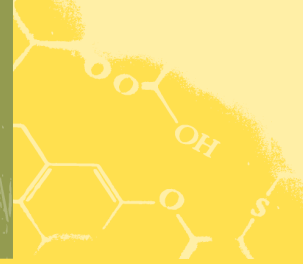




WHERE BUSINESS AND THE ENVIRONMENT CONVERGE



997 Millbury Street, Unit G, Worcester, MA 01607 tel 508.756.0151 fax 508.757.7063 www.ecsconsult.com

April 20, 2016
Project No. 03-221324

Ms. Suzanne Warner
U.S. Environmental Protection Agency
Dewatering GP Processing
Industrial Permit Unit (OEP06-4)
5 Post Office Square, Suite 100
Boston, MA 02109-3912

**RE: Notice of Intent for Dewatering General Permit
Cumberland Farms Inc., Store # 0006
68 Main Street
Westminster, MA 01473**

Dear Ms. Warner:

Environmental Compliance Services, Inc. (ECS) is pleased to provide supporting documentation for the Notice of Intent (NOI) for the Dewatering General Permit (DGP) on behalf of Cumberland Farms, Inc. (CFI), for the above-referenced property. This NOI is being submitted in order to obtain a permit for the operation of a temporary groundwater recovery and treatment system (GWTS) at the Site. The GWTS is required to be operated at the Site in order to allow for the installation of new petroleum underground storage tanks (USTs) during site redevelopment. A Site Locus is provided as Figure 1, and a Site Plan depicting the dewatering discharge location is provided as Figure 2. A copy of the NOI form is provided as Attachment I.

System Design

The groundwater treatment system located on the Site will be composed of the following: Submersible pneumatic pumps that collect groundwater from the UST excavation area, then recovered groundwater will be pumped into a 20,000 gallon frac tank (to settle out solids) and then pumped to a nearby drainage manhole connection prior to the outfall location. The proposed discharge location for the groundwater is a drainage manhole located on the northern boundary of the subject property (refer to Figure 2). This storm water manhole (MH-1) discharges to a storm water drainage outfall in the wetlands area adjacent to the site to the north. This wetlands area discharges into Tophet Swap located approximately 1,500 feet northwest of the Site. Please refer to Figure 1 for a depiction of the wetlands located immediately northwest of the subject property.

Average flow rate of discharge of treated groundwater from the system to the storm drainage line is expected to be approximately 50 gallons per minute (gpm). The design capacity of the groundwater treatment system is 100 gpm based upon data collected from comparable systems installed at other remedial sites operated/designed by ECS.

Influent Sample Analysis

Groundwater samples were collected from monitoring well MW-1 on December 23, 2013 and then again on April 6, 2016. These samples were submitted to Spectrum/Eurofins Analytical, Inc. of Agawam, Massachusetts under standard chain of custody protocol for analysis of total petroleum hydrocarbons (TPH) by EPA method 1664, volatile organic compounds (VOCs) by EPA Method 8260B, semi-volatile organic compounds (SVOCs) by EPA method 8270, PCBs by EPA method 8082, total metals by EPA Method 200.7, pH, and total suspended solids by SM2540D. Copies of the laboratory reports and chains of custody record are provided as Attachment II.

Appendix III of the 2010 RGP under NPDES sets the effluent limitations for treatment system discharges. Groundwater analytical results of the samples collected from MW-1 were compared to the Appendix III effluent limitations (www.epa.gov/region1/npdes/rgp.html). These results indicate that TSS, iron, and pH were detected in the samples at concentrations above the applicable EPA RGP Appendix III effluent limitations. Total suspended solids and total iron are expected to be reduced through pretreatment with the sedimentation/frac tank.

It should also be noted that dichlorodifluoromethane (Freon 12), a refrigerant and aerosol spray repellant was detected in the groundwater sample collected on December 23, 2013 at a trace detection (well below the applicable MassDEP Reportable Concentration). There is no known source or documented release of Freon 12 at the subject property. This constituent was not detected in the groundwater sample collected on April 6, 2016.

Evaluation of Threatened or Endangered Species or Critical Habitat Located within Receiving Waters

According to Massachusetts Geographic Information Systems (MassGIS) online maps for the Natural Heritage Endangered Species Program (NHESP) (2008), no Priority Habitat of Rare Species or Estimated Habitats of Rare Wildlife are located within the proposed at or immediately adjacent to the work zone area. The closest NHESP Estimated Habitats of Rare Wildlife in Wetland Areas Protected Open Spaces are located approximately 2,500 feet north of the Site. Given the fact there will be an on-site dewatering treatment system, the potential discharge will not have an adverse affect on the NHESP Estimated Habitats of Rare Wildlife. A copy of the MassGIS Resource Priority and NHESP Maps of the Site area is included in Attachment III.

Review of National Register of Historic Places

Listings of Historic Places within the Town of Walpole in the vicinity of the Site were obtained from the Massachusetts Cultural Resources Information System (MACRIS) online database at <http://mhc-macris.net/towns.aspx> (accessed April 14, 2016). Copies of the MACRIS report are provided as Attachment IV. The database indicated that there are no historic places located in close proximity to the Site and proposed discharge area. This project does not involve the demolition or rehabilitation of historic properties.

Should you have any questions or concerns regarding the contents of this letter or the NOI for the DGP, please do not hesitate to contact the undersigned at (508) 756-0151.

Sincerely,
ENVIRONMENTAL COMPLIANCE SERVICES, INC.



Matthew J. Lyne
Senior Project Manager

cc: Matthew Young, Cumberland Farms, Inc., 100 Crossing Blvd, Framingham, MA 01702
Robert Kubit, MassDEP, Division of Watershed Management, 8 New Bond Street,
Worcester, MA 01606
Town of Westminster Department of Public Works
Town of Westminster Conservation Commission

LIST OF ATTACHMENTS

Figure 1: Site Locus

Figure 2: Site Plan

Attachment I: NOI for the DGP

Attachment II: Laboratory Analytical Reports and Chain of Custody Records

Attachment III: MassGIS Resource Priority & NHESP Maps

Attachment IV: MACRIS Database Search Results

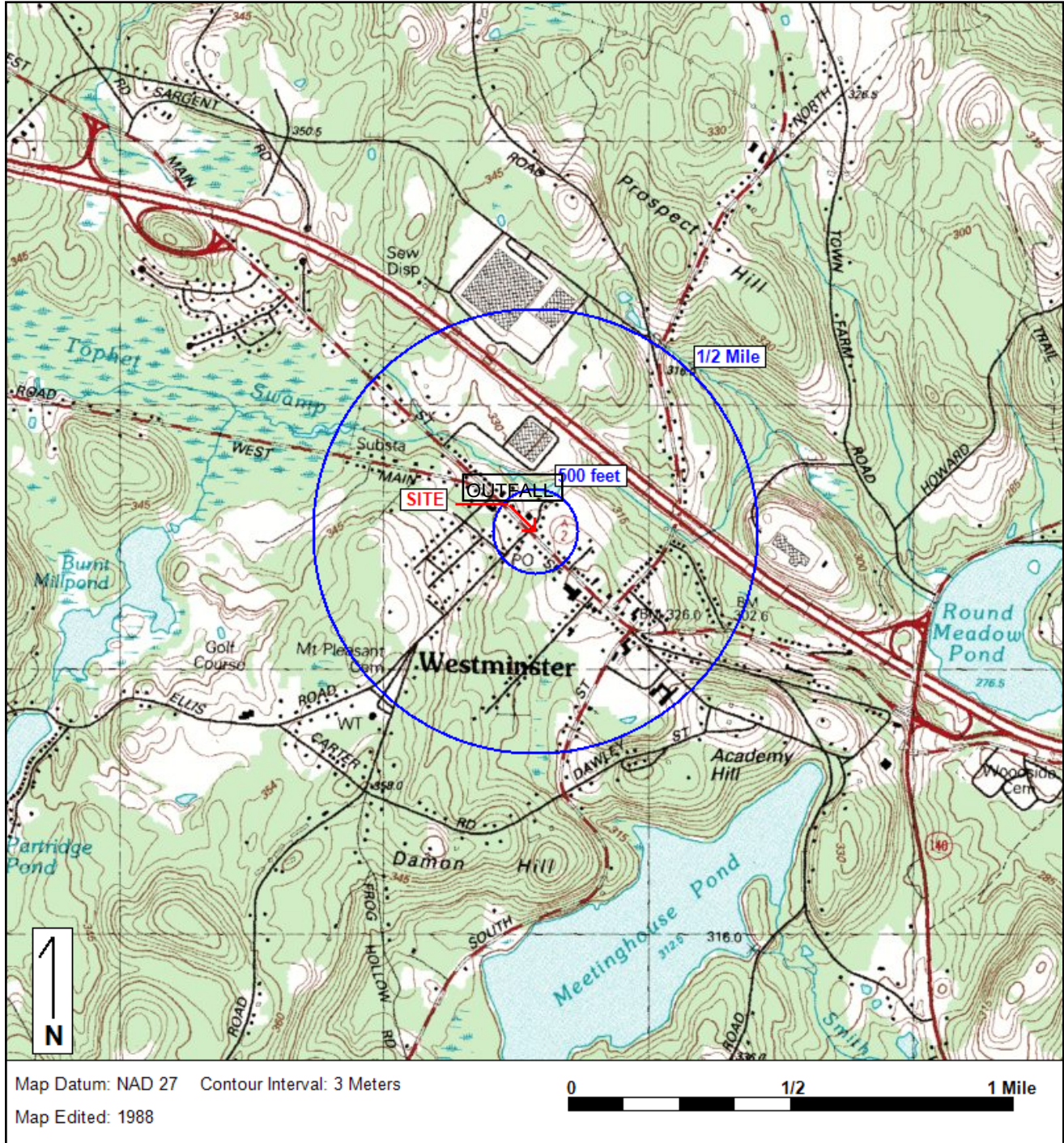
FIGURES



Environmental Compliance Services, Inc.
997 Millbury Street, Unit G
Worcester, MA 01607
Phone 508.756.0151 Fax 508.757.7063
www.ecsconsult.com

MA Acquisition Property-Westminster 72 Main St
72 Main Street
Westminster, MA 01473

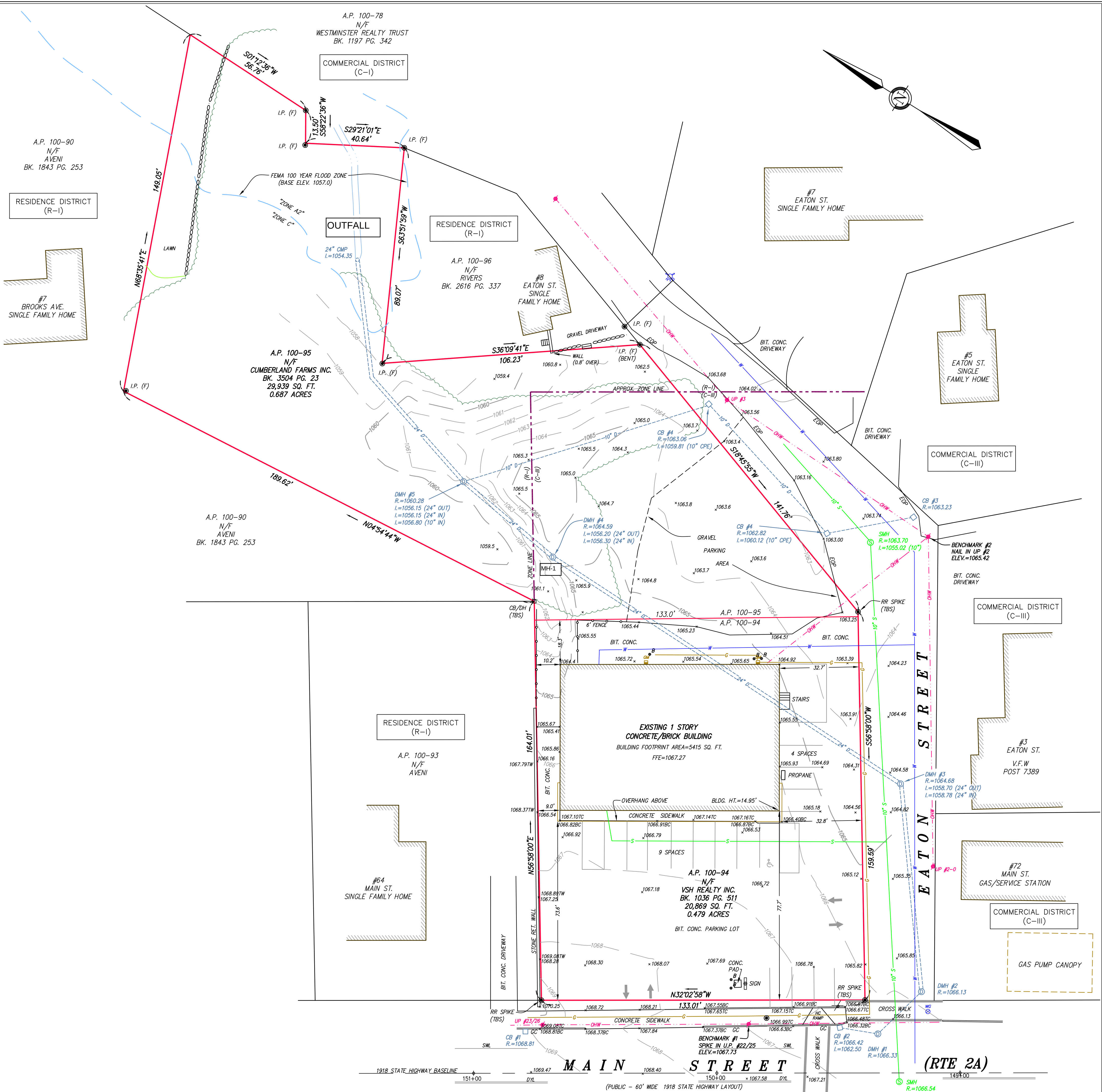
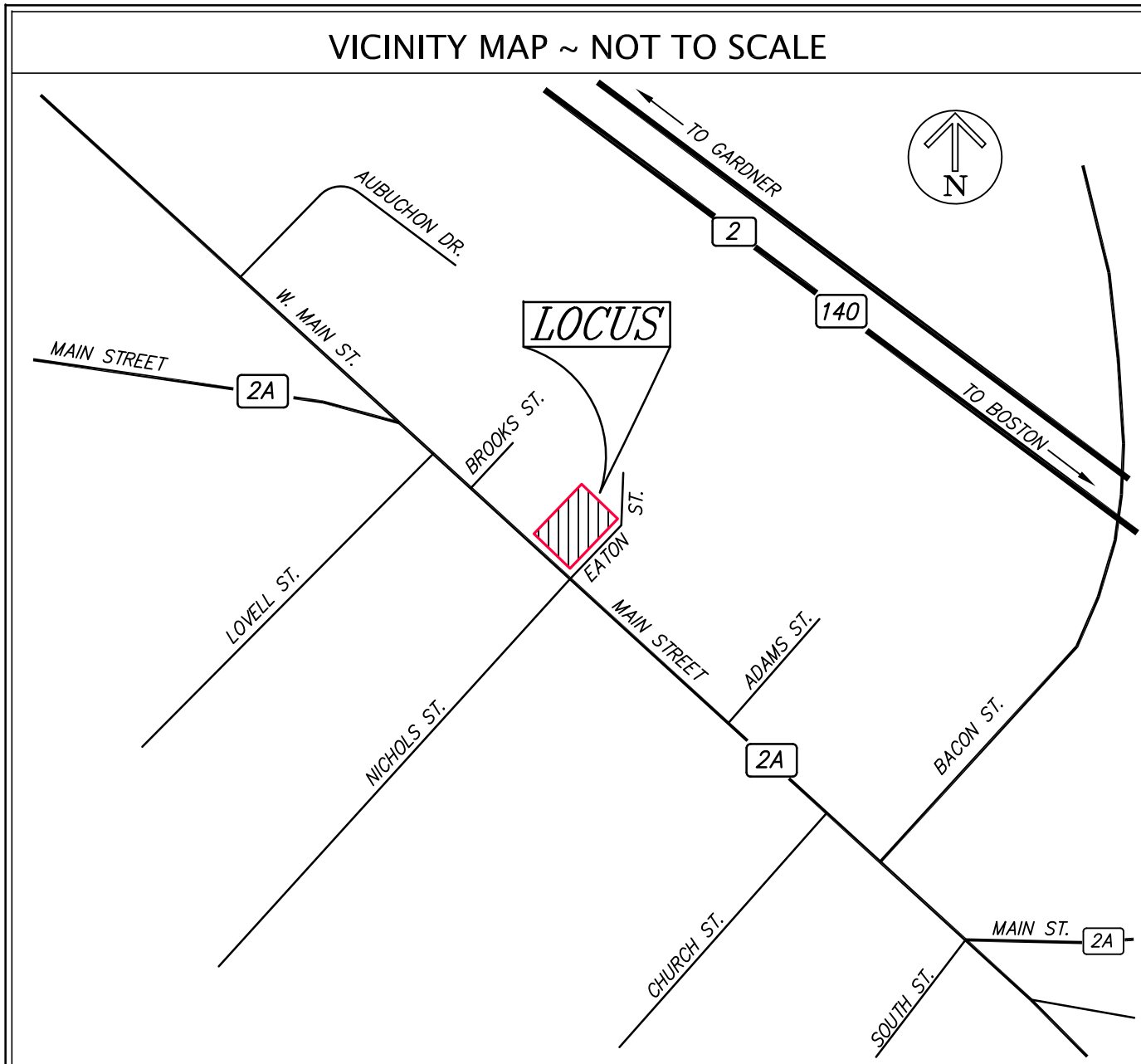
Figure 1: SITE LOCUS



Base Map: U.S. Geological Survey; Quadrangle Location: Fitchburg, MA

Lat/Lon: 42 33' 7" NORTH, 71 55' 4" WEST - UTM Coordinates: 19 260619.22 EAST / 4714743.5 NORTH

Generated By: Rick Starodaj



- GENERAL NOTES**
- CURRENT OWNER OF RECORD:
VSH REALTY INC. (ASSESSORS MAP 100 LOT 94)
DEED REFERENCE: BOOK 1036 PAGE 511
CUMBERLAND FARMS, INC. (ASSESSORS MAP 100 LOT 95)
DEED REFERENCE: BOOK 3504 PAGE 23
SITE ADDRESS: 68 MAIN STREET, WESTMINSTER, MA
PLAN REFERENCE: PLAN BOOK 130 PAGE 3
 - THIS PLAN IS THE RESULT OF AN ON-THE-GROUND SURVEY PERFORMED BY ODOE SURVEY & MAPPING ON FEBRUARY 6, 2013. SURVEY BY TRIMBLE S6 TOTAL STATION.
 - WESTMINSTER ZONING DISTRICT:
RESIDENTIAL 1 (R-1) & COMMERCIAL (C-III)
 - ELEVATIONS SHOWN BASED ON NGVD 1929.
 - UTILITY NOTE: LOCATION OF UTILITIES SHOWN HEREON WERE DETERMINED BY OBSERVATION OF ABOVE GROUND EVIDENCE TOGETHER WITH PLANS OF RECORD. THE RELATIONSHIP BETWEEN ACTUAL FIELD LOCATION AND LOCATION SHOWN HEREON MUST BE CONSIDERED APPROXIMATE. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES AND FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION AS INDICATED ON THIS PLAN.
BEFORE CONSTRUCTION CALL "DIG SAFE"
1-888-344-7233
 - FLOOD NOTE: BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE C AND PARTIALLY IN ZONE A2 OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 250347 0008 B, WHICH BEARS AN EFFECTIVE DATE OF JULY 19, 1982.

