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

CERTIFIED MAIL

January 25, 2011

Lori A. McCarthy
Project Manager
588 Silver Street
Agawam, MA 01001

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. Bernardston Sunoco site located at 50 Church Street, Bernardston, MA 01337, Franklin County; Authorization # MAG910073 - Reissuance

Dear Ms. McCarthy

Based on the review of a Notice of Intent (NOI) submitted on behalf of A.R. Sandri, Inc. by the firm Environmental Compliance Services, 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 for 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 check list 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.

Also, please note that the metals lead and iron are included in the list. Lead and iron were included because you have marked these believed present in the NOI application. These pollutants are dilution dependent subject to limitations based on a dilution factor range (DFR), due to the ample dilution reported at the point of discharge (130.6) the DFR applicable for this pollutant is equal to the Ceiling Value DFR established in the RGP. (See the RGP Appendix IV for Massachusetts facilities). Therefore, the limit for lead of 430ug/L and iron of 5,000ug/L, shall not be exceeded in the discharge.

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

This general permit and authorization to discharge will expire on September 9, 2015. You reported that this project will terminate on December 13, 2013. 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,

David M. Webster, Chief
Industrial Permits Branch

Enclosure

cc: Kathleen Keohane, MassDEP

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Permit Number:	**BLANKG9100**
Date Permit Issued:	January 2011
Facility/Site Name:	Bernardston Sunoco
Facility/Site Address:	50 Church Street, Bernardston, MA 01337, Franklin County
	Email address of owner:sabot&sandry.com; Phone n:800 628 1900
Legal Name of Operator:	Environmental Compliance Services, Inc.
Operator contact name, title, and Address:	Lori A McCarthy, Project Manager
	588 Silver Street Agawam, MA 01001 Email: lmccarty@ecsconsultant.com
Estimated Date of Completion:	December 13, 2013.
Category and Sub-Category:	Category I- Petroleum Related Site Remediation. Sub-category A. Gasoline Only Sites
Receiving Water:	Wetland to Fall 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#60.2/ML 5ug/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 5ug/L
√	5. Benzene (B)	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
√	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
√	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
√	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
√	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) [4]	100 ug/L/ Me#8260C/ ML 2ug/L
√	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)	Monitor Only (ug/L)/ Me#8260C/ ML

	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)
	(TertiaryButanol)	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/ ML5ug/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/ML5ug/L,Me#604 &625/ML 10ug/L
	33. Total Phthalates (Phthalate esters) [6]	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
	a. Benzo(a) Anthracene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	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,

	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)
		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 0.1ug/L

	Metal parameter	Total Recoverable Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11]			
		Freshwater	Saltwater		
	39. Antimony	5.6/10mL			
	40. Arsenic **	10/20mL	36/20mL		
	41. Cadmium **	0.2/10ml	8.9/10mL		
	42. Chromium III (trivalent) **	48.8/15mL	100/15mL		
	43. Chromium VI (hexavalent) **	11.4/10mL	50.3/10mL		
	44. Copper **	5.2/15mL	3.7/15mL		

	Metal parameter	Total Recoverable Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11]			
		Freshwater	Saltwater		
√	45. Lead **	430/20mL	8.5/20mL		
	46. Mercury **	0.9/0.2mL	1.1/0.2mL		
	47. Nickel **	29/20mL	8.2/20mL		
	48. Selenium **	5/20mL	71/20mL		
	49. Silver	1.2/10mL	2.2/10mL		
	50. Zinc **	66.6/15mL	85.6/15mL		
√	51. Iron	5,000/20mL			

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

Footnotes:

[1] Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).
[2] Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.
[3] Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).
[4] BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.
[5] Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.
[6] The sum of individual phthalate compounds(not including the #34, Bis (2-Ethylhexyl) Phthalate . The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.
Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.
[7] Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.
[8] In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Oroclor analyses."Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.
[9]Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).
[10] Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.
[11] For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using DF x 1,000ug/L (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit =1,000 x 2 =2,000 ug/L., etc. not to exceed the DF=5.
[12] Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).
[13] pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.
[14] Temperature sampling per Method 170.1

ecs
WHERE BUSINESS AND THE ENVIRONMENT CONVERGE

588 Silver Street, Agawam, MA 01001 tel 413.789.3530 fax 413.789.2776 www.ecsconsult.com

U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, MA 02109-3912

December 9, 2010
Project No. J40076
Document No. 39772

ATTN: Remediation General Permit NOI Processing

VIA EMAIL

RE: Sandri Sunoco
50 Church Street
Bernardston, Massachusetts
RGP No. MAG910073
MassDEP RTN 1-01077

Dear Sir or Madam:

Environmental Compliance Services, Inc. (ECS) is pleased to provide supporting documentation for the reapplication for coverage under the Remediation General Permit (RGP) on behalf of A.R. Sandri, Inc. (Sandri). This Notice of Intent (NOI) is submitted in order to continue the operation of a groundwater recovery and treatment system (GWTS) located at 50 Church Street, Bernardston, Franklin County, Massachusetts (herein referred to as the Site). The GWTS has been operated at the Site since October 2001 to control and eliminate light non-aqueous phase liquids (LNAPL) and associated dissolved-phase hydrocarbons in the groundwater. A Site Locus is provided as Figure 1. The NOI form is provided as Attachment I.

System Design

The system design schematic is attached. The system was originally designed to recover LNAPL and treat groundwater impacted with petroleum hydrocarbons. LNAPL has not been observed at the Site since 2002, and the system design was altered to treat groundwater without LNAPL recovery. Recovered groundwater is treated using an oil/water separator, air-stripper and liquid granular activated carbon (LGAC) to remove petroleum hydrocarbons dissolved in groundwater. Water is pumped from extraction wells into the oil/water separator using up to five submersible pneumatic pumps, which are capable of pumping at a flow rate of 4 gallons per minute (gpm). During 2009 and 2010, groundwater was extracted only from well EW-4 (see Site Plan, Figure 2).

The oil/water separator is capable of treating a flow of 10 gallons per minute. The oil/water separator is equipped with high-liquid level float, which closes the solenoid valve on the compressed air line and deactivate the submersible pumps in the event a high liquid level condition occurs.

Water from the oil/water separator is discharged through a low profile air stripper via a transfer pump. The air stripper removes benzene, toluene, ethylbenzene, xylenes (BTEX), and Methyl-tert-butylether (MtBE) from the water with an estimated 99% destruction removal efficiency. Water is then pumped through four particulate filters (plumbed in parallel to minimize pressure drop) prior to treatment with two 200-lb. LGAC units. The LGAC units are constructed of steel and have a maximum operating pressure greater than 75 pounds per square inch (psi). Sampling ports are provided before and after the carbon adsorption units to allow for monitoring of treatment system removal performance.

The treatment system effluent discharges into an existing storm sewer, which is located east of the facility building. This drainage pipe travels southwest along Center Street to another catch basin, which connects to the State Highway drainage system along Route 10 (Church Street). According to Mr. Merle Kingsley, Superintendent of the Highway Department, the State drainage pipe travels east along Church Street for approximately 500 feet, and outfalls to a wetland adjacent to the Fall River. A Site plan detailing the location of the groundwater treatment system and the catch basin for the storm water line is provided as Figure 2. Piping and instrumentation Diagrams are provided as Figures 3 through 5. 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.

From May 2010 to the present, the GWTS has been in planned shutdown in order to collect data to determine if additional operation of the system would be required prior to closure with the MassDEP. Should restart of the system be necessary, an RGP must be in place in order to discharge treated groundwater.

During operation from December 2008 to May 2010, the measured flow rate from the system ranged from 1.8 to 5.6 gpm during active operation. The average discharge rate during this time period was calculated to be 0.59 gpm. If the system is restarted, it is anticipated that pumping will only occur at one well location (EW-4, Figure 2). Based upon the designed capacity of the oil/water separator, the design capacity of the groundwater treatment system is 10 gpm. As a conservative estimate, a maximum flow capacity for the groundwater treatment system was estimated at 10 gpm.

Influent Sample Analysis

Samples have been collected on a monthly basis of the untreated influent and treated effluent from the GWTS and submitted for analysis of the volatile organic compounds (VOCs) benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tert-butylether (MtBE), and tert-butyl alcohol (TBA) by the USEPA Method 8260B, Total Petroleum Hydrocarbons (TPH) by the USEPA Method 1664A, and for total iron by the USEPA Method 6010B. Analytical data from 2006 through 2010 is summarized on Table 1. Copies of laboratory reports from December 2008 through June 2010 are provided as Attachment II.

The table of parameters in the NOI was completed based upon a combination of recent data (2008-2010) and historical data (2006). Parameters that were detected in the untreated influent samples collected for the 2006 RGP NOI and any parameter detected in subsequent untreated influent samples were considered

"believed present". Parameters not detected in these samples were considered "believed absent". The following parameters are believed potentially present in the untreated influent of the GWTS:

- BTEX
- MtBE
- TBA
- Tert Amyl Methyl Ether (TAME)
- Naphthalene
- TPH
- Total Suspended Solids (based on 2006 data)
- Ethylene dibromide (EDB)
- Lead (based on 2006 data)
- Iron

Comparison of the maximum concentrations of these compounds detected since 2008 to the Appendix III effluent limitations (http://www.epa.gov/region1/npdes/remediation/RGP2010_PermitAppendixIII.pdf, accessed December 6, 2010) indicates that the maximum concentrations of TSS, benzene, total BTEX, EDB, MTBE, lead, and iron detected in the untreated influent samples were above the RGP permitted effluent limitations.

Calculation of the mass discharged of each compound believed present in the untreated influent of the GWTS was performed using the following calculation:

kg/day of compound = flow rate (gallons/day) x maximum concentration (mg/L) x 3.78 L/gallon x
1 kg/1,000,000 mg

Receiving Waters Information

The receiving water for the treated groundwater discharge is a wetland adjacent to the Fall River located approximately 500 feet east of the Site. Fall River flows in a southerly direction and confluences with the Connecticut River at a point located in Turners Falls, approximately four miles south-southwest 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://water.usgs.gov/osw/streamstats/massachusetts.html, accessed December 6, 2010). Data obtained from the online resource indicated that the calculated 7Q10 flow rate for this area of Fall River is 2.89 cubic feet per second (cfs). A copy of the ungauged site report and map is provided as Attachment III.

Based upon an estimated maximum flow rate of the discharge from the groundwater treatment system of 10 gpm, the dilution factor was calculated as:

Equation 1: $DF = (Qd + Qs)/Qd$

Where:
DF = DilutionFactor
Qd = Maximum flow rate of the discharge in cfs
Qs = Receiving water 7Q10 flow (cfs), where,
7Q10 = The minimum flow (cfs) for 7 consecutive days with a recurrence interval of 10 years

$Qd = 10 \text{ gpm} \times 0.00223 \text{ cfs/gpm} = 0.0223 \text{ cfs}$

$DF = (0.0223 + 2.89)/(0.0223)$
$DF = 130.6$

The maximum concentrations of lead and iron reported present in the untreated sample (6.1 and 65,800 micrograms per liter (µg/L), respectively) were compared to the column corresponding to a dilution factor of 130.6 (greater than 100) in Appendix IV table. The discharge limits listed in the Appendix IV table are 132 µg/L for lead and 5,000 µg/L for iron. The maximum detection for lead was 6.1 µg/L. The maximum detection for iron was 65,800 µg/L. Since iron exceeds the discharge limit listed in Appendix IV, iron should be subject to permit limitations or monitoring requirements for this discharge.

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, accessed December 6, 2010) to determine the classification for the receiving waters. The list indicates that Fall River and section of the Connecticut River from the Massachusetts state line to the Turners Fall Dam in Turners Falls are classified as Class B water due to warm water. A Total Maximum Daily Load (TMDL) is not listed for Fall River.

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 Habitats of Rare Species or Estimated Habitat of Rare Wildlife are located within a ½-mile radius of the proposed discharge area. According Appendix I and II of the RGP, there are no Areas of Critical Environmental Concern or Endangered Species known to exist within ½-mile of proposed discharge area. A copy of the MassGIS Map is provided as Attachment IV.

Review of National Register of Historic Places

A listing of all Historic Places within the town of Bernardston was obtained from the online database at http://www.nationalregisterofhistoricplaces.com/MA/Franklin/state.html (accessed December 8, 2010). One historic place was located in close proximity to the discharge location. The Bernardston Congregational Unitarian Church at the corner of Church Street and Depot Street is the southerly abutting property to the Site. The building on this property was listed in the National Historic Register in 1993. Since the discharge of the GWTS is diverted to existing stormwater lines located in Church Street, it is expected that the property is not affected by the discharge or identified in the path of the discharges regulated by this permit.

Copies of this letter and supporting documentation have been forwarded to Mr. David Slowick at the Western Regional Office of the MassDEP and to Mr. Merle Kingsley, Superintendent of the Highway Department. 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 (413) 789-3530.

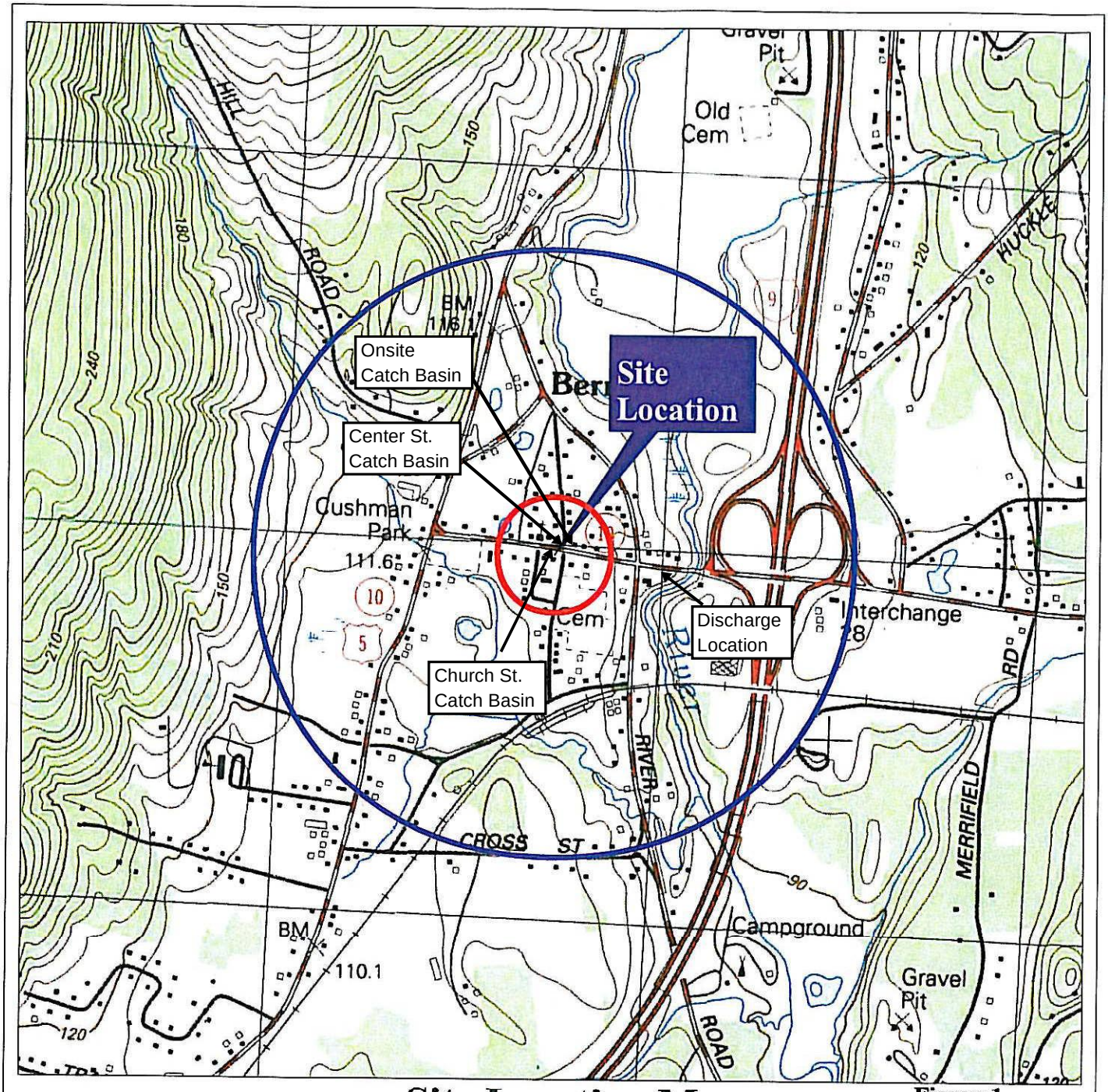
Sincerely,
ENVIRONMENTAL COMPLIANCE SERVICES, INC.

