg wet	19.7						
Aroclor-1242	< 19.7		µg/kg wet	19.7						
Aroclor-1242 [2C]	< 19.7		µg/kg wet	19.7						
Aroclor-1248	< 19.7		µg/kg wet	19.7						
Aroclor-1248 [2C]	< 19.7		µg/kg wet	19.7						
Aroclor-1254	< 19.7		µg/kg wet	19.7						
Aroclor-1254 [2C]	< 19.7		µg/kg wet	19.7						
Aroclor-1260	< 19.7		µg/kg wet	19.7						
Aroclor-1260 [2C]	< 19.7		µg/kg wet	19.7						
Aroclor-1262	< 19.7		µg/kg wet	19.7						
Aroclor-1262 [2C]	< 19.7		µg/kg wet	19.7						
Aroclor-1268	< 19.7		µg/kg wet	19.7						
Aroclor-1268 [2C]	< 19.7		µg/kg wet	19.7						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*18.7*		µg/kg wet		*19.7*		*95*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*19.7*		µg/kg wet		*19.7*		*100*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*24.6*		µg/kg wet		*19.7*		*125*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*28.5*		µg/kg wet		*19.7*		*145*	*30-150*		
LCS (1709052-BS1)					Prepared & Analyzed: 01-Jun-17					
Aroclor-1016	**217**		µg/kg wet	19.9	249		87	40-140		
Aroclor-1016 [2C]	**217**		µg/kg wet	19.9	249		87	40-140		
Aroclor-1260	**235**		µg/kg wet	19.9	249		94	40-140		
Aroclor-1260 [2C]	**220**		µg/kg wet	19.9	249		88	40-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*17.0*		µg/kg wet		*19.9*		*85*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*18.0*		µg/kg wet		*19.9*		*90*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*21.9*		µg/kg wet		*19.9*		*110*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*24.9*		µg/kg wet		*19.9*		*125*	*30-150*		
LCS Dup (1709052-BSD1)					Prepared & Analyzed: 01-Jun-17					
Aroclor-1016	**223**		µg/kg wet	19.9	248		90	40-140	2	30
Aroclor-1016 [2C]	**235**		µg/kg wet	19.9	248		95	40-140	8	30
Aroclor-1260	**241**		µg/kg wet	19.9	248		97	40-140	3	30
Aroclor-1260 [2C]	**237**		µg/kg wet	19.9	248		96	40-140	7	30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*16.9*		µg/kg wet		*19.9*		*85*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*18.9*		µg/kg wet		*19.9*		*95*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*24.8*		µg/kg wet		*19.9*		*125*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*24.8*		µg/kg wet		*19.9*		*125*	*30-150*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1709048 - SW846 3546										
Blank (1709048-BLK1)					Prepared: 01-Jun-17 Analyzed: 03-Jun-17					
C9-C18 Aliphatic Hydrocarbons	< 9.98		mg/kg wet	9.98						
C19-C36 Aliphatic Hydrocarbons	< 9.98		mg/kg wet	9.98						
C11-C22 Aromatic Hydrocarbons	< 9.98		mg/kg wet	9.98						
Unadjusted C11-C22 Aromatic Hydrocarbons	< 9.98		mg/kg wet	9.98						
Total Petroleum Hydrocarbons	< 29.9		mg/kg wet	29.9						
Unadjusted Total Petroleum Hydrocarbons	< 29.9		mg/kg wet	29.9						
Naphthalene	< 0.332		mg/kg wet	0.332						
2-Methylnaphthalene	< 0.332		mg/kg wet	0.332						
Acenaphthylene	< 0.332		mg/kg wet	0.332						
Acenaphthene	< 0.332		mg/kg wet	0.332						
Fluorene	< 0.332		mg/kg wet	0.332						
Phenanthrene	< 0.332		mg/kg wet	0.332						
Anthracene	< 0.332		mg/kg wet	0.332						
Fluoranthene	< 0.332		mg/kg wet	0.332						
Pyrene	< 0.332		mg/kg wet	0.332						
Benzo (a) anthracene	< 0.332		mg/kg wet	0.332						
Chrysene	< 0.332		mg/kg wet	0.332						
Benzo (b) fluoranthene	< 0.332		mg/kg wet	0.332						
Benzo (k) fluoranthene	< 0.332		mg/kg wet	0.332						
Benzo (a) pyrene	< 0.332		mg/kg wet	0.332						
Indeno (1,2,3-cd) pyrene	< 0.332		mg/kg wet	0.332						
Dibenzo (a,h) anthracene	< 0.332		mg/kg wet	0.332						
Benzo (g,h,i) perylene	< 0.332		mg/kg wet	0.332						
n-Nonane (C9)	< 0.332		mg/kg wet	0.332						
n-Decane	< 0.332		mg/kg wet	0.332						
n-Dodecane	< 0.332		mg/kg wet	0.332						
n-Tetradecane	< 0.332		mg/kg wet	0.332						
n-Hexadecane	< 0.332		mg/kg wet	0.332						
n-Octadecane	< 0.332		mg/kg wet	0.332						
n-Nonadecane	< 0.332		mg/kg wet	0.332						
n-Eicosane	< 0.332		mg/kg wet	0.332						
n-Docosane	< 0.332		mg/kg wet	0.332						
n-Tetracosane	< 0.332		mg/kg wet	0.332						
n-Hexacosane	< 0.332		mg/kg wet	0.332						
n-Octacosane	< 0.332		mg/kg wet	0.332						
n-Triacontane	< 0.332		mg/kg wet	0.332						
n-Hexatriacontane	< 0.332		mg/kg wet	0.332						
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet							
Surrogate: 1-Chlorooctadecane	*3.05*		mg/kg wet		*3.33*		*92*	*40-140*		
Surrogate: Ortho-Terphenyl	*1.99*		mg/kg wet		*3.33*		*60*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*1.10*		mg/kg wet		*2.66*		*41*	*40-140*		
LCS (1709048-BS1)					Prepared: 01-Jun-17 Analyzed: 03-Jun-17					
C9-C18 Aliphatic Hydrocarbons	**39.7**		mg/kg wet	9.89	39.6		100	40-140		
C19-C36 Aliphatic Hydrocarbons	**22.7**		mg/kg wet	9.89	52.8		43	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**11.1**		mg/kg wet	9.89	22.4		49	40-140		
Naphthalene	**1.17**		mg/kg wet	0.329	1.32		89	40-140		
2-Methylnaphthalene	**1.26**		mg/kg wet	0.329	1.32		95	40-140		
Acenaphthylene	**1.27**		mg/kg wet	0.329	1.32		96	40-140		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1709048 - SW846 3546										
LCS (1709048-BS1)						Prepared: 01-Jun-17 Analyzed: 03-Jun-17				
Acenaphthene	**1.30**		mg/kg wet	0.329	1.32		99	40-140		
Fluorene	**1.40**		mg/kg wet	0.329	1.32		106	40-140		
Phenanthrene	**1.38**		mg/kg wet	0.329	1.32		105	40-140		
Anthracene	**1.39**		mg/kg wet	0.329	1.32		105	40-140		
Fluoranthene	**1.39**		mg/kg wet	0.329	1.32		106	40-140		
Pyrene	**1.35**		mg/kg wet	0.329	1.32		102	40-140		
Benzo (a) anthracene	**1.35**		mg/kg wet	0.329	1.32		102	40-140		
Chrysene	**1.32**		mg/kg wet	0.329	1.32		100	40-140		
Benzo (b) fluoranthene	**1.27**		mg/kg wet	0.329	1.32		97	40-140		
Benzo (k) fluoranthene	**1.24**		mg/kg wet	0.329	1.32		94	40-140		
Benzo (a) pyrene	**1.27**		mg/kg wet	0.329	1.32		96	40-140		
Indeno (1,2,3-cd) pyrene	**1.19**		mg/kg wet	0.329	1.32		90	40-140		
Dibenzo (a,h) anthracene	**1.15**		mg/kg wet	0.329	1.32		87	40-140		
Benzo (g,h,i) perylene	**1.16**		mg/kg wet	0.329	1.32		88	40-140		
n-Nonane (C9)	**4.46**		mg/kg wet	0.329	6.60		68	30-140		
n-Decane	**4.54**		mg/kg wet	0.329	6.60		69	40-140		
n-Dodecane	**4.55**		mg/kg wet	0.329	6.60		69	40-140		
n-Tetradecane	**4.63**		mg/kg wet	0.329	6.60		70	40-140		
n-Hexadecane	**4.66**		mg/kg wet	0.329	6.60		71	40-140		
n-Octadecane	**4.62**		mg/kg wet	0.329	6.60		70	40-140		
n-Nonadecane	**4.60**		mg/kg wet	0.329	6.60		70	40-140		
n-Eicosane	**4.62**		mg/kg wet	0.329	6.60		70	40-140		
n-Docosane	**4.63**		mg/kg wet	0.329	6.60		70	40-140		
n-Tetracosane	**4.56**		mg/kg wet	0.329	6.60		69	40-140		
n-Hexacosane	**4.53**		mg/kg wet	0.329	6.60		69	40-140		
n-Octacosane	**4.61**		mg/kg wet	0.329	6.60		70	40-140		
n-Triacontane	**4.57**		mg/kg wet	0.329	6.60		69	40-140		
n-Hexatriacontane	**3.88**		mg/kg wet	0.329	6.60		59	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		1.32			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		1.32			0-200		
Surrogate: 1-Chlorooctadecane	*2.59*		mg/kg wet		*3.30*		*78*	*40-140*		
Surrogate: Ortho-Terphenyl	*1.75*		mg/kg wet		*3.30*		*53*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*1.05*		mg/kg wet		*2.64*		*40*	*40-140*		
LCS (1709048-BS2)						Prepared: 01-Jun-17 Analyzed: 03-Jun-17				
C9-C18 Aliphatic Hydrocarbons	**25.9**		mg/kg wet	10.0	40.0		65	40-140		
C19-C36 Aliphatic Hydrocarbons	**22.2**		mg/kg wet	10.0	53.3		42	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**13.3**		mg/kg wet	10.0	22.7		59	40-140		
Naphthalene	**1.17**		mg/kg wet	0.333	1.33		88	40-140		
2-Methylnaphthalene	**1.24**		mg/kg wet	0.333	1.33		93	40-140		
Acenaphthylene	**1.25**		mg/kg wet	0.333	1.33		94	40-140		
Acenaphthene	**1.29**		mg/kg wet	0.333	1.33		97	40-140		
Fluorene	**1.38**		mg/kg wet	0.333	1.33		104	40-140		
Phenanthrene	**1.37**		mg/kg wet	0.333	1.33		103	40-140		
Anthracene	**1.37**		mg/kg wet	0.333	1.33		103	40-140		
Fluoranthene	**1.37**		mg/kg wet	0.333	1.33		103	40-140		
Pyrene	**1.34**		mg/kg wet	0.333	1.33		101	40-140		
Benzo (a) anthracene	**1.34**		mg/kg wet	0.333	1.33		100	40-140		
Chrysene	**1.29**		mg/kg wet	0.333	1.33		97	40-140		
Benzo (b) fluoranthene	**1.42**		mg/kg wet	0.333	1.33		107	40-140		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1709048 - SW846 3546										
LCS (1709048-BS2)						Prepared: 01-Jun-17 Analyzed: 03-Jun-17				
Benzo (k) fluoranthene	**1.24**		mg/kg wet	0.333	1.33		93	40-140		
Benzo (a) pyrene	**1.26**		mg/kg wet	0.333	1.33		94	40-140		
Indeno (1,2,3-cd) pyrene	**1.18**		mg/kg wet	0.333	1.33		88	40-140		
Dibenzo (a,h) anthracene	**1.14**		mg/kg wet	0.333	1.33		86	40-140		
Benzo (g,h,i) perylene	**1.16**		mg/kg wet	0.333	1.33		87	40-140		
n-Nonane (C9)	**4.50**		mg/kg wet	0.333	6.67		67	30-140		
n-Decane	**4.48**		mg/kg wet	0.333	6.67		67	40-140		
n-Dodecane	**4.52**		mg/kg wet	0.333	6.67		68	40-140		
n-Tetradecane	**4.49**		mg/kg wet	0.333	6.67		67	40-140		
n-Hexadecane	**4.37**		mg/kg wet	0.333	6.67		66	40-140		
n-Octadecane	**4.27**		mg/kg wet	0.333	6.67		64	40-140		
n-Nonadecane	**4.25**		mg/kg wet	0.333	6.67		64	40-140		
n-Eicosane	**4.26**		mg/kg wet	0.333	6.67		64	40-140		
n-Docosane	**4.30**		mg/kg wet	0.333	6.67		64	40-140		
n-Tetracosane	**4.25**		mg/kg wet	0.333	6.67		64	40-140		
n-Hexacosane	**4.28**		mg/kg wet	0.333	6.67		64	40-140		
n-Octacosane	**4.39**		mg/kg wet	0.333	6.67		66	40-140		
n-Triacontane	**4.42**		mg/kg wet	0.333	6.67		66	40-140		
n-Hexatriacontane	**3.91**		mg/kg wet	0.333	6.67		59	40-140		
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		1.33			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		1.33			0-200		
Surrogate: 1-Chlorooctadecane	*2.41*		mg/kg wet		*3.33*		*72*	*40-140*		
Surrogate: Ortho-Terphenyl	*1.76*		mg/kg wet		*3.33*		*53*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*1.07*		mg/kg wet		*2.67*		*40*	*40-140*		
LCS Dup (1709048-BSD1)						Prepared: 01-Jun-17 Analyzed: 03-Jun-17				
C9-C18 Aliphatic Hydrocarbons	**30.8**		mg/kg wet	9.87	39.5		78	40-140	25	25
C19-C36 Aliphatic Hydrocarbons	**23.5**		mg/kg wet	9.87	52.7		45	40-140	3	25
Unadjusted C11-C22 Aromatic Hydrocarbons	**9.36**		mg/kg wet	9.87	22.4		42	40-140	17	25
Naphthalene	**1.22**		mg/kg wet	0.329	1.32		93	40-140	4	25
2-Methylnaphthalene	**1.30**		mg/kg wet	0.329	1.32		98	40-140	3	25
Acenaphthylene	**1.27**		mg/kg wet	0.329	1.32		97	40-140	0.6	25
Acenaphthene	**1.31**		mg/kg wet	0.329	1.32		99	40-140	0.5	25
Fluorene	**1.42**		mg/kg wet	0.329	1.32		108	40-140	1	25
Phenanthrene	**1.42**		mg/kg wet	0.329	1.32		108	40-140	3	25
Anthracene	**1.42**		mg/kg wet	0.329	1.32		108	40-140	2	25
Fluoranthene	**1.44**		mg/kg wet	0.329	1.32		109	40-140	3	25
Pyrene	**1.39**		mg/kg wet	0.329	1.32		106	40-140	3	25
Benzo (a) anthracene	**1.38**		mg/kg wet	0.329	1.32		105	40-140	3	25
Chrysene	**1.34**		mg/kg wet	0.329	1.32		102	40-140	1	25
Benzo (b) fluoranthene	**1.42**		mg/kg wet	0.329	1.32		108	40-140	11	25
Benzo (k) fluoranthene	**1.26**		mg/kg wet	0.329	1.32		96	40-140	2	25
Benzo (a) pyrene	**1.29**		mg/kg wet	0.329	1.32		98	40-140	1	25
Indeno (1,2,3-cd) pyrene	**1.21**		mg/kg wet	0.329	1.32		92	40-140	2	25
Dibenzo (a,h) anthracene	**1.17**		mg/kg wet	0.329	1.32		89	40-140	2	25
Benzo (g,h,i) perylene	**1.18**		mg/kg wet	0.329	1.32		89	40-140	1	25
n-Nonane (C9)	**4.34**		mg/kg wet	0.329	6.58		66	30-140	3	25
n-Decane	**4.24**		mg/kg wet	0.329	6.58		64	40-140	7	25
n-Dodecane	**4.30**		mg/kg wet	0.329	6.58		65	40-140	6	25
n-Tetradecane	**4.37**		mg/kg wet	0.329	6.58		66	40-140	6	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1709048 - SW846 3546										
LCS Dup (1709048-BSD1)					Prepared: 01-Jun-17 Analyzed: 03-Jun-17					
n-Hexadecane	**4.36**		mg/kg wet	0.329	6.58		66	40-140	7	25
n-Octadecane	**4.31**		mg/kg wet	0.329	6.58		66	40-140	7	25
n-Nonadecane	**4.31**		mg/kg wet	0.329	6.58		65	40-140	7	25
n-Eicosane	**4.33**		mg/kg wet	0.329	6.58		66	40-140	6	25
n-Docosane	**4.37**		mg/kg wet	0.329	6.58		66	40-140	6	25
n-Tetracosane	**4.32**		mg/kg wet	0.329	6.58		66	40-140	5	25
n-Hexacosane	**4.33**		mg/kg wet	0.329	6.58		66	40-140	5	25
n-Octacosane	**4.43**		mg/kg wet	0.329	6.58		67	40-140	4	25
n-Triacontane	**4.41**		mg/kg wet	0.329	6.58		67	40-140	4	25
n-Hexatriacontane	**3.78**		mg/kg wet	0.329	6.58		57	40-140	3	25
Naphthalene (aliphatic fraction)	**0.00**		mg/kg wet		1.32			0-200		200
2-Methylnaphthalene (aliphatic fraction)	**0.00**		mg/kg wet		1.32			0-200		200
Surrogate: 1-Chlorooctadecane	*2.65*		mg/kg wet		*3.29*		*81*	*40-140*		
Surrogate: Ortho-Terphenyl	*1.77*		mg/kg wet		*3.29*		*54*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*1.05*		mg/kg wet		*2.63*		*40*	*40-140*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 6010C										
Batch 1709087 - SW846 3051A										
Blank (1709087-BLK1)					Prepared & Analyzed: 01-Jun-17					
Lead	< 1.41		mg/kg wet	1.41						
Cadmium	< 0.469		mg/kg wet	0.469						
Silver	< 1.41		mg/kg wet	1.41						
Arsenic	< 1.41		mg/kg wet	1.41						
Chromium	< 0.937		mg/kg wet	0.937						
Selenium	< 1.41		mg/kg wet	1.41						
Barium	< 0.937		mg/kg wet	0.937						
Reference (1709087-SRM1)					Prepared & Analyzed: 01-Jun-17					
Chromium	**30.1**		mg/kg wet	1.00	32.8		92	79.1-121.1		
Lead	**38.4**		mg/kg wet	1.50	43.2		89	82-118		
Cadmium	**36.3**		mg/kg wet	0.500	39.3		92	82.8-117.2		
Arsenic	**28.4**		mg/kg wet	1.50	28.8		99	75.1-124.9		
Silver	**25.0**		mg/kg wet	1.50	27.3		91	74.7-125.3		
Selenium	**38.9**		mg/kg wet	1.50	39.8		98	77.6-122.4		
Barium	**54.6**		mg/kg wet	1.00	55.5		98	82.4-118.2		
Reference (1709087-SRM2)					Prepared & Analyzed: 01-Jun-17					
Silver	**25.8**		mg/kg wet	1.50	27.7		93	74.7-125.3		
Arsenic	**30.1**		mg/kg wet	1.50	29.2		103	75.1-124.9		
Cadmium	**37.5**		mg/kg wet	0.500	39.8		94	82.8-117.2		
Chromium	**30.9**		mg/kg wet	1.00	33.2		93	79.1-121.1		
Lead	**42.0**		mg/kg wet	1.50	43.8		96	82-118		
Selenium	**41.0**		mg/kg wet	1.50	40.4		102	77.6-122.4		
Barium	**53.0**		mg/kg wet	1.00	56.3		94	82.4-118.2		
SW846 7471B										
Batch 1709088 - EPA200/SW7000 Series										
Blank (1709088-BLK1)					Prepared & Analyzed: 01-Jun-17					
Mercury	< 0.0261		mg/kg wet	0.0261						
Reference (1709088-SRM1)					Prepared & Analyzed: 01-Jun-17					
Mercury	**5.37**	D	mg/kg wet	0.600	4.32		124	64.1-135.8		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SM2540 G (11) Mod.										
Batch 1709082 - General Preparation										
Duplicate (1709082-DUP1)			**Source: SC35241-03**			Prepared & Analyzed: 01-Jun-17				
% Solids	**95.6**		%			95.8			0.2	5
Duplicate (1709082-DUP2)			**Source: SC35241-04**			Prepared & Analyzed: 01-Jun-17				
% Solids	**92.2**		%			92.1			0.07	5