REVISIONS			
4			
3			
2			
1			
DATE		DESCRIPTION	
GO/CA/TS6	GDO	GDO	GDO
FIELD	CALC	DRAWN	CHECK

PREPARED BY:

OSM **ODONE SURVEY & MAPPING**

SURVEYING ~ MAPPING ~ PLANNING & CONSULTING

291 Main Street, Suite 5
Northborough, MA 01532
Tel: 508-351-6022 Fax: 508-351-6633
web: www.osm-pc.com

EXISTING CONDITIONS PLAN

Cumberland FARMS
68 MAIN STREET (ROUTE-2A)
WESTMINSTER, MA 01473

STORE# 0006 - STATION# TBD - PROP V# 0153

CUMBERLAND FARMS INC.
100 CROSSING BOULEVARD
FRAMINGHAM, MA 01702

PREPARED FOR
CIVIL DESIGN GROUP, LLC
21 HIGH STREET, SUITE 305B
NORTH ANDOVER, MA 01845

SCALE: 1 INCH = 20 FEET

METERS 0 5 10 15 20 30 40 50 60 FEET

SHEET NO. 1 OF 1

DATE: FEBRUARY 20, 2013
DWG FILE: 0653-01A
PROJECT NO. 20130653.00

TABLES

Table 2
Summary of Groundwater Analytical Data
Cumberland Farms #0006/V0153
68 Main Street
Westminster, MA

	MW-1	MW-1	MassDEP Reportable Concentration: RCGW-1	MassDEP Reportable Concentration: RCGW- 2	EPA RGP Discharge Limit
Sampling Date	12-23-13	4-6-16			
Depth to Groundwater (ft)	4.12	3.86			
TPH by EPA 8100M (mg/L)	< 1.1	< 1.1	0.2	5	5.0
VOCs by 8260 (µg/L)					
Benzene	< 1.0	< 1.0	5	1,000	NS
Toluene	< 1.0	< 1.0	1,000	40,000	100
Ethylbenzene	< 1.0	< 1.0	700	5,000	NS
Xylenes	< 1.0	< 1.0	3,000	3,000	NS
Naphthalene	< 1.0	< 1.0	140	700	NS
MTBE	< 1.0	< 1.0	70	5,000	NS
Tetrachlorethylene (PCE)	< 1.0	< 1.0	5	50	NS
Trichloroethylene (TCE)	< 1.0	< 1.0	5	5	NS
Dichlorodifluoromethane (Freon 12)	2.23	< 1.0	10,000	100,000	NS
Bromodichloromethane	< 1.0	2.3	3	6	
Chloroform	< 1.0	10.7	50	50	
SVOCs by 8270 (µg/L)	NS	< 5.95	NS	NS	100
PCBs by 8082 (µg/L)	< 0.225	< 0.206	0.5	0.5	0.5
PP13 Metals (mg/L) by 6010					
Total Iron	1.54	0.261	NS	NS	1.0
Total Barium	NS	0.0436	2	50	NS
Total Zinc	NS	0.0061	0.9	0.9	0.066
pH	6.92	6.07	NS	NS	6.5-8.3
Total Suspended Solids (mg/L)	52	< 5.0	NS	NS	30/50
Total Dissolved Solids (mg/L)	NS	435	NS	NS	NS
Flashpoint	NS	> 150 F	NS	NS	NS
Reactivity	NS	< 25.0	NS	NS	NS

NOTES: NA = Not Analyzed. NS = No Standard

RCGW-1: Reportable Concentration for groundwater classified as RCGW-1, promulgated June 20, 2014. Site is classified as RCGW-2.

ATTACHMENT I

II. Suggested Notice of Intent (NOI) Format

1. General facility information. Please provide the following information about the facility.

a) Name of facility:		Mailing Address for the Facility:	
b) Location Address of the Facility (if different from mailing address):	Facility Location	Type of Business:	
	longitude: _____ latitude: _____	Facility SIC codes:	
c) Name of facility owner: _____ Owner's email: _____ Owner's Tel #: _____ Owner's Fax #: _____ Address of owner (if different from facility address) _____ Owner is (check one): 1. Federal _____ 2. State _____ 3. Private _____ 4. Other _____ (Describe) _____			
Legal name of Operator, if not owner: _____ Operator Contact Name: _____ Operator Tel Number: _____ Fax Number: _____ Operator's email: _____ Operator Address (if different from owner) _____			
d) Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached? _____			
e) Check Yes or No for the following: 1. Has a prior NPDES permit been granted for the discharge? Yes _____ No _____ If Yes, Permit Number: _____ 2. Is the discharge a "new discharger" as defined by 40 CFR Section 122.2? Yes _____ No _____ 3. Is the facility covered by an individual NPDES permit? Yes _____ No _____ If Yes, Permit Number _____ 4. Is there a pending application on file with EPA for this discharge? Yes _____ No _____ If Yes, date of submittal: _____			

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed)

a) Name of receiving water into which discharge will occur: _____
 State Water Quality Classification: _____ Freshwater: _____ Marine Water: _____

- b) Describe the discharge activities for which the owner/applicant is seeking coverage:
1. Construction dewatering of groundwater intrusion and/or storm water accumulation.
 2. Short-term or long-term dewatering of foundation sumps.
 3. Other.

c) Number of outfalls _____

For each outfall:

d) Estimate the maximum daily and average monthly flow of the discharge (in gallons per day – GPD). Max Daily Flow _____ GPD
 Average Monthly Flow _____ GPD

e.) What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH _____ Min pH _____

f.) Identify the source of the discharge (i.e. potable water, surface water, or groundwater). If groundwater, the facility shall submit effluent test results, as required in Section 4.4.5 of the General Permit. See attached lab report.

g.) What treatment does the wastewater receive prior to discharge? Well screen filter with filter stone. Solids settling through sedimentation tank/frac tank.

h.) Is the discharge continuous? Yes _____ No _____ If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B) Intermittent for 1-2 months.

If (P), number of days or months per year of the discharge _____ and the specific months of discharge _____;

If (I), number of days/year there is a discharge _____

Is the discharge temporary? Yes _____ No _____

If yes, approximate start date of dewatering _____ approximate end date of dewatering _____

i.) Latitude and longitude of each discharge within 100 feet (See http://www.epa.gov/tri/report/siting_tool): Outfall 1: long. _____ lat. _____; Outfall 2: long. _____ lat. _____; Outfall 3: long. _____ lat. _____.

j.) If the source of the discharge is potable water, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water and attach any calculation sheets used to support stream flow and dilution calculations _____ cfs
 (See Appendix VII for equations and additional information)

MASSACHUSETTS FACILITIES: See Section 3.4 and Appendix 1 of the General Permit for more information on Areas of Critical Environmental Concern (ACEC): k.) Does the discharge occur in an ACEC? Yes _____ No _____ If yes, provide the name of the ACEC: _____ See attached ACEC Map

3. Contaminant Information

a) Are any pH neutralization and/or dechlorination chemicals used in the discharge? If so, include the chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC₅₀ in percent for aquatic organism(s)).	No.
b) Please report any known remediation activities or water-quality issues in the vicinity of the discharge.	None.

4. Determination of Endangered Species Act Eligibility: Provide documentation of ESA eligibility as required at Part 3.4 and Appendix IV. In addition, respond to the following questions.

a) Which of the three eligibility criteria listed in Appendix IV, Criterion (A, B, or C) have you met? _____	See attached Phase I Site Assessment Map and MassGIS Map.
b) Please attach documentation with your NOI supporting your response. Please see Appendix IV for acceptable documentation	

5. Documentation of National Historic Preservation Act requirements: Please respond to the following questions:

a) See Screening Process in Appendix III and respond to questions regarding your site and any historic properties listed or eligible for listing on the National Register of Historic Places. Question 1: Yes _____ No _____ ; Question 2: No _____ Yes _____	See attached MACRIS Map
b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes _____ or No _____ If yes, attach the results of the consultation(s).	
c) Which of the three National Historic Preservation Act eligibility criterion listed in Appendix III, Criterion (A, B, or C) have you met? _____	
d) Is the project located on property of religious or cultural significance to an Indian Tribe? Yes _____ or No _____ If yes, provide that name of the Indian Tribe associated with the property. _____	

6. Supplemental Information: Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit

See attached lab report

7. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the dewatering system; (2) the discharge consists solely of dewatering and authorized pH adjustment and/or dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product or finished product; (4) if the discharge of dewatering subsequently mixes with other permitted wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for dewatering discharge; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: Cumberland Farms Store #0006

Operator signature:

Print Full Name and Title:

Mark G. Howard

Executive Vice President, Chief Legal and Administrative Officer,
General Counsel and Secretary

Date:

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

ATTACHMENT II

Report Date:
31-Dec-13 11:05



- ☒ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Laboratory Report

Environmental Compliance Services
997 Millbury Street, Unit G
Worcester, MA 01607
Attn: Matt Lyne

Project: CFI #0006- Westminister, MA
Project #: 03-221324

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SB82475-01	MW-1	Ground Water	23-Dec-13 12:15	23-Dec-13 15:35

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 # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435



Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds 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 18 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 Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum 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 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 (NY-11840, NJ-MA012, PA-68-04426 and FL-E87936).

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

MassDEP Analytical Protocol Certification Form

Laboratory Name: Spectrum Analytical, Inc.			Project #: 03-221324			
Project Location: CFI #0006- Westminister, MA			RTN:			
This form provides certifications for the following data set:			SB82475-01			
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 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>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.</i>  Nicole Leja Laboratory Director Date: 12/31/2013						

CASE NARRATIVE:

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

The samples were received -0.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

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

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

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

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

Cancelled EPH Analysis Case Narrative:

Analysis for PCBs, TPH 1664 and EPH were requested for this work order, however only two amber liters were submitted. The sample was prepared for PCBs and TPH 1664 from the available volume. The EPH analysis has been cancelled due to insufficient volume.

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

SW846 8260C

Calibration:

1312093

Analyte quantified by quadratic equation type calibration.

1,1,2,2-Tetrachloroethane
1,1,2-Trichlorotrifluoroethane (Freon 113)
1,2,3-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dibromo-3-chloropropane
1,3,5-Trimethylbenzene
Bromoform
Carbon disulfide
Carbon tetrachloride
cis-1,3-Dichloropropene
Dibromochloromethane
Naphthalene
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
trans-1,3-Dichloropropene
trans-1,4-Dichloro-2-butene
Trichlorofluoromethane (Freon 11)
Vinyl chloride

SW846 8260C

Calibration:

1312093

This affected the following samples:

1331163-BLK1
1331163-BS1
1331163-BSD1
MW-1
S315780-CCV1
S315794-ICV1

Samples:

S315780-CCV1

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

Acetone (-21.2%)

This affected the following samples:

1331163-BLK1
1331163-BS1
1331163-BSD1
MW-1

Sample Acceptance Check Form

Client: Environmental Compliance Services - Worcester, MA
Project: CFI #0006- Westminister, MA / 03-221324
Work Order: SB82475
Sample(s) received on: 12/23/2013
Received by: Jessica Hoffman

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

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
1. Were custody seals present?	☐	☒	☐
2. Were custody seals intact?	☐	☐	☒
3. Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	☒	☐	☐
4. Were samples cooled on ice upon transfer to laboratory representative?	☐	☒	☐
5. Were samples refrigerated upon transfer to laboratory representative?	☒	☐	☐
6. Were sample containers received intact?	☒	☐	☐
7. Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☒	☐	☐
8. Were samples accompanied by a Chain of Custody document?	☒	☐	☐
9. 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?	☒	☐	☐
10. Did sample container labels agree with Chain of Custody document?	☒	☐	☐
11. Were samples received within method-specific holding times?	☒	☐	☐

Sample IdentificationMW-1
SB82475-01Client Project #
03-221324Matrix
Ground WaterCollection Date/Time
23-Dec-13 12:15Received
23-Dec-13

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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	0.65	1	SW846 8260C	28-Dec-13	28-Dec-13	GMA	1331163	
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	
71-43-2	Benzene	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.60	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.00		µg/l	2.00	1.14	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	1.93	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.56	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.82	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	1.28	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.55	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.65	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.00		µg/l	2.00	1.00	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.00		µg/l	2.00	1.47	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.79	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	1.20	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.34	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.71	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.62	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	2.23		µg/l	2.00	0.45	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.68	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.83	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.77	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.87	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.64	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	0.50	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.95	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.66	1	"	"	"	"	"	

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Sample Identification

MW-1

SB82475-01

Client Project #

03-221324

Matrix

Ground Water

Collection Date/Time

23-Dec-13 12:15

Received

23-Dec-13

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.62	1	SW846 8260C	28-Dec-13	28-Dec-13	GMA	1331163	
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.61	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.65	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	2.76	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.95	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.58	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	
100-42-5	Styrene	< 1.00		µg/l	1.00	0.62	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.67	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.32	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	
108-88-3	Toluene	< 1.00		µg/l	1.00	0.81	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	0.36	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.58	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.64	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.63	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.76	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.74	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.81	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	1.64	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.88	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.44	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.72	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.78	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.73	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	8.64	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	12.0	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	0.74	1	"	"	"	"	"	
64-17-5	Ethanol	< 400		µg/l	400	35.0	1	"	"	"	"	"	

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	94			70-130 %		"	"	"	"	"	
2037-26-5	Toluene-d8	101			70-130 %		"	"	"	"	"	
17060-07-0	1,2-Dichloroethane-d4	103			70-130 %		"	"	"	"	"	
1868-53-7	Dibromofluoromethane	102			70-130 %		"	"	"	"	"	

Semivolatile Organic Compounds by GCPolychlorinated BiphenylsPrepared by method SW846 3510C*This laboratory report is not valid without an authorized signature on the cover page.*

Sample Identification

MW-1

SB82475-01

Client Project #

03-221324

Matrix

Ground Water

Collection Date/Time

23-Dec-13 12:15

Received

23-Dec-13

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3510C													
12674-11-2	Aroclor-1016	< 0.225		µg/l	0.225	0.0826	1	SW846 8082A	26-Dec-13	27-Dec-13	IMR	1330940	
11104-28-2	Aroclor-1221	< 0.225		µg/l	0.225	0.142	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 0.225		µg/l	0.225	0.117	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 0.225		µg/l	0.225	0.134	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 0.225		µg/l	0.225	0.117	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 0.225		µg/l	0.225	0.147	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 0.225		µg/l	0.225	0.123	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 0.225		µg/l	0.225	0.155	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 0.225		µg/l	0.225	0.0927	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	90			30-150 %			"	"	"	"	"	
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	100			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr)	105			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr) [2C]	105			30-150 %			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
	Non-polar material (SGT-HEM)	< 1.1		mg/l	1.1	0.6	1	EPA 1664B	26-Dec-13	29-Dec-13	JK	1330937	
Total Metals by EPA 200/6000 Series Methods													
	Preservation	Lab Preserved		N/A			1	EPA 200/6000 methods	24-Dec-13	24-Dec-13	LNB	1330897	
Total Metals by EPA 6000/7000 Series Methods													
7439-89-6	Iron	1.54		mg/l	0.0150	0.0074	1	SW846 6010C	27-Dec-13	27-Dec-13	tbc	1331053	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0020	1	"	"	"	"	"	
General Chemistry Parameters													
	Total Suspended Solids	52.0		mg/l	5.0	1.7	1	SM2540D	26-Dec-13	27-Dec-13	CMB	1330957	X

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1331163 - SW846 5030 Water MS										
Blank (1331163-BLK1)	<u>Prepared & Analyzed: 28-Dec-13</u>									
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00						
Acetone	< 10.0		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)	< 10.0		µg/l	10.0						
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		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						
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)	< 10.0		µg/l	10.0						
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)	< 10.0		µg/l	10.0						
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						

