FILE COPY

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

CERTIFIED MAIL RETURN RECEIPT REQUESTED

DEC 0 5 2012

Richard P. Geisler
Branch Manager
E C S, Inc.
30 Harris Place
Brattleboro, VT 05301

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. Shell Station site located at 100 Mohawk Trail, Greenfield, MA 01301, Franklin County; Authorization # MAG910558

Dear Mr. Geisler:

Based on the review of a Notice of Intent (NOI) submitted on behalf of the estate of Helen Mackin by your firm Environmental Compliance Services (ECS), Inc., for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named 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 parameters that exceeded Appendix III limits. The checklist also includes other parameters for which your laboratory reports indicated there was insufficient sensitivity to detect these parameters at the minimum levels established in Appendix VI of the RGP.

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on November 12, 2015. If for any reason the discharge terminates sooner 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, Manager
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Sandra D. Shields, Greenfield, DPW
Alicia Flammia, ECS, Inc.

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**MAG910558**
Authorization Issued:	December, 2012
Facility/Site Name:	Shell Station
Facility/Site Address:	100 Mohawk Trail, Greenfield, MA 01301
	Email address of owner: Not provided. Telephone No. 508-771-3132
Legal Name of Operator:	Environmental Compliance Services, Inc.
Operator contact name, title, and Address:	Richard P. Geisler, LSP/Branch Manager 30 Harris Place, Brattleboro, VT 05301
	Email: rgeisler@ecsconsultant.com
Estimated date of Completion:	November 12, 2015
Category and Sub-Category:	Category I. Petroleum Related Site Remediation. Sub-category C. Petroleum Sites with Additional Contamination
RGP Termination Date:	September 10, 2015
Receiving Water:	Unnamed Brook to Green Field 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	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)
	(BTEX) [4]	
√	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

	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)
	a. Benzo(a) Anthracene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	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 Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11/12]		Minimum level=ML	
		Freshwater	Saltwater		
	39. Antimony	5.6/ML 10			

	Metal parameter	Total Recoverable Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11/12]		Minimum level=ML	
		Freshwater	Saltwater		
	40. Arsenic **	10/ML20	36/ML 20		
	41. Cadmium **	0.2/ML10	8.9/ML 10		
	42. Chromium III (trivalent) **	48.8/ML15	100/ML 15		
	43. Chromium VI (hexavalent) **	11.4/ML10	50.3/ML 10		
	44. Copper **	5.2/ML15	3.7/ML 15		
	45. Lead **	1.3/ML20	8.5/ML 20		
	46. Mercury **	0.9/ML0.2	1.1/ML 0.2		
	47. Nickel **	29/ML20	8.2/ML 20		
	48. Selenium **	5/ML20	71/ML 20		
	49. Silver	1.2/ML10	2.2/ML 10		
	50. Zinc **	66.6/ML15	85.6/ML 15		
	51. Iron	1,000/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

WHERE BUSINESS AND THE ENVIRONMENT CONVERGE

Shell Gas Station/
Convenience Store
100 Mohawk Trail
Greenfield, Massachusetts

RTN 1-18881

Prepared for:
Victor Alvarez
USEPA, Region 1
RPG-NOC Processing
1 Congress St, Suite 1100
Boston MA 02114-2023

ECS Project No.94-205185.04
October 29, 2012

Prepared By:
ECS
30 Harris Place
Brattleboro, VT 05301
tel 802.257.1195 fax 802.257.1603
www.ecsconsult.com

ecs WHERE BUSINESS AND THE ENVIRONMENT CONVERGE

30 Harris Place, Brattleboro, VT 05301 tel 802.257.1195 fax 802.257.1603 www.ecsconsult.com

Mr. Victor Alvarez
United States Environmental
Protection Agency, Region 1
RPG-NOC Processing
1 Congress Street, Suite 1100
Boston, MA 02114-2023

October 29, 2012
Project No. 94-205185.04

RE: Shell Gas Station/Convenience Store
100 Mohawk Trail
Greenfield, Massachusetts
RTN 1-18881

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 the estate of Helen Mackin 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) that is located at 100 Mohawk Trail, Greenfield, Massachusetts (the Site). The GWTS is required to be operated at the Site in order to allow for the remediation of light non-aqueous phase liquid (LNAPL) and petroleum-impacted soil and groundwater. A Site Locus is provided as Figure 1 and a Site Plan is provided as Figure 2. A Drainage Path Sketch and a System Design Sketch are included as Figures 3 and 4, respectively. A copy of the NOI form is provided as Attachment I.

System Design

The groundwater treatment system located on the Site will be composed of either:

1) A rotary lobe blower for extracting vapors and liquids from the recovery wells; a cyclonic separator for separation of the influent vapor and liquid streams; oil-water separator, low profile stripper and two 500 pound liquid phase granular activated carbon (GAC) (plumbed in series); vapor phase GAC for treatment of the air stripper off-gas and catalytic oxidation for treatment of the vapor effluent from the rotary lobe blower; or
2) Submersible pneumatic pumps that collect groundwater from the treatment area, then recovered groundwater will be pumped through an oil-water separator, particulate filters, a soil vapor extraction (SVE) blower and air stripper and two 500 pound liquid phase GAC units for the treatment of recovered liquids.

A choice between the treatment options will be determined by the pilot test data obtained on October 29, 2012 and by available equipment at the time of installation. Treatment will occur prior to discharge to the Department of Transportation storm water manhole (MH-4) located in the southeastern portion of the parking lot at the Site. The storm water line discharges to an unnamed brook before discharging to the Green River 750 feet to the northeast.

A Site plan detailing the location of the groundwater treatment system, the groundwater withdrawal points, the manhole for the storm water line, and the planned area for the remediation trailer is provided as Figure 2. A line diagram of the groundwater treatment system is provided as Figure 3. The outfall location of the storm water line and surface water bodies adjacent to the outfall location are indicated on the Site Locus, Figure 1.

Average flow rate of discharge of treated groundwater from the system to the storm water line is expected to be approximately 6 gallons per minute (gpm). The design capacity of the groundwater treatment system is 10 to 15 gpm based upon data collected from comparable systems installed at other remedial sites operated/designed by ECS.

Influent Sample Analysis

Two surface water samples were collected immediately dowgradient of the affected manhole's outfall at the unnamed stream. In addition, groundwater data from recent (February and April 2012) groundwater sampling activities[1] is being used to present data for additional parameters known to be located onsite from a previous and off-site release. The 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, ethylene dibromide (EDB) by USEPA Method 504.1, total metals (iron and lead) by USEPA Method 200.7, hardness by SM 2340B, and total suspended solids by SM2540D. A copy of the laboratory reports and chains of custody record are provided as Attachment II.

Appendix III of the the 2010 RGP under NPDES sets the effluent limitations for treatment system discharges. Benzene, cis-1,2-dichloroethene, ethylbenzene, methyl tert-butyl ether, naphthalene, n-propylbenzene, toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, total xylenes, total suspended solids, TPH as gasoline, EDB, and iron were detected in the representative surface water and groundwater samples that were collected from the stream and site monitoring wells in February, April and October 2012. Comparison of the concentrations of these compounds to the Appendix III effluent limitations (http://www.epa.gov/region1/npdes/remediation/RGP2010_PermitAppendixIII.pdf, accessed on October 25, 2012) indicates that many of detected concentrations were above the Appendix III. Parameters not detected above the effluent limits include total suspended solids, iron, EDB, TPH, cis-1,2-dichloroethene and methyl tert-butyl ether.

Receiving Waters Information

The receiving water for the treated groundwater discharge is the unnamed brook across Mohawk Trail, with eventual discharge to the Green River located approximately 1,000 feet northeast 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 October 26, 2012). Based on data available for the area, ECS calculated a 7Q10 for this area of 10.4 cubic feet per minute.

[1] Conducted as part of due diligence work for property lease transaction.

Receiving Water Classification

ECS consulted the Massachusetts Department of Environmental Protection (MassDEP) Division of Water Pollution Control (http://www.mass.gov/dep/water/laws/tblfig.pdf) to determine the classification for the receiving waters. The Green 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 at the proposed discharge area. There are no Areas of Critical Environmental Concern or Endangered Species known to exist within one mile of the proposed discharge area.

Review of National Register of Historic Places

Listings of Historic Places within the City of Marlborough 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 October 18, 2012). Copies of the MACRIS report are provided as Attachment III. 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 existing structures and historic properties.

Copies of this letter and supporting documentation have been forwarded to the Western Regional Office of the MassDEP and to Ms. Sandra D. Shields, at the Department of Public Works for the City of Greenfield. 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 (802) 257-1195.

Sincerely,
ENVIRONMENTAL COMPLIANCE SERVICES, INC.

Alicia Flammia
Project Manager

Richard P. Geisler, P.G., LSP
Principal/ Branch Manager/ Senior Hydrogeologist

List of Attachments

Figure 1: Site Locus
Figure 2: Site Plan
Figure 3: Drainage Path Sketch
Figure 4: System Design Sketch

Attachment 1: NOI for the RGP
Attachment 2: Laboratory Analytical ReportS and Chain of Custody Record
Attachment 3: MACRIS Database Search Results

FIGURES

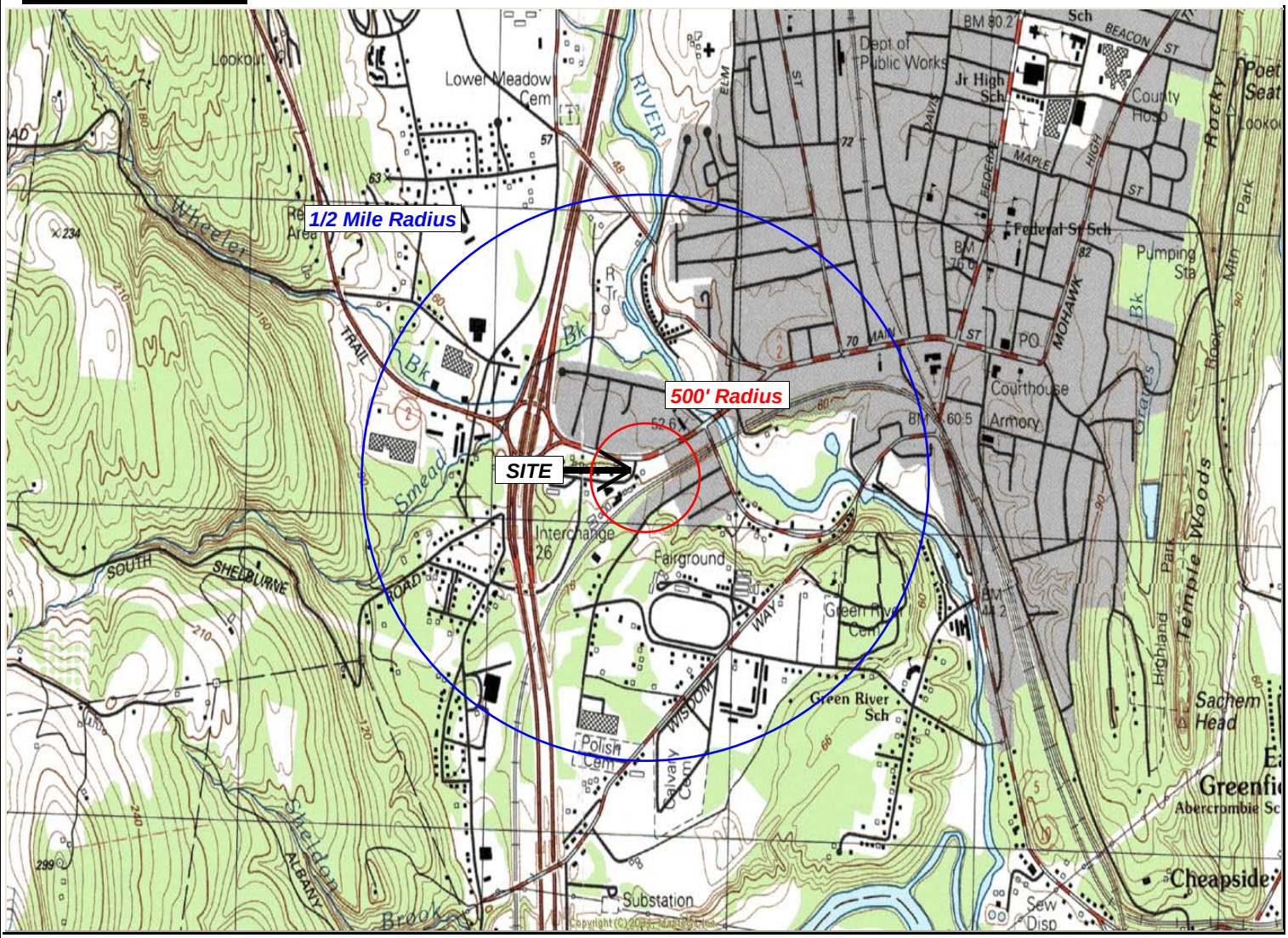
Environmental Compliance Services, Inc.
30 Harris Place, Brattleboro, VT 05301
Phone (802)-257-1195 Fax (802)-257-1603
www.ecsconsult.com

SITE LOCUS

Figure: ***1***

100 Mohawk Trail
Greenfield, MA

Job Number: 04-205185.



1 | 1/2 | 0 | 1 Mile

1 inch = 1500 feet

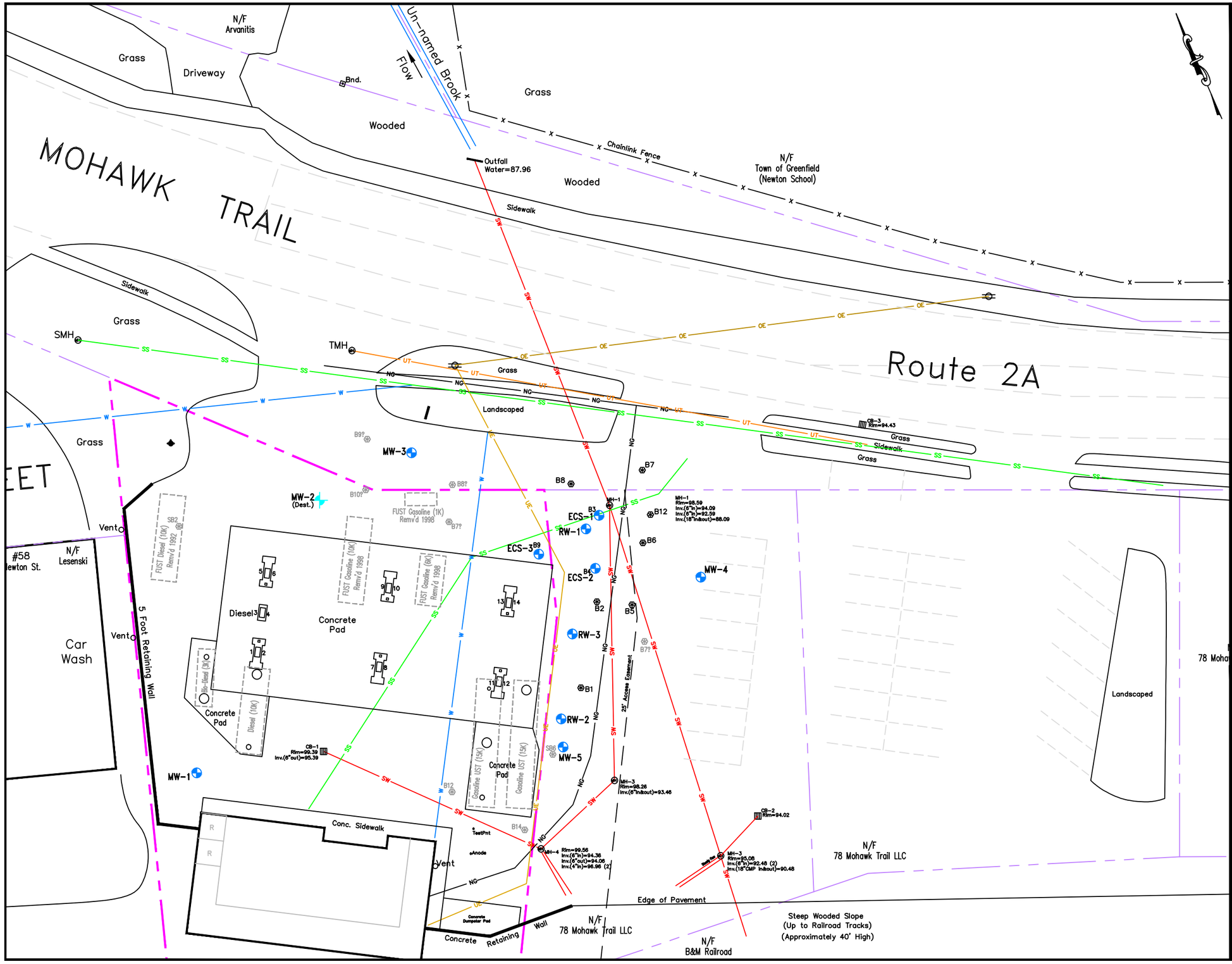
Contour Interval: 6 Meters

North

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

Latitude and Longitude: 42d 35" 02.61' North / 72d 36" 57.86' West

Map Edited: ***1990*** ***Map Revised:*** ***Generated By:*** ***CEF***



Legend

- Approximate Property Line
- SS — Sanitary Sewer Line
- SW — Storm Sewer Line
- W — Water Line
- NG — Natural Gas Line
- OE — Overhead Electric Line
- x — Overhead Electric Line
- MH — Manhole
- Catchbasin
- Water Gate
- Fire Hydrant
- Utility Pole
- Soil Boring
- Monitoring Well
- 90.0 — Water Table Contour (Dashed where inferred)
- Flow Direction Indicator

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.

Horizontal, and vertical locations of wells, and selected site features determined through measurements made by representatives of ECS.

Water table elevation are based on an assumed benchmark of 96.66 feet located at the PVC of MW-4.

Water table elevations are based on measurements made on

Water table contours, and flow directions assume homogenous, isotropic aquifer conditions, and horizontal flow.

Fluctuations in the level of the water table may occur due to factors not accounted for at the time of measurement.

