UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
BOSTON, MA 02109-3912

CERTIFIED MAIL RETURN RECEIPT REQUESTED

APR 24 2014

Matthew Young
Senior Project Manager
Cumberland Farms, Inc.
100 Crossing Boulevard
Framingham, MA 01702

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. Cumberland Farms Store #70031 site located at 150 South Main Street Middleborough, MA 02346, Middlesex County; Authorization # MAG910614

Dear Mr. Young:

Based on the review of a Notice of Intent (NOI) submitted by Environmental Compliance Services Inc., on behalf of Cumberland Farms, Inc., for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Owner and Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

The checklist enclosed with this RGP authorization indicates the pollutants which you are required to monitor. Also indicated on the checklist are the effluent limits, test methods and minimum levels (MLs) for each pollutant. Please note that the checklist does not represent the complete requirements of the RGP. Operators must comply with all of the applicable requirements of this permit, including influent and effluent monitoring, narrative water quality standards, record keeping, and reporting requirements, found in Parts I and II, and Appendices I – VIII of the RGP. See EPA's website for the complete RGP and other information at: http://www.epa.gov/region1/npdes/mass.html#dgp.

Please note the enclosed checklist includes the parameter total suspended solids which was detected at the site and your choose to marked "Believe Absent" and compounds, total petroleum hydrocarbons (TPHs) as well as benzene, toluene, ethyl-benzene, xylenes(BTX) and naphthalene which our experience has dictated these pollutants are common on sites like yours even though you reported "Believed Absent"; needs to be monitored to prevent potential contamination to the site's wetland receiving the treated effluent.

Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on selected dilution ranges and technology-based ceiling limitations. For each parameter the dilution factor 8.86 for this site is within a dilution range greater than five to (>5-10) established in the RGP. (See the RGP Appendix IV for Massachusetts facilities). Therefore, the limits for lead of 6.5 ug/L, and iron of 5,000ug/L, are required to achieve permit compliance at your site.

Finally, please note the checklist of pollutants attached to this authorization is subject to a recertification if the operations at the site result in a discharge lasting longer than six months. A recertification can be submitted to EPA within six (6) to twelve (12) months of operations in accordance with the 2010 RGP regulations.

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on 9/30/2014. You are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

Thank you in advance for your cooperation in this matter. Please contact Victor Alvarez at 617-918-1572 or Alvarez.Victor@epa.gov, if you have any questions.

Sincerely,

Thelma Murphy

Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Peter Sellers, Framingham PWD
Michael Bricher, ECS, Inc.

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**MAG910614**
Authorization Issued:	April, 2014
Facility/Site Name:	Cumberland Farms Store#70031
Facility/Site Address:	150 South Main Street, Middleborough, MA 021364, Plymouth County
	Email address of owner: myoung@cumberlandgulf.com
Legal Name of Operator:	Cumberland Farms, Inc.
Operator contact name, title, and Address:	Matthew Young. Senior Project Manager
	Email: myoung@cumberlandfarms.com
Estimated date of The Project Completion:	9/30/2014
Category and Sub-Category:	Petroleum Related site Remediation. Subcategory A. Gasoline Only Sites
RGP Termination Date:	September 9, 2015
Receiving Water:	Wetlands to Nemasket River

Monitoring & Limits are applicable if checked. All samples are to be collected as grab samples

	Parameter	**Effluent Limit/Method#/ML** (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
√	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing ** Me#160.2/ML5ug/L
	2. Total Residual Chlorine (TRC) [1]	Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L
√	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/L/ Me# 1664A/ML 5.0mg/L
	4. Cyanide (CN) [2, 3]	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 10ug/L
	5. Benzene (B)	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
√	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) [4]	100 ug/L/ Me#8260C/ ML 2ug/L

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
	11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l/Me#8260C/ML 10ug/L
	12.tert-Butyl Alcohol (TBA) (TertiaryButanol)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	13. tert-Amyl Methyl Ether (TAME)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
√	14. Naphthalene [5]	20 ug/L /Me#8260C/ML 2ug/L
	15. Carbon Tetrachloride	4.4 ug/L /Me#8260C/ ML 5ug/L
	16. 1,2 Dichlorobenzene (o-DCB)	600 ug/L /Me#8260C/ ML 5ug/L
	17. 1,3 Dichlorobenzene (m-DCB)	320 ug/L /Me#8260C/ ML 5ug/L
	18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/L /Me#8260C/ ML 5ug/L
	18a. Total dichlorobenzene	763 ug/L - NH only /Me#8260C/ ML 5ug/L
	19. 1,1 Dichloroethane (DCA)	70 ug/L /Me#8260C/ ML 5ug/L
	20. 1,2 Dichloroethane (DCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	21. 1,1 Dichloroethene (DCE)	3.2 ug/L/Me#8260C/ ML 5ug/L
	22. cis-1,2 Dichloroethene (DCE)	70 ug/L/Me#8260C/ ML 5ug/L
	23. Methylene Chloride	4.6 ug/L/Me#8260C/ ML 5ug/L
	24. Tetrachloroethene (PCE)	5.0 ug/L/Me#8260C/ ML 5ug/L
	25. 1,1,1 Trichloro-ethane (TCA)	200 ug/L/Me#8260C/ ML 5ug/L
	26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	27. Trichloroethene (TCE)	5.0 ug/L /Me#8260C/ ML 5ug/L
	28. Vinyl Chloride (Chloroethene)	2.0 ug/L /Me#8260C/ ML 5ug/L
	29. Acetone	Monitor Only(ug/L)/Me#8260C/ML 50ug/L
	30. 1,4 Dioxane	Monitor Only /Me#1624C/ML 50ug/L
	31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
	32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML 5ug/L,Me#604 &625/ML 10ug/L
	33. Total Phthalates (Phthalate esters) [6].	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
	a. Benzo(a) Anthracene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	b. Benzo(a) Pyrene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	c. Benzo(b)Fluoranthene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	d. Benzo(k)Fluoranthene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	e. Chrysene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	f. Dibenzo(a,h)anthracene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	g. Indeno(1,2,3-cd) Pyrene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
	h. Acenaphthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	i. Acenaphthylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	j. Anthracene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	l. Fluoranthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	m. Fluorene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	n. Naphthalene [5]	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	o. Phenanthrene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	p. Pyrene	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) [8, 9]	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
✓	38. Chloride	Monitor only/Me# 300.0/ ML 100 ug/L

	Metal parameter	Total Recoverable MA/Metal Limit H [10] = 50 mg/l CaCO3, Units = ug/l [(11/12)]		Minimum level=ML	
		Freshwater Limts			
	39. Antimony	5.6		ML	10
	40. Arsenic **	10		ML	20

	Metal parameter	Total Recoverable MA/Metal Limit H [10] = 50 mg/l CaCO3, Units = ug/l (11/12) Freshwater Limts		Minimum level=ML	
	41. Cadmium **	0.2		ML	10
	42. Chromium III (trivalent) **	48.8		ML	15
	43. Chromium VI (hexavalent) **	11.4		ML	10
	44. Copper **	5.2		ML	15
√	45. Lead **	6.5		ML	20
	46. Mercury **	0.9		ML	02
	47. Nickel **	29		ML	20
	48. Selenium **	5		ML	20
	49. Silver	1.2		ML	10
	50. Zinc **	66.6		ML	15
√	51. Iron	5,000		ML	20

	Other Parameters	Limit
√	52. Instantaneous Flow	Site specific in CFS
√	53. Total Flow	Site specific in CFS
√	54. pH Range for Class A & Class B Waters in MA	6.5-8.3; 1/Month/Grab[13]
	55. pH Range for Class SA & Class SB Waters in MA	6.5-8.3; 1/Month/Grab[13]
	56. pH Range for Class B Waters in NH	6.5-8; 1/Month/Grab[13]
	57. Daily maximum temperature - Warm water fisheries	83°F; 1/Month/Grab[14]
	58. Daily maximum temperature - Cold water fisheries	68°F; 1/Month/Grab[14]
	59. Maximum Change in Temperature in MA - Any Class A water body	1.5°F; 1/Month/Grab[14]
	60. Maximum Change in Temperature in MA - Any Class B water body- Warm Water	5°F; 1/Month/Grab[14]
	61. Maximum Change in Temperature in MA – Any Class B water body - Cold water and Lakes/Ponds	3°F; 1/Month/Grab[14]
	62. Maximum Change in Temperature in MA – Any Class SA water body - Coastal	1.5°F; 1/Month/Grab[14]
	63. Maximum Change in Temperature in MA – Any Class SB water body - July to September	1.5°F; 1/Month/Grab[14]
	64. Maximum Change in Temperature in MA –Any Class SB water body - October to June	4°F; 1/Month/Grab[14]

Footnotes:

[1] Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).

[2] Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.
[3] Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).
[4] BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.
[5] Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.
[6] The sum of individual phthalate compounds(not including the #34, Bis (2-Ethylhexyl) Phthalate . The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.
Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.
[7] Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.
[8] In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Oroclor analyses."Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.
[9]Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).
[10] Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.
[11] For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using DF x 1,000ug/L (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit =1,000 x 2 =2,000 ug/L., etc. not to exceed the DF=5.
[12] Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).
[13] pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.
[14] Temperature sampling per Method 170.1

ecs 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 9, 2014
Project No. 93-200014.21

Mr. Victor Alvarez
U.S. Environmental Protection Agency
EPA-Region 1
5 Post Office Square
Mail Code OEP06-4
Boston, MA 02109-3912

RE: Notice of Intent for Remediation General Permit
Cumberland Farms Store #70031
105 South Main Street
Middleborough, MA 02346
MassDEP RTN 4-15652

Dear Mr. Alvarez:

Environmental Compliance Services, Inc. (ECS) is pleased to provide supporting documentation for the Notice of Intent (NOI) for the Remediation General Permit (RGP) 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 removal and replacement of petroleum underground storage tanks (USTs) during site redevelopment. A Site Locus is provided as Figure 1 and a Dewatering Discharge Location Plan is provided as Figure 2. A Flow Schematic of the dewatering treatment plan is included as Figure 3. A copy of the NOI form is provided as Attachment I.

System Design

Groundwater treatment will occur prior to discharge to the storm water manhole located along the southwestern property boundary. A plan detailing the location of the UST system and the proposed storm water manhole discharge location and drainage pathway is depicted on Figure 2.

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 processed through through particulate filters and two-1,000 lbs. liquid phase granular activated carbon (GAC) units for the treatment of recovered liquids. A line diagram of the groundwater treatment system is provided as Figure 3.

The proposed discharge location for treated groundwater is a catch basin (CB-1) located on the southwestern boundary of the subject property along South Main Street. This storm water catch basin (CB-1) discharges to a storm water drainage culvert along South Main Street. The storm water drainage culvert discharges into an outfall located approximately 250 feet south of the Site property boundary. This outfall discharges into bordering vegetated wetlands which ultimately discharges to the Nemasket River located approximately 2,500 feet southeast of the Site. Please refer to Figure 2 for the estimated storm drain path running toward the wetlands.

Average flow rate of discharge of treated groundwater from the system to the storm water line is expected to be approximately 50 gallons per minute (gpm). The design capacity of the groundwater treatment system is 75 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 March 13, 2014. These samples were submitted to Spectrum Analytical, Inc. of Agawam, Massachusetts under standard chain of custody protocol for analysis of total petroleum hydrocarbons (TPH) by USEPA Method 8100, volatile organic compounds (VOCs) by USEPA Method 8260B, total metals (iron and lead) by USEPA Method 200.7, and total suspended solids by SM2540D. A copy of the laboratory report 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 on March 13, 2014 were compared to the Appendix III effluent limitations (www.epa.gov/region1/npdes/rgp.html). These results indicate that the petroleum constituents (i.e., benzene, total benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tert butyl ether (MTBE), and naphthalene) were not detected in the sample at concentrations above the applicable Appendix III effluent limitations for Subcategory A-gasoline only sites.

Receiving Waters Information

The receiving water for the treated groundwater discharge is the Nemasket River, located approximately 2,500 feet east of the Site. ECS consulted the online United States Geological Survey (USGS) Streamstats program to determine the 7Q10 flow rate at the discharge location (http://ma.water.usgs.gov/streamstats/, accessed April 4, 2014). Data obtained from the online resource indicated that the 7Q10 flow rate for Fall Brook, a tributuary to the Nemasket River at USGS station #01107400 (approximately 1 mile southeast of the Site) is 1.32 cubic feet per second (cfs). Based on data available, ECS calculated a 7Q10 flow rate for this area to be 79.2 cubic feet per minute.

Receiving Water Classification

ECS consulted the Massachusetts Department of Environmental Protection (MassDEP) Division of Water Pollution Control (http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/tblfig.pdf) to determine the classification for the receiving waters. The Nemasket River is listed as Class B surface water.

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 225 feet south/southwest of the Site, which is proximate to the discharge outfall location area. 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 Sturbridge 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 4, 2014). 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.

Lastly, environmental response actions are currently being conducted at this Site in accordance with the Massachusetts Contingency Plan (310 CMR 40.0000) under MassDEP RTN 4-15652. Accordingly, discharges subject to the MCP do not require the completion of state application form BRPWM 12 or pay state fees.

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

Sincerely,
ENVIRONMENTAL COMPLIANCE SERVICES, INC.

Michael C. Bricher, P.G., LSP
Senior Project Manager

cc: Matthew Young, Cumberland Farms, Inc., 100 Crossing Blvd, Framingham, MA 01702
Robert Kubit, MassDEP, Division of Watershed Management, 627 Main Street, Worcester, MA 01608
Christopher Peck, Department of Public Works Director, Town of Middleboro, 48 Wareham Street, Middleboro, MA 02346
George Ayoub, P.E., MassDOT Highway Division, District 5, 1000 County Street, Taunton, MA 02780