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1331163 - SW846 5030 Water MS										
Blank (1331163-BLK1)					<u>Prepared & Analyzed: 28-Dec-13</u>					
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	< 400		µg/l	400						
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>46.8</i>		<i>µg/l</i>		<i>50.0</i>		<i>94</i>	<i>70-130</i>		
<i>Surrogate: Toluene-d8</i>	<i>50.5</i>		<i>µg/l</i>		<i>50.0</i>		<i>101</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>50.9</i>		<i>µg/l</i>		<i>50.0</i>		<i>102</i>	<i>70-130</i>		
<i>Surrogate: Dibromofluoromethane</i>	<i>49.2</i>		<i>µg/l</i>		<i>50.0</i>		<i>98</i>	<i>70-130</i>		
LCS (1331163-BS1)					<u>Prepared & Analyzed: 28-Dec-13</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	19.9		µg/l		20.0		99	70-130		
Acetone	24.4		µg/l		20.0		122	70-130		
Acrylonitrile	19.7		µg/l		20.0		98	70-130		
Benzene	21.1		µg/l		20.0		105	70-130		
Bromobenzene	20.6		µg/l		20.0		103	70-130		
Bromochloromethane	19.5		µg/l		20.0		98	70-130		
Bromodichloromethane	21.9		µg/l		20.0		110	70-130		
Bromoform	22.5		µg/l		20.0		112	70-130		
Bromomethane	20.8		µg/l		20.0		104	70-130		
2-Butanone (MEK)	21.4		µg/l		20.0		107	70-130		
n-Butylbenzene	20.3		µg/l		20.0		101	70-130		
sec-Butylbenzene	20.2		µg/l		20.0		101	70-130		
tert-Butylbenzene	20.4		µg/l		20.0		102	70-130		
Carbon disulfide	20.3		µg/l		20.0		102	70-130		
Carbon tetrachloride	20.8		µg/l		20.0		104	70-130		
Chlorobenzene	20.7		µg/l		20.0		104	70-130		
Chloroethane	20.0		µg/l		20.0		100	70-130		
Chloroform	20.1		µg/l		20.0		101	70-130		
Chloromethane	19.7		µg/l		20.0		99	70-130		
2-Chlorotoluene	21.8		µg/l		20.0		109	70-130		
4-Chlorotoluene	22.2		µg/l		20.0		111	70-130		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1331163 - SW846 5030 Water MS										
LCS (1331163-BS1)	Prepared & Analyzed: 28-Dec-13									
1,2-Dibromo-3-chloropropane	21.9		µg/l		20.0		110	70-130		
Dibromochloromethane	21.1		µg/l		20.0		106	70-130		
1,2-Dibromoethane (EDB)	21.4		µg/l		20.0		107	70-130		
Dibromomethane	21.1		µg/l		20.0		106	70-130		
1,2-Dichlorobenzene	20.6		µg/l		20.0		103	70-130		
1,3-Dichlorobenzene	20.4		µg/l		20.0		102	70-130		
1,4-Dichlorobenzene	20.5		µg/l		20.0		103	70-130		
Dichlorodifluoromethane (Freon12)	21.1		µg/l		20.0		106	70-130		
1,1-Dichloroethane	21.1		µg/l		20.0		105	70-130		
1,2-Dichloroethane	19.9		µg/l		20.0		100	70-130		
1,1-Dichloroethene	21.0		µg/l		20.0		105	70-130		
cis-1,2-Dichloroethene	20.9		µg/l		20.0		105	70-130		
trans-1,2-Dichloroethene	21.0		µg/l		20.0		105	70-130		
1,2-Dichloropropane	20.2		µg/l		20.0		101	70-130		
1,3-Dichloropropane	20.3		µg/l		20.0		101	70-130		
2,2-Dichloropropane	25.0		µg/l		20.0		125	70-130		
1,1-Dichloropropene	22.0		µg/l		20.0		110	70-130		
cis-1,3-Dichloropropene	21.3		µg/l		20.0		107	70-130		
trans-1,3-Dichloropropene	22.1		µg/l		20.0		111	70-130		
Ethylbenzene	21.9		µg/l		20.0		110	70-130		
Hexachlorobutadiene	20.1		µg/l		20.0		100	70-130		
2-Hexanone (MBK)	18.9		µg/l		20.0		95	70-130		
Isopropylbenzene	22.3		µg/l		20.0		111	70-130		
4-Isopropyltoluene	22.4		µg/l		20.0		112	70-130		
Methyl tert-butyl ether	21.4		µg/l		20.0		107	70-130		
4-Methyl-2-pentanone (MIBK)	18.8		µg/l		20.0		94	70-130		
Methylene chloride	20.5		µg/l		20.0		103	70-130		
Naphthalene	20.2		µg/l		20.0		101	70-130		
n-Propylbenzene	22.5		µg/l		20.0		113	70-130		
Styrene	22.4		µg/l		20.0		112	70-130		
1,1,1,2-Tetrachloroethane	23.3		µg/l		20.0		117	70-130		
1,1,2,2-Tetrachloroethane	20.4		µg/l		20.0		102	70-130		
Tetrachloroethene	21.7		µg/l		20.0		109	70-130		
Toluene	20.8		µg/l		20.0		104	70-130		
1,2,3-Trichlorobenzene	22.4		µg/l		20.0		112	70-130		
1,2,4-Trichlorobenzene	22.1		µg/l		20.0		111	70-130		
1,3,5-Trichlorobenzene	21.2		µg/l		20.0		106	70-130		
1,1,1-Trichloroethane	22.6		µg/l		20.0		113	70-130		
1,1,2-Trichloroethane	19.9		µg/l		20.0		100	70-130		
Trichloroethene	20.2		µg/l		20.0		101	70-130		
Trichlorofluoromethane (Freon 11)	19.9		µg/l		20.0		99	70-130		
1,2,3-Trichloropropane	20.9		µg/l		20.0		105	70-130		
1,2,4-Trimethylbenzene	20.4		µg/l		20.0		102	70-130		
1,3,5-Trimethylbenzene	20.5		µg/l		20.0		103	70-130		
Vinyl chloride	20.0		µg/l		20.0		100	70-130		
m,p-Xylene	44.8		µg/l		40.0		112	70-130		
o-Xylene	22.7		µg/l		20.0		114	70-130		
Tetrahydrofuran	20.2		µg/l		20.0		101	70-130		
Ethyl ether	20.4		µg/l		20.0		102	70-130		
Tert-amyl methyl ether	18.6		µg/l		20.0		93	70-130		
Ethyl tert-butyl ether	22.0		µg/l		20.0		110	70-130		
Di-isopropyl ether	21.0		µg/l		20.0		105	70-130		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1331163 - SW846 5030 Water MS										
LCS (1331163-BS1)					<u>Prepared & Analyzed: 28-Dec-13</u>					
Tert-Butanol / butyl alcohol	202		µg/l		200		101	70-130		
1,4-Dioxane	211		µg/l		200		105	70-130		
trans-1,4-Dichloro-2-butene	21.3		µg/l		20.0		107	70-130		
Ethanol	382		µg/l		400		95	70-130		
Surrogate: 4-Bromofluorobenzene	51.5		µg/l		50.0		103	70-130		
Surrogate: Toluene-d8	49.9		µg/l		50.0		100	70-130		
Surrogate: 1,2-Dichloroethane-d4	49.0		µg/l		50.0		98	70-130		
Surrogate: Dibromofluoromethane	50.4		µg/l		50.0		101	70-130		
LCS Dup (1331163-BS1)					<u>Prepared & Analyzed: 28-Dec-13</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	18.7		µg/l		20.0		93	70-130	6	20
Acetone	24.8		µg/l		20.0		124	70-130	2	20
Acrylonitrile	20.4		µg/l		20.0		102	70-130	4	20
Benzene	20.0		µg/l		20.0		100	70-130	5	20
Bromobenzene	20.0		µg/l		20.0		100	70-130	3	20
Bromochloromethane	19.0		µg/l		20.0		95	70-130	3	20
Bromodichloromethane	21.0		µg/l		20.0		105	70-130	4	20
Bromoform	21.8		µg/l		20.0		109	70-130	3	20
Bromomethane	20.0		µg/l		20.0		100	70-130	4	20
2-Butanone (MEK)	22.7		µg/l		20.0		113	70-130	5	20
n-Butylbenzene	18.9		µg/l		20.0		95	70-130	7	20
sec-Butylbenzene	19.0		µg/l		20.0		95	70-130	6	20
tert-Butylbenzene	18.8		µg/l		20.0		94	70-130	8	20
Carbon disulfide	18.8		µg/l		20.0		94	70-130	8	20
Carbon tetrachloride	19.5		µg/l		20.0		98	70-130	6	20
Chlorobenzene	19.3		µg/l		20.0		97	70-130	7	20
Chloroethane	19.2		µg/l		20.0		96	70-130	4	20
Chloroform	19.3		µg/l		20.0		96	70-130	4	20
Chloromethane	18.6		µg/l		20.0		93	70-130	6	20
2-Chlorotoluene	20.2		µg/l		20.0		101	70-130	8	20
4-Chlorotoluene	20.6		µg/l		20.0		103	70-130	8	20
1,2-Dibromo-3-chloropropane	21.8		µg/l		20.0		109	70-130	0.7	20
Dibromochloromethane	20.6		µg/l		20.0		103	70-130	3	20
1,2-Dibromoethane (EDB)	20.7		µg/l		20.0		104	70-130	3	20
Dibromomethane	20.0		µg/l		20.0		100	70-130	6	20
1,2-Dichlorobenzene	19.7		µg/l		20.0		98	70-130	4	20
1,3-Dichlorobenzene	20.2		µg/l		20.0		101	70-130	0.6	20
1,4-Dichlorobenzene	18.5		µg/l		20.0		93	70-130	10	20
Dichlorodifluoromethane (Freon12)	19.5		µg/l		20.0		97	70-130	8	20
1,1-Dichloroethane	19.9		µg/l		20.0		100	70-130	6	20
1,2-Dichloroethane	19.7		µg/l		20.0		98	70-130	1	20
1,1-Dichloroethene	19.8		µg/l		20.0		99	70-130	6	20
cis-1,2-Dichloroethene	20.1		µg/l		20.0		100	70-130	4	20
trans-1,2-Dichloroethene	20.2		µg/l		20.0		101	70-130	4	20
1,2-Dichloropropane	19.5		µg/l		20.0		98	70-130	4	20
1,3-Dichloropropane	20.2		µg/l		20.0		101	70-130	0.5	20
2,2-Dichloropropane	23.0		µg/l		20.0		115	70-130	9	20
1,1-Dichloropropene	20.4		µg/l		20.0		102	70-130	7	20
cis-1,3-Dichloropropene	20.8		µg/l		20.0		104	70-130	3	20
trans-1,3-Dichloropropene	21.4		µg/l		20.0		107	70-130	3	20
Ethylbenzene	20.4		µg/l		20.0		102	70-130	7	20
Hexachlorobutadiene	19.7		µg/l		20.0		98	70-130	2	20

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1331163 - SW846 5030 Water MS										
LCS Dup (1331163-BSD1)	Prepared & Analyzed: 28-Dec-13									
2-Hexanone (MBK)	19.0		µg/l		20.0		95	70-130	0.3	20
Isopropylbenzene	20.8		µg/l		20.0		104	70-130	7	20
4-Isopropyltoluene	21.0		µg/l		20.0		105	70-130	6	20
Methyl tert-butyl ether	20.6		µg/l		20.0		103	70-130	4	20
4-Methyl-2-pentanone (MIBK)	20.0		µg/l		20.0		100	70-130	6	20
Methylene chloride	19.8		µg/l		20.0		99	70-130	4	20
Naphthalene	20.0		µg/l		20.0		100	70-130	0.8	20
n-Propylbenzene	20.9		µg/l		20.0		104	70-130	8	20
Styrene	20.8		µg/l		20.0		104	70-130	8	20
1,1,1,2-Tetrachloroethane	21.9		µg/l		20.0		110	70-130	6	20
1,1,2,2-Tetrachloroethane	20.3		µg/l		20.0		102	70-130	0.2	20
Tetrachloroethene	20.0		µg/l		20.0		100	70-130	8	20
Toluene	19.7		µg/l		20.0		99	70-130	5	20
1,2,3-Trichlorobenzene	21.6		µg/l		20.0		108	70-130	4	20
1,2,4-Trichlorobenzene	20.9		µg/l		20.0		105	70-130	6	20
1,3,5-Trichlorobenzene	20.0		µg/l		20.0		100	70-130	6	20
1,1,1-Trichloroethane	21.4		µg/l		20.0		107	70-130	6	20
1,1,2-Trichloroethane	20.3		µg/l		20.0		101	70-130	2	20
Trichloroethene	19.2		µg/l		20.0		96	70-130	5	20
Trichlorofluoromethane (Freon 11)	18.9		µg/l		20.0		95	70-130	5	20
1,2,3-Trichloropropane	20.4		µg/l		20.0		102	70-130	2	20
1,2,4-Trimethylbenzene	19.1		µg/l		20.0		96	70-130	7	20
1,3,5-Trimethylbenzene	18.9		µg/l		20.0		95	70-130	8	20
Vinyl chloride	18.2		µg/l		20.0		91	70-130	9	20
m,p-Xylene	41.7		µg/l		40.0		104	70-130	7	20
o-Xylene	21.2		µg/l		20.0		106	70-130	7	20
Tetrahydrofuran	19.6		µg/l		20.0		98	70-130	3	20
Ethyl ether	19.9		µg/l		20.0		99	70-130	3	20
Tert-amyl methyl ether	17.8		µg/l		20.0		89	70-130	4	20
Ethyl tert-butyl ether	21.4		µg/l		20.0		107	70-130	3	20
Di-isopropyl ether	20.2		µg/l		20.0		101	70-130	4	20
Tert-Butanol / butyl alcohol	199		µg/l		200		100	70-130	1	20
1,4-Dioxane	207		µg/l		200		103	70-130	2	20
trans-1,4-Dichloro-2-butene	19.5		µg/l		20.0		97	70-130	9	20
Ethanol	378		µg/l		400		95	70-130	1	20
Surrogate: 4-Bromofluorobenzene	50.2		µg/l		50.0		100	70-130		
Surrogate: Toluene-d8	50.3		µg/l		50.0		101	70-130		
Surrogate: 1,2-Dichloroethane-d4	49.7		µg/l		50.0		99	70-130		
Surrogate: Dibromofluoromethane	50.6		µg/l		50.0		101	70-130		

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Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1330940 - SW846 3510C										
Blank (1330940-BLK1)					Prepared: 26-Dec-13 Analyzed: 27-Dec-13					
Aroclor-1016	< 0.200		µg/l	0.200						
Aroclor-1016 [2C]	< 0.200		µg/l	0.200						
Aroclor-1221	< 0.200		µg/l	0.200						
Aroclor-1221 [2C]	< 0.200		µg/l	0.200						
Aroclor-1232	< 0.200		µg/l	0.200						
Aroclor-1232 [2C]	< 0.200		µg/l	0.200						
Aroclor-1242	< 0.200		µg/l	0.200						
Aroclor-1242 [2C]	< 0.200		µg/l	0.200						
Aroclor-1248	< 0.200		µg/l	0.200						
Aroclor-1248 [2C]	< 0.200		µg/l	0.200						
Aroclor-1254	< 0.200		µg/l	0.200						
Aroclor-1254 [2C]	< 0.200		µg/l	0.200						
Aroclor-1260	< 0.200		µg/l	0.200						
Aroclor-1260 [2C]	< 0.200		µg/l	0.200						
Aroclor-1262	< 0.200		µg/l	0.200						
Aroclor-1262 [2C]	< 0.200		µg/l	0.200						
Aroclor-1268	< 0.200		µg/l	0.200						
Aroclor-1268 [2C]	< 0.200		µg/l	0.200						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.160		µg/l		0.200		80	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.180		µg/l		0.200		90	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.180		µg/l		0.200		90	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.130		µg/l		0.200		65	30-150		
LCS (1330940-BS1)					Prepared: 26-Dec-13 Analyzed: 27-Dec-13					
Aroclor-1016	2.20		µg/l	0.200	2.50		88	40-140		
Aroclor-1016 [2C]	2.23		µg/l	0.200	2.50		89	40-140		
Aroclor-1260	2.19		µg/l	0.200	2.50		88	40-140		
Aroclor-1260 [2C]	1.92		µg/l	0.200	2.50		77	40-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.180		µg/l		0.200		90	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.200		µg/l		0.200		100	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.210		µg/l		0.200		105	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.160		µg/l		0.200		80	30-150		
LCS Dup (1330940-BSD1)					Prepared: 26-Dec-13 Analyzed: 27-Dec-13					
Aroclor-1016	2.19		µg/l	0.200	2.50		88	40-140	0.5	20
Aroclor-1016 [2C]	2.23		µg/l	0.200	2.50		89	40-140	0	20
Aroclor-1260	2.19		µg/l	0.200	2.50		88	40-140	0	20
Aroclor-1260 [2C]	1.98		µg/l	0.200	2.50		79	40-140	3	20
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.180		µg/l		0.200		90	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.200		µg/l		0.200		100	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.200		µg/l		0.200		100	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.160		µg/l		0.200		80	30-150		

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Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1330937 - SW846 3510C										
<u>Blank (1330937-BLK1)</u>										
Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0						
<u>LCS (1330937-BS1)</u>										
Non-polar material (SGT-HEM)	42.5		mg/l	1.0	49.2		86	83-101		

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1331053 - SW846 3005A										
<u>Blank (1331053-BLK1)</u>										
	<u>Prepared & Analyzed: 27-Dec-13</u>									
Iron	< 0.0150		mg/l	0.0150						
Lead	< 0.0075		mg/l	0.0075						
<u>LCS (1331053-BS1)</u>										
	<u>Prepared & Analyzed: 27-Dec-13</u>									
Iron	1.31		mg/l	0.0150	1.25		105	85-115		
Lead	1.22		mg/l	0.0075	1.25		97	85-115		
<u>LCS Dup (1331053-BSD1)</u>										
	<u>Prepared & Analyzed: 27-Dec-13</u>									
Iron	1.31		mg/l	0.0150	1.25		105	85-115	0	20
Lead	1.21		mg/l	0.0075	1.25		97	85-115	0.7	20
<u>Duplicate (1331053-DUP1)</u>										
				<u>Source: SB82475-01</u>						
	<u>Prepared & Analyzed: 27-Dec-13</u>									
Iron	1.69		mg/l	0.0150		1.54			9	20
Lead	0.0029	J	mg/l	0.0075		0.0030			3	20
<u>Matrix Spike (1331053-MS1)</u>										
				<u>Source: SB82475-01</u>						
	<u>Prepared & Analyzed: 27-Dec-13</u>									
Iron	2.99		mg/l	0.0150	1.25	1.54	116	75-125		
Lead	1.20		mg/l	0.0075	1.25	0.0030	95	75-125		
<u>Matrix Spike Dup (1331053-MSD1)</u>										
				<u>Source: SB82475-01</u>						
	<u>Prepared & Analyzed: 27-Dec-13</u>									
Iron	2.87		mg/l	0.0150	1.25	1.54	106	75-125	4	20
Lead	1.18		mg/l	0.0075	1.25	0.0030	94	75-125	2	20
<u>Post Spike (1331053-PS1)</u>										
				<u>Source: SB82475-01</u>						
	<u>Prepared & Analyzed: 27-Dec-13</u>									
Iron	3.00		mg/l	0.0150	1.25	1.54	116	80-120		
Lead	1.17		mg/l	0.0075	1.25	0.0030	94	80-120		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1330957 - General Preparation										
<u>Blank (1330957-BLK1)</u>								<u>Prepared: 26-Dec-13 Analyzed: 27-Dec-13</u>		
Total Suspended Solids	< 5.0		mg/l	5.0						
<u>LCS (1330957-BS1)</u>								<u>Prepared: 26-Dec-13 Analyzed: 27-Dec-13</u>		
Total Suspended Solids	94.0		mg/l	10.0	100		94	90-110		

Notes and Definitions

dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

- Gasoline - includes regular, unleaded, premium, etc.
- Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel
- Fuel Oil #4 - includes #4 fuel oil
- Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil
- Motor Oil - includes virgin and waste automobile oil
- Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha
- Aviation Fuel - includes kerosene, Jet A and JP-4
- Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as Calculated as.

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.

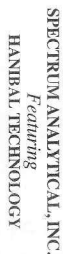
Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

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.

Validated by:
Kimberly Wisk



Page 1 of 1

- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 5 days
 - All TATs subject to laboratory approval.
 - Min. 24-hour notification needed for rushes
 - Samples disposed of after 60 days unless otherwise instructed.

- ☐ Final Report
☐ Re-Issued Report
☒ Revised Report

Report Date:
15-Apr-16 15:20

Laboratory Report

Environmental Compliance Services
997 Millbury Street, Unit G
Worcester, MA 01607
Attn: Matt Lyne

Project: CFI - Westminster, MA
Project #: 03-221324

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC19886-01	MW-1	Ground Water	06-Apr-16 09:45	07-Apr-16 14:24

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 # 2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00098
USDA # S-51435



Authorized by:



June O'Connor
Laboratory Director

Eurofins Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 35 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum 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 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.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.			Project #: 03-221324		
Project Location: CFI - Westminster, MA			RTN:		
This form provides certifications for the following data set:			SC19886-01		
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
<i>Affirmative responses to questions A through F are required for Presumptive Certainty's status</i>					
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
<i>Responses to questions G, H and I below are required for Presumptive Certainty's status</i>					
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 <i>Presumptive Certainty's status</i> 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
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<i>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.</i>  June O'Connor Laboratory Director Date: 4/15/2016					

CASE NARRATIVE:

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

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

The samples were received 1.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

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

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

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

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

Analyses for Total Hardness, pH, and Total Residual Chlorine fall under the state of Pennsylvania code Chapter 252.6 accreditation by rule.

Reactivity (40 CFR 261.23) Case Narrative:

These samples do not exhibit the characteristics of reactivity as defined in 40 CFR 261.23, sections (1), (2) and (4); however, Eurofins Spectrum Analytical, Inc. does not test for detonation, explosive reaction or potential, or forbidden explosives as defined in 40 CFR 261.23, sections (3), (6), (7) and (8).

Reactive sulfide and cyanide are tested at a pH of 2 and not tested at all conditions between pH 2 and 12.5 as stated in 40 CFR 261.23, section (5); thus reactive cyanide and sulfide results as reported in this document can not be used to support the nonreactive properties of these samples.

The responsibility falls on the generator to use knowledge of the waste to determine if the waste meets or does not meet the descriptive, prose definition of reactivity.

April 15, 2016 Report Revision Case Narrative:

This report has been revised to include analyses added as listed in the appendix at the end of this report.

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

EPA 300.0

Samples:

SC19886-01 *MW-I*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Chloride

SW846 6010C

Duplicates:

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

SW846 6010C

Duplicates:

1605811-DUP1 *Source: SC19886-01*

Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.

Arsenic

SW846 8260C

Calibration:

1603046

Analyte quantified by quadratic equation type calibration.