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S705068				
Calibration Check (S705068-CCV1)				
C9-C18 Aliphatic Hydrocarbons	667108.1	362230.3	-6.0	25
C19-C36 Aliphatic Hydrocarbons	1220327	330392	-23.8	25
Unadjusted C11-C22 Aromatic Hydrocarbons	4176284	2951502	-11.8	20
Naphthalene	8.783097	7.76567	9.5	20
2-Methylnaphthalene	5.818318	4.916011	9.0	20
Acenaphthylene	8.099292	6.892423	4.1	20
Acenaphthene	5.986356	4.565708	3.3	20
Fluorene	6.36157	4.942358	8.8	20
Phenanthrene	9.380805	7.261151	8.0	20
Anthracene	9.200579	7.402061	9.4	20
Fluoranthene	9.989373	8.267804	9.5	20
Pyrene	10.41355	8.356659	5.6	20
Benzo (a) anthracene	8.789249	8.19211	5.0	20
Chrysene	9.472413	7.66397	1.7	20
Benzo (b) fluoranthene	10.05384	8.051233	-4.8	20
Benzo (k) fluoranthene	10.41982	7.858852	-5.3	20
Benzo (a) pyrene	9.663554	7.716922	-2.6	20
Indeno (1,2,3-cd) pyrene	11.5515	9.182729	-8.4	20
Dibenzo (a,h) anthracene	10.29062	7.556384	-12.5	20
Benzo (g,h,i) perylene	10.21267	7.336941	-9.3	20
n-Nonane (C9)	302803.3	313658.6	3.6	25
n-Decane	305363	315380	3.3	25
n-Dodecane	300753.8	305028.6	1.4	25
n-Tetradecane	274762.4	263471.2	-4.1	25
n-Hexadecane	240161.2	219947.8	-8.4	25
n-Octadecane	225386.9	204242.6	-9.4	25
n-Nonadecane	219026.4	198800.1	-9.2	25
n-Eicosane	216498.4	198250.6	-8.4	25
n-Docosane	213393.7	200625.4	-6.0	25
n-Tetracosane	213070.6	200785.6	-5.8	25
n-Hexacosane	213606.1	204193.2	-4.4	25
n-Octacosane	210152.9	208514.4	-0.8	25
n-Triacontane	211099.8	210701.6	-0.2	25
n-Hexatriacontane	205271.2	188618.5	-8.1	25
Naphthalene (aliphatic fraction)	307771.7			
2-Methylnaphthalene (aliphatic fraction)	308474.3			
Calibration Check (S705068-CCV2)				
C9-C18 Aliphatic Hydrocarbons	667108.1	402398.3	7.5	25
C19-C36 Aliphatic Hydrocarbons	1220327	374217.5	4.0	25
Unadjusted C11-C22 Aromatic Hydrocarbons	4176284	2953776	-18.3	20
Naphthalene	8.783097	6.872715	-5.8	20
2-Methylnaphthalene	5.818318	4.506095	-1.7	20
Acenaphthylene	8.099292	6.722055	1.0	20
Acenaphthene	5.986356	4.47579	0.9	20
Fluorene	6.36157	4.900322	7.8	20
Phenanthrene	9.380805	7.262663	8.0	20
Anthracene	9.200579	7.371333	8.9	20
Fluoranthene	9.989373	8.123461	7.2	20
Pyrene	10.41355	8.265509	4.3	20
Benzo (a) anthracene	8.789249	7.983129	2.1	20
Chrysene	9.472413	7.440331	-1.6	20