Lori A. McCarthy
Project Manager

LAG/cyl
Attachments

Cc: D. Slowick, MassDEP, WERO (via eDEP)
M. Kingley, Massachusetts Highway Department
S. Abbott, A.R. Sandri

FIGURES



Site Location Map

Bernardston Sunoco
50 Church Street
Bernardston, MA 01337

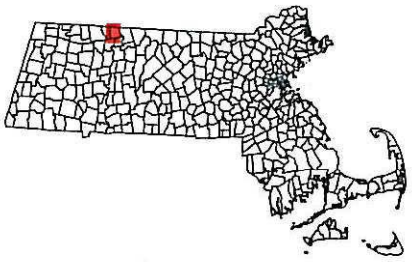


Figure 1

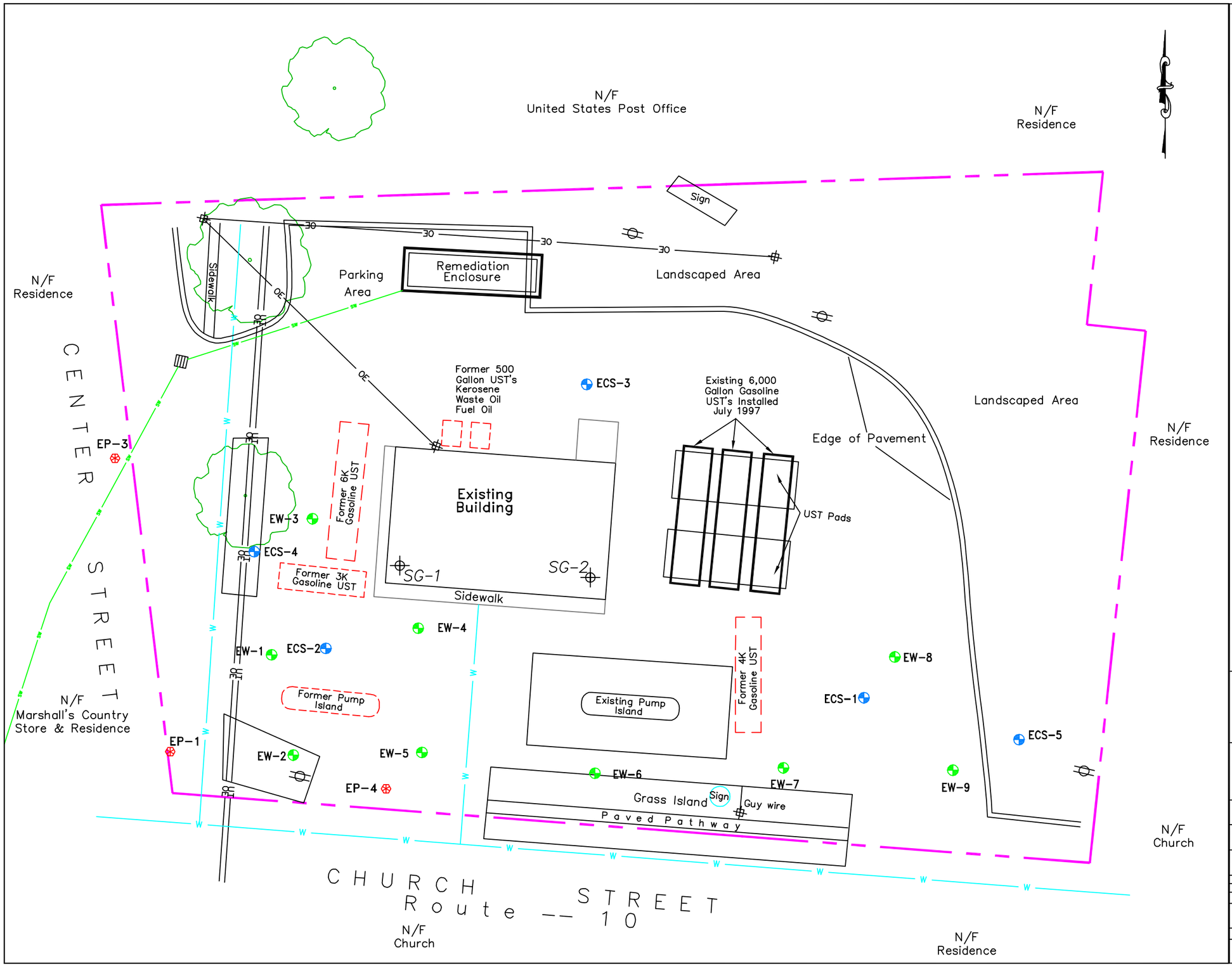
500 0 500 1000 Feet

1 in. = 1250 ft.

94-040076.00
11/16/04

Map taken from the USGS 7.5 Minute Bernardston Quadrangle, 1981.

ecs



Legend

- Approximate Property Line
- SW — Storm Sewer Line
- W — Water Line
- OE — Overhead Electric Line
- Trenching
- Catchbasin
- Light Pole
- Indoor Air Sample Location
- Monitoring Well 2"
- EW-2 — 4" Extraction Well
- SG-1 — Soil Gas Point
- ECS-1 — Well I.D.

General Notes:

Site Plan prepared from a plan provided to ECS, Inc. by Sandri, Inc., and measurements made by a representative of ECS, Inc.

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

ecs
588 Silver Street * Agawam, MA 01001
Phone: 1-800-789-3530 Fax: 413-789-2776
www.ecsconsult.com

PROJECT:
Bernardston Sunoco
50 Church Street
Bernardston, Massachusetts

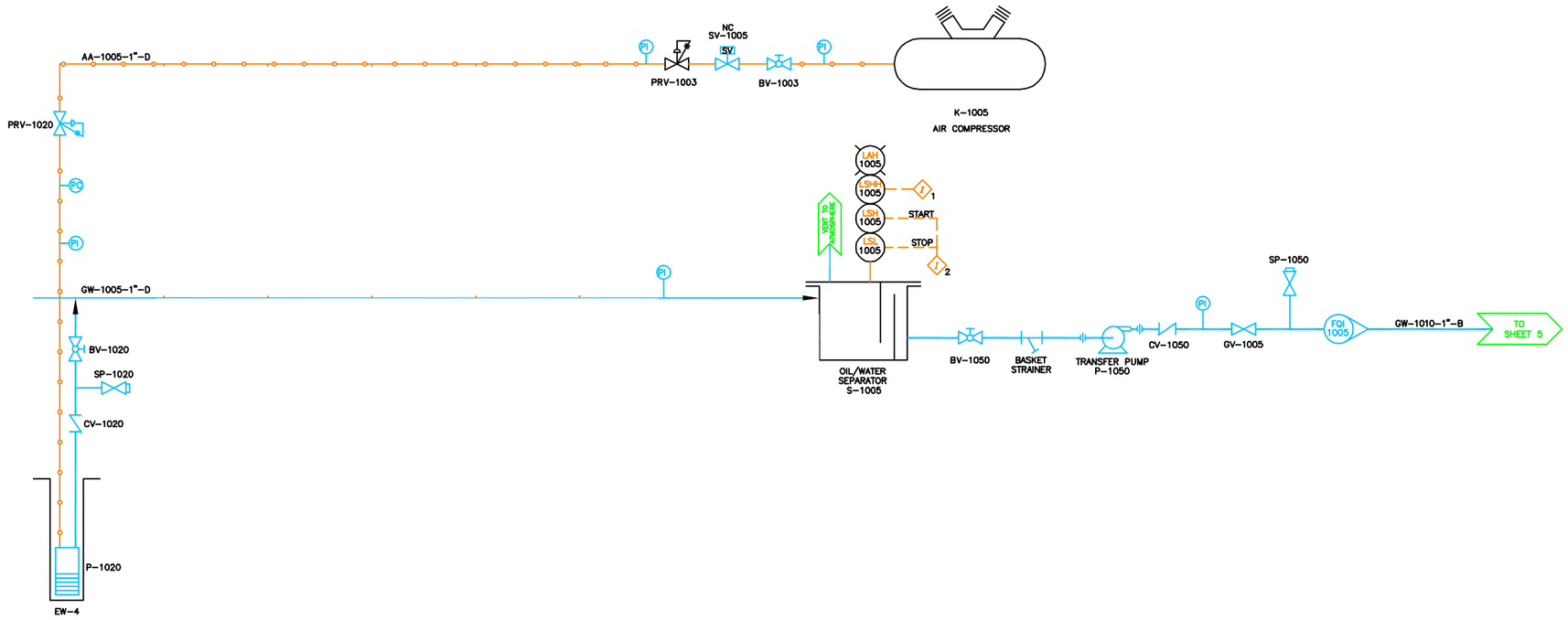
TITLE: Site Plan

CLIENT: **J.W. Sandri, Inc.**

GRAPHIC SCALE: 20 10 0 10 20

CADFILE: F:\Data\Projects\40076\DWG\S40076-3.dwg
SAVED BY: RWALAS

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
RRW	LAG	LAG	LAG
SCALE:	**DATE:**	**JOB NO.:**	**FIGURE NO.:**
1"=20'	12/2010	J40076	2



LIQUID RECOVERY & TREATMENT SYSTEM

EQUIPMENT SCHEDULE

I.D.	DESCRIPTION
B-1005	AIR STRIPPER BLOWER, 3HP, 150 CFM, 18" WC
C-1005	LOW PROFILE AIR STRIPPER
C-1010	LIQUID PHASE GAC
C-1015	VAPOR PHASE GAC
K-1005	25 CFM 50 PSI COMPRESSOR
P-1020	PNUEMATIC SUBMERSIBLE PUMP, 0-5 GPM
P-1050	TRANSFER PUMP, 1HP, 10 GPM, TBD
P-1055	TRANSFER PUMP, 1HP, 10 GPM, TBD
S-1005	OIL WATER SEPARATOR, 10 GPM FLOW CAPACITY
S-1010	PARTICULATE FILTERS 75 PSI MAX

INTERLOCKS SCHEDULE

I.D.	DESCRIPTION
1	LSHH-1005 CLOSES SV-1005 ON HIGH LIQUID LEVEL,
2	LSH-1005 TURNS P-1050 ON, LSL-1005 TURNS P-1050 OFF
3	LSH-1010 CLOSES SV-1005 ON HIGH LIQUID LEVEL
4	LSH-1015 TURNS P-1055 ON. LSL-1015 TURNS P-1055 OFF
5	LSHH-1015 TURNS P-1050 OFF, CLOSES SV-1005 ON HIGH LIQUID LEVEL
6	FSL-1005 TURNS B-1005 OFF, TURNS P-1050 OFF, CLOSES SV-1005 ON LOW FLOW
7	LSH-1020 CLOSES SV-1005

ENVIRONMENTAL COMPLIANCE SERVICES, INC.
588 Silver Street * Agawam, MA 01001

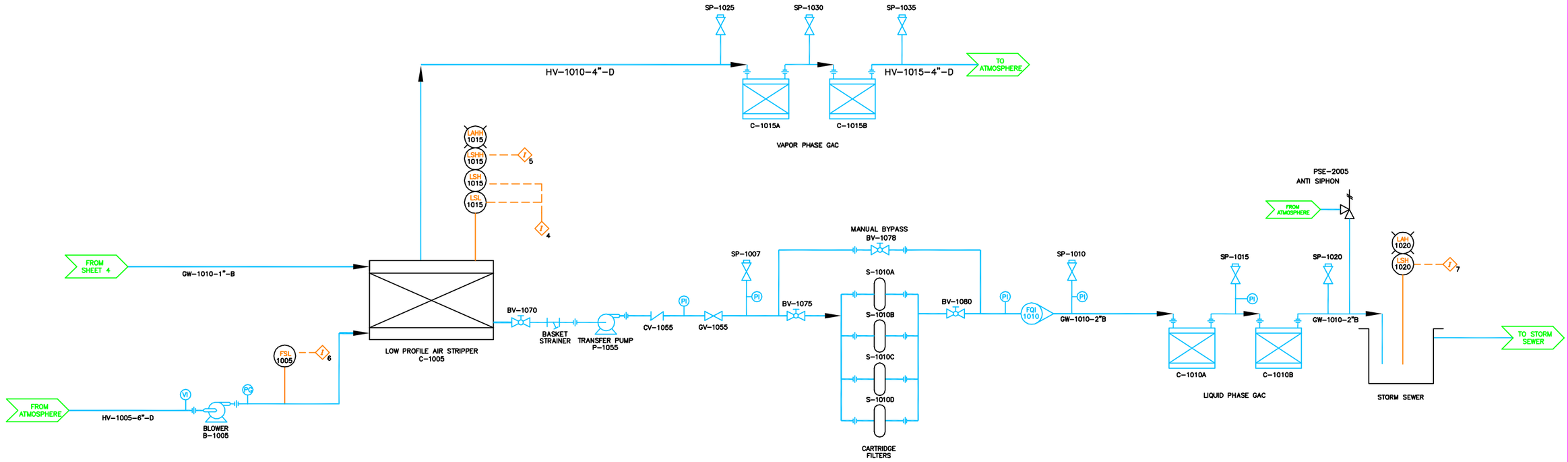
GRAPHIC SCALE: 0 X X

PROJECT:
Bernardston Sunoco
50 Church Street
Bernardston, Massachusetts

TITLE:
PIPING & INSTRUMENTATION DIAGRAM

CADFILE: S40076-1.DWG

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
RRW	DM	DWF	DWF
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
NONE	July, 2000	J40076	3



LIQUID RECOVERY & TREATMENT SYSTEM

EQUIPMENT SCHEDULE

I.D.	DESCRIPTION
B-1005	AIR STRIPPER BLOWER, 3HP, 150 CFM, 18" WC
C-1005	LOW PROFILE AIR STRIPPER
C-1010	LIQUID PHASE GAC
C-1015	VAPOR PHASE GAC
K-1005	25 CFM 50 PSI COMPRESSOR
P-1005	PNUEMATIC SUBMERSIBLE PUMP, 0-5 GPM
P-1010	PNUEMATIC SUBMERSIBLE PUMP, 0-5 GPM
P-1015	PNUEMATIC SUBMERSIBLE PUMP, 0-5 GPM
P-1020	PNUEMATIC SUBMERSIBLE PUMP, 0-5 GPM
P-1025	PNUEMATIC SUBMERSIBLE PUMP, 0-5 GPM
P-1030	PNUEMATIC SUBMERSIBLE PUMP, 0-5 GPM
P-1035	PNUEMATIC SUBMERSIBLE PUMP, 0-5 GPM
P-1040	PNUEMATIC SUBMERSIBLE PUMP, 0-5 GPM
P-1045	PNUEMATIC SUBMERSIBLE PUMP, 0-5 GPM
P-1050	TRANSFER PUMP, 1HP, 10 GPM, TBD
P-1055	TRANSFER PUMP, 1HP, 10 GPM, TBD
S-1005	OIL WATER SEPARATOR, 10 GPM FLOW CAPACITY
S-1010	PARTICULATE FILTERS 75 PSI MAX
T-1005	PRODUCT STORAGE TANK

INTERLOCKS SCHEDULE

I.D.	DESCRIPTION
1	LSHH-1005 CLOSES SV-1005 ON HIGH LIQUID LEVEL,
2	LSH-1005 TURNS P-1050 ON, LSL-1005 TURNS P-1050 OFF
3	LSH-1010 CLOSES SV-1005 ON HIGH LIQUID LEVEL
4	LSH-1015 TURNS P-1055 ON. LSL-1015 TURNS P-1055 OFF
5	LSHH-1015 TURNS P-1050 OFF, CLOSES SV-1005 ON HIGH LIQUID LEVEL
6	FSL-1005 TURNS B-1005 OFF, TURNS P-1050 OFF, CLOSES SV-1005 ON LOW FLOW
7	LSH-1020 CLOSES SV-1005

ENVIRONMENTAL COMPLIANCE SERVICES, INC.
588 Silver Street * Agawam, MA 01001

GRAPHIC SCALE: 0 x x

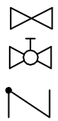
PROJECT:
Bernardston Sunoco
50 Church Street
Bernardston, Massachusetts

TITLE:
PIPING & INSTRUMENTATION DIAGRAM

CADFILE: S40076-1.DWG

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
RRW	DM	DWF	DWF
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
NONE	July, 2000	J40076	4

INSTRUMENT/VALVE SYMBOLS



GATE VALVE

BALL VALVE

CHECK VALVE

SAMPLE PORT

THREE WAY
TEMPERATURE CONTROL VALVE

SOLENOID VALVE

PRESSURE RELIEF VALVE

PRESSURE/VACUUM RELIEF VALVE

FLOW TOTALIZER

SYSTEM INTERLOCK

INSTRUMENT BUBBLE (LOCALLY MOUNTED)

INSTRUMENT BUBBLE (PANEL MOUNTED)

STREAM TAG (USED TO DESIGNATE A
STREAM ON A PROCESS FLOW DIAGRAM)

STREAM LABEL (USED WHEN A STREAM ENTERS
OR EXITS THE SYSTEM OR CONTINUES
ON ANOTHER DRAWING)

ELECTRICAL LINKAGE

MECHANICAL LINKAGE

PNEUMATIC LINKAGE

TRANSFER PUMP

BLOWER/COMPRESSOR

PROCESS EQUIPMENT SYMBOLS

PARTICULATE FILTER

PROCESS EQUIPMENT SYMBOLS

WELL PUMP

UNION or FLEXEBLE COUPLING

FLEXIBLE HOSE

FLOW RESTRICTOR

PULSE COUNTER

PRESSURE INDICATOR

FLOW INDICATOR

VACUUM GUAGE

ABBREVIATIONS

LE	LEVEL ELEMENT
LT	LEVEL TRANSMITTER
LSL	LEVEL SWITCH LOW
LSLL	LEVEL SWITCH LOW LOW
LSH	LEVEL SWITCH HIGH
LSHH	LEVEL SWITCH HIGH HIGH
PI	PRESSURE INDICATOR
VG	VACUUM GAUGE
VSL	VACUUM SWITCH LOW
M	MOTOR STARTER
I	SYSTEM INTERLOCK
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
PSL	PRESSURE SWITCH LOW
PSH	PRESSURE SWITCH HIGH
PCV	PRESSURE CONTROL VALVE
FT	FLOW TRANSMITTER
FE	FLOW ELEMENT
FM	FLOW METER
LCV	LEVEL CONTROL VALVE
GV	GATE VALVE
CV	CHECK VALVE
BV	BALL VALVE
TE	TEMPERATURE ELEMENT
TC	TEMPERATURE CONTROLLER
TIC	TEMPERATURE INDICATING CONTROLLER
TCV	TEMPERATURE CONTROL VALVE
FS	FLOW SWITCH
FSL	FLOW SWITCH LOW
FSH	FLOW SWITCH HIGH
PSE	PRESSURE SAFETY EQUIPMENT
FT	FLOW TRANSMITTER
FCV	FLOW CONTROL VALVE
P	PUMP
K	BLOWER/COMPRESSOR
S	SEPARATOR
C	COLUMNS (GAC, AIR STRIPPER, ETC.)
CF	CARTRIDGE FILTER
GW	GROUNDWATER
TF	TOTAL FLUIDS
HV	HYDROCARBON VAPOR
TW	TAP WATER
A	SCH 40 PVC
B	SCH 80 PVC
CS	CARBON STEEL
D	TUBING/HOSE
E	DEFINED BY VENDOR
SP	SAMPLE PORT
SV	SOLENOID VALVE

PIPING & INSTRUMENTATION DIAGRAM GENERAL NOTES

1.) All lines on the P and ID will be labeled as follows: Two letters will indicate the type of service, followed by a dash, the area number, and a number from 01 to 99, followed by the internal diameter of the line in inches, followed by the material designations. The types of service are as follows:

AA – Ambient Air
OW – Oily Water
GW – Groundwater
HV – Hydrocarbon Vapor
LH – Liquid Hydrocarbon
AD – Acid
BA – Base

Piping material designations are as follows:
A – Schedule 40 PVC
B – Schedule 80 PVC
C – Carbon Steel
D – Tubing
E – Defined by Vendor

For example the designation for the first groundwater line in area 10 constructed from 2" Schedule 40 PVC would be GW–1005–2"–A

2.) All instrumentaion nomenclature, abgreviations, and symbols shall conform to the Instrument Society of America (ISA) standards.