1,1-Dichloropropene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dibromo-3-chloropropane
1,3,5-Trimethylbenzene
1,4-Dioxane
2-Butanone (MEK)
2-Hexanone (MBK)
4-Chlorotoluene
4-Isopropyltoluene
4-Methyl-2-pentanone (MIBK)
Bromoform
Carbon tetrachloride
cis-1,3-Dichloropropene
Ethylbenzene
Isopropylbenzene
m,p-Xylene
Naphthalene
n-Butylbenzene
n-Propylbenzene
o-Xylene
sec-Butylbenzene
Styrene
tert-Butylbenzene
trans-1,3-Dichloropropene

This affected the following samples:

1605843-BLK1
1605843-BS1
1605843-BSD1
MW-1
S602442-ICV1
S602832-CCV1

S602442-ICV1

Analyte percent recovery is outside individual acceptance criteria.

2-Chlorotoluene (131%)

SW846 8260C

Calibration:

S602442-ICV1

This affected the following samples:

1605843-BLK1
1605843-BS1
1605843-BSD1
MW-1
S602832-CCV1

Laboratory Control Samples:

1605843 BS/BSD

2,2-Dichloropropane percent recoveries (153/148) 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:

MW-1

Samples:

S602832-CCV1

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

1,1,1,2-Tetrachloroethane (25.5%)
1,1,1-Trichloroethane (30.6%)
2,2-Dichloropropane (56.0%)
2-Chlorotoluene (26.4%)
Dibromochloromethane (25.4%)
Trichlorofluoromethane (Freon 11) (28.8%)

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

Bromoform (25.9%)
Carbon tetrachloride (27.6%)

This affected the following samples:

1605843-BLK1
1605843-BS1
1605843-BSD1
MW-1

SW846 8270D

Calibration:

1602028

Analyte quantified by quadratic equation type calibration.

2,4-Dinitrophenol
4,6-Dinitro-2-methylphenol
Benzidine
Benzoic acid

This affected the following samples:

1605782-BLK1
1605782-BS1
1605782-BSD1
MW-1
S601180-ICV1
S602948-CCV1

SW846 8270D

Laboratory Control Samples:

1605782 BS/BSD

4-Nitrophenol percent recoveries (143/147) 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:

MW-1

Benzoic acid percent recoveries (20/22) 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:

MW-1

Pyridine percent recoveries (26/35) 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:

MW-1

1605782 BSD

Pyridine RPD 27% (20%) is outside individual acceptance criteria.

Samples:

S602948-CCV1

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

1,2-Dichlorobenzene (-21.2%)
2,4,5-Trichlorophenol (23.8%)
2,4,6-Trichlorophenol (20.6%)
2,6-Dinitrotoluene (23.4%)
2-Nitroaniline (27.4%)
4-Nitroaniline (26.7%)
4-Nitrophenol (156%)
Indeno (1,2,3-cd) pyrene (25.9%)
Pyridine (-22.7%)

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

2,4-Dinitrophenol (28.2%)
Benzoic acid (24.2%)

This affected the following samples:

1605782-BLK1
1605782-BS1
1605782-BSD1
MW-1

Sample Acceptance Check Form

Client: Environmental Compliance Services - Worcester, MA
Project: CFI - Westminster, MA / 03-221324
Work Order: SC19886
Sample(s) received on: 4/7/2016

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

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	☐	☒	☐
Were custody seals intact?	☐	☐	☒
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	☒	☐	☐
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: SC19886-01

Client ID: MW-1

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Chloride	212	D, GS	19.00	mg/l	EPA 300.0
Hardness	51.7		0.291	mg/l CaCO ₃	SM 2340B
Total Dissolved Solids	435		5	mg/l	SM2540C
Barium	0.0436		0.0050	mg/l	SW846 6010C
Barium (dissolved)	0.0418		0.0050	mg/l	SW846 6010C
Calcium	16.8		0.100	mg/l	SW846 6010C
Iron	0.261		0.0150	mg/l	SW846 6010C
Magnesium	2.35		0.0100	mg/l	SW846 6010C
Zinc	0.0061		0.0050	mg/l	SW846 6010C
Zinc (dissolved)	0.0056		0.0050	mg/l	SW846 6010C
Bromodichloromethane	2.3		0.5	µg/l	SW846 8260C
Chloroform	10.7		1.0	µg/l	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 IdentificationMW-1
SC19886-01Client Project #
03-221324Matrix
Ground WaterCollection Date/Time
06-Apr-16 09:45Received
07-Apr-16

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)	< 1.0		µg/l	1.0	0.9	1	SW846 8260C	08-Apr-16	08-Apr-16	GMA	1605843	
67-64-1	Acetone	< 10.0		µg/l	10.0	3.4	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.5		µg/l	0.5	0.4	1	"	"	"	"	"	
71-43-2	Benzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	2.3		µg/l	0.5	0.2	1	"	"	"	"	"	
75-25-2	Bromoform	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.0		µg/l	2.0	0.6	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	1.2	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 2.0		µg/l	2.0	0.3	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.0		µg/l	2.0	0.5	1	"	"	"	"	"	
67-66-3	Chloroform	10.7		µg/l	1.0	0.4	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 2.0		µg/l	2.0	0.9	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.5		µg/l	0.5	0.2	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0	0.8	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.5	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 0.5		µg/l	0.5	0.4	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	1.2	1	"	"	"	"	"	

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

Sample Identification

MW-1

SC19886-01

Client Project #

03-221324

Matrix

Ground Water

Collection Date/Time

06-Apr-16 09:45

Received

07-Apr-16

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Volatile Organic CompoundsVolatile Organic Compounds by SW846 8260Prepared by method SW846 5030 Water MS

98-82-8	Isopropylbenzene	< 1.0		µg/l	1.0	0.3	1	SW846 8260C	08-Apr-16	08-Apr-16	GMA	1605843	
99-87-6	4-Isopropyltoluene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.9	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.0		µg/l	2.0	0.8	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
100-42-5	Styrene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
108-88-3	Toluene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 2.0		µg/l	2.0	0.3	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 2.0		µg/l	2.0	0.9	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	6.0	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	12.7	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.0		µg/l	5.0	3.1	1	"	"	"	"	"	
64-17-5	Ethanol	< 400		µg/l	400	23.6	1	"	"	"	"	"	

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	89			70-130 %			"	"	"	"	"	
2037-26-5	Toluene-d8	96			70-130 %			"	"	"	"	"	
17060-07-0	1,2-Dichloroethane-d4	119			70-130 %			"	"	"	"	"	
1868-53-7	Dibromofluoromethane	113			70-130 %			"	"	"	"	"	

Semivolatile Organic Compounds by GCMSSemivolatile Organic CompoundsPrepared by method SW846 3510C

83-32-9	Acenaphthene	< 5.95		µg/l	5.95	1.40	1	SW846 8270D	08-Apr-16	12-Apr-16	NAA	1605782	
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This laboratory report is not valid without an authorized signature on the cover page.

Sample IdentificationMW-1
SC19886-01Client Project #
03-221324Matrix
Ground WaterCollection Date/Time
06-Apr-16 09:45Received
07-Apr-16

<u>CAS No.</u>	<u>Analyte(s)</u>	<u>Result</u>	<u>Flag</u>	<u>Units</u>	<u>*RDL</u>	<u>MDL</u>	<u>Dilution</u>	<u>Method Ref.</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Analyst</u>	<u>Batch</u>	<u>Cert.</u>
Semivolatile Organic Compounds by GCMS													
<u>Semivolatile Organic Compounds</u>													
<u>Prepared by method SW846 3510C</u>													
208-96-8	Acenaphthylene	< 5.95		µg/l	5.95	1.30	1	SW846 8270D	08-Apr-16	12-Apr-16	NAA	1605782	
62-53-3	Aniline	< 5.95		µg/l	5.95	1.68	1	"	"	"	"	"	
120-12-7	Anthracene	< 5.95		µg/l	5.95	1.38	1	"	"	"	"	"	
103-33-3	Azobenzene/Diphenyldiazene	< 5.95		µg/l	5.95	1.23	1	"	"	"	"	"	
92-87-5	Benzidine	< 5.95		µg/l	5.95	3.40	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 5.95		µg/l	5.95	1.35	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 5.95		µg/l	5.95	1.20	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 5.95		µg/l	5.95	1.21	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 5.95		µg/l	5.95	1.58	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 5.95		µg/l	5.95	1.61	1	"	"	"	"	"	
65-85-0	Benzoic acid	< 5.95		µg/l	5.95	2.37	1	"	"	"	"	"	
100-51-6	Benzyl alcohol	< 5.95		µg/l	5.95	2.07	1	"	"	"	"	"	
111-91-1	Bis(2-chloroethoxy)methane	< 5.95		µg/l	5.95	1.18	1	"	"	"	"	"	
111-44-4	Bis(2-chloroethyl)ether	< 5.95		µg/l	5.95	1.33	1	"	"	"	"	"	
108-60-1	Bis(2-chloroisopropyl)ether	< 5.95		µg/l	5.95	1.43	1	"	"	"	"	"	
117-81-7	Bis(2-ethylhexyl)phthalate	< 5.95		µg/l	5.95	1.67	1	"	"	"	"	"	
101-55-3	4-Bromophenyl phenyl ether	< 5.95		µg/l	5.95	1.40	1	"	"	"	"	"	
85-68-7	Butyl benzyl phthalate	< 5.95		µg/l	5.95	1.57	1	"	"	"	"	"	
86-74-8	Carbazole	< 5.95		µg/l	5.95	1.48	1	"	"	"	"	"	
59-50-7	4-Chloro-3-methylphenol	< 5.95		µg/l	5.95	1.46	1	"	"	"	"	"	
106-47-8	4-Chloroaniline	< 5.95		µg/l	5.95	1.56	1	"	"	"	"	"	
91-58-7	2-Chloronaphthalene	< 5.95		µg/l	5.95	1.42	1	"	"	"	"	"	
95-57-8	2-Chlorophenol	< 5.95		µg/l	5.95	1.50	1	"	"	"	"	"	
7005-72-3	4-Chlorophenyl phenyl ether	< 5.95		µg/l	5.95	1.37	1	"	"	"	"	"	
218-01-9	Chrysene	< 5.95		µg/l	5.95	1.24	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 5.95		µg/l	5.95	1.42	1	"	"	"	"	"	
132-64-9	Dibenzofuran	< 5.95		µg/l	5.95	1.29	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.95		µg/l	5.95	1.89	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.95		µg/l	5.95	1.43	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.95		µg/l	5.95	1.35	1	"	"	"	"	"	
91-94-1	3,3'-Dichlorobenzidine	< 5.95		µg/l	5.95	1.85	1	"	"	"	"	"	
120-83-2	2,4-Dichlorophenol	< 5.95		µg/l	5.95	1.44	1	"	"	"	"	"	
84-66-2	Diethyl phthalate	< 5.95		µg/l	5.95	1.81	1	"	"	"	"	"	
131-11-3	Dimethyl phthalate	< 5.95		µg/l	5.95	1.76	1	"	"	"	"	"	
105-67-9	2,4-Dimethylphenol	< 5.95		µg/l	5.95	1.68	1	"	"	"	"	"	
84-74-2	Di-n-butyl phthalate	< 5.95		µg/l	5.95	1.32	1	"	"	"	"	"	
534-52-1	4,6-Dinitro-2-methylphenol	< 5.95		µg/l	5.95	2.23	1	"	"	"	"	"	
51-28-5	2,4-Dinitrophenol	< 5.95		µg/l	5.95	2.56	1	"	"	"	"	"	
121-14-2	2,4-Dinitrotoluene	< 5.95		µg/l	5.95	2.18	1	"	"	"	"	"	
606-20-2	2,6-Dinitrotoluene	< 5.95		µg/l	5.95	1.95	1	"	"	"	"	"	
117-84-0	Di-n-octyl phthalate	< 5.95		µg/l	5.95	1.51	1	"	"	"	"	"	

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Sample Identification

MW-1

SC19886-01

Client Project #

03-221324

Matrix

Ground Water

Collection Date/Time

06-Apr-16 09:45

Received

07-Apr-16

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Semivolatile Organic Compounds by GCMSSemivolatile Organic CompoundsPrepared by method SW846 3510C

206-44-0	Fluoranthene	< 5.95		µg/l	5.95	1.42	1	SW846 8270D	08-Apr-16	12-Apr-16	NAA	1605782	
86-73-7	Fluorene	< 5.95		µg/l	5.95	1.42	1	"	"	"	"	"	
118-74-1	Hexachlorobenzene	< 5.95		µg/l	5.95	1.25	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 5.95		µg/l	5.95	1.40	1	"	"	"	"	"	
77-47-4	Hexachlorocyclopentadiene	< 5.95		µg/l	5.95	2.48	1	"	"	"	"	"	
67-72-1	Hexachloroethane	< 5.95		µg/l	5.95	1.80	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 5.95		µg/l	5.95	1.54	1	"	"	"	"	"	
78-59-1	Isophorone	< 5.95		µg/l	5.95	1.26	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 5.95		µg/l	5.95	1.44	1	"	"	"	"	"	
95-48-7	2-Methylphenol	< 5.95		µg/l	5.95	1.73	1	"	"	"	"	"	
108-39-4, 106-44-5	3 & 4-Methylphenol	< 11.9		µg/l	11.9	1.73	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.95		µg/l	5.95	1.25	1	"	"	"	"	"	
88-74-4	2-Nitroaniline	< 5.95		µg/l	5.95	1.65	1	"	"	"	"	"	
99-09-2	3-Nitroaniline	< 5.95		µg/l	5.95	1.83	1	"	"	"	"	"	
100-01-6	4-Nitroaniline	< 5.95		µg/l	5.95	2.55	1	"	"	"	"	"	
98-95-3	Nitrobenzene	< 5.95		µg/l	5.95	1.21	1	"	"	"	"	"	
88-75-5	2-Nitrophenol	< 5.95		µg/l	5.95	1.73	1	"	"	"	"	"	
100-02-7	4-Nitrophenol	< 23.8		µg/l	23.8	3.48	1	"	"	"	"	"	
62-75-9	N-Nitrosodimethylamine	< 5.95		µg/l	5.95	1.64	1	"	"	"	"	"	
621-64-7	N-Nitrosodi-n-propylamine	< 5.95		µg/l	5.95	1.56	1	"	"	"	"	"	
86-30-6	N-Nitrosodiphenylamine	< 5.95		µg/l	5.95	1.74	1	"	"	"	"	"	
87-86-5	Pentachlorophenol	< 23.8		µg/l	23.8	2.23	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 5.95		µg/l	5.95	1.48	1	"	"	"	"	"	
108-95-2	Phenol	< 5.95		µg/l	5.95	1.17	1	"	"	"	"	"	
129-00-0	Pyrene	< 5.95		µg/l	5.95	1.70	1	"	"	"	"	"	
110-86-1	Pyridine	< 5.95		µg/l	5.95	1.83	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.95		µg/l	5.95	1.51	1	"	"	"	"	"	
90-12-0	1-Methylnaphthalene	< 5.95		µg/l	5.95	1.30	1	"	"	"	"	"	
95-95-4	2,4,5-Trichlorophenol	< 5.95		µg/l	5.95	1.42	1	"	"	"	"	"	
88-06-2	2,4,6-Trichlorophenol	< 5.95		µg/l	5.95	1.29	1	"	"	"	"	"	
82-68-8	Pentachloronitrobenzene	< 5.95		µg/l	5.95	1.52	1	"	"	"	"	"	
95-94-3	1,2,4,5-Tetrachlorobenzen e	< 5.95		µg/l	5.95	1.24	1	"	"	"	"	"	

Surrogate recoveries:

321-60-8	2-Fluorobiphenyl	72			30-130 %			"	"	"	"	"	
367-12-4	2-Fluorophenol	49			15-110 %			"	"	"	"	"	
4165-60-0	Nitrobenzene-d5	71			30-130 %			"	"	"	"	"	
4165-62-2	Phenol-d5	33			15-110 %			"	"	"	"	"	
1718-51-0	Terphenyl-d14	61			30-130 %			"	"	"	"	"	
118-79-6	2,4,6-Tribromophenol	82			15-110 %			"	"	"	"	"	

Semivolatile Organic Compounds by GCPolychlorinated BiphenylsPrepared by method SW846 3510C

12674-11-2	Aroclor-1016	< 0.206		µg/l	0.206	0.0741	1	SW846 8082A	11-Apr-16	11-Apr-16	TNS	1605945	
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Sample Identification

MW-1

SC19886-01

Client Project #

03-221324

Matrix

Ground Water

Collection Date/Time

06-Apr-16 09:45

Received

07-Apr-16

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Semivolatile Organic Compounds by GCPolychlorinated BiphenylsPrepared by method SW846 3510C

11104-28-2	Aroclor-1221	< 0.206		µg/l	0.206	0.100	1	SW846 8082A	11-Apr-16	11-Apr-16	TNS	1605945	
11141-16-5	Aroclor-1232	< 0.206		µg/l	0.206	0.139	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 0.206		µg/l	0.206	0.113	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 0.206		µg/l	0.206	0.0913	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 0.206		µg/l	0.206	0.122	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 0.206		µg/l	0.206	0.0721	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 0.206		µg/l	0.206	0.103	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 0.206		µg/l	0.206	0.0886	1	"	"	"	"	"	

Surrogate recoveries:

10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	55			30-150 %			"	"	"	"	"	
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	55			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr)	40			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr) [2C]	50			30-150 %			"	"	"	"	"	

Extractable Petroleum Hydrocarbons

Non-polar material (SGT-HEM)	< 1.1			mg/l	1.1	0.3	1	EPA 1664B	08-Apr-16	11-Apr-16	SAL	1605850	
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Total Metals by EPA 200/6000 Series Methods

Preservation	Lab Preserved			N/A			1	EPA 200/6000 methods	07-Apr-16		BK	1605829	
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Total Metals by EPA 6000/7000 Series Methods

7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0008	1	SW846 6010C	08-Apr-16	11-Apr-16	BJW	1605806	
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0016	1	"	"	"	"	"	
7440-39-3	Barium	0.0436		mg/l	0.0050	0.0002	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.0020		mg/l	0.0020	0.0002	1	"	"	"	"	"	
7440-70-2	Calcium	16.8		mg/l	0.100	0.0115	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0002	1	"	"	"	"	"	
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0007	1	"	"	"	"	"	
7440-50-8	Copper	< 0.0050		mg/l	0.0050	0.0012	1	"	"	"	"	"	
7439-89-6	Iron	0.261		mg/l	0.0150	0.0045	1	"	"	"	"	"	
7439-95-4	Magnesium	2.35		mg/l	0.0100	0.0016	1	"	"	"	"	"	
7440-02-0	Nickel	< 0.0050		mg/l	0.0050	0.0021	1	"	"	"	"	"	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0022	1	"	"	"	"	"	
7440-36-0	Antimony	< 0.0060		mg/l	0.0060	0.0011	1	"	"	"	"	"	
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0036	1	"	"	"	"	"	
7440-28-0	Thallium	< 0.0050		mg/l	0.0050	0.0021	1	"	"	"	"	"	
7440-66-6	Zinc	0.0061		mg/l	0.0050	0.0024	1	"	"	"	"	"	

Total Metals by EPA 200 Series Methods

7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00009	1	EPA 245.1/7470A	08-Apr-16	11-Apr-16	TBC	1605810	X
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Soluble Metals by EPA 200/6000 Series Methods

Filtration	Field Filtered			N/A			1	EPA 200.7/3005A/6010			LNB	1605825	
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Soluble Metals by EPA 6000/7000 Series Methods*This laboratory report is not valid without an authorized signature on the cover page.*