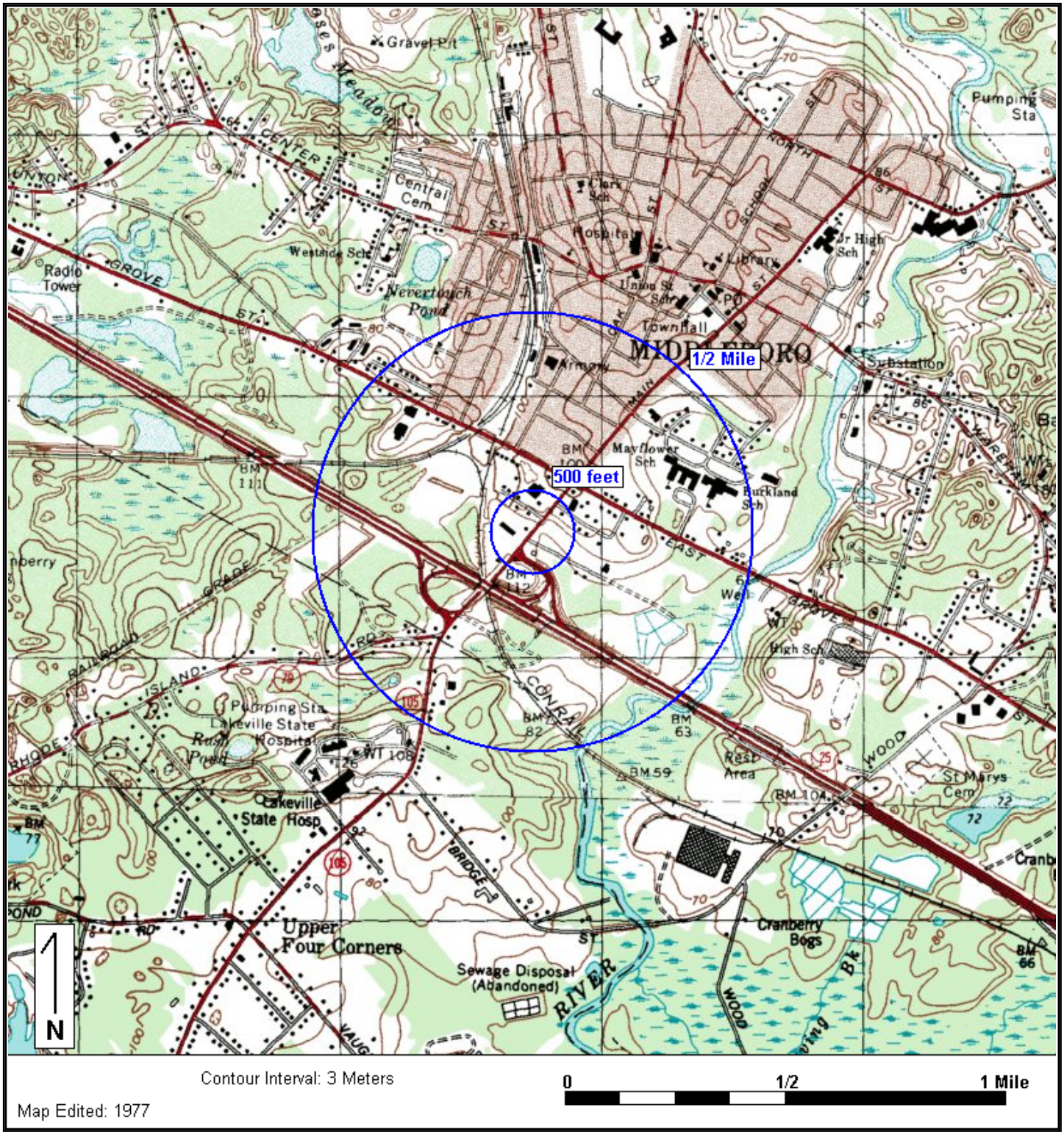
LIST OF ATTACHMENTS

FIGURES

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

CFI-MA-70031-Middleboro-150 S Main St
150 S Main Street
Middleboro, MA 02346

Figure 1: SITE LOCUS



Contour Interval: 3 Meters

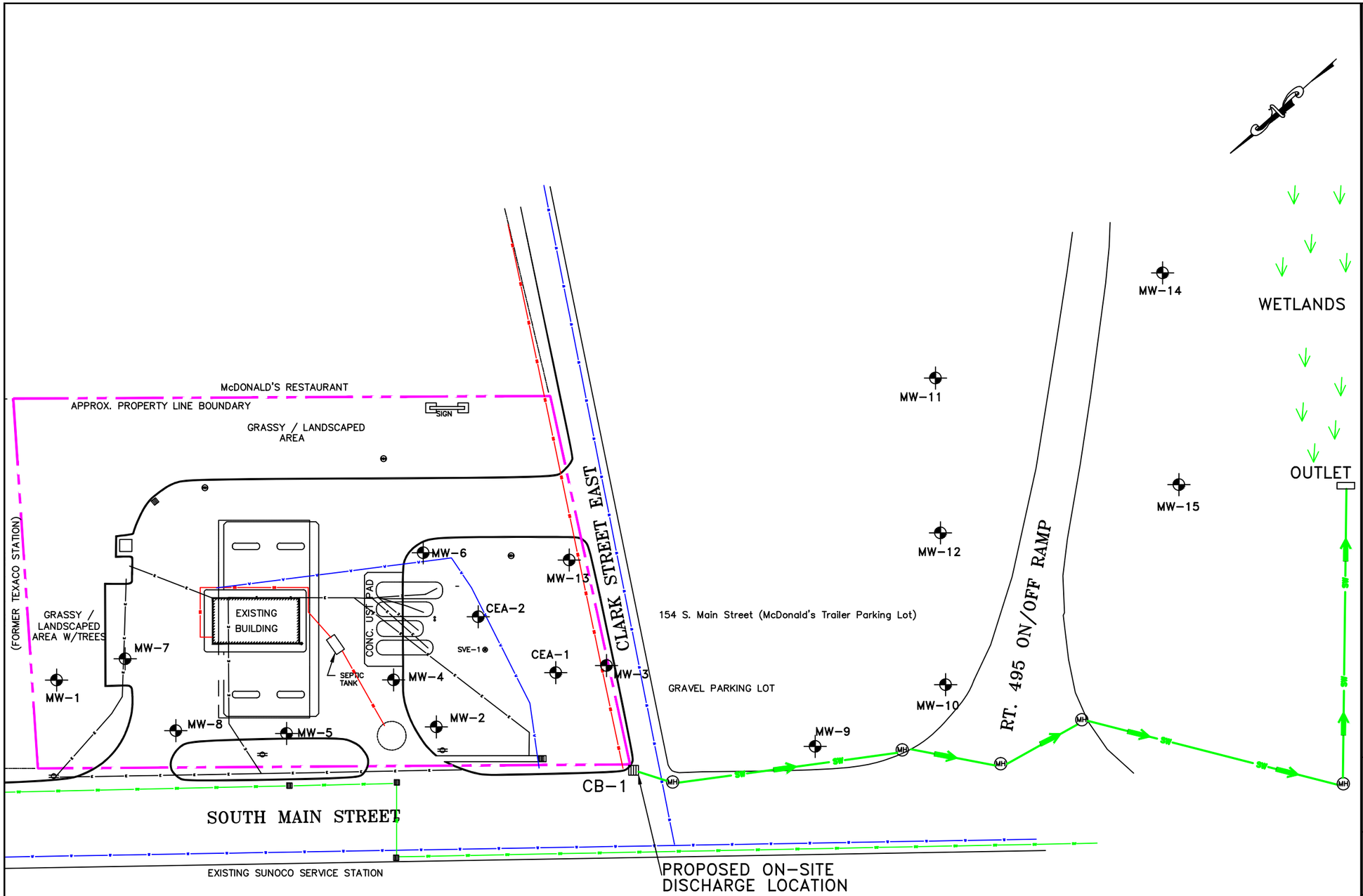
Map Edited: 1977

0 1/2 1 Mile

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

Lat/Lon: 41° 53' 3" NORTH, 70° 55' 8" WEST - UTM Coordinates: 19 340798 EAST / 4638700 NORTH

Generated By: Christine DiMaio



Legend

- Approximate Property Line
- SS — Sanitary Sewer Line
- SW — Storm Sewer Line
- W — Water Line
- NG — Natural Gas Line
- E — Electric Line
- MH — Manhole
- Catchbasin
- Water Gate
- Fire Hydrant
- Utility Pole
- Soil Boring
- Monitoring Well

General Notes:

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

Site Plan based on information from Corporate Environmental Advisors & Roux Assoc., dated 9/9/2003, and the Town of Middleboro Assessor's records.

ecs
997 Millbury St., Unit G, Worcester, MA
Phone: 508-756-0151 Fax: 508-757-7063

PROJECT:
CFI FACILITY #70031
105 S. MAIN STREET
MIDDLEBORO, MASSACHUSETTS

TITLE:
Dewatering Discharge Location Plan

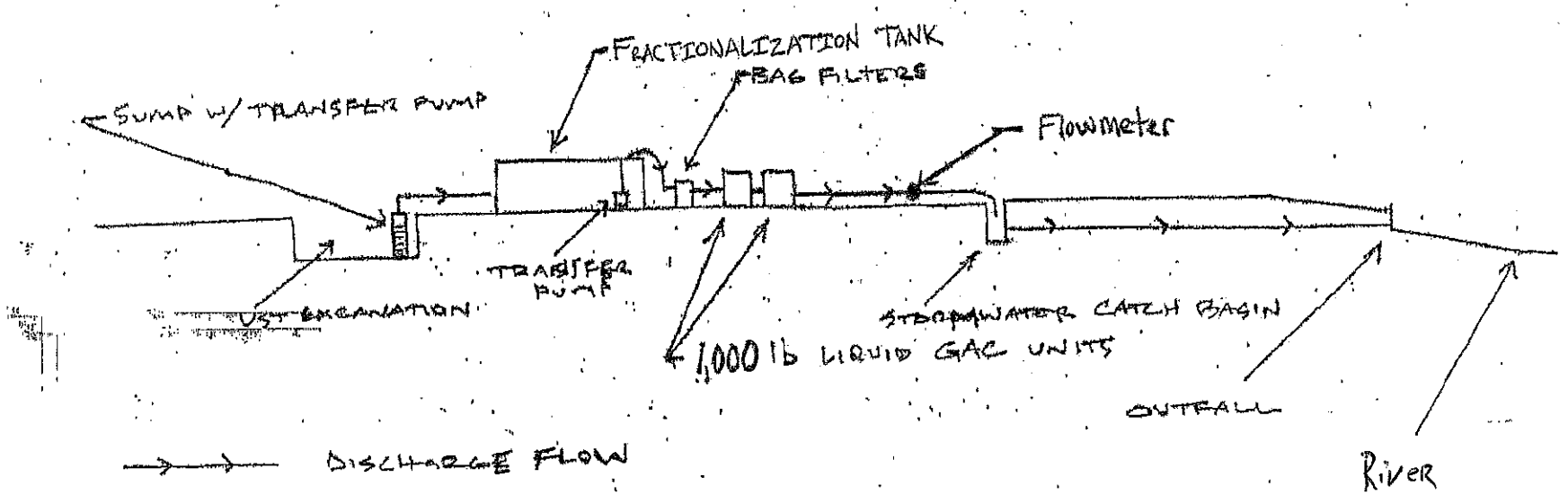
CLIENT:
CUMBERLAND FARMS, INC.

GRAPHIC SCALE: 60 30 0 30 60

COMPUTER CADFILE 'siteplan2.dwg

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
MWS	MWS	ML	ML
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
1"=60'	April 2014	93-200014	2

Flow Schematic - Figure 3



ATTACHMENT I

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General facility/site information. Please provide the following information about the site:

a) Name of **facility/site**: Cumberland Farms # 70031		**Facility/site** mailing address:		
Location of **facility/site**: longitude: 705580 latitude: 415330	Facility SIC code(s): 7549	Street: 150 South Main Street		
b) Name of **facility/site owner:**		Town: Middleboro		
Email address of facility/site owner: myoung@cumberlandgulf.com		State: MA	Zip: 02346	County: Plymouth
Telephone no. of facility/site **owner**: 508-270-4477				
Fax no. of facility/site **owner**: 781-459-0454		**Owner** is (check one): 1. Federal___ 2. State/Tribal___ 3. Private ☉ 4. Other ___ if so, describe:		
Address of **owner** (if different from site):				
Street: 100 Crossing Boulevard				
Town: Framingham	State: MA	Zip: 01702	County: Middlesex	
c) Legal name of **operator**: Cumberland Farms, Inc.	**Operator** telephone no: 508-270-4477			
	Operator fax no.: 781-459-0454	**Operator** email: myoung@cumberlandgulf.co		
Operator contact name and title: Matthew Young, Senior Project Manager				
Address of **operator** (if different from owner):	Street:			
Town:	State:	Zip:	County:	

d) Check Y for "yes" or N for "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Y___ N___, if Y, number:___
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?
Y___ N___, if Y, date and tracking #:___
3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y___ N___
4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y___ N___

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y___ N___
If Y, please list:
1. site identification # assigned by the state of NH or MA:___
2. permit or license # assigned:___
3. state agency contact information: name, location, and telephone number:

MassDEP-Southeast Regional Office
20 Riverside Drive, MA 02347, 508-946-2700

f) Is the site/facility covered by any other EPA permit, including:
1. Multi-Sector General Permit? Y___ N___,
if Y, number:___
2. Final Dewatering General Permit? Y___ N___,
if Y, number:___
3. EPA Construction General Permit? Y___ N___,
if Y, number:___
4. Individual NPDES permit? Y___ N___,
if Y, number:___
5. any other water quality related individual or general permit? Y___ N___, if Y, number:___

g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y___ N___

h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.

Activity Category	**Activity Sub-Category**
I - Petroleum Related Site Remediation	A. Gasoline Only Sites ___ B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) ___ C. Petroleum Sites with Additional Contamination ___
II - Non Petroleum Site Remediation	A. Volatile Organic Compound (VOC) Only Sites ___ B. VOC Sites with Additional Contamination ___ C. Primarily Heavy Metal Sites ___
III - Contaminated Construction Dewatering	A. General Urban Fill Sites ___ B. Known Contaminated Sites ___

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ☐ B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites ☐ C. Hydrostatic Testing of Pipelines and Tanks ☐ D. Long-Term Remediation of Contaminated Sumps and Dikes ☐ E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) ☐

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

a) Describe the discharge activities for which the owner/applicant is seeking coverage:

The petroleum station is upgrading their underground fuel storage tanks and dewatering will be necessary to perform these upgrades. The discharge will be associated with the dewatering activities.

b) Provide the following information about each discharge:

1) Number of discharge points: 1

2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)?
Max. flow 0.168 Is maximum flow a **design value**? Y ○ N ◉
Average flow (include units) 0.0117 cubic ft/s Is average flow a design value or estimate? Estimate

3) Latitude and longitude of each discharge within 100 feet:

pt.1: lat 415330	long 705580	pt.2: lat.	long. ;
pt.3: lat	long	pt.4: lat.	long. ;
pt.5: lat	long	pt.6: lat.	long. ;
pt.7: lat	long	pt.8: lat.	long. ; etc.

4) If hydrostatic testing, total volume of the discharge (gals):

5) Is the discharge intermittent ◉ or seasonal ○ ?
Is discharge ongoing? Y ○ N ◉

c) Expected dates of discharge (mm/dd/yy): start 6/1/2014 end 9/30/2014

d) Please attach a line drawing or flow schematic showing water flow through the facility including:
1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s). Flow Schematic is attached.

3. Contaminant information.

a) Based on the sub-category selected (see Appendix III), indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids (TSS)		☒	☐	1	Grab	SM2540D	5,000	398	0	398	0
2. Total Residual Chlorine (TRC)		☒	☐								
3. Total Petroleum Hydrocarbons (TPH)		☒	☐	1	Grab	SW846 8100	200	<200	0	<200	0
4. Cyanide (CN)	57125	☒	☐								
5. Benzene (B)	71432	☒	☐	1	Grab	8260/VPH	1.0	<1.0	0	<1.0	0
6. Toluene (T)	108883	☒	☐	1	Grab	8260/VPH	1.0	<1.0	0	<1.0	0
7. Ethylbenzene (E)	100414	☒	☐	1	Grab	8260/VPH	1.0	<1.0	0	<1.0	0
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☒	1	Grab	8260/VPH	1.0	<3.0	0	<3.0	0
9. Total BTEX [2]	n/a	☒	☐	1	Grab	8260/VPH	1.0	<6.0	0	<6.0	0
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☒	☐	1	Grab	8260	0.5	<0.5	0	<0.5	0
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐	1	Grab	8260/VPH	1.0	<1.0	0	<1.0	0
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0

***** Numbering system is provided to allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category included in Appendix III, as well as the Test Methods and Minimum Levels associated with each parameter provided in Appendix VI.

[2] BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

[3] EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
13. tert-Amyl Methyl Ether (TAME)	9940508	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
14. Naphthalene	91203	☒	☐	1	Grab	8260/VPH	1.0	<1.0	0	<1.0	0
15. Carbon Tetrachloride	56235	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
18a. Total dichlorobenzene		☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
23. Methylene Chloride	75092	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
24. Tetrachloroethene (PCE)	127184	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
27. Trichloroethene (TCE)	79016	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	1	Grab	8260	1.0	<1.0	0	<1.0	0
29. Acetone	67641	☒	☐	1	Grab	8260	10	<10	0	<10	0
30. 1,4 Dioxane	123911	☒	☐	1	Grab	8260	20	<20	0	<20	0
31. Total Phenols	108952	☒	☐	0							
32. Pentachlorophenol (PCP)	87865	☒	☐	0							
33. Total Phthalates (Phthalate esters) [4]		☒	☐	0							
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐	0							
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	0							
a. Benzo(a) Anthracene	56553	☒	☐	0							
b. Benzo(a) Pyrene	50328	☒	☐	0							
c. Benzo(b)Fluoranthene	205992	☒	☐	0							
d. Benzo(k)Fluoranthene	207089	☒	☐	0							
e. Chrysene	21801	☒	☐	0							
f. Dibenzo(a,h)anthracene	53703	☒	☐	0							
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	0							
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	0							

[4] The sum of individual phthalate compounds.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
h. Acenaphthene	83329	☒	☐	0							
i. Acenaphthylene	208968	☒	☐	0							
j. Anthracene	120127	☒	☐	0							
k. Benzo(ghi) Perylene	191242	☒	☐	0							
l. Fluoranthene	206440	☒	☐	0							
m. Fluorene	86737	☒	☐	0							
n. Naphthalene	91203	☒	☐	0							
o. Phenanthrene	85018	☒	☐	0							
p. Pyrene	129000	☒	☐	0							
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	0							
38. Chloride	16887006	☒	☐	0							
39. Antimony	7440360	☒	☐	0							
40. Arsenic	7440382	☒	☐	0							
41. Cadmium	7440439	☒	☐	0							
42. Chromium III (trivalent)	16065831	☒	☐	0							
43. Chromium VI (hexavalent)	18540299	☒	☐	0							
44. Copper	7440508	☒	☐	0							
45. Lead	7439921	☒	☐	1	grab	6010C	7.5	<7.5	0	<7.5	0
46. Mercury	7439976	☒	☐	0							
47. Nickel	7440020	☒	☐	0							
48. Selenium	7782492	☒	☐	0							
49. Silver	7440224	☒	☐	0							
50. Zinc	7440666	☒	☐	0							
51. Iron	7439896	☐	☒	1	grab	6010C	15	7,950	21.6	7,950	21.6
Other (describe):		☐	☐								

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
		☐	☐								
		☐	☐								

b) For discharges where **metals** are believed present, please fill out the following (attach results of any calculations):

Step 1: Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y_◉_ N_○_	If yes, which metals? Iron
Step 2: For any metals which exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metal: Iron DF: 5 Metal: DF: Metal: DF: Metal: DF: Etc.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y_◉_ N_○_ If Y, list which metals: Iron

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:

The water from the UST excavation will be pumped into a frac tank for settling, then through two bag filter units in parallell, two 1,000 lbs liquid granular activated carbon vessels in series, and a flow meter prior to discharge to a MassDOT storm drainage manhole. The storm drain located adjacent to the Site on Route 105 is discharged to adjacent wetlands. These wetlands discharge into the Nemasket River.

b) Identify each applicable treatment unit (check all that apply):	Frac. tank ☒	Air stripper ☐	Oil/water separator ☐	Equalization tanks ☐	Bag filter ☒	GAC filter ☒
	Chlorination ☐	De-chlorination ☐	Other (please describe):			

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate**(s) (gallons per minute) of the treatment system:
Average flow rate of discharge 50 gpm Maximum flow rate of treatment system 75 gpm
Design flow rate of treatment system 75 gpm

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):
None

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct to receiving water_☐__	Within facility (sewer) _☐__	Storm drain_☒__	Wetlands ☐	Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:
The storm drain located adjacent to the Site on Route 105 is discharged to an adjacent wetlands which subsequently discharges to the Nemasket River

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
1. For multiple discharges, number the discharges sequentially.
2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water Class B

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 1.32 cfs
Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y_○__ N_⊙__ If yes, for which pollutant(s)?