3.) The operation of all system interlocks will be shown at the bottom of the drawing, or on a seperate sheet elsewhere in the written specifications.

4.) The major equipment will be summarized at the bottom of the page, or elsewhere in the written specifications, and will show in addition to the name of the piece of equipment, the maximum flowrate, the material of construction, and the horsepower where applicable.

PROCESS FLOW DIAGRAM GENERAL NOTES

1.) The first treatment system installed on the site will be designated as AREA 10. All equipment that is a part of this system will be designated by a letter followed by a dash, the area number and a number from 01 to 99 in increments of 5. For example P–1005 followed by P–1010. Followed by P–1010, The second treatment sytem on a site will be designated area 20 an so on.

2.) All seperators will be designated as S–XXXX. This includes vapor/liquid separators, particulate filters, and oil/water seperators.

3.) All blowers will be designated as B–XXXX. Blowers that can do a 2 to 1 or greater compression are considered compressors and will be designated K–XXXX.

4.) All columns will be designated as C–XXXX. This includes activated carbon, tray aerators, air strippers, and sparge tanks.

5.) Storage tanks will be designated T–XXXX. This includes sumps and secondary containment.

6.) All process streams which enter of leave the system, or have undergone a change will have a stream tag. Information will be provided on the flowrates, pressure, temperature, pH, specific gravity, containment concentrations, and any other information required to fully understand the process. Stream tags will start at 1 and increase sequentially.

7.) Any questions concerning specifications, flows, pressures, rates, etc., should be directed to the project engineer prior to the submission of bids.

ENVIRONMENTAL COMPLIANCE SERVICES, INC.
588 Silver Street • Agawam, MA 01001

GRAPHIC SCALE: 0 x x

PROJECT:
Bernardston Sunoco
50 Church Street
Bernardston, Massachusetts

TITLE:
P & ID Symbols

CADFILE: S40076–1.DWG

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
RRW	DM	DWF	DWF
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
NONE	July, 2000	J40076	5

TABLES

TABLE 1
TREATMENT SYSTEM ANALYTICAL DATA AND FLOW SUMMARY

RGP Authorization # MAG910073

Bernardston Sunoco
50 Church Street
Bernardston, Massachusetts
MassDEP RTN 1-1077

Sample Date	Sample Point	TSS	TPH	EDB	Benzene	Σ BTEX	MtBE	Naphthalene	TAME	TBA	Lead	Iron	pH	TOTALIZER READING (gallons)	CUMULATIVE FLOW (gallons)	AVERAGE FLOW (gpm)
NPDES Permit Effluent Limits[1]:		**30 mg/L**	**5.0 mg/L**	**0.05 µg/L**	**5.0 µg/L**	**100 µg/L**	**70 µg/L**	**20 µg/L**	**NA**	**NA**	**1.3 µg/L**	**1,000 µg/L**	**6.0 - 8.5**			
3/16/06	Influent	9.0	<1.0	<0.01	<0.5	4.2	22.0	<0.5	0.8	24.6	2.8	2,080	-	1,066,300	-	-
3/16/06	Effluent	<5.0	<1.0	<0.01	<0.5	<1.0	3.7	0.5	<0.5	19.4	<1.3	61	6.72	1,085,500	1,186,068	7.0
4/26/06	Influent	37.0	2.1	0.532	<1.0	51.1	87.7	<1.0	<1.0	54.8	6.1	8,920	-	1,186,812	1,287,380	12.6
4/26/06	Effluent	19.0	<1.0	<0.01	<1.0	<2.0	<1.0	<1.0	<1.0	<10	<1.3	930	NM			
5/8/06	Influent	NS	<1.0	NS	<1.0	13.5	49.9	NS	NS	25.2	NS	10,700	-	1,218,190	1,318,758	7.0
5/8/06	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	<62.5	NM			
6/8/06	Influent	NS	<1.0	NS	8.6	232	69.2	NS	NS	<25.0	NS	44,200	-	1,222,635	1,323,203	12.0
6/8/06	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	<97.5	NM			
7/20/06	Influent	NS	<1.0	NS	2.8	63	106	NS	NS	74.4	NS	11,500	-	1,229,820	1,330,388	10.0
7/20/06	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	116	7.40			
8/24/06	Influent	NS	<1.0	NS	<1.0	4.7	2.5	NS	NS	<10.0	NS	10,100	6.90	1,230,330	1,330,898	NM
8/24/06	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	1,330	6.90			
9/8/06	Influent	NS	<1.0	NS	<1.0	<2.0	3.9	NS	NS	<10.0	NS	3,710	6.80	1,230,950	1,331,518	8.0
9/8/06	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	1,300	6.80			
10/18/06	Influent	NS	<1.0	NS	1.1	221	3.3	NS	NS	<10.0	NS	1,150	6.80	1,231,703	1,332,271	3.0
10/18/06	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	123	6.81			
11/14/06	Influent	NS	<1.0	NS	56.8	1140	123	NS	NS	<50.0	NS	1,460	6.34	1,238,810	1,339,378	5.0
11/14/06	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	608	6.51			
12/21/06	Influent	NS	<1.0	NS	2.0	76.9	108	NS	NS	<10.0	NS	2,410	6.99	1,254,426	1,354,994	5.0
12/21/06	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	107	7.12			
1/18/07	Influent	NS	<1.0	<1.0	44.2	721	126	14.6	<1.0	<10.0	NS	864	6.90	1,260,178	1,360,746	5.0
1/18/07	Effluent	NS	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	23.5	NS	188	7.00			
2/13/07	Influent	NS	<1.0	NS	<1.0	1.5	66.7	NS	NS	<10.0	NS	1,430	7.50	1,264,643	1,365,211	5.0
2/13/07	Effluent	NS	<1.0	NS	<1.0	<1.0	<1.0	NS	NS	<10.0	NS	173	7.60			
3/16/07	Influent	NS	<1.0	NS	<1.0	<2.0	30.0	NS	NS	17.1	NS	5,480	7.44	1,265,850	1,366,418	5.0
3/16/07	Effluent	NS	<1.0	NS	<1.0	<1.0	3.7	NS	NS	<10.0	NS	4,060	7.43			
4/20/07	Influent	NS	<1.0	NS	47.0	1,321	113	NS	NS	<10.0	NS	2,890	7.00	1,280,122	1,380,690	5.0
4/20/07	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	<15.0	7.00			
5/23/07	Influent	NS	<1.0	NS	17.3	346	152	NS	NS	<10.0	NS	12,700	7.10	1,293,830	1,394,398	7.2
5/23/07	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	64	7.10			
6/26/07	Influent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<50.0	NS	24,400	6.40	1,295,336	1,395,904	6.0
6/26/07	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	149	6.60			
7/31/07	Influent	NS	<1.0	NS	<1.0	12	18.1	NS	NS	<10.0	NS	5,970	7.10	1,296,011	1,396,579	6.0
7/31/07	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	1,110	7.00			
8/30/07	Influent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	1,250	7.00	1,296,300	1,396,868	5.5
8/30/07	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	1,760	7.00			
9/28/07*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	1,296,300	1,396,868	NA
9/28/07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA			
10/25/07*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	1,296,300	1,396,868	NM
10/25/07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA			
11/27/07*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	1,296,300	1,396,868	NM
11/27/07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA			
12/27/07*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	1,296,300	1,396,868	NM
12/27/07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA			
1/9/08	Influent	NS	<1.0	<1.0	15.6	85.1	90.4	5.1	<1.0	<10.0	NS	10,500	NA	1,296,434	1,397,002	NM
1/9/08	Effluent	NS	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<10.0	NS	4,870	NA			
2/20/08	Influent	NS	<1.0	NS	68.5	860.7	129.0	NS	NS	<100	NS	17,500	NA	1,303,000	1,403,568	4.0
2/20/08	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	75.4	NA			

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RGP Authorization # MAG910073

Bernardston Sunoco
50 Church Street
Bernardston, Massachusetts
MassDEP RTN 1-1077

Sample Date	Sample Point	TSS	TPH	EDB	Benzene	Σ BTEX	MtBE	Naphthalene	TAME	TBA	Lead	Iron	pH	TOTALIZER READING (gallons)	CUMULATIVE FLOW (gallons)	AVERAGE FLOW (gpm)
NPDES Permit Effluent Limits[1]:		**30 mg/L**	**5.0 mg/L**	**0.05 µg/L**	**5.0 µg/L**	**100 µg/L**	**70 µg/L**	**20 µg/L**	**NA**	**NA**	**1.3 µg/L**	**1,000 µg/L**	**6.0 - 8.5**			
3/21/08	Influent	NS	<1.0	NS	13.1	481.3	21.2	NS	NS	<50.0	NS	27,600	NA	1,311,340	1,411,908	6.1
3/21/08	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	114	NA			
4/24/08	Influent	NS	<1.0	NS	28.4	1047.7	80.2	NS	NS	<50.0	NS	3,290	NA	1,348,003	1,448,571	0.75
4/24/08	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	16.6	NS	149	NA			
5/20/08	Influent	NS	<1.0	NS	3.0	149.4	47.0	NS	NS	<10.0	NS	24,000	7.00	1,359,238	1,459,806	0.30
5/20/08	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	<35	6.76			
6/19/08	Influent	NS	<1.0	NS	<1.0	10.4	11.9	NS	NS	14.9	NS	14,700	6.64	1,362,209	1,462,777	0.07
6/19/08	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	13.2	NS	<65	6.56			
7/16/08	Influent	NS	<1.0	NS	6.2	71.5	77.5	NS	NS	29.4	NS	16,300	6.20	1,365,438	1,466,006	0.08
7/16/08	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	15	6.20			
8/22/08	Influent	NS	<1.0	<0.5	10.3	293.4	7.4	13.7	<1.0	<10.0	NS	17,400	NA	1,366,600	1,467,168	0.02
8/22/08	Effluent	NS	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<1.0	<10.0	NS	<200	NA			
9/26/08	Influent	NS	<1.0	NS	21.6	232.9	37.7	NS	NS	<10.0	NS	12,000	6.20	1,372,240	1,472,808	0.11
9/26/08	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	75.8	6.20			
10/29/08	Influent	NS	<1.0	NS	18.7	258.4	56.8	NS	NS	16.2	NS	18,000	7.30	1,375,578	1,476,146	0.07
10/29/08	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	55.0	7.30			
11/25/08	Influent	NS	<1.0	NS	64.5	662.7	148.0	NS	NS	37.6	NS	31,200	6.80	1,377,550	1,478,118	0.05
11/25/08	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	42.0	6.80			
12/23/08	Influent	NS	<1.0	1.0	70.4	852.3	144.0	18.6	8.8	42.4	NS	24,000	6.70	1,381,430	1,481,998	0.10
12/23/08	Effluent	NS	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<1.0	<10.0	NS	<70	6.70			
1/21/09	Influent	NS	<1.0	NS	24.2	505.2	32.6	NS	NS	<50.0	NS	34,700	NA	1,381,573	1,482,141	0.003
1/21/09	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	1,050	NA			
2/24/09	Influent	NS	<1.0	NS	51.4	737.1	109.0	NS	NS	<50.0	NS	26,000	NA	1,382,206	1,482,774	0.01
2/24/09	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	1,550	NA			
3/18/09	Influent	NS	<1.0	NS	42.6	1,309.1	48.9	NS	NS	<50.0	NS	28,300	6.60	1,382,804	1,483,372	0.02
3/18/09	Effluent	NS	<1.0	NS	<1.0	<2.0	1.7	NS	NS	11.6	NS	154	6.60			
4/16/09	Influent	NS	<1.0	NS	153	1,819	144	NS	NS	<100	NS	16,000	5.98	1,392,730	1,493,298	0.24
4/16/09	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	<10.0	NS	<125	6.10			
5/28/09	Influent	NS	<1.0	1.0	63.4	800.8	87.7	17.0	<5.0	<50.0	NS	14,100	6.45	1,458,211	1,499,914	0.11
5/28/09	Effluent	NS	<1.0	<0.01	<1.0	<2.0	<1.0	<1.0	<1.0	<10.0	NS	86	6.88			
6/24/09	Influent	NS	<1.0	0.598	55.0	556.2	91.8	NS	7.0	<50.0	NS	14,700	NA	1,461,245	1,502,987	0.08
6/24/09	Effluent	NS	<1.0	< 0.0100	<1.0	<2.0	<1.0	NS	<1.0	13.0	NS	48.5	NA			
7/28/09	Influent	NS	<1.0	NS	39.0	684.0	105	NS	NS	<50.0	NS	14,500	5.9	1,467,310	1,509,503	0.13
7/28/09	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	14.6	NS	56.4	5.9			
8/27/09	Influent	Groundwater Treatment System Inactive												1,472,995	1,515,188	0.00
8/27/09	Effluent															
9/24/09	Influent	NS	< 1.0	NS	12.9	347.4	6.1	NS	NS	< 10.0	NS	17,600	6.95	1,473,170	1,515,915	0.02
9/24/09	Effluent	NS	< 1.0	NS	< 1.0	<2.0	< 1.0	NS	NS	13.4	NS	259	7.21			
10/22/09	Influent	NS	< 1.0	NS	< 5.0	63.5	39.9	NS	NS	< 50.0	NS	65,800	6.10	1,481,654	1,524,399	0.21
10/22/09	Effluent	NS	< 1.0	NS	< 1.0	<2.0	< 1.0	NS	NS	10.7	NS	31.1	6.40			
11/23/09	Influent	NS	< 1.0	NS	9.8	169.8	66.6	NS	NS	< 50.0	NS	38,800	6.52	1,520,769	1,563,514	0.85
11/23/09	Effluent	NS	< 1.0	NS	< 1.0	<2.0	< 1.0	NS	NS	< 10.0	NS	61.6	6.43			
12/17/09	Influent	Groundwater Treatment System Inactive												1,524,873	1,567,618	0.12
12/17/09	Effluent															
1/27/10	Influent	Groundwater Treatment System Inactive												1,524,873	1,567,618	0.00
1/27/10	Effluent															
2/12/10	Influent	Groundwater Treatment System Inactive												1,524,873	1,567,618	0.00
2/12/10	Effluent															
3/11/10	Influent	NS	1.5	NS	127	2,422.2	108	NS	NS	<50.0	NS	14,400	NA	1,530,277	1,573,022	1.88
3/11/10	Effluent	NS	<1.0	NS	<1.0	<2.0	<1.0	NS	NS	13.4	NS	56.7	NA			
4/22/10	Influent	NS	<1.0	NS	107	1,338	104	NS	NS	<100	NS	14,400	6.35	1,540,984	1,583,729	5.59
4/22/10	Effluent	NS	<1.0	NS	<1.0	<2.0	NS	NS	NS	15.8	NS	32.6	6.99			
5/28/10	Influent	NS	<1.0	NS	22.0	331.1	47.7	NS	NS	<50.0	NS	25,200	6.28	1,544,831	1,587,576	6.93
5/28/10	Effluent	NS	<1.0	NS	<1.0	<2.0	< 1.0	NS	NS	< 10.0	NS	494	6.59			

mg/L = milligrams per liter. µg/L = micrograms per liter.
gpm = gallons per minute
ND = Not detected. NA = Not applicable. NS = Not sampled. NM = Not measured.
Bold = Compound detected above NPDES Permit Effluent Limits.
[1]Effluent limits from Appendix III of the Final Remediation General Permit Under the National Pollutant Discharge
*No samples collected in August 2009 due to system down.

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**: Bernardston Sunoco		**Facility/site** mailing address:		
Location of **facility/site**: longitude: 72.54972W latitude: 42.67134N	Facility SIC code(s): 5541	Street: 50 Church Street		
b) Name of **facility/site owner:**		Town: Bernardston		
Email address of facility/site owner: sabbott@sandri.com		State: MA	Zip: 01337	County: Franklin
Telephone no. of facility/site **owner**: 800-628-1900				
Fax no. of facility/site **owner**: 413-223-1221		**Owner** is (check one): 1. Federal ○ 2. State/Tribal ○ 3. Private ◉ 4. Other ○ if so, describe:		
Address of **owner** (if different from site):				
Street: 400 Chapman Street, PO Box 1578				
Town: Greenfield	State: MA	Zip: 01301-1578	County: Franklin	
c) Legal name of **operator**:		**Operator** telephone no: 413-789-3530		
Environmental Compliance Services, Inc.		**Operator** fax no.: 413-789-2776	**Operator** email: lmccarthy@ecsconsult.com	
Operator contact name and title: Lori A. McCarthy, Project Manager				
Address of **operator** (if different from owner):		Street: 588 Silver Street		
Town: Agawam	State: MA	Zip: 01001	County: Hampden	

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: MAG910073
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?
Y ◉ N ○, if Y, date and tracking #: March 3, 2003
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: Release Tracking Number 1-1077
2. permit or license # assigned: NA
3. state agency contact information: name, location, and telephone number:
Mr. David Slowick, MassDEP WERO
436 Dwight Street, 5th Floor, Springfield, MA 01103
413-784-1100

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:

Groundwater discharge related to the operation of a groundwater pump and treat system to treat an historic release of gasoline, which is regulated under the Massachusetts Contingency Plan (MCP) (310 CMR 40.0000).

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 2117 Is maximum flow a **design value**? Y ◉ N ○
Average flow (include units) 3.5 gpd Is average flow a design value or estimate? estimate

3) Latitude and longitude of each discharge within 100 feet:
pt.1: lat 42.67133N long 72.55269W 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 Dec 9, 2010 end Dec 13, 2013

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).