Sample Identification

MW-1

SC19886-01

Client Project #

03-221324

Matrix

Ground Water

Collection Date/Time

06-Apr-16 09:45

Received

07-Apr-16

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Soluble Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0008	1	SW846 6010C	08-Apr-16	11-Apr-16	BJW	1605811	
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0016	1	"	"	"	"	"	
7440-39-3	Barium	0.0418		mg/l	0.0050	0.0002	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.0020		mg/l	0.0020	0.0002	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0002	1	"	"	"	"	"	
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0007	1	"	"	"	"	"	
7440-50-8	Copper	< 0.0050		mg/l	0.0050	0.0012	1	"	"	"	"	"	
7439-89-6	Iron	< 0.0150		mg/l	0.0150	0.0045	1	"	"	"	"	"	
7440-02-0	Nickel	< 0.0050		mg/l	0.0050	0.0021	1	"	"	"	"	"	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0022	1	"	"	"	"	"	
7440-36-0	Antimony	< 0.0060		mg/l	0.0060	0.0011	1	"	"	"	"	"	
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0036	1	"	"	"	"	"	
7440-28-0	Thallium	< 0.0050		mg/l	0.0050	0.0021	1	"	"	"	"	"	
7440-66-6	Zinc	0.0056		mg/l	0.0050	0.0024	1	"	"	"	"	"	
Soluble Metals by EPA 200 Series Methods													
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00009	1	EPA 245.1/7470A	08-Apr-16	11-Apr-16	TBC	1605812	X
General Chemistry Parameters													
	Flashpoint	>150		°F			1	SW846 1010A	08-Apr-16	08-Apr-16	VK	1605874	
	Hardness	51.7	HD	mg/l CaCO3	0.291	0.0351	1	SM 2340B	08-Apr-16	11-Apr-16	BJW	[CALC]	
16887-00-6	Chloride	212	D, GS1	mg/l	9.00	0.706	9	EPA 300.0	14-Apr-16	14-Apr-16	AHK	1606242	X
	pH	6.07	pH	pH Units			1	ASTM D 1293-99B	07-Apr-16 19:24	11-Apr-16 11:51	TDD	1605834	X
Reactivity Cyanide/Sulfide													
<u>Prepared by method General Preparation</u>													
	Reactivity	See Narrative		mg/l			1	SW846 Ch. 7.3	12-Apr-16	12-Apr-16	EEM	1606041	
57-12-5	Reactive Cyanide	< 25.0		mg/l	25.0	25.0	1	"	"	"	"	"	
18496-25-8	Reactive Sulfide	< 50.0		mg/l	50.0	50.0	1	"	"	"	"	"	
	Total Dissolved Solids	435		mg/l	5	3	1	SM2540C	08-Apr-16	12-Apr-16	CMB	1605859	X
	Total Suspended Solids	< 5.0		mg/l	5.0	2.8	1	SM2540D	08-Apr-16	12-Apr-16	CMB	1605857	X

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605843 - SW846 5030 Water MS										
Blank (1605843-BLK1)	Prepared & Analyzed: 08-Apr-16									
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.0		µg/l	1.0						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.5		µg/l	0.5						
Benzene	< 1.0		µg/l	1.0						
Bromobenzene	< 1.0		µg/l	1.0						
Bromochloromethane	< 1.0		µg/l	1.0						
Bromodichloromethane	< 0.5		µg/l	0.5						
Bromoform	< 1.0		µg/l	1.0						
Bromomethane	< 2.0		µg/l	2.0						
2-Butanone (MEK)	< 10.0		µg/l	10.0						
n-Butylbenzene	< 1.0		µg/l	1.0						
sec-Butylbenzene	< 1.0		µg/l	1.0						
tert-Butylbenzene	< 1.0		µg/l	1.0						
Carbon disulfide	< 2.0		µg/l	2.0						
Carbon tetrachloride	< 1.0		µg/l	1.0						
Chlorobenzene	< 1.0		µg/l	1.0						
Chloroethane	< 2.0		µg/l	2.0						
Chloroform	< 1.0		µg/l	1.0						
Chloromethane	< 2.0		µg/l	2.0						
2-Chlorotoluene	< 1.0		µg/l	1.0						
4-Chlorotoluene	< 1.0		µg/l	1.0						
1,2-Dibromo-3-chloropropane	< 2.0		µg/l	2.0						
Dibromochloromethane	< 0.5		µg/l	0.5						
1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5						
Dibromomethane	< 1.0		µg/l	1.0						
1,2-Dichlorobenzene	< 1.0		µg/l	1.0						
1,3-Dichlorobenzene	< 1.0		µg/l	1.0						
1,4-Dichlorobenzene	< 1.0		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0						
1,1-Dichloroethane	< 1.0		µg/l	1.0						
1,2-Dichloroethane	< 1.0		µg/l	1.0						
1,1-Dichloroethene	< 1.0		µg/l	1.0						
cis-1,2-Dichloroethene	< 1.0		µg/l	1.0						
trans-1,2-Dichloroethene	< 1.0		µg/l	1.0						
1,2-Dichloropropane	< 1.0		µg/l	1.0						
1,3-Dichloropropane	< 1.0		µg/l	1.0						
2,2-Dichloropropane	< 1.0		µg/l	1.0						
1,1-Dichloropropene	< 1.0		µg/l	1.0						
cis-1,3-Dichloropropene	< 0.5		µg/l	0.5						
trans-1,3-Dichloropropene	< 0.5		µg/l	0.5						
Ethylbenzene	< 1.0		µg/l	1.0						
Hexachlorobutadiene	< 0.5		µg/l	0.5						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Isopropylbenzene	< 1.0		µg/l	1.0						
4-Isopropyltoluene	< 1.0		µg/l	1.0						
Methyl tert-butyl ether	< 1.0		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 2.0		µg/l	2.0						
Naphthalene	< 1.0		µg/l	1.0						
n-Propylbenzene	< 1.0		µg/l	1.0						
Styrene	< 1.0		µg/l	1.0						
1,1,1,2-Tetrachloroethane	< 1.0		µg/l	1.0						

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605843 - SW846 5030 Water MS										
Blank (1605843-BLK1)					<u>Prepared & Analyzed: 08-Apr-16</u>					
1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5						
Tetrachloroethene	< 1.0		µg/l	1.0						
Toluene	< 1.0		µg/l	1.0						
1,2,3-Trichlorobenzene	< 1.0		µg/l	1.0						
1,2,4-Trichlorobenzene	< 1.0		µg/l	1.0						
1,3,5-Trichlorobenzene	< 1.0		µg/l	1.0						
1,1,1-Trichloroethane	< 1.0		µg/l	1.0						
1,1,2-Trichloroethane	< 1.0		µg/l	1.0						
Trichloroethene	< 1.0		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0						
1,2,3-Trichloropropane	< 1.0		µg/l	1.0						
1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0						
1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0						
Vinyl chloride	< 1.0		µg/l	1.0						
m,p-Xylene	< 2.0		µg/l	2.0						
o-Xylene	< 1.0		µg/l	1.0						
Tetrahydrofuran	< 2.0		µg/l	2.0						
Ethyl ether	< 1.0		µg/l	1.0						
Tert-amyl methyl ether	< 1.0		µg/l	1.0						
Ethyl tert-butyl ether	< 1.0		µg/l	1.0						
Di-isopropyl ether	< 1.0		µg/l	1.0						
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	< 5.0		µg/l	5.0						
Ethanol	< 400		µg/l	400						
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>42.4</i>		<i>µg/l</i>		<i>50.0</i>		<i>85</i>	<i>70-130</i>		
<i>Surrogate: Toluene-d8</i>	<i>48.8</i>		<i>µg/l</i>		<i>50.0</i>		<i>98</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>58.6</i>		<i>µg/l</i>		<i>50.0</i>		<i>117</i>	<i>70-130</i>		
<i>Surrogate: Dibromofluoromethane</i>	<i>56.8</i>		<i>µg/l</i>		<i>50.0</i>		<i>114</i>	<i>70-130</i>		
LCS (1605843-BS1)					<u>Prepared & Analyzed: 08-Apr-16</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	24.0		µg/l		20.0		120	70-130		
Acetone	19.2		µg/l		20.0		96	70-130		
Acrylonitrile	20.0		µg/l		20.0		100	70-130		
Benzene	22.0		µg/l		20.0		110	70-130		
Bromobenzene	22.0		µg/l		20.0		110	70-130		
Bromochloromethane	20.8		µg/l		20.0		104	70-130		
Bromodichloromethane	22.8		µg/l		20.0		114	70-130		
Bromoform	23.0		µg/l		20.0		115	70-130		
Bromomethane	22.6		µg/l		20.0		113	70-130		
2-Butanone (MEK)	20.0		µg/l		20.0		100	70-130		
n-Butylbenzene	19.5		µg/l		20.0		98	70-130		
sec-Butylbenzene	21.7		µg/l		20.0		108	70-130		
tert-Butylbenzene	20.4		µg/l		20.0		102	70-130		
Carbon disulfide	21.5		µg/l		20.0		108	70-130		
Carbon tetrachloride	25.6		µg/l		20.0		128	70-130		
Chlorobenzene	21.4		µg/l		20.0		107	70-130		
Chloroethane	21.5		µg/l		20.0		108	70-130		
Chloroform	22.0		µg/l		20.0		110	70-130		
Chloromethane	23.0		µg/l		20.0		115	70-130		
2-Chlorotoluene	24.0		µg/l		20.0		120	70-130		
4-Chlorotoluene	21.1		µg/l		20.0		106	70-130		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605843 - SW846 5030 Water MS										
<u>LCS (1605843-BS1)</u>	<u>Prepared & Analyzed: 08-Apr-16</u>									
1,2-Dibromo-3-chloropropane	20.8		µg/l		20.0		104	70-130		
Dibromochloromethane	23.5		µg/l		20.0		117	70-130		
1,2-Dibromoethane (EDB)	21.2		µg/l		20.0		106	70-130		
Dibromomethane	20.6		µg/l		20.0		103	70-130		
1,2-Dichlorobenzene	20.5		µg/l		20.0		102	70-130		
1,3-Dichlorobenzene	23.6		µg/l		20.0		118	70-130		
1,4-Dichlorobenzene	18.5		µg/l		20.0		93	70-130		
Dichlorodifluoromethane (Freon12)	23.3		µg/l		20.0		116	70-130		
1,1-Dichloroethane	21.5		µg/l		20.0		108	70-130		
1,2-Dichloroethane	21.8		µg/l		20.0		109	70-130		
1,1-Dichloroethene	21.8		µg/l		20.0		109	70-130		
cis-1,2-Dichloroethene	20.9		µg/l		20.0		104	70-130		
trans-1,2-Dichloroethene	21.5		µg/l		20.0		108	70-130		
1,2-Dichloropropane	21.0		µg/l		20.0		105	70-130		
1,3-Dichloropropane	20.6		µg/l		20.0		103	70-130		
2,2-Dichloropropane	30.6	QC2	µg/l		20.0		153	70-130		
1,1-Dichloropropene	20.2		µg/l		20.0		101	70-130		
cis-1,3-Dichloropropene	22.0		µg/l		20.0		110	70-130		
trans-1,3-Dichloropropene	23.2		µg/l		20.0		116	70-130		
Ethylbenzene	20.1		µg/l		20.0		100	70-130		
Hexachlorobutadiene	21.2		µg/l		20.0		106	70-130		
2-Hexanone (MBK)	18.8		µg/l		20.0		94	70-130		
Isopropylbenzene	21.0		µg/l		20.0		105	70-130		
4-Isopropyltoluene	19.6		µg/l		20.0		98	70-130		
Methyl tert-butyl ether	22.0		µg/l		20.0		110	70-130		
4-Methyl-2-pentanone (MIBK)	22.5		µg/l		20.0		112	70-130		
Methylene chloride	20.9		µg/l		20.0		105	70-130		
Naphthalene	17.6		µg/l		20.0		88	70-130		
n-Propylbenzene	20.0		µg/l		20.0		100	70-130		
Styrene	19.0		µg/l		20.0		95	70-130		
1,1,1,2-Tetrachloroethane	24.0		µg/l		20.0		120	70-130		
1,1,2,2-Tetrachloroethane	19.7		µg/l		20.0		98	70-130		
Tetrachloroethene	21.3		µg/l		20.0		106	70-130		
Toluene	21.8		µg/l		20.0		109	70-130		
1,2,3-Trichlorobenzene	18.9		µg/l		20.0		94	70-130		
1,2,4-Trichlorobenzene	18.9		µg/l		20.0		95	70-130		
1,3,5-Trichlorobenzene	19.5		µg/l		20.0		98	70-130		
1,1,1-Trichloroethane	25.5		µg/l		20.0		128	70-130		
1,1,2-Trichloroethane	21.1		µg/l		20.0		106	70-130		
Trichloroethene	21.6		µg/l		20.0		108	70-130		
Trichlorofluoromethane (Freon 11)	25.6		µg/l		20.0		128	70-130		
1,2,3-Trichloropropane	22.0		µg/l		20.0		110	70-130		
1,2,4-Trimethylbenzene	20.7		µg/l		20.0		104	70-130		
1,3,5-Trimethylbenzene	20.1		µg/l		20.0		100	70-130		
Vinyl chloride	23.0		µg/l		20.0		115	70-130		
m,p-Xylene	19.6		µg/l		20.0		98	70-130		
o-Xylene	20.6		µg/l		20.0		103	70-130		
Tetrahydrofuran	20.7		µg/l		20.0		103	70-130		
Ethyl ether	19.7		µg/l		20.0		98	70-130		
Tert-amyl methyl ether	19.9		µg/l		20.0		100	70-130		
Ethyl tert-butyl ether	22.4		µg/l		20.0		112	70-130		
Di-isopropyl ether	21.4		µg/l		20.0		107	70-130		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605843 - SW846 5030 Water MS										
<u>LCS (1605843-BS1)</u>					<u>Prepared & Analyzed: 08-Apr-16</u>					
Tert-Butanol / butyl alcohol	207		µg/l		200		103	70-130		
1,4-Dioxane	199		µg/l		200		100	70-130		
trans-1,4-Dichloro-2-butene	19.2		µg/l		20.0		96	70-130		
Ethanol	398		µg/l		400		99	70-130		
Surrogate: 4-Bromofluorobenzene	54.6		µg/l		50.0		109	70-130		
Surrogate: Toluene-d8	51.1		µg/l		50.0		102	70-130		
Surrogate: 1,2-Dichloroethane-d4	53.8		µg/l		50.0		108	70-130		
Surrogate: Dibromofluoromethane	52.0		µg/l		50.0		104	70-130		
<u>LCS Dup (1605843-BSD1)</u>					<u>Prepared & Analyzed: 08-Apr-16</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	24.0		µg/l		20.0		120	70-130	0.2	20
Acetone	19.6		µg/l		20.0		98	70-130	2	20
Acrylonitrile	20.0		µg/l		20.0		100	70-130	0.1	20
Benzene	21.9		µg/l		20.0		109	70-130	0.5	20
Bromobenzene	21.9		µg/l		20.0		110	70-130	0.5	20
Bromochloromethane	21.4		µg/l		20.0		107	70-130	3	20
Bromodichloromethane	23.2		µg/l		20.0		116	70-130	2	20
Bromoform	23.2		µg/l		20.0		116	70-130	0.8	20
Bromomethane	21.6		µg/l		20.0		108	70-130	5	20
2-Butanone (MEK)	17.6		µg/l		20.0		88	70-130	13	20
n-Butylbenzene	19.8		µg/l		20.0		99	70-130	1	20
sec-Butylbenzene	21.8		µg/l		20.0		109	70-130	0.3	20
tert-Butylbenzene	20.3		µg/l		20.0		102	70-130	0.2	20
Carbon disulfide	21.1		µg/l		20.0		106	70-130	2	20
Carbon tetrachloride	25.1		µg/l		20.0		125	70-130	2	20
Chlorobenzene	21.8		µg/l		20.0		109	70-130	2	20
Chloroethane	21.6		µg/l		20.0		108	70-130	0.5	20
Chloroform	22.0		µg/l		20.0		110	70-130	0.3	20
Chloromethane	22.5		µg/l		20.0		112	70-130	2	20
2-Chlorotoluene	24.2		µg/l		20.0		121	70-130	0.8	20
4-Chlorotoluene	21.4		µg/l		20.0		107	70-130	1	20
1,2-Dibromo-3-chloropropane	23.0		µg/l		20.0		115	70-130	10	20
Dibromochloromethane	23.9		µg/l		20.0		119	70-130	2	20
1,2-Dibromoethane (EDB)	21.0		µg/l		20.0		105	70-130	1	20
Dibromomethane	20.5		µg/l		20.0		103	70-130	0.2	20
1,2-Dichlorobenzene	20.8		µg/l		20.0		104	70-130	2	20
1,3-Dichlorobenzene	23.8		µg/l		20.0		119	70-130	1	20
1,4-Dichlorobenzene	18.9		µg/l		20.0		94	70-130	2	20
Dichlorodifluoromethane (Freon12)	22.7		µg/l		20.0		113	70-130	3	20
1,1-Dichloroethane	18.7		µg/l		20.0		93	70-130	14	20
1,2-Dichloroethane	21.9		µg/l		20.0		109	70-130	0.4	20
1,1-Dichloroethene	22.3		µg/l		20.0		111	70-130	2	20
cis-1,2-Dichloroethene	21.4		µg/l		20.0		107	70-130	3	20
trans-1,2-Dichloroethene	20.4		µg/l		20.0		102	70-130	5	20
1,2-Dichloropropane	21.4		µg/l		20.0		107	70-130	2	20
1,3-Dichloropropane	20.9		µg/l		20.0		105	70-130	2	20
2,2-Dichloropropane	29.6	QC2	µg/l		20.0		148	70-130	3	20
1,1-Dichloropropene	20.3		µg/l		20.0		102	70-130	0.8	20
cis-1,3-Dichloropropene	22.4		µg/l		20.0		112	70-130	2	20
trans-1,3-Dichloropropene	23.0		µg/l		20.0		115	70-130	0.8	20
Ethylbenzene	20.4		µg/l		20.0		102	70-130	2	20
Hexachlorobutadiene	21.8		µg/l		20.0		109	70-130	2	20