Is there a final TMDL? Y_○__ N_⊙__ If yes, for which pollutant(s)?

6. ESA and NHPA Eligibility.

Please provide the following information according to requirements of Permit Parts I.A.4 and I.A.5 Appendices II and VII.

a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit?

A ___ B ___ C ___ D ___ E ___ F ___

b) If you selected Criterion D or F, has consultation with the federal services been completed? Y___ N___ Underway___

c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat received? Y___ N___

d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.

e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit?

1 ___ 2 ___ 3 ___

f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.

7. 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.

Based on a review of the MassDEP Resource Priority Map and the MassGIS Priority Habitat and Estimated Habitat Natural Heritage and Endangered Species Program Map, no areas of priority or estimated habitats or rare species were identified at the Site/work zone area relative to the proposed discharge (see attached maps). Therefore, it was determined that Criterion A in Section 6 (a) was applicable.

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

I certify under penalty of law that 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/Site Name:	Cumberland Farms # 70031
Operator signature:	
Printed Name &Title:	Matthew D. Young Senior Project Manager
Date:	4/9/14

ATTACHMENT II

Report Date:
26-Mar-14 15:36

☑ 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 # 70031 - Middleboro, MA
Project #: 93-2000014.21

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB86045-01	MW-1	Ground Water	13-Mar-14 10:00	14-Mar-14 14:10

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 #:** 93-2000014.21
Project Location: CFI # 70031 - Middleboro, MA	**RTN:**
This form provides certifications for the following data set:	SB86045-01
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, 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.

Nicole Leja

Nicole Leja
Laboratory Director
Date: 3/26/2014

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

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

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

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

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

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

SW846 6010C

Spikes:

1406109-MS1 *Source: SB86045-01*

The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

Iron

1406109-MSD1 *Source: SB86045-01*

The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

Iron

1406109-PS1 *Source: SB86045-01*

The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

Iron

SW846 8260C

Calibration:

1402033

SW846 8260C

Calibration:

1402033

Analyte quantified by quadratic equation type calibration.

1,1,2,2-Tetrachloroethane
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,3,5-Trichlorobenzene
Naphthalene
n-Butylbenzene
trans-1,4-Dichloro-2-butene

This affected the following samples:

1405987-BLK1
1405987-BS1
1405987-BSD1
MW-1
S401580-ICV1
S402776-CCV1

Laboratory Control Samples:

1405987 BS/BSD

Trichlorofluoromethane (Freon 11) percent recoveries (133/124) 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:

S402776-CCV1

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

1,2,4-Trimethylbenzene (22.3%)
Acrylonitrile (22.7%)
Bromoform (30.0%)
Trichlorofluoromethane (Freon 11) (25.3%)

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

Tetrahydrofuran (-21.7%)
trans-1,4-Dichloro-2-butene (-24.9%)

This affected the following samples:

1405987-BLK1
1405987-BS1
1405987-BSD1
MW-1

Sample Acceptance Check Form

Client:	Environmental Compliance Services - Worcester, MA
Project:	CFI # 70031 - Middleboro, MA / 93-2000014.21
Work Order:	SB86045
Sample(s) received on:	3/14/2014
Received by:	Allison Edens

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

	Yes	No	N/A
1. Were custody seals present?	☐	☑	☐
2. Were custody seals intact?	☐	☐	☑
3. Were samples received at a temperature of ≤ 6°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 Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-1	93-2000014.21	Ground Water	13-Mar-14 10:00	14-Mar-14
SB86045-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.65	1	SW846 8260C	20-Mar-14	20-Mar-14	NAA	1405987	
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)	< 2.00		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	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-1	93-2000014.21	Ground Water	13-Mar-14 10:00	14-Mar-14
SB86045-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.62	1	SW846 8260C	20-Mar-14	20-Mar-14	NAA	1405987	
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*	*103*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*114*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*112*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
Fingerprinting by GC													
Prepared by method SW846 3510C													

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

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-1 SB86045-01	93-2000014.21	Ground Water	13-Mar-14 10:00	14-Mar-14

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
Fingerprinting by GC													
Prepared by method SW846 3510C													
8006-61-9	Gasoline	< 0.2		mg/l	0.2	0.2	1	SW846 8100Mod.	19-Mar-14	21-Mar-14	SEP	1405818	
68476-30-2	Fuel Oil #2	< 0.2		mg/l	0.2	0.2	1	"	"	"	"	"	
68476-31-3	Fuel Oil #4	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"	
68553-00-4	Fuel Oil #6	< 0.2		mg/l	0.2	0.2	1	"	"	"	"	"	
M09800000	Motor Oil	< 0.2		mg/l	0.2	0.2	1	"	"	"	"	"	
8032-32-4	Ligroin	< 0.2		mg/l	0.2	0.05	1	"	"	"	"	"	
J00100000	Aviation Fuel	< 0.2		mg/l	0.2	0.05	1	"	"	"	"	"	
	Hydraulic Oil	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"	
	Dielectric Fluid	< 0.2		mg/l	0.2	0.05	1	"	"	"	"	"	
	Unidentified	< 0.2		mg/l	0.2	0.05	1	"	"	"	"	"	
	Other Oil	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*67*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Lab Preserved**		N/A			1	EPA 200/6000 methods	17-Mar-14	17-Mar-14	LNB	1405689	
Total Metals by EPA 6000/7000 Series Methods													
7439-89-6	Iron	**7.95**		mg/l	0.0150	0.0122	1	SW846 6010C	21-Mar-14	26-Mar-14	TBC	1406109	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0032	1	"	"	26-Mar-14	"	"	
General Chemistry Parameters													
	Total Suspended Solids	**398**	LIV	mg/l	10.0	4.3	1	SM2540D	18-Mar-14	19-Mar-14	CMB	1405726	X

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1405987 - SW846 5030 Water MS										
Blank (1405987-BLK1)					Prepared & Analyzed: 20-Mar-14					
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						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1405987 - SW846 5030 Water MS										
Blank (1405987-BLK1)					Prepared & Analyzed: 20-Mar-14					
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						
Surrogate: 4-Bromofluorobenzene	*51.7*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.3*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*54.4*		µg/l		*50.0*		*109*	*70-130*		
Surrogate: Dibromofluoromethane	*53.8*		µg/l		*50.0*		*108*	*70-130*		
LCS (1405987-BS1)					Prepared & Analyzed: 20-Mar-14					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**24.2**		µg/l		20.0		121	70-130		
Acetone	**22.3**		µg/l		20.0		112	70-130		
Acrylonitrile	**24.6**		µg/l		20.0		123	70-130		
Benzene	**19.4**		µg/l		20.0		97	70-130		
Bromobenzene	**21.8**		µg/l		20.0		109	70-130		
Bromochloromethane	**23.2**		µg/l		20.0		116	70-130		
Bromodichloromethane	**21.9**		µg/l		20.0		110	70-130		
Bromoform	**25.1**		µg/l		20.0		125	70-130		
Bromomethane	**19.2**		µg/l		20.0		96	70-130		
2-Butanone (MEK)	**17.3**		µg/l		20.0		86	70-130		
n-Butylbenzene	**19.6**		µg/l		20.0		98	70-130		
sec-Butylbenzene	**22.4**		µg/l		20.0		112	70-130		
tert-Butylbenzene	**23.0**		µg/l		20.0		115	70-130		
Carbon disulfide	**19.9**		µg/l		20.0		99	70-130		
Carbon tetrachloride	**24.2**		µg/l		20.0		121	70-130		
Chlorobenzene	**20.3**		µg/l		20.0		101	70-130		
Chloroethane	**24.6**		µg/l		20.0		123	70-130		
Chloroform	**21.1**		µg/l		20.0		105	70-130		
Chloromethane	**25.3**		µg/l		20.0		126	70-130		
2-Chlorotoluene	**21.6**		µg/l		20.0		108	70-130		
4-Chlorotoluene	**21.9**		µg/l		20.0		109	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1405987 - SW846 5030 Water MS										
LCS (1405987-BS1)					Prepared & Analyzed: 20-Mar-14					
1,2-Dibromo-3-chloropropane	**25.3**		µg/l		20.0		127	70-130		
Dibromochloromethane	**23.1**		µg/l		20.0		116	70-130		
1,2-Dibromoethane (EDB)	**20.8**		µg/l		20.0		104	70-130		
Dibromomethane	**21.4**		µg/l		20.0		107	70-130		
1,2-Dichlorobenzene	**20.4**		µg/l		20.0		102	70-130		
1,3-Dichlorobenzene	**22.5**		µg/l		20.0		112	70-130		
1,4-Dichlorobenzene	**20.6**		µg/l		20.0		103	70-130		
Dichlorodifluoromethane (Freon12)	**24.5**		µg/l		20.0		123	70-130		
1,1-Dichloroethane	**19.2**		µg/l		20.0		96	70-130		
1,2-Dichloroethane	**22.2**		µg/l		20.0		111	70-130		
1,1-Dichloroethene	**23.8**		µg/l		20.0		119	70-130		
cis-1,2-Dichloroethene	**20.9**		µg/l		20.0		104	70-130		
trans-1,2-Dichloroethene	**20.3**		µg/l		20.0		102	70-130		
1,2-Dichloropropane	**18.2**		µg/l		20.0		91	70-130		
1,3-Dichloropropane	**19.4**		µg/l		20.0		97	70-130		
2,2-Dichloropropane	**25.3**		µg/l		20.0		126	70-130		
1,1-Dichloropropene	**21.2**		µg/l		20.0		106	70-130		
cis-1,3-Dichloropropene	**22.0**		µg/l		20.0		110	70-130		
trans-1,3-Dichloropropene	**22.0**		µg/l		20.0		110	70-130		
Ethylbenzene	**20.8**		µg/l		20.0		104	70-130		
Hexachlorobutadiene	**24.5**		µg/l		20.0		122	70-130		
2-Hexanone (MBK)	**17.3**		µg/l		20.0		87	70-130		
Isopropylbenzene	**21.8**		µg/l		20.0		109	70-130		
4-Isopropyltoluene	**20.8**		µg/l		20.0		104	70-130		
Methyl tert-butyl ether	**20.9**		µg/l		20.0		104	70-130		
4-Methyl-2-pentanone (MIBK)	**19.9**		µg/l		20.0		99	70-130		
Methylene chloride	**21.8**		µg/l		20.0		109	70-130		
Naphthalene	**22.3**		µg/l		20.0		112	70-130		
n-Propylbenzene	**21.8**		µg/l		20.0		109	70-130		
Styrene	**21.6**		µg/l		20.0		108	70-130		
1,1,1,2-Tetrachloroethane	**22.2**		µg/l		20.0		111	70-130		
1,1,2,2-Tetrachloroethane	**21.8**		µg/l		20.0		109	70-130		
Tetrachloroethene	**23.0**		µg/l		20.0		115	70-130		
Toluene	**20.2**		µg/l		20.0		101	70-130		
1,2,3-Trichlorobenzene	**21.4**		µg/l		20.0		107	70-130		
1,2,4-Trichlorobenzene	**22.4**		µg/l		20.0		112	70-130		
1,3,5-Trichlorobenzene	**23.2**		µg/l		20.0		116	70-130		
1,1,1-Trichloroethane	**23.2**		µg/l		20.0		116	70-130		
1,1,2-Trichloroethane	**19.2**		µg/l		20.0		96	70-130		
Trichloroethene	**19.3**		µg/l		20.0		97	70-130		
Trichlorofluoromethane (Freon 11)	**26.5**	QM9	µg/l		20.0		133	70-130		
1,2,3-Trichloropropane	**19.8**		µg/l		20.0		99	70-130		
1,2,4-Trimethylbenzene	**24.5**		µg/l		20.0		123	70-130		
1,3,5-Trimethylbenzene	**23.8**		µg/l		20.0		119	70-130		
Vinyl chloride	**20.2**		µg/l		20.0		101	70-130		
m,p-Xylene	**21.6**		µg/l		20.0		108	70-130		
o-Xylene	**22.2**		µg/l		20.0		111	70-130		
Tetrahydrofuran	**16.5**		µg/l		20.0		82	70-130		
Ethyl ether	**23.5**		µg/l		20.0		118	70-130		
Tert-amyl methyl ether	**18.2**		µg/l		20.0		91	70-130		
Ethyl tert-butyl ether	**20.9**		µg/l		20.0		105	70-130		
Di-isopropyl ether	**18.3**		µg/l		20.0		91	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1405987 - SW846 5030 Water MS										
LCS (1405987-BS1)						Prepared & Analyzed: 20-Mar-14				
Tert-Butanol / butyl alcohol	**239**		µg/l		200		119	70-130		
1,4-Dioxane	**196**		µg/l		200		98	70-130		
trans-1,4-Dichloro-2-butene	**15.6**		µg/l		20.0		78	70-130		
Ethanol	**462**		µg/l		400		115	70-130		
Surrogate: 4-Bromofluorobenzene	*52.7*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*54.6*		µg/l		*50.0*		*109*	*70-130*		
Surrogate: Dibromofluoromethane	*55.1*		µg/l		*50.0*		*110*	*70-130*		
LCS Dup (1405987-BSD1)						Prepared & Analyzed: 20-Mar-14				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**22.9**		µg/l		20.0		115	70-130	5	20
Acetone	**20.6**		µg/l		20.0		103	70-130	8	20
Acrylonitrile	**23.6**		µg/l		20.0		118	70-130	4	20
Benzene	**18.7**		µg/l		20.0		94	70-130	3	20
Bromobenzene	**21.5**		µg/l		20.0		108	70-130	1	20
Bromochloromethane	**22.6**		µg/l		20.0		113	70-130	2	20
Bromodichloromethane	**21.2**		µg/l		20.0		106	70-130	3	20
Bromoform	**25.0**		µg/l		20.0		125	70-130	0.2	20
Bromomethane	**18.7**		µg/l		20.0		93	70-130	2	20
2-Butanone (MEK)	**17.5**		µg/l		20.0		87	70-130	1	20
n-Butylbenzene	**19.4**		µg/l		20.0		97	70-130	1	20
sec-Butylbenzene	**21.8**		µg/l		20.0		109	70-130	2	20
tert-Butylbenzene	**22.8**		µg/l		20.0		114	70-130	1	20
Carbon disulfide	**20.2**		µg/l		20.0		101	70-130	1	20
Carbon tetrachloride	**23.0**		µg/l		20.0		115	70-130	5	20
Chlorobenzene	**20.3**		µg/l		20.0		101	70-130	0.1	20
Chloroethane	**22.4**		µg/l		20.0		112	70-130	10	20
Chloroform	**20.3**		µg/l		20.0		102	70-130	4	20
Chloromethane	**24.0**		µg/l		20.0		120	70-130	5	20
2-Chlorotoluene	**21.1**		µg/l		20.0		105	70-130	2	20
4-Chlorotoluene	**21.4**		µg/l		20.0		107	70-130	2	20
1,2-Dibromo-3-chloropropane	**24.6**		µg/l		20.0		123	70-130	3	20
Dibromochloromethane	**22.7**		µg/l		20.0		114	70-130	2	20
1,2-Dibromoethane (EDB)	**20.4**		µg/l		20.0		102	70-130	2	20
Dibromomethane	**20.8**		µg/l		20.0		104	70-130	3	20
1,2-Dichlorobenzene	**20.3**		µg/l		20.0		102	70-130	0.4	20
1,3-Dichlorobenzene	**22.4**		µg/l		20.0		112	70-130	0.4	20
1,4-Dichlorobenzene	**19.8**		µg/l		20.0		99	70-130	4	20
Dichlorodifluoromethane (Freon12)	**24.4**		µg/l		20.0		122	70-130	0.7	20
1,1-Dichloroethane	**18.7**		µg/l		20.0		94	70-130	3	20
1,2-Dichloroethane	**21.5**		µg/l		20.0		108	70-130	3	20
1,1-Dichloroethene	**22.6**		µg/l		20.0		113	70-130	5	20
cis-1,2-Dichloroethene	**19.7**		µg/l		20.0		98	70-130	6	20
trans-1,2-Dichloroethene	**19.2**		µg/l		20.0		96	70-130	6	20
1,2-Dichloropropane	**17.6**		µg/l		20.0		88	70-130	3	20
1,3-Dichloropropane	**18.7**		µg/l		20.0		93	70-130	4	20
2,2-Dichloropropane	**23.8**		µg/l		20.0		119	70-130	6	20
1,1-Dichloropropene	**19.7**		µg/l		20.0		99	70-130	7	20
cis-1,3-Dichloropropene	**21.5**		µg/l		20.0		108	70-130	2	20
trans-1,3-Dichloropropene	**21.5**		µg/l		20.0		108	70-130	2	20
Ethylbenzene	**20.3**		µg/l		20.0		101	70-130	2	20
Hexachlorobutadiene	**23.6**		µg/l		20.0		118	70-130	4	20