3. Contaminant Information.

a) Based on the sub0category selected (See Appendix III), indicated whther 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	SM2540D	5,000 ug/L	37,000	2.02	23,000	1.25
2. Total Residual Chloride (TRC)		✔		NA	NA	NA	NA	NA	NA	NA	NA
3. Total Petroleum Hydrocarbons (TPH)			✔	14	GRAB	1664A	1,000 ug/L	2,100	0.11	571	0.03
4. Cyanide (CN)	57125	✔		NA	NA	NA	NA	NA	NA	NA	NA
5. Benzene (B)	71432		✔	14	GRAB	8260B/C	1 ug/L	153	0.01	57	0.00
6. Toluene (T)	108883		✔	14	GRAB	8260B/C	1 ug/L	242	0.01	84	0.00
7. Ethylbenzene (E)	100414		✔	14	GRAB	8260B/C	1 ug/L	90	0.00	12	0.00
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207		✔	14	GRAB	8260B/C	2 ug/L	1,963	0.11	702	0.04
9. Total BTEX [2]	n/a		✔	14	GRAB	8260B/C	2 ug/L	2,422	0.13	853	0.05
10. Ethylene Dibromide (EDB) (1,2-dibromoethane)[3]	106934		✔	2	GRAB	504.1	0.01 ug/L	1.00	0.00	0.80	0.00
11. Methyl-tert-Butyl Ether (MtBE)	1634044		✔	14	GRAB	8260B/C	1 ug/L	144	0.01	81	0.00
12. ter-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650		✔	14	GRAB	8260B/C	1 ug/L	42	0.00	28	0.00

* 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 Minumum 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		✔	3	GRAB	8260B/C	1 ug/L	8.8	0.00	6.1	0.00
14. Naphthalene	91203		✔	1	GRAB	8260B/C	1 ug/L	18.6	0.00	18.6	0.00
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	75343	✔									
20. 1,2 Dichloroethane	107062	✔									
21. 1,1 Dichloroethene	75354	✔									
22. cis-1,2 Dichloroethene (DCE)	156592	✔									
23. Methylene Chloride	75092	✔									
24. Tetrachloroethene (PCE)	127184	✔									
25. 1,1,1 Trichlroethane (TCA)	71556	✔									
26. 1,1,2-Trichloroethane (TCA)	79005	✔									
27. Trichloroethene (TCE)	790016	✔									

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	✔									
29. Acetone	67641	✔									
30. 1,4 Dioxane	123911	✔									
31. Total Phenols	108952	✔									
32. Pentachlorophenol (PCP)	87865	✔									
33. Total Phthalates (Phthalate esters)		✔									
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-c,d) Pyrene	193395	✔									
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		✔									

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(g,h,i) 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		✔	2	GRAB	6010B	1	6.1	0.00	4.5	0.00
46. Mercury	7439976	✔									
47. Nickel	7440020	✔									
48. Selenium	7782492	✔									
49. Silver	7440224	✔									
50. Zinc	7440666	✔									
51. Iron	7439896		✔	14	GRAB	6010B	15	65,800	3.59	24,893	1.36
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? Lead and iron
Step 2: For any metals which exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metal: Lead DF: 130.6 Metal: Iron DF: 130.6 Metal: DF: Metal: DF: Etc.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y◉ N○ If Y, list which metals: Iron

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

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

The system consists of submersible pumps that pump groundwater to an oil/water separator, which subsequently treats the recovered water through an air-stripper and liquid granular activated carbon (LGAC) to remove petroleum hydrocarbons dissolved in groundwater.

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):	cellulose filters		

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 0.09 gpm Maximum flow rate of treatment system 5.6 gpm
Design flow rate of treatment system 10 gpm

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

NA

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 water is discharged to an onsite catch basin, to stormwater lines on Center Street, to lines in Church Street (Rt. 10) then to a wetland adjacent to Fall 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 2.89 cfs
Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y ○ N ◉ If yes, for which pollutant(s)?

Is there a final TMDL? Y ○ N ◉ If yes, for which pollutant(s)?

6. ESA and NHPA Eligibility.

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

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

A (●) B ( ) C ( ) D ( ) E ( ) F ( )

b) If you selected Criterion D or F, has consultation with the federal services been completed? Y( ) N( ) Underway( )

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

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

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

1 (●) 2 ( ) 3 ( )

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

7. Supplemental information.

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

Analytical Data from December 2008 through May 2010 are attached. Copies of analytical data for Total Suspended Solids and Total Lead utilized to support this application were provided with the 2006 NPDES NOI. Information regarding calculations and internet resources reviewed for the permit application are included in the attached letter.

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:	Bernardston Sunoco
Operator signature:	
Printed Name &Title:	Lori A. McCarthy, Project Manager
Date:	December 9, 2010

ATTACHMENT II

LABORATORY REPORTS AND CHAIN OF CUSTODY RECORDS

Report Date:
27-Jan-09 11:02

☑ 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: Shawn Rising

Project: Sandri-50 Church St, Bernardston, MA
Project J40076.94

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA90145-01	AS Influent	Ground Water	21-Jan-09 11:00	22-Jan-09 09:12
SA90145-02	LGAC Influent	Ground Water	21-Jan-09 11:10	22-Jan-09 09:12
SA90145-03	LGAC MDPT	Ground Water	21-Jan-09 11:20	22-Jan-09 09:12
SA90145-04	LGAC Effluent	Ground Water	21-Jan-09 11:30	22-Jan-09 09:12
SA90145-05	TB	Deionized Water	21-Jan-09 08:00	22-Jan-09 09:12

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
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

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 supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is 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).

CASE NARRATIVE:

The samples were received 2.4 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

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.

According to WSC-CAM 5/2004 Rev.4, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended 70%-130% recovery range, a range has been set based on historical control limits.

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

SW846 8260B

Laboratory Control Samples:

9011503-BS1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

Carbon tetrachloride
trans-1,3-Dichloropropene

Analyte out of acceptance range.

1,1,1-Trichloroethane
2,2-Dichloropropane

9011503-BSD1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

Carbon tetrachloride
trans-1,3-Dichloropropene

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
AS Influent SA90145-01	J40076.94	Ground Water	21-Jan-09 11:00	22-Jan-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	24.2		µg/l	5.0	5	SW846 8260B	23-Jan-09	23-Jan-09	9011503	
100-41-4	Ethylbenzene	17.0		µg/l	5.0	5	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	32.6		µg/l	5.0	5	"	"	"	"	
108-88-3	Toluene	72.0		µg/l	5.0	5	"	"	"	"	
179601-23-1	m,p-Xylene	200		µg/l	10.0	5	"	"	"	"	
95-47-6	o-Xylene	192		µg/l	5.0	5	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	50.0	5	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*104*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*107*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*128*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*115*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	23-Jan-09	26-Jan-09	9011495	
Total Metals by EPA 200 Series Methods											
7439-89-6	Iron	34.7		mg/l	0.0150	1	EPA 200.7	23-Jan-09	26-Jan-09	9011447	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
LGAC Influent SA90145-02	J40076.94	Ground Water	21-Jan-09 11:10	22-Jan-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	23-Jan-09	23-Jan-09	9011503	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	6.8		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*99*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*104*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*123*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*109*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
LGAC MDPT SA90145-03	J40076.94	Ground Water	21-Jan-09 11:20	22-Jan-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	23-Jan-09	23-Jan-09	9011503	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	1.3		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	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*	*121*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*115*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
LGAC Effluent SA90145-04	J40076.94	Ground Water	21-Jan-09 11:30	22-Jan-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	23-Jan-09	23-Jan-09	9011503	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*99*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*102*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*124*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*117*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	23-Jan-09	26-Jan-09	9011495	
Total Metals by EPA 200 Series Methods											
7439-89-6	Iron	1.05		mg/l	0.0150	1	EPA 200.7	23-Jan-09	26-Jan-09	9011447	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB SA90145-05	J40076.94	Deionized Water	21-Jan-09 08:00	22-Jan-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	23-Jan-09	23-Jan-09	9011503	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*100*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*103*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*125*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*115*		*70-130 %*			"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9011503 - SW846 5030 Water MS										
Blank (9011503-BLK1)										
Prepared & Analyzed: 23-Jan-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	5.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9011503 - SW846 5030 Water MS										
Blank (9011503-BLK1)										
Prepared & Analyzed: 23-Jan-09										
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	5.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	10.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*51.1*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*51.1*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*62.6*		µg/l		*50.0*		*125*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*62.6*		µg/l		*50.0*		*125*	*70-130*		
Surrogate: Dibromofluoromethane	*56.6*		µg/l		*50.0*		*113*	*70-130*		
Surrogate: Dibromofluoromethane	*56.6*		µg/l		*50.0*		*113*	*70-130*		
LCS (9011503-BS1)										
Prepared & Analyzed: 23-Jan-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	25.9		µg/l		20.0		129	70-130		
Acetone	20.8		µg/l		20.0		104	45.7-161		
Acrylonitrile	18.5		µg/l		20.0		92	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9011503 - SW846 5030 Water MS										
LCS (9011503-BS1)										
Prepared & Analyzed: 23-Jan-09										
Benzene	20.8		µg/l		20.0		104	70-130		
Benzene	20.8		µg/l		20.0		104	70-130		
Bromobenzene	21.2		µg/l		20.0		106	70-130		
Bromochloromethane	21.9		µg/l		20.0		109	70-130		
Bromodichloromethane	24.0		µg/l		20.0		120	70-130		
Bromoform	22.0		µg/l		20.0		110	70-130		
Bromomethane	23.3		µg/l		20.0		116	39.7-172		
2-Butanone (MEK)	21.6		µg/l		20.0		108	50.8-149		
n-Butylbenzene	18.8		µg/l		20.0		94	70-130		
sec-Butylbenzene	20.7		µg/l		20.0		103	70-130		
tert-Butylbenzene	21.1		µg/l		20.0		105	70-130		
Carbon disulfide	25.8		µg/l		20.0		129	70-130		
Carbon tetrachloride	30.0	QC2	µg/l		20.0		150	70-130		
Chlorobenzene	18.9		µg/l		20.0		94	70-130		
Chloroethane	22.1		µg/l		20.0		111	70-136		
Chloroform	24.7		µg/l		20.0		123	70-130		
Chloromethane	21.7		µg/l		20.0		109	70-130		
2-Chlorotoluene	22.6		µg/l		20.0		113	70-130		
4-Chlorotoluene	23.1		µg/l		20.0		116	70-130		
1,2-Dibromo-3-chloropropane	19.3		µg/l		20.0		97	70-130		
Dibromochloromethane	24.0		µg/l		20.0		120	59.7-133		
1,2-Dibromoethane (EDB)	22.1		µg/l		20.0		110	70-130		
Dibromomethane	20.9		µg/l		20.0		104	70-130		
1,2-Dichlorobenzene	20.6		µg/l		20.0		103	70-130		
1,3-Dichlorobenzene	21.6		µg/l		20.0		108	70-130		
1,4-Dichlorobenzene	20.0		µg/l		20.0		100	70-130		
Dichlorodifluoromethane (Freon12)	24.6		µg/l		20.0		123	43-134		
1,1-Dichloroethane	23.8		µg/l		20.0		119	70-130		
1,2-Dichloroethane	24.8		µg/l		20.0		124	70-130		
1,1-Dichloroethene	24.0		µg/l		20.0		120	70-130		
cis-1,2-Dichloroethene	23.6		µg/l		20.0		118	70-130		
trans-1,2-Dichloroethene	20.0		µg/l		20.0		100	70-130		
1,2-Dichloropropane	20.1		µg/l		20.0		100	70-130		
1,3-Dichloropropane	20.9		µg/l		20.0		104	70-130		
2,2-Dichloropropane	27.4	QC1	µg/l		20.0		137	70-130		
1,1-Dichloropropene	25.3		µg/l		20.0		127	70-130		
cis-1,3-Dichloropropene	22.0		µg/l		20.0		110	70-130		
trans-1,3-Dichloropropene	26.2	QC2	µg/l		20.0		131	70-130		
Ethylbenzene	21.3		µg/l		20.0		106	70-130		
Ethylbenzene	21.3		µg/l		20.0		106	70-130		
Hexachlorobutadiene	26.0		µg/l		20.0		130	50.9-165		
2-Hexanone (MBK)	20.4		µg/l		20.0		102	70-130		
Isopropylbenzene	21.5		µg/l		20.0		108	70-130		
4-Isopropyltoluene	20.0		µg/l		20.0		100	70-130		
Methyl tert-butyl ether	15.3		µg/l		20.0		77	70-130		
Methyl tert-butyl ether	15.3		µg/l		20.0		77	70-130		
4-Methyl-2-pentanone (MIBK)	21.0		µg/l		20.0		105	52.8-134		
Methylene chloride	21.4		µg/l		20.0		107	70-130		
Naphthalene	17.0		µg/l		20.0		85	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9011503 - SW846 5030 Water MS										
LCS (9011503-BS1)										
Prepared & Analyzed: 23-Jan-09										
n-Propylbenzene	19.3		µg/l		20.0		96	70-130		
Styrene	19.5		µg/l		20.0		98	70-130		
1,1,1,2-Tetrachloroethane	22.8		µg/l		20.0		114	70-130		
1,1,2,2-Tetrachloroethane	18.2		µg/l		20.0		91	70-130		
Tetrachloroethene	24.1		µg/l		20.0		120	70-130		
Toluene	21.3		µg/l		20.0		107	70-130		
Toluene	21.3		µg/l		20.0		107	70-130		
1,2,3-Trichlorobenzene	19.7		µg/l		20.0		98	70-130		
1,2,4-Trichlorobenzene	18.8		µg/l		20.0		94	70-130		
1,3,5-Trichlorobenzene	21.0		µg/l		20.0		105	70-130		
1,1,1-Trichloroethane	26.9	QC1	µg/l		20.0		134	70-130		
1,1,2-Trichloroethane	20.3		µg/l		20.0		102	70-130		
Trichloroethene	23.5		µg/l		20.0		117	70-130		
Trichlorofluoromethane (Freon 11)	29.5		µg/l		20.0		147	60-147		
1,2,3-Trichloropropane	19.1		µg/l		20.0		96	70-130		
1,2,4-Trimethylbenzene	20.0		µg/l		20.0		100	70-130		
1,3,5-Trimethylbenzene	20.3		µg/l		20.0		102	70-130		
m,p-Xylene	42.8		µg/l		40.0		107	70-130		
Vinyl chloride	22.6		µg/l		20.0		113	70-130		
m,p-Xylene	42.8		µg/l		40.0		107	70-130		
o-Xylene	21.6		µg/l		20.0		108	70-130		
o-Xylene	21.6		µg/l		20.0		108	70-130		
Tetrahydrofuran	17.1		µg/l		20.0		86	70-130		
Ethyl ether	20.5		µg/l		20.0		103	67.1-130		
Tert-amyl methyl ether	23.4		µg/l		20.0		117	70-130		
Ethyl tert-butyl ether	18.6		µg/l		20.0		93	70-130		
Di-isopropyl ether	20.0		µg/l		20.0		100	70-130		
Tert-Butanol / butyl alcohol	183		µg/l		200		92	70-130		
1,4-Dioxane	238		µg/l		200		119	56.4-130		
trans-1,4-Dichloro-2-butene	20.7		µg/l		20.0		104	70-130		
Ethanol	394		µg/l		400		99	70-130		
Surrogate: 4-Bromofluorobenzene	*50.4*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*50.4*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*58.9*		µg/l		*50.0*		*118*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*58.9*		µg/l		*50.0*		*118*	*70-130*		
Surrogate: Dibromofluoromethane	*54.3*		µg/l		*50.0*		*109*	*70-130*		
Surrogate: Dibromofluoromethane	*54.3*		µg/l		*50.0*		*109*	*70-130*		
LCS Dup (9011503-BSD1)										
Prepared & Analyzed: 23-Jan-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	24.3		µg/l		20.0		122	70-130	6	25
Acetone	21.1		µg/l		20.0		105	45.7-161	1	50
Acrylonitrile	19.0		µg/l		20.0		95	70-130	3	25
Benzene	20.0		µg/l		20.0		100	70-130	4	25
Benzene	20.0		µg/l		20.0		100	70-130	4	25
Bromobenzene	20.0		µg/l		20.0		100	70-130	6	25
Bromochloromethane	21.3		µg/l		20.0		106	70-130	3	25
Bromodichloromethane	23.2		µg/l		20.0		116	70-130	3	25
Bromoform	21.9		µg/l		20.0		109	70-130	0.7	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9011503 - SW846 5030 Water MS										
LCS Dup (9011503-BSD1)										
Prepared & Analyzed: 23-Jan-09										
Bromomethane	23.2		µg/l		20.0		116	39.7-172	0.04	50
2-Butanone (MEK)	23.6		µg/l		20.0		118	50.8-149	9	50
n-Butylbenzene	17.9		µg/l		20.0		90	70-130	5	25
sec-Butylbenzene	19.7		µg/l		20.0		99	70-130	5	25
tert-Butylbenzene	20.2		µg/l		20.0		101	70-130	4	25
Carbon disulfide	23.8		µg/l		20.0		119	70-130	8	25
Carbon tetrachloride	28.7	QC2	µg/l		20.0		143	70-130	5	25
Chlorobenzene	18.4		µg/l		20.0		92	70-130	3	25
Chloroethane	20.8		µg/l		20.0		104	70-136	6	50
Chloroform	23.0		µg/l		20.0		115	70-130	7	25
Chloromethane	20.4		µg/l		20.0		102	70-130	6	25
2-Chlorotoluene	21.5		µg/l		20.0		107	70-130	5	25
4-Chlorotoluene	21.9		µg/l		20.0		110	70-130	5	25
1,2-Dibromo-3-chloropropane	19.1		µg/l		20.0		96	70-130	1	25
Dibromochloromethane	22.8		µg/l		20.0		114	59.7-133	5	50
1,2-Dibromoethane (EDB)	21.8		µg/l		20.0		109	70-130	1	25
Dibromomethane	20.0		µg/l		20.0		100	70-130	4	25
1,2-Dichlorobenzene	19.6		µg/l		20.0		98	70-130	5	25
1,3-Dichlorobenzene	20.5		µg/l		20.0		103	70-130	5	25
1,4-Dichlorobenzene	19.1		µg/l		20.0		95	70-130	4	25
Dichlorodifluoromethane (Freon12)	23.2		µg/l		20.0		116	43-134	6	50
1,1-Dichloroethane	23.2		µg/l		20.0		116	70-130	3	25
1,2-Dichloroethane	24.6		µg/l		20.0		123	70-130	0.7	25
1,1-Dichloroethene	21.8		µg/l		20.0		109	70-130	10	25
cis-1,2-Dichloroethene	22.8		µg/l		20.0		114	70-130	4	25
trans-1,2-Dichloroethene	17.8		µg/l		20.0		89	70-130	12	25
1,2-Dichloropropane	19.3		µg/l		20.0		96	70-130	4	25
1,3-Dichloropropane	20.7		µg/l		20.0		103	70-130	0.9	25
2,2-Dichloropropane	25.4		µg/l		20.0		127	70-130	7	25
1,1-Dichloropropene	24.0		µg/l		20.0		120	70-130	5	25
cis-1,3-Dichloropropene	21.0		µg/l		20.0		105	70-130	5	25
trans-1,3-Dichloropropene	26.1	QC2	µg/l		20.0		131	70-130	0.3	25
Ethylbenzene	19.9		µg/l		20.0		100	70-130	7	25
Ethylbenzene	19.9		µg/l		20.0		100	70-130	7	25
Hexachlorobutadiene	26.3		µg/l		20.0		131	50.9-165	1	50
2-Hexanone (MBK)	19.6		µg/l		20.0		98	70-130	4	25
Isopropylbenzene	20.5		µg/l		20.0		102	70-130	5	25
4-Isopropyltoluene	18.4		µg/l		20.0		92	70-130	8	25
Methyl tert-butyl ether	19.1		µg/l		20.0		95	70-130	22	25
Methyl tert-butyl ether	19.1		µg/l		20.0		95	70-130	22	25
4-Methyl-2-pentanone (MIBK)	20.9		µg/l		20.0		105	52.8-134	0.3	50
Methylene chloride	20.9		µg/l		20.0		105	70-130	2	25
Naphthalene	18.3		µg/l		20.0		92	70-130	7	25
n-Propylbenzene	18.3		µg/l		20.0		91	70-130	5	25
Styrene	17.7		µg/l		20.0		89	70-130	10	25
1,1,1,2-Tetrachloroethane	21.6		µg/l		20.0		108	70-130	5	25
1,1,2,2-Tetrachloroethane	18.2		µg/l		20.0		91	70-130	0.06	25
Tetrachloroethene	23.2		µg/l		20.0		116	70-130	4	25
Toluene	20.1		µg/l		20.0		101	70-130	6	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9011503 - SW846 5030 Water MS										
LCS Dup (9011503-BSD1)										
Prepared & Analyzed: 23-Jan-09										
Toluene	20.1		µg/l		20.0		101	70-130	6	25
1,2,3-Trichlorobenzene	20.0		µg/l		20.0		100	70-130	1	25
1,2,4-Trichlorobenzene	18.0		µg/l		20.0		90	70-130	5	25
1,3,5-Trichlorobenzene	19.4		µg/l		20.0		97	70-130	8	25
1,1,1-Trichloroethane	25.2		µg/l		20.0		126	70-130	7	25
1,1,2-Trichloroethane	19.9		µg/l		20.0		100	70-130	2	25
Trichloroethene	21.2		µg/l		20.0		106	70-130	10	25
Trichlorofluoromethane (Freon 11)	27.2		µg/l		20.0		136	60-147	8	50
1,2,3-Trichloropropane	19.1		µg/l		20.0		95	70-130	0.2	25
1,2,4-Trimethylbenzene	19.1		µg/l		20.0		95	70-130	5	25
1,3,5-Trimethylbenzene	19.5		µg/l		20.0		97	70-130	4	25
m,p-Xylene	40.3		µg/l		40.0		101	70-130	6	25
Vinyl chloride	21.0		µg/l		20.0		105	70-130	7	25
o-Xylene	20.3		µg/l		20.0		102	70-130	6	25
m,p-Xylene	40.3		µg/l		40.0		101	70-130	6	25
o-Xylene	20.3		µg/l		20.0		102	70-130	6	25
Tetrahydrofuran	16.1		µg/l		20.0		80	70-130	6	25
Ethyl ether	20.5		µg/l		20.0		102	67.1-130	0.2	50
Tert-amyl methyl ether	23.0		µg/l		20.0		115	70-130	2	25
Ethyl tert-butyl ether	18.5		µg/l		20.0		93	70-130	0.4	25
Di-isopropyl ether	19.7		µg/l		20.0		99	70-130	2	25
Tert-Butanol / butyl alcohol	193		µg/l		200		97	70-130	5	25
1,4-Dioxane	240		µg/l		200		120	56.4-130	0.6	25
trans-1,4-Dichloro-2-butene	20.0		µg/l		20.0		100	70-130	4	25
Ethanol	400		µg/l		400		100	70-130	1	30
Surrogate: 4-Bromofluorobenzene	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*51.6*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.6*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*59.5*		µg/l		*50.0*		*119*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*59.5*		µg/l		*50.0*		*119*	*70-130*		
Surrogate: Dibromofluoromethane	*54.8*		µg/l		*50.0*		*110*	*70-130*		
Surrogate: Dibromofluoromethane	*54.8*		µg/l		*50.0*		*110*	*70-130*		
Matrix Spike (9011503-MS1)	**Source: SA90166-04**									
Prepared & Analyzed: 23-Jan-09										
Benzene	19.2		µg/l		20.0	BRL	96	70-130		
Benzene	19.2		µg/l		20.0	BRL	96	70-130		
Chlorobenzene	19.5		µg/l		20.0	BRL	97	70-130		
1,1-Dichloroethene	19.2		µg/l		20.0	BRL	96	70-130		
Toluene	21.2		µg/l		20.0	BRL	106	70-130		
Toluene	21.2		µg/l		20.0	BRL	106	70-130		
Trichloroethene	22.3		µg/l		20.0	BRL	112	70-130		
Chlorobenzene	19.5		µg/l		20.0	0.0	97	70-130		
1,1-Dichloroethene	19.2		µg/l		20.0	0.0	96	70-130		
Trichloroethene	22.3		µg/l		20.0	0.0	112	70-130		
Surrogate: 4-Bromofluorobenzene	*49.8*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*49.8*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*50.4*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*50.4*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*60.8*		µg/l		*50.0*		*122*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*60.8*		µg/l		*50.0*		*122*	*70-130*		
Surrogate: Dibromofluoromethane	*58.4*		µg/l		*50.0*		*117*	*70-130*		