Water table contours are interpolated between data points, and inferred in other areas.

ecs
588 Silver Street * Agawam, MA 01001
Phone: 1-800-780-3530 Fax: 413-789-3530
ecsconsult.com

PROJECT:
Shell Station
100 Mohawk Trail – Route 2
Greenfield, Massachusetts

TITLE:
Site Plan with Groundwater Contours (10/3/12)

CLIENT:
Estate of Helen Mackin

GRAPHIC SCALE: 30 15 0 15 30

COMPUTER CADFILE : 205185R.DWG

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
RAS	AF	RG	
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
1" = 30'	10/19/12	205185	2

Flow from the unnamed stream enters the Green River via the path outlined in the image.

ecs
588 Silver Street * Agawam, MA 01001
Phone: 1-800-789-3530 Fax: 413-789-3530
ecsconsult.com

PROJECT:
Shell Station
100 Mohawk Trail – Route 2
Greenfield, Massachusetts

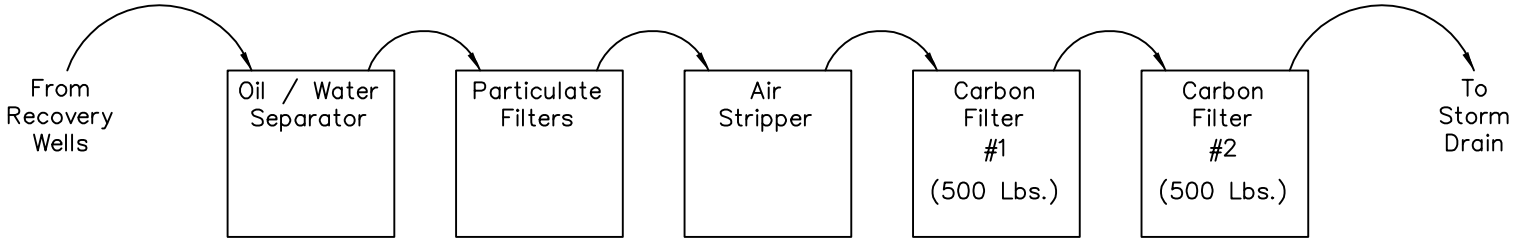
TITLE:
Drainage Path Sketch

CLIENT: Estate of Helen Mackin c/o Haddleton

GRAPHIC SCALE: 100 50 0 50 100

COMPUTER CADFILE : greenfield-sketch.dwg

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
RAS			
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
"=100'+/-	10/1/12	205185	3



ENVIRONMENTAL COMPLIANCE SERVICES, INC.
30 Harris Place * Brattleboro, VT 05301

CLIENT: Estate of Helen Mackin

GRAPHIC SCALE: 0 0 0 0 0

PROJECT: Shell Station
100 Mohawk Trail
Greenfield, MA

TITLE: System Flow Diagram

COMPUTER CADFILE :

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
EB	RAS	AF	RPG
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
NTS	Oct. 2012	205185.04	4

ATTACHMENT I

NOI FOR THE RGP

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:** Shell Station		**Facility/site** mailing address:		
Location of **facility/site:** longitude: 72d 36" 57.86 latitude: 42d 35" 02.61	Facility SIC code(s): 5541	Street: 100 Mohawk Trail		
b) Name of **facility/site owner:**		Town: Greenfield		
Email address of facility/site owner:		State: MA	Zip: 01301	County: Franklin
Telephone no. of facility/site **owner:** 508-771-3132				
Fax no. of facility/site **owner:**		**Owner** is (check one): 1. Federal ○ 2. State/Tribal ○ 3. Private ◉ 4. Other ○ if so, describe:		
Address of **owner** (if different from site):		Estate of Helen Mackin c/o Haddleton Associates		
Street: 251 South Street - PO Box 1298				
Town: Hyannis	State: MA	Zip: 02601	County: Barnstable	
c) Legal name of **operator:**	**Operator** telephone no: 802-257-1195			
ECS, Inc	**Operator** fax no.: 802-257-1603	**Operator** email: rgeisler@ecsconsult.com		
Operator contact name and title: Richard P. Geisler, LSP / Branch Manager				
Address of **operator** (if different from owner):	Street: 30 Harris Place			
Town: Brattleboro	State: VT	Zip: 05301	County: Windham	

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: RTN 1-18881
2. permit or license # assigned:
3. state agency contact information: name, location, and telephone number:

Mass Dept of Environmental Protection - Western Regional Office
436 Dwight Street
Springfield, MA 01103

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:

Discharge of treated groundwater from remediation system

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 0.02 Is maximum flow a **design value**? Y ⊙ N ○
Average flow (include units) 6 Gal / Minute Is average flow a design value or estimate? estimate

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

pt.1: lat	42° 35' 4.83"N	long	72° 36' 56.66"W	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 11/12/2012 end 11/12/2015

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). Figure 3 and other figures

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)		☐	☒	2	grab	2540	5 ug/L	13 ug/L			
2. Total Residual Chlorine (TRC)		☒	☐								
3. Total Petroleum Hydrocarbons (TPH)		☐	☒	2	grab	8100	122 ug/L	2.5 mg/L			
4. Cyanide (CN)	57125	☒	☐								
5. Benzene (B)	71432	☐	☒	6	grab	8260	5 ug/L	65 ug/L			
6. Toluene (T)	108883	☐	☒	6	grab	8260	5 ug/L	456 ug/L			
7. Ethylbenzene (E)	100414	☐	☒	6	grab	8260	5 ug/L	85.4 ug/L			
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☐	☒	6	grab	8260	10 ug/L	463 ug/L			
9. Total BTEX [2]	n/a	☐	☒	6	grab	8260		1069.4 ug/L			
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☐	☒	2	grab	8260	.01 ug/L	.012 ug/L			
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☐	☒	6	grab	8260	5 ug/L	8.05 ug/L			
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐								

* 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	☒	☐								
14. Naphthalene	91203	☐	☒	2	grab	8260	5 ug/L	60.8 ug/L			
15. Carbon Tetrachloride	56235	☒	☐								
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐								
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐								
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐								
18a. Total dichlorobenzene		☒	☐								
19. 1,1 Dichloroethane (DCA)	75343	☒	☐								
20. 1,2 Dichloroethane (DCA)	107062	☒	☐								
21. 1,1 Dichloroethene (DCE)	75354	☒	☐								
22. cis-1,2 Dichloroethene (DCE)	156592	☐	☒	6	grab	8260	70 ug/L	497 ug/L			
23. Methylene Chloride	75092	☒	☐								
24. Tetrachloroethene (PCE)	127184	☒	☐								
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐								
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐								
27. Trichloroethene (TCE)	79016	☐	☒	6	grab	8260	5 ug/L	83.3 ug/L			

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	☐	☒	6	grab	8260	5 ug/L	37.1 ug/L			
29. Acetone	67641	☒	☐								
30. 1,4 Dioxane	123911	☒	☐								
31. Total Phenols	108952	☒	☐								
32. Pentachlorophenol (PCP)	87865	☒	☐								
33. Total Phthalates (Phthalate esters) [4]		☒	☐								
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐								
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐								
a. Benzo(a) Anthracene	56553	☒	☐								
b. Benzo(a) Pyrene	50328	☒	☐								
c. Benzo(b)Fluoranthene	205992	☒	☐								
d. Benzo(k)Fluoranthene	207089	☒	☐								
e. Chrysene	21801	☒	☐								
f. Dibenzo(a,h)anthracene	53703	☒	☐								
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐								
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐								

[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	☒	☐								
i. Acenaphthylene	208968	☒	☐								
j. Anthracene	120127	☒	☐								
k. Benzo(ghi) Perylene	191242	☒	☐								
l. Fluoranthene	206440	☒	☐								
m. Fluorene	86737	☒	☐								
n. Naphthalene	91203	☒	☐								
o. Phenanthrene	85018	☒	☐								
p. Pyrene	129000	☒	☐								
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐								
38. Chloride	16887006	☒	☐								
39. Antimony	7440360	☒	☐								
40. Arsenic	7440382	☒	☐								
41. Cadmium	7440439	☒	☐								
42. Chromium III (trivalent)	16065831	☒	☐								
43. Chromium VI (hexavalent)	18540299	☒	☐								
44. Copper	7440508	☒	☐								
45. Lead	7439921	☒	☐								
46. Mercury	7439976	☒	☐								
47. Nickel	7440020	☒	☐								
48. Selenium	7782492	☒	☐								
49. Silver	7440224	☒	☐								
50. Zinc	7440666	☒	☐								
51. Iron	7439896	☐	☒	2	grab	8260	0.015 ug/L	0.392 ug/L			
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?
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: DF: 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:

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:

Based on equipment availability, the system will be composed of either: a rotary lobe blower, a cyclonic separator, oil-water separator, low profile stripper and two 500 pound liquid phase GAC units, vapor GAC and catalytic oxidation; or submersible pneumatic pumps, oil-water separator, particulate filters, a soil vapor extraction blower, air stripper and two 500 pound liquid phase GAC units

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 6 gpm Maximum flow rate of treatment system 10 -15 gpm
Design flow rate of treatment system 10 -15 gpm

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

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:
treated groundwater will discharge to the manhole in parking lot and flow to unnamed brook with eventual discharge to the Green 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 B

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 10.4 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)? fecal coliform

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.

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:	Shell Station
Operator signature:	
Printed Name &Title:	Richard P. Geisler - LSP, Branch Manager, Environmental Compliance Services
Date:	10/29/2012

ATTACHMENT II

LABORATORY REPORTS AND CHAIN OF CUSTODY RECORD

Report Date:
25-Oct-12 14:48

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Environmental Compliance Services
588 Silver Street
Agawam, MA 01001
Attn: Alicia Flammia

Project: 100 Mohawk Trail - Greenfield, MA
Project #: 94-205185.04

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB58074-01	SW-1	Surface Water	12-Oct-12 13:15	12-Oct-12 15:45
SB58074-02	SW-2	Surface Water	12-Oct-12 13:30	12-Oct-12 15:45
SB58074-03	Trip	Deionized Water	12-Oct-12 00:00	12-Oct-12 15:45

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 22 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 #:** 94-205185.04
Project Location: 100 Mohawk Trail - Greenfield, MA	**RTN:**
This form provides certifications for the following data set:	SB58074-01 through SB58074-03
Matrices: Deionized Water Surface 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

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

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

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

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

Nicole Leja
Laboratory Director
Date: 10/25/2012

CASE NARRATIVE:

The samples were received 0.5 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

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

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

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

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

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

SW846 8260C

Calibration:

1210050

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
Dibromochloromethane
Hexachlorobutadiene
Naphthalene

This affected the following samples:

1225974-BLK1
1225974-BS1
1225974-BSD1
S212821-ICV1
S213072-CCV1
SW-1
SW-2
Trip

Samples:

S213072-CCV1

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

1,4-Dioxane (-24.0%)
2-Hexanone (MBK) (-23.9%)

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

4-Methyl-2-pentanone (MIBK) (-23.8%)
Tert-Butanol / butyl alcohol (-20.8%)
Tetrahydrofuran (-22.3%)

SW846 8260C

Samples:

S213072-CCV1

This affected the following samples:

1225974-BLK1
1225974-BS1
1225974-BSD1
SW-1
SW-2
Trip

SB58074-01 *SW-1*

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

SB58074-02 *SW-2*

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

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-1	94-205185.04	Surface Water	12-Oct-12 13:15	12-Oct-12
SB58074-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00	D	µg/l	5.00	3.24	5	SW846 8260C	23-Oct-12	24-Oct-12	eq	1225974	
67-64-1	Acetone	< 50.0	D	µg/l	50.0	12.8	5	"	"	"	"	"	
107-13-1	Acrylonitrile	< 2.50	D	µg/l	2.50	2.30	5	"	"	"	"	"	
71-43-2	Benzene	**25.0**	D	µg/l	5.00	3.34	5	"	"	"	"	"	
108-86-1	Bromobenzene	< 5.00	D	µg/l	5.00	3.60	5	"	"	"	"	"	
74-97-5	Bromochloromethane	< 5.00	D	µg/l	5.00	3.55	5	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 2.50	D	µg/l	2.50	2.40	5	"	"	"	"	"	
75-25-2	Bromoform	< 5.00	D	µg/l	5.00	3.02	5	"	"	"	"	"	
74-83-9	Bromomethane	< 10.0	D	µg/l	10.0	5.70	5	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 50.0	D	µg/l	50.0	8.67	5	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 5.00	D	µg/l	5.00	2.81	5	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 5.00	D	µg/l	5.00	4.10	5	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 5.00	D	µg/l	5.00	3.72	5	"	"	"	"	"	
75-15-0	Carbon disulfide	< 10.0	D	µg/l	10.0	3.14	5	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 5.00	D	µg/l	5.00	2.74	5	"	"	"	"	"	
108-90-7	Chlorobenzene	< 5.00	D	µg/l	5.00	3.27	5	"	"	"	"	"	
75-00-3	Chloroethane	< 10.0	D	µg/l	10.0	5.16	5	"	"	"	"	"	
67-66-3	Chloroform	< 5.00	D	µg/l	5.00	3.44	5	"	"	"	"	"	
74-87-3	Chloromethane	< 10.0	D	µg/l	10.0	7.36	5	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 5.00	D	µg/l	5.00	3.96	5	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 5.00	D	µg/l	5.00	3.66	5	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0	D	µg/l	10.0	4.64	5	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 2.50	D	µg/l	2.50	1.44	5	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 2.50	D	µg/l	2.50	1.64	5	"	"	"	"	"	
74-95-3	Dibromomethane	< 5.00	D	µg/l	5.00	3.33	5	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.00	D	µg/l	5.00	3.34	5	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.00	D	µg/l	5.00	3.56	5	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.00	D	µg/l	5.00	3.12	5	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0	D	µg/l	10.0	2.24	5	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 5.00	D	µg/l	5.00	3.40	5	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 5.00	D	µg/l	5.00	3.90	5	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 5.00	D	µg/l	5.00	2.44	5	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	**5.05**	D	µg/l	5.00	3.58	5	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 5.00	D	µg/l	5.00	3.40	5	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 5.00	D	µg/l	5.00	3.56	5	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 5.00	D	µg/l	5.00	4.04	5	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 5.00	D	µg/l	5.00	3.02	5	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 5.00	D	µg/l	5.00	3.18	5	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 2.50	D	µg/l	2.50	1.26	5	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 2.50	D	µg/l	2.50	2.50	5	"	"	"	"	"	
100-41-4	Ethylbenzene	**24.6**	D	µg/l	5.00	3.66	5	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 2.50	D	µg/l	2.50	2.25	5	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 50.0	D	µg/l	50.0	2.72	5	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-1	94-205185.04	Surface Water	12-Oct-12 13:15	12-Oct-12
SB58074-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 5.00	D	µg/l	5.00	3.10	5	SW846 8260C	23-Oct-12	24-Oct-12	eq	1225974	
99-87-6	4-Isopropyltoluene	< 5.00	D	µg/l	5.00	3.04	5	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	**6.85**	D	µg/l	5.00	3.26	5	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 50.0	D	µg/l	50.0	4.66	5	"	"	"	"	"	
75-09-2	Methylene chloride	< 10.0	D	µg/l	10.0	3.45	5	"	"	"	"	"	
91-20-3	Naphthalene	**34.2**	D	µg/l	5.00	1.66	5	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 5.00	D	µg/l	5.00	3.79	5	"	"	"	"	"	
100-42-5	Styrene	< 5.00	D	µg/l	5.00	3.08	5	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 5.00	D	µg/l	5.00	3.13	5	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 2.50	D	µg/l	2.50	1.74	5	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 5.00	D	µg/l	5.00	3.72	5	"	"	"	"	"	
108-88-3	Toluene	**182**	D	µg/l	5.00	4.06	5	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 5.00	D	µg/l	5.00	1.88	5	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.00	D	µg/l	5.00	1.80	5	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 5.00	D	µg/l	5.00	3.92	5	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.00	D	µg/l	5.00	2.91	5	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 5.00	D	µg/l	5.00	3.21	5	"	"	"	"	"	
79-01-6	Trichloroethene	< 5.00	D	µg/l	5.00	3.78	5	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00	D	µg/l	5.00	3.14	5	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 5.00	D	µg/l	5.00	3.68	5	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	**77.1**	D	µg/l	5.00	3.78	5	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	**31.1**	D	µg/l	5.00	3.72	5	"	"	"	"	"	
75-01-4	Vinyl chloride	< 5.00	D	µg/l	5.00	4.04	5	"	"	"	"	"	
179601-23-1	m,p-Xylene	**142**	D	µg/l	10.0	8.20	5	"	"	"	"	"	
95-47-6	o-Xylene	**106**	D	µg/l	5.00	4.41	5	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 10.0	D	µg/l	10.0	7.21	5	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.00	D	µg/l	5.00	3.46	5	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 5.00	D	µg/l	5.00	3.60	5	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 5.00	D	µg/l	5.00	3.91	5	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 5.00	D	µg/l	5.00	3.64	5	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 50.0	D	µg/l	50.0	43.2	5	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 100	D	µg/l	100	70.1	5	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-butene	< 25.0	D	µg/l	25.0	3.84	5	"	"	"	"	"	
64-17-5	Ethanol	< 2000	D	µg/l	2000	178	5	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*100*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*97*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*99*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*70-130 %*			"	"	"	"	"	
Microextractable Organic Compounds													
106-93-4	1,2-Dibromoethane (EDB)	**0.0120**		µg/l	0.0100	0.00740	1	EPA 504.1	16-Oct-12	16-Oct-12	DS	1225186	
Extractable Petroleum Hydrocarbons													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-1	94-205185.04	Surface Water	12-Oct-12 13:15	12-Oct-12
SB58074-01				