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S705068				
Calibration Check (S705068-CCV2)				
Benzo (b) fluoranthene	10.05384	6.89219	-18.6	20
Benzo (k) fluoranthene	10.41982	7.601765	-8.7	20
Benzo (a) pyrene	9.663554	7.408798	-6.7	20
Indeno (1,2,3-cd) pyrene	11.5515	8.834528	-12.0	20
Dibenzo (a,h) anthracene	10.29062	7.262348	-16.0	20
Benzo (g,h,i) perylene	10.21267	7.138886	-11.8	20
n-Nonane (C9)	302803.3	303368.2	0.2	25
n-Decane	305363	309297.8	1.3	25
n-Dodecane	300753.8	303568.6	0.9	25
n-Tetradecane	274762.4	267798.4	-2.5	25
n-Hexadecane	240161.2	239294.8	-0.4	25
n-Octadecane	225386.9	235583.2	4.5	25
n-Nonadecane	219026.4	233538.2	6.6	25
n-Eicosane	216498.4	237028.6	9.5	25
n-Docosane	213393.7	240945.2	12.9	25
n-Tetracosane	213070.6	241735.8	13.5	25
n-Hexacosane	213606.1	244375.2	14.4	25
n-Octacosane	210152.9	247066.8	17.6	25
n-Triacontane	211099.8	243656.4	15.4	25
n-Hexatriacontane	205271.2	202857	-1.2	25
Naphthalene (aliphatic fraction)	307771.7			
2-Methylnaphthalene (aliphatic fraction)	308474.3			

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S704937				
Calibration Check (S704937-CCV1)				
Benzene	79765.12	74884.38	-6.1	25
Ethylbenzene	54445.15	53593.26	-1.6	25
Methyl tert-butyl ether	38991.95	35046.56	-10.1	25
Naphthalene	46386.16	43141.86	-7.0	25
Toluene	67315.15	64866.5	-3.6	25
m,p-Xylene	59435.31	58794.63	-1.1	25
o-Xylene	49879.05	49280.26	-1.2	25
2-Methylpentane	43157.81	37594	-12.9	25
n-Nonane	39369.82	37619.2	-4.4	30
n-Pentane	34446.6	28896.2	-16.1	25
1,2,4-Trimethylbenzene	46224.7	45904.88	-0.7	25
2,2,4-Trimethylpentane	49076.12	46081.94	-6.1	25
n-Butylcyclohexane	35833.89	34551.06	-3.6	25
n-Decane	26675.79	27178.02	1.9	25
Calibration Check (S704937-CCV2)				
Benzene	79765.12	76702.14	-3.8	25
Ethylbenzene	54445.15	54850.42	0.7	25
Methyl tert-butyl ether	38991.95	36824.02	-5.6	25
Naphthalene	46386.16	46133.92	-0.5	25
Toluene	67315.15	66414.98	-1.3	25
m,p-Xylene	59435.31	60297.48	1.5	25
o-Xylene	49879.05	50874.3	2.0	25
2-Methylpentane	43157.81	37197.82	-13.8	25
n-Nonane	39369.82	37207.32	-5.5	30
n-Pentane	34446.6	28692.4	-16.7	25
1,2,4-Trimethylbenzene	46224.7	47183.7	2.1	25
2,2,4-Trimethylpentane	49076.12	46548.94	-5.1	25
n-Butylcyclohexane	35833.89	34889.1	-2.6	25
n-Decane	26675.79	25998.02	-2.5	25

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

SC35241-01	*GP-01 (1-3)*	5/31/2017 6:25 PM
SC35241-02	*GP-02 (11-13)*	5/31/2017 6:25 PM
SC35241-03	*GP-04 (13-15)*	5/31/2017 6:25 PM
SC35241-04	*GP-06 (3-5)*	5/31/2017 6:25 PM
SC35241-05	*GP-07 (3-5)*	5/31/2017 6:25 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.
QR9	RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.
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.

SC35241 / JLH

eurofins | Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 48-hour

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: Conreco Engineers & Scientists
4 First Street
Bridgewater, Ma 02324

Telephone #: 508-862-2014
Project Mgr: Marc Brochu

Invoice To: Conreco Engineers & Scientists
Attn: Environmental AP

P.O No.: 96484 Quote #:

Project No: 96484
Site Name: 100 Kennedy Circle Senior Housing / Haywood House
Location: Newton State: MA
Sampler(s): SJL, PHL

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=Dinking 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	EPH by DEP Method	VPH by DEP Method	VOCs by 8260	RCRA8 Total Metals	PCBs 8082	Check if chlorinated
SC35241-01	GP-01 (1-3')	5/26/17	9:00AM	G	SO	3	1			X		X	X	X	☐
02	GP-02 (11-13')	5/26/17	10:05AM	G	SO	3/6	1			X	X	X		X	☐
03	GP-04 (13-15')	5/26/17	11:00AM	G	SO	3/6	1			X	X	X		X	☐
04	GP-06 (3-5')	5/26/17	12:10PM	G	SO	3	1			X		X	X	X	☐
05	GP-07 (3-5')	5/26/17	12:50PM	G	SO	3	1			X		X	X	X	☐
	~~GP-01 (3-5')~~	~~5/26/17~~		~~G~~	~~SO~~	~~3~~	+								☐
															☐
															☐
															☐
															☐
															☐

Hold - 11/28

List Preservative Code below: 9,7,11 | 9,7,11 | 9,7,11 | 8,7,5 | 8,7,11

Analysis

QA/QC Reporting Notes:
* additional charges may apply

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: Mass DEP Rel-1
State-specific reporting standards:

#3 use 8 oz amber glass for dry weight for VOCs

Relinquished by:	Received by:	Date:	Time:	Temp °C
Adria Dec	[signature]	5-31-17	11:59	Observed 0.2
	[signature]	5-31-17	18:25	Correction Factor 0
				Corrected 0.2
				IR ID # 01

☐ EDD format:
☑ E-mail to: mbrochu@conreco.com; ewashmer@conreco.com

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

Batch Summary

1709048

Extractable Petroleum Hydrocarbons

1709048-BLK1
1709048-BS1
1709048-BS2
1709048-BSD1
SC35241-01 (GP-01 (1-3))
SC35241-02 (GP-02 (11-13))
SC35241-03 (GP-04 (13-15))
SC35241-04 (GP-06 (3-5))
SC35241-05 (GP-07 (3-5))

1709052

Semivolatile Organic Compounds by GC

1709052-BLK1
1709052-BS1
1709052-BSD1
SC35241-01 (GP-01 (1-3))
SC35241-02 (GP-02 (11-13))
SC35241-03 (GP-04 (13-15))
SC35241-04 (GP-06 (3-5))
SC35241-05 (GP-07 (3-5))

1709058

Volatile Organic Compounds

1709058-BLK1
1709058-BS1
1709058-BSD1
SC35241-02 (GP-02 (11-13))
SC35241-03 (GP-04 (13-15))
SC35241-04 (GP-06 (3-5))
SC35241-05 (GP-07 (3-5))

1709064

Volatile Organic Compounds

1709064-BLK1
1709064-BS1
1709064-BSD1
SC35241-02 (GP-02 (11-13))
SC35241-03 (GP-04 (13-15))

1709080

General Chemistry Parameters

SC35241-01 (GP-01 (1-3))
SC35241-02 (GP-02 (11-13))

1709082

General Chemistry Parameters

1709082-DUP1
1709082-DUP2
SC35241-03 (GP-04 (13-15))
SC35241-04 (GP-06 (3-5))
SC35241-05 (GP-07 (3-5))

1709087

Total Metals by EPA 6000/7000 Series Methods

1709087-BLK1
1709087-SRM1
1709087-SRM2
SC35241-01 (GP-01 (1-3))
SC35241-04 (GP-06 (3-5))
SC35241-05 (GP-07 (3-5))

1709088

Total Metals by EPA 6000/7000 Series Methods

1709088-BLK1
1709088-SRM1
SC35241-01 (GP-01 (1-3))
SC35241-04 (GP-06 (3-5))
SC35241-05 (GP-07 (3-5))

1709128

Volatile Organic Compounds

1709128-BLK1
1709128-BS1
1709128-BSD1
SC35241-01 (GP-01 (1-3))

S702336

Semivolatile Organic Compounds by GC

S702336-CAL1
S702336-CAL2
S702336-CAL3
S702336-CAL4
S702336-CAL5
S702336-CAL6
S702336-CAL7
S702336-CAL8
S702336-CAL9
S702336-CALA
S702336-CALB
S702336-CALC
S702336-CALD
S702336-CALE
S702336-CALF
S702336-CALG
S702336-CALH
S702336-CALI
S702336-CALJ
S702336-CALK
S702336-CALL
S702336-CALM
S702336-CALN
S702336-CALO
S702336-CALP
S702336-CALQ
S702336-CALR
S702336-CALS
S702336-CALT
S702336-CALU
S702336-ICV1
S702336-ICV2
S702336-ICV3
S702336-ICV4
S702336-ICV5
S702336-ICV6
S702336-LCV1
S702336-LCV2
S702336-LCV3
S702336-LCV4
S702336-LCV5
S702336-LCV6

S702868

Extractable Petroleum Hydrocarbons

S702868-CAL1
S702868-CAL2
S702868-CAL3
S702868-CAL4
S702868-CAL5
S702868-CAL6
S702868-CAL7
S702868-CAL8
S702868-CAL9
S702868-CALA
S702868-CALB
S702868-CALC
S702868-CALD
S702868-CALE
S702868-CALF
S702868-CALG
S702868-CALH
S702868-CALI
S702868-ICV1
S702868-ICV2
S702868-LCV1
S702868-LCV2
S702868-LCV3
S702868-TUN1
S702868-TUN2

S703723

Volatile Organic Compounds

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

S704867

Volatile Organic Compounds

S704867-CAL1
S704867-CAL2
S704867-CAL3
S704867-CAL4
S704867-CAL5
S704867-CAL6
S704867-CAL7
S704867-CAL8
S704867-CAL9
S704867-ICV1
S704867-LCV1
S704867-TUN1
S704867-TUN2

S704937

Volatile Organic Compounds

S704937-CCV1
S704937-CCV2

S704946

Volatile Organic Compounds

S704946-CCV1
S704946-CCV2
S704946-TUN1

S704975

Semivolatile Organic Compounds by GC

S704975-CCV1
S704975-CCV2
S704975-IBL1
S704975-IBL2

S704976

Volatile Organic Compounds

S704976-CCV1
S704976-TUN1

S705068

Extractable Petroleum Hydrocarbons

S705068-CCV1
S705068-CCV2
S705068-TUN1

eurofins | Spectrum Analytical

☑ Final Report
☐ Revised Report

Report Date:
09-Jun-17 10:27

Laboratory Report
SC35361

Coneco Environmental
4 First Street
Bridgewater, MA 02324
Attn: Marc Brochu

Project: 100 Kennedy Cir. - Newton, MA
Project #: 9684

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:

Kimberly Laplante
Quality Assurance 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 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: SC35361

Project: 100 Kennedy Cir. - Newton, MA

Project Number: 9684

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC35361-01	CMW-01	Ground Water	01-Jun-17 13:47	02-Jun-17 17:00
SC35361-02	CMW-02	Ground Water	01-Jun-17 14:42	02-Jun-17 17:00

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

Matrices	Ground Water		
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*

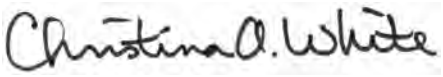
The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrices	Ground Water
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 #:** 9684
Project Location: 100 Kennedy Cir. - Newton, MA	**RTN:**
This form provides certifications for the following data set:	SC35361-01 through SC35361-02
Matrices: Ground Water	

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

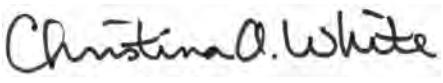
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	Yes	✓ No

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: 6/9/2017

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 2.7 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.

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

MADEP EPH 5/2004 R

Calibration:

1703011

Analyte quantified by quadratic equation type calibration.