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9011503 - SW846 5030 Water MS										
Matrix Spike (9011503-MS1)	**Source: SA90166-04**									
Prepared & Analyzed: 23-Jan-09										
Surrogate: Dibromofluoromethane	*58.4*		µg/l		*50.0*		*117*	*70-130*		
Matrix Spike Dup (9011503-MSD1)	**Source: SA90166-04**									
Prepared & Analyzed: 23-Jan-09										
Benzene	19.4		µg/l		20.0	BRL	97	70-130	1	30
Benzene	19.4		µg/l		20.0	BRL	97	70-130	1	30
Chlorobenzene	20.1		µg/l		20.0	BRL	101	70-130	3	30
1,1-Dichloroethene	19.3		µg/l		20.0	BRL	96	70-130	0.3	30
Toluene	21.2		µg/l		20.0	BRL	106	70-130	0.3	30
Toluene	21.2		µg/l		20.0	BRL	106	70-130	0.3	30
Trichloroethene	22.3		µg/l		20.0	BRL	112	70-130	0.04	30
Chlorobenzene	20.1		µg/l		20.0	0.0	101	70-130	3	30
1,1-Dichloroethene	19.3		µg/l		20.0	0.0	96	70-130	0.3	30
Trichloroethene	22.3		µg/l		20.0	0.0	112	70-130	0.04	30
Surrogate: 4-Bromofluorobenzene	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*60.5*		µg/l		*50.0*		*121*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*60.5*		µg/l		*50.0*		*121*	*70-130*		
Surrogate: Dibromofluoromethane	*57.4*		µg/l		*50.0*		*115*	*70-130*		
Surrogate: Dibromofluoromethane	*57.4*		µg/l		*50.0*		*115*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9011495 - SW846 3510C										
Blank (9011495-BLK1)										
Prepared: 23-Jan-09 Analyzed: 26-Jan-09										
Non-polar material (SGT-HEM)	BRL		mg/l	1.0						
LCS (9011495-BS1)										
Prepared: 23-Jan-09 Analyzed: 26-Jan-09										
Non-polar material (SGT-HEM)	16.9		mg/l		20.8		81	77.5-86.4		

Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9011447 - EPA 200 Series										
Blank (9011447-BLK1)										
Prepared: 23-Jan-09 Analyzed: 26-Jan-09										
Iron	BRL		mg/l	0.0150						
LCS (9011447-BS1)										
Prepared: 23-Jan-09 Analyzed: 26-Jan-09										
Iron	1.41		mg/l	0.0150	1.25		113	85-115		
Duplicate (9011447-DUP1) **Source: SA90145-01**										
Prepared: 23-Jan-09 Analyzed: 26-Jan-09										
Iron	32.4		mg/l	0.0150		34.7			7	20
Matrix Spike (9011447-MS1) **Source: SA90145-04**										
Prepared: 23-Jan-09 Analyzed: 26-Jan-09										
Iron	2.41		mg/l	0.0150	1.25	1.05	109	70-130		
Post Spike (9011447-PS1) **Source: SA90145-04**										
Prepared: 23-Jan-09 Analyzed: 26-Jan-09										
Iron	2.26		mg/l	0.0150	1.25	1.05	96	85-115		

Notes and Definitions

QC1 Analyte out of acceptance range.

QC2 Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

BRL Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit

dry Sample results reported on a dry weight basis

NR Not Reported

RPD Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

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 *TPH (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.

Validated by:
Hanibal C. Tayeh, Ph.D.
Rebecca Merz

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: Spectrum Analytical, Inc. - Agawam, MA	Project #: J40076.94
Project Location: Sandri-50 Church St, Bernardston, MA	MADEP RTN [1]:

This form provides certifications for the following data set:
SA90145-01 through SA90145-05

Sample matrices:	Deionized Water Ground Water				
MCP SW-846 Methods Used	☑ 8260B	☐ 8151A	☐ 8330	☐ 6010B	☐ 7470A/1A
	☐ 8270C	☐ 8081A	☐ VPH	☐ 6020	☐ 9014M [2]
	☐ 8082	☐ 8021B	☐ EPH	☐ 7000S [3]	☐ 7196A

1 List Release Tracking Number (RTN), if known
2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S - SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain of Custody documentation for the data set?	☑ Yes	☐ No
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	☑ Yes	☐ No
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
D	***VPH and EPH methods only***: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective methods)?	☐ Yes	☐ No

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all analytical QC performance standards and recommendations for the specified methods achieved?	☑ Yes	☐ No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	☐ 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.

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Date: 1/27/2009

SA 90145 CL

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: 1/27/09
- 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: ECS - Agawam

Project No.: J400076.94

Site Name: SANDRI

Location: 50 CHURCH STREET, BERNARDSTON State: MA

Project Mgr.: SHAWN RISING

P.O. No.: _____ RQN: 0003

Sampler(s): TIM ROBBINS

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= 4°C Ice 10= _____

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

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: BTEX + MTBE BY 8260B	TBA BY 8260B	TPH 1664	TOTAL Fe 200.7	QA Reporting Notes: (check if needed)
SA90145-01	AS INFLUENT	1/21/09	11:00	G	GW	2,3,4,9	3	1		1	X	X	X	X	CAM
02	LGAC INFLUENT		11:10	G	GW	2,9	3				X				
03	LGAC MDPT		11:20	G	GW	2,9	3				X				GW-1, GW-2, GW-3
04	LGAC EFFLUENT		11:30	G	GW	2,3,4,9	3	1		1	X	X	X	X	
05	TB		8:00	G	X1	2,9	1				X				*
															SEE ATTACHED
															REQUESTED DETECTION
															LIMITS

☐ Fax results when available to (____) _____

☒ E-mail to SRISING@ECSCONSULT.COM

EDD Format _____

Condition upon receipt: ☑ Iced ☐ Ambient ☐ °C 2.4

Relinquished by:	Received by:	Date:	Time:
		1/22/09	912

Appendix III - Effluent Limitations

Parameter	Effluent Limit	Limit type based on monthly sample	Sample Type
1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/l) 50 mg/l for hydrostatic testing only	monthly average	grab
2. Total Residual Chlorine (TRC)	FW[1] = 11 ug/l[2] SW[3] = 7.5 ug/l[2]	monthly average	grab
3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/l	daily maximum	grab
4. Cyanide (CN)[4]	SW = 1.0 ug/l[5] FW = 5.2 ug/l[5]	monthly average	grab
5. Benzene (B)	5.0 ug/l 50.0 ug/l - hydrostatic testing only	daily maximum	grab
6. Toluene (T)	(limited as ug/L total BTEX)	daily maximum	grab
7. Ethylbenzene (E) - 100414 -	(limited as ug/L total BTEX)	daily maximum	grab
8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX)	daily maximum	grab
9. Total BTEX[7]	100 ug/l	daily maximum	grab
10. Ethylene Dibromide (EDB) (1,2- Dibromo-methane)	0.05 ug/l	daily maximum	grab
11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l	daily maximum	grab
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	Monitor Only (ug/L)	daily maximum	grab
13. tert-Amyl Methyl Ether (TAME)	Monitor Only (ug/L)	daily maximum	grab
14. Naphthalene	20 ug/l[7]	daily maximum	grab
15. Carbon Tetrachloride	4.4 ug/l	daily maximum	grab
16. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/l	daily maximum	grab
17. 1,2 Dichlorobenzene (o-DCB)	600 ug/l	daily maximum	grab
18. 1,3 Dichlorobenzene (m-DCB)	320 ug/l	daily maximum	grab
19. Total dichlorobenzene	763 ug/l in NH only	daily maximum	grab
20. 1,1 Dichloroethane (DCA)	70 ug/l	daily maximum	grab
21. 1,2 Dichloroethane (DCA)	5.0 ug/l	daily maximum	grab
22. 1,1 Dichloroethylene (DCE)	3.2 ug/	daily maximum	grab

23. cis-1,2 Dichloro-ethylene (DCE)	70 ug/l	daily maximum	grab
24. Dichloromethane (Methylene Chloride)	4.6 ug/l	daily maximum	grab
25. Tetrachloroethylene (PCE)	5.0 ug/l	daily maximum	grab
26. 1,1,1 Trichloro-ethane (TCA)	200 ug/l	daily maximum	grab
27. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/l	daily maximum	grab
28. Trichloroethylene (TCE)	5.0 ug/l	daily maximum	grab
29. Vinyl Chloride (Chloroethene)	2.0 ug/l	daily maximum	grab
30. Acetone	Monitor Only (ug/L)	daily maximum	grab
31. 1,4 Dioxane	Monitor Only (ug/L)	daily maximum	grab
32. Total Phenols	300 ug/l	daily maximum	grab
33. Pentachlorophenol (PCP)	1.0 ug/l	daily maximum	grab
34. Total Phthalates [3] (Phthalate esthers)	3.0 ug/L	monthly average	grab
35. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	6.0 ug/l	daily maximum	grab
36. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/l	daily maximum	grab
a. Benzo(a) Anthracene	0.0038 ug/l [3]	daily maximum	grab
b. Benzo(a) Pyrene	0.0038 ug/l[3]	daily maximum	grab
c. Benzo(b)Fluoranthene	0.0038 ug/l[3]	daily maximum	grab
d. Benzo(k)Fluoranthene	0.0038 ug/l[3]	daily maximum	grab
e. Chrysene	0.0038 ug/l[3]	daily maximum	grab
f. Dibenzo(a,h)anthracene	0.0038 ug/l[3]	daily maximum	grab
g. Indeno(1,2,3-cd) Pyrene	0.0038 ug/l[3]	daily maximum	grab
37. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/l	daily maximum	grab
h. Acenaphthene	(limited as total ug/L Group II PAHs)	daily maximum	grab
i. Acenaphthylene	(limited as ug/L total Group II PAHs)	daily maximum	grab
j. Anthracene	(limited as ug/L total Group II PAHs)	daily maximum	grab
k. Benzo(ghi) Perylene	(limited as ug/L total Group II PAHs)	daily maximum	grab

l. Fluoranthene		(limited as ug/L total Group II PAHs)	daily maximum	grab
m. Fluorene		(limited as ug/L total Group II PAHs)	daily maximum	grab
n. Naphthalene		20 ug/l	daily maximum	grab
o. Phenanthrene		(limited as ug/L total Group II PAHs)	daily maximum	grab
p. Pyrene		(limited as ug/L total Group II PAHs)	daily maximum	grab
38. Total Polychlorinated Biphenyls (PCBs)[12]		0.000064 ug/L[11]	daily maximum	grab
Metal parameters	Total Recoverable Metal Limit @ H = 50 mg/l $CaCO_3$[11] for discharges in Massachusetts (ug/l)	Total Recoverable Metal Limit @ H = 25 mg/l $CaCO_3$[11] for Discharges in New Hampshire (ug/l)	Averaging Time	Sample Type
39. Antimony	5.6	5.6	daily maximum	grab
40. Arsenic	FW = 10 SW = 36	FW = 10 SW = 36	monthly average	grab
41. Cadmium	FW = 0.2 SW = 8.9	FW = 0.8 SW = 9.3	monthly average	grab
42. Chromium III (trivalent)	FW = 48.8 SW = 100	FW = 27.7 SW = 100	monthly average	grab
43. Chromium VI (hexavalent)	FW = 11.4 SW = 50.3	FW = 11.4 SW = 50.3	monthly average	grab
44. Copper	FW = 5.2 SW = 3.7	FW = 2.9 SW = 3.7	monthly average	grab
45. Lead	FW = 1.3 SW = 8.5	FW = 0.5 SW = 8.5	monthly average	grab
46. Mercury	FW = 0.9 SW = 1.1	FW = 0.9 SW = 1.1	monthly average	grab
47. Nickel	FW = 29.0 SW = 8.2	FW = 16.1 SW = 8.2	monthly average	grab
48. Selenium	FW = 5.0 SW = 71	FW = 5.0 SW = 71	monthly average	grab
49. Silver	FW = 1.2 SW = 2.2	FW = 0.4 SW = 2.2	daily maximum	grab
50. Zinc	FW = 66.6 SW = 85.6	FW = 37 SW = 85.6	monthly average	grab
51. Iron	1,000	1,000	daily maximum	grab

Report Date:
02-Mar-09 11:29

☑ 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: Shawn Rising

Project: Sandri - Bernardston, MA
Project J40076

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA91458-01	A.S. Influent	Ground Water	24-Feb-09 15:00	25-Feb-09 10:15
SA91458-02	GAC Influent	Ground Water	24-Feb-09 15:10	25-Feb-09 10:15
SA91458-03	GAC Midpt	Ground Water	24-Feb-09 15:15	25-Feb-09 10:15
SA91458-04	GAC Effluent	Ground Water	24-Feb-09 15:20	25-Feb-09 10:15
SA91458-05	Trip	Deionized Water	24-Feb-09 00:00	25-Feb-09 10:15

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

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

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 24 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is 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.