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	**Calculated as**		mg/l	0.2	0.2	1	SW846 8100Mod.	20-Oct-12	22-Oct-12	SEW	1225745	
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	0.06	1	"	"	"	"	"	
J00100000	Aviation Fuel	< 0.2		mg/l	0.2	0.06	1	"	"	"	"	"	
	Hydraulic Oil	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"	
	Dielectric Fluid	< 0.2		mg/l	0.2	0.06	1	"	"	"	"	"	
	Unidentified	**2.1**		mg/l	0.2	0.06	1	"	"	"	"	"	
	Other Oil	**Calculated as**		mg/l	0.2	0.02	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	**2.1**		mg/l	0.2	0.02	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*55*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Field Preserved**		N/A			1	EPA 200/6000 methods			AMT	1225520	
Soluble Metals by EPA 200/6000 Series Methods													
	Filtration	**Lab Filtered**		N/A			1	EPA 200.7/3005A/6010	12-Oct-12 16:30	12-Oct-12 16:30	JS	1224975	
Soluble Metals by EPA 200 Series Methods													
7439-89-6	Iron	**0.353**		mg/l	0.0150	0.0056	1	EPA 200.7	23-Oct-12	25-Oct-12	LR	1225931	X
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0045	1	"	"	"	"	"	X
General Chemistry Parameters													
	Hardness	**90.1**		mg/l CaCO3	0.291	0.0979	1	SM 2340B	23-Oct-12	25-Oct-12	LR	1225931	X
	Total Suspended Solids	**13**		mg/l	5	2	1	SM2540D	16-Oct-12	17-Oct-12	BD	1225243	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-2	94-205185.04	Surface Water	12-Oct-12 13:30	12-Oct-12
SB58074-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 5.00	D	µg/l	5.00	3.24	5	SW846 8260C	23-Oct-12	24-Oct-12	eq	1225974	
67-64-1	Acetone	< 50.0	D	µg/l	50.0	12.8	5	"	"	"	"	"	
107-13-1	Acrylonitrile	< 2.50	D	µg/l	2.50	2.30	5	"	"	"	"	"	
71-43-2	Benzene	**65.0**	D	µg/l	5.00	3.34	5	"	"	"	"	"	
108-86-1	Bromobenzene	< 5.00	D	µg/l	5.00	3.60	5	"	"	"	"	"	
74-97-5	Bromochloromethane	< 5.00	D	µg/l	5.00	3.55	5	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 2.50	D	µg/l	2.50	2.40	5	"	"	"	"	"	
75-25-2	Bromoform	< 5.00	D	µg/l	5.00	3.02	5	"	"	"	"	"	
74-83-9	Bromomethane	< 10.0	D	µg/l	10.0	5.70	5	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 50.0	D	µg/l	50.0	8.67	5	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 5.00	D	µg/l	5.00	2.81	5	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 5.00	D	µg/l	5.00	4.10	5	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 5.00	D	µg/l	5.00	3.72	5	"	"	"	"	"	
75-15-0	Carbon disulfide	< 10.0	D	µg/l	10.0	3.14	5	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 5.00	D	µg/l	5.00	2.74	5	"	"	"	"	"	
108-90-7	Chlorobenzene	< 5.00	D	µg/l	5.00	3.27	5	"	"	"	"	"	
75-00-3	Chloroethane	< 10.0	D	µg/l	10.0	5.16	5	"	"	"	"	"	
67-66-3	Chloroform	< 5.00	D	µg/l	5.00	3.44	5	"	"	"	"	"	
74-87-3	Chloromethane	< 10.0	D	µg/l	10.0	7.36	5	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 5.00	D	µg/l	5.00	3.96	5	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 5.00	D	µg/l	5.00	3.66	5	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 10.0	D	µg/l	10.0	4.64	5	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 2.50	D	µg/l	2.50	1.44	5	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 2.50	D	µg/l	2.50	1.64	5	"	"	"	"	"	
74-95-3	Dibromomethane	< 5.00	D	µg/l	5.00	3.33	5	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 5.00	D	µg/l	5.00	3.34	5	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 5.00	D	µg/l	5.00	3.56	5	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 5.00	D	µg/l	5.00	3.12	5	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 10.0	D	µg/l	10.0	2.24	5	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 5.00	D	µg/l	5.00	3.40	5	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 5.00	D	µg/l	5.00	3.90	5	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 5.00	D	µg/l	5.00	2.44	5	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	**9.40**	D	µg/l	5.00	3.58	5	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 5.00	D	µg/l	5.00	3.40	5	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 5.00	D	µg/l	5.00	3.56	5	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 5.00	D	µg/l	5.00	4.04	5	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 5.00	D	µg/l	5.00	3.02	5	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 5.00	D	µg/l	5.00	3.18	5	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 2.50	D	µg/l	2.50	1.26	5	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 2.50	D	µg/l	2.50	2.50	5	"	"	"	"	"	
100-41-4	Ethylbenzene	**85.4**	D	µg/l	5.00	3.66	5	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 2.50	D	µg/l	2.50	2.25	5	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 50.0	D	µg/l	50.0	2.72	5	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-2	94-205185.04	Surface Water	12-Oct-12 13:30	12-Oct-12
SB58074-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 5.00	D	µg/l	5.00	3.10	5	SW846 8260C	23-Oct-12	24-Oct-12	eq	1225974	
99-87-6	4-Isopropyltoluene	< 5.00	D	µg/l	5.00	3.04	5	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	**8.05**	D	µg/l	5.00	3.26	5	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 50.0	D	µg/l	50.0	4.66	5	"	"	"	"	"	
75-09-2	Methylene chloride	< 10.0	D	µg/l	10.0	3.45	5	"	"	"	"	"	
91-20-3	Naphthalene	**60.8**	D	µg/l	5.00	1.66	5	"	"	"	"	"	
103-65-1	n-Propylbenzene	**15.6**	D	µg/l	5.00	3.79	5	"	"	"	"	"	
100-42-5	Styrene	< 5.00	D	µg/l	5.00	3.08	5	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 5.00	D	µg/l	5.00	3.13	5	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 2.50	D	µg/l	2.50	1.74	5	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 5.00	D	µg/l	5.00	3.72	5	"	"	"	"	"	
108-88-3	Toluene	**456**	D	µg/l	5.00	4.06	5	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 5.00	D	µg/l	5.00	1.88	5	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 5.00	D	µg/l	5.00	1.80	5	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 5.00	D	µg/l	5.00	3.92	5	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 5.00	D	µg/l	5.00	2.91	5	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 5.00	D	µg/l	5.00	3.21	5	"	"	"	"	"	
79-01-6	Trichloroethene	< 5.00	D	µg/l	5.00	3.78	5	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 5.00	D	µg/l	5.00	3.14	5	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 5.00	D	µg/l	5.00	3.68	5	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	**167**	D	µg/l	5.00	3.78	5	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	**40.4**	D	µg/l	5.00	3.72	5	"	"	"	"	"	
75-01-4	Vinyl chloride	< 5.00	D	µg/l	5.00	4.04	5	"	"	"	"	"	
179601-23-1	m,p-Xylene	**293**	D	µg/l	10.0	8.20	5	"	"	"	"	"	
95-47-6	o-Xylene	**170**	D	µg/l	5.00	4.41	5	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 10.0	D	µg/l	10.0	7.21	5	"	"	"	"	"	
60-29-7	Ethyl ether	< 5.00	D	µg/l	5.00	3.46	5	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 5.00	D	µg/l	5.00	3.60	5	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 5.00	D	µg/l	5.00	3.91	5	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 5.00	D	µg/l	5.00	3.64	5	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 50.0	D	µg/l	50.0	43.2	5	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 100	D	µg/l	100	70.1	5	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-butene	< 25.0	D	µg/l	25.0	3.84	5	"	"	"	"	"	
64-17-5	Ethanol	< 2000	D	µg/l	2000	178	5	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*99*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*97*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*98*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*99*			*70-130 %*			"	"	"	"	"	
Microextractable Organic Compounds													
106-93-4	1,2-Dibromoethane (EDB)	**0.0110**		µg/l	0.0100	0.00740	1	EPA 504.1	16-Oct-12	16-Oct-12	DS	1225186	
Extractable Petroleum Hydrocarbons													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SW-2 SB58074-02	94-205185.04	Surface Water	12-Oct-12 13:30	12-Oct-12

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	**2.5**		mg/l	0.2	0.2	1	SW846 8100Mod.	20-Oct-12	22-Oct-12	SEW	1225745	
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	**2.5**		mg/l	0.2	0.02	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*66*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Field Preserved**		N/A			1	EPA 200/6000 methods			AMT	1225520	
Soluble Metals by EPA 200/6000 Series Methods													
	Filtration	**Lab Filtered**		N/A			1	EPA 200.7/3005A/6010	12-Oct-12 16:30	12-Oct-12 16:30	JS	1224975	
Soluble Metals by EPA 200 Series Methods													
7439-89-6	Iron	**0.392**		mg/l	0.0150	0.0056	1	EPA 200.7	23-Oct-12	25-Oct-12	LR	1225931	X
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0045	1	"	"	"	"	"	X
General Chemistry Parameters													
	Hardness	**86.4**		mg/l CaCO3	0.291	0.0979	1	SM 2340B	23-Oct-12	25-Oct-12	LR	1225931	X
	Total Suspended Solids	< 5		mg/l	5	2	1	SM2540D	16-Oct-12	17-Oct-12	BD	1225243	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip	94-205185.04	Deionized Water	12-Oct-12 00:00	12-Oct-12
SB58074-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds													
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	23-Oct-12	24-Oct-12	eq	1225974	
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
Trip	94-205185.04	Deionized Water	12-Oct-12 00:00	12-Oct-12
SB58074-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.62	1	SW846 8260C	23-Oct-12	24-Oct-12	eq	1225974	
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*	*104*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*97*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*70-130 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225974 - SW846 5030 Water MS										
Blank (1225974-BLK1)					Prepared & Analyzed: 23-Oct-12					
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 1225974 - SW846 5030 Water MS										
Blank (1225974-BLK1)					Prepared & Analyzed: 23-Oct-12					
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	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*28.8*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: Dibromofluoromethane	*30.0*		µg/l		*30.0*		*100*	*70-130*		
LCS (1225974-BS1)					Prepared & Analyzed: 23-Oct-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**19.8**		µg/l		20.0		99	70-130		
Acetone	**18.6**		µg/l		20.0		93	70-130		
Acrylonitrile	**17.4**		µg/l		20.0		87	70-130		
Benzene	**19.3**		µg/l		20.0		97	70-130		
Bromobenzene	**19.0**		µg/l		20.0		95	70-130		
Bromochloromethane	**19.3**		µg/l		20.0		96	70-130		
Bromodichloromethane	**20.3**		µg/l		20.0		102	70-130		
Bromoform	**19.8**		µg/l		20.0		99	70-130		
Bromomethane	**17.1**		µg/l		20.0		86	70-130		
2-Butanone (MEK)	**16.9**		µg/l		20.0		84	70-130		
n-Butylbenzene	**18.9**		µg/l		20.0		94	70-130		
sec-Butylbenzene	**19.2**		µg/l		20.0		96	70-130		
tert-Butylbenzene	**19.6**		µg/l		20.0		98	70-130		
Carbon disulfide	**18.2**		µg/l		20.0		91	70-130		
Carbon tetrachloride	**20.1**		µg/l		20.0		101	70-130		
Chlorobenzene	**19.2**		µg/l		20.0		96	70-130		
Chloroethane	**18.7**		µg/l		20.0		94	70-130		
Chloroform	**18.3**		µg/l		20.0		92	70-130		
Chloromethane	**17.0**		µg/l		20.0		85	70-130		
2-Chlorotoluene	**18.6**		µg/l		20.0		93	70-130		
4-Chlorotoluene	**18.6**		µg/l		20.0		93	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225974 - SW846 5030 Water MS										
LCS (1225974-BS1)					Prepared & Analyzed: 23-Oct-12					
1,2-Dibromo-3-chloropropane	**18.6**		µg/l		20.0		93	70-130		
Dibromochloromethane	**19.7**		µg/l		20.0		99	70-130		
1,2-Dibromoethane (EDB)	**19.0**		µg/l		20.0		95	70-130		
Dibromomethane	**18.9**		µg/l		20.0		95	70-130		
1,2-Dichlorobenzene	**19.7**		µg/l		20.0		98	70-130		
1,3-Dichlorobenzene	**18.6**		µg/l		20.0		93	70-130		
1,4-Dichlorobenzene	**19.2**		µg/l		20.0		96	70-130		
Dichlorodifluoromethane (Freon12)	**17.1**		µg/l		20.0		85	70-130		
1,1-Dichloroethane	**19.2**		µg/l		20.0		96	70-130		
1,2-Dichloroethane	**18.2**		µg/l		20.0		91	70-130		
1,1-Dichloroethene	**19.5**		µg/l		20.0		97	70-130		
cis-1,2-Dichloroethene	**19.1**		µg/l		20.0		96	70-130		
trans-1,2-Dichloroethene	**19.0**		µg/l		20.0		95	70-130		
1,2-Dichloropropane	**19.3**		µg/l		20.0		96	70-130		
1,3-Dichloropropane	**18.6**		µg/l		20.0		93	70-130		
2,2-Dichloropropane	**20.5**		µg/l		20.0		102	70-130		
1,1-Dichloropropene	**18.9**		µg/l		20.0		94	70-130		
cis-1,3-Dichloropropene	**20.5**		µg/l		20.0		102	70-130		
trans-1,3-Dichloropropene	**20.7**		µg/l		20.0		104	70-130		
Ethylbenzene	**19.8**		µg/l		20.0		99	70-130		
Hexachlorobutadiene	**22.2**		µg/l		20.0		111	70-130		
2-Hexanone (MBK)	**15.8**		µg/l		20.0		79	70-130		
Isopropylbenzene	**18.5**		µg/l		20.0		92	70-130		
4-Isopropyltoluene	**20.7**		µg/l		20.0		103	70-130		
Methyl tert-butyl ether	**18.5**		µg/l		20.0		92	70-130		
4-Methyl-2-pentanone (MIBK)	**15.9**		µg/l		20.0		79	70-130		
Methylene chloride	**19.8**		µg/l		20.0		99	70-130		
Naphthalene	**17.4**		µg/l		20.0		87	70-130		
n-Propylbenzene	**19.0**		µg/l		20.0		95	70-130		
Styrene	**19.5**		µg/l		20.0		98	70-130		
1,1,1,2-Tetrachloroethane	**21.1**		µg/l		20.0		106	70-130		
1,1,2,2-Tetrachloroethane	**17.7**		µg/l		20.0		89	70-130		
Tetrachloroethene	**19.5**		µg/l		20.0		98	70-130		
Toluene	**19.1**		µg/l		20.0		96	70-130		
1,2,3-Trichlorobenzene	**18.2**		µg/l		20.0		91	70-130		
1,2,4-Trichlorobenzene	**19.1**		µg/l		20.0		96	70-130		
1,3,5-Trichlorobenzene	**19.1**		µg/l		20.0		95	70-130		
1,1,1-Trichloroethane	**19.6**		µg/l		20.0		98	70-130		
1,1,2-Trichloroethane	**19.3**		µg/l		20.0		96	70-130		
Trichloroethene	**18.5**		µg/l		20.0		93	70-130		
Trichlorofluoromethane (Freon 11)	**18.6**		µg/l		20.0		93	70-130		
1,2,3-Trichloropropane	**17.0**		µg/l		20.0		85	70-130		
1,2,4-Trimethylbenzene	**19.8**		µg/l		20.0		99	70-130		
1,3,5-Trimethylbenzene	**19.5**		µg/l		20.0		98	70-130		
Vinyl chloride	**16.5**		µg/l		20.0		82	70-130		
m,p-Xylene	**37.9**		µg/l		40.0		95	70-130		
o-Xylene	**19.0**		µg/l		20.0		95	70-130		
Tetrahydrofuran	**15.8**		µg/l		20.0		79	70-130		
Ethyl ether	**19.2**		µg/l		20.0		96	70-130		
Tert-amyl methyl ether	**18.3**		µg/l		20.0		92	70-130		
Ethyl tert-butyl ether	**19.1**		µg/l		20.0		96	70-130		
Di-isopropyl ether	**19.4**		µg/l		20.0		97	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225974 - SW846 5030 Water MS										
LCS (1225974-BS1)						Prepared & Analyzed: 23-Oct-12				
Tert-Butanol / butyl alcohol	**153**		µg/l		200		77	70-130		
1,4-Dioxane	**160**		µg/l		200		80	70-130		
trans-1,4-Dichloro-2-butene	**18.6**		µg/l		20.0		93	70-130		
Ethanol	**326**		µg/l		400		81	70-130		
Surrogate: 4-Bromofluorobenzene	*28.3*		µg/l		*30.0*		*94*	*70-130*		
Surrogate: Toluene-d8	*30.0*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*29.1*		µg/l		*30.0*		*97*	*70-130*		
Surrogate: Dibromofluoromethane	*29.7*		µg/l		*30.0*		*99*	*70-130*		
LCS Dup (1225974-BSD1)						Prepared & Analyzed: 23-Oct-12				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**17.4**		µg/l		20.0		87	70-130	13	20
Acetone	**18.5**		µg/l		20.0		92	70-130	0.4	20
Acrylonitrile	**16.6**		µg/l		20.0		83	70-130	5	20
Benzene	**18.5**		µg/l		20.0		93	70-130	4	20
Bromobenzene	**18.6**		µg/l		20.0		93	70-130	2	20
Bromochloromethane	**18.8**		µg/l		20.0		94	70-130	3	20
Bromodichloromethane	**19.8**		µg/l		20.0		99	70-130	2	20
Bromoform	**19.9**		µg/l		20.0		100	70-130	0.9	20
Bromomethane	**16.8**		µg/l		20.0		84	70-130	2	20
2-Butanone (MEK)	**16.7**		µg/l		20.0		84	70-130	1	20
n-Butylbenzene	**18.5**		µg/l		20.0		92	70-130	2	20
sec-Butylbenzene	**18.5**		µg/l		20.0		93	70-130	3	20
tert-Butylbenzene	**19.0**		µg/l		20.0		95	70-130	3	20
Carbon disulfide	**17.2**		µg/l		20.0		86	70-130	6	20
Carbon tetrachloride	**18.7**		µg/l		20.0		93	70-130	7	20
Chlorobenzene	**18.5**		µg/l		20.0		93	70-130	4	20
Chloroethane	**17.3**		µg/l		20.0		87	70-130	8	20
Chloroform	**17.7**		µg/l		20.0		89	70-130	3	20
Chloromethane	**16.0**		µg/l		20.0		80	70-130	6	20
2-Chlorotoluene	**18.0**		µg/l		20.0		90	70-130	4	20
4-Chlorotoluene	**18.2**		µg/l		20.0		91	70-130	2	20
1,2-Dibromo-3-chloropropane	**18.3**		µg/l		20.0		92	70-130	1	20
Dibromochloromethane	**19.0**		µg/l		20.0		95	70-130	4	20
1,2-Dibromoethane (EDB)	**18.5**		µg/l		20.0		93	70-130	3	20
Dibromomethane	**18.6**		µg/l		20.0		93	70-130	2	20
1,2-Dichlorobenzene	**19.6**		µg/l		20.0		98	70-130	0.6	20
1,3-Dichlorobenzene	**18.1**		µg/l		20.0		90	70-130	3	20
1,4-Dichlorobenzene	**18.6**		µg/l		20.0		93	70-130	3	20
Dichlorodifluoromethane (Freon12)	**15.2**		µg/l		20.0		76	70-130	12	20
1,1-Dichloroethane	**18.3**		µg/l		20.0		92	70-130	5	20
1,2-Dichloroethane	**17.7**		µg/l		20.0		88	70-130	3	20
1,1-Dichloroethene	**18.6**		µg/l		20.0		93	70-130	5	20
cis-1,2-Dichloroethene	**18.8**		µg/l		20.0		94	70-130	2	20
trans-1,2-Dichloroethene	**18.3**		µg/l		20.0		92	70-130	3	20
1,2-Dichloropropane	**18.8**		µg/l		20.0		94	70-130	3	20
1,3-Dichloropropane	**18.2**		µg/l		20.0		91	70-130	2	20
2,2-Dichloropropane	**19.0**		µg/l		20.0		95	70-130	8	20
1,1-Dichloropropene	**17.8**		µg/l		20.0		89	70-130	6	20
cis-1,3-Dichloropropene	**20.3**		µg/l		20.0		102	70-130	0.6	20
trans-1,3-Dichloropropene	**20.7**		µg/l		20.0		103	70-130	0.1	20
Ethylbenzene	**19.0**		µg/l		20.0		95	70-130	4	20
Hexachlorobutadiene	**22.7**		µg/l		20.0		114	70-130	2	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225974 - SW846 5030 Water MS										
LCS Dup (1225974-BSD1)					Prepared & Analyzed: 23-Oct-12					
2-Hexanone (MBK)	**15.4**		µg/l		20.0		77	70-130	3	20
Isopropylbenzene	**17.8**		µg/l		20.0		89	70-130	4	20
4-Isopropyltoluene	**20.0**		µg/l		20.0		100	70-130	3	20
Methyl tert-butyl ether	**18.0**		µg/l		20.0		90	70-130	3	20
4-Methyl-2-pentanone (MIBK)	**15.7**		µg/l		20.0		78	70-130	1	20
Methylene chloride	**18.6**		µg/l		20.0		93	70-130	6	20
Naphthalene	**17.9**		µg/l		20.0		90	70-130	3	20
n-Propylbenzene	**18.3**		µg/l		20.0		91	70-130	4	20
Styrene	**19.3**		µg/l		20.0		96	70-130	1	20
1,1,1,2-Tetrachloroethane	**21.0**		µg/l		20.0		105	70-130	0.4	20
1,1,2,2-Tetrachloroethane	**17.8**		µg/l		20.0		89	70-130	0.6	20
Tetrachloroethene	**18.1**		µg/l		20.0		90	70-130	8	20
Toluene	**18.2**		µg/l		20.0		91	70-130	5	20
1,2,3-Trichlorobenzene	**19.0**		µg/l		20.0		95	70-130	4	20
1,2,4-Trichlorobenzene	**19.4**		µg/l		20.0		97	70-130	2	20
1,3,5-Trichlorobenzene	**18.6**		µg/l		20.0		93	70-130	2	20
1,1,1-Trichloroethane	**18.7**		µg/l		20.0		94	70-130	5	20
1,1,2-Trichloroethane	**18.4**		µg/l		20.0		92	70-130	4	20
Trichloroethene	**18.0**		µg/l		20.0		90	70-130	3	20
Trichlorofluoromethane (Freon 11)	**16.8**		µg/l		20.0		84	70-130	10	20
1,2,3-Trichloropropane	**16.6**		µg/l		20.0		83	70-130	2	20
1,2,4-Trimethylbenzene	**19.5**		µg/l		20.0		97	70-130	2	20
1,3,5-Trimethylbenzene	**18.9**		µg/l		20.0		95	70-130	3	20
Vinyl chloride	**15.6**		µg/l		20.0		78	70-130	5	20
m,p-Xylene	**36.7**		µg/l		40.0		92	70-130	3	20
o-Xylene	**18.5**		µg/l		20.0		93	70-130	2	20
Tetrahydrofuran	**15.8**		µg/l		20.0		79	70-130	0.4	20
Ethyl ether	**18.1**		µg/l		20.0		91	70-130	6	20
Tert-amyl methyl ether	**17.6**		µg/l		20.0		88	70-130	4	20
Ethyl tert-butyl ether	**18.8**		µg/l		20.0		94	70-130	1	20
Di-isopropyl ether	**19.1**		µg/l		20.0		95	70-130	2	20
Tert-Butanol / butyl alcohol	**150**		µg/l		200		75	70-130	2	20
1,4-Dioxane	**147**		µg/l		200		73	70-130	8	20
trans-1,4-Dichloro-2-butene	**18.9**		µg/l		20.0		94	70-130	1	20
Ethanol	**308**		µg/l		400		77	70-130	6	20
Surrogate: 4-Bromofluorobenzene	*28.7*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*28.2*		µg/l		*30.0*		*94*	*70-130*		
Surrogate: Dibromofluoromethane	*30.9*		µg/l		*30.0*		*103*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225186 - General Preparation SVOC										
Blank (1225186-BLK1)						Prepared & Analyzed: 16-Oct-12				
1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100						
LCS (1225186-BS1)						Prepared & Analyzed: 16-Oct-12				
1,2-Dibromoethane (EDB)	**0.212**		µg/l	0.0100	0.200		106	50-150		
LCS Dup (1225186-BSD1)						Prepared & Analyzed: 16-Oct-12				
1,2-Dibromoethane (EDB)	**0.224**		µg/l	0.0100	0.200		112	50-150	6	50