2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Anthracene
Benzo (a) anthracene
Benzo (a) pyrene
Benzo (b) fluoranthene
Benzo (g,h,i) perylene
Benzo (k) fluoranthene
C19-C36 Aliphatic Hydrocarbons
C9-C18 Aliphatic Hydrocarbons
Chrysene
Dibenzo (a,h) anthracene
Fluoranthene
Fluorene
Indeno (1,2,3-cd) pyrene
Naphthalene
Phenanthrene
Pyrene
Unadjusted C11-C22 Aromatic Hydrocarbons

MADEP EPH 5/2004 R

Calibration:

1703011

This affected the following samples:

1709306-BLK1
1709306-BS1
1709306-BSD1
CMW-01
CMW-02
S702868-ICV1
S702868-ICV2
S705139-CCV2
S705139-CCV4

SW846 8260C

Calibration:

1705025

Analyte quantified by quadratic equation type calibration.

1,2-Dibromo-3-chloropropane
Bromodichloromethane
Bromoform
Carbon tetrachloride
cis-1,3-Dichloropropene
Dibromochloromethane
Naphthalene
n-Propylbenzene
Styrene
trans-1,3-Dichloropropene
trans-1,4-Dichloro-2-butene

This affected the following samples:

1709320-BLK1
1709320-BS1
1709320-BSD1
CMW-01
CMW-02
S704674-ICV1
S705081-CCV1

Blanks:

1709320-BLK1

This compound is a common laboratory contaminant.

Acetone
Chloromethane
Ethanol

Laboratory Control Samples:

1709320 BS/BSD

2-Butanone (MEK) percent recoveries (78/60) 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:

CMW-01
CMW-02

SW846 8260C

Laboratory Control Samples:

1709320 BS/BSD

Ethanol percent recoveries (184/186) 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:

CMW-01
CMW-02

1709320 BSD

2-Butanone (MEK) RPD 26% (20%) is outside individual acceptance criteria.

Samples:

S705081-CCV1

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

2-Butanone (MEK) (-21.9%)
Ethanol (83.6%)
Tetrahydrofuran (-21.3%)

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

1,2-Dibromo-3-chloropropane (-21.6%)
2-Hexanone (MBK) (-24.8%)
trans-1,4-Dichloro-2-butene (-20.9%)

This affected the following samples:

1709320-BLK1
1709320-BS1
1709320-BSD1
CMW-01
CMW-02

SC35361-01 *CMW-01*

This compound is a common laboratory contaminant.

Acetone
Chloromethane

SC35361-02 *CMW-02*

This compound is a common laboratory contaminant.

Acetone

Sample Acceptance Check Form

Client:	Coneco Environmental - Bridgewater, MA
Project:	100 Kennedy Cir. - Newton, MA / 9684
Work Order:	SC35361
Sample(s) received on:	6/2/2017

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: SC35361-01 **Client ID:** CMW-01

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium (dissolved)	0.0871		0.0050	mg/l	SW846 6010C

Lab ID: SC35361-02 **Client ID:** CMW-02

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium (dissolved)	0.284		0.0050	mg/l	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
CMW-01	9684	Ground Water	01-Jun-17 13:47	02-Jun-17
SC35361-01				

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 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.53	1	SW846 8260C	06-Jun-17	07-Jun-17	GMA	1709320	
67-64-1	Acetone	< 10.0	O01	µg/l	10.0	0.80	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	
71-43-2	Benzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.34	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.42	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.00		µg/l	2.00	0.90	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 2.00		µg/l	2.00	1.07	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.41	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.41	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.44	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.25	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.00		µg/l	2.00	0.59	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.00	O01	µg/l	2.00	0.37	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.86	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.32	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.20	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.31	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.31	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.27	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.58	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.29	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.21	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.42	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.58	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 2.00		µg/l	2.00	0.53	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CMW-01	9684	Ground Water	01-Jun-17 13:47	02-Jun-17
SC35361-01				

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													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.36	1	SW846 8260C	06-Jun-17	07-Jun-17	GMA	1709320	
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.24	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00		µg/l	2.00	0.52	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.66	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.35	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.34	1	"	"	"	"	"	
100-42-5	Styrene	< 1.00		µg/l	1.00	0.40	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.57	1	"	"	"	"	"	
108-88-3	Toluene	< 1.00		µg/l	1.00	0.30	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.30	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.51	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.50	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.29	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.43	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.47	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	0.38	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.06	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.37	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.29	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	5.90	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	11.4	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-butene	< 5.00		µg/l	5.00	0.82	1	"	"	"	"	"	
64-17-5	Ethanol	< 200		µg/l	200	30.9	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*92*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*106*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*108*			*70-130 %*			"	"	"	"	"	
MADEP VPH Prepared by method VPH - EPA 5030C Water													
	C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	2.35	1	MADEP VPH 5/2004 Rev. 1.1	06-Jun-17	06-Jun-17	SD	1709329	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CMW-01	9684	Ground Water	01-Jun-17 13:47	02-Jun-17
SC35361-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH													
	C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	0.819	1	MADEP VPH 5/2004 Rev. 1.1	06-Jun-17	06-Jun-17	SD	1709329	
	C9-C10 Aromatic Hydrocarbons	< 25.0		µg/l	25.0	0.394	1	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	1.64	1	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	1.11	1	"	"	"	"	"	
71-43-2	Benzene	< 1.00		µg/l	1.00	0.453	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.420	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.297	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.491	1	"	"	"	"	"	
108-88-3	Toluene	< 1.00		µg/l	1.00	0.373	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	0.819	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.416	1	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*119*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*110*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Prepared by method SW846 3510C													
	C9-C18 Aliphatic Hydrocarbons	< 102		µg/l	102	25.1	1	MADEP EPH 5/2004 R	06-Jun-17	07-Jun-17	SM	1709306	
	C19-C36 Aliphatic Hydrocarbons	< 102		µg/l	102	17.8	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 102		µg/l	102	35.7	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 102		µg/l	102	35.7	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.10		µg/l	5.10	1.47	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 5.10		µg/l	5.10	1.27	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 5.10		µg/l	5.10	1.57	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 5.10		µg/l	5.10	1.69	1	"	"	"	"	"	
86-73-7	Fluorene	< 5.10		µg/l	5.10	1.24	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 5.10		µg/l	5.10	1.61	1	"	"	"	"	"	
120-12-7	Anthracene	< 5.10		µg/l	5.10	1.31	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 5.10		µg/l	5.10	1.46	1	"	"	"	"	"	
129-00-0	Pyrene	< 5.10		µg/l	5.10	1.71	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 5.10		µg/l	5.10	1.55	1	"	"	"	"	"	
218-01-9	Chrysene	< 5.10		µg/l	5.10	1.46	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 5.10		µg/l	5.10	1.61	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 5.10		µg/l	5.10	1.45	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 5.10		µg/l	5.10	1.57	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 5.10		µg/l	5.10	1.37	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 5.10		µg/l	5.10	1.46	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 5.10		µg/l	5.10	1.65	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*79*			*40-140 %*			"	"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CMW-01 SC35361-01	9684	Ground Water	01-Jun-17 13:47	02-Jun-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
MADEP EPH													
84-15-1	*Ortho-Terphenyl*	*69*			*40-140 %*			MADEP EPH 5/2004 R	06-Jun-17	07-Jun-17	SM	1709306	
321-60-8	*2-Fluorobiphenyl*	*74*			*40-140 %*			"	"	"	"	"	
Soluble Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Filtration	**Field Filtered**		N/A			1	EPA 200.7/3005A/6010			BK	1709252	
Soluble Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0006	1	SW846 6010C	06-Jun-17	08-Jun-17	tbc	1709215	
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0014	1	"	"	"	"	"	
7440-39-3	Barium	**0.0871**		mg/l	0.0050	0.0007	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0004	1	"	"	"	"	"	
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0009	1	"	"	"	"	"	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0062	1	"	"	"	"	"	
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0042	1	"	"	"	"	"	
Soluble Metals by EPA 200 Series Methods													
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00013	1	EPA 245.1/7470A	06-Jun-17	07-Jun-17	LNB	1709216	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CMW-02	9684	Ground Water	01-Jun-17 14:42	02-Jun-17
SC35361-02				

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 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.53	1	SW846 8260C	06-Jun-17	07-Jun-17	GMA	1709320	
67-64-1	Acetone	< 10.0	O01	µg/l	10.0	0.80	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	
71-43-2	Benzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.34	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.42	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.00		µg/l	2.00	0.90	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 2.00		µg/l	2.00	1.07	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.41	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.41	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.44	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.25	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.00		µg/l	2.00	0.59	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.00		µg/l	2.00	0.37	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.86	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.32	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.20	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.31	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.31	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.27	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.58	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.29	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.21	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.42	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.58	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 2.00		µg/l	2.00	0.53	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CMW-02	9684	Ground Water	01-Jun-17 14:42	02-Jun-17
SC35361-02				

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													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.36	1	SW846 8260C	06-Jun-17	07-Jun-17	GMA	1709320	
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.24	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00		µg/l	2.00	0.52	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.66	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.35	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.34	1	"	"	"	"	"	
100-42-5	Styrene	< 1.00		µg/l	1.00	0.40	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.57	1	"	"	"	"	"	
108-88-3	Toluene	< 1.00		µg/l	1.00	0.30	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.30	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.51	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.50	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.29	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.43	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.47	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	0.38	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.06	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.37	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.29	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	5.90	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	11.4	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-butene	< 5.00		µg/l	5.00	0.82	1	"	"	"	"	"	
64-17-5	Ethanol	< 200		µg/l	200	30.9	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*92*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*108*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*108*			*70-130 %*			"	"	"	"	"	
MADEP VPH Prepared by method VPH - EPA 5030C Water													
	C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	2.35	1	MADEP VPH 5/2004 Rev. 1.1	06-Jun-17	06-Jun-17	SD	1709329	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CMW-02	9684	Ground Water	01-Jun-17 14:42	02-Jun-17
SC35361-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH													
	C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	0.819	1	MADEP VPH 5/2004 Rev. 1.1	06-Jun-17	06-Jun-17	SD	1709329	
	C9-C10 Aromatic Hydrocarbons	< 25.0		µg/l	25.0	0.394	1	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	1.64	1	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	1.11	1	"	"	"	"	"	
71-43-2	Benzene	< 1.00		µg/l	1.00	0.453	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.420	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.297	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.491	1	"	"	"	"	"	
108-88-3	Toluene	< 1.00		µg/l	1.00	0.373	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	0.819	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.416	1	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*117*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*109*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
MADEP EPH Prepared by method SW846 3510C													
	C9-C18 Aliphatic Hydrocarbons	< 102		µg/l	102	25.1	1	MADEP EPH 5/2004 R	06-Jun-17	07-Jun-17	SM	1709306	
	C19-C36 Aliphatic Hydrocarbons	< 102		µg/l	102	17.8	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	< 102		µg/l	102	35.7	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 102		µg/l	102	35.7	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.10		µg/l	5.10	1.47	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 5.10		µg/l	5.10	1.27	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 5.10		µg/l	5.10	1.57	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 5.10		µg/l	5.10	1.69	1	"	"	"	"	"	
86-73-7	Fluorene	< 5.10		µg/l	5.10	1.24	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 5.10		µg/l	5.10	1.61	1	"	"	"	"	"	
120-12-7	Anthracene	< 5.10		µg/l	5.10	1.31	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 5.10		µg/l	5.10	1.46	1	"	"	"	"	"	
129-00-0	Pyrene	< 5.10		µg/l	5.10	1.71	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 5.10		µg/l	5.10	1.55	1	"	"	"	"	"	
218-01-9	Chrysene	< 5.10		µg/l	5.10	1.46	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 5.10		µg/l	5.10	1.61	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 5.10		µg/l	5.10	1.45	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 5.10		µg/l	5.10	1.57	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 5.10		µg/l	5.10	1.37	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 5.10		µg/l	5.10	1.46	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 5.10		µg/l	5.10	1.65	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*91*			*40-140 %*			"	"	"	"	"	