CASE NARRATIVE:

The samples were received 5.1 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

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.

According to WSC-CAM 5/2004 Rev.4, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended 70%-130% recovery range, a range has been set based on historical control limits.

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

EPA 200.7

Blanks:

9021814-BLK1

The method blank contains analyte at a concentration above the MRL; however, concentration is less than 10% of the sample result, which is negligible according to method criteria.

Iron

Spikes:

9021814-MS1 *Source: SA91458-04*

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

Iron

SW846 8260B

SW846 8260B

Laboratory Control Samples:

9021837-BS1

Analyte out of acceptance range.

1,1,2-Trichlorotrifluoroethane (Freon 113)
Vinyl chloride

9021837-BSD1

Analyte out of acceptance range.

Carbon disulfide
Carbon tetrachloride
Isopropylbenzene

RPD out of acceptance range.

1,1,2-Trichlorotrifluoroethane (Freon 113)
Vinyl chloride

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.

1,1,1-Trichloroethane
1,1-Dichloroethene
1,1-Dichloropropene
2,2-Dichloropropane
Chloromethane
Tetrachloroethene
trans-1,2-Dichloroethene

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
A.S. Influent SA91458-01	J40076	Ground Water	24-Feb-09 15:00	25-Feb-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	51.4		µg/l	5.0	5	SW846 8260B	26-Feb-09	26-Feb-09	9021837	
100-41-4	Ethylbenzene	BRL		µg/l	5.0	5	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	109		µg/l	5.0	5	"	"	"	"	
108-88-3	Toluene	22.7		µg/l	5.0	5	"	"	"	"	
179601-23-1	m,p-Xylene	164		µg/l	10.0	5	"	"	"	"	
95-47-6	o-Xylene	499		µg/l	5.0	5	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	50.0	5	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*94*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*103*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*106*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	25-Feb-09	26-Feb-09	9021749	
Total Metals by EPA 200 Series Methods											
7439-89-6	Iron	26.0		mg/l	0.0150	1	EPA 200.7	27-Feb-09	27-Feb-09	9021814	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Influent SA91458-02	J40076	Ground Water	24-Feb-09 15:10	25-Feb-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	26-Feb-09	27-Feb-09	9021891	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	4.1		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*92*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*103*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*100*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*97*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Midpt SA91458-03	J40076	Ground Water	24-Feb-09 15:15	25-Feb-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	26-Feb-09	27-Feb-09	9021891	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	2.3		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*95*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*99*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*106*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*99*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Effluent SA91458-04	J40076	Ground Water	24-Feb-09 15:20	25-Feb-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	26-Feb-09	27-Feb-09	9021891	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*92*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*101*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*107*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	25-Feb-09	26-Feb-09	9021749	
Total Metals by EPA 200 Series Methods											
7439-89-6	Iron	1.55		mg/l	0.0150	1	EPA 200.7	27-Feb-09	27-Feb-09	9021814	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip SA91458-05	J40076	Deionized Water	24-Feb-09 00:00	25-Feb-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	26-Feb-09	27-Feb-09	9021891	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*88*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*99*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*98*		*70-130 %*			"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9021837 - SW846 5030 Water MS										
Blank (9021837-BLK1)										
Prepared & Analyzed: 26-Feb-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	5.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	5.0						
Naphthalene	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9021837 - SW846 5030 Water MS										
Blank (9021837-BLK1)										
Prepared & Analyzed: 26-Feb-09										
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	10.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*27.4*		µg/l		*30.0*		*91*	*70-130*		
Surrogate: Toluene-d8	*30.3*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*31.2*		µg/l		*30.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*30.3*		µg/l		*30.0*		*101*	*70-130*		
LCS (9021837-BS1)										
Prepared & Analyzed: 26-Feb-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	27.4	QC1	µg/l		20.0		137	70-130		
Acetone	21.5		µg/l		20.0		108	45.7-161		
Acrylonitrile	19.1		µg/l		20.0		96	70-130		
Benzene	19.8		µg/l		20.0		99	70-130		
Bromobenzene	18.4		µg/l		20.0		92	70-130		
Bromochloromethane	19.3		µg/l		20.0		96	70-130		
Bromodichloromethane	18.2		µg/l		20.0		91	70-130		
Bromoform	19.5		µg/l		20.0		98	70-130		
Bromomethane	20.8		µg/l		20.0		104	39.7-172		
2-Butanone (MEK)	18.4		µg/l		20.0		92	50.8-149		
n-Butylbenzene	20.3		µg/l		20.0		101	70-130		
sec-Butylbenzene	19.8		µg/l		20.0		99	70-130		
tert-Butylbenzene	19.9		µg/l		20.0		100	70-130		
Carbon disulfide	19.8		µg/l		20.0		99	70-130		
Carbon tetrachloride	20.2		µg/l		20.0		101	70-130		
Chlorobenzene	19.1		µg/l		20.0		96	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9021837 - SW846 5030 Water MS										
LCS (9021837-BS1)										
Prepared & Analyzed: 26-Feb-09										
Chloroethane	21.5		µg/l		20.0		107	70-136		
Chloroform	21.9		µg/l		20.0		109	70-130		
Chloromethane	22.1		µg/l		20.0		110	70-130		
2-Chlorotoluene	19.8		µg/l		20.0		99	70-130		
4-Chlorotoluene	20.0		µg/l		20.0		100	70-130		
1,2-Dibromo-3-chloropropane	16.9		µg/l		20.0		85	70-130		
Dibromochloromethane	18.3		µg/l		20.0		91	59.7-133		
1,2-Dibromoethane (EDB)	20.3		µg/l		20.0		102	70-130		
Dibromomethane	19.7		µg/l		20.0		99	70-130		
1,2-Dichlorobenzene	19.1		µg/l		20.0		96	70-130		
1,3-Dichlorobenzene	19.3		µg/l		20.0		96	70-130		
1,4-Dichlorobenzene	18.9		µg/l		20.0		94	70-130		
Dichlorodifluoromethane (Freon12)	22.1		µg/l		20.0		110	43-134		
1,1-Dichloroethane	20.9		µg/l		20.0		105	70-130		
1,2-Dichloroethane	20.4		µg/l		20.0		102	70-130		
1,1-Dichloroethene	22.5		µg/l		20.0		113	70-130		
cis-1,2-Dichloroethene	21.3		µg/l		20.0		107	70-130		
trans-1,2-Dichloroethene	20.8		µg/l		20.0		104	70-130		
1,2-Dichloropropane	20.4		µg/l		20.0		102	70-130		
1,3-Dichloropropane	20.2		µg/l		20.0		101	70-130		
2,2-Dichloropropane	21.6		µg/l		20.0		108	70-130		
1,1-Dichloropropene	21.2		µg/l		20.0		106	70-130		
cis-1,3-Dichloropropene	20.7		µg/l		20.0		104	70-130		
trans-1,3-Dichloropropene	16.9		µg/l		20.0		85	70-130		
Ethylbenzene	19.0		µg/l		20.0		95	70-130		
Hexachlorobutadiene	18.2		µg/l		20.0		91	50.9-165		
2-Hexanone (MBK)	20.1		µg/l		20.0		100	70-130		
Isopropylbenzene	16.4		µg/l		20.0		82	70-130		
4-Isopropyltoluene	19.6		µg/l		20.0		98	70-130		
Methyl tert-butyl ether	20.2		µg/l		20.0		101	70-130		
4-Methyl-2-pentanone (MIBK)	18.3		µg/l		20.0		91	52.8-134		
Methylene chloride	19.9		µg/l		20.0		99	70-130		
Naphthalene	18.2		µg/l		20.0		91	70-130		
n-Propylbenzene	19.6		µg/l		20.0		98	70-130		
Styrene	19.6		µg/l		20.0		98	70-130		
1,1,1,2-Tetrachloroethane	18.0		µg/l		20.0		90	70-130		
1,1,2,2-Tetrachloroethane	19.6		µg/l		20.0		98	70-130		
Tetrachloroethene	20.8		µg/l		20.0		104	70-130		
Toluene	19.7		µg/l		20.0		99	70-130		
1,2,3-Trichlorobenzene	18.9		µg/l		20.0		94	70-130		
1,2,4-Trichlorobenzene	18.1		µg/l		20.0		90	70-130		
1,3,5-Trichlorobenzene	17.8		µg/l		20.0		89	70-130		
1,1,1-Trichloroethane	21.3		µg/l		20.0		106	70-130		
1,1,2-Trichloroethane	20.6		µg/l		20.0		103	70-130		
Trichloroethene	19.8		µg/l		20.0		99	70-130		
Trichlorofluoromethane (Freon 11)	24.4		µg/l		20.0		122	60-147		
1,2,3-Trichloropropane	20.6		µg/l		20.0		103	70-130		
1,2,4-Trimethylbenzene	19.5		µg/l		20.0		98	70-130		
1,3,5-Trimethylbenzene	19.8		µg/l		20.0		99	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9021837 - SW846 5030 Water MS										
LCS (9021837-BS1)										
Prepared & Analyzed: 26-Feb-09										
Vinyl chloride	28.0	QC1	µg/l		20.0		140	70-130		
m,p-Xylene	39.6		µg/l		40.0		99	70-130		
o-Xylene	20.3		µg/l		20.0		102	70-130		
Tetrahydrofuran	20.0		µg/l		20.0		100	70-130		
Ethyl ether	20.3		µg/l		20.0		101	67.1-130		
Tert-amyl methyl ether	19.6		µg/l		20.0		98	70-130		
Ethyl tert-butyl ether	20.4		µg/l		20.0		102	70-130		
Di-isopropyl ether	19.8		µg/l		20.0		99	70-130		
Tert-Butanol / butyl alcohol	210		µg/l		200		105	70-130		
1,4-Dioxane	176		µg/l		200		88	56.4-130		
trans-1,4-Dichloro-2-butene	17.8		µg/l		20.0		89	70-130		
Ethanol	455		µg/l		400		114	70-130		
Surrogate: 4-Bromofluorobenzene	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*31.8*		µg/l		*30.0*		*106*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.1*		µg/l		*30.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*31.1*		µg/l		*30.0*		*104*	*70-130*		
LCS Dup (9021837-BSD1)										
Prepared & Analyzed: 26-Feb-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	19.0	QR5	µg/l		20.0		95	70-130	36	25
Acetone	20.1		µg/l		20.0		101	45.7-161	7	50
Acrylonitrile	20.3		µg/l		20.0		101	70-130	6	25
Benzene	16.2		µg/l		20.0		81	70-130	20	25
Bromobenzene	17.2		µg/l		20.0		86	70-130	7	25
Bromochloromethane	20.0		µg/l		20.0		100	70-130	3	25
Bromodichloromethane	16.9		µg/l		20.0		85	70-130	8	25
Bromoform	18.7		µg/l		20.0		93	70-130	4	25
Bromomethane	16.8		µg/l		20.0		84	39.7-172	21	50
2-Butanone (MEK)	17.7		µg/l		20.0		88	50.8-149	4	50
n-Butylbenzene	17.3		µg/l		20.0		86	70-130	16	25
sec-Butylbenzene	15.5		µg/l		20.0		77	70-130	25	25
tert-Butylbenzene	16.6		µg/l		20.0		83	70-130	19	25
Carbon disulfide	14.0	QC1	µg/l		20.0		70	70-130	35	25
Carbon tetrachloride	13.5	QC1	µg/l		20.0		67	70-130	40	25
Chlorobenzene	17.4		µg/l		20.0		87	70-130	10	25
Chloroethane	14.8		µg/l		20.0		74	70-136	37	50
Chloroform	18.7		µg/l		20.0		93	70-130	16	25
Chloromethane	15.1	QR2	µg/l		20.0		76	70-130	37	25
2-Chlorotoluene	18.2		µg/l		20.0		91	70-130	8	25
4-Chlorotoluene	17.6		µg/l		20.0		88	70-130	13	25
1,2-Dibromo-3-chloropropane	18.0		µg/l		20.0		90	70-130	6	25
Dibromochloromethane	17.6		µg/l		20.0		88	59.7-133	4	50
1,2-Dibromoethane (EDB)	20.4		µg/l		20.0		102	70-130	0.6	25
Dibromomethane	18.4		µg/l		20.0		92	70-130	7	25
1,2-Dichlorobenzene	19.9		µg/l		20.0		99	70-130	4	25
1,3-Dichlorobenzene	18.1		µg/l		20.0		91	70-130	6	25
1,4-Dichlorobenzene	19.1		µg/l		20.0		96	70-130	1	25
Dichlorodifluoromethane (Freon12)	13.6		µg/l		20.0		68	43-134	47	50
1,1-Dichloroethane	17.2		µg/l		20.0		86	70-130	19	25
1,2-Dichloroethane	19.6		µg/l		20.0		98	70-130	4	25
1,1-Dichloroethene	14.9	QR2	µg/l		20.0		75	70-130	41	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9021837 - SW846 5030 Water MS										
LCS Dup (9021837-BSD1)										
Prepared & Analyzed: 26-Feb-09										
cis-1,2-Dichloroethene	18.3		µg/l		20.0		91	70-130	15	25
trans-1,2-Dichloroethene	15.3	QR2	µg/l		20.0		76	70-130	30	25
1,2-Dichloropropane	18.4		µg/l		20.0		92	70-130	10	25
1,3-Dichloropropane	19.5		µg/l		20.0		98	70-130	3	25
2,2-Dichloropropane	15.9	QR2	µg/l		20.0		80	70-130	31	25
1,1-Dichloropropene	15.4	QR2	µg/l		20.0		77	70-130	32	25
cis-1,3-Dichloropropene	18.9		µg/l		20.0		94	70-130	9	25
trans-1,3-Dichloropropene	16.1		µg/l		20.0		81	70-130	5	25
Ethylbenzene	16.5		µg/l		20.0		82	70-130	14	25
Hexachlorobutadiene	14.6		µg/l		20.0		73	50.9-165	22	50
2-Hexanone (MBK)	20.8		µg/l		20.0		104	70-130	3	25
Isopropylbenzene	13.1	QC1	µg/l		20.0		66	70-130	22	25
4-Isopropyltoluene	17.5		µg/l		20.0		88	70-130	11	25
Methyl tert-butyl ether	20.2		µg/l		20.0		101	70-130	0.2	25
4-Methyl-2-pentanone (MIBK)	19.2		µg/l		20.0		96	52.8-134	5	50
Methylene chloride	17.3		µg/l		20.0		86	70-130	14	25
Naphthalene	20.1		µg/l		20.0		101	70-130	10	25
n-Propylbenzene	15.3		µg/l		20.0		77	70-130	24	25
Styrene	18.2		µg/l		20.0		91	70-130	7	25
1,1,1,2-Tetrachloroethane	16.7		µg/l		20.0		83	70-130	7	25
1,1,2,2-Tetrachloroethane	20.8		µg/l		20.0		104	70-130	6	25
Tetrachloroethene	15.6	QR2	µg/l		20.0		78	70-130	28	25
Toluene	16.1		µg/l		20.0		81	70-130	20	25
1,2,3-Trichlorobenzene	19.9		µg/l		20.0		100	70-130	5	25
1,2,4-Trichlorobenzene	19.1		µg/l		20.0		96	70-130	6	25
1,3,5-Trichlorobenzene	18.2		µg/l		20.0		91	70-130	2	25
1,1,1-Trichloroethane	15.3	QR2	µg/l		20.0		76	70-130	33	25
1,1,2-Trichloroethane	19.8		µg/l		20.0		99	70-130	4	25
Trichloroethene	16.0		µg/l		20.0		80	70-130	21	25
Trichlorofluoromethane (Freon 11)	15.9		µg/l		20.0		80	60-147	42	50
1,2,3-Trichloropropane	21.9		µg/l		20.0		109	70-130	6	25
1,2,4-Trimethylbenzene	17.8		µg/l		20.0		89	70-130	9	25
1,3,5-Trimethylbenzene	17.0		µg/l		20.0		85	70-130	15	25
Vinyl chloride	20.0	QR5	µg/l		20.0		100	70-130	33	25
m,p-Xylene	33.6		µg/l		40.0		84	70-130	16	25
o-Xylene	18.2		µg/l		20.0		91	70-130	11	25
Tetrahydrofuran	20.9		µg/l		20.0		104	70-130	4	25
Ethyl ether	20.6		µg/l		20.0		103	67.1-130	2	50
Tert-amyl methyl ether	19.8		µg/l		20.0		99	70-130	1	25
Ethyl tert-butyl ether	19.3		µg/l		20.0		96	70-130	6	25
Di-isopropyl ether	18.7		µg/l		20.0		94	70-130	6	25
Tert-Butanol / butyl alcohol	209		µg/l		200		105	70-130	0.5	25
1,4-Dioxane	177		µg/l		200		89	56.4-130	0.8	25
trans-1,4-Dichloro-2-butene	19.2		µg/l		20.0		96	70-130	8	25
Ethanol	446		µg/l		400		111	70-130	2	30
Surrogate: 4-Bromofluorobenzene	*28.7*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*29.5*		µg/l		*30.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*30.6*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*29.9*		µg/l		*30.0*		*100*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9021837 - SW846 5030 Water MS										
Matrix Spike (9021837-MS1)	**Source: SA91442-01**									
Prepared & Analyzed: 26-Feb-09										
Benzene	17.9		µg/l		20.0	0.6	86	70-130		
Chlorobenzene	17.4		µg/l		20.0	BRL	87	70-130		
1,1-Dichloroethene	18.5		µg/l		20.0	BRL	92	70-130		
Toluene	17.4		µg/l		20.0	BRL	87	70-130		
Trichloroethene	17.7		µg/l		20.0	BRL	88	70-130		
Surrogate: 4-Bromofluorobenzene	*28.6*		µg/l		*30.0*		*95*	*70-130*		
Surrogate: Toluene-d8	*30.2*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*31.0*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: Dibromofluoromethane	*29.0*		µg/l		*30.0*		*97*	*70-130*		
Matrix Spike Dup (9021837-MSD1)	**Source: SA91442-01**									
Prepared & Analyzed: 26-Feb-09										
Benzene	18.2		µg/l		20.0	0.6	88	70-130	2	30
Chlorobenzene	18.8		µg/l		20.0	BRL	94	70-130	8	30
1,1-Dichloroethene	18.3		µg/l		20.0	BRL	91	70-130	1	30
Toluene	17.9		µg/l		20.0	BRL	89	70-130	2	30
Trichloroethene	17.3		µg/l		20.0	BRL	87	70-130	2	30
Surrogate: 4-Bromofluorobenzene	*28.6*		µg/l		*30.0*		*95*	*70-130*		
Surrogate: Toluene-d8	*29.4*		µg/l		*30.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*31.2*		µg/l		*30.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*29.5*		µg/l		*30.0*		*98*	*70-130*		
Batch 9021891 - SW846 5030 Water MS										