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225745 - SW846 3510C										
Blank (1225745-BLK1)						Prepared: 20-Oct-12 Analyzed: 22-Oct-12				
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	*0.0457*		mg/l		*0.0500*		*91*	*40-140*		
LCS (1225745-BS2)						Prepared: 20-Oct-12 Analyzed: 22-Oct-12				
Fuel Oil #2	**9.2**		mg/l	0.2	10.0		92	40-140		
Surrogate: 1-Chlorooctadecane	*0.0441*		mg/l		*0.0500*		*88*	*40-140*		

Soluble Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225931 - EPA 200 Series										
Blank (1225931-BLK1)					Prepared: 23-Oct-12 Analyzed: 25-Oct-12					
Iron	< 0.0150		mg/l	0.0150						
Lead	< 0.0075		mg/l	0.0075						
LCS (1225931-BS1)					Prepared: 23-Oct-12 Analyzed: 25-Oct-12					
Iron	**1.24**		mg/l	0.0150	1.25		99	85-115		
Lead	**1.20**		mg/l	0.0075	1.25		96	85-115		
Duplicate (1225931-DUP1)			**Source: SB58074-02**		Prepared: 23-Oct-12 Analyzed: 25-Oct-12					
Lead	< 0.0075		mg/l	0.0075		BRL				20
Iron	**0.421**		mg/l	0.0150		0.392			7	20
Matrix Spike (1225931-MS1)			**Source: SB58074-02**		Prepared: 23-Oct-12 Analyzed: 25-Oct-12					
Iron	**1.64**		mg/l	0.0150	1.25	0.392	100	70-130		
Lead	**1.20**		mg/l	0.0075	1.25	BRL	96	70-130		
Post Spike (1225931-PS1)			**Source: SB58074-02**		Prepared: 23-Oct-12 Analyzed: 25-Oct-12					
Lead	**1.28**		mg/l	0.0075	1.25	BRL	102	85-115		
Iron	**1.66**		mg/l	0.0150	1.25	0.392	101	85-115		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1225243 - General Preparation										
Blank (1225243-BLK1)						Prepared: 16-Oct-12	Analyzed: 17-Oct-12			
Total Suspended Solids	< 5		mg/l	5						
LCS (1225243-BS1)						Prepared: 16-Oct-12	Analyzed: 17-Oct-12			
Total Suspended Solids	**104**		mg/l	10	100		104	90-110		
Batch 1225931 - EPA 200 Series										
Blank (1225931-BLK1)						Prepared: 23-Oct-12	Analyzed: 25-Oct-12			
Hardness	< 0.291		mg/l CaCO3	0.291						
LCS (1225931-BS1)						Prepared: 23-Oct-12	Analyzed: 25-Oct-12			
Hardness	**21.3**		mg/l CaCO3	0.291	20.8		102	85-115		
Duplicate (1225931-DUP1)			**Source: SB58074-02**			Prepared: 23-Oct-12	Analyzed: 25-Oct-12			
Hardness	**90.3**		mg/l CaCO3	0.291		86.4			4	20
Matrix Spike (1225931-MS1)			**Source: SB58074-02**			Prepared: 23-Oct-12	Analyzed: 25-Oct-12			
Hardness	**112**		mg/l CaCO3	0.291	20.8	86.4	123	70-130		
Post Spike (1225931-PS1)			**Source: SB58074-02**			Prepared: 23-Oct-12	Analyzed: 25-Oct-12			
Hardness	**101**	QM9	mg/l CaCO3	0.291	20.8	86.4	68	85-115		

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
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

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:
Nicole Leja

SB58074 GW

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 Agawam

Telephone #:

Project Mgr. Alicia Flammia

Invoice To: Same

P.O. No.: _____ RQN: _____

Project No.: 94-205185.04

Site Name: 100 Mohawk Trail

Location: Greenfield State: MA

Sampler(s): Sarah S.

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= _____ 11= Ice

List preservative code below: 4/11 | 1/11 | 11 | 2/11 | 11 | 11 | 3/11

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= DI X2= _____ X3= _____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: Hardness	EDB	TSS	TPH	*Lead (200.7)	*Iron	VOC	
58074 01	SW-1	10/12/12	1:15	G	SW	5	1		4	X	X	X	X	X	X	X	*Please lab filter lead and Iron
02	SW-2	↓	1:30	G	SW	5	1		4	X	X	X	X	X	X	X	
03	Trip	↓	AM		XI	1										X	

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 V*
- [ ] Other _____

State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp°C
		10/12/12	15:45	0.5

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

- [ ] Ambient [x] Iced [ ] Refrigerated [ ] Fridge temp ____ °C [ ] Freezer temp ____ °C

SB58074 Ex

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 Agawam

Invoice To: Same

Project No.: 94-205185.04

Site Name: 100 Mohawk Trail

Location: Greenfield State: MA

Telephone #:

Project Mgr. Alicia Flammia

P.O. No.: RQN:

Sampler(s): Sarah S.

1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8=$NaHSO_4$ 9= Deionized Water 10= 11= Ice

List preservative code below: 4/11 | 1/11 | 11 | 2/11 | 11 | 11 | 3/11

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

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: Hardness	EDB	TSS	TPH 8100	Lead (200.7)	Iron *	VOC
SB58074-01	SW-1	10/12/12	1:15	G	SW	5	1		4	X	X	X	X	X	X	X
02	SW-2	↓	1:30	G	SW	5	1		4	X	X	X	X	X	X	X
03	Trip	↓	AM		XI	1										X

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 V*
- [ ] Other

State-specific reporting standards:

*Please lab filter lead and Iron

TPH 8100 per client request

Relinquished by:	Received by:	Date:	Time:	Temp°C
		10/12/12	15:45	0.5

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

- [ ] Ambient [x] Iced [ ] Refrigerated [ ] Fridge temp ___ °C [ ] Freezer temp ___ °C

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

11 Almgren Drive
Agawam, MA 01001
(413) 789-9018

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

Laboratory ID	*Client ID*	*Analysis*	*Added*
SB58074-01	SW-1	Fingerprinting by GC	10/15/2012
SB58074-02	SW-2	Fingerprinting by GC	10/15/2012

Report Date:
19-Apr-12 14:05

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Environmental Compliance Services
30 Harris PlaceAlex
Brattleboro, VT 05301
Attn: Alicia Flammia

Project: 100 Mohawk Trail - Greenfield, MA
Project #: 04-205185.03

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB47144-01	Trip	Deionized Water	11-Apr-12 10:00	12-Apr-12 16:10
SB47144-02	MW-1	Ground Water	11-Apr-12 14:45	12-Apr-12 16:10
SB47144-03	MW-3	Ground Water	11-Apr-12 12:15	12-Apr-12 16:10
SB47144-04	MW-4	Ground Water	11-Apr-12 13:12	12-Apr-12 16:10
SB47144-05	MW-5	Ground Water	11-Apr-12 14:00	12-Apr-12 16:10

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 note that this report contains 26 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from 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).

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

Matrices	Deionized Water 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 ✓ Other: 1.2ºC		

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

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

Matrices	Ground Water
Containers	✓ Satisfactory
Aqueous Preservative	N/A ✓ pH≤2 pH>2 pH adjusted to <2 in lab
Temperature	Received on ice Received at 4 ± 2 ºC ✓ Other: 1.2ºC

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

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

Authorized by:

Nicole Leja
Laboratory Director

MassDEP Analytical Protocol Certification Form

Laboratory Name: Spectrum Analytical, Inc.	**Project #:** 04-205185.03
Project Location: 100 Mohawk Trail - Greenfield, MA	**RTN:**
This form provides certifications for the following data set:	SB47144-01 through SB47144-05
Matrices: Deionized Water 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

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

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

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

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

Nicole Leja
Laboratory Director
Date: 4/19/2012

CASE NARRATIVE:

The samples were received 1.2 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

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

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

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

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

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

MADEP EPH 5/2004 R

Laboratory Control Samples:

1208630 BSD

Anthracene RPD 29% (25%) is outside individual acceptance criteria, but within overall method allowances.

1208630-BSD2

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

Anthracene
n-Decane
n-Nonane (C9)

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip	04-205185.03	Deionized Water	11-Apr-12 10:00	12-Apr-12
SB47144-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
VPH Aliphatic/Aromatic Carbon Ranges													
Prepared by method VPH - EPA 5030B													
	C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	5.55	1	MADEP VPH 5/2004 Rev. 1.1	17-Apr-12	17-Apr-12	mp	1208628	
	C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	4.22	1	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 25.0		µg/l	25.0	1.12	1	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	7.10	1	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	4.68	1	"	"	"	"	"	
VPH Target Analytes													
Prepared by method VPH - EPA 5030B													
71-43-2	Benzene	< 5.0		µg/l	5.0	1.3	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.0		µg/l	5.0	1.4	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.0		µg/l	5.0	1.6	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.0		µg/l	5.0	1.2	1	"	"	"	"	"	
108-88-3	Toluene	< 5.0		µg/l	5.0	1.3	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0		µg/l	10.0	2.8	1	"	"	"	"	"	
95-47-6	o-Xylene	< 5.0		µg/l	5.0	1.1	1	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*99*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*99*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-1	04-205185.03	Ground Water	11-Apr-12 14:45	12-Apr-12
SB47144-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
VPH Aliphatic/Aromatic Carbon Ranges													
Prepared by method VPH - EPA 5030B													
	C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	5.55	5	MADEP VPH 5/2004 Rev. 1.1	17-Apr-12	17-Apr-12	mp	1208628	
	C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	4.22	5	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 25.0		µg/l	25.0	1.12	5	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	7.10	5	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	4.68	5	"	"	"	"	"	
VPH Target Analytes													
Prepared by method VPH - EPA 5030B													
71-43-2	Benzene	< 5.0		µg/l	5.0	1.3	5	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.0		µg/l	5.0	1.4	5	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.0		µg/l	5.0	1.6	5	"	"	"	"	"	
91-20-3	Naphthalene	< 5.0		µg/l	5.0	1.2	5	"	"	"	"	"	
108-88-3	Toluene	< 5.0		µg/l	5.0	1.3	5	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0		µg/l	10.0	2.8	5	"	"	"	"	"	
95-47-6	o-Xylene	< 5.0		µg/l	5.0	1.1	5	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*102*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*104*			*70-130 %*			"	"	"	"	"	
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3510C													
12674-11-2	Aroclor-1016	< 0.233		µg/l	0.233	0.0100	1	SW846 8082A	17-Apr-12	17-Apr-12	IMR	1208625	
11104-28-2	Aroclor-1221	< 0.233		µg/l	0.233	0.0166	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 0.233		µg/l	0.233	0.0156	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 0.233		µg/l	0.233	0.00849	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 0.233		µg/l	0.233	0.0131	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 0.233		µg/l	0.233	0.0115	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 0.233		µg/l	0.233	0.00674	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 0.233		µg/l	0.233	0.0101	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 0.233		µg/l	0.233	0.0110	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*51*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*78*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*66*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*95*			*30-150 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
EPH Aliphatic/Aromatic Ranges													
Prepared by method SW846 3510C													
	C9-C18 Aliphatic Hydrocarbons	< 133		µg/l	133	33.1	1	MADEP EPH 5/2004 R	17-Apr-12	18-Apr-12	MP	1208630	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-1	04-205185.03	Ground Water	11-Apr-12 14:45	12-Apr-12
SB47144-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
EPH Aliphatic/Aromatic Ranges													
Prepared by method SW846 3510C													
	C19-C36 Aliphatic Hydrocarbons	< 133		µg/l	133	104	1	MADEP EPH 5/2004 R	17-Apr-12	18-Apr-12	MP	1208630	
	C11-C22 Aromatic Hydrocarbons	< 133		µg/l	133	72.7	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 133		µg/l	133	72.7	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	< 133		µg/l	133	133	1	"	"	"	"	"	
	Unadjusted Total Petroleum Hydrocarbons	< 133		µg/l	133	133	1	"	"	"	"	"	
EPH Target PAH Analytes													
Prepared by method SW846 3510C													
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.125	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 1.00		µg/l	1.00	0.167	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 1.00		µg/l	1.00	0.172	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 1.00		µg/l	1.00	0.111	1	"	"	"	"	"	
86-73-7	Fluorene	< 1.00		µg/l	1.00	0.118	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 1.00		µg/l	1.00	0.129	1	"	"	"	"	"	
120-12-7	Anthracene	< 1.00		µg/l	1.00	0.121	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 1.00		µg/l	1.00	0.0883	1	"	"	"	"	"	
129-00-0	Pyrene	< 1.00		µg/l	1.00	0.142	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 1.00		µg/l	1.00	0.111	1	"	"	"	"	"	
218-01-9	Chrysene	< 1.00		µg/l	1.00	0.126	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 1.00		µg/l	1.00	0.221	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 1.00		µg/l	1.00	0.269	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 0.200		µg/l	0.200	0.200	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.500		µg/l	0.500	0.278	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.500		µg/l	0.500	0.231	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 1.00		µg/l	1.00	0.195	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*73*			*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*70*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*40*			*40-140 %*			"	"	"	"	"	
Soluble Metals by EPA 200/6000 Series Methods													
	Filtration	**Field Filtered**		N/A			1	EPA 200.7/3005A/6010			DJB	1208500	
Soluble Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0020	1	SW846 6010C	16-Apr-12	17-Apr-12	LR	1208530	
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0032	1	"	"	"	"	"	
7440-39-3	Barium	**0.0333**		mg/l	0.0050	0.0034	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0001	1	"	"	"	"	"	
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0034	1	"	"	"	"	"	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0045	1	"	"	"	"	"	
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0024	1	"	"	"	"	"	
Soluble Metals by EPA 200 Series Methods													
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00007	1	EPA 245.1/7470A	16-Apr-12	17-Apr-12	EDT/A	1208531	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-3	04-205185.03	Ground Water	11-Apr-12 12:15	12-Apr-12
SB47144-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
VPH Aliphatic/Aromatic Carbon Ranges													
Prepared by method VPH - EPA 5030B													
	C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	5.55	5	MADEP VPH 5/2004 Rev. 1.1	17-Apr-12	17-Apr-12	mp	1208628	
	C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	4.22	5	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 25.0		µg/l	25.0	1.12	5	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	< 75.0		µg/l	75.0	7.10	5	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	4.68	5	"	"	"	"	"	
VPH Target Analytes													
Prepared by method VPH - EPA 5030B													
71-43-2	Benzene	< 5.0		µg/l	5.0	1.3	5	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.0		µg/l	5.0	1.4	5	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.0		µg/l	5.0	1.6	5	"	"	"	"	"	
91-20-3	Naphthalene	< 5.0		µg/l	5.0	1.2	5	"	"	"	"	"	
108-88-3	Toluene	< 5.0		µg/l	5.0	1.3	5	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0		µg/l	10.0	2.8	5	"	"	"	"	"	
95-47-6	o-Xylene	< 5.0		µg/l	5.0	1.1	5	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*100*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*102*			*70-130 %*			"	"	"	"	"	
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3510C													
12674-11-2	Aroclor-1016	< 0.244		µg/l	0.244	0.0105	1	SW846 8082A	17-Apr-12	17-Apr-12	IMR	1208625	
11104-28-2	Aroclor-1221	< 0.244		µg/l	0.244	0.0174	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 0.244		µg/l	0.244	0.0163	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 0.244		µg/l	0.244	0.00890	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 0.244		µg/l	0.244	0.0138	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 0.244		µg/l	0.244	0.0121	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 0.244		µg/l	0.244	0.00707	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 0.244		µg/l	0.244	0.0106	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 0.244		µg/l	0.244	0.0116	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*59*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*78*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*87*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*116*			*30-150 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
EPH Aliphatic/Aromatic Ranges													
Prepared by method SW846 3510C													
	C9-C18 Aliphatic Hydrocarbons	< 122		µg/l	122	30.3	1	MADEP EPH 5/2004 R	17-Apr-12	18-Apr-12	MP	1208630	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-3	04-205185.03	Ground Water	11-Apr-12 12:15	12-Apr-12
SB47144-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
EPH Aliphatic/Aromatic Ranges													
Prepared by method SW846 3510C													
	C19-C36 Aliphatic Hydrocarbons	< 122		µg/l	122	95.4	1	MADEP EPH 5/2004 R	17-Apr-12	18-Apr-12	MP	1208630	
	C11-C22 Aromatic Hydrocarbons	< 122		µg/l	122	66.5	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	< 122		µg/l	122	66.5	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	< 122		µg/l	122	122	1	"	"	"	"	"	
	Unadjusted Total Petroleum Hydrocarbons	< 122		µg/l	122	122	1	"	"	"	"	"	
EPH Target PAH Analytes													
Prepared by method SW846 3510C													
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.125	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 1.00		µg/l	1.00	0.167	1	"	"	"	"	"	
208-96-8	Acenaphthylene	< 1.00		µg/l	1.00	0.172	1	"	"	"	"	"	
83-32-9	Acenaphthene	< 1.00		µg/l	1.00	0.111	1	"	"	"	"	"	
86-73-7	Fluorene	< 1.00		µg/l	1.00	0.118	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 1.00		µg/l	1.00	0.129	1	"	"	"	"	"	
120-12-7	Anthracene	< 1.00		µg/l	1.00	0.121	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 1.00		µg/l	1.00	0.0883	1	"	"	"	"	"	
129-00-0	Pyrene	< 1.00		µg/l	1.00	0.142	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 1.00		µg/l	1.00	0.111	1	"	"	"	"	"	
218-01-9	Chrysene	< 1.00		µg/l	1.00	0.126	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 1.00		µg/l	1.00	0.221	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 1.00		µg/l	1.00	0.269	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 0.200		µg/l	0.200	0.200	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.500		µg/l	0.500	0.278	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.500		µg/l	0.500	0.231	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 1.00		µg/l	1.00	0.195	1	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*67*			*40-140 %*			"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*71*			*40-140 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*41*			*40-140 %*			"	"	"	"	"	
Soluble Metals by EPA 200/6000 Series Methods													
	Filtration	**Field Filtered**		N/A			1	EPA 200.7/3005A/6010			DJB	1208500	
Soluble Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0020	1	SW846 6010C	16-Apr-12	17-Apr-12	LR	1208530	
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0032	1	"	"	"	"	"	
7440-39-3	Barium	**0.0440**		mg/l	0.0050	0.0034	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0001	1	"	"	"	"	"	
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0034	1	"	"	"	"	"	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0045	1	"	"	"	"	"	
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0024	1	"	"	"	"	"	
Soluble Metals by EPA 200 Series Methods													
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00007	1	EPA 245.1/7470A	16-Apr-12	17-Apr-12	EDT/A	1208531	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-4	04-205185.03	Ground Water	11-Apr-12 13:12	12-Apr-12
SB47144-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
VPH Aliphatic/Aromatic Carbon Ranges													
Prepared by method VPH - EPA 5030B													
	C5-C8 Aliphatic Hydrocarbons	**290**		µg/l	75.0	5.55	5	MADEP VPH 5/2004 Rev. 1.1	17-Apr-12	17-Apr-12	mp	1208628	
	C9-C12 Aliphatic Hydrocarbons	**236**		µg/l	25.0	4.22	5	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	**193**		µg/l	25.0	1.12	5	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	**483**		µg/l	75.0	7.10	5	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	**430**		µg/l	25.0	4.68	5	"	"	"	"	"	
VPH Target Analytes													
Prepared by method VPH - EPA 5030B													
71-43-2	Benzene	**11.8**		µg/l	5.0	1.3	5	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.0		µg/l	5.0	1.4	5	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.0		µg/l	5.0	1.6	5	"	"	"	"	"	
91-20-3	Naphthalene	< 5.0		µg/l	5.0	1.2	5	"	"	"	"	"	
108-88-3	Toluene	< 5.0		µg/l	5.0	1.3	5	"	"	"	"	"	
179601-23-1	m,p-Xylene	**181**		µg/l	10.0	2.8	5	"	"	"	"	"	
95-47-6	o-Xylene	< 5.0		µg/l	5.0	1.1	5	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*102*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*105*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-5	04-205185.03	Ground Water	11-Apr-12 14:00	12-Apr-12
SB47144-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
VPH Aliphatic/Aromatic Carbon Ranges													
Prepared by method VPH - EPA 5030B													
	C5-C8 Aliphatic Hydrocarbons	**528**		µg/l	75.0	5.55	5	MADEP VPH 5/2004 Rev. 1.1	17-Apr-12	17-Apr-12	mp	1208628	
	C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	4.22	5	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	< 25.0		µg/l	25.0	1.12	5	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	**556**		µg/l	75.0	7.10	5	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	< 25.0		µg/l	25.0	4.68	5	"	"	"	"	"	
VPH Target Analytes													
Prepared by method VPH - EPA 5030B													
71-43-2	Benzene	**19.5**		µg/l	5.0	1.3	5	"	"	"	"	"	
100-41-4	Ethylbenzene	< 5.0		µg/l	5.0	1.4	5	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 5.0		µg/l	5.0	1.6	5	"	"	"	"	"	
91-20-3	Naphthalene	< 5.0		µg/l	5.0	1.2	5	"	"	"	"	"	
108-88-3	Toluene	**8.4**		µg/l	5.0	1.3	5	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 10.0		µg/l	10.0	2.8	5	"	"	"	"	"	
95-47-6	o-Xylene	< 5.0		µg/l	5.0	1.1	5	"	"	"	"	"	
Surrogate recoveries:													
615-59-8	*2,5-Dibromotoluene (FID)*	*104*			*70-130 %*			"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*105*			*70-130 %*			"	"	"	"	"	
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3510C													
12674-11-2	Aroclor-1016	< 0.267		µg/l	0.267	0.0115	1	SW846 8082A	17-Apr-12	17-Apr-12	IMR	1208625	
11104-28-2	Aroclor-1221	< 0.267		µg/l	0.267	0.0191	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 0.267		µg/l	0.267	0.0179	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 0.267		µg/l	0.267	0.00973	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 0.267		µg/l	0.267	0.0151	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 0.267		µg/l	0.267	0.0132	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 0.267		µg/l	0.267	0.00773	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 0.267		µg/l	0.267	0.0116	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 0.267		µg/l	0.267	0.0127	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*60*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*74*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*66*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*86*			*30-150 %*			"	"	"	"	"	
Soluble Metals by EPA 200/6000 Series Methods													
	Filtration	**Field Filtered**		N/A			1	EPA 200.7/3005A/6010			DJB	1208500	
Soluble Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0020	1	SW846 6010C	16-Apr-12	17-Apr-12	LR	1208530	
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0032	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-5 SB47144-05	04-205185.03	Ground Water	11-Apr-12 14:00	12-Apr-12