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Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
CMW-02 SC35361-02	9684	Ground Water	01-Jun-17 14:42	02-Jun-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
MADEP EPH													
84-15-1	*Ortho-Terphenyl*	*84*			*40-140 %*			MADEP EPH 5/2004 R	06-Jun-17	07-Jun-17	SM	1709306	
321-60-8	*2-Fluorobiphenyl*	*70*			*40-140 %*			"	"	"	"	"	
Soluble Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Filtration	**Field Filtered**		N/A			1	EPA 200.7/3005A/6010			BK	1709252	
Soluble Metals by EPA 6000/7000 Series Methods													
Prepared by method SW846 3005A													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0006	1	SW846 6010C	06-Jun-17	08-Jun-17	tbc	1709215	
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0014	1	"	"	"	"	"	
7440-39-3	Barium	**0.284**		mg/l	0.0050	0.0007	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0004	1	"	"	"	"	"	
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0009	1	"	"	"	"	"	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0062	1	"	"	"	"	"	
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0042	1	"	"	"	"	"	
Soluble Metals by EPA 200 Series Methods													
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00013	1	EPA 245.1/7470A	06-Jun-17	07-Jun-17	LNB	1709216	X

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP VPH 5/2004 Rev. 1.1										
Batch 1709329 - VPH - EPA 5030C Water										
Blank (1709329-BLK1)					Prepared & Analyzed: 06-Jun-17					
C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0						
C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0						
C9-C10 Aromatic Hydrocarbons	< 25.0		µg/l	25.0						
Unadjusted C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0						
Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0						
Benzene	< 1.00		µg/l	1.00						
Ethylbenzene	< 1.00		µg/l	1.00						
Methyl tert-butyl ether	< 1.00		µg/l	1.00						
Naphthalene	< 1.00		µg/l	1.00						
Toluene	< 1.00		µg/l	1.00						
m,p-Xylene	< 2.00		µg/l	2.00						
o-Xylene	< 1.00		µg/l	1.00						
2-Methylpentane	< 1.00		µg/l	1.00						
n-Nonane	< 2.00		µg/l	2.00						
n-Pentane	< 2.00		µg/l	2.00						
1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00						
2,2,4-Trimethylpentane	< 1.00		µg/l	1.00						
n-Butylcyclohexane	< 1.00		µg/l	1.00						
n-Decane	< 1.00		µg/l	1.00						
Surrogate: 2,5-Dibromotoluene (FID)	*60.2*		µg/l		*50.0*		*120*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*55.2*		µg/l		*50.0*		*110*	*70-130*		
LCS (1709329-BS1)					Prepared & Analyzed: 06-Jun-17					
C5-C8 Aliphatic Hydrocarbons	**61.6**		µg/l		60.0		103	70-130		
C9-C12 Aliphatic Hydrocarbons	**58.5**		µg/l		60.0		97	70-130		
C9-C10 Aromatic Hydrocarbons	**21.5**		µg/l		20.0		108	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**205**		µg/l		200		102	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**80.0**		µg/l		80.0		100	70-130		
Benzene	**20.4**		µg/l		20.0		102	70-130		
Ethylbenzene	**19.6**		µg/l		20.0		98	70-130		
Methyl tert-butyl ether	**23.2**		µg/l		20.0		116	70-130		
Naphthalene	**20.9**		µg/l		20.0		104	70-130		
Toluene	**20.4**		µg/l		20.0		102	70-130		
m,p-Xylene	**39.6**		µg/l		40.0		99	70-130		
o-Xylene	**19.7**		µg/l		20.0		98	70-130		
2-Methylpentane	**16.4**		µg/l		20.0		82	70-130		
n-Nonane	**17.3**		µg/l		20.0		86	70-130		
n-Pentane	**14.3**		µg/l		20.0		71	70-130		
1,2,4-Trimethylbenzene	**21.5**		µg/l		20.0		108	70-130		
2,2,4-Trimethylpentane	**17.8**		µg/l		20.0		89	70-130		
n-Butylcyclohexane	**18.4**		µg/l		20.0		92	70-130		
n-Decane	**18.9**		µg/l		20.0		94	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*64.9*		µg/l		*50.0*		*130*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*61.5*		µg/l		*50.0*		*123*	*70-130*		
LCS Dup (1709329-BSD1)					Prepared & Analyzed: 06-Jun-17					
C9-C12 Aliphatic Hydrocarbons	**61.1**		µg/l		60.0		102	70-130	4	25
C5-C8 Aliphatic Hydrocarbons	**65.2**		µg/l		60.0		109	70-130	6	25
C9-C10 Aromatic Hydrocarbons	**21.2**		µg/l		20.0		106	70-130	2	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**205**		µg/l		200		103	70-130	0.4	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP VPH 5/2004 Rev. 1.1										
Batch 1709329 - VPH - EPA 5030C Water										
LCS Dup (1709329-BSD1)					Prepared & Analyzed: 06-Jun-17					
Unadjusted C9-C12 Aliphatic Hydrocarbons	**82.3**		µg/l		80.0		103	70-130	3	25
Benzene	**19.9**		µg/l		20.0		100	70-130	2	25
Ethylbenzene	**19.6**		µg/l		20.0		98	70-130	0.5	25
Methyl tert-butyl ether	**21.8**		µg/l		20.0		109	70-130	6	25
Naphthalene	**20.1**		µg/l		20.0		101	70-130	4	25
Toluene	**20.2**		µg/l		20.0		101	70-130	1	25
m,p-Xylene	**39.4**		µg/l		40.0		99	70-130	0.4	25
o-Xylene	**19.3**		µg/l		20.0		96	70-130	2	25
2-Methylpentane	**17.9**		µg/l		20.0		90	70-130	9	25
n-Nonane	**18.7**		µg/l		20.0		94	70-130	8	25
n-Pentane	**15.9**		µg/l		20.0		79	70-130	11	25
1,2,4-Trimethylbenzene	**21.2**		µg/l		20.0		106	70-130	2	25
2,2,4-Trimethylpentane	**19.3**		µg/l		20.0		96	70-130	8	25
n-Butylcyclohexane	**20.1**		µg/l		20.0		101	70-130	9	25
n-Decane	**22.2**		µg/l		20.0		111	70-130	16	25
Surrogate: 2,5-Dibromotoluene (FID)	*64.7*		µg/l		*50.0*		*129*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*60.9*		µg/l		*50.0*		*122*	*70-130*		
SW846 8260C										
Batch 1709320 - SW846 5030 Water MS										
Blank (1709320-BLK1)					Prepared & Analyzed: 06-Jun-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00						
Acetone	< 10.0	O01	µg/l	10.0						
Acrylonitrile	< 0.50		µg/l	0.50						
Benzene	< 1.00		µg/l	1.00						
Bromobenzene	< 1.00		µg/l	1.00						
Bromochloromethane	< 1.00		µg/l	1.00						
Bromodichloromethane	< 0.50		µg/l	0.50						
Bromoform	< 1.00		µg/l	1.00						
Bromomethane	< 2.00		µg/l	2.00						
2-Butanone (MEK)	< 2.00		µg/l	2.00						
n-Butylbenzene	< 1.00		µg/l	1.00						
sec-Butylbenzene	< 1.00		µg/l	1.00						
tert-Butylbenzene	< 1.00		µg/l	1.00						
Carbon disulfide	< 2.00		µg/l	2.00						
Carbon tetrachloride	< 1.00		µg/l	1.00						
Chlorobenzene	< 1.00		µg/l	1.00						
Chloroethane	< 2.00		µg/l	2.00						
Chloroform	< 1.00		µg/l	1.00						
Chloromethane	< 2.00	O01	µg/l	2.00						
2-Chlorotoluene	< 1.00		µg/l	1.00						
4-Chlorotoluene	< 1.00		µg/l	1.00						
1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00						
Dibromochloromethane	< 0.50		µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50						
Dibromomethane	< 1.00		µg/l	1.00						
1,2-Dichlorobenzene	< 1.00		µg/l	1.00						
1,3-Dichlorobenzene	< 1.00		µg/l	1.00						
1,4-Dichlorobenzene	< 1.00		µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1709320 - SW846 5030 Water MS										
Blank (1709320-BLK1)					Prepared & Analyzed: 06-Jun-17					
1,1-Dichloroethane	< 1.00		µg/l	1.00						
1,2-Dichloroethane	< 1.00		µg/l	1.00						
1,1-Dichloroethene	< 1.00		µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00		µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00		µg/l	1.00						
1,2-Dichloropropane	< 1.00		µg/l	1.00						
1,3-Dichloropropane	< 1.00		µg/l	1.00						
2,2-Dichloropropane	< 1.00		µg/l	1.00						
1,1-Dichloropropene	< 1.00		µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50		µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50		µg/l	0.50						
Ethylbenzene	< 1.00		µg/l	1.00						
Hexachlorobutadiene	< 0.50		µg/l	0.50						
2-Hexanone (MBK)	< 2.00		µg/l	2.00						
Isopropylbenzene	< 1.00		µg/l	1.00						
4-Isopropyltoluene	< 1.00		µg/l	1.00						
Methyl tert-butyl ether	< 1.00		µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 2.00		µg/l	2.00						
Methylene chloride	< 2.00		µg/l	2.00						
Naphthalene	< 1.00		µg/l	1.00						
n-Propylbenzene	< 1.00		µg/l	1.00						
Styrene	< 1.00		µg/l	1.00						
1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00						
1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50						
Tetrachloroethene	< 1.00		µg/l	1.00						
Toluene	< 1.00		µg/l	1.00						
1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00						
1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00						
1,1,1-Trichloroethane	< 1.00		µg/l	1.00						
1,1,2-Trichloroethane	< 1.00		µg/l	1.00						
Trichloroethene	< 1.00		µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00						
1,2,3-Trichloropropane	< 1.00		µg/l	1.00						
1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00						
1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00						
Vinyl chloride	< 1.00		µg/l	1.00						
m,p-Xylene	< 2.00		µg/l	2.00						
o-Xylene	< 1.00		µg/l	1.00						
Tetrahydrofuran	< 2.00		µg/l	2.00						
Ethyl ether	< 1.00		µg/l	1.00						
Tert-amyl methyl ether	< 1.00		µg/l	1.00						
Ethyl tert-butyl ether	< 1.00		µg/l	1.00						
Di-isopropyl ether	< 1.00		µg/l	1.00						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
1,4-Dioxane	< 20.0		µg/l	20.0						
trans-1,4-Dichloro-2-butene	< 5.00		µg/l	5.00						
Ethanol	< 200	O01	µg/l	200						
Surrogate: 4-Bromofluorobenzene	*46.2*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: Toluene-d8	*51.4*		µg/l		*50.0*		*103*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1709320 - SW846 5030 Water MS										
Blank (1709320-BLK1)						Prepared & Analyzed: 06-Jun-17				
Surrogate: 1,2-Dichloroethane-d4	*53.1*		µg/l		*50.0*		*106*	*70-130*		
Surrogate: Dibromofluoromethane	*52.4*		µg/l		*50.0*		*105*	*70-130*		
LCS (1709320-BS1)						Prepared & Analyzed: 06-Jun-17				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**22.1**		µg/l		20.0		111	70-130		
Acetone	**18.6**		µg/l		20.0		93	70-130		
Acrylonitrile	**20.1**		µg/l		20.0		100	70-130		
Benzene	**20.3**		µg/l		20.0		102	70-130		
Bromobenzene	**20.4**		µg/l		20.0		102	70-130		
Bromochloromethane	**20.1**		µg/l		20.0		101	70-130		
Bromodichloromethane	**18.9**		µg/l		20.0		95	70-130		
Bromoform	**18.1**		µg/l		20.0		90	70-130		
Bromomethane	**21.1**		µg/l		20.0		106	70-130		
2-Butanone (MEK)	**15.6**		µg/l		20.0		78	70-130		
n-Butylbenzene	**16.7**		µg/l		20.0		83	70-130		
sec-Butylbenzene	**17.7**		µg/l		20.0		89	70-130		
tert-Butylbenzene	**17.3**		µg/l		20.0		87	70-130		
Carbon disulfide	**19.4**		µg/l		20.0		97	70-130		
Carbon tetrachloride	**19.4**		µg/l		20.0		97	70-130		
Chlorobenzene	**20.0**		µg/l		20.0		100	70-130		
Chloroethane	**21.6**		µg/l		20.0		108	70-130		
Chloroform	**17.9**		µg/l		20.0		89	70-130		
Chloromethane	**21.1**		µg/l		20.0		106	70-130		
2-Chlorotoluene	**21.4**		µg/l		20.0		107	70-130		
4-Chlorotoluene	**20.9**		µg/l		20.0		105	70-130		
1,2-Dibromo-3-chloropropane	**15.7**		µg/l		20.0		78	70-130		
Dibromochloromethane	**18.8**		µg/l		20.0		94	70-130		
1,2-Dibromoethane (EDB)	**20.5**		µg/l		20.0		102	70-130		
Dibromomethane	**20.0**		µg/l		20.0		100	70-130		
1,2-Dichlorobenzene	**19.1**		µg/l		20.0		96	70-130		
1,3-Dichlorobenzene	**20.7**		µg/l		20.0		104	70-130		
1,4-Dichlorobenzene	**18.1**		µg/l		20.0		91	70-130		
Dichlorodifluoromethane (Freon12)	**18.5**		µg/l		20.0		92	70-130		
1,1-Dichloroethane	**21.7**		µg/l		20.0		108	70-130		
1,2-Dichloroethane	**19.5**		µg/l		20.0		98	70-130		
1,1-Dichloroethene	**22.4**		µg/l		20.0		112	70-130		
cis-1,2-Dichloroethene	**17.1**		µg/l		20.0		86	70-130		
trans-1,2-Dichloroethene	**21.6**		µg/l		20.0		108	70-130		
1,2-Dichloropropane	**19.8**		µg/l		20.0		99	70-130		
1,3-Dichloropropane	**19.6**		µg/l		20.0		98	70-130		
2,2-Dichloropropane	**19.4**		µg/l		20.0		97	70-130		
1,1-Dichloropropene	**20.4**		µg/l		20.0		102	70-130		
cis-1,3-Dichloropropene	**18.2**		µg/l		20.0		91	70-130		
trans-1,3-Dichloropropene	**17.7**		µg/l		20.0		88	70-130		
Ethylbenzene	**20.5**		µg/l		20.0		102	70-130		
Hexachlorobutadiene	**17.2**		µg/l		20.0		86	70-130		
2-Hexanone (MBK)	**15.0**		µg/l		20.0		75	70-130		
Isopropylbenzene	**20.6**		µg/l		20.0		103	70-130		
4-Isopropyltoluene	**16.4**		µg/l		20.0		82	70-130		
Methyl tert-butyl ether	**19.7**		µg/l		20.0		98	70-130		
4-Methyl-2-pentanone (MIBK)	**16.8**		µg/l		20.0		84	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1709320 - SW846 5030 Water MS										
LCS (1709320-BS1)					Prepared & Analyzed: 06-Jun-17					
Methylene chloride	**21.4**		µg/l		20.0		107	70-130		
Naphthalene	**17.0**		µg/l		20.0		85	70-130		
n-Propylbenzene	**18.5**		µg/l		20.0		92	70-130		
Styrene	**18.3**		µg/l		20.0		91	70-130		
1,1,1,2-Tetrachloroethane	**17.8**		µg/l		20.0		89	70-130		
1,1,2,2-Tetrachloroethane	**20.3**		µg/l		20.0		101	70-130		
Tetrachloroethene	**19.4**		µg/l		20.0		97	70-130		
Toluene	**20.7**		µg/l		20.0		103	70-130		
1,2,3-Trichlorobenzene	**18.9**		µg/l		20.0		95	70-130		
1,2,4-Trichlorobenzene	**17.9**		µg/l		20.0		89	70-130		
1,3,5-Trichlorobenzene	**18.0**		µg/l		20.0		90	70-130		
1,1,1-Trichloroethane	**20.3**		µg/l		20.0		102	70-130		
1,1,2-Trichloroethane	**20.7**		µg/l		20.0		103	70-130		
Trichloroethene	**19.5**		µg/l		20.0		98	70-130		
Trichlorofluoromethane (Freon 11)	**21.9**		µg/l		20.0		110	70-130		
1,2,3-Trichloropropane	**19.4**		µg/l		20.0		97	70-130		
1,2,4-Trimethylbenzene	**17.0**		µg/l		20.0		85	70-130		
1,3,5-Trimethylbenzene	**17.2**		µg/l		20.0		86	70-130		
Vinyl chloride	**21.3**		µg/l		20.0		107	70-130		
m,p-Xylene	**21.5**		µg/l		20.0		107	70-130		
o-Xylene	**19.4**		µg/l		20.0		97	70-130		
Tetrahydrofuran	**15.7**		µg/l		20.0		79	70-130		
Ethyl ether	**21.8**		µg/l		20.0		109	70-130		
Tert-amyl methyl ether	**17.9**		µg/l		20.0		90	70-130		
Ethyl tert-butyl ether	**17.8**		µg/l		20.0		89	70-130		
Di-isopropyl ether	**16.2**		µg/l		20.0		81	70-130		
Tert-Butanol / butyl alcohol	**174**		µg/l		200		87	70-130		
1,4-Dioxane	**165**		µg/l		200		82	70-130		
trans-1,4-Dichloro-2-butene	**15.8**		µg/l		20.0		79	70-130		
Ethanol	**734**	QC2	µg/l		400		184	70-130		
Surrogate: 4-Bromofluorobenzene	*51.9*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.8*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*51.2*		µg/l		*50.0*		*102*	*70-130*		