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605843 - SW846 5030 Water MS										
<u>LCS Dup (1605843-BSD1)</u>					<u>Prepared & Analyzed: 08-Apr-16</u>					
2-Hexanone (MBK)	19.2		µg/l		20.0		96	70-130	2	20
Isopropylbenzene	21.1		µg/l		20.0		105	70-130	0.3	20
4-Isopropyltoluene	20.0		µg/l		20.0		100	70-130	2	20
Methyl tert-butyl ether	22.6		µg/l		20.0		113	70-130	3	20
4-Methyl-2-pentanone (MIBK)	19.6		µg/l		20.0		98	70-130	14	20
Methylene chloride	21.3		µg/l		20.0		106	70-130	2	20
Naphthalene	18.8		µg/l		20.0		94	70-130	7	20
n-Propylbenzene	20.0		µg/l		20.0		100	70-130	0.2	20
Styrene	19.4		µg/l		20.0		97	70-130	2	20
1,1,1,2-Tetrachloroethane	24.1		µg/l		20.0		121	70-130	0.4	20
1,1,2,2-Tetrachloroethane	20.0		µg/l		20.0		100	70-130	2	20
Tetrachloroethene	21.0		µg/l		20.0		105	70-130	2	20
Toluene	20.8		µg/l		20.0		104	70-130	5	20
1,2,3-Trichlorobenzene	19.8		µg/l		20.0		99	70-130	5	20
1,2,4-Trichlorobenzene	19.3		µg/l		20.0		97	70-130	2	20
1,3,5-Trichlorobenzene	19.8		µg/l		20.0		99	70-130	2	20
1,1,1-Trichloroethane	25.2		µg/l		20.0		126	70-130	1	20
1,1,2-Trichloroethane	21.8		µg/l		20.0		109	70-130	3	20
Trichloroethene	21.7		µg/l		20.0		108	70-130	0.4	20
Trichlorofluoromethane (Freon 11)	25.4		µg/l		20.0		127	70-130	0.8	20
1,2,3-Trichloropropane	23.1		µg/l		20.0		116	70-130	5	20
1,2,4-Trimethylbenzene	20.6		µg/l		20.0		103	70-130	0.5	20
1,3,5-Trimethylbenzene	20.1		µg/l		20.0		100	70-130	0.05	20
Vinyl chloride	23.1		µg/l		20.0		115	70-130	0.3	20
m,p-Xylene	19.8		µg/l		20.0		99	70-130	0.7	20
o-Xylene	20.6		µg/l		20.0		103	70-130	0.1	20
Tetrahydrofuran	21.6		µg/l		20.0		108	70-130	4	20
Ethyl ether	20.5		µg/l		20.0		103	70-130	4	20
Tert-amyl methyl ether	20.9		µg/l		20.0		105	70-130	5	20
Ethyl tert-butyl ether	22.8		µg/l		20.0		114	70-130	2	20
Di-isopropyl ether	22.4		µg/l		20.0		112	70-130	4	20
Tert-Butanol / butyl alcohol	227		µg/l		200		114	70-130	9	20
1,4-Dioxane	217		µg/l		200		108	70-130	8	20
trans-1,4-Dichloro-2-butene	22.8		µg/l		20.0		114	70-130	17	20
Ethanol	408		µg/l		400		102	70-130	2	20
Surrogate: 4-Bromofluorobenzene	53.5		µg/l		50.0		107	70-130		
Surrogate: Toluene-d8	50.2		µg/l		50.0		100	70-130		
Surrogate: 1,2-Dichloroethane-d4	53.1		µg/l		50.0		106	70-130		
Surrogate: Dibromofluoromethane	50.8		µg/l		50.0		102	70-130		

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Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605782 - SW846 3510C										
<u>Blank (1605782-BLK1)</u>	<u>Prepared: 08-Apr-16 Analyzed: 12-Apr-16</u>									
Acenaphthene	< 5.00		µg/l	5.00						
Acenaphthylene	< 5.00		µg/l	5.00						
Aniline	< 5.00		µg/l	5.00						
Anthracene	< 5.00		µg/l	5.00						
Azobenzene/Diphenyldiazene	< 5.00		µg/l	5.00						
Benzidine	< 5.00		µg/l	5.00						
Benzo (a) anthracene	< 5.00		µg/l	5.00						
Benzo (a) pyrene	< 5.00		µg/l	5.00						
Benzo (b) fluoranthene	< 5.00		µg/l	5.00						
Benzo (g,h,i) perylene	< 5.00		µg/l	5.00						
Benzo (k) fluoranthene	< 5.00		µg/l	5.00						
Benzoic acid	< 5.00		µg/l	5.00						
Benzyl alcohol	< 5.00		µg/l	5.00						
Bis(2-chloroethoxy)methane	< 5.00		µg/l	5.00						
Bis(2-chloroethyl)ether	< 5.00		µg/l	5.00						
Bis(2-chloroisopropyl)ether	< 5.00		µg/l	5.00						
Bis(2-ethylhexyl)phthalate	< 5.00		µg/l	5.00						
4-Bromophenyl phenyl ether	< 5.00		µg/l	5.00						
Butyl benzyl phthalate	< 5.00		µg/l	5.00						
Carbazole	< 5.00		µg/l	5.00						
4-Chloro-3-methylphenol	< 5.00		µg/l	5.00						
4-Chloroaniline	< 5.00		µg/l	5.00						
2-Chloronaphthalene	< 5.00		µg/l	5.00						
2-Chlorophenol	< 5.00		µg/l	5.00						
4-Chlorophenyl phenyl ether	< 5.00		µg/l	5.00						
Chrysene	< 5.00		µg/l	5.00						
Dibenzo (a,h) anthracene	< 5.00		µg/l	5.00						
Dibenzofuran	< 5.00		µg/l	5.00						
1,2-Dichlorobenzene	< 5.00		µg/l	5.00						
1,3-Dichlorobenzene	< 5.00		µg/l	5.00						
1,4-Dichlorobenzene	< 5.00		µg/l	5.00						
3,3'-Dichlorobenzidine	< 5.00		µg/l	5.00						
2,4-Dichlorophenol	< 5.00		µg/l	5.00						
Diethyl phthalate	< 5.00		µg/l	5.00						
Dimethyl phthalate	< 5.00		µg/l	5.00						
2,4-Dimethylphenol	< 5.00		µg/l	5.00						
Di-n-butyl phthalate	< 5.00		µg/l	5.00						
4,6-Dinitro-2-methylphenol	< 5.00		µg/l	5.00						
2,4-Dinitrophenol	< 5.00		µg/l	5.00						
2,4-Dinitrotoluene	< 5.00		µg/l	5.00						
2,6-Dinitrotoluene	< 5.00		µg/l	5.00						
Di-n-octyl phthalate	< 5.00		µg/l	5.00						
Fluoranthene	< 5.00		µg/l	5.00						
Fluorene	< 5.00		µg/l	5.00						
Hexachlorobenzene	< 5.00		µg/l	5.00						
Hexachlorobutadiene	< 5.00		µg/l	5.00						
Hexachlorocyclopentadiene	< 5.00		µg/l	5.00						
Hexachloroethane	< 5.00		µg/l	5.00						
Indeno (1,2,3-cd) pyrene	< 5.00		µg/l	5.00						
Isophorone	< 5.00		µg/l	5.00						
2-Methylnaphthalene	< 5.00		µg/l	5.00						
2-Methylphenol	< 5.00		µg/l	5.00						

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Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605782 - SW846 3510C										
Blank (1605782-BLK1)					<u>Prepared: 08-Apr-16 Analyzed: 12-Apr-16</u>					
3 & 4-Methylphenol	< 10.0		µg/l	10.0						
Naphthalene	< 5.00		µg/l	5.00						
2-Nitroaniline	< 5.00		µg/l	5.00						
3-Nitroaniline	< 5.00		µg/l	5.00						
4-Nitroaniline	< 5.00		µg/l	5.00						
Nitrobenzene	< 5.00		µg/l	5.00						
2-Nitrophenol	< 5.00		µg/l	5.00						
4-Nitrophenol	< 20.0		µg/l	20.0						
N-Nitrosodimethylamine	< 5.00		µg/l	5.00						
N-Nitrosodi-n-propylamine	< 5.00		µg/l	5.00						
N-Nitrosodiphenylamine	< 5.00		µg/l	5.00						
Pentachlorophenol	< 20.0		µg/l	20.0						
Phenanthrene	< 5.00		µg/l	5.00						
Phenol	< 5.00		µg/l	5.00						
Pyrene	< 5.00		µg/l	5.00						
Pyridine	< 5.00		µg/l	5.00						
1,2,4-Trichlorobenzene	< 5.00		µg/l	5.00						
1-Methylnaphthalene	< 5.00		µg/l	5.00						
2,4,5-Trichlorophenol	< 5.00		µg/l	5.00						
2,4,6-Trichlorophenol	< 5.00		µg/l	5.00						
Pentachloronitrobenzene	< 5.00		µg/l	5.00						
1,2,4,5-Tetrachlorobenzene	< 5.00		µg/l	5.00						
Surrogate: 2-Fluorobiphenyl	25.7		µg/l		50.0		51	30-130		
Surrogate: 2-Fluorophenol	16.9		µg/l		50.0		34	15-110		
Surrogate: Nitrobenzene-d5	24.4		µg/l		50.0		49	30-130		
Surrogate: Phenol-d5	11.0		µg/l		50.0		22	15-110		
Surrogate: Terphenyl-d14	28.5		µg/l		50.0		57	30-130		
Surrogate: 2,4,6-Tribromophenol	34.1		µg/l		50.0		68	15-110		
LCS (1605782-BS1)					<u>Prepared: 08-Apr-16 Analyzed: 12-Apr-16</u>					
Acenaphthene	33.0		µg/l	5.00	50.0		66	40-140		
Acenaphthylene	33.7		µg/l	5.00	50.0		67	40-140		
Aniline	27.0		µg/l	5.00	50.0		54	40-140		
Anthracene	37.6		µg/l	5.00	50.0		75	40-140		
Azobenzene/Diphenyldiazene	30.1		µg/l	5.00	50.0		60	40-140		
Benzidine	32.5		µg/l	5.00	50.0		65	40-140		
Benzo (a) anthracene	37.4		µg/l	5.00	50.0		75	40-140		
Benzo (a) pyrene	37.7		µg/l	5.00	50.0		75	40-140		
Benzo (b) fluoranthene	36.3		µg/l	5.00	50.0		73	40-140		
Benzo (g,h,i) perylene	38.9		µg/l	5.00	50.0		78	40-140		
Benzo (k) fluoranthene	35.9		µg/l	5.00	50.0		72	40-140		
Benzoic acid	10.0	QC2	µg/l	5.00	50.0		20	30-130		
Benzyl alcohol	29.6		µg/l	5.00	50.0		59	40-140		
Bis(2-chloroethoxy)methane	32.4		µg/l	5.00	50.0		65	40-140		
Bis(2-chloroethyl)ether	29.4		µg/l	5.00	50.0		59	40-140		
Bis(2-chloroisopropyl)ether	28.9		µg/l	5.00	50.0		58	40-140		
Bis(2-ethylhexyl)phthalate	46.2		µg/l	5.00	50.0		92	40-140		
4-Bromophenyl phenyl ether	36.9		µg/l	5.00	50.0		74	40-140		
Butyl benzyl phthalate	42.6		µg/l	5.00	50.0		85	40-140		
Carbazole	39.7		µg/l	5.00	50.0		79	40-140		
4-Chloro-3-methylphenol	37.2		µg/l	5.00	50.0		74	30-130		
4-Chloroaniline	34.2		µg/l	5.00	50.0		68	40-140		

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Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605782 - SW846 3510C										
LCS (1605782-BS1)	Prepared: 08-Apr-16 Analyzed: 12-Apr-16									
2-Chloronaphthalene	32.2		µg/l	5.00	50.0		64	40-140		
2-Chlorophenol	32.4		µg/l	5.00	50.0		65	30-130		
4-Chlorophenyl phenyl ether	36.0		µg/l	5.00	50.0		72	40-140		
Chrysene	39.2		µg/l	5.00	50.0		78	40-140		
Dibenzo (a,h) anthracene	29.0		µg/l	5.00	50.0		58	40-140		
Dibenzofuran	35.0		µg/l	5.00	50.0		70	40-140		
1,2-Dichlorobenzene	29.3		µg/l	5.00	50.0		59	40-140		
1,3-Dichlorobenzene	27.4		µg/l	5.00	50.0		55	40-140		
1,4-Dichlorobenzene	26.6		µg/l	5.00	50.0		53	40-140		
3,3'-Dichlorobenzidine	38.5		µg/l	5.00	50.0		77	40-140		
2,4-Dichlorophenol	35.5		µg/l	5.00	50.0		71	30-130		
Diethyl phthalate	38.8		µg/l	5.00	50.0		78	40-140		
Dimethyl phthalate	37.9		µg/l	5.00	50.0		76	40-140		
2,4-Dimethylphenol	31.6		µg/l	5.00	50.0		63	30-130		
Di-n-butyl phthalate	41.5		µg/l	5.00	50.0		83	40-140		
4,6-Dinitro-2-methylphenol	34.9		µg/l	5.00	50.0		70	30-130		
2,4-Dinitrophenol	34.0		µg/l	5.00	50.0		68	30-130		
2,4-Dinitrotoluene	41.7		µg/l	5.00	50.0		83	40-140		
2,6-Dinitrotoluene	39.9		µg/l	5.00	50.0		80	40-140		
Di-n-octyl phthalate	40.0		µg/l	5.00	50.0		80	40-140		
Fluoranthene	40.0		µg/l	5.00	50.0		80	40-140		
Fluorene	35.1		µg/l	5.00	50.0		70	40-140		
Hexachlorobenzene	37.3		µg/l	5.00	50.0		75	40-140		
Hexachlorobutadiene	28.5		µg/l	5.00	50.0		57	40-140		
Hexachlorocyclopentadiene	32.9		µg/l	5.00	50.0		66	40-140		
Hexachloroethane	27.8		µg/l	5.00	50.0		56	40-140		
Indeno (1,2,3-cd) pyrene	44.3		µg/l	5.00	50.0		89	40-140		
Isophorone	29.6		µg/l	5.00	50.0		59	40-140		
2-Methylnaphthalene	29.7		µg/l	5.00	50.0		59	40-140		
2-Methylphenol	31.2		µg/l	5.00	50.0		62	30-130		
3 & 4-Methylphenol	29.3		µg/l	10.0	50.0		59	30-130		
Naphthalene	30.1		µg/l	5.00	50.0		60	40-140		
2-Nitroaniline	40.2		µg/l	5.00	50.0		80	40-140		
3-Nitroaniline	39.0		µg/l	5.00	50.0		78	40-140		
4-Nitroaniline	44.3		µg/l	5.00	50.0		89	40-140		
Nitrobenzene	31.2		µg/l	5.00	50.0		62	40-140		
2-Nitrophenol	34.5		µg/l	5.00	50.0		69	30-130		
4-Nitrophenol	71.7	QC2	µg/l	20.0	50.0		143	30-130		
N-Nitrosodimethylamine	24.1		µg/l	5.00	50.0		48	40-140		
N-Nitrosodi-n-propylamine	31.6		µg/l	5.00	50.0		63	40-140		
N-Nitrosodiphenylamine	38.2		µg/l	5.00	50.0		76	40-140		
Pentachlorophenol	22.9		µg/l	20.0	50.0		46	30-130		
Phenanthrene	35.4		µg/l	5.00	50.0		71	40-140		
Phenol	17.0		µg/l	5.00	50.0		34	30-130		
Pyrene	39.6		µg/l	5.00	50.0		79	40-140		
Pyridine	13.2	QC2	µg/l	5.00	50.0		26	40-140		
1,2,4-Trichlorobenzene	30.1		µg/l	5.00	50.0		60	40-140		
1-Methylnaphthalene	37.4		µg/l	5.00	50.0		75	40-140		
2,4,5-Trichlorophenol	37.2		µg/l	5.00	50.0		74	30-130		
2,4,6-Trichlorophenol	34.2		µg/l	5.00	50.0		68	30-130		
Pentachloronitrobenzene	45.7		µg/l	5.00	50.0		91	40-140		
1,2,4,5-Tetrachlorobenzene	35.1		µg/l	5.00	50.0		70	40-140		

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Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605782 - SW846 3510C										
<u>LCS (1605782-BS1)</u>					<u>Prepared: 08-Apr-16 Analyzed: 12-Apr-16</u>					
Surrogate: 2-Fluorobiphenyl	32.9		µg/l		50.0		66	30-130		
Surrogate: 2-Fluorophenol	21.2		µg/l		50.0		42	15-110		
Surrogate: Nitrobenzene-d5	31.1		µg/l		50.0		62	30-130		
Surrogate: Phenol-d5	15.3		µg/l		50.0		31	15-110		
Surrogate: Terphenyl-dl4	39.6		µg/l		50.0		79	30-130		
Surrogate: 2,4,6-Tribromophenol	44.8		µg/l		50.0		90	15-110		
<u>LCS Dup (1605782-BSD1)</u>					<u>Prepared: 08-Apr-16 Analyzed: 12-Apr-16</u>					
Acenaphthene	31.9		µg/l	5.00	50.0		64	40-140	3	20
Acenaphthylene	33.4		µg/l	5.00	50.0		67	40-140	0.9	20
Aniline	30.7		µg/l	5.00	50.0		61	40-140	13	20
Anthracene	37.0		µg/l	5.00	50.0		74	40-140	2	20
Azobenzene/Diphenyldiazene	28.5		µg/l	5.00	50.0		57	40-140	5	20
Benzidine	38.1		µg/l	5.00	50.0		76	40-140	16	20
Benzo (a) anthracene	38.3		µg/l	5.00	50.0		77	40-140	3	20
Benzo (a) pyrene	39.1		µg/l	5.00	50.0		78	40-140	4	20
Benzo (b) fluoranthene	39.8		µg/l	5.00	50.0		80	40-140	9	20
Benzo (g,h,i) perylene	40.2		µg/l	5.00	50.0		80	40-140	3	20
Benzo (k) fluoranthene	33.6		µg/l	5.00	50.0		67	40-140	7	20
Benzoic acid	10.8	QC2	µg/l	5.00	50.0		22	30-130	7	20
Benzyl alcohol	32.1		µg/l	5.00	50.0		64	40-140	8	20
Bis(2-chloroethoxy)methane	31.9		µg/l	5.00	50.0		64	40-140	2	20
Bis(2-chloroethyl)ether	27.2		µg/l	5.00	50.0		54	40-140	8	20
Bis(2-chloroisopropyl)ether	27.7		µg/l	5.00	50.0		55	40-140	4	20
Bis(2-ethylhexyl)phthalate	43.1		µg/l	5.00	50.0		86	40-140	7	20
4-Bromophenyl phenyl ether	36.9		µg/l	5.00	50.0		74	40-140	0.007	20
Butyl benzyl phthalate	43.1		µg/l	5.00	50.0		86	40-140	1	20
Carbazole	41.0		µg/l	5.00	50.0		82	40-140	3	20
4-Chloro-3-methylphenol	40.6		µg/l	5.00	50.0		81	30-130	9	20
4-Chloroaniline	37.6		µg/l	5.00	50.0		75	40-140	9	20
2-Chloronaphthalene	30.6		µg/l	5.00	50.0		61	40-140	5	20
2-Chlorophenol	32.2		µg/l	5.00	50.0		64	30-130	0.6	20
4-Chlorophenyl phenyl ether	33.3		µg/l	5.00	50.0		67	40-140	8	20
Chrysene	38.9		µg/l	5.00	50.0		78	40-140	0.7	20
Dibenzo (a,h) anthracene	32.7		µg/l	5.00	50.0		65	40-140	12	20
Dibenzofuran	33.9		µg/l	5.00	50.0		68	40-140	3	20
1,2-Dichlorobenzene	27.4		µg/l	5.00	50.0		55	40-140	7	20
1,3-Dichlorobenzene	26.5		µg/l	5.00	50.0		53	40-140	3	20
1,4-Dichlorobenzene	25.0		µg/l	5.00	50.0		50	40-140	6	20
3,3'-Dichlorobenzidine	35.4		µg/l	5.00	50.0		71	40-140	8	20
2,4-Dichlorophenol	36.6		µg/l	5.00	50.0		73	30-130	3	20
Diethyl phthalate	40.1		µg/l	5.00	50.0		80	40-140	3	20
Dimethyl phthalate	41.6		µg/l	5.00	50.0		83	40-140	9	20
2,4-Dimethylphenol	33.3		µg/l	5.00	50.0		67	30-130	5	20
Di-n-butyl phthalate	40.9		µg/l	5.00	50.0		82	40-140	1	20
4,6-Dinitro-2-methylphenol	41.3		µg/l	5.00	50.0		83	30-130	17	20
2,4-Dinitrophenol	41.5		µg/l	5.00	50.0		83	30-130	20	20
2,4-Dinitrotoluene	46.0		µg/l	5.00	50.0		92	40-140	10	20
2,6-Dinitrotoluene	43.2		µg/l	5.00	50.0		86	40-140	8	20
Di-n-octyl phthalate	39.2		µg/l	5.00	50.0		78	40-140	2	20
Fluoranthene	39.1		µg/l	5.00	50.0		78	40-140	2	20
Fluorene	33.3		µg/l	5.00	50.0		67	40-140	5	20