Blank (9021891-BLK1)										
Prepared & Analyzed: 26-Feb-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	5.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9021891 - SW846 5030 Water MS										
Blank (9021891-BLK1)										
Prepared & Analyzed: 26-Feb-09										
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	5.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	10.0						
Ethyl ether	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9021891 - SW846 5030 Water MS										
Blank (9021891-BLK1)										
Prepared & Analyzed: 26-Feb-09										
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
Trichloroethene	BRL		µg/l	1.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*27.8*		µg/l		*30.0*		*93*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*27.8*		µg/l		*30.0*		*93*	*70-130*		
Surrogate: Toluene-d8	*30.2*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*30.2*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.0*		µg/l		*30.0*		*106*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.0*		µg/l		*30.0*		*106*	*70-130*		
Surrogate: Dibromofluoromethane	*29.5*		µg/l		*30.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*29.5*		µg/l		*30.0*		*98*	*70-130*		
LCS (9021891-BS1)										
Prepared & Analyzed: 26-Feb-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	24.3		µg/l		20.0		122	70-130		
Acetone	19.4		µg/l		20.0		97	45.7-161		
Acrylonitrile	19.1		µg/l		20.0		95	70-130		
Benzene	17.9		µg/l		20.0		90	70-130		
Benzene	17.9		µg/l		20.0		90	70-130		
Bromobenzene	18.3		µg/l		20.0		92	70-130		
Bromochloromethane	18.8		µg/l		20.0		94	70-130		
Bromodichloromethane	16.7		µg/l		20.0		84	70-130		
Bromoform	17.0		µg/l		20.0		85	70-130		
Bromomethane	18.6		µg/l		20.0		93	39.7-172		
2-Butanone (MEK)	16.1		µg/l		20.0		81	50.8-149		
n-Butylbenzene	18.6		µg/l		20.0		93	70-130		
sec-Butylbenzene	18.2		µg/l		20.0		91	70-130		
tert-Butylbenzene	18.9		µg/l		20.0		95	70-130		
Carbon disulfide	17.3		µg/l		20.0		86	70-130		
Carbon tetrachloride	17.4		µg/l		20.0		87	70-130		
Chlorobenzene	18.5		µg/l		20.0		93	70-130		
Chloroethane	19.4		µg/l		20.0		97	70-136		
Chloroform	20.0		µg/l		20.0		100	70-130		
Chloromethane	18.2		µg/l		20.0		91	70-130		
2-Chlorotoluene	18.3		µg/l		20.0		91	70-130		
4-Chlorotoluene	18.8		µg/l		20.0		94	70-130		
1,2-Dibromo-3-chloropropane	14.9		µg/l		20.0		75	70-130		
Dibromochloromethane	16.8		µg/l		20.0		84	59.7-133		
1,2-Dibromoethane (EDB)	19.4		µg/l		20.0		97	70-130		
Dibromomethane	19.3		µg/l		20.0		96	70-130		
1,2-Dichlorobenzene	18.5		µg/l		20.0		93	70-130		
1,3-Dichlorobenzene	18.2		µg/l		20.0		91	70-130		
1,4-Dichlorobenzene	17.8		µg/l		20.0		89	70-130		
Dichlorodifluoromethane (Freon12)	18.6		µg/l		20.0		93	43-134		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9021891 - SW846 5030 Water MS										
LCS (9021891-BS1)										
Prepared & Analyzed: 26-Feb-09										
1,1-Dichloroethane	18.8		µg/l		20.0		94	70-130		
1,2-Dichloroethane	19.6		µg/l		20.0		98	70-130		
1,1-Dichloroethene	19.4		µg/l		20.0		97	70-130		
cis-1,2-Dichloroethene	20.0		µg/l		20.0		100	70-130		
trans-1,2-Dichloroethene	18.2		µg/l		20.0		91	70-130		
1,2-Dichloropropane	19.5		µg/l		20.0		98	70-130		
1,3-Dichloropropane	19.7		µg/l		20.0		98	70-130		
2,2-Dichloropropane	16.9		µg/l		20.0		84	70-130		
1,1-Dichloropropene	19.1		µg/l		20.0		96	70-130		
cis-1,3-Dichloropropene	18.4		µg/l		20.0		92	70-130		
trans-1,3-Dichloropropene	14.8		µg/l		20.0		74	70-130		
Ethylbenzene	18.3		µg/l		20.0		92	70-130		
Ethylbenzene	18.3		µg/l		20.0		92	70-130		
Hexachlorobutadiene	17.2		µg/l		20.0		86	50.9-165		
2-Hexanone (MBK)	19.5		µg/l		20.0		97	70-130		
Isopropylbenzene	15.4		µg/l		20.0		77	70-130		
4-Isopropyltoluene	18.4		µg/l		20.0		92	70-130		
Methyl tert-butyl ether	19.0		µg/l		20.0		95	70-130		
Methyl tert-butyl ether	19.0		µg/l		20.0		95	70-130		
4-Methyl-2-pentanone (MIBK)	19.1		µg/l		20.0		96	52.8-134		
Methylene chloride	17.7		µg/l		20.0		88	70-130		
Naphthalene	18.6		µg/l		20.0		93	70-130		
n-Propylbenzene	18.1		µg/l		20.0		91	70-130		
Styrene	19.0		µg/l		20.0		95	70-130		
1,1,1,2-Tetrachloroethane	16.8		µg/l		20.0		84	70-130		
1,1,2,2-Tetrachloroethane	19.0		µg/l		20.0		95	70-130		
Tetrachloroethene	19.0		µg/l		20.0		95	70-130		
Toluene	18.2		µg/l		20.0		91	70-130		
Toluene	18.2		µg/l		20.0		91	70-130		
1,2,3-Trichlorobenzene	19.2		µg/l		20.0		96	70-130		
1,2,4-Trichlorobenzene	17.7		µg/l		20.0		89	70-130		
1,3,5-Trichlorobenzene	18.0		µg/l		20.0		90	70-130		
1,1,1-Trichloroethane	18.2		µg/l		20.0		91	70-130		
1,1,2-Trichloroethane	19.3		µg/l		20.0		97	70-130		
Trichloroethene	18.6		µg/l		20.0		93	70-130		
Trichlorofluoromethane (Freon 11)	20.8		µg/l		20.0		104	60-147		
1,2,3-Trichloropropane	21.5		µg/l		20.0		108	70-130		
1,2,4-Trimethylbenzene	18.8		µg/l		20.0		94	70-130		
1,3,5-Trimethylbenzene	18.4		µg/l		20.0		92	70-130		
m,p-Xylene	36.6		µg/l		40.0		91	70-130		
Vinyl chloride	21.5		µg/l		20.0		108	70-130		
m,p-Xylene	36.6		µg/l		40.0		91	70-130		
o-Xylene	19.1		µg/l		20.0		95	70-130		
o-Xylene	19.1		µg/l		20.0		95	70-130		
Tetrahydrofuran	19.4		µg/l		20.0		97	70-130		
Ethyl ether	20.2		µg/l		20.0		101	67.1-130		
Tert-amyl methyl ether	19.4		µg/l		20.0		97	70-130		
Ethyl tert-butyl ether	18.5		µg/l		20.0		93	70-130		
Di-isopropyl ether	17.9		µg/l		20.0		90	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9021891 - SW846 5030 Water MS										
LCS (9021891-BS1)										
Prepared & Analyzed: 26-Feb-09										
Tert-Butanol / butyl alcohol	202		µg/l		200		101	70-130		
1,4-Dioxane	173		µg/l		200		86	56.4-130		
trans-1,4-Dichloro-2-butene	16.6		µg/l		20.0		83	70-130		
Ethanol	448		µg/l		400		112	70-130		
Surrogate: 4-Bromofluorobenzene	*30.6*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*30.6*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*30.2*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*30.2*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*30.0*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*30.0*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*28.7*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: Dibromofluoromethane	*28.7*		µg/l		*30.0*		*96*	*70-130*		
LCS Dup (9021891-BSD1)										
Prepared: 26-Feb-09 Analyzed: 27-Feb-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	24.3		µg/l		20.0		121	70-130	0.2	25
Acetone	20.3		µg/l		20.0		101	45.7-161	4	50
Acrylonitrile	19.0		µg/l		20.0		95	70-130	0.5	25
Benzene	18.0		µg/l		20.0		90	70-130	0.2	25
Benzene	18.0		µg/l		20.0		90	70-130	0.2	25
Bromobenzene	19.0		µg/l		20.0		95	70-130	4	25
Bromochloromethane	18.7		µg/l		20.0		94	70-130	0.2	25
Bromodichloromethane	17.4		µg/l		20.0		87	70-130	4	25
Bromoform	17.9		µg/l		20.0		89	70-130	5	25
Bromomethane	18.2		µg/l		20.0		91	39.7-172	2	50
2-Butanone (MEK)	19.9		µg/l		20.0		100	50.8-149	21	50
n-Butylbenzene	19.5		µg/l		20.0		98	70-130	5	25
sec-Butylbenzene	18.4		µg/l		20.0		92	70-130	1	25
tert-Butylbenzene	19.4		µg/l		20.0		97	70-130	3	25
Carbon disulfide	18.1		µg/l		20.0		90	70-130	5	25
Carbon tetrachloride	17.5		µg/l		20.0		88	70-130	0.8	25
Chlorobenzene	19.3		µg/l		20.0		96	70-130	4	25
Chloroethane	18.2		µg/l		20.0		91	70-136	6	50
Chloroform	20.4		µg/l		20.0		102	70-130	2	25
Chloromethane	18.2		µg/l		20.0		91	70-130	0.06	25
2-Chlorotoluene	18.7		µg/l		20.0		93	70-130	2	25
4-Chlorotoluene	19.5		µg/l		20.0		97	70-130	4	25
1,2-Dibromo-3-chloropropane	16.4		µg/l		20.0		82	70-130	10	25
Dibromochloromethane	17.4		µg/l		20.0		87	59.7-133	3	50
1,2-Dibromoethane (EDB)	20.0		µg/l		20.0		100	70-130	3	25
Dibromomethane	19.3		µg/l		20.0		96	70-130	0.05	25
1,2-Dichlorobenzene	20.1		µg/l		20.0		101	70-130	8	25
1,3-Dichlorobenzene	18.8		µg/l		20.0		94	70-130	3	25
1,4-Dichlorobenzene	18.9		µg/l		20.0		94	70-130	6	25
Dichlorodifluoromethane (Freon12)	18.4		µg/l		20.0		92	43-134	2	50
1,1-Dichloroethane	19.5		µg/l		20.0		97	70-130	4	25
1,2-Dichloroethane	19.6		µg/l		20.0		98	70-130	0.2	25
1,1-Dichloroethene	19.7		µg/l		20.0		98	70-130	1	25
cis-1,2-Dichloroethene	20.2		µg/l		20.0		101	70-130	0.7	25
trans-1,2-Dichloroethene	18.6		µg/l		20.0		93	70-130	2	25
1,2-Dichloropropane	19.5		µg/l		20.0		97	70-130	0.1	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9021891 - SW846 5030 Water MS										
LCS Dup (9021891-BSD1)										
Prepared: 26-Feb-09 Analyzed: 27-Feb-09										
1,3-Dichloropropane	20.2		µg/l		20.0		101	70-130	3	25
2,2-Dichloropropane	17.1		µg/l		20.0		85	70-130	1	25
1,1-Dichloropropene	19.0		µg/l		20.0		95	70-130	0.4	25
cis-1,3-Dichloropropene	19.2		µg/l		20.0		96	70-130	4	25
trans-1,3-Dichloropropene	15.3		µg/l		20.0		77	70-130	4	25
Ethylbenzene	18.6		µg/l		20.0		93	70-130	1	25
Ethylbenzene	18.6		µg/l		20.0		93	70-130	1	25
Hexachlorobutadiene	16.5		µg/l		20.0		82	50.9-165	4	50
2-Hexanone (MBK)	19.7		µg/l		20.0		98	70-130	1	25
Isopropylbenzene	15.5		µg/l		20.0		78	70-130	0.6	25
4-Isopropyltoluene	19.9		µg/l		20.0		99	70-130	8	25
Methyl tert-butyl ether	19.8		µg/l		20.0		99	70-130	4	25
Methyl tert-butyl ether	19.8		µg/l		20.0		99	70-130	4	25
4-Methyl-2-pentanone (MIBK)	20.5		µg/l		20.0		102	52.8-134	7	50
Methylene chloride	18.0		µg/l		20.0		90	70-130	2	25
Naphthalene	20.3		µg/l		20.0		102	70-130	9	25
n-Propylbenzene	18.5		µg/l		20.0		92	70-130	2	25
Styrene	19.9		µg/l		20.0		99	70-130	5	25
1,1,1,2-Tetrachloroethane	17.3		µg/l		20.0		86	70-130	3	25
1,1,2,2-Tetrachloroethane	19.5		µg/l		20.0		97	70-130	2	25
Tetrachloroethene	18.5		µg/l		20.0		92	70-130	3	25
Toluene	18.8		µg/l		20.0		94	70-130	3	25
Toluene	18.8		µg/l		20.0		94	70-130	3	25
1,2,3-Trichlorobenzene	20.3		µg/l		20.0		101	70-130	5	25
1,2,4-Trichlorobenzene	19.0		µg/l		20.0		95	70-130	7	25
1,3,5-Trichlorobenzene	17.9		µg/l		20.0		90	70-130	0.4	25
1,1,1-Trichloroethane	18.5		µg/l		20.0		92	70-130	1	25
1,1,2-Trichloroethane	19.6		µg/l		20.0		98	70-130	2	25
Trichloroethene	19.1		µg/l		20.0		95	70-130	3	25
Trichlorofluoromethane (Freon 11)	21.0		µg/l		20.0		105	60-147	0.9	50
1,2,3-Trichloropropane	22.2		µg/l		20.0		111	70-130	3	25
1,2,4-Trimethylbenzene	19.9		µg/l		20.0		100	70-130	6	25
1,3,5-Trimethylbenzene	18.8		µg/l		20.0		94	70-130	2	25
Vinyl chloride	22.2		µg/l		20.0		111	70-130	3	25
m,p-Xylene	37.9		µg/l		40.0		95	70-130	4	25
m,p-Xylene	37.9		µg/l		40.0		95	70-130	4	25
o-Xylene	19.4		µg/l		20.0		97	70-130	2	25
o-Xylene	19.4		µg/l		20.0		97	70-130	2	25
Tetrahydrofuran	20.2		µg/l		20.0		101	70-130	4	25
Ethyl ether	19.5		µg/l		20.0		97	67.1-130	4	50
Tert-amyl methyl ether	19.5		µg/l		20.0		98	70-130	0.7	25
Ethyl tert-butyl ether	19.9		µg/l		20.0		99	70-130	7	25
Di-isopropyl ether	18.9		µg/l		20.0		94	70-130	5	25
Tert-Butanol / butyl alcohol	203		µg/l		200		102	70-130	0.9	25
1,4-Dioxane	169		µg/l		200		84	56.4-130	2	25
trans-1,4-Dichloro-2-butene	18.1		µg/l		20.0		90	70-130	9	25
Ethanol	421		µg/l		400		105	70-130	6	30
Surrogate: 4-Bromofluorobenzene	*28.7*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*28.7*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*31.1*		µg/l		*30.0*		*104*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9021891 - SW846 5030 Water MS										
LCS Dup (9021891-BSD1)										
Prepared: 26-Feb-09 Analyzed: 27-Feb-09										
Surrogate: Toluene-d8	*31.1*		µg/l		*30.0*		*104*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*31.3*		µg/l		*30.0*		*104*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*31.3*		µg/l		*30.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*30.4*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*30.4*		µg/l		*30.0*		*101*	*70-130*		
Matrix Spike (9021891-MS1) **Source: SA91458-04**										
Prepared: 26-Feb-09 Analyzed: 27-Feb-09										
Benzene	18.6		µg/l		20.0	BRL	93	70-130		
Benzene	18.6		µg/l		20.0	BRL	93	70-130		
Chlorobenzene	20.5		µg/l		20.0	BRL	103	70-130		
1,1-Dichloroethene	19.8		µg/l		20.0	BRL	99	70-130		
Toluene	18.9		µg/l		20.0	BRL	94	70-130		
Toluene	18.9		µg/l		20.0	BRL	94	70-130		
Trichloroethene	20.6		µg/l		20.0	BRL	103	70-130		
Chlorobenzene	20.5		µg/l		20.0	0.0	103	70-130		
1,1-Dichloroethene	19.8		µg/l		20.0	0.0	99	70-130		
Trichloroethene	20.6		µg/l		20.0	0.0	103	70-130		
Surrogate: 4-Bromofluorobenzene	*29.1*		µg/l		*30.0*		*97*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*29.1*		µg/l		*30.0*		*97*	*70-130*		
Surrogate: Toluene-d8	*29.5*		µg/l		*30.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*29.5*		µg/l		*30.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*31.4*		µg/l		*30.0*		*105*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*31.4*		µg/l		*30.0*		*105*	*70-130*		
Surrogate: Dibromofluoromethane	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Matrix Spike Dup (9021891-MSD1) **Source: SA91458-04**										
Prepared: 26-Feb-09 Analyzed: 27-Feb-09										
Benzene	18.0		µg/l		20.0	BRL	90	70-130	4	30
Benzene	18.0		µg/l		20.0	BRL	90	70-130	4	30
Chlorobenzene	20.0		µg/l		20.0	BRL	100	70-130	3	30
1,1-Dichloroethene	17.6		µg/l		20.0	BRL	88	70-130	12	30
Toluene	18.2		µg/l		20.0	BRL	91	70-130	4	30
Toluene	18.2		µg/l		20.0	BRL	91	70-130	4	30
Trichloroethene	19.0		µg/l		20.0	BRL	95	70-130	8	30
Chlorobenzene	20.0		µg/l		20.0	0.0	100	70-130	3	30
1,1-Dichloroethene	17.6		µg/l		20.0	0.0	88	70-130	12	30
Trichloroethene	19.0		µg/l		20.0	0.0	95	70-130	8	30
Surrogate: 4-Bromofluorobenzene	*29.2*		µg/l		*30.0*		*98*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*29.2*		µg/l		*30.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*29.3*		µg/l		*30.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*29.3*		µg/l		*30.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*31.4*		µg/l		*30.0*		*104*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*31.4*		µg/l		*30.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*30.6*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*30.6*		µg/l		*30.0*		*102*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9021749 - SW846 3510C										
Blank (9021749-BLK1)										
Prepared: 25-Feb-09 Analyzed: 26-Feb-09										
Non-polar material (SGT-HEM)	BRL		mg/l	1.0						
LCS (9021749-BS1)										
Prepared: 25-Feb-09 Analyzed: 26-Feb-09										
Non-polar material (SGT-HEM)	21.0		mg/l		25.4		83	77.5-86.4		
Matrix Spike (9021749-MS1)	**Source: SA91299-01**									
Prepared: 25-Feb-09 Analyzed: 26-Feb-09										
Non-polar material (SGT-HEM)	19.0		mg/l		25.4	BRL	75	64-132		

Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9021814 - EPA 200 Series										
Blank (9021814-BLK1)										
Prepared & Analyzed: 27-Feb-09										
Iron	0.0230	QB1	mg/l	0.0150						
LCS (9021814-BS1)										
Prepared & Analyzed: 27-Feb-09										
Iron	1.34		mg/l	0.0150	1.25		108	85-115		
Duplicate (9021814-DUP1)	**Source: SA91458-01**									
Prepared & Analyzed: 27-Feb-09										
Iron	25.9		mg/l	0.0150		26.0			0.3	20
Matrix Spike (9021814-MS1)	**Source: SA91458-04**									
Prepared & Analyzed: 27-Feb-09										
Iron	1.60	QM7	mg/l	0.0150	1.25	1.55	4	70-130		

Notes and Definitions

QB1	The method blank contains analyte at a concentration above the MRL; however, concentration is less than 10% of the sample result, which is negligible according to method criteria.
QC1	Analyte out of acceptance range.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QR5	RPD out of acceptance range.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

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 *TPH (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.