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1405987 - SW846 5030 Water MS										
LCS Dup (1405987-BSD1)					Prepared & Analyzed: 20-Mar-14					
2-Hexanone (MBK)	**17.1**		µg/l		20.0		85	70-130	1	20
Isopropylbenzene	**21.0**		µg/l		20.0		105	70-130	4	20
4-Isopropyltoluene	**20.4**		µg/l		20.0		102	70-130	2	20
Methyl tert-butyl ether	**20.2**		µg/l		20.0		101	70-130	3	20
4-Methyl-2-pentanone (MIBK)	**19.1**		µg/l		20.0		95	70-130	4	20
Methylene chloride	**21.0**		µg/l		20.0		105	70-130	4	20
Naphthalene	**21.1**		µg/l		20.0		106	70-130	6	20
n-Propylbenzene	**21.3**		µg/l		20.0		106	70-130	3	20
Styrene	**21.4**		µg/l		20.0		107	70-130	1	20
1,1,1,2-Tetrachloroethane	**21.5**		µg/l		20.0		107	70-130	3	20
1,1,2,2-Tetrachloroethane	**21.5**		µg/l		20.0		108	70-130	1	20
Tetrachloroethene	**22.6**		µg/l		20.0		113	70-130	2	20
Toluene	**19.3**		µg/l		20.0		97	70-130	4	20
1,2,3-Trichlorobenzene	**20.4**		µg/l		20.0		102	70-130	5	20
1,2,4-Trichlorobenzene	**21.4**		µg/l		20.0		107	70-130	5	20
1,3,5-Trichlorobenzene	**22.5**		µg/l		20.0		113	70-130	3	20
1,1,1-Trichloroethane	**22.1**		µg/l		20.0		110	70-130	5	20
1,1,2-Trichloroethane	**19.0**		µg/l		20.0		95	70-130	1	20
Trichloroethene	**17.8**		µg/l		20.0		89	70-130	8	20
Trichlorofluoromethane (Freon 11)	**24.8**		µg/l		20.0		124	70-130	7	20
1,2,3-Trichloropropane	**19.4**		µg/l		20.0		97	70-130	2	20
1,2,4-Trimethylbenzene	**24.0**		µg/l		20.0		120	70-130	2	20
1,3,5-Trimethylbenzene	**23.2**		µg/l		20.0		116	70-130	2	20
Vinyl chloride	**22.3**		µg/l		20.0		112	70-130	10	20
m,p-Xylene	**21.2**		µg/l		20.0		106	70-130	1	20
o-Xylene	**21.6**		µg/l		20.0		108	70-130	3	20
Tetrahydrofuran	**15.4**		µg/l		20.0		77	70-130	7	20
Ethyl ether	**23.0**		µg/l		20.0		115	70-130	2	20
Tert-amyl methyl ether	**17.8**		µg/l		20.0		89	70-130	2	20
Ethyl tert-butyl ether	**20.2**		µg/l		20.0		101	70-130	3	20
Di-isopropyl ether	**17.6**		µg/l		20.0		88	70-130	4	20
Tert-Butanol / butyl alcohol	**225**		µg/l		200		112	70-130	6	20
1,4-Dioxane	**184**		µg/l		200		92	70-130	6	20
trans-1,4-Dichloro-2-butene	**17.1**		µg/l		20.0		86	70-130	10	20
Ethanol	**460**		µg/l		400		115	70-130	0.4	20
Surrogate: 4-Bromofluorobenzene	*53.0*		µg/l		*50.0*		*106*	*70-130*		
Surrogate: Toluene-d8	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.6*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*54.4*		µg/l		*50.0*		*109*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1405818 - SW846 3510C										
Blank (1405818-BLK1)						Prepared & Analyzed: 19-Mar-14				
Gasoline	< 0.2		mg/l	0.2						
Fuel Oil #2	< 0.2		mg/l	0.2						
Fuel Oil #4	< 0.2		mg/l	0.2						
Fuel Oil #6	< 0.2		mg/l	0.2						
Motor Oil	< 0.2		mg/l	0.2						
Ligroin	< 0.2		mg/l	0.2						
Aviation Fuel	< 0.2		mg/l	0.2						
Hydraulic Oil	< 0.2		mg/l	0.2						
Dielectric Fluid	< 0.2		mg/l	0.2						
Unidentified	< 0.2		mg/l	0.2						
Other Oil	< 0.2		mg/l	0.2						
Total Petroleum Hydrocarbons	< 0.2		mg/l	0.2						
Surrogate: 1-Chlorooctadecane	*0.0396*		mg/l		*0.0500*		*79*	*40-140*		
LCS (1405818-BS2)						Prepared & Analyzed: 19-Mar-14				
Fuel Oil #2	**9.0**		mg/l	0.2	10.0		90	40-140		
Surrogate: 1-Chlorooctadecane	*0.0467*		mg/l		*0.0500*		*93*	*40-140*		
LCS Dup (1405818-BSD2)						Prepared & Analyzed: 19-Mar-14				
Fuel Oil #2	**9.2**		mg/l	0.2	10.0		92	40-140	2	200
Surrogate: 1-Chlorooctadecane	*0.0486*		mg/l		*0.0500*		*97*	*40-140*		

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 1406109 - SW846 3005A										
Blank (1406109-BLK1)						Prepared: 21-Mar-14	Analyzed: 26-Mar-14			
Iron	< 0.0150		mg/l	0.0150						
Lead	< 0.0075		mg/l	0.0075						
LCS (1406109-BS1)						Prepared: 21-Mar-14	Analyzed: 26-Mar-14			
Iron	**1.38**		mg/l	0.0150	1.25		110	85-115		
Lead	**1.20**		mg/l	0.0075	1.25		96	85-115		
LCS Dup (1406109-BSD1)						Prepared: 21-Mar-14	Analyzed: 26-Mar-14			
Iron	**1.36**		mg/l	0.0150	1.25		109	85-115	1	20
Lead	**1.20**		mg/l	0.0075	1.25		96	85-115	0.5	20
Duplicate (1406109-DUP1)			**Source: SB86045-01**			Prepared: 21-Mar-14	Analyzed: 26-Mar-14			
Iron	**7.55**		mg/l	0.0150		7.95			5	20
Lead	**0.0038**	J	mg/l	0.0075		0.0040			5	20
Matrix Spike (1406109-MS1)			**Source: SB86045-01**			Prepared: 21-Mar-14	Analyzed: 26-Mar-14			
Iron	**8.34**	QM4X	mg/l	0.0150	1.25	7.95	31	75-125		
Lead	**1.04**		mg/l	0.0075	1.25	0.0040	83	75-125		
Matrix Spike Dup (1406109-MSD1)			**Source: SB86045-01**			Prepared: 21-Mar-14	Analyzed: 26-Mar-14			
Iron	**8.60**	QM4X	mg/l	0.0150	1.25	7.95	52	75-125	3	20
Lead	**1.05**		mg/l	0.0075	1.25	0.0040	84	75-125	1	20
Post Spike (1406109-PS1)			**Source: SB86045-01**			Prepared: 21-Mar-14	Analyzed: 26-Mar-14			
Iron	**8.54**	QM4X	mg/l	0.0150	1.25	7.95	47	80-120		
Lead	**1.05**		mg/l	0.0075	1.25	0.0040	83	80-120		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1405726 - General Preparation										
Blank (1405726-BLK1)						Prepared: 18-Mar-14 Analyzed: 19-Mar-14				
Total Suspended Solids	< 5.0		mg/l	5.0						
LCS (1405726-BS1)						Prepared: 18-Mar-14 Analyzed: 19-Mar-14				
Total Suspended Solids	**98.0**		mg/l	10.0	100		98	90-110		

Notes and Definitions

QM4X	The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
LIV	The initial volume for this sample has been reduced due to sample matrix and/or historical data therefore elevating the reporting limit.

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

SB 860445 SCH

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- [x] Standard TAT - 7 to 10 business days
- [ ] Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: ECS
Worcester, Ma

Telephone #: 508-756-0151
Project Mgr. Matt Lyne

Invoice To: CFI
Framingham, Ma

P.O. No.: 48377 RQN: _____

Project No.: 93-200014-21
Site Name: CFI #70031
Location: 150 S. Main St, Middleboro State: Ma
Sampler(s): N. Holmes

1=$Na_2S_2O_3$ 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 WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

List preservative code below: 2 2 4 4

QA/QC Reporting Notes:
* additional charges may apply

MA DEP MCP CAM Report: Yes [x] No [ ]
CT DPH RCP Report: Yes [ ] No [ ]

QA/QC Reporting Level
- [x] Standard
- [ ] No QC
- [ ] DQA*
- [ ] NY ASP A*
- [ ] NY ASP B*
- [ ] NJ Reduced*
- [ ] NJ Full*
- [ ] TIER II*
- [ ] TIER IV*
- [ ] Other _____

State-specific reporting standards:

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic		8260 w/ TBA & TAME	TPH by GC-1	TSS	Total Pb	Total Fe				
SB860445-01	MW-1	3/13/14	10:00	G	GW	3	1		3		X	X	X	X	X				

04/03/04 IR01
AME

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	[signature] AME	3/14/14	945	
		3/14/14	14:10	

- [ ] EDD Format _____
- [x] E-mail to mlyne@ecsconsult.com

Condition upon receipt: Custody Seals: [ ] Present [ ] Intact [ ] Broken
[ ] Ambient [ ] Iced [x] Refrigerated [ ] DI VOA Frozen [ ] Soil Jar Frozen

Report Date:
07-Jun-13 15:16

☑ 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 # 2131 506 Main St. Sturbridge, MA
Project #: 93-204810.21

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB70749-01	ECS-8	Ground Water	31-May-13 09:15	03-Jun-13 16:15

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 17 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 and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

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 #:** 93-204810.21
Project Location: CFI # 2131 506 Main St. Sturbridge, MA	**RTN:**
This form provides certifications for the following data set: SB70749-01	
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, 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.

Nicole Leja

Nicole Leja
Laboratory Director
Date: 6/7/2013

CASE NARRATIVE:

The samples were received 2.1 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

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

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

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

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

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

SW846 8260C

Calibration:

1306017

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dibromo-3-chloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
m,p-Xylene
Naphthalene
n-Butylbenzene
n-Propylbenzene
o-Xylene
sec-Butylbenzene
Styrene
tert-Butylbenzene

This affected the following samples:

1313105-BLK1
1313105-BS1
1313105-BSD1
ECS-8
S306376-ICV1
S306424-CCV1

Samples:

S306424-CCV1

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

trans-1,4-Dichloro-2-butene (24.1%)

SW846 8260C

Samples:

S306424-CCV1

This affected the following samples:

1313105-BLK1
1313105-BS1
1313105-BSD1
ECS-8

Sample Acceptance Check Form

Client:	Environmental Compliance Services - Worcester, MA
Project:	CFI # 2131 506 Main St. Sturbridge, MA / 93-204810.21
Work Order:	SB70749
Sample(s) received on:	6/3/2013
Received by:	Jessica Hoffman

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

	Yes	No	N/A
1. Were custody seals present?	☐	☑	☐
2. Were custody seals intact?	☐	☐	☑
3. Were samples received at a temperature of ≤ 6°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 Identification	Client Project #	Matrix	Collection Date/Time	Received
ECS-8	93-204810.21	Ground Water	31-May-13 09:15	03-Jun-13
SB70749-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.65	1	SW846 8260C	05-Jun-13	05-Jun-13	GMA	1313105	
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.46	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	1.73	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	0.63	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	1.03	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	0.93	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	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)	< 2.00		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	0.68	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.71	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	0.60	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	0.25	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	0.73	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.54	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ECS-8 SB70749-01	93-204810.21	Ground Water	31-May-13 09:15	03-Jun-13

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													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.62	1	SW846 8260C	05-Jun-13	05-Jun-13	GMA	1313105	
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	0.93	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.69	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.33	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	0.63	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.35	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	14.0	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	0.77	1	"	"	"	"	"	
64-17-5	Ethanol	< 400		µg/l	400	35.7	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*77*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*116*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
Fingerprinting by GC													
Prepared by method SW846 3510C													
8006-61-9	Gasoline	< 0.2		mg/l	0.2	0.2	1	SW846 8100Mod.	05-Jun-13	06-Jun-13	SEP	1313064	

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

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ECS-8 SB70749-01	93-204810.21	Ground Water	31-May-13 09:15	03-Jun-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
Fingerprinting by GC													
Prepared by method SW846 3510C													
68476-30-2	Fuel Oil #2	< 0.2		mg/l	0.2	0.2	1	SW846 8100Mod.	05-Jun-13	06-Jun-13	SEP	1313064	
68476-31-3	Fuel Oil #4	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"	
68553-00-4	Fuel Oil #6	< 0.2		mg/l	0.2	0.2	1	"	"	"	"	"	
M09800000	Motor Oil	< 0.2		mg/l	0.2	0.2	1	"	"	"	"	"	
8032-32-4	Ligroin	< 0.2		mg/l	0.2	0.05	1	"	"	"	"	"	
J00100000	Aviation Fuel	< 0.2		mg/l	0.2	0.05	1	"	"	"	"	"	
	Hydraulic Oil	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"	
	Dielectric Fluid	< 0.2		mg/l	0.2	0.05	1	"	"	"	"	"	
	Unidentified	< 0.2		mg/l	0.2	0.05	1	"	"	"	"	"	
	Other Oil	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*54*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Field Preserved**		N/A			1	EPA 200/6000 methods			BJW	1313006	
Total Metals by EPA 6000/7000 Series Methods													
7439-89-6	Iron	**0.174**		mg/l	0.0150	0.0074	1	SW846 6010C	05-Jun-13	05-Jun-13	EDT	1313007	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0020	1	"	"	"	"	"	
General Chemistry Parameters													
	Total Suspended Solids	< 5		mg/l	5	2	1	SM2540D	05-Jun-13	06-Jun-13	BD	1313113	X

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1313105 - SW846 5030 Water MS										
Blank (1313105-BLK1)					Prepared & Analyzed: 05-Jun-13					
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						

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1313105 - SW846 5030 Water MS										
Blank (1313105-BLK1)					Prepared & Analyzed: 05-Jun-13					
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						
Surrogate: 4-Bromofluorobenzene	*37.6*		µg/l		*50.0*		*75*	*70-130*		
Surrogate: Toluene-d8	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Dibromofluoromethane	*56.9*		µg/l		*50.0*		*114*	*70-130*		
LCS (1313105-BS1)					Prepared & Analyzed: 05-Jun-13					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**19.5**		µg/l		20.0		98	70-130		
Acetone	**17.6**		µg/l		20.0		88	70-130		
Acrylonitrile	**19.4**		µg/l		20.0		97	70-130		
Benzene	**21.5**		µg/l		20.0		108	70-130		
Bromobenzene	**18.3**		µg/l		20.0		92	70-130		
Bromochloromethane	**19.8**		µg/l		20.0		99	70-130		
Bromodichloromethane	**20.7**		µg/l		20.0		104	70-130		
Bromoform	**18.5**		µg/l		20.0		93	70-130		
Bromomethane	**20.0**		µg/l		20.0		100	70-130		
2-Butanone (MEK)	**22.7**		µg/l		20.0		113	70-130		
n-Butylbenzene	**20.0**		µg/l		20.0		100	70-130		
sec-Butylbenzene	**20.3**		µg/l		20.0		101	70-130		
tert-Butylbenzene	**19.0**		µg/l		20.0		95	70-130		
Carbon disulfide	**18.3**		µg/l		20.0		91	70-130		
Carbon tetrachloride	**20.3**		µg/l		20.0		102	70-130		
Chlorobenzene	**20.1**		µg/l		20.0		100	70-130		
Chloroethane	**18.8**		µg/l		20.0		94	70-130		
Chloroform	**22.7**		µg/l		20.0		113	70-130		
Chloromethane	**22.0**		µg/l		20.0		110	70-130		
2-Chlorotoluene	**23.1**		µg/l		20.0		115	70-130		
4-Chlorotoluene	**22.1**		µg/l		20.0		111	70-130		
1,2-Dibromo-3-chloropropane	**19.9**		µg/l		20.0		99	70-130		