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Soluble Metals by EPA 6000/7000 Series Methods													
7440-39-3	Barium	**0.0404**		mg/l	0.0050	0.0034	1	SW846 6010C	16-Apr-12	17-Apr-12	LR	1208530	
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0001	1	"	"	"	"	"	
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0034	1	"	"	"	"	"	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0045	1	"	"	"	"	"	
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0024	1	"	"	"	"	"	
Soluble Metals by EPA 200 Series Methods													
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00007	1	EPA 245.1/7470A	16-Apr-12	17-Apr-12	EDT/A	1208531	X

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1208628 - VPH - EPA 5030B										
Blank (1208628-BLK1)					Prepared & Analyzed: 17-Apr-12					
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	< 5.0		µg/l	5.0						
Ethylbenzene	< 5.0		µg/l	5.0						
Methyl tert-butyl ether	< 5.0		µg/l	5.0						
Naphthalene	< 5.0		µg/l	5.0						
Toluene	< 5.0		µg/l	5.0						
m,p-Xylene	< 10.0		µg/l	10.0						
o-Xylene	< 5.0		µg/l	5.0						
2-Methylpentane	< 5.0		µg/l	5.0						
n-Nonane	< 10.0		µg/l	10.0						
n-Pentane	< 10.0		µg/l	10.0						
1,2,4-Trimethylbenzene	< 5.0		µg/l	5.0						
2,2,4-Trimethylpentane	< 5.0		µg/l	5.0						
n-Butylcyclohexane	< 5.0		µg/l	5.0						
n-Decane	< 5.0		µg/l	5.0						
Surrogate: 2,5-Dibromotoluene (FID)	*48.5*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*49.7*		µg/l		*50.0*		*99*	*70-130*		
LCS (1208628-BS1)					Prepared & Analyzed: 17-Apr-12					
C5-C8 Aliphatic Hydrocarbons	**61.7**		µg/l		60.0		103	70-130		
C9-C12 Aliphatic Hydrocarbons	**57.9**		µg/l		60.0		97	70-130		
C9-C10 Aromatic Hydrocarbons	**23.0**		µg/l		20.0		115	70-130		
Unadjusted C5-C8 Aliphatic Hydrocarbons	**201**		µg/l		200		100	70-130		
Unadjusted C9-C12 Aliphatic Hydrocarbons	**81.0**		µg/l		80.0		101	70-130		
Benzene	**20.6**		µg/l		20.0		103	70-130		
Ethylbenzene	**20.7**		µg/l		20.0		104	70-130		
Methyl tert-butyl ether	**14.4**		µg/l		20.0		72	70-130		
Naphthalene	**21.6**		µg/l		20.0		108	70-130		
Toluene	**20.9**		µg/l		20.0		105	70-130		
m,p-Xylene	**41.1**		µg/l		40.0		103	70-130		
o-Xylene	**21.3**		µg/l		20.0		106	70-130		
2-Methylpentane	**25.9**		µg/l		20.0		130	70-130		
n-Nonane	**22.8**		µg/l		20.0		114	70-130		
n-Pentane	**24.2**		µg/l		20.0		121	70-130		
1,2,4-Trimethylbenzene	**21.0**		µg/l		20.0		105	70-130		
2,2,4-Trimethylpentane	**18.9**		µg/l		20.0		94	70-130		
n-Butylcyclohexane	**20.0**		µg/l		20.0		100	70-130		
n-Decane	**18.9**		µg/l		20.0		94	70-130		
Surrogate: 2,5-Dibromotoluene (FID)	*54.1*		µg/l		*50.0*		*108*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*54.9*		µg/l		*50.0*		*110*	*70-130*		
LCS Dup (1208628-BSD1)					Prepared & Analyzed: 17-Apr-12					
C5-C8 Aliphatic Hydrocarbons	**61.7**		µg/l		60.0		103	70-130	0.09	25
C9-C12 Aliphatic Hydrocarbons	**56.0**		µg/l		60.0		93	70-130	3	25
C9-C10 Aromatic Hydrocarbons	**22.2**		µg/l		20.0		111	70-130	4	25
Unadjusted C5-C8 Aliphatic Hydrocarbons	**198**		µg/l		200		99	70-130	1	25
Unadjusted C9-C12 Aliphatic Hydrocarbons	**78.3**		µg/l		80.0		98	70-130	3	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1208628 - VPH - EPA 5030B										
LCS Dup (1208628-BSD1)					Prepared & Analyzed: 17-Apr-12					
Benzene	**20.1**		µg/l		20.0		101	70-130	2	25
Ethylbenzene	**20.1**		µg/l		20.0		101	70-130	3	25
Methyl tert-butyl ether	**14.0**		µg/l		20.0		70	70-130	2	25
Naphthalene	**21.2**		µg/l		20.0		106	70-130	2	25
Toluene	**20.4**		µg/l		20.0		102	70-130	3	25
m,p-Xylene	**40.8**		µg/l		40.0		102	70-130	0.7	25
o-Xylene	**20.7**		µg/l		20.0		103	70-130	3	25
2-Methylpentane	**25.4**		µg/l		20.0		127	70-130	2	25
n-Nonane	**22.4**		µg/l		20.0		112	70-130	2	25
n-Pentane	**25.1**		µg/l		20.0		125	70-130	3	25
1,2,4-Trimethylbenzene	**20.4**		µg/l		20.0		102	70-130	3	25
2,2,4-Trimethylpentane	**19.1**		µg/l		20.0		96	70-130	1	25
n-Butylcyclohexane	**19.5**		µg/l		20.0		97	70-130	3	25
n-Decane	**18.1**		µg/l		20.0		91	70-130	4	25
Surrogate: 2,5-Dibromotoluene (FID)	*52.1*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: 2,5-Dibromotoluene (PID)	*53.1*		µg/l		*50.0*		*106*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1208625 - SW846 3510C										
Blank (1208625-BLK1)					Prepared & Analyzed: 17-Apr-12					
Aroclor-1016	< 0.200		µg/l	0.200						
Aroclor-1016 [2C]	< 0.200		µg/l	0.200						
Aroclor-1221	< 0.200		µg/l	0.200						
Aroclor-1221 [2C]	< 0.200		µg/l	0.200						
Aroclor-1232	< 0.200		µg/l	0.200						
Aroclor-1232 [2C]	< 0.200		µg/l	0.200						
Aroclor-1242	< 0.200		µg/l	0.200						
Aroclor-1242 [2C]	< 0.200		µg/l	0.200						
Aroclor-1248	< 0.200		µg/l	0.200						
Aroclor-1248 [2C]	< 0.200		µg/l	0.200						
Aroclor-1254	< 0.200		µg/l	0.200						
Aroclor-1254 [2C]	< 0.200		µg/l	0.200						
Aroclor-1260	< 0.200		µg/l	0.200						
Aroclor-1260 [2C]	< 0.200		µg/l	0.200						
Aroclor-1262	< 0.200		µg/l	0.200						
Aroclor-1262 [2C]	< 0.200		µg/l	0.200						
Aroclor-1268	< 0.200		µg/l	0.200						
Aroclor-1268 [2C]	< 0.200		µg/l	0.200						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.148*		µg/l		*0.200*		*74*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.193*		µg/l		*0.200*		*96*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.153*		µg/l		*0.200*		*76*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.198*		µg/l		*0.200*		*99*	*30-150*		
LCS (1208625-BS1)					Prepared & Analyzed: 17-Apr-12					
Aroclor-1016	**2.01**		µg/l	0.200	2.50		80	50-140		
Aroclor-1016 [2C]	**2.10**		µg/l	0.200	2.50		84	50-140		
Aroclor-1260	**1.98**		µg/l	0.200	2.50		79	50-140		
Aroclor-1260 [2C]	**2.08**		µg/l	0.200	2.50		83	50-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.155*		µg/l		*0.200*		*78*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.169*		µg/l		*0.200*		*84*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.186*		µg/l		*0.200*		*93*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.217*		µg/l		*0.200*		*109*	*30-150*		
LCS Dup (1208625-BSD1)					Prepared & Analyzed: 17-Apr-12					
Aroclor-1016	**2.08**		µg/l	0.200	2.50		83	50-140	4	30
Aroclor-1016 [2C]	**2.21**		µg/l	0.200	2.50		88	50-140	5	30
Aroclor-1260	**2.08**		µg/l	0.200	2.50		83	50-140	5	30
Aroclor-1260 [2C]	**2.12**		µg/l	0.200	2.50		85	50-140	2	30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.161*		µg/l		*0.200*		*80*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.180*		µg/l		*0.200*		*90*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.193*		µg/l		*0.200*		*96*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.225*		µg/l		*0.200*		*113*	*30-150*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1208630 - SW846 3510C										
Blank (1208630-BLK1)					Prepared: 17-Apr-12 Analyzed: 18-Apr-12					
C9-C18 Aliphatic Hydrocarbons	< 50.0		µg/l	50.0						
C19-C36 Aliphatic Hydrocarbons	< 50.0		µg/l	50.0						
C11-C22 Aromatic Hydrocarbons	< 50.0		µg/l	50.0						
Unadjusted C11-C22 Aromatic Hydrocarbons	< 50.0		µg/l	50.0						
Total Petroleum Hydrocarbons	< 50.0		µg/l	50.0						
Unadjusted Total Petroleum Hydrocarbons	< 50.0		µg/l	50.0						
Naphthalene	< 1.00		µg/l	1.00						
2-Methylnaphthalene	< 1.00		µg/l	1.00						
Acenaphthylene	< 1.00		µg/l	1.00						
Acenaphthene	< 1.00		µg/l	1.00						
Fluorene	< 1.00		µg/l	1.00						
Phenanthrene	< 1.00		µg/l	1.00						
Anthracene	< 1.00		µg/l	1.00						
Fluoranthene	< 1.00		µg/l	1.00						
Pyrene	< 1.00		µg/l	1.00						
Benzo (a) anthracene	< 1.00		µg/l	1.00						
Chrysene	< 1.00		µg/l	1.00						
Benzo (b) fluoranthene	< 1.00		µg/l	1.00						
Benzo (k) fluoranthene	< 1.00		µg/l	1.00						
Benzo (a) pyrene	< 0.200		µg/l	0.200						
Indeno (1,2,3-cd) pyrene	< 0.500		µg/l	0.500						
Dibenzo (a,h) anthracene	< 0.500		µg/l	0.500						
Benzo (g,h,i) perylene	< 1.00		µg/l	1.00						
n-Nonane (C9)	< 5.00		µg/l	5.00						
n-Decane	< 5.00		µg/l	5.00						
n-Dodecane	< 5.00		µg/l	5.00						
n-Tetradecane	< 5.00		µg/l	5.00						
n-Hexadecane	< 5.00		µg/l	5.00						
n-Octadecane	< 5.00		µg/l	5.00						
n-Nonadecane	< 5.00		µg/l	5.00						
n-Eicosane	< 5.00		µg/l	5.00						
n-Docosane	< 5.00		µg/l	5.00						
n-Tetracosane	< 5.00		µg/l	5.00						
n-Hexacosane	< 5.00		µg/l	5.00						
n-Octacosane	< 5.00		µg/l	5.00						
n-Triacontane	< 5.00		µg/l	5.00						
n-Hexatriacontane	< 5.00		µg/l	5.00						
Naphthalene (aliphatic fraction)	**0.00**		µg/l							
2-Methylnaphthalene (aliphatic fraction)	**0.00**		µg/l							
Surrogate: 1-Chlorooctadecane	*32.5*		µg/l		*50.0*		*65*	*40-140*		
Surrogate: Ortho-Terphenyl	*28.3*		µg/l		*50.0*		*57*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*20.3*		µg/l		*40.0*		*51*	*40-140*		
LCS (1208630-BS1)					Prepared: 17-Apr-12 Analyzed: 18-Apr-12					
C9-C18 Aliphatic Hydrocarbons	**402**		µg/l	50.0	600		67	40-140		
C19-C36 Aliphatic Hydrocarbons	**776**		µg/l	50.0	800		97	40-140		
C11-C22 Aromatic Hydrocarbons	**1100**		µg/l	50.0	1700		65	40-140		
LCS (1208630-BS2)					Prepared: 17-Apr-12 Analyzed: 18-Apr-12					
Naphthalene	**45.4**		µg/l	10.0	100		45	40-140		
2-Methylnaphthalene	**47.0**		µg/l	10.0	100		47	40-140		
Acenaphthylene	**59.8**		µg/l	10.0	100		60	40-140		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1208630 - SW846 3510C										
LCS (1208630-BS2)						Prepared: 17-Apr-12 Analyzed: 18-Apr-12				
Acenaphthene	**60.5**		µg/l	10.0	100		60	40-140		
Fluorene	**70.6**		µg/l	10.0	100		71	40-140		
Phenanthrene	**92.2**		µg/l	10.0	100		92	40-140		
Anthracene	**79.5**		µg/l	10.0	100		80	40-140		
Fluoranthene	**83.3**		µg/l	10.0	100		83	40-140		
Pyrene	**80.7**		µg/l	10.0	100		81	40-140		
Benzo (a) anthracene	**93.4**		µg/l	10.0	100		93	40-140		
Chrysene	**76.3**		µg/l	10.0	100		76	40-140		
Benzo (b) fluoranthene	**82.9**		µg/l	10.0	100		83	40-140		
Benzo (k) fluoranthene	**88.2**		µg/l	10.0	100		88	40-140		
Benzo (a) pyrene	**79.6**		µg/l	2.00	100		80	40-140		
Indeno (1,2,3-cd) pyrene	**82.2**		µg/l	5.00	100		82	40-140		
Dibenzo (a,h) anthracene	**66.9**		µg/l	5.00	100		67	40-140		
Benzo (g,h,i) perylene	**74.4**		µg/l	10.0	100		74	40-140		
n-Nonane (C9)	**48.9**		µg/l	5.00	100		49	30-140		
n-Decane	**62.5**		µg/l	5.00	100		62	40-140		
n-Dodecane	**74.8**		µg/l	5.00	100		75	40-140		
n-Tetradecane	**90.5**		µg/l	5.00	100		91	40-140		
n-Hexadecane	**102**		µg/l	5.00	100		102	40-140		
n-Octadecane	**108**		µg/l	5.00	100		108	40-140		
n-Nonadecane	**112**		µg/l	5.00	100		112	40-140		
n-Eicosane	**114**		µg/l	5.00	100		114	40-140		
n-Docosane	**118**		µg/l	5.00	100		118	40-140		
n-Tetracosane	**117**		µg/l	5.00	100		117	40-140		
n-Hexacosane	**117**		µg/l	5.00	100		117	40-140		
n-Octacosane	**118**		µg/l	5.00	100		118	40-140		
n-Triacontane	**112**		µg/l	5.00	100		112	40-140		
n-Hexatriacontane	**107**		µg/l	5.00	100		107	40-140		
Naphthalene (aliphatic fraction)	**0.00**		µg/l					0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		µg/l					0-200		
Surrogate: 1-Chlorooctadecane	*46.0*		µg/l		*50.0*		*92*	*40-140*		
Surrogate: Ortho-Terphenyl	*40.7*		µg/l		*50.0*		*81*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*27.3*		µg/l		*40.0*		*68*	*40-140*		
Naphthalene Breakthrough	0.00		%					0-5		
2-Methylnaphthalene Breakthrough	0.00		%					0-5		
LCS (1208630-BS3)						Prepared: 17-Apr-12 Analyzed: 18-Apr-12				
C9-C18 Aliphatic Hydrocarbons	**423**		µg/l	50.0	600		70	40-140		
C19-C36 Aliphatic Hydrocarbons	**592**		µg/l	50.0	800		74	40-140		
C11-C22 Aromatic Hydrocarbons	**1100**		µg/l	500	1700		65	40-140		
Naphthalene	**50.2**		µg/l	10.0	100		50	40-140		
2-Methylnaphthalene	**56.3**		µg/l	10.0	100		56	40-140		
Acenaphthylene	**63.9**		µg/l	10.0	100		64	40-140		
Acenaphthene	**66.1**		µg/l	10.0	100		66	40-140		
Fluorene	**74.5**		µg/l	10.0	100		74	40-140		
Phenanthrene	**91.3**		µg/l	10.0	100		91	40-140		
Anthracene	**76.5**		µg/l	10.0	100		76	40-140		
Fluoranthene	**78.0**		µg/l	10.0	100		78	40-140		
Pyrene	**76.8**		µg/l	10.0	100		77	40-140		
Benzo (a) anthracene	**87.9**		µg/l	10.0	100		88	40-140		
Chrysene	**74.9**		µg/l	10.0	100		75	40-140		
Benzo (b) fluoranthene	**80.2**		µg/l	10.0	100		80	40-140		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1208630 - SW846 3510C										
LCS (1208630-BS3)					Prepared: 17-Apr-12 Analyzed: 18-Apr-12					
Benzo (k) fluoranthene	**43.9**		µg/l	10.0	100		44	40-140		
Benzo (a) pyrene	**77.1**		µg/l	2.00	100		77	40-140		
Indeno (1,2,3-cd) pyrene	**79.8**		µg/l	5.00	100		80	40-140		
Dibenzo (a,h) anthracene	**76.9**		µg/l	5.00	100		77	40-140		
Benzo (g,h,i) perylene	**62.9**		µg/l	10.0	100		63	40-140		
n-Nonane (C9)	**53.6**		µg/l	5.00	100		54	30-140		
n-Decane	**62.0**		µg/l	5.00	100		62	40-140		
n-Dodecane	**67.3**		µg/l	5.00	100		67	40-140		
n-Tetradecane	**76.3**		µg/l	5.00	100		76	40-140		
n-Hexadecane	**83.1**		µg/l	5.00	100		83	40-140		
n-Octadecane	**86.5**		µg/l	5.00	100		86	40-140		
n-Nonadecane	**86.9**		µg/l	5.00	100		87	40-140		
n-Eicosane	**86.7**		µg/l	5.00	100		87	40-140		
n-Docosane	**86.1**		µg/l	5.00	100		86	40-140		
n-Tetracosane	**84.1**		µg/l	5.00	100		84	40-140		
n-Hexacosane	**84.2**		µg/l	5.00	100		84	40-140		
n-Octacosane	**84.8**		µg/l	5.00	100		85	40-140		
n-Triacontane	**81.6**		µg/l	5.00	100		82	40-140		
n-Hexatriacontane	**78.1**		µg/l	5.00	100		78	40-140		
Naphthalene (aliphatic fraction)	**0.00**		µg/l					0-200		
2-Methylnaphthalene (aliphatic fraction)	**0.00**		µg/l					0-200		
Surrogate: 1-Chlorooctadecane	*42.9*		µg/l		*50.0*		*86*	*40-140*		
Surrogate: Ortho-Terphenyl	*40.3*		µg/l		*50.0*		*81*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*20.2*		µg/l		*40.0*		*50*	*40-140*		
Naphthalene Breakthrough	0.00		%					0-5		
2-Methylnaphthalene Breakthrough	0.00		%					0-5		
LCS Dup (1208630-BSD1)					Prepared: 17-Apr-12 Analyzed: 18-Apr-12					
C9-C18 Aliphatic Hydrocarbons	**507**		µg/l	50.0	600		84	40-140	23	25
C19-C36 Aliphatic Hydrocarbons	**774**		µg/l	50.0	800		97	40-140	0.3	25
C11-C22 Aromatic Hydrocarbons	**1170**		µg/l	50.0	1700		69	40-140	6	25
LCS Dup (1208630-BSD2)					Prepared: 17-Apr-12 Analyzed: 18-Apr-12					
Naphthalene	**40.4**		µg/l	10.0	100		40	40-140	12	25
2-Methylnaphthalene	**42.0**		µg/l	10.0	100		42	40-140	11	25
Acenaphthylene	**51.6**		µg/l	10.0	100		52	40-140	15	25
Acenaphthene	**53.4**		µg/l	10.0	100		53	40-140	12	25
Fluorene	**60.8**		µg/l	10.0	100		61	40-140	15	25
Phenanthrene	**81.3**		µg/l	10.0	100		81	40-140	13	25
Anthracene	**59.5**	QR2	µg/l	10.0	100		60	40-140	29	25
Fluoranthene	**76.8**		µg/l	10.0	100		77	40-140	8	25
Pyrene	**75.2**		µg/l	10.0	100		75	40-140	7	25
Benzo (a) anthracene	**92.8**		µg/l	10.0	100		93	40-140	0.6	25
Chrysene	**78.5**		µg/l	10.0	100		78	40-140	3	25
Benzo (b) fluoranthene	**85.8**		µg/l	10.0	100		86	40-140	3	25
Benzo (k) fluoranthene	**77.9**		µg/l	10.0	100		78	40-140	12	25
Benzo (a) pyrene	**79.8**		µg/l	2.00	100		80	40-140	0.3	25
Indeno (1,2,3-cd) pyrene	**72.9**		µg/l	5.00	100		73	40-140	12	25
Dibenzo (a,h) anthracene	**81.4**		µg/l	5.00	100		81	40-140	20	25
Benzo (g,h,i) perylene	**71.2**		µg/l	10.0	100		71	40-140	4	25
n-Nonane (C9)	**34.4**	QR2	µg/l	5.00	100		34	30-140	35	25
n-Decane	**47.4**	QR2	µg/l	5.00	100		47	40-140	27	25
n-Dodecane	**61.1**		µg/l	5.00	100		61	40-140	20	25