LCS Dup (1709320-BSD1)					Prepared & Analyzed: 06-Jun-17					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.8**		µg/l		20.0		104	70-130	6	20
Acetone	**16.7**		µg/l		20.0		83	70-130	11	20
Acrylonitrile	**20.2**		µg/l		20.0		101	70-130	0.3	20
Benzene	**19.4**		µg/l		20.0		97	70-130	5	20
Bromobenzene	**19.9**		µg/l		20.0		100	70-130	3	20
Bromochloromethane	**19.5**		µg/l		20.0		97	70-130	3	20
Bromodichloromethane	**17.7**		µg/l		20.0		88	70-130	7	20
Bromoform	**17.0**		µg/l		20.0		85	70-130	6	20
Bromomethane	**20.8**		µg/l		20.0		104	70-130	2	20
2-Butanone (MEK)	**12.0**	QR2	µg/l		20.0		60	70-130	26	20
n-Butylbenzene	**16.4**		µg/l		20.0		82	70-130	1	20
sec-Butylbenzene	**17.2**		µg/l		20.0		86	70-130	3	20
tert-Butylbenzene	**16.7**		µg/l		20.0		84	70-130	4	20
Carbon disulfide	**18.7**		µg/l		20.0		93	70-130	4	20
Carbon tetrachloride	**18.3**		µg/l		20.0		92	70-130	6	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1709320 - SW846 5030 Water MS										
LCS Dup (1709320-BSD1)					Prepared & Analyzed: 06-Jun-17					
Chlorobenzene	**19.2**		µg/l		20.0		96	70-130	4	20
Chloroethane	**20.5**		µg/l		20.0		103	70-130	5	20
Chloroform	**17.0**		µg/l		20.0		85	70-130	5	20
Chloromethane	**20.6**		µg/l		20.0		103	70-130	3	20
2-Chlorotoluene	**20.6**		µg/l		20.0		103	70-130	4	20
4-Chlorotoluene	**20.3**		µg/l		20.0		102	70-130	3	20
1,2-Dibromo-3-chloropropane	**16.9**		µg/l		20.0		84	70-130	7	20
Dibromochloromethane	**18.1**		µg/l		20.0		90	70-130	4	20
1,2-Dibromoethane (EDB)	**19.8**		µg/l		20.0		99	70-130	3	20
Dibromomethane	**19.1**		µg/l		20.0		96	70-130	4	20
1,2-Dichlorobenzene	**19.0**		µg/l		20.0		95	70-130	0.9	20
1,3-Dichlorobenzene	**19.9**		µg/l		20.0		99	70-130	4	20
1,4-Dichlorobenzene	**18.0**		µg/l		20.0		90	70-130	0.6	20
Dichlorodifluoromethane (Freon12)	**17.6**		µg/l		20.0		88	70-130	5	20
1,1-Dichloroethane	**20.8**		µg/l		20.0		104	70-130	4	20
1,2-Dichloroethane	**19.3**		µg/l		20.0		96	70-130	1	20
1,1-Dichloroethene	**20.6**		µg/l		20.0		103	70-130	8	20
cis-1,2-Dichloroethene	**16.3**		µg/l		20.0		82	70-130	5	20
trans-1,2-Dichloroethene	**20.6**		µg/l		20.0		103	70-130	5	20
1,2-Dichloropropane	**19.0**		µg/l		20.0		95	70-130	4	20
1,3-Dichloropropane	**19.2**		µg/l		20.0		96	70-130	2	20
2,2-Dichloropropane	**18.2**		µg/l		20.0		91	70-130	6	20
1,1-Dichloropropene	**19.8**		µg/l		20.0		99	70-130	3	20
cis-1,3-Dichloropropene	**17.6**		µg/l		20.0		88	70-130	4	20
trans-1,3-Dichloropropene	**17.2**		µg/l		20.0		86	70-130	3	20
Ethylbenzene	**20.0**		µg/l		20.0		100	70-130	2	20
Hexachlorobutadiene	**17.6**		µg/l		20.0		88	70-130	2	20
2-Hexanone (MBK)	**15.0**		µg/l		20.0		75	70-130	0.07	20
Isopropylbenzene	**19.9**		µg/l		20.0		100	70-130	3	20
4-Isopropyltoluene	**16.3**		µg/l		20.0		81	70-130	0.6	20
Methyl tert-butyl ether	**19.6**		µg/l		20.0		98	70-130	0.8	20
4-Methyl-2-pentanone (MIBK)	**17.2**		µg/l		20.0		86	70-130	2	20
Methylene chloride	**20.6**		µg/l		20.0		103	70-130	3	20
Naphthalene	**18.3**		µg/l		20.0		92	70-130	7	20
n-Propylbenzene	**17.8**		µg/l		20.0		89	70-130	4	20
Styrene	**18.0**		µg/l		20.0		90	70-130	1	20
1,1,1,2-Tetrachloroethane	**17.6**		µg/l		20.0		88	70-130	1	20
1,1,2,2-Tetrachloroethane	**19.8**		µg/l		20.0		99	70-130	2	20
Tetrachloroethene	**19.2**		µg/l		20.0		96	70-130	1	20
Toluene	**19.8**		µg/l		20.0		99	70-130	5	20
1,2,3-Trichlorobenzene	**19.9**		µg/l		20.0		100	70-130	5	20
1,2,4-Trichlorobenzene	**18.5**		µg/l		20.0		92	70-130	3	20
1,3,5-Trichlorobenzene	**18.1**		µg/l		20.0		90	70-130	0.2	20
1,1,1-Trichloroethane	**19.4**		µg/l		20.0		97	70-130	5	20
1,1,2-Trichloroethane	**20.0**		µg/l		20.0		100	70-130	4	20
Trichloroethene	**18.6**		µg/l		20.0		93	70-130	5	20
Trichlorofluoromethane (Freon 11)	**20.8**		µg/l		20.0		104	70-130	5	20
1,2,3-Trichloropropane	**19.0**		µg/l		20.0		95	70-130	2	20
1,2,4-Trimethylbenzene	**16.4**		µg/l		20.0		82	70-130	4	20
1,3,5-Trimethylbenzene	**16.6**		µg/l		20.0		83	70-130	3	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1709320 - SW846 5030 Water MS										
LCS Dup (1709320-BSD1)					Prepared & Analyzed: 06-Jun-17					
Vinyl chloride	**20.3**		µg/l		20.0		101	70-130	5	20
m,p-Xylene	**20.4**		µg/l		20.0		102	70-130	5	20
o-Xylene	**18.6**		µg/l		20.0		93	70-130	4	20
Tetrahydrofuran	**15.7**		µg/l		20.0		78	70-130	0.2	20
Ethyl ether	**21.8**		µg/l		20.0		109	70-130	0.2	20
Tert-amyl methyl ether	**17.6**		µg/l		20.0		88	70-130	2	20
Ethyl tert-butyl ether	**17.8**		µg/l		20.0		89	70-130	0.2	20
Di-isopropyl ether	**15.3**		µg/l		20.0		77	70-130	5	20
Tert-Butanol / butyl alcohol	**180**		µg/l		200		90	70-130	3	20
1,4-Dioxane	**174**		µg/l		200		87	70-130	5	20
trans-1,4-Dichloro-2-butene	**16.9**		µg/l		20.0		84	70-130	6	20
Ethanol	**746**	QC2	µg/l		400		186	70-130	2	20
Surrogate: 4-Bromofluorobenzene	*51.9*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*51.1*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.5*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: Dibromofluoromethane	*51.3*		µg/l		*50.0*		*103*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1709306 - SW846 3510C										
Blank (1709306-BLK1)					Prepared: 06-Jun-17 Analyzed: 07-Jun-17					
C9-C18 Aliphatic Hydrocarbons	< 100		µg/l	100						
C19-C36 Aliphatic Hydrocarbons	< 100		µg/l	100						
C11-C22 Aromatic Hydrocarbons	< 100		µg/l	100						
Unadjusted C11-C22 Aromatic Hydrocarbons	< 100		µg/l	100						
Total Petroleum Hydrocarbons	< 300		µg/l	300						
Unadjusted Total Petroleum Hydrocarbons	< 300		µg/l	300						
Naphthalene	< 5.00		µg/l	5.00						
2-Methylnaphthalene	< 5.00		µg/l	5.00						
Acenaphthylene	< 5.00		µg/l	5.00						
Acenaphthene	< 5.00		µg/l	5.00						
Fluorene	< 5.00		µg/l	5.00						
Phenanthrene	< 5.00		µg/l	5.00						
Anthracene	< 5.00		µg/l	5.00						
Fluoranthene	< 5.00		µg/l	5.00						
Pyrene	< 5.00		µg/l	5.00						
Benzo (a) anthracene	< 5.00		µg/l	5.00						
Chrysene	< 5.00		µg/l	5.00						
Benzo (b) fluoranthene	< 5.00		µg/l	5.00						
Benzo (k) fluoranthene	< 5.00		µg/l	5.00						
Benzo (a) pyrene	< 5.00		µg/l	5.00						
Indeno (1,2,3-cd) pyrene	< 5.00		µg/l	5.00						
Dibenzo (a,h) anthracene	< 5.00		µg/l	5.00						
Benzo (g,h,i) perylene	< 5.00		µg/l	5.00						
n-Nonane (C9)	< 5.00		µg/l	5.00						
n-Decane	< 5.00		µg/l	5.00						
n-Dodecane	< 5.00		µg/l	5.00						
n-Tetradecane	< 5.00		µg/l	5.00						
n-Hexadecane	< 5.00		µg/l	5.00						
n-Octadecane	< 5.00		µg/l	5.00						
n-Nonadecane	< 5.00		µg/l	5.00						
n-Eicosane	< 5.00		µg/l	5.00						
n-Docosane	< 5.00		µg/l	5.00						
n-Tetracosane	< 5.00		µg/l	5.00						
n-Hexacosane	< 5.00		µg/l	5.00						
n-Octacosane	< 5.00		µg/l	5.00						
n-Triacontane	< 5.00		µg/l	5.00						
n-Hexatriacontane	< 5.00		µg/l	5.00						
Naphthalene (aliphatic fraction)	**0.00**		µg/l							
2-Methylnaphthalene (aliphatic fraction)	**0.00**		µg/l							
Surrogate: 1-Chlorooctadecane	*43.5*		µg/l		*50.0*		*87*	*40-140*		
Surrogate: Ortho-Terphenyl	*45.2*		µg/l		*50.0*		*90*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*28.3*		µg/l		*40.0*		*71*	*40-140*		
LCS (1709306-BS1)					Prepared: 06-Jun-17 Analyzed: 07-Jun-17					
C9-C18 Aliphatic Hydrocarbons	**266**		µg/l	100	600		44	40-140		
C19-C36 Aliphatic Hydrocarbons	**345**		µg/l	100	800		43	40-140		
Unadjusted C11-C22 Aromatic Hydrocarbons	**218**		µg/l	100	340		64	40-140		
Naphthalene	**23.9**		µg/l	5.00	20.0		119	40-140		
2-Methylnaphthalene	**24.6**		µg/l	5.00	20.0		123	40-140		
Acenaphthylene	**24.4**		µg/l	5.00	20.0		122	40-140		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1709306 - SW846 3510C										
LCS (1709306-BS1)					Prepared: 06-Jun-17 Analyzed: 07-Jun-17					
Acenaphthene	**25.0**		µg/l	5.00	20.0		125	40-140		
Fluorene	**26.8**		µg/l	5.00	20.0		134	40-140		
Phenanthrene	**26.5**		µg/l	5.00	20.0		132	40-140		
Anthracene	**26.5**		µg/l	5.00	20.0		132	40-140		
Fluoranthene	**26.6**		µg/l	5.00	20.0		133	40-140		
Pyrene	**25.6**		µg/l	5.00	20.0		128	40-140		
Benzo (a) anthracene	**25.3**		µg/l	5.00	20.0		127	40-140		
Chrysene	**24.7**		µg/l	5.00	20.0		123	40-140		
Benzo (b) fluoranthene	**24.6**		µg/l	5.00	20.0		123	40-140		
Benzo (k) fluoranthene	**22.5**		µg/l	5.00	20.0		113	40-140		
Benzo (a) pyrene	**23.1**		µg/l	5.00	20.0		115	40-140		
Indeno (1,2,3-cd) pyrene	**21.7**		µg/l	5.00	20.0		109	40-140		
Dibenzo (a,h) anthracene	**20.9**		µg/l	5.00	20.0		105	40-140		
Benzo (g,h,i) perylene	**22.3**		µg/l	5.00	20.0		111	40-140		
n-Nonane (C9)	**50.6**		µg/l	5.00	100		51	30-140		
n-Decane	**50.4**		µg/l	5.00	100		50	40-140		
n-Dodecane	**50.8**		µg/l	5.00	100		51	40-140		
n-Tetradecane	**55.8**		µg/l	5.00	100		56	40-140		
n-Hexadecane	**63.4**		µg/l	5.00	100		63	40-140		
n-Octadecane	**68.1**		µg/l	5.00	100		68	40-140		
n-Nonadecane	**68.8**		µg/l	5.00	100		69	40-140		
n-Eicosane	**69.6**		µg/l	5.00	100		70	40-140		
n-Docosane	**69.8**		µg/l	5.00	100		70	40-140		
n-Tetracosane	**66.6**		µg/l	5.00	100		67	40-140		
n-Hexacosane	**62.4**		µg/l	5.00	100		62	40-140		
n-Octacosane	**61.0**		µg/l	5.00	100		61	40-140		
n-Triacontane	**59.1**		µg/l	5.00	100		59	40-140		
n-Hexatriacontane	**48.8**		µg/l	5.00	100		49	40-140		
Naphthalene (aliphatic fraction)	**0.00**		µg/l		20.0			0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		µg/l		20.0			0-200		
Surrogate: 1-Chlorooctadecane	*63.1*		µg/l		*50.0*		*126*	*40-140*		
Surrogate: Ortho-Terphenyl	*30.2*		µg/l		*50.0*		*60*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*18.1*		µg/l		*40.0*		*45*	*40-140*		
LCS Dup (1709306-BSD1)					Prepared: 06-Jun-17 Analyzed: 07-Jun-17					
C9-C18 Aliphatic Hydrocarbons	**327**		µg/l	100	600		54	40-140	20	25
C19-C36 Aliphatic Hydrocarbons	**320**		µg/l	100	800		40	40-140	7	25
Unadjusted C11-C22 Aromatic Hydrocarbons	**187**		µg/l	100	340		55	40-140	16	25
Naphthalene	**23.3**		µg/l	5.00	20.0		117	40-140	2	25
2-Methylnaphthalene	**23.3**		µg/l	5.00	20.0		116	40-140	5	25
Acenaphthylene	**23.7**		µg/l	5.00	20.0		118	40-140	3	25
Acenaphthene	**23.8**		µg/l	5.00	20.0		119	40-140	5	25
Fluorene	**25.5**		µg/l	5.00	20.0		128	40-140	5	25
Phenanthrene	**25.3**		µg/l	5.00	20.0		126	40-140	5	25
Anthracene	**25.4**		µg/l	5.00	20.0		127	40-140	4	25
Fluoranthene	**25.5**		µg/l	5.00	20.0		128	40-140	4	25
Pyrene	**24.9**		µg/l	5.00	20.0		125	40-140	3	25
Benzo (a) anthracene	**25.7**		µg/l	5.00	20.0		129	40-140	2	25
Chrysene	**25.2**		µg/l	5.00	20.0		126	40-140	2	25
Benzo (b) fluoranthene	**23.8**		µg/l	5.00	20.0		119	40-140	3	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MADEP EPH 5/2004 R										
Batch 1709306 - SW846 3510C										
LCS Dup (1709306-BSD1)					Prepared: 06-Jun-17 Analyzed: 07-Jun-17					
Benzo (k) fluoranthene	**24.8**		µg/l	5.00	20.0		124	40-140	10	25
Benzo (a) pyrene	**25.4**		µg/l	5.00	20.0		127	40-140	10	25
Indeno (1,2,3-cd) pyrene	**23.8**		µg/l	5.00	20.0		119	40-140	9	25
Dibenzo (a,h) anthracene	**23.0**		µg/l	5.00	20.0		115	40-140	9	25
Benzo (g,h,i) perylene	**24.1**		µg/l	5.00	20.0		121	40-140	8	25
n-Nonane (C9)	**45.2**		µg/l	5.00	100		45	30-140	11	25
n-Decane	**46.0**		µg/l	5.00	100		46	40-140	9	25
n-Dodecane	**45.3**		µg/l	5.00	100		45	40-140	11	25
n-Tetradecane	**49.2**		µg/l	5.00	100		49	40-140	13	25
n-Hexadecane	**55.1**		µg/l	5.00	100		55	40-140	14	25
n-Octadecane	**58.7**		µg/l	5.00	100		59	40-140	15	25
n-Nonadecane	**59.2**		µg/l	5.00	100		59	40-140	15	25
n-Eicosane	**59.9**		µg/l	5.00	100		60	40-140	15	25
n-Docosane	**60.6**		µg/l	5.00	100		61	40-140	14	25
n-Tetracosane	**59.7**		µg/l	5.00	100		60	40-140	11	25
n-Hexacosane	**60.9**		µg/l	5.00	100		61	40-140	2	25
n-Octacosane	**62.1**		µg/l	5.00	100		62	40-140	2	25
n-Triacontane	**60.2**		µg/l	5.00	100		60	40-140	2	25
n-Hexatriacontane	**50.3**		µg/l	5.00	100		50	40-140	3	25
Naphthalene (aliphatic fraction)	**0.00**		µg/l		20.0			0-200		200
2-Methylnaphthalene (aliphatic fraction)	**0.00**		µg/l		20.0			0-200		200
Surrogate: 1-Chlorooctadecane	*53.4*		µg/l		*50.0*		*107*	*40-140*		
Surrogate: Ortho-Terphenyl	*31.1*		µg/l		*50.0*		*62*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*18.5*		µg/l		*40.0*		*46*	*40-140*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 6010C										
Batch 1709215 - SW846 3005A										
Blank (1709215-BLK1)					Prepared: 06-Jun-17 Analyzed: 08-Jun-17					
Silver	< 0.0050		mg/l	0.0050						
Arsenic	< 0.0040		mg/l	0.0040						
Barium	< 0.0050		mg/l	0.0050						
Cadmium	< 0.0025		mg/l	0.0025						
Chromium	< 0.0050		mg/l	0.0050						
Lead	< 0.0075		mg/l	0.0075						
Selenium	< 0.0150		mg/l	0.0150						
LCS (1709215-BS1)					Prepared: 06-Jun-17 Analyzed: 08-Jun-17					
Arsenic	**1.28**		mg/l	0.0040	1.25		103	85-115		
Selenium	**1.29**		mg/l	0.0150	1.25		104	85-115		
Lead	**1.29**		mg/l	0.0075	1.25		103	85-115		
Chromium	**1.31**		mg/l	0.0050	1.25		105	85-115		
Barium	**1.33**		mg/l	0.0050	1.25		106	85-115		
Silver	**1.27**		mg/l	0.0050	1.25		102	85-115		
Cadmium	**1.29**		mg/l	0.0025	1.25		103	85-115		
LCS Dup (1709215-BSD1)					Prepared: 06-Jun-17 Analyzed: 08-Jun-17					
Silver	**1.25**		mg/l	0.0050	1.25		100	85-115	2	20
Arsenic	**1.26**		mg/l	0.0040	1.25		101	85-115	2	20
Barium	**1.32**		mg/l	0.0050	1.25		105	85-115	0.5	20
Cadmium	**1.26**		mg/l	0.0025	1.25		101	85-115	2	20
Chromium	**1.29**		mg/l	0.0050	1.25		103	85-115	2	20
Lead	**1.26**		mg/l	0.0075	1.25		101	85-115	2	20
Selenium	**1.27**		mg/l	0.0150	1.25		102	85-115	2	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 245.1/7470A										
Batch 1709216 - EPA200/SW7000 Series										
Blank (1709216-BLK1)							Prepared: 06-Jun-17 Analyzed: 07-Jun-17			
Mercury	< 0.00020		mg/l	0.00020						
LCS (1709216-BS1)							Prepared: 06-Jun-17 Analyzed: 07-Jun-17			
Mercury	**0.00442**		mg/l	0.00020	0.00500		88	85-115		