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1313105 - SW846 5030 Water MS										
LCS (1313105-BS1)					Prepared & Analyzed: 05-Jun-13					
Dibromochloromethane	**19.2**		µg/l		20.0		96	70-130		
1,2-Dibromoethane (EDB)	**19.4**		µg/l		20.0		97	70-130		
Dibromomethane	**20.3**		µg/l		20.0		102	70-130		
1,2-Dichlorobenzene	**19.7**		µg/l		20.0		98	70-130		
1,3-Dichlorobenzene	**20.8**		µg/l		20.0		104	70-130		
1,4-Dichlorobenzene	**19.2**		µg/l		20.0		96	70-130		
Dichlorodifluoromethane (Freon12)	**20.3**		µg/l		20.0		101	70-130		
1,1-Dichloroethane	**20.0**		µg/l		20.0		100	70-130		
1,2-Dichloroethane	**22.3**		µg/l		20.0		112	70-130		
1,1-Dichloroethene	**18.0**		µg/l		20.0		90	70-130		
cis-1,2-Dichloroethene	**20.8**		µg/l		20.0		104	70-130		
trans-1,2-Dichloroethene	**17.4**		µg/l		20.0		87	70-130		
1,2-Dichloropropane	**21.2**		µg/l		20.0		106	70-130		
1,3-Dichloropropane	**21.1**		µg/l		20.0		105	70-130		
2,2-Dichloropropane	**24.7**		µg/l		20.0		124	70-130		
1,1-Dichloropropene	**20.6**		µg/l		20.0		103	70-130		
cis-1,3-Dichloropropene	**20.6**		µg/l		20.0		103	70-130		
trans-1,3-Dichloropropene	**20.8**		µg/l		20.0		104	70-130		
Ethylbenzene	**20.4**		µg/l		20.0		102	70-130		
Hexachlorobutadiene	**19.1**		µg/l		20.0		96	70-130		
2-Hexanone (MBK)	**22.0**		µg/l		20.0		110	70-130		
Isopropylbenzene	**21.2**		µg/l		20.0		106	70-130		
4-Isopropyltoluene	**20.6**		µg/l		20.0		103	70-130		
Methyl tert-butyl ether	**16.7**		µg/l		20.0		83	70-130		
4-Methyl-2-pentanone (MIBK)	**18.3**		µg/l		20.0		91	70-130		
Methylene chloride	**17.7**		µg/l		20.0		88	70-130		
Naphthalene	**18.8**		µg/l		20.0		94	70-130		
n-Propylbenzene	**19.7**		µg/l		20.0		99	70-130		
Styrene	**18.4**		µg/l		20.0		92	70-130		
1,1,1,2-Tetrachloroethane	**19.2**		µg/l		20.0		96	70-130		
1,1,2,2-Tetrachloroethane	**21.7**		µg/l		20.0		108	70-130		
Tetrachloroethene	**18.5**		µg/l		20.0		93	70-130		
Toluene	**20.1**		µg/l		20.0		101	70-130		
1,2,3-Trichlorobenzene	**18.0**		µg/l		20.0		90	70-130		
1,2,4-Trichlorobenzene	**17.8**		µg/l		20.0		89	70-130		
1,3,5-Trichlorobenzene	**19.0**		µg/l		20.0		95	70-130		
1,1,1-Trichloroethane	**21.4**		µg/l		20.0		107	70-130		
1,1,2-Trichloroethane	**21.2**		µg/l		20.0		106	70-130		
Trichloroethene	**20.7**		µg/l		20.0		103	70-130		
Trichlorofluoromethane (Freon 11)	**19.5**		µg/l		20.0		98	70-130		
1,2,3-Trichloropropane	**21.2**		µg/l		20.0		106	70-130		
1,2,4-Trimethylbenzene	**20.1**		µg/l		20.0		101	70-130		
1,3,5-Trimethylbenzene	**19.0**		µg/l		20.0		95	70-130		
Vinyl chloride	**20.8**		µg/l		20.0		104	70-130		
m,p-Xylene	**40.0**		µg/l		40.0		100	70-130		
o-Xylene	**19.5**		µg/l		20.0		98	70-130		
Tetrahydrofuran	**19.1**		µg/l		20.0		95	70-130		
Ethyl ether	**18.7**		µg/l		20.0		93	70-130		
Tert-amyl methyl ether	**23.4**		µg/l		20.0		117	70-130		
Ethyl tert-butyl ether	**20.6**		µg/l		20.0		103	70-130		
Di-isopropyl ether	**21.6**		µg/l		20.0		108	70-130		
Tert-Butanol / butyl alcohol	**223**		µg/l		200		111	70-130		

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1313105 - SW846 5030 Water MS										
LCS (1313105-BS1)						Prepared & Analyzed: 05-Jun-13				
1,4-Dioxane	**199**		µg/l		200		99	70-130		
trans-1,4-Dichloro-2-butene	**23.9**		µg/l		20.0		120	70-130		
Ethanol	**405**		µg/l		400		101	70-130		
Surrogate: 4-Bromofluorobenzene	*51.9*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*50.6*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*50.0*		µg/l		*50.0*		*100*	*70-130*		
LCS Dup (1313105-BSD1)						Prepared & Analyzed: 05-Jun-13				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**19.3**		µg/l		20.0		96	70-130	1	20
Acetone	**19.3**		µg/l		20.0		96	70-130	9	20
Acrylonitrile	**20.3**		µg/l		20.0		102	70-130	5	20
Benzene	**21.4**		µg/l		20.0		107	70-130	0.3	20
Bromobenzene	**18.5**		µg/l		20.0		92	70-130	0.8	20
Bromochloromethane	**20.2**		µg/l		20.0		101	70-130	2	20
Bromodichloromethane	**21.4**		µg/l		20.0		107	70-130	3	20
Bromoform	**19.2**		µg/l		20.0		96	70-130	4	20
Bromomethane	**18.8**		µg/l		20.0		94	70-130	6	20
2-Butanone (MEK)	**23.0**		µg/l		20.0		115	70-130	1	20
n-Butylbenzene	**19.9**		µg/l		20.0		99	70-130	0.8	20
sec-Butylbenzene	**20.1**		µg/l		20.0		101	70-130	0.7	20
tert-Butylbenzene	**19.0**		µg/l		20.0		95	70-130	0.2	20
Carbon disulfide	**17.9**		µg/l		20.0		89	70-130	2	20
Carbon tetrachloride	**20.0**		µg/l		20.0		100	70-130	1	20
Chlorobenzene	**20.2**		µg/l		20.0		101	70-130	0.3	20
Chloroethane	**18.6**		µg/l		20.0		93	70-130	1	20
Chloroform	**22.2**		µg/l		20.0		111	70-130	2	20
Chloromethane	**21.5**		µg/l		20.0		107	70-130	3	20
2-Chlorotoluene	**22.7**		µg/l		20.0		113	70-130	2	20
4-Chlorotoluene	**22.0**		µg/l		20.0		110	70-130	0.8	20
1,2-Dibromo-3-chloropropane	**20.6**		µg/l		20.0		103	70-130	4	20
Dibromochloromethane	**19.8**		µg/l		20.0		99	70-130	3	20
1,2-Dibromoethane (EDB)	**20.2**		µg/l		20.0		101	70-130	4	20
Dibromomethane	**20.6**		µg/l		20.0		103	70-130	1	20
1,2-Dichlorobenzene	**19.9**		µg/l		20.0		100	70-130	1	20
1,3-Dichlorobenzene	**20.7**		µg/l		20.0		104	70-130	0.1	20
1,4-Dichlorobenzene	**19.7**		µg/l		20.0		98	70-130	2	20
Dichlorodifluoromethane (Freon12)	**18.8**		µg/l		20.0		94	70-130	7	20
1,1-Dichloroethane	**19.8**		µg/l		20.0		99	70-130	0.8	20
1,2-Dichloroethane	**23.4**		µg/l		20.0		117	70-130	5	20
1,1-Dichloroethene	**18.3**		µg/l		20.0		92	70-130	2	20
cis-1,2-Dichloroethene	**20.6**		µg/l		20.0		103	70-130	1	20
trans-1,2-Dichloroethene	**17.3**		µg/l		20.0		87	70-130	0.5	20
1,2-Dichloropropane	**21.4**		µg/l		20.0		107	70-130	0.7	20
1,3-Dichloropropane	**21.6**		µg/l		20.0		108	70-130	3	20
2,2-Dichloropropane	**24.1**		µg/l		20.0		120	70-130	3	20
1,1-Dichloropropene	**20.2**		µg/l		20.0		101	70-130	2	20
cis-1,3-Dichloropropene	**20.9**		µg/l		20.0		104	70-130	1	20
trans-1,3-Dichloropropene	**21.1**		µg/l		20.0		106	70-130	2	20
Ethylbenzene	**20.4**		µg/l		20.0		102	70-130	0.4	20
Hexachlorobutadiene	**18.7**		µg/l		20.0		94	70-130	2	20
2-Hexanone (MBK)	**23.4**		µg/l		20.0		117	70-130	6	20
Isopropylbenzene	**21.1**		µg/l		20.0		106	70-130	0.2	20

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1313105 - SW846 5030 Water MS										
LCS Dup (1313105-BSD1)					Prepared & Analyzed: 05-Jun-13					
4-Isopropyltoluene	**20.7**		µg/l		20.0		103	70-130	0.3	20
Methyl tert-butyl ether	**17.4**		µg/l		20.0		87	70-130	5	20
4-Methyl-2-pentanone (MIBK)	**19.0**		µg/l		20.0		95	70-130	4	20
Methylene chloride	**17.3**		µg/l		20.0		86	70-130	2	20
Naphthalene	**19.7**		µg/l		20.0		98	70-130	5	20
n-Propylbenzene	**19.6**		µg/l		20.0		98	70-130	0.9	20
Styrene	**18.4**		µg/l		20.0		92	70-130	0.3	20
1,1,1,2-Tetrachloroethane	**19.5**		µg/l		20.0		98	70-130	2	20
1,1,2,2-Tetrachloroethane	**21.5**		µg/l		20.0		107	70-130	0.8	20
Tetrachloroethene	**18.7**		µg/l		20.0		94	70-130	1	20
Toluene	**19.8**		µg/l		20.0		99	70-130	1	20
1,2,3-Trichlorobenzene	**18.6**		µg/l		20.0		93	70-130	3	20
1,2,4-Trichlorobenzene	**18.2**		µg/l		20.0		91	70-130	2	20
1,3,5-Trichlorobenzene	**19.3**		µg/l		20.0		97	70-130	2	20
1,1,1-Trichloroethane	**20.7**		µg/l		20.0		103	70-130	3	20
1,1,2-Trichloroethane	**21.6**		µg/l		20.0		108	70-130	2	20
Trichloroethene	**20.8**		µg/l		20.0		104	70-130	0.6	20
Trichlorofluoromethane (Freon 11)	**19.0**		µg/l		20.0		95	70-130	3	20
1,2,3-Trichloropropane	**22.0**		µg/l		20.0		110	70-130	4	20
1,2,4-Trimethylbenzene	**20.1**		µg/l		20.0		100	70-130	0.3	20
1,3,5-Trimethylbenzene	**19.1**		µg/l		20.0		95	70-130	0.3	20
Vinyl chloride	**20.2**		µg/l		20.0		101	70-130	3	20
m,p-Xylene	**39.4**		µg/l		40.0		98	70-130	1	20
o-Xylene	**20.1**		µg/l		20.0		100	70-130	3	20
Tetrahydrofuran	**19.1**		µg/l		20.0		96	70-130	0.4	20
Ethyl ether	**18.5**		µg/l		20.0		93	70-130	0.7	20
Tert-amyl methyl ether	**23.8**		µg/l		20.0		119	70-130	2	20
Ethyl tert-butyl ether	**21.5**		µg/l		20.0		107	70-130	4	20
Di-isopropyl ether	**22.9**		µg/l		20.0		114	70-130	5	20
Tert-Butanol / butyl alcohol	**207**		µg/l		200		103	70-130	7	20
1,4-Dioxane	**206**		µg/l		200		103	70-130	4	20
trans-1,4-Dichloro-2-butene	**25.1**		µg/l		20.0		125	70-130	5	20
Ethanol	**372**		µg/l		400		93	70-130	9	20
Surrogate: 4-Bromofluorobenzene	*51.8*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*49.6*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*49.4*		µg/l		*50.0*		*99*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1313064 - SW846 3510C										
Blank (1313064-BLK1)					Prepared: 05-Jun-13 Analyzed: 06-Jun-13					
Gasoline	< 0.2		mg/l	0.2						
Fuel Oil #2	< 0.2		mg/l	0.2						
Fuel Oil #4	< 0.2		mg/l	0.2						
Fuel Oil #6	< 0.2		mg/l	0.2						
Motor Oil	< 0.2		mg/l	0.2						
Ligroin	< 0.2		mg/l	0.2						
Aviation Fuel	< 0.2		mg/l	0.2						
Hydraulic Oil	< 0.2		mg/l	0.2						
Dielectric Fluid	< 0.2		mg/l	0.2						
Unidentified	< 0.2		mg/l	0.2						
Other Oil	< 0.2		mg/l	0.2						
Total Petroleum Hydrocarbons	< 0.2		mg/l	0.2						
Surrogate: 1-Chlorooctadecane	*0.0240*		mg/l		*0.0250*		*96*	*40-140*		
LCS (1313064-BS2)					Prepared: 05-Jun-13 Analyzed: 06-Jun-13					
Fuel Oil #2	**7.8**		mg/l	0.2	10.0		78	40-140		
Surrogate: 1-Chlorooctadecane	*0.0625*		mg/l		*0.0500*		*125*	*40-140*		

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 1313007 - SW846 3005A										
Blank (1313007-BLK1)						Prepared & Analyzed: 05-Jun-13				
Iron	< 0.0150		mg/l	0.0150						
Lead	< 0.0075		mg/l	0.0075						
LCS (1313007-BS1)						Prepared & Analyzed: 05-Jun-13				
Iron	**1.31**		mg/l	0.0150	1.25		105	85-115		
Lead	**1.37**		mg/l	0.0075	1.25		109	85-115		
LCS Dup (1313007-BSD1)						Prepared & Analyzed: 05-Jun-13				
Iron	**1.28**		mg/l	0.0150	1.25		102	85-115	3	20
Lead	**1.31**		mg/l	0.0075	1.25		105	85-115	4	20
Duplicate (1313007-DUP1)			**Source: SB70749-01**			Prepared & Analyzed: 05-Jun-13				
Iron	**0.178**		mg/l	0.0150		0.174			2	20
Lead	< 0.0075		mg/l	0.0075		BRL				20
Matrix Spike (1313007-MS1)			**Source: SB70749-01**			Prepared & Analyzed: 05-Jun-13				
Iron	**1.41**		mg/l	0.0150	1.25	0.174	98	75-125		
Lead	**1.28**		mg/l	0.0075	1.25	BRL	103	75-125		
Matrix Spike Dup (1313007-MSD1)			**Source: SB70749-01**			Prepared & Analyzed: 05-Jun-13				
Iron	**1.44**		mg/l	0.0150	1.25	0.174	101	75-125	2	20
Lead	**1.30**		mg/l	0.0075	1.25	BRL	104	75-125	1	20
Post Spike (1313007-PS1)			**Source: SB70749-01**			Prepared & Analyzed: 05-Jun-13				
Lead	**1.29**		mg/l	0.0075	1.25	BRL	103	80-120		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1313113 - General Preparation										
Blank (1313113-BLK1)						Prepared: 05-Jun-13 Analyzed: 06-Jun-13				
Total Suspended Solids	< 5		mg/l	5						
LCS (1313113-BS1)						Prepared: 05-Jun-13 Analyzed: 06-Jun-13				
Total Suspended Solids	**100**		mg/l	10	100		100	90-110		

Notes and Definitions

dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

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:
June O'Connor
Rebecca Merz

SB70749 RH

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Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 6-7
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: ECS-Worcester

Telephone #: 508-756-0151

Project Mgr. Matt Lyne

Invoice To: CFI

P.O. No.: PO# ~~RQN~~: 46012

Project No.: 93-204810.21

Site Name: CFI# 2131

Location: 506 Main St, Stoughton State: MA

Sampler(s): M. Serra

1=$Na_2S_2O_3$ 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=

List preservative code below: 2 2 4

QA/QC Reporting Notes:
* additional charges may apply

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= X2= X3=

G=Grab C=Composite

MA DEP MCP CAM Report: Yes ☒ No ☐
CT DPH RCP Report: Yes ☐ No ☐

QA/QC Reporting Level
☒ Standard ☐ No QC ☐ DQA*
☐ NY ASP A* ☐ NY ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ TIER II* ☐ TIER IV*
☐ Other

State-specific reporting standards:

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic		8260, TAME, TBA	TPH by GC	TSS	Total Lead + Fan				
SB70749-01	ECS-8	5-31-13	9:15	G	GW	3	1		2		X	X	X	X				

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	[signature]	6-3-13	9:45	
[signature]	[signature]	6/3/13	1615	20

☐ EDD Format
☒ E-mail to MLyne@ecsconsult.com

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

Report Date:
14-May-13 17:12

☑ 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 # 2131 506 Main St. Sturbridge, MA
Project #: 93-204810.21

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB68779-01	ECS-2	Ground Water	30-Apr-13 12:25	01-May-13 18:00
SB68779-02	ECS-3	Ground Water	30-Apr-13 10:35	01-May-13 18:00
SB68779-03	ECS-3i	Ground Water	30-Apr-13 10:12	01-May-13 18:00
SB68779-04	ECS-5i	Ground Water	30-Apr-13 09:00	01-May-13 18:00
SB68779-05	ECS-5D	Ground Water	30-Apr-13 08:25	01-May-13 18:00
SB68779-06	ECS-7i	Ground Water	30-Apr-13 09:47	01-May-13 18:00
SB68779-07	ECS-8	Ground Water	30-Apr-13 11:21	01-May-13 18:00

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 29 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 and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

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

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

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

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

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

Authorized by:

Nicole Leja
Laboratory Director

MassDEP Analytical Protocol Certification Form

Laboratory Name: Spectrum Analytical, Inc.	**Project #:** 93-204810.21
Project Location: CFI # 2131 506 Main St. Sturbridge, MA	**RTN:**
This form provides certifications for the following data set:	SB68779-01 through SB68779-07
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, 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.

Nicole Leja

Nicole Leja
Laboratory Director
Date: 5/14/2013

CASE NARRATIVE:

The samples were received 2.7 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

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

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

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

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

Nitrate EPA Method 300.0 Case Narrative:

Due to instrument QA issues, samples SB68779-01 through -07 in this work order were analyzed outside of analytical hold time for nitrates via EPA method 300.0. With the exception of SB68779-07, analyzed 3.25 hours past the expiration time, all samples were analyzed within three hours of the hold time expiration.

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

EPA 300.0

Calibration:

1309892-CCV2

Analyte percent recovery is outside individual acceptance criteria.

Nitrate as N (88%)
Sulfate as SO4 (88%)

Quality Control is outside acceptance range; all affected samples have been re-analyzed.

Nitrate as N
Sulfate as SO4

EPA 300.0

Calibration:

1309892-CCV2

This affected the following samples:

1309892-BLK1
1309892-BS1
1309892-CCV1
1309892-CCV2
1309892-CCV3
1309892-CCV4
1309892-CCV5
1309892-DUP1
1309892-MS1
1309892-MSD1
1309892-SRM1
ECS-2
ECS-3
ECS-3i
ECS-5D
ECS-5i
ECS-7i
ECS-8

1309892-CCV5

Analyte percent recovery is outside individual acceptance criteria.