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1208630 - SW846 3510C										
LCS Dup (1208630-BSD2)					Prepared: 17-Apr-12 Analyzed: 18-Apr-12					
n-Tetradecane	**78.3**		µg/l	5.00	100		78	40-140	14	25
n-Hexadecane	**88.7**		µg/l	5.00	100		89	40-140	14	25
n-Octadecane	**95.1**		µg/l	5.00	100		95	40-140	13	25
n-Nonadecane	**98.2**		µg/l	5.00	100		98	40-140	13	25
n-Eicosane	**101**		µg/l	5.00	100		101	40-140	12	25
n-Docosane	**106**		µg/l	5.00	100		106	40-140	11	25
n-Tetracosane	**106**		µg/l	5.00	100		106	40-140	10	25
n-Hexacosane	**107**		µg/l	5.00	100		107	40-140	9	25
n-Octacosane	**108**		µg/l	5.00	100		108	40-140	9	25
n-Triacontane	**104**		µg/l	5.00	100		104	40-140	8	25
n-Hexatriacontane	**99.9**		µg/l	5.00	100		100	40-140	6	25
Naphthalene (aliphatic fraction)	**0.00**		µg/l					0-200		200
2-Methylnaphthalene (aliphatic fraction)	**0.00**		µg/l					0-200		200
Surrogate: 1-Chlorooctadecane	*41.3*		µg/l		*50.0*		*83*	*40-140*		
Surrogate: Ortho-Terphenyl	*37.2*		µg/l		*50.0*		*74*	*40-140*		
Surrogate: 2-Fluorobiphenyl	*24.1*		µg/l		*40.0*		*60*	*40-140*		
Naphthalene Breakthrough	0.00		%					0-5		
2-Methylnaphthalene Breakthrough	0.00		%					0-5		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1208530 - SW846 3005A										
Blank (1208530-BLK1)					Prepared: 16-Apr-12 Analyzed: 17-Apr-12					
Lead	< 0.0075		mg/l	0.0075						
Selenium	< 0.0150		mg/l	0.0150						
Chromium	< 0.0050		mg/l	0.0050						
Silver	< 0.0050		mg/l	0.0050						
Arsenic	< 0.0040		mg/l	0.0040						
Barium	< 0.0050		mg/l	0.0050						
Cadmium	< 0.0025		mg/l	0.0025						
LCS (1208530-BS1)					Prepared: 16-Apr-12 Analyzed: 17-Apr-12					
Lead	**1.21**		mg/l	0.0075	1.25		97	85-115		
Selenium	**1.17**		mg/l	0.0150	1.25		93	85-115		
Chromium	**1.16**		mg/l	0.0050	1.25		93	85-115		
Cadmium	**1.20**		mg/l	0.0025	1.25		96	85-115		
Barium	**1.25**		mg/l	0.0050	1.25		100	85-115		
Arsenic	**1.24**		mg/l	0.0040	1.25		99	85-115		
Silver	**1.18**		mg/l	0.0050	1.25		95	85-115		
LCS Dup (1208530-BSD1)					Prepared: 16-Apr-12 Analyzed: 17-Apr-12					
Lead	**1.27**		mg/l	0.0075	1.25		101	85-115	4	20
Selenium	**1.23**		mg/l	0.0150	1.25		98	85-115	5	20
Silver	**1.23**		mg/l	0.0050	1.25		99	85-115	4	20
Chromium	**1.23**		mg/l	0.0050	1.25		98	85-115	5	20
Cadmium	**1.26**		mg/l	0.0025	1.25		100	85-115	4	20
Arsenic	**1.31**		mg/l	0.0040	1.25		105	85-115	5	20
Barium	**1.32**		mg/l	0.0050	1.25		106	85-115	5	20
Duplicate (1208530-DUP1)			**Source: SB47144-02**		Prepared: 16-Apr-12 Analyzed: 17-Apr-12					
Selenium	< 0.0150		mg/l	0.0150		BRL				20
Lead	< 0.0075		mg/l	0.0075		BRL				20
Chromium	< 0.0050		mg/l	0.0050		BRL				20
Cadmium	< 0.0025		mg/l	0.0025		BRL				20
Barium	**0.0357**		mg/l	0.0050		0.0333			7	20
Arsenic	< 0.0040		mg/l	0.0040		BRL				20
Silver	< 0.0050		mg/l	0.0050		BRL				20
Matrix Spike (1208530-MS1)			**Source: SB47144-02**		Prepared: 16-Apr-12 Analyzed: 17-Apr-12					
Lead	**1.24**		mg/l	0.0075	1.25	BRL	99	75-125		
Selenium	**1.26**		mg/l	0.0150	1.25	BRL	101	75-125		
Barium	**1.34**		mg/l	0.0050	1.25	0.0333	105	75-125		
Cadmium	**1.25**		mg/l	0.0025	1.25	BRL	100	75-125		
Silver	**1.26**		mg/l	0.0050	1.25	BRL	101	75-125		
Chromium	**1.26**		mg/l	0.0050	1.25	BRL	101	75-125		
Arsenic	**1.35**		mg/l	0.0040	1.25	BRL	108	75-125		
Matrix Spike Dup (1208530-MSD1)			**Source: SB47144-02**		Prepared: 16-Apr-12 Analyzed: 17-Apr-12					
Lead	**1.16**		mg/l	0.0075	1.25	BRL	93	75-125	7	20
Selenium	**1.16**		mg/l	0.0150	1.25	BRL	93	75-125	8	20
Cadmium	**1.17**		mg/l	0.0025	1.25	BRL	94	75-125	7	20
Barium	**1.27**		mg/l	0.0050	1.25	0.0333	99	75-125	5	20
Arsenic	**1.26**		mg/l	0.0040	1.25	BRL	101	75-125	7	20
Silver	**1.17**		mg/l	0.0050	1.25	BRL	94	75-125	7	20
Chromium	**1.16**		mg/l	0.0050	1.25	BRL	93	75-125	8	20
Post Spike (1208530-PS1)			**Source: SB47144-02**		Prepared: 16-Apr-12 Analyzed: 17-Apr-12					
Lead	**1.17**		mg/l	0.0075	1.25	BRL	94	80-120		
Selenium	**1.18**		mg/l	0.0150	1.25	BRL	95	80-120		
Silver	**1.21**		mg/l	0.0050	1.25	BRL	97	80-120		

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 1208530 - SW846 3005A										
Post Spike (1208530-PS1)			**Source: SB47144-02**			Prepared: 16-Apr-12 Analyzed: 17-Apr-12				
Arsenic	**1.26**		mg/l	0.0040	1.25	BRL	101	80-120		
Barium	**1.26**		mg/l	0.0050	1.25	0.0333	98	80-120		
Cadmium	**1.19**		mg/l	0.0025	1.25	BRL	95	80-120		
Chromium	**1.16**		mg/l	0.0050	1.25	BRL	92	80-120		

Soluble Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1208531 - EPA200/SW7000 Series										
Blank (1208531-BLK1)						Prepared: 16-Apr-12 Analyzed: 17-Apr-12				
Mercury	< 0.00020		mg/l	0.00020						
LCS (1208531-BS1)						Prepared: 16-Apr-12 Analyzed: 17-Apr-12				
Mercury	**0.00461**		mg/l	0.00020	0.00500		92	85-115		
Duplicate (1208531-DUP1)			**Source: SB47144-03**			Prepared: 16-Apr-12 Analyzed: 17-Apr-12				
Mercury	< 0.00020		mg/l	0.00020		BRL				20
Matrix Spike (1208531-MS1)			**Source: SB47144-03**			Prepared: 16-Apr-12 Analyzed: 17-Apr-12				
Mercury	**0.00470**		mg/l	0.00020	0.00500	BRL	94	80-120		
Matrix Spike Dup (1208531-MSD1)			**Source: SB47144-03**			Prepared: 16-Apr-12 Analyzed: 17-Apr-12				
Mercury	**0.00468**		mg/l	0.00020	0.00500	BRL	94	80-120	0.4	20

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S204431				
Calibration Check (S204431-CCV1)				
C9-C18 Aliphatic Hydrocarbons	2.246762E+08	1.83527E+08	-13.5	25
C19-C36 Aliphatic Hydrocarbons	3.194745E+08	1.894385E+08	-15.4	25
Unadjusted C11-C22 Aromatic Hydrocarbons	20.13922	19.39912	11.2	25
n-Nonane (C9)	208770.2	228859.7	9.6	30
n-Decane	207562.7	231613.5	11.6	25
n-Dodecane	205872.2	231039.8	12.2	25
n-Tetradecane	203563.3	225178.5	10.6	25
n-Hexadecane	202270.4	200063.4	-1.1	25
n-Octadecane	196922.5	179471.4	-8.9	25
n-Nonadecane	193536.3	175991.6	-9.1	25
n-Eicosane	188848.2	172894	-8.4	25
n-Docosane	184035.6	172983.2	-6.0	25
n-Tetracosane	180606.5	170815.3	-5.4	25
n-Hexacosane	179194.9	171635.8	-4.2	25
n-Octacosane	175341.2	170830.5	-2.6	25
n-Triacontane	180784.2	169311.4	-6.3	25
n-Hexatriacontane	179954.4	159944.7	-11.1	25
Calibration Check (S204431-CCV2)				
Naphthalene	7.056121	6.416367	-9.1	25
2-Methylnaphthalene	4.72779	4.318174	-8.7	25
Acenaphthylene	6.693564	6.460383	-3.5	25
Acenaphthene	4.684416	4.354118	-7.1	25
Fluorene	4.649559	4.670014	0.4	25
Phenanthrene	5.533264	6.299575	13.8	25
Anthracene	6.933528	6.608845	-4.7	25
Fluoranthene	7.097068	6.569984	-7.4	25
Pyrene	7.511488	6.822951	-9.2	25
Benzo (a) anthracene	4.66105	4.381366	-6.0	25
Chrysene	7.656343	6.169547	-19.4	25
Benzo (b) fluoranthene	3.692349	3.298615	-10.7	25
Benzo (k) fluoranthene	6.777886	5.715731	-15.7	25
Benzo (a) pyrene	4.597956	3.719298	-19.1	25
Indeno (1,2,3-cd) pyrene	4.107122	3.42964	-16.5	25
Dibenzo (a,h) anthracene	3.255377	2.697666	-17.1	25
Benzo (g,h,i) perylene	4.022939	3.08492	-23.3	25
Calibration Check (S204431-CCV3)				
C9-C18 Aliphatic Hydrocarbons	2.246762E+08	1.94072E+08	-8.3	25
C19-C36 Aliphatic Hydrocarbons	3.194745E+08	1.792379E+08	-21.1	25
Unadjusted C11-C22 Aromatic Hydrocarbons	20.13922	19.03394	8.8	25
n-Nonane (C9)	208770.2	187890.2	-10.0	30
n-Decane	207562.7	190727.2	-8.1	25
n-Dodecane	205872.2	190910	-7.3	25
n-Tetradecane	203563.3	190873.4	-6.2	25
n-Hexadecane	202270.4	187157	-7.5	25
n-Octadecane	196922.5	176259.3	-10.5	25
n-Nonadecane	193536.3	171516.3	-11.4	25
n-Eicosane	188848.2	165702	-12.3	25
n-Docosane	184035.6	160931.9	-12.6	25
n-Tetracosane	180606.5	156224.7	-13.5	25
n-Hexacosane	179194.9	157740.2	-12.0	25
n-Octacosane	175341.2	155480.6	-11.3	25