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S705139				
Calibration Check (S705139-CCV2)				
C9-C18 Aliphatic Hydrocarbons	667108.1	326523.5	-18.0	25
C19-C36 Aliphatic Hydrocarbons	1220327	331296.5	-23.2	25
Unadjusted C11-C22 Aromatic Hydrocarbons	4176284	5150929	-19.4	20
Naphthalene	8.783097	7.381681	2.8	20
2-Methylnaphthalene	5.818318	4.351862	-5.6	20
Acenaphthylene	8.099292	6.488629	-3.1	20
Acenaphthene	5.986356	4.267914	-4.5	20
Fluorene	6.36157	4.806358	5.4	20
Phenanthrene	9.380805	7.040005	4.1	20
Anthracene	9.200579	7.017912	2.6	20
Fluoranthene	9.989373	7.816596	2.4	20
Pyrene	10.41355	8.0432	0.9	20
Benzo (a) anthracene	8.789249	8.419862	8.3	20
Chrysene	9.472413	7.785405	3.6	20
Benzo (b) fluoranthene	10.05384	8.465062	0.09	20
Benzo (k) fluoranthene	10.41982	7.988526	-3.6	20
Benzo (a) pyrene	9.663554	8.047528	1.8	20
Indeno (1,2,3-cd) pyrene	11.5515	9.562672	-4.5	20
Dibenzo (a,h) anthracene	10.29062	7.797037	-9.6	20
Benzo (g,h,i) perylene	10.21267	7.755546	-3.9	20
n-Nonane (C9)	302803.3	231112.8	-23.7	25
n-Decane	305363	236086.8	-22.7	25
n-Dodecane	300753.8	233666.6	-22.3	25
n-Tetradecane	274762.4	235991.6	-14.1	25
n-Hexadecane	240161.2	234734	-2.3	25
n-Octadecane	225386.9	237265.4	5.3	25
n-Nonadecane	219026.4	233738.4	6.7	25
n-Eicosane	216498.4	234076.2	8.1	25
n-Docosane	213393.7	235314.6	10.3	25
n-Tetracosane	213070.6	234255.2	9.9	25
n-Hexacosane	213606.1	235320.6	10.2	25
n-Octacosane	210152.9	236653.6	12.6	25
n-Triacontane	211099.8	232561.4	10.2	25
n-Hexatriacontane	205271.2	198315	-3.4	25
Naphthalene (aliphatic fraction)	307771.7			
2-Methylnaphthalene (aliphatic fraction)	308474.3			
Calibration Check (S705139-CCV4)				
C9-C18 Aliphatic Hydrocarbons	667108.1	327467.1	-17.7	25
C19-C36 Aliphatic Hydrocarbons	1220327	334870.3	-20.9	25
Unadjusted C11-C22 Aromatic Hydrocarbons	4176284	4356546	-12.5	20
Naphthalene	8.783097	7.105978	-1.9	20
2-Methylnaphthalene	5.818318	4.643308	1.9	20
Acenaphthylene	8.099292	7.024508	6.5	20
Acenaphthene	5.986356	4.662461	5.9	20
Fluorene	6.36157	5.164742	14.6	20
Phenanthrene	9.380805	7.530718	12.9	20
Anthracene	9.200579	7.577587	12.6	20
Fluoranthene	9.989373	8.343127	10.7	20
Pyrene	10.41355	8.446502	7.0	20
Benzo (a) anthracene	8.789249	8.543611	10.1	20
Chrysene	9.472413	7.936746	5.9	20