Nitrate as N (85%)
Sulfate as SO4 (84%)

Quality Control is outside acceptance range; all affected samples have been re-analyzed.

Nitrate as N
Sulfate as SO4

This affected the following samples:

1309892-BLK1
1309892-BS1
1309892-CCV1
1309892-CCV2
1309892-CCV3
1309892-CCV4
1309892-CCV5
1309892-DUP1
1309892-MS1
1309892-MSD1
1309892-SRM1
ECS-2
ECS-3
ECS-3i
ECS-5D
ECS-5i
ECS-7i
ECS-8

Laboratory Control Samples:

1309892 SRM

EPA 300.0

Laboratory Control Samples:

1309892 SRM

Nitrate as N percent recovery is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

ECS-2
ECS-3
ECS-3i
ECS-5D
ECS-5i
ECS-7i
ECS-8

Sulfate as SO4 percent recovery is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

ECS-2
ECS-8

1311054 SRM

Sulfate as SO4 percent recovery is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

ECS-3
ECS-3i
ECS-5D
ECS-5i
ECS-7i

Spikes:

1309892-MS1 *Source: SB68779-07*

The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

Nitrate as N
Sulfate as SO4

1309892-MSD1 *Source: SB68779-07*

The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

Nitrate as N
Sulfate as SO4

1310172-MS2 *Source: SB68779-07RE1*

The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

Nitrate as N

1310172-MSD2 *Source: SB68779-07RE1*

The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

Nitrate as N

1310817-MS1 *Source: SB68779-05*

EPA 300.0

Spikes:

1310817-MS1 *Source: SB68779-05*

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

Sulfate as SO4

1310817-MSD1 *Source: SB68779-05*

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

Sulfate as SO4

Duplicates:

1310817-DUP1 *Source: SB68779-05*

RPD out of acceptance range.

Sulfate as SO4

Samples:

SB68779-01 *ECS-2*

This result was analyzed outside of the EPA recommended holding time.

Nitrate as N

SB68779-02 *ECS-3*

This flag indicates the concentration for this analyte is an estimated value due to exceeding the calibration range or interferences resulting in a biased final concentration.

Nitrate as N

This result was analyzed outside of the EPA recommended holding time.

Nitrate as N

SB68779-02RE1 *ECS-3*

Sample was originally analyzed within the recommended method holding time; however, QC materials for the sample run were out of control. As a result, the sample was immediately re-analyzed (outside the holding time).

Nitrate as N

SB68779-03 *ECS-3i*

This flag indicates the concentration for this analyte is an estimated value due to exceeding the calibration range or interferences resulting in a biased final concentration.

Nitrate as N

This result was analyzed outside of the EPA recommended holding time.

Nitrate as N

SB68779-03RE1 *ECS-3i*

Sample was originally analyzed within the recommended method holding time; however, QC materials for the sample run were out of control. As a result, the sample was immediately re-analyzed (outside the holding time).

Nitrate as N

SB68779-04 *ECS-5i*

EPA 300.0

Samples:

SB68779-04 *ECS-5i*

This flag indicates the concentration for this analyte is an estimated value due to exceeding the calibration range or interferences resulting in a biased final concentration.

Nitrate as N

This result was analyzed outside of the EPA recommended holding time.

Nitrate as N

SB68779-04RE1 *ECS-5i*

Sample was originally analyzed within the recommended method holding time; however, QC materials for the sample run were out of control. As a result, the sample was immediately re-analyzed (outside the holding time).

Nitrate as N

SB68779-05 *ECS-5D*

This flag indicates the concentration for this analyte is an estimated value due to exceeding the calibration range or interferences resulting in a biased final concentration.

Nitrate as N

This result was analyzed outside of the EPA recommended holding time.

Nitrate as N

SB68779-05RE1 *ECS-5D*

Sample was originally analyzed within the recommended method holding time; however, QC materials for the sample run were out of control. As a result, the sample was immediately re-analyzed (outside the holding time).

Nitrate as N

SB68779-06 *ECS-7i*

This flag indicates the concentration for this analyte is an estimated value due to exceeding the calibration range or interferences resulting in a biased final concentration.

Nitrate as N

This result was analyzed outside of the EPA recommended holding time.

Nitrate as N

SB68779-06RE1 *ECS-7i*

Sample was originally analyzed within the recommended method holding time; however, QC materials for the sample run were out of control. As a result, the sample was immediately re-analyzed (outside the holding time).

Nitrate as N

SB68779-07 *ECS-8*

This result was analyzed outside of the EPA recommended holding time.

Nitrate as N

SB68779-07RE1 *ECS-8*

This result was analyzed outside of the EPA recommended holding time.

Nitrate as N

MADEP VPH 5/2004 Rev. 1.1

Samples:

MADEP VPH 5/2004 Rev. 1.1

Samples:

SB68779-02 *ECS-3*

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

SB68779-03 *ECS-3i*

Analyte concentration is flagged as estimated due to exceeding the calibration range or interferences. The sample is not over the calibration range for the target analytes and/or marker compounds that make up the range therefore not diluted further.

C9-C10 Aromatic Hydrocarbons

This flag indicates the concentration for this analyte is an estimated value due to exceeding the calibration range or interferences resulting in a biased final concentration.

C9-C10 Aromatic Hydrocarbons

SW846 6010C

Spikes:

1310536-MS1 *Source: SB68779-03*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Iron

1310536-MSD1 *Source: SB68779-03*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Iron

Sample Acceptance Check Form

Client:	Environmental Compliance Services - Worcester, MA
Project:	CFI # 2131 506 Main St. Sturbridge, MA / 93-204810.21
Work Order:	SB68779
Sample(s) received on:	5/1/2013
Received by:	Tanya Krivolenko

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

	Yes	No	N/A
1. Were custody seals present?	☐	☑	☐
2. Were custody seals intact?	☐	☐	☑
3. Were samples received at a temperature of ≤ 6°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 Identification	Client Project #	Matrix	Collection Date/Time	Received
ECS-2 SB68779-01	93-204810.21	Ground Water	30-Apr-13 12:25	01-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH													
Prepared by method VPH - EPA 5030C Water													
	C5-C8 Aliphatic Hydrocarbons	< 75.0	D	µg/l	75.0	5.55	5	MADEP VPH 5/2004 Rev. 1.1	11-May-13	11-May-13	MP	1310844	
	C9-C12 Aliphatic Hydrocarbons	< 25.0	D	µg/l	25.0	4.22	5	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 25.0	D	µg/l	25.0	1.12	5	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 75.0	D	µg/l	75.0	7.10	5	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0	D	µg/l	25.0	4.68	5	"	"	"	"	"	
71-43-2	Benzene	< 5.00	D	µg/l	5.00	1.26	5	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.00	D	µg/l	5.00	1.41	5	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.00	D	µg/l	5.00	1.55	5	"	"	"	"	"	
91-20-3	Naphthalene	< 5.00	D	µg/l	5.00	1.17	5	"	"	"	"	"	
108-88-3	Toluene	< 5.00	D	µg/l	5.00	1.28	5	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0	D	µg/l	10.0	2.76	5	"	"	"	"	"	
95-47-6	o-Xylene	< 5.00	D	µg/l	5.00	1.12	5	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*98*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*103*			*70-130 %*			"	"	"	"	"	
Soluble Metals by EPA 200/6000 Series Methods													
	Filtration	**Field Filtered**		N/A			1	EPA 200.7/3005A/6010			LNB	1309889	
Soluble Metals by EPA 6000/7000 Series Methods													
7439-89-6	Iron	< 0.0300		mg/l	0.0300	0.0149	1	SW846 6010C	08-May-13	14-May-13	Ir	1310536	
General Chemistry Parameters													
14797-55-8	Nitrate as N	**4.28**	I02	mg/l	0.100	0.0750	1	EPA 300.0	01-May-13 16:18	02-May-13 14:44	KK	1309892	X
14808-79-8	Sulfate as SO4	**18.0**		mg/l	1.00	0.177	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ECS-3 SB68779-02	93-204810.21	Ground Water	30-Apr-13 10:35	01-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH			GS1										
Prepared by method VPH - EPA 5030C Water													
	C5-C8 Aliphatic Hydrocarbons	**1,990**	D	µg/l	750	55.5	50	MADEP VPH 5/2004 Rev. 1.1	11-May-13	11-May-13	MP	1310844	
	C9-C12 Aliphatic Hydrocarbons	**2,840**	D	µg/l	250	42.2	50	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	**4,320**	D	µg/l	250	11.2	50	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	**6,980**	D	µg/l	750	71.0	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	**7,160**	D	µg/l	250	46.8	50	"	"	"	"	"	
71-43-2	Benzene	< 50.0	D	µg/l	50.0	12.6	50	"	"	"	"	"	
100-41-4	Ethylbenzene	**988**	D	µg/l	50.0	14.1	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 50.0	D	µg/l	50.0	15.5	50	"	"	"	"	"	
91-20-3	Naphthalene	**282**	D	µg/l	50.0	11.7	50	"	"	"	"	"	
108-88-3	Toluene	**280**	D	µg/l	50.0	12.8	50	"	"	"	"	"	
179601-23-1	m,p-Xylene	**3,150**	D	µg/l	100	27.6	50	"	"	"	"	"	
95-47-6	o-Xylene	**495**	D	µg/l	50.0	11.2	50	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*121*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*125*			*70-130 %*			"	"	"	"	"	
General Chemistry Parameters													
Nitrate as N by IC													
Prepared by method General Preparation													
14797-55-8	Nitrate as N	< 0.100	E, I02	mg/l	0.100	0.0750	1	EPA 300.0	01-May-13 16:18	02-May-13 11:36	KK	1309892	X
Re-analysis of Nitrate as N by IC													
Prepared by method General Preparation													
14797-55-8	Nitrate as N	**0.870**	HT5	mg/l	0.100	0.0750	1	EPA 300.0	03-May-13 16:28	04-May-13 06:12	KK	1310172	X
14808-79-8	Sulfate as SO4	**9.47**		mg/l	1.00	0.177	1	EPA 300.0	14-May-13	14-May-13	KK	1311054	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
ECS-8 SB68779-07	93-204810.21	Ground Water	30-Apr-13 11:21	01-May-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
MADEP VPH													
Prepared by method VPH - EPA 5030C Water													
	C5-C8 Aliphatic Hydrocarbons	< 75.0	D	µg/l	75.0	5.55	5	MADEP VPH 5/2004 Rev. 1.1	11-May-13	11-May-13	MP	1310844	
	C9-C12 Aliphatic Hydrocarbons	< 25.0	D	µg/l	25.0	4.22	5	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 25.0	D	µg/l	25.0	1.12	5	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 75.0	D	µg/l	75.0	7.10	5	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0	D	µg/l	25.0	4.68	5	"	"	"	"	"	
71-43-2	Benzene	< 5.00	D	µg/l	5.00	1.26	5	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.00	D	µg/l	5.00	1.41	5	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.00	D	µg/l	5.00	1.55	5	"	"	"	"	"	
91-20-3	Naphthalene	< 5.00	D	µg/l	5.00	1.17	5	"	"	"	"	"	
108-88-3	Toluene	< 5.00	D	µg/l	5.00	1.28	5	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0	D	µg/l	10.0	2.76	5	"	"	"	"	"	
95-47-6	o-Xylene	< 5.00	D	µg/l	5.00	1.12	5	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*107*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*110*			*70-130 %*			"	"	"	"	"	
Soluble Metals by EPA 200/6000 Series Methods													
	Filtration	**Field Filtered**		N/A			1	EPA 200.7/3005A/6010			LNB	1309889	
Soluble Metals by EPA 6000/7000 Series Methods													
7439-89-6	Iron	< 0.0300		mg/l	0.0300	0.0149	1	SW846 6010C	08-May-13	14-May-13	Ir	1310536	
General Chemistry Parameters													
Nitrate as N by IC													
Prepared by method General Preparation													
14797-55-8	Nitrate as N	**1.30**	I02	mg/l	0.100	0.0750	1	EPA 300.0	01-May-13 16:18	02-May-13 14:28	KK	1309892	X
Re-analysis of Nitrate as N by IC													
Prepared by method General Preparation													
14797-55-8	Nitrate as N	**1.73**	I02	mg/l	0.100	0.0750	1	EPA 300.0	03-May-13 16:28	04-May-13 08:31	KK	1310172	X
14808-79-8	Sulfate as SO4	**15.3**		mg/l	1.00	0.177	1	EPA 300.0	01-May-13	02-May-13	KK	1309892	X