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S204431				
Calibration Check (S204431-CCV3)				
n-Triacontane	180784.2	155884.4	-13.8	25
n-Hexatriacontane	179954.4	148801	-17.3	25
Calibration Check (S204431-CCV4)				
Naphthalene	7.056121	5.91189	-16.2	25
2-Methylnaphthalene	4.72779	4.218248	-10.8	25
Acenaphthylene	6.693564	6.044865	-9.7	25
Acenaphthene	4.684416	4.129053	-11.9	25
Fluorene	4.649559	4.310468	-7.3	25
Phenanthrene	5.533264	6.013792	8.7	25
Anthracene	6.933528	6.287946	-9.3	25
Fluoranthene	7.097068	6.702204	-5.6	25
Pyrene	7.511488	6.966303	-7.3	25
Benzo (a) anthracene	4.66105	4.819396	3.4	25
Chrysene	7.656343	6.781202	-11.4	25
Benzo (b) fluoranthene	3.692349	3.664753	-0.7	25
Benzo (k) fluoranthene	6.777886	6.297799	-7.1	25
Benzo (a) pyrene	4.597956	4.392673	-4.5	25
Indeno (1,2,3-cd) pyrene	4.107122	3.457898	-15.8	25
Dibenzo (a,h) anthracene	3.255377	2.621034	-19.5	25
Benzo (g,h,i) perylene	4.022939	3.640603	-9.5	25

Analyte(s)	Average RF	CCRF	% D	Limit
Batch S204314				
Calibration Check (S204314-CCV1)				
Benzene	118535.5	121441.2	2.5	25
Ethylbenzene	79913.34	83477.74	4.5	25
Methyl tert-butyl ether	26187.5	21009.56	-19.8	25
Naphthalene	75027.16	75698.96	0.9	25
Toluene	98734.49	101854.3	3.2	25
m,p-Xylene	92675.13	97216.47	4.9	25
o-Xylene	78999.76	83845.92	6.1	25
2-Methylpentane	21987.17	27324.06	24.3	25
n-Nonane	17364.82	20437.44	17.7	30
n-Pentane	20561.1	22586.14	9.8	25
1,2,4-Trimethylbenzene	77150.91	80885.98	4.8	25
2,2,4-Trimethylpentane	25151.48	25681.38	2.1	25
n-Butylcyclohexane	19643.16	20635.16	5.1	25
n-Decane	15889.53	16718.58	5.2	25
Calibration Check (S204314-CCV2)				
Benzene	118535.5	121332.4	2.4	25
Ethylbenzene	79913.34	83186.44	4.1	25
Methyl tert-butyl ether	26187.5	22296.68	-14.9	25
Naphthalene	75027.16	78121.44	4.1	25
Toluene	98734.49	102047	3.4	25
m,p-Xylene	92675.13	96809.43	4.5	25
o-Xylene	78999.76	83592.08	5.8	25
2-Methylpentane	21987.17	24081.72	9.5	25
n-Nonane	17364.82	15128.4	-12.9	30
n-Pentane	20561.1	23971.42	16.6	25
1,2,4-Trimethylbenzene	77150.91	79635.74	3.2	25
2,2,4-Trimethylpentane	25151.48	23863.32	-5.1	25
n-Butylcyclohexane	19643.16	15969.82	-18.7	25
n-Decane	15889.53	12521.62	-21.2	25

Notes and Definitions

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

A Matrix Spike and Matrix Spike Duplicate (MS/MSD) for MADEP EPH CAM may not have been analyzed with the samples in this work order. According to the method these spikes are performed only when requested by the client. If requested the spike recoveries are included in the batch QC data.

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
Nicole Leja

SB47144 R

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☑ Rush TAT - Date Needed: 4/18/2012
- 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 - Brattleboro

Telephone #: (802) 257-1195
Project Mgr. Alicia Flammia

Invoice To: ECS - Agawam

P.O. No.: _____ RQN: 0002

Project No.: 04-205185.03 HP
Site Name: 100 Mohawk Trail
Location: Greenfield State: MA
Sampler(s): H. Hackerlotz

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= ice 10= _____ 11= _____

List preservative code below: 2 9 2 9 4 9 9

QA/QC Reporting Notes: (check as needed)

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

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: VPH	EPH	Dissolved RCRA 8	PCBs
47144-01	TRIP	4/11/12	~~10:00~~ ~~HH~~ 15 HH	G	X1	1				X			
-02	MW-1		14:45		GW	3	2		1		X	X	X
-03	MW-3		12:15				2		1		X	X	X
-04	MW-4		13:12										
-05	MW-5		14:00				1		1			X	X

Holly I. Hackerlotz

QA/QC Reporting Notes:
- ☑ Provide MA DEP MCP CAM Report
- ☐ Provide CT DPH RCP Report

QA/QC Reporting Level
☑ Standard ☐ No QC
☐ Other _____

State specific reporting standards: GW-1/GW-2/GW-3

RCRA 8 metals were field filtered

Relinquished by:	Received by:	Date:	Time:	Temp°C
Holly I. Hackerlotz	DEC	4/12/12	12:28	
DEC	DEC	4/12/12	4:10	1.2

☐ EDD Format _____
☑ E-mail to AFlammia@ecsconsult.com

☐ Ambient ☐ Iced ☒ Refrigerated ☐ Fridge temp N/A °C ☐ Freezer temp ____ °C

Report Date:
12-Mar-12 11:10

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Environmental Compliance Services
30 Harris PlaceAlex
Brattleboro, VT 05301
Attn: Alicia Flammia

Project: 100 Mohawk Trail - Greenfield, MA
Project #: 04-205185

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB44670-01	MW-3	Ground Water	24-Feb-12 10:57	29-Feb-12 16:00
SB44670-02	OS-17	Ground Water	24-Feb-12 10:12	29-Feb-12 16:00
SB44670-03	MW-1	Ground Water	24-Feb-12 12:52	29-Feb-12 16:00
SB44670-04	MW-4	Ground Water	24-Feb-12 11:22	29-Feb-12 16:00
SB44670-05	MW-5	Ground Water	24-Feb-12 11:56	29-Feb-12 16:00
SB44670-06	OS-11SR	Ground Water	24-Feb-12 09:38	29-Feb-12 16:00
SB44670-07	Trip	Trip	24-Feb-12 09:00	29-Feb-12 16:00

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 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 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).

MassDEP Analytical Protocol Certification Form

Laboratory Name: Spectrum Analytical, Inc.	**Project #:** 04-205185
Project Location: 100 Mohawk Trail - Greenfield, MA	**RTN:**
This form provides certifications for the following data set:	SB44670-01 through SB44670-07
Matrices: Ground Water Trip	

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: 3/12/2012

CASE NARRATIVE:

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

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

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

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

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

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

SW846 8260C

Samples:

SB44670-02 *OS-17*

The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).

cis-1,2-Dichloroethene

SB44670-02RE1 *OS-17*

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

SB44670-04 *MW-4*

The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).

cis-1,2-Dichloroethene

SB44670-04RE1 *MW-4*

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

SB44670-05 *MW-5*

The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).

cis-1,2-Dichloroethene
Trichloroethene

SB44670-05RE1 *MW-5*

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

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-3	04-205185	Ground Water	24-Feb-12 10:57	29-Feb-12
SB44670-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Halocarbons													
Prepared by method SW846 5030 Water MS													
75-27-4	Bromodichloromethane	< 0.5		µg/l	0.5	0.5	1	SW846 8260C	07-Mar-12	07-Mar-12	ek	1205029	
75-25-2	Bromoform	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.0		µg/l	2.0	1.1	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.0		µg/l	2.0	1.0	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.0		µg/l	2.0	1.5	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	**18.4**		µg/l	1.0	0.7	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.5	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.0		µg/l	2.0	0.7	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-01-6	Trichloroethene	**22.7**		µg/l	1.0	0.8	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.0		µg/l	1.0	0.8	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*	*107*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*104*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
OS-17	04-205185	Ground Water	24-Feb-12 10:12	29-Feb-12
SB44670-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Halocarbons													
Prepared by method SW846 5030 Water MS													
75-27-4	Bromodichloromethane	< 0.5		µg/l	0.5	0.5	1	SW846 8260C	07-Mar-12	07-Mar-12	ek	1205029	
75-25-2	Bromoform	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.0		µg/l	2.0	1.1	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.0		µg/l	2.0	1.0	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.0		µg/l	2.0	1.5	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	**1.5**		µg/l	1.0	0.5	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	**546**	E	µg/l	1.0	0.7	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	**8.3**		µg/l	1.0	0.7	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.5	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.0		µg/l	2.0	0.7	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-01-6	Trichloroethene	**8.0**		µg/l	1.0	0.8	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-01-4	Vinyl chloride	**3.1**		µg/l	1.0	0.8	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*96*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*105*			*70-130 %*			"	"	"	"	"	
Re-analysis of Volatile Organic Halocarbons			GS1										
Prepared by method SW846 5030 Water MS													
75-27-4	Bromodichloromethane	< 10.0		µg/l	10.0	9.6	20	SW846 8260C	08-Mar-12	08-Mar-12	ek	1205152	
75-25-2	Bromoform	< 20.0		µg/l	20.0	12.1	20	"	"	"	"	"	
74-83-9	Bromomethane	< 40.0		µg/l	40.0	22.8	20	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 20.0		µg/l	20.0	11.0	20	"	"	"	"	"	
108-90-7	Chlorobenzene	< 20.0		µg/l	20.0	13.1	20	"	"	"	"	"	
75-00-3	Chloroethane	< 40.0		µg/l	40.0	20.7	20	"	"	"	"	"	
67-66-3	Chloroform	< 20.0		µg/l	20.0	13.8	20	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
OS-17	04-205185	Ground Water	24-Feb-12 10:12	29-Feb-12
SB44670-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Re-analysis of Volatile Organic Halocarbons			GS1										
Prepared by method SW846 5030 Water MS													
74-87-3	Chloromethane	< 40.0		µg/l	40.0	29.5	20	SW846 8260C	08-Mar-12	08-Mar-12	ek	1205152	
124-48-1	Dibromochloromethane	< 10.0		µg/l	10.0	5.8	20	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 20.0		µg/l	20.0	13.4	20	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 20.0		µg/l	20.0	14.2	20	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 20.0		µg/l	20.0	12.5	20	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 40.0		µg/l	40.0	8.9	20	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 20.0		µg/l	20.0	13.6	20	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 20.0		µg/l	20.0	15.6	20	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 20.0		µg/l	20.0	9.8	20	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	**537**		µg/l	20.0	14.3	20	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 20.0		µg/l	20.0	13.6	20	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 20.0		µg/l	20.0	14.2	20	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 10.0		µg/l	10.0	5.0	20	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 10.0		µg/l	10.0	10.0	20	"	"	"	"	"	
75-09-2	Methylene chloride	< 40.0		µg/l	40.0	13.8	20	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 10.0		µg/l	10.0	7.0	20	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 20.0		µg/l	20.0	14.9	20	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 20.0		µg/l	20.0	11.6	20	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 20.0		µg/l	20.0	12.8	20	"	"	"	"	"	
79-01-6	Trichloroethene	< 20.0		µg/l	20.0	15.1	20	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 20.0		µg/l	20.0	12.6	20	"	"	"	"	"	
75-01-4	Vinyl chloride	< 20.0		µg/l	20.0	16.1	20	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*98*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*109*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*105*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-1	04-205185	Ground Water	24-Feb-12 12:52	29-Feb-12
SB44670-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Halocarbons													
Prepared by method SW846 5030 Water MS													
75-27-4	Bromodichloromethane	< 0.5		µg/l	0.5	0.5	1	SW846 8260C	07-Mar-12	07-Mar-12	ek	1205029	
75-25-2	Bromoform	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.0		µg/l	2.0	1.1	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.0		µg/l	2.0	1.0	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.0		µg/l	2.0	1.5	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	**15.9**		µg/l	1.0	0.7	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.5	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.0		µg/l	2.0	0.7	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-01-6	Trichloroethene	**27.0**		µg/l	1.0	0.8	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*98*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*105*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*104*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-4	04-205185	Ground Water	24-Feb-12 11:22	29-Feb-12
SB44670-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Halocarbons													
Prepared by method SW846 5030 Water MS													
75-27-4	Bromodichloromethane	< 0.5		µg/l	0.5	0.5	1	SW846 8260C	07-Mar-12	07-Mar-12	ek	1205029	
75-25-2	Bromoform	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.0		µg/l	2.0	1.1	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.0		µg/l	2.0	1.0	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.0		µg/l	2.0	1.5	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	**1.4**		µg/l	1.0	0.5	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	**414**	E	µg/l	1.0	0.7	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	**2.9**		µg/l	1.0	0.7	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.5	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.0		µg/l	2.0	0.7	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-01-4	Vinyl chloride	**31.9**		µg/l	1.0	0.8	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*97*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*105*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*			*70-130 %*			"	"	"	"	"	
Re-analysis of Volatile Organic Halocarbons			GS1										
Prepared by method SW846 5030 Water MS													
75-27-4	Bromodichloromethane	< 5.0		µg/l	5.0	4.8	10	SW846 8260C	08-Mar-12	08-Mar-12	ek	1205152	
75-25-2	Bromoform	< 10.0		µg/l	10.0	6.0	10	"	"	"	"	"	
74-83-9	Bromomethane	< 20.0		µg/l	20.0	11.4	10	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 10.0		µg/l	10.0	5.5	10	"	"	"	"	"	
108-90-7	Chlorobenzene	< 10.0		µg/l	10.0	6.5	10	"	"	"	"	"	
75-00-3	Chloroethane	< 20.0		µg/l	20.0	10.3	10	"	"	"	"	"	
67-66-3	Chloroform	< 10.0		µg/l	10.0	6.9	10	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-4	04-205185	Ground Water	24-Feb-12 11:22	29-Feb-12
SB44670-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Re-analysis of Volatile Organic Halocarbons			GS1										
Prepared by method SW846 5030 Water MS													
74-87-3	Chloromethane	< 20.0		µg/l	20.0	14.7	10	SW846 8260C	08-Mar-12	08-Mar-12	ek	1205152	
124-48-1	Dibromochloromethane	< 5.0		µg/l	5.0	2.9	10	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 10.0		µg/l	10.0	6.7	10	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 10.0		µg/l	10.0	7.1	10	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 10.0		µg/l	10.0	6.2	10	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 20.0		µg/l	20.0	4.5	10	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 10.0		µg/l	10.0	6.8	10	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 10.0		µg/l	10.0	7.8	10	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 10.0		µg/l	10.0	4.9	10	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	**497**		µg/l	10.0	7.2	10	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 10.0		µg/l	10.0	6.8	10	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 10.0		µg/l	10.0	7.1	10	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.0		µg/l	5.0	2.5	10	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.0		µg/l	5.0	5.0	10	"	"	"	"	"	
75-09-2	Methylene chloride	< 20.0		µg/l	20.0	6.9	10	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.0		µg/l	5.0	3.5	10	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 10.0		µg/l	10.0	7.4	10	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 10.0		µg/l	10.0	5.8	10	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 10.0		µg/l	10.0	6.4	10	"	"	"	"	"	
79-01-6	Trichloroethene	< 10.0		µg/l	10.0	7.6	10	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 10.0		µg/l	10.0	6.3	10	"	"	"	"	"	
75-01-4	Vinyl chloride	**37.1**		µg/l	10.0	8.1	10	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*101*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*108*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*104*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-5	04-205185	Ground Water	24-Feb-12 11:56	29-Feb-12
SB44670-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Halocarbons													
Prepared by method SW846 5030 Water MS													
75-27-4	Bromodichloromethane	< 0.5		µg/l	0.5	0.5	1	SW846 8260C	07-Mar-12	07-Mar-12	ek	1205029	
75-25-2	Bromoform	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.0		µg/l	2.0	1.1	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.0		µg/l	2.0	1.0	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.0		µg/l	2.0	1.5	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	**1.4**		µg/l	1.0	0.5	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	**354**	E	µg/l	1.0	0.7	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	**2.2**		µg/l	1.0	0.7	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.5	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.0		µg/l	2.0	0.7	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-01-6	Trichloroethene	**83.3**	E	µg/l	1.0	0.8	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-01-4	Vinyl chloride	**23.4**		µg/l	1.0	0.8	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*101*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*104*			*70-130 %*			"	"	"	"	"	
Re-analysis of Volatile Organic Halocarbons			GS1										
Prepared by method SW846 5030 Water MS													
75-27-4	Bromodichloromethane	< 5.0		µg/l	5.0	4.8	10	SW846 8260C	08-Mar-12	08-Mar-12	ek	1205152	
75-25-2	Bromoform	< 10.0		µg/l	10.0	6.0	10	"	"	"	"	"	
74-83-9	Bromomethane	< 20.0		µg/l	20.0	11.4	10	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 10.0		µg/l	10.0	5.5	10	"	"	"	"	"	
108-90-7	Chlorobenzene	< 10.0		µg/l	10.0	6.5	10	"	"	"	"	"	
75-00-3	Chloroethane	< 20.0		µg/l	20.0	10.3	10	"	"	"	"	"	
67-66-3	Chloroform	< 10.0		µg/l	10.0	6.9	10	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-5	04-205185	Ground Water	24-Feb-12 11:56	29-Feb-12
SB44670-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Re-analysis of Volatile Organic Halocarbons			GS1										
Prepared by method SW846 5030 Water MS													
74-87-3	Chloromethane	< 20.0		µg/l	20.0	14.7	10	SW846 8260C	08-Mar-12	08-Mar-12	ek	1205152	
124-48-1	Dibromochloromethane	< 5.0		µg/l	5.0	2.9	10	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 10.0		µg/l	10.0	6.7	10	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 10.0		µg/l	10.0	7.1	10	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 10.0		µg/l	10.0	6.2	10	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 20.0		µg/l	20.0	4.5	10	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 10.0		µg/l	10.0	6.8	10	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 10.0		µg/l	10.0	7.8	10	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 10.0		µg/l	10.0	4.9	10	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	**362**		µg/l	10.0	7.2	10	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 10.0		µg/l	10.0	6.8	10	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 10.0		µg/l	10.0	7.1	10	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.0		µg/l	5.0	2.5	10	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.0		µg/l	5.0	5.0	10	"	"	"	"	"	
75-09-2	Methylene chloride	< 20.0		µg/l	20.0	6.9	10	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.0		µg/l	5.0	3.5	10	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 10.0		µg/l	10.0	7.4	10	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 10.0		µg/l	10.0	5.8	10	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 10.0		µg/l	10.0	6.4	10	"	"	"	"	"	
79-01-6	Trichloroethene	**77.3**		µg/l	10.0	7.6	10	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 10.0		µg/l	10.0	6.3	10	"	"	"	"	"	
75-01-4	Vinyl chloride	**26.9**		µg/l	10.0	8.1	10	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*97*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*105*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*109*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*105*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
OS-11SR	04-205185	Ground Water	24-Feb-12 09:38	29-Feb-12
SB44670-06				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Halocarbons													
Prepared by method SW846 5030 Water MS													
75-27-4	Bromodichloromethane	< 0.5		µg/l	0.5	0.5	1	SW846 8260C	08-Mar-12	08-Mar-12	ek	1205152	
75-25-2	Bromoform	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.0		µg/l	2.0	1.1	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.0		µg/l	2.0	1.0	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.0		µg/l	2.0	1.5	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	**7.3**		µg/l	1.0	0.7	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.5	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.0		µg/l	2.0	0.7	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-01-6	Trichloroethene	**4.8**		µg/l	1.0	0.8	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*99*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*106*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*104*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip	04-205185	Trip	24-Feb-12 09:00	29-Feb-12
SB44670-07				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Halocarbons													
Prepared by method SW846 5030 Water MS													
75-27-4	Bromodichloromethane	< 0.5		µg/l	0.5	0.5	1	SW846 8260C	07-Mar-12	07-Mar-12	ek	1205029	
75-25-2	Bromoform	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.0		µg/l	2.0	1.1	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.0		µg/l	2.0	1.0	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.0		µg/l	2.0	1.5	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.5	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.0		µg/l	2.0	0.7	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*101*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*70-130 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1205029 - SW846 5030 Water MS										
Blank (1205029-BLK1)						Prepared & Analyzed: 07-Mar-12				
Bromodichloromethane	< 0.5		µg/l	0.5						
Bromoform	< 1.0		µg/l	1.0						
Bromomethane	< 2.0		µg/l	2.0						
Carbon tetrachloride	< 1.0		µg/l	1.0						
Chlorobenzene	< 1.0		µg/l	1.0						
Chloroethane	< 2.0		µg/l	2.0						
Chloroform	< 1.0		µg/l	1.0						
Chloromethane	< 2.0		µg/l	2.0						
Dibromochloromethane	< 0.5		µg/l	0.5						
1,2-Dichlorobenzene	< 1.0		µg/l	1.0						
1,3-Dichlorobenzene	< 1.0		µg/l	1.0						
1,4-Dichlorobenzene	< 1.0		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0						
1,1-Dichloroethane	< 1.0		µg/l	1.0						
1,2-Dichloroethane	< 1.0		µg/l	1.0						
1,1-Dichloroethene	< 1.0		µg/l	1.0						
cis-1,2-Dichloroethene	< 1.0		µg/l	1.0						
trans-1,2-Dichloroethene	< 1.0		µg/l	1.0						
1,2-Dichloropropane	< 1.0		µg/l	1.0						
cis-1,3-Dichloropropene	< 0.5		µg/l	0.5						
trans-1,3-Dichloropropene	< 0.5		µg/l	0.5						
Methylene chloride	< 2.0		µg/l	2.0						
1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5						
Tetrachloroethene	< 1.0		µg/l	1.0						
1,1,1-Trichloroethane	< 1.0		µg/l	1.0						
1,1,2-Trichloroethane	< 1.0		µg/l	1.0						
Trichloroethene	< 1.0		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0						
Vinyl chloride	< 1.0		µg/l	1.0						
Surrogate: 4-Bromofluorobenzene	*48.5*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: Toluene-d8	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*52.4*		µg/l		*50.0*		*105*	*70-130*		
LCS (1205029-BS1)						Prepared & Analyzed: 07-Mar-12				
Bromodichloromethane	**20.6**		µg/l		20.0		103	70-130		
Bromoform	**20.4**		µg/l		20.0		102	70-130		
Bromomethane	**23.2**		µg/l		20.0		116	70-130		
Carbon tetrachloride	**21.2**		µg/l		20.0		106	70-130		
Chlorobenzene	**20.1**		µg/l		20.0		100	70-130		
Chloroethane	**21.8**		µg/l		20.0		109	70-130		
Chloroform	**20.5**		µg/l		20.0		102	70-130		
Chloromethane	**22.5**		µg/l		20.0		112	70-130		
Dibromochloromethane	**21.4**		µg/l		20.0		107	70-130		
1,2-Dichlorobenzene	**21.2**		µg/l		20.0		106	70-130		
1,3-Dichlorobenzene	**20.6**		µg/l		20.0		103	70-130		
1,4-Dichlorobenzene	**19.4**		µg/l		20.0		97	70-130		
Dichlorodifluoromethane (Freon12)	**22.4**		µg/l		20.0		112	70-130		
1,1-Dichloroethane	**20.4**		µg/l		20.0		102	70-130		
1,2-Dichloroethane	**20.5**		µg/l		20.0		103	70-130		
1,1-Dichloroethene	**20.2**		µg/l		20.0		101	70-130		
cis-1,2-Dichloroethene	**20.4**		µg/l		20.0		102	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1205029 - SW846 5030 Water MS										
LCS (1205029-BS1)						Prepared & Analyzed: 07-Mar-12				
trans-1,2-Dichloroethene	**21.5**		µg/l		20.0		107	70-130		
1,2-Dichloropropane	**20.5**		µg/l		20.0		103	70-130		
cis-1,3-Dichloropropene	**21.2**		µg/l		20.0		106	70-130		
trans-1,3-Dichloropropene	**21.7**		µg/l		20.0		109	70-130		
Methylene chloride	**20.0**		µg/l		20.0		100	70-130		
1,1,2,2-Tetrachloroethane	**21.5**		µg/l		20.0		107	70-130		
Tetrachloroethene	**19.4**		µg/l		20.0		97	70-130		
1,1,1-Trichloroethane	**20.2**		µg/l		20.0		101	70-130		
1,1,2-Trichloroethane	**19.9**		µg/l		20.0		99	70-130		
Trichloroethene	**18.8**		µg/l		20.0		94	70-130		
Trichlorofluoromethane (Freon 11)	**20.4**		µg/l		20.0		102	70-130		
Vinyl chloride	**21.9**		µg/l		20.0		109	70-130		
Surrogate: 4-Bromofluorobenzene	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*50.1*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.1*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*49.5*		µg/l		*50.0*		*99*	*70-130*		
LCS Dup (1205029-BSD1)						Prepared & Analyzed: 07-Mar-12				
Bromodichloromethane	**21.4**		µg/l		20.0		107	70-130	4	25
Bromoform	**20.9**		µg/l		20.0		105	70-130	2	25
Bromomethane	**20.3**		µg/l		20.0		101	70-130	14	50
Carbon tetrachloride	**20.0**		µg/l		20.0		100	70-130	6	25
Chlorobenzene	**19.4**		µg/l		20.0		97	70-130	4	25
Chloroethane	**20.6**		µg/l		20.0		103	70-130	6	50
Chloroform	**20.1**		µg/l		20.0		100	70-130	2	25
Chloromethane	**21.6**		µg/l		20.0		108	70-130	4	25
Dibromochloromethane	**21.5**		µg/l		20.0		108	70-130	0.5	50
1,2-Dichlorobenzene	**20.6**		µg/l		20.0		103	70-130	3	25
1,3-Dichlorobenzene	**19.9**		µg/l		20.0		99	70-130	4	25
1,4-Dichlorobenzene	**18.4**		µg/l		20.0		92	70-130	5	25
Dichlorodifluoromethane (Freon12)	**20.6**		µg/l		20.0		103	70-130	8	50
1,1-Dichloroethane	**20.5**		µg/l		20.0		102	70-130	0.3	25
1,2-Dichloroethane	**20.4**		µg/l		20.0		102	70-130	0.4	25
1,1-Dichloroethene	**19.2**		µg/l		20.0		96	70-130	5	25
cis-1,2-Dichloroethene	**20.1**		µg/l		20.0		100	70-130	2	25
trans-1,2-Dichloroethene	**20.0**		µg/l		20.0		100	70-130	7	25
1,2-Dichloropropane	**19.2**		µg/l		20.0		96	70-130	7	25
cis-1,3-Dichloropropene	**20.4**		µg/l		20.0		102	70-130	4	25
trans-1,3-Dichloropropene	**21.1**		µg/l		20.0		106	70-130	3	25
Methylene chloride	**20.0**		µg/l		20.0		100	70-130	0.05	25
1,1,2,2-Tetrachloroethane	**21.4**		µg/l		20.0		107	70-130	0.7	25
Tetrachloroethene	**17.4**		µg/l		20.0		87	70-130	11	25
1,1,1-Trichloroethane	**18.8**		µg/l		20.0		94	70-130	7	25
1,1,2-Trichloroethane	**20.4**		µg/l		20.0		102	70-130	2	25
Trichloroethene	**18.6**		µg/l		20.0		93	70-130	1	25
Trichlorofluoromethane (Freon 11)	**19.9**		µg/l		20.0		100	70-130	2	50
Vinyl chloride	**20.9**		µg/l		20.0		104	70-130	5	25
Surrogate: 4-Bromofluorobenzene	*52.4*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.0*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*51.1*		µg/l		*50.0*		*102*	*70-130*		
Batch 1205152 - SW846 5030 Water MS										