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S705139				
Calibration Check (S705139-CCV4)				
Benzo (b) fluoranthene	10.05384	8.515964	0.7	20
Benzo (k) fluoranthene	10.41982	8.262123	0.09	20
Benzo (a) pyrene	9.663554	8.191356	3.7	20
Indeno (1,2,3-cd) pyrene	11.5515	9.694811	-3.2	20
Dibenzo (a,h) anthracene	10.29062	7.995596	-7.2	20
Benzo (g,h,i) perylene	10.21267	7.771814	-3.7	20
n-Nonane (C9)	302803.3	227992	-24.7	25
n-Decane	305363	229620.2	-24.8	25
n-Dodecane	300753.8	227161.4	-24.5	25
n-Tetradecane	274762.4	220700.2	-19.7	25
n-Hexadecane	240161.2	213673	-11.0	25
n-Octadecane	225386.9	215656.4	-4.3	25
n-Nonadecane	219026.4	212275.6	-3.1	25
n-Eicosane	216498.4	212870.8	-1.7	25
n-Docosane	213393.7	214840.4	0.7	25
n-Tetracosane	213070.6	214240.2	0.5	25
n-Hexacosane	213606.1	215092.2	0.7	25
n-Octacosane	210152.9	216848.8	3.2	25
n-Triacontane	211099.8	213918.6	1.3	25
n-Hexatriacontane	205271.2	183624.2	-10.5	25
Naphthalene (aliphatic fraction)	307771.7			
2-Methylnaphthalene (aliphatic fraction)	308474.3			

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S705069				
Calibration Check (S705069-CCV1)				
Benzene	166290.9	194576.8	17.0	25
Ethylbenzene	102815.9	117458.1	14.2	25
Methyl tert-butyl ether	83809.23	97028.75	15.8	25
Naphthalene	72269.48	79447.3	9.9	25
Toluene	133271.7	158075.1	18.6	25
m,p-Xylene	110719.7	125612.7	13.5	25
o-Xylene	98376.68	108956.3	10.8	25
2-Methylpentane	23756.69	27561.7	16.0	25
n-Nonane	13550.12	15658.35	15.6	30
n-Pentane	21597.48	22066.7	2.2	25
1,2,4-Trimethylbenzene	89163.28	107240.4	20.3	25
2,2,4-Trimethylpentane	22645.14	26990.85	19.2	25
n-Butylcyclohexane	14160.01	16383.45	15.7	25
n-Decane	11735.34	14119.6	20.3	25
Calibration Check (S705069-CCV2)				
Benzene	166290.9	171082.8	2.9	25
Ethylbenzene	102815.9	101315	-1.5	25
Methyl tert-butyl ether	83809.23	91243.8	8.9	25
Naphthalene	72269.48	74773	3.5	25
Toluene	133271.7	136444.9	2.4	25
m,p-Xylene	110719.7	108833.2	-1.7	25
o-Xylene	98376.68	95626.1	-2.8	25
2-Methylpentane	23756.69	21732.45	-8.5	25
n-Nonane	13550.12	10926.2	-19.4	30
n-Pentane	21597.48	17438.75	-19.3	25
1,2,4-Trimethylbenzene	89163.28	94068.7	5.5	25
2,2,4-Trimethylpentane	22645.14	21191.55	-6.4	25
n-Butylcyclohexane	14160.01	11872.4	-16.2	25
n-Decane	11735.34	9453.65	-19.4	25

Notes and Definitions

O01	This compound is a common laboratory contaminant.
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
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.

SC 35361 CR

eurofins | Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☐ Standard TAT - 7 to 10 business days

☑ Rush TAT - Date Needed: 5-day

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

Report To: Conecco Engineers and Scientists
4 First Street
Bridgewater, MA 02324

Telephone #: 508 697 3191
Project Mgr: Marc Brochu MBB

Invoice To: Environmental A/P
Conecco
4 First St
Bridgewater, MA 02324

P.O No.: 9684 Quote #:

Project No: 9684

Site Name: 100 Kennedy Circle

Location: Newton State: MA

Sampler(s): MBB

F=Field Filtered 1=$Na_2S_2O_3$ 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	Analysis: List Preservative Code below: Dissolved RCRA 8 Metals (11,4)	VOCs 8260 (11,2)	EPH by DEP (11,2)	VPH by DEP (11,2)	Check if chlorinated
35361-01	CMW-01	6/1/17	1:47	G	GW	6	2		2	X	X	X	X	☐
02	CMW-02	6/1/17	2:42	G	GW	6	2		2	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: MassDEP RCGW-1
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:
[signature]	[signature]	6/2/17	12:20
[signature]	[signature]	6/2/17	1700

Temp °C: Observed 2.7 | Correction Factor 0 | Corrected 2.7 | IR ID # 02

☑ EDD format: BDF
☑ E-mail to: MBrochu, JAevaze1is, EWassmer, MBaldwin @Conecco.com

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

Batch Summary

1709215

Soluble Metals by EPA 6000/7000 Series Methods

1709215-BLK1
1709215-BS1
1709215-BSD1
SC35361-01 (CMW-01)
SC35361-02 (CMW-02)

1709216

Soluble Metals by EPA 200 Series Methods

1709216-BLK1
1709216-BS1
SC35361-01 (CMW-01)
SC35361-02 (CMW-02)

1709252

Soluble Metals by EPA 200/6000 Series Methods

SC35361-01 (CMW-01)
SC35361-02 (CMW-02)

1709306

Extractable Petroleum Hydrocarbons

1709306-BLK1
1709306-BS1
1709306-BSD1
SC35361-01 (CMW-01)
SC35361-02 (CMW-02)

1709320

Volatile Organic Compounds

1709320-BLK1
1709320-BS1
1709320-BSD1
SC35361-01 (CMW-01)
SC35361-02 (CMW-02)

1709329

Volatile Organic Compounds

1709329-BLK1
1709329-BS1
1709329-BSD1
SC35361-01 (CMW-01)
SC35361-02 (CMW-02)

S702868

Extractable Petroleum Hydrocarbons

S702868-CAL1
S702868-CAL2
S702868-CAL3
S702868-CAL4
S702868-CAL5
S702868-CAL6
S702868-CAL7
S702868-CAL8
S702868-CAL9
S702868-CALA
S702868-CALB
S702868-CALC
S702868-CALD
S702868-CALE
S702868-CALF
S702868-CALG
S702868-CALH
S702868-CALI
S702868-ICV1
S702868-ICV2
S702868-LCV1
S702868-LCV2
S702868-LCV3
S702868-TUN1
S702868-TUN2

S704286

Volatile Organic Compounds

S704286-CAL1
S704286-CAL2
S704286-CAL3
S704286-CAL4
S704286-CAL5
S704286-CAL6
S704286-CAL7
S704286-ICV1
S704286-LCV1
S704286-LCV2

S704674

Volatile Organic Compounds

S704674-CAL1
S704674-CAL2
S704674-CAL3
S704674-CAL4
S704674-CAL5
S704674-CAL6
S704674-CAL7
S704674-CAL8
S704674-CAL9
S704674-ICV1
S704674-LCV1
S704674-LCV2
S704674-LCV3
S704674-TUN1

S705069

Volatile Organic Compounds

S705069-CCV1
S705069-CCV2

S705081

Volatile Organic Compounds

S705081-CCV1
S705081-TUN1

S705139

Extractable Petroleum Hydrocarbons

S705139-CCV2
S705139-CCV4
S705139-TUN1