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1310844 - VPH - EPA 5030C Water										
Blank (1310844-BLK1)						Prepared & Analyzed: 11-May-13				
C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0						
C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0						
C9-C10 Aromatic Hydrocarbons	< 25.0		µg/l	25.0						
Unadjusted C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0						
Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0						
Benzene	< 5.00		µg/l	5.00						
Ethylbenzene	< 5.00		µg/l	5.00						
Methyl tert-butyl ether	< 5.00		µg/l	5.00						
Naphthalene	< 5.00		µg/l	5.00						
Toluene	< 5.00		µg/l	5.00						
m,p-Xylene	< 10.0		µg/l	10.0						
o-Xylene	< 5.00		µg/l	5.00						
2-Methylpentane	< 5.00		µg/l	5.00						
n-Nonane	< 10.0		µg/l	10.0						
n-Pentane	< 10.0		µg/l	10.0						
1,2,4-Trimethylbenzene	< 5.00		µg/l	5.00						
2,2,4-Trimethylpentane	< 5.00		µg/l	5.00						
n-Butylcyclohexane	< 5.00		µg/l	5.00						
n-Decane	< 5.00		µg/l	5.00						
Surrogate: 2,5-Dibromotoluene (FID)	*46.3*		µg/l		*50.0*		*93*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*48.6*		µg/l		*50.0*		*97*	*70-130*		
LCS (1310844-BS1)						Prepared & Analyzed: 11-May-13				
C5-C8 Aliphatic Hydrocarbons	**64.7**		µg/l		60.0		108	70-130		
C9-C12 Aliphatic Hydrocarbons	**64.9**		µg/l		60.0		108	70-130		
C9-C10 Aromatic Hydrocarbons	**23.0**		µg/l		20.0		115	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**220**		µg/l		200		110	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**87.9**		µg/l		80.0		110	70-130		
Benzene	**22.3**		µg/l		20.0		111	70-130		
Ethylbenzene	**22.2**		µg/l		20.0		111	70-130		
Methyl tert-butyl ether	**22.0**		µg/l		20.0		110	70-130		
Naphthalene	**21.9**		µg/l		20.0		109	70-130		
Toluene	**21.5**		µg/l		20.0		107	70-130		
m,p-Xylene	**44.7**		µg/l		40.0		112	70-130		
o-Xylene	**22.4**		µg/l		20.0		112	70-130		
2-Methylpentane	**20.4**		µg/l		20.0		102	70-130		
n-Nonane	**23.1**		µg/l		20.0		115	70-130		
n-Pentane	**19.6**		µg/l		20.0		98	70-130		
1,2,4-Trimethylbenzene	**23.2**		µg/l		20.0		116	70-130		
2,2,4-Trimethylpentane	**21.1**		µg/l		20.0		106	70-130		
n-Butylcyclohexane	**21.8**		µg/l		20.0		109	70-130		
n-Decane	**25.3**		µg/l		20.0		126	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*53.3*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*54.6*		µg/l		*50.0*		*109*	*70-130*		
LCS Dup (1310844-BSD1)						Prepared & Analyzed: 11-May-13				
C5-C8 Aliphatic Hydrocarbons	**58.6**		µg/l		60.0		98	70-130	10	25
C9-C12 Aliphatic Hydrocarbons	**60.1**		µg/l		60.0		100	70-130	8	25
C9-C10 Aromatic Hydrocarbons	**24.4**		µg/l		20.0		122	70-130	6	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**221**		µg/l		200		110	70-130	0.5	25
Unadjusted C9-C12 Aliphatic Hydrocarbons	**84.5**		µg/l		80.0		106	70-130	4	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1310844 - VPH - EPA 5030C Water										
LCS Dup (1310844-BSD1)					Prepared & Analyzed: 11-May-13					
Benzene	**23.2**		µg/l		20.0		116	70-130	4	25
Ethylbenzene	**23.3**		µg/l		20.0		117	70-130	5	25
Methyl tert-butyl ether	**22.8**		µg/l		20.0		114	70-130	4	25
Naphthalene	**24.1**		µg/l		20.0		120	70-130	10	25
Toluene	**22.5**		µg/l		20.0		113	70-130	5	25
m,p-Xylene	**46.9**		µg/l		40.0		117	70-130	5	25
o-Xylene	**23.5**		µg/l		20.0		118	70-130	5	25
2-Methylpentane	**21.0**		µg/l		20.0		105	70-130	3	25
n-Nonane	**24.4**		µg/l		20.0		122	70-130	6	25
n-Pentane	**20.2**		µg/l		20.0		101	70-130	3	25
1,2,4-Trimethylbenzene	**24.6**		µg/l		20.0		123	70-130	6	25
2,2,4-Trimethylpentane	**21.9**		µg/l		20.0		109	70-130	4	25
n-Butylcyclohexane	**23.1**		µg/l		20.0		116	70-130	6	25
n-Decane	**25.4**		µg/l		20.0		127	70-130	0.5	25
Surrogate: 2,5-Dibromotoluene (FID)	*57.6*		µg/l		*50.0*		*115*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*58.9*		µg/l		*50.0*		*118*	*70-130*		
Duplicate (1310844-DUP1)			**Source: SB68779-01**		Prepared & Analyzed: 11-May-13					
C5-C8 Aliphatic Hydrocarbons	**52.5**	J,D	µg/l	75.0		54.4			4	50
C9-C12 Aliphatic Hydrocarbons	**14.1**	J,D	µg/l	25.0		13.6			3	50
C9-C10 Aromatic Hydrocarbons	**9.97**	J,D	µg/l	25.0		9.96			0.2	50
Unadjusted C5-C8 Aliphatic Hydrocarbons	**52.5**	J,D	µg/l	75.0		54.4			4	50
Unadjusted C9-C12 Aliphatic Hydrocarbons	**24.0**	J,D	µg/l	25.0		23.6			2	50
Benzene	< 5.00	D	µg/l	5.00		BRL				50
Ethylbenzene	< 5.00	D	µg/l	5.00		BRL				50
Methyl tert-butyl ether	< 5.00	D	µg/l	5.00		BRL				50
Naphthalene	< 5.00	D	µg/l	5.00		BRL				50
Toluene	< 5.00	D	µg/l	5.00		BRL				50
m,p-Xylene	< 10.0	D	µg/l	10.0		BRL				50
o-Xylene	< 5.00	D	µg/l	5.00		BRL				50
Surrogate: 2,5-Dibromotoluene (FID)	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*52.4*		µg/l		*50.0*		*105*	*70-130*		
Matrix Spike (1310844-MS1)			**Source: SB68779-01**		Prepared & Analyzed: 11-May-13					
C5-C8 Aliphatic Hydrocarbons	**66.2**	D	µg/l		60.0	10.9	92	70-130		
C9-C12 Aliphatic Hydrocarbons	**69.4**	D	µg/l		60.0	2.72	111	70-130		
C9-C10 Aromatic Hydrocarbons	**23.0**	D	µg/l		20.0	1.99	105	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**219**	D	µg/l		200	10.9	104	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**92.3**	D	µg/l		80.0	4.72	110	70-130		
Benzene	**22.1**	D	µg/l		20.0	BRL	111	70-130		
Ethylbenzene	**21.7**	D	µg/l		20.0	BRL	108	70-130		
Methyl tert-butyl ether	**22.7**	D	µg/l		20.0	BRL	113	70-130		
Naphthalene	**23.1**	D	µg/l		20.0	BRL	115	70-130		
Toluene	**21.3**	D	µg/l		20.0	BRL	106	70-130		
m,p-Xylene	**43.7**	D	µg/l		40.0	BRL	109	70-130		
o-Xylene	**21.9**	D	µg/l		20.0	BRL	110	70-130		
2-Methylpentane	**20.5**	D	µg/l		20.0	BRL	102	70-130		
n-Nonane	**24.4**	D	µg/l		20.0	BRL	122	70-130		
n-Pentane	**19.4**	D	µg/l		20.0	BRL	97	70-130		
1,2,4-Trimethylbenzene	**23.2**	D	µg/l		20.0	BRL	116	70-130		
2,2,4-Trimethylpentane	**22.5**	D	µg/l		20.0	BRL	112	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1310844 - VPH - EPA 5030C Water										
Matrix Spike (1310844-MS1)			**Source: SB68779-01**		Prepared & Analyzed: 11-May-13					
n-Butylcyclohexane	**22.9**	D	µg/l		20.0	BRL	115	70-130		
n-Decane	**24.6**	D	µg/l		20.0	BRL	123	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*53.8*		µg/l		*50.0*		*108*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*55.3*		µg/l		*50.0*		*111*	*70-130*		
Batch 1310860 - VPH - EPA 5030C Water										
Blank (1310860-BLK1)					Prepared & Analyzed: 13-May-13					
C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0						
C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0						
C9-C10 Aromatic Hydrocarbons	< 25.0		µg/l	25.0						
Unadjusted C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0						
Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0						
Benzene	< 5.00		µg/l	5.00						
Ethylbenzene	< 5.00		µg/l	5.00						
Methyl tert-butyl ether	< 5.00		µg/l	5.00						
Naphthalene	< 5.00		µg/l	5.00						
Toluene	< 5.00		µg/l	5.00						
m,p-Xylene	< 10.0		µg/l	10.0						
o-Xylene	< 5.00		µg/l	5.00						
2-Methylpentane	< 5.00		µg/l	5.00						
n-Nonane	< 10.0		µg/l	10.0						
n-Pentane	< 10.0		µg/l	10.0						
1,2,4-Trimethylbenzene	< 5.00		µg/l	5.00						
2,2,4-Trimethylpentane	< 5.00		µg/l	5.00						
n-Butylcyclohexane	< 5.00		µg/l	5.00						
n-Decane	< 5.00		µg/l	5.00						
Surrogate: 2,5-Dibromotoluene (FID)	*46.7*		µg/l		*50.0*		*93*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*49.2*		µg/l		*50.0*		*98*	*70-130*		
LCS (1310860-BS1)					Prepared & Analyzed: 13-May-13					
C5-C8 Aliphatic Hydrocarbons	**56.2**		µg/l		60.0		94	70-130		
C9-C12 Aliphatic Hydrocarbons	**59.7**		µg/l		60.0		99	70-130		
C9-C10 Aromatic Hydrocarbons	**23.1**		µg/l		20.0		116	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**215**		µg/l		200		107	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**82.8**		µg/l		80.0		104	70-130		
Benzene	**22.8**		µg/l		20.0		114	70-130		
Ethylbenzene	**22.7**		µg/l		20.0		113	70-130		
Methyl tert-butyl ether	**22.3**		µg/l		20.0		111	70-130		
Naphthalene	**21.9**		µg/l		20.0		109	70-130		
Toluene	**22.0**		µg/l		20.0		110	70-130		
m,p-Xylene	**45.8**		µg/l		40.0		114	70-130		
o-Xylene	**22.9**		µg/l		20.0		115	70-130		
2-Methylpentane	**20.7**		µg/l		20.0		103	70-130		
n-Nonane	**23.5**		µg/l		20.0		117	70-130		
n-Pentane	**19.6**		µg/l		20.0		98	70-130		
1,2,4-Trimethylbenzene	**23.7**		µg/l		20.0		119	70-130		
2,2,4-Trimethylpentane	**21.3**		µg/l		20.0		107	70-130		
n-Butylcyclohexane	**22.8**		µg/l		20.0		114	70-130		
n-Decane	**24.5**		µg/l		20.0		123	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*54.1*		µg/l		*50.0*		*108*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*56.3*		µg/l		*50.0*		*113*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1310860 - VPH - EPA 5030C Water										
LCS Dup (1310860-BSD1)					Prepared & Analyzed: 13-May-13					
C5-C8 Aliphatic Hydrocarbons	**57.6**		µg/l		60.0		96	70-130	2	25
C9-C12 Aliphatic Hydrocarbons	**61.4**		µg/l		60.0		102	70-130	3	25
C9-C10 Aromatic Hydrocarbons	**22.4**		µg/l		20.0		112	70-130	3	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**210**		µg/l		200		105	70-130	2	25
Unadjusted C9-C12 Aliphatic Hydrocarbons	**83.8**		µg/l		80.0		105	70-130	1	25
Benzene	**21.9**		µg/l		20.0		109	70-130	4	25
Ethylbenzene	**21.8**		µg/l		20.0		109	70-130	4	25
Methyl tert-butyl ether	**21.7**		µg/l		20.0		108	70-130	3	25
Naphthalene	**21.1**		µg/l		20.0		105	70-130	4	25
Toluene	**21.2**		µg/l		20.0		106	70-130	4	25
m,p-Xylene	**44.1**		µg/l		40.0		110	70-130	4	25
o-Xylene	**22.1**		µg/l		20.0		111	70-130	4	25
2-Methylpentane	**19.8**		µg/l		20.0		99	70-130	4	25
n-Nonane	**22.1**		µg/l		20.0		110	70-130	6	25
n-Pentane	**18.5**		µg/l		20.0		93	70-130	6	25
1,2,4-Trimethylbenzene	**22.7**		µg/l		20.0		114	70-130	4	25
2,2,4-Trimethylpentane	**20.5**		µg/l		20.0		103	70-130	4	25
n-Butylcyclohexane	**21.5**		µg/l		20.0		107	70-130	6	25
n-Decane	**24.2**		µg/l		20.0		121	70-130	1	25
Surrogate: 2,5-Dibromotoluene (FID)	*52.6*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*55.2*		µg/l		*50.0*		*110*	*70-130*		
Duplicate (1310860-DUP1)				**Source: SB68779-04**		Prepared & Analyzed: 13-May-13				
C5-C8 Aliphatic Hydrocarbons	**51.6**	J,D	µg/l	75.0		46.8			10	50
C9-C12 Aliphatic Hydrocarbons	**10.5**	J,D	µg/l	25.0		10.5			0	50
C9-C10 Aromatic Hydrocarbons	**9.88**	J,D	µg/l	25.0		10.1			2	50
Unadjusted C5-C8 Aliphatic Hydrocarbons	**51.6**	J,D	µg/l	75.0		46.8			10	50
Unadjusted C9-C12 Aliphatic Hydrocarbons	**20.4**	J,D	µg/l	25.0		20.6			1	50
Benzene	< 5.00	D	µg/l	5.00		BRL				50
Ethylbenzene	< 5.00	D	µg/l	5.00		BRL				50
Methyl tert-butyl ether	< 5.00	D	µg/l	5.00		BRL				50
Naphthalene	< 5.00	D	µg/l	5.00		BRL				50
Toluene	< 5.00	D	µg/l	5.00		BRL				50
m,p-Xylene	< 10.0	D	µg/l	10.0		BRL				50
o-Xylene	< 5.00	D	µg/l	5.00		BRL				50
Surrogate: 2,5-Dibromotoluene (FID)	*53.6*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*56.6*		µg/l		*50.0*		*113*	*70-130*		
Matrix Spike (1310860-MS1)				**Source: SB68779-04**		Prepared & Analyzed: 13-May-13				
C5-C8 Aliphatic Hydrocarbons	**51.9**	D	µg/l		60.0	9.36	71	70-130		
C9-C12 Aliphatic Hydrocarbons	**61.5**	D	µg/l		60.0	2.10	99	70-130		
C9-C10 Aromatic Hydrocarbons	**20.4**	D	µg/l		20.0	2.02	92	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**186**	D	µg/l		200	9.36	88	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**81.9**	D	µg/l		80.0	4.12	97	70-130		
Benzene	**19.3**	D	µg/l		20.0	BRL	97	70-130		
Ethylbenzene	**18.2**	D	µg/l		20.0	BRL	91	70-130		
Methyl tert-butyl ether	**21.4**	D	µg/l		20.0	BRL	107	70-130		
Naphthalene	**23.1**	D	µg/l		20.0	BRL	116	70-130		
Toluene	**18.1**	D	µg/l		20.0	BRL	90	70-130		
m,p-Xylene	**37.4**	D	µg/l		40.0	BRL	94	70-130		
o-Xylene	**19.3**	D	µg/l		20.0	BRL	97	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1310860 - VPH - EPA 5030C Water										
Matrix Spike (1310860-MS1)			**Source: SB68779-04**		Prepared & Analyzed: 13-May-13					
2-Methylpentane	**15.3**	D	µg/l		20.0	BRL	77	70-130		
n-Nonane	**22.0**	D	µg/l		20.0	BRL	110	70-130		
n-Pentane	**14.1**	D	µg/l		20.0	BRL	71	70-130		
1,2,4-Trimethylbenzene	**20.6**	D	µg/l		20.0	BRL	103	70-130		
2,2,4-Trimethylpentane	**17.4**	D	µg/l		20.0	BRL	87	70-130		
n-Butylcyclohexane	**20.4**	D	µg/l		20.0	BRL	102	70-130		
n-Decane	**24.7**	D	µg/l		20.0	BRL	123	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*57.0*		µg/l		*50.0*		*114*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*59.5*		µg/l		*50.0*		*119*	*70-130*		

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 1310536 - SW846 3005A										
Blank (1310536-BLK1)						Prepared: 08-May-13	Analyzed: 14-May-13			
Iron	< 0.0300		mg/l	0.0300						
LCS (1310536-BS1)						Prepared: 08-May-13	Analyzed: 14-May-13			
Iron	**2.11**		mg/l	0.0300	2.00		106	85-115		
LCS Dup (1310536-BSD1)						Prepared: 08-May-13	Analyzed: 14-May-13			
Iron	**1.94**		mg/l	0.0300	2.00		97	85-115	8	20
Duplicate (1310536-DUP1)			**Source: SB68779-01**			Prepared: 08-May-13	Analyzed: 14-May-13			
Iron	< 0.0300		mg/l	0.0300		BRL				20
Matrix Spike (1310536-MS1)			**Source: SB68779-03**			Prepared: 08-May-13	Analyzed: 14-May-13			
Iron	**29.3**	QM2	mg/l	0.0300	2.50	28.9	18	75-125		
Matrix Spike Dup (1310536-MSD1)			**Source: SB68779-03**			Prepared: 08-May-13	Analyzed: 14-May-13			
Iron	**28.1**	QM2	mg/l	0.0300	2.50	28.9	-29	75-125	4	20

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1309892 - General Preparation										
Blank (1309892-BLK1)					Prepared: 01-May-13 Analyzed: 02-May-13					
Sulfate as SO4	< 1.00		mg/l	1.00						
Nitrate as N	< 0.100		mg/l	0.100						
LCS (1309892-BS1)					Prepared: 01-May-13 Analyzed: 02-May-13					
Sulfate as SO4	**18.4**		mg/l	1.00	20.0		92	90-110		
Nitrate as N	**1.80**		mg/l	0.100	2.00		90	90-110		
Calibration Blank (1309892-CCB1)					Prepared: 01-May-13 Analyzed: 02-May-13					
Sulfate as SO4	**-0.174**		mg/l							
Nitrate as N	**0.00**		mg/l							
Calibration Blank (1309892-CCB2)					Prepared: 01-May-13 Analyzed: 02-May-13					
Sulfate as SO4	**-0.174**		mg/l							
Nitrate as N	**0.00**		mg/l							
Calibration Blank (1309892-CCB3)					Prepared: 01-May-13 Analyzed: 02-May-13					
Sulfate as SO4	**-0.176**		mg/l							
Nitrate as N	**0.00**		mg/l							
Calibration Blank (1309892-CCB4)					Prepared: 01-May-13 Analyzed: 02-May-13					
Sulfate as SO4	**-0.171**		mg/l							
Nitrate as N	**0.00**		mg/l							
Calibration Blank (1309892-CCB5)					Prepared: 01-May-13 Analyzed: 02-May-13					
Sulfate as SO4	**-0.173**		mg/l							
Nitrate as N	**0.00**		mg/l							
Calibration Check (1309892-CCV1)					Prepared: 01-May-13 Analyzed: 02-May-13					
Sulfate as SO4	**18.6**		mg/l		20.0		93	90-110		
Nitrate as N	**1.84**		mg/l		2.00		92	90-110		
Calibration Check (1309892-CCV2)					Prepared: 01-May-13 Analyzed: 02-May-13					
Sulfate as SO4	**17.6**	R	mg/l		20.0		88	90-110		
Nitrate as N	**1.75**	R	mg/l		2.00		88	90-110		
Calibration Check (1309892-CCV3)					Prepared: 01-May-13 Analyzed: 02-May-13					
Sulfate as SO4	**18.8**		mg/l		20.0		94	90-110		
Nitrate as N	**1.85**		mg/l		2.00		92	90-110		
Calibration Check (1309892-CCV4)					Prepared: 01-May-13 Analyzed: 02-May-13					
Sulfate as SO4	**18.0**		mg/l		20.0		90	90-110		
Nitrate as N	**1.81**		mg/l		2.00		90	90-110		
Calibration Check (1309892-CCV5)					Prepared: 01-May-13 Analyzed: 02-May-13					
Sulfate as SO4	**16.7**	R	mg/l		20.0		84	90-110		
Nitrate as N	**1.70**	R	mg/l		2.00		85	90-110		
Duplicate (1309892-DUP1)			**Source: SB68779-07**			Prepared: 01-May-13 Analyzed: 02-May-13				
Sulfate as SO4	**15.1**		mg/l	1.00		15.3			1	20
Nitrate as N	**1.30**		mg/l	0.100		1.30			0.08	20
Matrix Spike (1309892-MS1)			**Source: SB68779-07**			Prepared: 01-May-13 Analyzed: 02-May-13				
Sulfate as SO4	**23.1**	QM4X	mg/l	1.00	5.00	15.3	157	90-110		
Nitrate as N	**2.03**	QM4X	mg/l	0.100	0.500	1.30	145	90-110		
Matrix Spike Dup (1309892-MSD1)			**Source: SB68779-07**			Prepared: 01-May-13 Analyzed: 02-May-13				
Sulfate as SO4	**23.2**	QM4X	mg/l	1.00	5.00	15.3	159	90-110	0.5	20
Nitrate as N	**2.06**	QM4X	mg/l	0.100	0.500	1.30	151	90-110	1	20
Reference (1309892-SRM1)					Prepared: 01-May-13 Analyzed: 02-May-13					
Sulfate as SO4	**20.1**	QM9	mg/l	1.00	25.0		80	90-110		
Nitrate as N	**2.06**	QM9	mg/l	0.100	2.50		82	90-110		
Batch 1310172 - General Preparation										
Blank (1310172-BLK1)					Prepared: 03-May-13 Analyzed: 04-May-13					
Nitrate as N	< 0.100		mg/l	0.100						