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Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605782 - SW846 3510C										
<u>LCS Dup (1605782-BSD1)</u>					<u>Prepared: 08-Apr-16 Analyzed: 12-Apr-16</u>					
Hexachlorobenzene	37.6		µg/l	5.00	50.0		75	40-140	0.8	20
Hexachlorobutadiene	27.1		µg/l	5.00	50.0		54	40-140	5	20
Hexachlorocyclopentadiene	35.8		µg/l	5.00	50.0		72	40-140	9	20
Hexachloroethane	26.7		µg/l	5.00	50.0		53	40-140	4	20
Indeno (1,2,3-cd) pyrene	47.9		µg/l	5.00	50.0		96	40-140	8	20
Isophorone	30.7		µg/l	5.00	50.0		61	40-140	3	20
2-Methylnaphthalene	28.4		µg/l	5.00	50.0		57	40-140	4	20
2-Methylphenol	31.9		µg/l	5.00	50.0		64	30-130	2	20
3 & 4-Methylphenol	30.0		µg/l	10.0	50.0		60	30-130	3	20
Naphthalene	28.0		µg/l	5.00	50.0		56	40-140	7	20
2-Nitroaniline	45.7		µg/l	5.00	50.0		91	40-140	13	20
3-Nitroaniline	40.8		µg/l	5.00	50.0		82	40-140	4	20
4-Nitroaniline	49.7		µg/l	5.00	50.0		99	40-140	11	20
Nitrobenzene	31.0		µg/l	5.00	50.0		62	40-140	0.8	20
2-Nitrophenol	35.5		µg/l	5.00	50.0		71	30-130	3	20
4-Nitrophenol	73.7	QC2	µg/l	20.0	50.0		147	30-130	3	20
N-Nitrosodimethylamine	26.9		µg/l	5.00	50.0		54	40-140	11	20
N-Nitrosodi-n-propylamine	34.5		µg/l	5.00	50.0		69	40-140	9	20
N-Nitrosodiphenylamine	38.8		µg/l	5.00	50.0		78	40-140	1	20
Pentachlorophenol	25.0		µg/l	20.0	50.0		50	30-130	9	20
Phenanthrene	34.4		µg/l	5.00	50.0		69	40-140	3	20
Phenol	18.0		µg/l	5.00	50.0		36	30-130	6	20
Pyrene	40.3		µg/l	5.00	50.0		81	40-140	2	20
Pyridine	17.4	QC2	µg/l	5.00	50.0		35	40-140	27	20
1,2,4-Trichlorobenzene	28.7		µg/l	5.00	50.0		57	40-140	4	20
1-Methylnaphthalene	36.4		µg/l	5.00	50.0		73	40-140	3	20
2,4,5-Trichlorophenol	40.1		µg/l	5.00	50.0		80	30-130	7	20
2,4,6-Trichlorophenol	35.8		µg/l	5.00	50.0		72	30-130	5	20
Pentachloronitrobenzene	48.6		µg/l	5.00	50.0		97	40-140	6	20
1,2,4,5-Tetrachlorobenzene	32.8		µg/l	5.00	50.0		66	40-140	7	20
Surrogate: 2-Fluorobiphenyl	30.9		µg/l		50.0		62	30-130		
Surrogate: 2-Fluorophenol	22.2		µg/l		50.0		44	15-110		
Surrogate: Nitrobenzene-d5	31.3		µg/l		50.0		63	30-130		
Surrogate: Phenol-d5	16.4		µg/l		50.0		33	15-110		
Surrogate: Terphenyl-dl4	39.9		µg/l		50.0		80	30-130		
Surrogate: 2,4,6-Tribromophenol	47.4		µg/l		50.0		95	15-110		

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Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605945 - SW846 3510C										
<u>Blank (1605945-BLK1)</u>					<u>Prepared & Analyzed: 11-Apr-16</u>					
Aroclor-1016	< 0.200		µg/l	0.200						
Aroclor-1016 [2C]	< 0.200		µg/l	0.200						
Aroclor-1221	< 0.200		µg/l	0.200						
Aroclor-1221 [2C]	< 0.200		µg/l	0.200						
Aroclor-1232	< 0.200		µg/l	0.200						
Aroclor-1232 [2C]	< 0.200		µg/l	0.200						
Aroclor-1242	< 0.200		µg/l	0.200						
Aroclor-1242 [2C]	< 0.200		µg/l	0.200						
Aroclor-1248	< 0.200		µg/l	0.200						
Aroclor-1248 [2C]	< 0.200		µg/l	0.200						
Aroclor-1254	< 0.200		µg/l	0.200						
Aroclor-1254 [2C]	< 0.200		µg/l	0.200						
Aroclor-1260	< 0.200		µg/l	0.200						
Aroclor-1260 [2C]	< 0.200		µg/l	0.200						
Aroclor-1262	< 0.200		µg/l	0.200						
Aroclor-1262 [2C]	< 0.200		µg/l	0.200						
Aroclor-1268	< 0.200		µg/l	0.200						
Aroclor-1268 [2C]	< 0.200		µg/l	0.200						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.170		µg/l		0.200		85	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.190		µg/l		0.200		95	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.190		µg/l		0.200		95	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.210		µg/l		0.200		105	30-150		
<u>LCS (1605945-BS1)</u>					<u>Prepared & Analyzed: 11-Apr-16</u>					
Aroclor-1016	1.83		µg/l	0.200	2.50		73	40-140		
Aroclor-1016 [2C]	1.76		µg/l	0.200	2.50		70	40-140		
Aroclor-1260	1.53		µg/l	0.200	2.50		61	40-140		
Aroclor-1260 [2C]	1.81		µg/l	0.200	2.50		72	40-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.110		µg/l		0.200		55	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.120		µg/l		0.200		60	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.120		µg/l		0.200		60	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.130		µg/l		0.200		65	30-150		
<u>LCS Dup (1605945-BSD1)</u>					<u>Prepared & Analyzed: 11-Apr-16</u>					
Aroclor-1016	1.79		µg/l	0.200	2.50		72	40-140	2	20
Aroclor-1016 [2C]	1.79		µg/l	0.200	2.50		72	40-140	2	20
Aroclor-1260	1.43		µg/l	0.200	2.50		57	40-140	7	20
Aroclor-1260 [2C]	1.91		µg/l	0.200	2.50		76	40-140	5	20
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.110		µg/l		0.200		55	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.120		µg/l		0.200		60	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.0900		µg/l		0.200		45	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.130		µg/l		0.200		65	30-150		

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Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605850 - SW846 3510C										
<u>Blank (1605850-BLK1)</u>								<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>		
Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0						
<u>LCS (1605850-BS1)</u>								<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>		
Non-polar material (SGT-HEM)	45.0		mg/l	1.0	53.6		84	83-101		

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605806 - SW846 3005A										
<u>Blank (1605806-BLK1)</u>					<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>					
Magnesium	< 0.0100		mg/l	0.0100						
Iron	< 0.0150		mg/l	0.0150						
Lead	< 0.0075		mg/l	0.0075						
Nickel	< 0.0050		mg/l	0.0050						
Copper	< 0.0050		mg/l	0.0050						
Chromium	< 0.0050		mg/l	0.0050						
Calcium	< 0.100		mg/l	0.100						
Arsenic	< 0.0040		mg/l	0.0040						
Antimony	< 0.0060		mg/l	0.0060						
Barium	< 0.0050		mg/l	0.0050						
Zinc	< 0.0050		mg/l	0.0050						
Beryllium	< 0.0020		mg/l	0.0020						
Cadmium	< 0.0025		mg/l	0.0025						
Thallium	< 0.0050		mg/l	0.0050						
Silver	< 0.0050		mg/l	0.0050						
Selenium	< 0.0150		mg/l	0.0150						
<u>LCS (1605806-BS1)</u>					<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>					
Magnesium	1.32		mg/l	0.0100	1.25		106	85-115		
Iron	1.30		mg/l	0.0150	1.25		104	85-115		
Chromium	1.33		mg/l	0.0050	1.25		106	85-115		
Nickel	1.29		mg/l	0.0050	1.25		103	85-115		
Antimony	1.29		mg/l	0.0060	1.25		103	85-115		
Selenium	1.34		mg/l	0.0150	1.25		107	85-115		
Thallium	1.27		mg/l	0.0050	1.25		102	85-115		
Zinc	1.31		mg/l	0.0050	1.25		105	85-115		
Beryllium	1.34		mg/l	0.0020	1.25		107	85-115		
Cadmium	1.23		mg/l	0.0025	1.25		98	85-115		
Copper	1.29		mg/l	0.0050	1.25		103	85-115		
Arsenic	1.30		mg/l	0.0040	1.25		104	85-115		
Barium	1.35		mg/l	0.0050	1.25		108	85-115		
Lead	1.36		mg/l	0.0075	1.25		109	85-115		
Silver	1.28		mg/l	0.0050	1.25		102	85-115		
Calcium	6.60		mg/l	0.100	6.25		106	85-115		
<u>LCS Dup (1605806-BSD1)</u>					<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>					
Magnesium	1.30		mg/l	0.0100	1.25		104	85-115	1	20
Iron	1.27		mg/l	0.0150	1.25		101	85-115	3	20
Nickel	1.26		mg/l	0.0050	1.25		101	85-115	2	20
Lead	1.33		mg/l	0.0075	1.25		106	85-115	2	20
Arsenic	1.26		mg/l	0.0040	1.25		101	85-115	4	20
Silver	1.30		mg/l	0.0050	1.25		104	85-115	2	20
Beryllium	1.34		mg/l	0.0020	1.25		107	85-115	0.3	20
Calcium	6.58		mg/l	0.100	6.25		105	85-115	0.5	20
Cadmium	1.22		mg/l	0.0025	1.25		97	85-115	0.7	20
Chromium	1.34		mg/l	0.0050	1.25		107	85-115	0.7	20
Copper	1.29		mg/l	0.0050	1.25		103	85-115	0.04	20
Antimony	1.25		mg/l	0.0060	1.25		100	85-115	3	20
Barium	1.30		mg/l	0.0050	1.25		104	85-115	4	20
Selenium	1.29		mg/l	0.0150	1.25		103	85-115	3	20
Thallium	1.26		mg/l	0.0050	1.25		101	85-115	0.9	20
Zinc	1.29		mg/l	0.0050	1.25		103	85-115	1	20

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Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605810 - EPA200/SW7000 Series										
<u>Blank (1605810-BLK1)</u>								<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>		
Mercury	< 0.00020		mg/l	0.00020						
<u>LCS (1605810-BS1)</u>								<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>		
Mercury	0.00461		mg/l	0.00020	0.00500		92	85-115		
<u>Duplicate (1605810-DUP1)</u>								<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>		
Mercury	< 0.00020		mg/l	0.00020		BRL				20
<u>Matrix Spike (1605810-MS1)</u>								<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>		
Mercury	0.00482		mg/l	0.00020	0.00500	BRL	96	80-120		
<u>Matrix Spike Dup (1605810-MSD1)</u>								<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>		
Mercury	0.00451		mg/l	0.00020	0.00500	BRL	90	80-120	7	20
<u>Post Spike (1605810-PS1)</u>								<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>		
Mercury	0.00443		mg/l	0.00020	0.00500	BRL	89	85-115		

Soluble Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605811 - SW846 3005A										
<u>Blank (1605811-BLK1)</u>					<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>					
Iron	< 0.0150		mg/l	0.0150						
Nickel	< 0.0050		mg/l	0.0050						
Zinc	< 0.0050		mg/l	0.0050						
Arsenic	< 0.0040		mg/l	0.0040						
Thallium	< 0.0050		mg/l	0.0050						
Selenium	< 0.0150		mg/l	0.0150						
Lead	< 0.0075		mg/l	0.0075						
Copper	< 0.0050		mg/l	0.0050						
Chromium	< 0.0050		mg/l	0.0050						
Cadmium	< 0.0025		mg/l	0.0025						
Silver	< 0.0050		mg/l	0.0050						
Barium	< 0.0050		mg/l	0.0050						
Beryllium	< 0.0020		mg/l	0.0020						
Antimony	< 0.0060		mg/l	0.0060						
<u>LCS (1605811-BS1)</u>					<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>					
Iron	1.23		mg/l	0.0150	1.25		99	85-115		
Chromium	1.32		mg/l	0.0050	1.25		106	85-115		
Arsenic	1.31		mg/l	0.0040	1.25		105	85-115		
Silver	1.30		mg/l	0.0050	1.25		104	85-115		
Barium	1.33		mg/l	0.0050	1.25		107	85-115		
Cadmium	1.20		mg/l	0.0025	1.25		96	85-115		
Copper	1.26		mg/l	0.0050	1.25		101	85-115		
Nickel	1.28		mg/l	0.0050	1.25		102	85-115		
Lead	1.36		mg/l	0.0075	1.25		109	85-115		
Antimony	1.29		mg/l	0.0060	1.25		103	85-115		
Selenium	1.35		mg/l	0.0150	1.25		108	85-115		
Thallium	1.26		mg/l	0.0050	1.25		101	85-115		
Zinc	1.30		mg/l	0.0050	1.25		104	85-115		
Beryllium	1.31		mg/l	0.0020	1.25		105	85-115		
<u>LCS Dup (1605811-BSD1)</u>					<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>					
Iron	1.20		mg/l	0.0150	1.25		96	85-115	2	20
Cadmium	1.17		mg/l	0.0025	1.25		94	85-115	2	20
Copper	1.23		mg/l	0.0050	1.25		98	85-115	3	20
Barium	1.31		mg/l	0.0050	1.25		105	85-115	2	20
Zinc	1.29		mg/l	0.0050	1.25		103	85-115	1	20
Thallium	1.23		mg/l	0.0050	1.25		98	85-115	2	20
Selenium	1.31		mg/l	0.0150	1.25		105	85-115	3	20
Antimony	1.25		mg/l	0.0060	1.25		100	85-115	3	20
Nickel	1.25		mg/l	0.0050	1.25		100	85-115	2	20
Chromium	1.31		mg/l	0.0050	1.25		105	85-115	1	20
Beryllium	1.29		mg/l	0.0020	1.25		103	85-115	1	20
Arsenic	1.27		mg/l	0.0040	1.25		102	85-115	3	20
Silver	1.28		mg/l	0.0050	1.25		103	85-115	0.9	20
Lead	1.33		mg/l	0.0075	1.25		106	85-115	2	20
<u>Duplicate (1605811-DUP1)</u>					<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>					
Iron	0.0076	J	mg/l	0.0150		0.0066			14	20
Beryllium	< 0.0020		mg/l	0.0020		BRL				20
Chromium	< 0.0050		mg/l	0.0050		BRL				20
Barium	0.0412		mg/l	0.0050		0.0418			1	20
Silver	< 0.0050		mg/l	0.0050		BRL				20
Cadmium	< 0.0025		mg/l	0.0025		BRL				20

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Soluble Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605811 - SW846 3005A										
<u>Duplicate (1605811-DUP1)</u>			<u>Source: SC19886-01</u>		<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>					
Zinc	0.0056		mg/l	0.0050		0.0056			2	20
Thallium	< 0.0050		mg/l	0.0050		BRL				20
Selenium	< 0.0150		mg/l	0.0150		BRL				20
Antimony	0.0014	J	mg/l	0.0060		BRL				20
Lead	< 0.0075		mg/l	0.0075		BRL				20
Nickel	< 0.0050		mg/l	0.0050		BRL				20
Copper	< 0.0050		mg/l	0.0050		BRL				20
Arsenic	0.0020	J,QR8	mg/l	0.0040		0.0026			24	20
<u>Matrix Spike (1605811-MS1)</u>			<u>Source: SC19886-01</u>		<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>					
Iron	1.20		mg/l	0.0150	1.25	0.0066	96	75-125		
Barium	1.33		mg/l	0.0050	1.25	0.0418	103	75-125		
Nickel	1.21		mg/l	0.0050	1.25	BRL	96	75-125		
Copper	1.25		mg/l	0.0050	1.25	BRL	100	75-125		
Chromium	1.33		mg/l	0.0050	1.25	BRL	106	75-125		
Cadmium	1.18		mg/l	0.0025	1.25	BRL	94	75-125		
Beryllium	1.34		mg/l	0.0020	1.25	BRL	107	75-125		
Arsenic	1.31		mg/l	0.0040	1.25	0.0026	105	75-125		
Zinc	1.30		mg/l	0.0050	1.25	0.0056	104	75-125		
Thallium	1.20		mg/l	0.0050	1.25	BRL	96	75-125		
Lead	1.28		mg/l	0.0075	1.25	BRL	102	75-125		
Silver	1.35		mg/l	0.0050	1.25	BRL	108	75-125		
Selenium	1.33		mg/l	0.0150	1.25	BRL	106	75-125		
Antimony	1.25		mg/l	0.0060	1.25	BRL	100	75-125		
<u>Matrix Spike Dup (1605811-MSD1)</u>			<u>Source: SC19886-01</u>		<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>					
Iron	1.20		mg/l	0.0150	1.25	0.0066	96	75-125	0.2	20
Zinc	1.32		mg/l	0.0050	1.25	0.0056	105	75-125	2	20
Copper	1.24		mg/l	0.0050	1.25	BRL	100	75-125	0.7	20
Nickel	1.23		mg/l	0.0050	1.25	BRL	98	75-125	2	20
Selenium	1.37		mg/l	0.0150	1.25	BRL	109	75-125	3	20
Antimony	1.28		mg/l	0.0060	1.25	BRL	103	75-125	2	20
Lead	1.30		mg/l	0.0075	1.25	BRL	104	75-125	2	20
Chromium	1.32		mg/l	0.0050	1.25	BRL	106	75-125	0.5	20
Silver	1.34		mg/l	0.0050	1.25	BRL	107	75-125	0.9	20
Thallium	1.21		mg/l	0.0050	1.25	BRL	97	75-125	0.7	20
Beryllium	1.35		mg/l	0.0020	1.25	BRL	108	75-125	0.2	20
Arsenic	1.35		mg/l	0.0040	1.25	0.0026	108	75-125	3	20
Barium	1.37		mg/l	0.0050	1.25	0.0418	106	75-125	3	20
Cadmium	1.19		mg/l	0.0025	1.25	BRL	95	75-125	0.4	20
<u>Post Spike (1605811-PS1)</u>			<u>Source: SC19886-01</u>		<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>					
Iron	1.18		mg/l	0.0150	1.25	0.0066	94	80-120		
Selenium	1.30		mg/l	0.0150	1.25	BRL	104	80-120		
Zinc	1.30		mg/l	0.0050	1.25	0.0056	103	80-120		
Thallium	1.19		mg/l	0.0050	1.25	BRL	95	80-120		
Antimony	1.23		mg/l	0.0060	1.25	BRL	98	80-120		
Lead	1.26		mg/l	0.0075	1.25	BRL	101	80-120		
Nickel	1.19		mg/l	0.0050	1.25	BRL	95	80-120		
Copper	1.22		mg/l	0.0050	1.25	BRL	97	80-120		
Chromium	1.32		mg/l	0.0050	1.25	BRL	106	80-120		
Beryllium	1.33		mg/l	0.0020	1.25	BRL	106	80-120		
Barium	1.31		mg/l	0.0050	1.25	0.0418	102	80-120		
Arsenic	1.29		mg/l	0.0040	1.25	0.0026	103	80-120		