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1205152 - SW846 5030 Water MS										
Blank (1205152-BLK1)						Prepared & Analyzed: 08-Mar-12				
Bromodichloromethane	< 0.5		µg/l	0.5						
Bromoform	< 1.0		µg/l	1.0						
Bromomethane	< 2.0		µg/l	2.0						
Carbon tetrachloride	< 1.0		µg/l	1.0						
Chlorobenzene	< 1.0		µg/l	1.0						
Chloroethane	< 2.0		µg/l	2.0						
Chloroform	< 1.0		µg/l	1.0						
Chloromethane	< 2.0		µg/l	2.0						
Dibromochloromethane	< 0.5		µg/l	0.5						
1,2-Dichlorobenzene	< 1.0		µg/l	1.0						
1,3-Dichlorobenzene	< 1.0		µg/l	1.0						
1,4-Dichlorobenzene	< 1.0		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0						
1,1-Dichloroethane	< 1.0		µg/l	1.0						
1,2-Dichloroethane	< 1.0		µg/l	1.0						
1,1-Dichloroethene	< 1.0		µg/l	1.0						
cis-1,2-Dichloroethene	< 1.0		µg/l	1.0						
trans-1,2-Dichloroethene	< 1.0		µg/l	1.0						
1,2-Dichloropropane	< 1.0		µg/l	1.0						
cis-1,3-Dichloropropene	< 0.5		µg/l	0.5						
trans-1,3-Dichloropropene	< 0.5		µg/l	0.5						
Methylene chloride	< 2.0		µg/l	2.0						
1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5						
Tetrachloroethene	< 1.0		µg/l	1.0						
1,1,1-Trichloroethane	< 1.0		µg/l	1.0						
1,1,2-Trichloroethane	< 1.0		µg/l	1.0						
Trichloroethene	< 1.0		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0						
Vinyl chloride	< 1.0		µg/l	1.0						
Surrogate: 4-Bromofluorobenzene	*50.0*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*51.1*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.9*		µg/l		*50.0*		*106*	*70-130*		
Surrogate: Dibromofluoromethane	*52.8*		µg/l		*50.0*		*106*	*70-130*		
LCS (1205152-BS1)						Prepared & Analyzed: 08-Mar-12				
Bromodichloromethane	**22.4**		µg/l		20.0		112	70-130		
Bromoform	**20.8**		µg/l		20.0		104	70-130		
Bromomethane	**18.8**		µg/l		20.0		94	70-130		
Carbon tetrachloride	**22.2**		µg/l		20.0		111	70-130		
Chlorobenzene	**19.7**		µg/l		20.0		99	70-130		
Chloroethane	**22.3**		µg/l		20.0		111	70-130		
Chloroform	**21.7**		µg/l		20.0		108	70-130		
Chloromethane	**21.4**		µg/l		20.0		107	70-130		
Dibromochloromethane	**22.2**		µg/l		20.0		111	70-130		
1,2-Dichlorobenzene	**21.6**		µg/l		20.0		108	70-130		
1,3-Dichlorobenzene	**19.9**		µg/l		20.0		99	70-130		
1,4-Dichlorobenzene	**20.4**		µg/l		20.0		102	70-130		
Dichlorodifluoromethane (Freon12)	**23.4**		µg/l		20.0		117	70-130		
1,1-Dichloroethane	**21.9**		µg/l		20.0		109	70-130		
1,2-Dichloroethane	**22.4**		µg/l		20.0		112	70-130		
1,1-Dichloroethene	**23.1**		µg/l		20.0		116	70-130		
cis-1,2-Dichloroethene	**21.1**		µg/l		20.0		106	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1205152 - SW846 5030 Water MS										
LCS (1205152-BS1)						Prepared & Analyzed: 08-Mar-12				
trans-1,2-Dichloroethene	**21.8**		µg/l		20.0		109	70-130		
1,2-Dichloropropane	**21.2**		µg/l		20.0		106	70-130		
cis-1,3-Dichloropropene	**21.8**		µg/l		20.0		109	70-130		
trans-1,3-Dichloropropene	**21.8**		µg/l		20.0		109	70-130		
Methylene chloride	**21.5**		µg/l		20.0		107	70-130		
1,1,2,2-Tetrachloroethane	**21.2**		µg/l		20.0		106	70-130		
Tetrachloroethene	**20.4**		µg/l		20.0		102	70-130		
1,1,1-Trichloroethane	**20.9**		µg/l		20.0		104	70-130		
1,1,2-Trichloroethane	**21.1**		µg/l		20.0		105	70-130		
Trichloroethene	**20.0**		µg/l		20.0		100	70-130		
Trichlorofluoromethane (Freon 11)	**21.8**		µg/l		20.0		109	70-130		
Vinyl chloride	**20.9**		µg/l		20.0		104	70-130		
Surrogate: 4-Bromofluorobenzene	*51.0*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*50.2*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.9*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*50.5*		µg/l		*50.0*		*101*	*70-130*		
LCS Dup (1205152-BSD1)						Prepared & Analyzed: 08-Mar-12				
Bromodichloromethane	**20.8**		µg/l		20.0		104	70-130	7	25
Bromoform	**19.9**		µg/l		20.0		99	70-130	5	25
Bromomethane	**18.3**		µg/l		20.0		91	70-130	3	50
Carbon tetrachloride	**20.4**		µg/l		20.0		102	70-130	8	25
Chlorobenzene	**18.5**		µg/l		20.0		93	70-130	6	25
Chloroethane	**21.4**		µg/l		20.0		107	70-130	4	50
Chloroform	**20.3**		µg/l		20.0		101	70-130	7	25
Chloromethane	**19.8**		µg/l		20.0		99	70-130	8	25
Dibromochloromethane	**21.9**		µg/l		20.0		109	70-130	1	50
1,2-Dichlorobenzene	**20.6**		µg/l		20.0		103	70-130	5	25
1,3-Dichlorobenzene	**18.8**		µg/l		20.0		94	70-130	5	25
1,4-Dichlorobenzene	**18.8**		µg/l		20.0		94	70-130	8	25
Dichlorodifluoromethane (Freon12)	**22.1**		µg/l		20.0		110	70-130	6	50
1,1-Dichloroethane	**20.4**		µg/l		20.0		102	70-130	7	25
1,2-Dichloroethane	**22.3**		µg/l		20.0		111	70-130	0.4	25
1,1-Dichloroethene	**20.5**		µg/l		20.0		102	70-130	12	25
cis-1,2-Dichloroethene	**20.4**		µg/l		20.0		102	70-130	4	25
trans-1,2-Dichloroethene	**21.0**		µg/l		20.0		105	70-130	4	25
1,2-Dichloropropane	**20.8**		µg/l		20.0		104	70-130	2	25
cis-1,3-Dichloropropene	**20.9**		µg/l		20.0		104	70-130	4	25
trans-1,3-Dichloropropene	**21.8**		µg/l		20.0		109	70-130	0	25
Methylene chloride	**21.1**		µg/l		20.0		106	70-130	2	25
1,1,2,2-Tetrachloroethane	**20.6**		µg/l		20.0		103	70-130	3	25
Tetrachloroethene	**19.0**		µg/l		20.0		95	70-130	7	25
1,1,1-Trichloroethane	**19.4**		µg/l		20.0		97	70-130	7	25
1,1,2-Trichloroethane	**20.8**		µg/l		20.0		104	70-130	1	25
Trichloroethene	**19.0**		µg/l		20.0		95	70-130	5	25
Trichlorofluoromethane (Freon 11)	**20.2**		µg/l		20.0		101	70-130	8	50
Vinyl chloride	**20.3**		µg/l		20.0		101	70-130	3	25
Surrogate: 4-Bromofluorobenzene	*49.4*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.8*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*51.6*		µg/l		*50.0*		*103*	*70-130*		

Notes and Definitions

E	The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

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

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

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

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

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

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

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

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

Validated by:
Nicole Leja

SB44670 - 10c

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 Brattleboro
30 Harris Place
Brattleboro, VT

Telephone #: 802-257-1195
Project Mgr. A. Flammia

Invoice To: ECS Agawam

P.O. No.: _____ RQN: 0002

Project No.: 04-205185
Site Name: 100 Mohawk Trail
Location: 100 Mohawk Trail, Greenfield State: MA
Sampler(s): W. Verman, D. Nicodemi

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= ice 11= _____

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

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	List preservative code below: 2,10	Analyses: halogenated VOCs only 8260	QA/QC Reporting Notes: * additional charges may apply
SB44670 01	MW-3	2/24/12	10:57	G	GW	3					X	
02	OS-17		10:12	G	GW	3					X	
03	MW-1		12:52	G	GW	3					X	
04	MW-4		11:22	G	GW	3					X	
05	MW-5		11:50	G	GW	3					X	
06	OS-11SR		9:38	G	GW	3					X	
07	TRIP		9:00	G	X1	1					X	

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 V*
- [X] Other GW-2/GW-3

State-specific reporting standards: MA

Relinquished by:	Received by:	Date:	Time:	Temp°C
		2/29/12	1:42	
		2/29/12	1600	1.3

- [ ] EDD Format _____
- [X] E-mail to aflammia@ecsconsult.com
- [ ] Ambient [ ] Iced [X] Refrigerated [ ] Fridge temp N/A °C [ ] Freezer temp ____ °C

ATTACHMENT III

MACRIS DATABASE SEARCH RESULTS

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

Search Criteria: Town(s): Greenfield; Street No: 100; Street Name: Mohawk Trail; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year