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General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1310172 - General Preparation										
LCS (1310172-BS1)						Prepared: 03-May-13	Analyzed: 04-May-13			
Nitrate as N	**2.16**		mg/l	0.100	2.00		108	90-110		
Duplicate (1310172-DUP2)			**Source: SB68779-07RE1**			Prepared: 03-May-13	Analyzed: 04-May-13			
Nitrate as N	**1.74**		mg/l	0.100		1.73			0.6	20
Matrix Spike (1310172-MS2)			**Source: SB68779-07RE1**			Prepared: 03-May-13	Analyzed: 04-May-13			
Nitrate as N	**2.26**	QM4X	mg/l	0.100	0.400	1.73	132	90-110		
Matrix Spike Dup (1310172-MSD2)			**Source: SB68779-07RE1**			Prepared: 03-May-13	Analyzed: 04-May-13			
Nitrate as N	**2.23**	QM4X	mg/l	0.100	0.400	1.73	125	90-110	1	20
Reference (1310172-SRM1)						Prepared: 03-May-13	Analyzed: 04-May-13			
Nitrate as N	**2.71**		mg/l	0.100	2.50		108	90-110		
Batch 1310817 - General Preparation										
Blank (1310817-BLK1)						Prepared & Analyzed: 10-May-13				
Sulfate as SO4	< 1.00		mg/l	1.00						
LCS (1310817-BS1)						Prepared & Analyzed: 10-May-13				
Sulfate as SO4	**20.9**		mg/l	1.00	20.0		105	90-110		
Duplicate (1310817-DUP1)			**Source: SB68779-05**			Prepared & Analyzed: 10-May-13				
Sulfate as SO4	**11.4**	QR5	mg/l	1.00		16.2			35	20
Matrix Spike (1310817-MS1)			**Source: SB68779-05**			Prepared & Analyzed: 10-May-13				
Sulfate as SO4	**15.0**	QM7	mg/l	1.00	4.00	16.2	-29	90-110		
Matrix Spike Dup (1310817-MSD1)			**Source: SB68779-05**			Prepared & Analyzed: 10-May-13				
Sulfate as SO4	**15.7**	QM7	mg/l	1.00	4.00	16.2	-12	90-110	5	20
Reference (1310817-SRM1)						Prepared & Analyzed: 10-May-13				
Sulfate as SO4	**25.7**		mg/l	1.00	25.0		103	90-110		
Batch 1311054 - General Preparation										
Blank (1311054-BLK1)						Prepared & Analyzed: 14-May-13				
Sulfate as SO4	< 1.00		mg/l	1.00						
LCS (1311054-BS1)						Prepared & Analyzed: 14-May-13				
Sulfate as SO4	**21.3**		mg/l	1.00	20.0		106	90-110		
Reference (1311054-SRM1)						Prepared & Analyzed: 14-May-13				
Sulfate as SO4	**29.5**	QM9	mg/l	1.00	25.0		118	90-110		

Volatile Organic Compounds - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S305325				
Calibration Check (S305325-CCV1)				
Benzene	103031.1	107278.9	4.1	25
Ethylbenzene	67190.75	67854.55	1.0	25
Methyl tert-butyl ether	49816.42	52586.5	5.6	25
Naphthalene	45395.98	49073.6	8.1	25
Toluene	88942.26	87435.55	-1.7	25
m,p-Xylene	79799.08	80844	1.3	25
o-Xylene	66465.29	67338.2	1.3	25
2-Methylpentane	16077.27	15585.3	-3.1	25
n-Nonane	7381.322	6585.45	-10.8	30
n-Pentane	15972.28	15219.1	-4.7	25
1,2,4-Trimethylbenzene	59089.68	63721.9	7.8	25
2,2,4-Trimethylpentane	14279.88	13364.5	-6.4	25
n-Butylcyclohexane	7993.376	7201.35	-9.9	25
n-Decane	5200.718	5107.45	-1.8	25
Calibration Check (S305325-CCV2)				
Benzene	103031.1	113426.8	10.1	25
Ethylbenzene	67190.75	71974.7	7.1	25
Methyl tert-butyl ether	49816.42	53602.1	7.6	25
Naphthalene	45395.98	50609	11.5	25
Toluene	88942.26	92765.85	4.3	25
m,p-Xylene	79799.08	85534.88	7.2	25
o-Xylene	66465.29	71028	6.9	25
2-Methylpentane	16077.27	16621.15	3.4	25
n-Nonane	7381.322	6152.05	-16.7	30
n-Pentane	15972.28	16348.35	2.4	25
1,2,4-Trimethylbenzene	59089.68	67523.75	14.3	25
2,2,4-Trimethylpentane	14279.88	13849.25	-3.0	25
n-Butylcyclohexane	7993.376	6895.55	-13.7	25
n-Decane	5200.718	4796.7	-7.8	25
Batch S305374				
Calibration Check (S305374-CCV1)				
Benzene	103031.1	113116.8	9.8	25
Ethylbenzene	67190.75	72317.95	7.6	25
Methyl tert-butyl ether	49816.42	53126.2	6.6	25
Naphthalene	45395.98	47980.8	5.7	25
Toluene	88942.26	92945.65	4.5	25
m,p-Xylene	79799.08	86217.45	8.0	25
o-Xylene	66465.29	71289.9	7.3	25
2-Methylpentane	16077.27	17345.1	7.9	25
n-Nonane	7381.322	8297.9	12.4	30
n-Pentane	15972.28	16836.65	5.4	25
1,2,4-Trimethylbenzene	59089.68	67539.85	14.3	25
2,2,4-Trimethylpentane	14279.88	14982.55	4.9	25
n-Butylcyclohexane	7993.376	8448.45	5.7	25
n-Decane	5200.718	6183.4	18.9	25
Calibration Check (S305374-CCV2)				
Benzene	103031.1	110727.1	7.5	25
Ethylbenzene	67190.75	72186.8	7.4	25
Methyl tert-butyl ether	49816.42	53621.35	7.6	25
Naphthalene	45395.98	50326.05	10.9	25
Toluene	88942.26	91120.85	2.4	25

Volatile Organic Compounds - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S305374				
Calibration Check (S305374-CCV2)				
m,p-Xylene	79799.08	85409.43	7.0	25
o-Xylene	66465.29	70301.6	5.8	25
2-Methylpentane	16077.27	15734.85	-2.1	25
n-Nonane	7381.322	6164.45	-16.5	30
n-Pentane	15972.28	15340.65	-4.0	25
1,2,4-Trimethylbenzene	59089.68	66581.35	12.7	25
2,2,4-Trimethylpentane	14279.88	13264.05	-7.1	25
n-Butylcyclohexane	7993.376	6623	-17.1	25
n-Decane	5200.718	4725.7	-9.1	25

Notes and Definitions

CCE	Analyte concentration is flagged as estimated due to exceeding the calibration range or interferences. The sample is not over the calibration range for the target analytes and/or marker compounds that make up the range therefore not diluted further.
D	Data reported from a dilution
E	This flag indicates the concentration for this analyte is an estimated value due to exceeding the calibration range or interferences resulting in a biased final concentration.
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
HT5	Sample was originally analyzed within the recommended method holding time; however, QC materials for the sample run were out of control. As a result, the sample was immediately re-analyzed (outside the holding time).
I02	This result was analyzed outside of the EPA recommended holding time.
QM2	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
QM4X	The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
QR5	RPD out of acceptance range.
R	Quality Control is outside acceptance range; all affected samples have been re-analyzed.
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).

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
Rebecca Merz

SB68779

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- [x] Standard TAT - 7 to 10 business days
- [ ] Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: ECS-Worcester
Telephone #: 508-756-0151
Project Mgr. Matt Lyne

Invoice To: CFI
P.O. No.: 46012 RQN: _____

Project No.: 93-204810.21
Site Name: CFI #2131
Location: 506 Main St, Sturbridge State: MA
Sampler(s): M. Serra

1=$Na_2S_2O_3$ 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= _____

List preservative code below: 2 / / 4

QA/QC Reporting Notes:
* additional charges may apply

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

MA DEP MCP CAM Report: Yes [x] No [ ]
CT DPH RCP Report: Yes [ ] No [ ]

QA/QC Reporting Level
[x] Standard [ ] No QC [ ] DQA*
[ ] NY ASP A* [ ] NY ASP B*
[ ] NJ Reduced* [ ] NJ Full*
[ ] TIER II* [ ] TIER IV*
[ ] Other _____

State-specific reporting standards:

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic		VPH	Nitrate	Sulfate	Dissolved Iron				
68779-01	ECS-2	4-30-13	12:25	G	GW	3			2		X	X	X	X				
02	ECS-3		10:35						1		X	X	X					
03	ECS-3i		10:12						2		X	X	X	X				
04	ECS-5i		9:00						2		X	X	X	X				
05	ECS-5D		8:25						2		X	X	X	X				
06	ECS-7i		9:47						2		X	X	X	X				
07	ECS-8	4-30-13	11:21	G	GW	3			2		X	X	X	X				

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	[signature]	5-1-13	1645	
[signature]	[signature]	5-1-13	18:00	2.7
				2

[ ] EDD Format _____
[x] E-mail to MLyne@ecsconsult.com

Condition upon receipt:
[ ] Ambient [ ] Iced [x] Refrigerated [ ] DI VOA Frozen [ ] Soil Jar Frozen

ATTACHMENT III

MassDEP - Bureau of Waste Site Cleanup

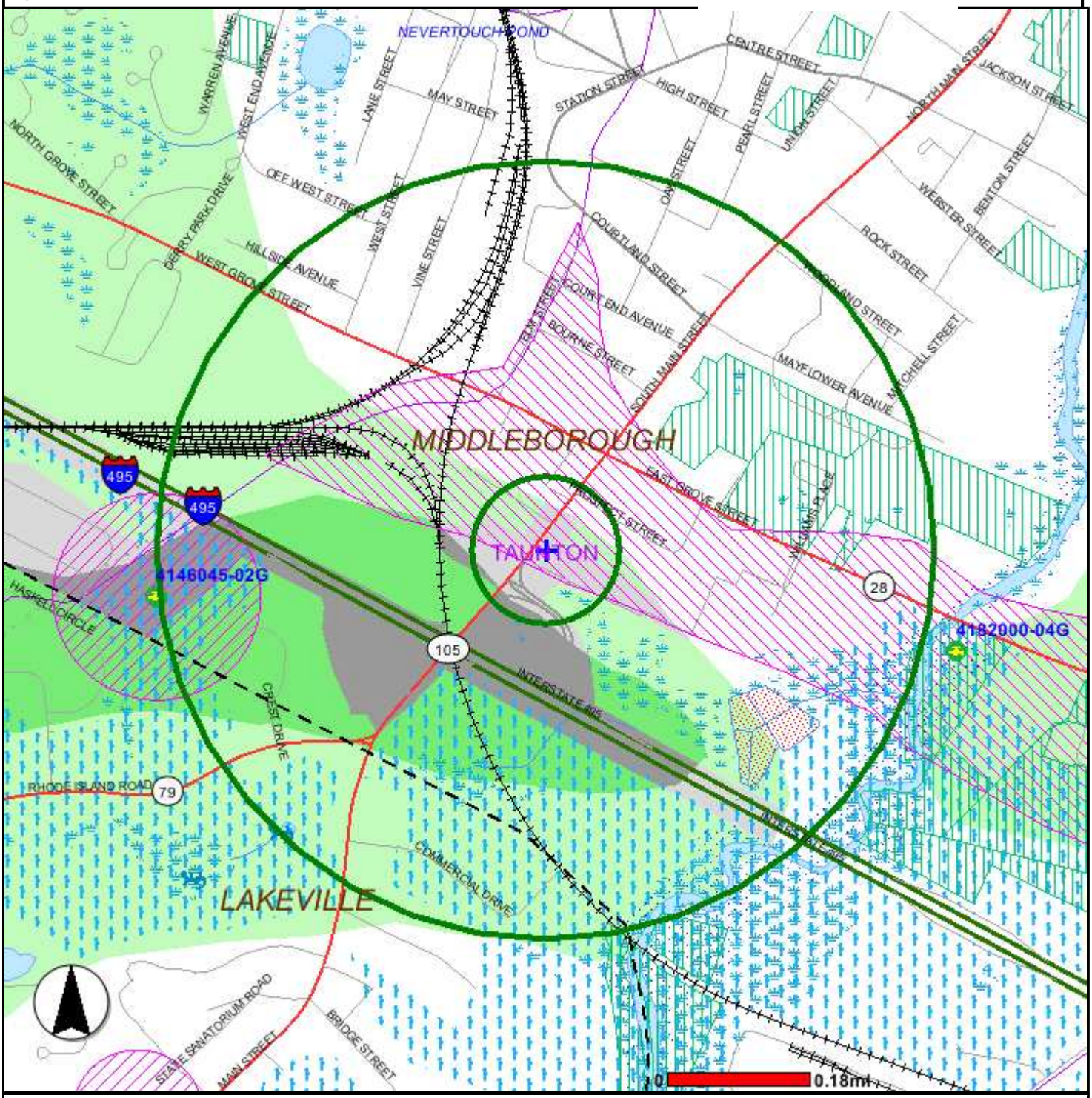
MCP Numerical Ranking System Map: 500 feet & 0.5 Mile Radii

Site Name:
Middleboro CFI
150 Main Street
Middleborough, MA
RTN:
NAD83 MA Coordinates:
248249mE, 848376mN

August 30, 2011

The information shown on this map is the best available at the date of printing. For more information please refer to www.mass.gov/mgis/massgis.htm

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, Sub; 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

NHESP: Est Rare Weland Habitat, Certified Vernal Pool

DEP Permitted Solid Waste Landfill

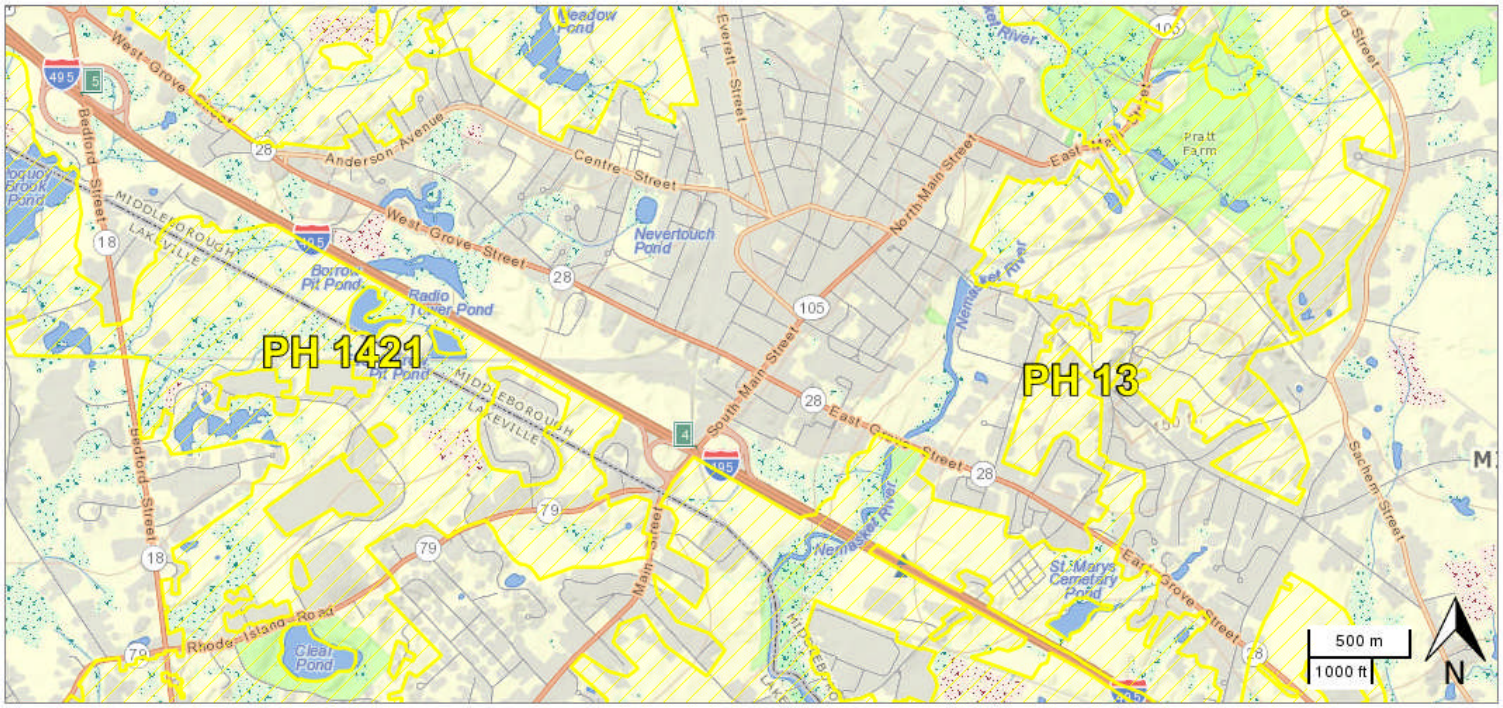
http://maps.massgis.state.ma.us/temp/OL_MORIS_pri

OLIVER | NHESP Priority Habitats of ...

Google | Search | Share | More » | Michael Bricher

Suggested Sites | Web Slice Gallery

NHESP Priority Habitats of Rare Species



NHESP Priority Habitats of Rare Species

Detailed Features

3:26 PM
4/4/2014

ATTACHMENT IV

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

Search Criteria: Town(s): Middleborough; Place: South Middleborough; Street No: 105; Street Name: south main;

Inv. No.	Property Name	Street	Town	Year