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

Soluble Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605811 - SW846 3005A										
<u>Post Spike (1605811-PS1)</u>				<u>Source: SC19886-01</u>			<u>Prepared: 08-Apr-16</u>	<u>Analyzed: 11-Apr-16</u>		
Silver	1.33		mg/l	0.0050	1.25	BRL	106	80-120		
Cadmium	1.16		mg/l	0.0025	1.25	BRL	93	80-120		

Soluble Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605812 - EPA200/SW7000 Series										
<u>Blank (1605812-BLK1)</u>								<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>		
Mercury	< 0.00020		mg/l	0.00020						
<u>LCS (1605812-BS1)</u>								<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>		
Mercury	0.00423		mg/l	0.00020	0.00500		85	85-115		
<u>Duplicate (1605812-DUP1)</u>								<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>		
Mercury	< 0.00020		mg/l	0.00020		BRL				20
<u>Matrix Spike (1605812-MS1)</u>								<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>		
Mercury	0.00426		mg/l	0.00020	0.00500	BRL	85	80-120		
<u>Matrix Spike Dup (1605812-MSD1)</u>								<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>		
Mercury	0.00425		mg/l	0.00020	0.00500	BRL	85	80-120	0.2	20
<u>Post Spike (1605812-PS1)</u>								<u>Prepared: 08-Apr-16 Analyzed: 11-Apr-16</u>		
Mercury	0.00446		mg/l	0.00020	0.00500	BRL	89	85-115		

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

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1605834 - General Preparation										
<u>Reference (1605834-SRM1)</u>	<u>Prepared: 07-Apr-16 Analyzed: 11-Apr-16</u>									
pH	5.94		pH Units		6.00		99	97.5-102.5		
<u>Reference (1605834-SRM2)</u>	<u>Prepared: 07-Apr-16 Analyzed: 11-Apr-16</u>									
pH	6.01		pH Units		6.00		100	97.5-102.5		
Batch 1605857 - General Preparation										
<u>Blank (1605857-BLK1)</u>	<u>Prepared: 08-Apr-16 Analyzed: 12-Apr-16</u>									
Total Suspended Solids	< 5.0		mg/l	5.0						
<u>LCS (1605857-BS1)</u>	<u>Prepared: 08-Apr-16 Analyzed: 12-Apr-16</u>									
Total Suspended Solids	94.0		mg/l	10.0	100		94	90-110		
Batch 1605859 - General Preparation										
<u>Blank (1605859-BLK1)</u>	<u>Prepared: 08-Apr-16 Analyzed: 12-Apr-16</u>									
Total Dissolved Solids	< 5		mg/l	5						
<u>LCS (1605859-BS1)</u>	<u>Prepared: 08-Apr-16 Analyzed: 12-Apr-16</u>									
Total Dissolved Solids	1000		mg/l	10	1000		100	90-110		
Batch 1605874 - General Preparation										
<u>Reference (1605874-SRM1)</u>	<u>Prepared & Analyzed: 08-Apr-16</u>									
Flashpoint	80		°F		81.0		99	95-105		
Batch 1606041 - General Preparation										
<u>Blank (1606041-BLK1)</u>	<u>Prepared & Analyzed: 12-Apr-16</u>									
Reactivity	See Narrative		mg/l							
Reactive Cyanide	< 25.0		mg/l	25.0						
Reactive Sulfide	< 50.0		mg/l	50.0						
<u>Duplicate (1606041-DUP1)</u>	<u>Source: SC19886-01 Prepared & Analyzed: 12-Apr-16</u>									
Reactivity	See Narrative		mg/l					ee Narrativ		200
Reactive Cyanide	< 25.0		mg/l	25.0				BRL		20
Reactive Sulfide	< 50.0		mg/l	50.0				BRL		20
<u>Reference (1606041-SRM1)</u>	<u>Prepared & Analyzed: 12-Apr-16</u>									
Reactive Cyanide	< 25.0		mg/l	25.0	100		0	0-200		
<u>Reference (1606041-SRM2)</u>	<u>Prepared & Analyzed: 12-Apr-16</u>									
Reactive Sulfide	< 50.0		mg/l	50.0	6700		0	0-200		
Batch 1606242 - General Preparation										
<u>Blank (1606242-BLK1)</u>	<u>Prepared & Analyzed: 14-Apr-16</u>									
Chloride	< 1.00		mg/l	1.00						
<u>LCS (1606242-BS1)</u>	<u>Prepared & Analyzed: 14-Apr-16</u>									
Chloride	20.1		mg/l	1.00	20.0		101	90-110		
<u>Reference (1606242-SRM1)</u>	<u>Prepared & Analyzed: 14-Apr-16</u>									
Chloride	25.2		mg/l	1.00	25.0		101	90-110		

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

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
QR8	Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
pH	The method for pH does not stipulate a specific holding time other than to state that the samples should be analyzed as soon as possible. For aqueous samples the 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous pH samples not analyzed in the field are considered out of hold time at the time of sample receipt. All soil samples are analyzed as soon as possible after sample receipt.
HD	Total Hardness is a calculation based on the reported values of Ca and Mg.

Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

- Gasoline - includes regular, unleaded, premium, etc.
- Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel
- Fuel Oil #4 - includes #4 fuel oil
- Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil
- Motor Oil - includes virgin and waste automobile oil
- Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha
- Aviation Fuel - includes kerosene, Jet A and JP-4
- Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as Calculated as.

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.

Validated by:
Christina White
Derek Swist
Emily Kinney
Erica Troy
June O'Connor
Raquel Thomas
Thomas Dunn



Page 1 of 1

SC 19886 Don

☐ Standard TAT - 7 to 10 business days

☒ Rush TAT - Date Needed: 3 Day

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

CH

Project No: 03-62324

Site Name: Weymouth Col 1 + 2

Location: 67 main st, westborough State: MA
 Sampler(s): Andrew Chertea

P.O. No.: Pending
Quote/RON: _____

Sampler(s): Andrew Cleeth

List Preservative Code below:

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=CComposit

Lab ID:	Sample ID:	Date:	Time:
---------	------------	-------	-------

Matrix

of VOA Vials

of Amber Glass

of Clear Glass

of Plastic

Sci988661	MW-1	4/6/16	9:45	60
-----------	------	--------	------	----

6M	3	7		
	#	#	#	#

X	X	X	X	X	X	X
---	---	---	---	---	---	---

Check if chlorinated

MA DiEP MCP CAM Report? ☒ Yes ☐ No

CT DPH RCP Report? ☐ Yes ☐ No

☒ Standard ☐ No QC

☐ DQA* ☐ ASP A* ☐ ASP B*

☐ NJ Reduced* ☐ NJ Full*

☐ Tier II* ☐ Tier IV*

☐ Other: _____

State-specific reporting standards: _____

List Preservative Code below:

QA/QC Reporting Notes:

* additional charges may apply

Relinquished by

Received by:

4
Date: 16-13 Time: 03

Temp. °C

☐ EDD format

☒ E-mail to:

E-mail to: Myac@essconsult.com

Relinquished by: 

Received by: 

7	Date: 16	13 Time
#616	1303	11:41

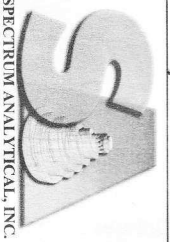
Temp °C	Observed	13
Correction Factor		

☐ EDD format:

☒ E-mail to: MyaEEdscart@t.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken

☐ Ambient ☐ Iced ☒ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen



SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: 3 Day

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

Report To: ECs

Invoice To: CEI

Project No: 03-221324

Site Name: Westmore CEI # 0006

Location: 63 New St, Westmore, MA

Sampler(s): Andrew Chertle

Telephone #: 508 756 0151

P.O. No.: 13522

Quote/RON: 6/4/8

F=Field Filtered 1=Na₂S₂O₃ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid
7=CH₃OH 8=NaHSO₄ 9=Deionized Water 10=H₃PO₄ 11= 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= X2= X3=

G=Grab C=Composite

Lab ID: Sample ID: Date: Time: Type

SC198864 MW-1 4/6/16 9:45 6 6W 3 2

Containers

of VOA Vials
of Amber Glass
of Clear Glass
of Plastic

List Preservative Date below:

Analyte

TPH 1664
PCPA 8 Total Metals
PCPA 8 Dissolved Metals
TS/TOC/PCBS
PH/Flashpoint/Reactivity
VOC 8260
SVOC 8270

Check if chlorinated

QA/QC Reporting Notes:
* additional charges may apply

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

Reinquished by:

Received by:

Date: 4/6/16 Time: 03

Temp °C

☐ EDD format: ☒ E-mail to: Myne@essconsult.com

Observed

Correction Factor

IR ID #

Condition upon receipt: ☐ Ambient ☐ Iced ☒ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Custody Seals: ☐ Present ☐ Intact ☐ Broken



SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: 3 Day

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

Report To: EC5

Invoice To: CE1

Project No: 03-221324

Site Name: Westminster CE1 # 0006

Location: 63 Main St, Westminster

State: MA

Telephone #: 508 756 0151

P.O. No.: Pending

Quote/RON: 4/8

F=Field Filtered 1=Na₂S₂O₃ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid
7=CH₃OH 8=NaHSO₄ 9=Deionized Water 10=H₂PO₄ 11= 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= X2= X3=

G=Grab

C=Composite

Lab ID: Sample ID: Date: Time:

Type

Matrix

of VOA Vials

of Amber Glass

of Clear Glass

of Plastic

Containers

List Preservative Code below:

Analyte

TPH 1664
PCPA 8 Total Metals
PCPA 8 Dissolved Metals
TS/DS/PCDS
PH/Flashpoint/Reactivity
VOC 8260
SVOC 8270

Check if chlorinated

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

QA/QC Reporting Notes:
* additional changes may apply

Relinquished by:

Received by:

Date: 4/16/16 Time: 13:03

Temp °C

☐ EDD format: ☒ E-mail to: MyneB@Spectrum.com

Alia Khan

[Signature]

4/16/16

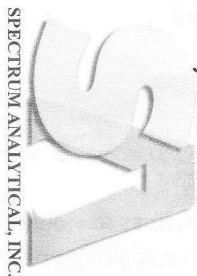
11.3

1.03

MyneB@Spectrum.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken

☐ Ambient ☐ Iced ☒ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen



SPECTRUM ANALYTICAL, INC.

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: 3 day (4/12/16)
All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: EGS - Worcester

Invoice To: CFI

Project No: 03-221324

Site Name: Wertheimer - CFI # 0006

Location: 68 Main St, Wertheimer State: MA

Sampler(s): Andrew Clark

Telephone #:

Project Mgr: Matt Lyne

P.O. No.: 73522

Quote/ROD:

F=Field Filtered 1= $\text{Na}_2\text{S}_2\text{O}_3$ 2=HCl 3= H_2SO_4 4= HNO_3 5=NaOH 6=Ascorbic Acid
7= CH_3OH 8= NaHSO_4 9=Deionized Water 10= H_3PO_4 11= 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= X2= X3=

G=Grab

C=Composite

Lab ID:

Sample ID:

Date: Time:

Type

Matrix

of VOA Vials

of Amber Glass

of Clear Glass

of Plastic

List Preservative Code below:

Containers

Analysis

Check if chlorinated

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: State-specific reporting standards:

* Combine this sample with other collected the previous day

Relinquished by:

Received by:

Date:

Time:

Temp °C

☐ EDD format:

E-mail to:

Matt Lyne

4-8-16 1431

2.8

mlyne@esconut.com

288

4-8-16 16:12

2.8

Condition upon receipt: ☐ Ambient ☐ Iced ☒ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Corrected

Custody Seals: ☐ Present ☐ Intact ☐ Broken

This preceding chain of custody has been amended to include the client requested additional analyses as noted below:

<i>Laboratory ID</i>	<i>Client ID</i>	<i>Analysis</i>	<i>Added</i>
SC19886-01	MW-1	Polychlorinated Biphenyls	4/8/2016
SC19886-01	MW-1	Semivolatile Organic Compounds	4/8/2016
SC19886-01	MW-1	Chloride	4/13/2016
SC19886-01	MW-1	Soluble Antimony by ICP	4/13/2016
SC19886-01	MW-1	Soluble Beryllium by ICP	4/13/2016
SC19886-01	MW-1	Soluble Copper by ICP	4/13/2016
SC19886-01	MW-1	Soluble Iron by ICP	4/13/2016
SC19886-01	MW-1	Soluble Nickel by ICP	4/13/2016
SC19886-01	MW-1	Soluble Thallium by ICP	4/13/2016
SC19886-01	MW-1	Soluble Zinc by ICP	4/13/2016
SC19886-01	MW-1	Total Antimony by ICP	4/13/2016
SC19886-01	MW-1	Total Beryllium by ICP	4/13/2016
SC19886-01	MW-1	Total Calcium by ICP	4/13/2016
SC19886-01	MW-1	Total Copper by ICP	4/13/2016
SC19886-01	MW-1	Total Hardness	4/13/2016
SC19886-01	MW-1	Total Iron by ICP	4/13/2016
SC19886-01	MW-1	Total Magnesium by ICP	4/13/2016
SC19886-01	MW-1	Total Nickel by ICP	4/13/2016
SC19886-01	MW-1	Total Thallium by ICP	4/13/2016
SC19886-01	MW-1	Total Zinc by ICP	4/13/2016

ATTACHMENT III

MassDEP - Bureau of Waste Site Cleanup

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

Site Information:

68 MAIN STREET WESTMINSTER, MA

NAD83 UTM Meters:

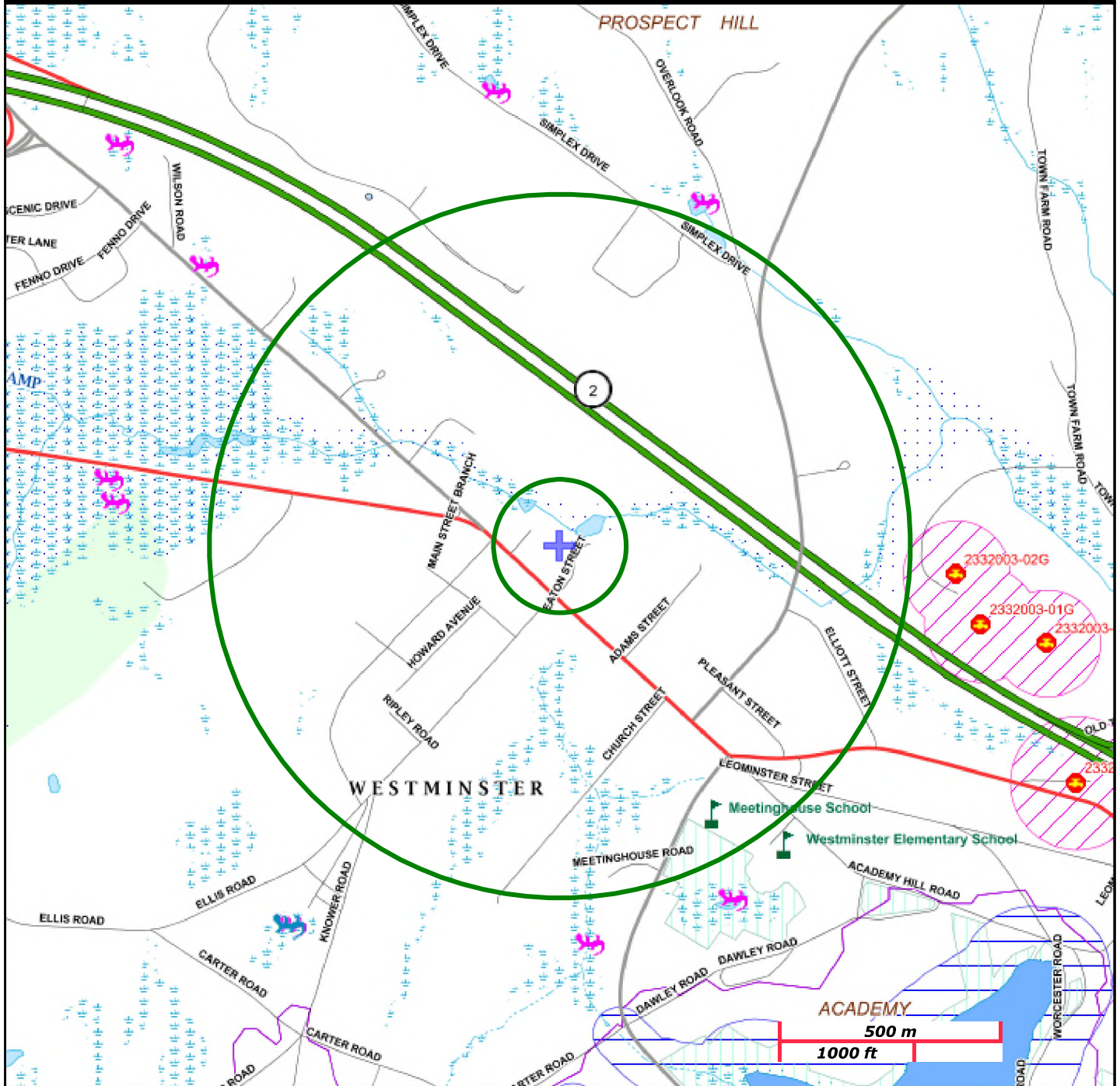
4714860mN , 260612mE (Zone: 19)
April 13, 2016

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

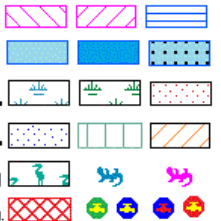
Hydrography: Open Water, PWS Reservoir, Tidal Flat

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.



OLIVER: MassGIS's Online Mapping Tool [OLIVER](#) [Updates](#) Please use the red pushpin instead of the "Search for location" window

Available Data Layers

Search data layers

Tiled Layers

- State Facilities
- Census 1990
- Census 2000
- Census 2010
- Coastal and Marine Features
- Conservation / Recreation
- Cultural Resources
- Environmental Monitoring (testing/monitoring sites)
- Images
- Index (grids/tiling schemes for certain layers)

Active Data Layers

Check all Uncheck all Remove all

- ☒ NavTeq MA Other Streets Names
- ☒ Major MassDOT Routes
- ☒ Massachusetts Towns
- ☒ NHESP Estimated Habitats of Rare Wildlife
- ☒ NHESP Priority Habitats of Rare Species

Legend

NavTeq MA Other Streets Names

Major MassDOT Routes

- Interstate Highways
- US Roads
- State

Massachusetts Towns

NHESP Estimated Habitats of Rare Wildlife

-

NHESP Priority Habitats of Rare Species

-
-

ATTACHMENT IV

Massachusetts Cultural Resource Information

MACRIS

[MHC Home](#) | [MACRIS Home](#)

Results

[Get Results in Report Format](#)

☒ PDF ☐ Spreadsheet

Below are the results of your search, using the following search criteria:

Town(s): Westminster

Street No: 68

Street Name: Main

Resource Type(s): Area, Building

For more information about this page and how to use it, [click here](#)

No Results Found.

[New Search](#)

[New Search — Same Town\(s\)](#)

[Previous](#)

[MHC Home](#)

| [MACRIS Home](#)