Validated by:
Hanibal C. Tayeh, Ph.D.
Nicole Leja

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: Spectrum Analytical, Inc. - Agawam, MA	Project #: J40076
Project Location: Sandri - Bernardston, MA	MADEP RTN [1]:

This form provides certifications for the following data set:
SA91458-01 through SA91458-05

Sample matrices:	Deionized Water Ground Water				
MCP SW-846 Methods Used	☑ 8260B	☐ 8151A	☐ 8330	☐ 6010B	☐ 7470A/1A
	☐ 8270C	☐ 8081A	☐ VPH	☐ 6020	☐ 9014M [2]
	☐ 8082	☐ 8021B	☐ EPH	☐ 7000S [3]	☐ 7196A

1 List Release Tracking Number (RTN), if known
2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S - SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain of Custody documentation for the data set?	☑ Yes	☐ No
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	☑ Yes	☐ No
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
D	***VPH and EPH methods only***: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective methods)?	☐ Yes	☐ No

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all analytical QC performance standards and recommendations for the specified methods achieved?	☑ Yes	☐ No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	☐ 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.

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Date: 3/2/2009

SAQ1458 CK

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

Report To: SHAWN R.

Invoice To: ECS - AGAWAM

Project No.: J40076

Site Name: SANDRI

Location: BERNARDSTON State: MA

Project Mgr.: S.R.

P.O. No.: _____ RQN: 0603

Sampler(s): ROB H

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=_____ 10=_____

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

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: BTEX, MTBE by 8260b	TBA by 8260b	TPH 1664	TOTAL Fe 200.7	QA Reporting Notes: (check if needed)
0914580 01	A.S. INFLUENT	2/24/09	3:00	G	GW	234	3	1		1	✓	✓	✓	✓	CAM
02	GAC INFLUENT	2/24	3:10	G	GW	2	3				✓				GW-1/GW-2/GW-3
03	GAC MIDPT	2/24	3:15	G	GW	2	3				✓				
04	GAC EFFLUENT	2/24	3:20	G	GW	234	3	1		2	✓	✓	✓	✓	
05	TRIP	2/24	AM	G	DI	2	1				✓				SEE ATTACHED
															DETECTION
															LIMITS.

☐ Fax results when available to (____) _____

☐ E-mail to _____

EDD Format _____

Condition upon receipt: ☒ Iced ☐ Ambient ☐ °C 5.1

Relinquished by:	Received by:	Date:	Time:
Rob Haynes		2/25/09	10:15AM

11 Almgren Drive • Agawam, Massachusetts 01001 • 413-789-9018 • Fax 413-789-4076 • www.spectrum-analytical.com

Submit to Spectrum w/ NPDES samples

Appendix VI: Minimum Levels and Test Methods

PARAMETER - CAS No. -	Minimum Levels and Test Methods[1,2,3]				
	GC[4]	GCMS[5]	LC[6]	FAA[7]	Other
1. Total Suspended Solids (TSS)					5 mg/l Method 160.2
2. Total Residual Chlorine (TRC)					20 ug/l Method 330.5
3. Total Petroleum Hydrocarbons (TPH)					5 mg/l Method 1664
4. Cyanide (total) - 57125 -					10 ug/l Method 335.4
5. Benzene (B) - 71432 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[2]
6. Toluene (T) - 108883 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[2]
7. Ethylbenzene (E) - 100414 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[2]
8. (m,p,o) Xylenes (X) - 108383;106423; 95476-	0.5 ug/l Method 602	10 ug/l Method 1624			Method 8260C[2]
9. Total BTEX	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[2]
10. Ethylene Dibromide (EDB) (1,2- Dibromoethane) - 106934 -	1.0 ug/l Method 618 0.01 ug/l Method 504.1	0.1 ug/l Methods 524.2			Method 8260C[2]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
11. Methyl-tert-Butyl Ether[5](MtBE)	0.5 ug/l Method 602[5]	5.0 ug/l Method 524.2			Method 8260C[2]
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol) - 75650 -	0.5 ug/l Method 602[5]	100 ug/l Method 1666			Method 8260C[2]
13. tert-Amyl Methyl Ether (TAME) -994058-	0.5 ug/l Method 602[5]				Method 8260C[2]
14. Naphthalene - 91203 -	10 ug/l Method 610 GC/FID	2 ug/l Method 625 5.0 ug/l Method 524.2	0.2 ug/l Method 610 HPLC		Method 8270D[3]
15. Carbon Tetrachloride - 56235 -	0.5 ug/l Method 601	2 ug/l Methods 624, 1624			Method 8260C[2]
16. 1,4 Dichlorobenzene (p-DCB) - 106467 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
17. 1,2 Dichlorobenzene (o-DCB) - 95501 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
18. 1,3 Dichlorobenzene (m-DCB) - 541731 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
19. 1,1 Dichloroethane (DCA) - 75343 -	0.5 ug/l Method 601	1 ug/l Method 624			Method 8260C[2]
20. 1,2 Dichloroethane (DCA)- 107062 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
21. 1,1 Dichloroethylene (DCE) - 75354 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
22. cis-1,2 Dichloro-ethylene (DCE) -156592-	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
23. Dichloromethane (Methylene Chloride)- 75092 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
24. Tetrachloroethylene (PCE) - 127184 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
25. 1,1,1 Trichloro-ethane (TCA) - 71556 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
26. 1,1,2 Trichloro-ethane (TCA) - 79005 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
27. Trichloroethylene (TCE) - 79016 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
28. Vinyl Chloride - 75014 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
29. Acetone - 67641 -	1.0 ug/l Method 524.2	50 ug/l Method 1624			Method 8260C[2]
30. 1,4 Dioxane -123911-		50 ug/l Method 1624			Method 8260C[2]
31. Total Phenols - 108952	1.0 ug/l Method 624 Method 8260[2]	1 ug/l Methods 625, 1625			Method 8260C[2] Method 8270D[3]
32. Pentachlorophenol (PCP) - 87865 -	1.0 ug/l Method 604 GCFID	5 ug/l Methods 625, 1625			Method 8270D[3]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
33. Total Phthalates [9] (Phthalate esthers)		5 ug/l Method 625			Method 8270D[3]
34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate] - 117817 -	10 ug/l Method 606	5 ug/l Method 625			Method 8270D[3]
35. Total Group I Polynuclear Aromatic Hydrocarbons (PAH)					Method 8270D[3]
a. Benzo(a) Anthracene -56553-	10 ug/l Method 610 GC	5 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
b. Benzo(a) Pyrene -50328 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
c. Benzo(b)Fluoranthene - 205992 -		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
d. Benzo(k)Fluoranthene - 207089 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
e. Chrysene - 218019 -		10 ug/l Method 625	5 ug/l Method 610 HPLC		Method 8270D[3]
f. Dibenzo(a,h) anthracene		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
g. Indeno(1,2,3-cd) Pyrene - 193395 -		10 ug/l Method 625	0.15 ug/l Method 610		Method 8270D[3]
36. Total Group II Polynuclear Aromatic Hydrocarbons (PAH)					Method 8270D[3]
h. Acenaphthene - 83329 -	1 ug/l Method 610 GC/FID	1 ug/l Method 625	0.5 ug/l Method 610 HPLC		Method 8270D[3]
i. Acenaphthylene - 208968 -		10 ug/l Method 625	0.2 ug/l Method 610 HPLC		Method 8270D[3]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
j. Anthracene - 120127 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
k. Benzo(ghi) Perylene - 191242 -		5 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
l. Fluoranthene - 206440 -	10 ug/l Method 610 GC/FID	1 ug/l Method 625	0.5 ug/l Method 610 HPLC		Method 8270D[3]
m. Fluorene - 86737 -		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
n. Naphthalene - 91203 -	10 ug/l Method 610 GC/FID	2 ug/l Method 625 5.0 ug/l Method 524.2	0.2 ug/l Method 610 HPLC		Method 8270D[3]
o. Phenanthrene - 85018 -		5 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
p. Pyrene - 129000 -		10 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
37. Total Polychlorinated Biphenyls (PCBs)[10]	0.5 ug/l Method 608				0.00005 ug/l Method 1668a[11]
Inorganic parameters:		Minimum Levels (ug/l) and Test Methods			
		Flame Atomic Absorption	Inductively Coupled Plasma	Furnace Atomic Absorption	Other
38. Antimony		200 ug/l	50 ug/l	5 ug/l	
39. Arsenic			5 ug/l	2 ug/l	
40. Cadmium		10 ug/l	5 ug/l	0.5 ug/l	

Inorganic parameters:	Minimum Levels (ug/l) and Test Methods			
	Flame Atomic Absorption	Inductively Coupled Plasma	Furnace Atomic Absorption	Other
41. Chromium (total)	Method 218.1	10 ug/l Methods 200.7[11], 200.8, 200.15, 1620	5 ug/l Method 200.9	50 ug/l
42. Chromium (hexavalent)				10 ug/l Method 218.6 Method 1636
43. Copper	20 ug/l	5 ug/l	3 ug/l	
44. Lead	100 ug/l	40 ug/l	3 ug/l	
45. Mercury				0.2 ug/l
46. Nickel	30 ug/l	10 ug/l	5 ug/l	
47. Selenium		50 ug/l	5 ug/l	
48. Silver	50 ug/l	10 ug/l	2 ug/l	
49. Zinc	30 ug/l	10 ug/l		
50. Iron		Methods 6010b 200.7[12]		

1. 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). Where a minimum level (ML) is listed but a test method is not specified, permittee may use any of the available methods approved for use under 40 CFR 136, including alternatives approved by this permit, that meets that ML. See EPA's "Methods and Guidance for the Analysis of Water" at www.epa.gov/water/owrccatalog.nsf. Where test method is specified but ML not listed for that method, the lowest ML for listed methods must be used before concentration can be considered as "non-detect."

2. For measuring volatile organic compounds, Method 8260C (or the latest version) may be used as a substitute for CWA Methods 524.2, 602, 624, or 1624. Method 8260C must be preceded by Method 5030 as the preparation method. However, any method changes must be accompanied by documented quality assurance quality control (QA/QC) test results to prove that the analytical process can achieve the lower detection limits of Method 8260C.

3. For measuring semi-volatile organic compounds, Method 8270D may be used as a substitute for Methods 610, 625, or 1625. Method 8270D must be preceded by Method 3535 or Method 3520C as the sample preparation method. In either case, the quality control requirements of Method 3500B must be taken into account. The sample preparation method must be specified with data analysis records. Method 8270D may be modified to provide lower detection and quantitation limits using Selected Ion Monitoring (SIM). Any method changes must be accompanied by documented quality assurance quality control (QA/QC) test results to prove that the analytical process can achieve the lower detection limits of Method 8270D.

4. GC - gas chromatography

5. GCMS - gas chromatography/mass spectrometry

6. LC - high pressure liquid chromatography

7. Flame Atomic Absorption

8. For measuring fuel oxygenates, Method 602 must be modified to include a heated purge.

9. The sum of individual phthalate compounds.

10. 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 Aroclor analyses"*.

11. Method 1668a (HRGC/HRMS) has been proposed by EPA and is currently being validated. When approval of the method is finalized, it will be approved for use with this general permit.

12. Methods 6010b and 200.7 for metals may only be used when sample prepared with SW-846 digestion method, Method 3010.

Report Date:
31-Mar-09 14:49

☑ 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: Shawn Rising

Project: Sandri - Bernardston, MA
Project J40076

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA92304-01	A.S. Influent	Ground Water	18-Mar-09 09:00	18-Mar-09 16:25
SA92304-02	LGAC Influent	Ground Water	18-Mar-09 09:20	18-Mar-09 16:25
SA92304-03	LGAC Mid Pt	Ground Water	18-Mar-09 09:25	18-Mar-09 16:25
SA92304-04	LGAC Effluent	Ground Water	18-Mar-09 09:30	18-Mar-09 16:25
SA92304-05	Trip	Deionized Water	18-Mar-09 00:00	18-Mar-09 16:25

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
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

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 supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is 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.

CASE NARRATIVE:

The samples were received 4.9 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

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.

According to WSC-CAM 5/2004 Rev.4, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended 70%-130% recovery range, a range has been set based on historical control limits.

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

SW846 8260B

Spikes:

9031308-MS1 *Source: SA92273-01*

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

1,1-Dichloroethene
1,1-Dichloroethene

9031308-MSD1 *Source: SA92273-01*

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

1,1-Dichloroethene
1,1-Dichloroethene

Samples:

SA92304-02 *LGAC Influent*

Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

1,2-Dichloroethane-d4

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
A.S. Influent SA92304-01	J40076	Ground Water	18-Mar-09 09:00	18-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	42.6		µg/l	5.0	5	SW846 8260B	19-Mar-09	20-Mar-09	9031308	
100-41-4	Ethylbenzene	BRL		µg/l	5.0	5	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	48.9		µg/l	5.0	5	"	"	"	"	
108-88-3	Toluene	72.5		µg/l	5.0	5	"	"	"	"	
179601-23-1	m,p-Xylene	639		µg/l	10.0	5	"	"	"	"	
95-47-6	o-Xylene	555		µg/l	5.0	5	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	50.0	5	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*104*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*104*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*95*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	19-Mar-09	20-Mar-09	9031276	
Total Metals by EPA 200 Series Methods											
7439-89-6	Iron	28.3		mg/l	0.0150	1	EPA 200.7	24-Mar-09	24-Mar-09	9031548	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
LGAC Influent SA92304-02	J40076	Ground Water	18-Mar-09 09:20	18-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	19-Mar-09	20-Mar-09	9031308	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*89*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*95*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*66*	SGC	*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
LGAC Mid Pt SA92304-03	J40076	Ground Water	18-Mar-09 09:25	18-Mar-09

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Cert.*
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	19-Mar-09	20-Mar-09	9031308	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*94*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*105*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*110*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
LGAC Effluent SA92304-04	J40076	Ground Water	18-Mar-09 09:30	18-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	19-Mar-09	20-Mar-09	9031308	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	1.7		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	11.6		µg/l	10.0	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*	*108*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*104*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	19-Mar-09	20-Mar-09	9031276	
Total Metals by EPA 200 Series Methods											
7439-89-6	Iron	0.154		mg/l	0.0150	1	EPA 200.7	24-Mar-09	24-Mar-09	9031548	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip SA92304-05	J40076	Deionized Water	18-Mar-09 00:00	18-Mar-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	19-Mar-09	20-Mar-09	9031308	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*88*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*102*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*109*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*		*70-130 %*			"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9031308 - SW846 5030 Water MS										
Blank (9031308-BLK1)										
Prepared & Analyzed: 19-Mar-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	5.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9031308 - SW846 5030 Water MS										
Blank (9031308-BLK1)										
Prepared & Analyzed: 19-Mar-09										
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	5.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	10.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*44.9*		µg/l		*50.0*		*90*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*44.9*		µg/l		*50.0*		*90*	*70-130*		
Surrogate: Toluene-d8	*48.7*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: Toluene-d8	*48.7*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.3*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.3*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*53.7*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*53.7*		µg/l		*50.0*		*107*	*70-130*		
LCS (9031308-BS1)										
Prepared & Analyzed: 19-Mar-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	23.2		µg/l		20.0		116	70-130		
Acetone	19.0		µg/l		20.0		95	45.7-161		
Acrylonitrile	22.4		µg/l		20.0		112	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9031308 - SW846 5030 Water MS										
LCS (9031308-BS1)										
Prepared & Analyzed: 19-Mar-09										
Benzene	20.2		µg/l		20.0		101	70-130		
Benzene	20.2		µg/l		20.0		101	70-130		
Bromobenzene	21.5		µg/l		20.0		108	70-130		
Bromochloromethane	20.4		µg/l		20.0		102	70-130		
Bromodichloromethane	21.6		µg/l		20.0		108	70-130		
Bromoform	19.2		µg/l		20.0		96	70-130		
Bromomethane	20.1		µg/l		20.0		100	39.7-172		
2-Butanone (MEK)	22.7		µg/l		20.0		114	50.8-149		
n-Butylbenzene	18.8		µg/l		20.0		94	70-130		
sec-Butylbenzene	19.5		µg/l		20.0		98	70-130		
tert-Butylbenzene	20.0		µg/l		20.0		100	70-130		
Carbon disulfide	21.0		µg/l		20.0		105	70-130		
Carbon tetrachloride	21.2		µg/l		20.0		106	70-130		
Chlorobenzene	21.1		µg/l		20.0		105	70-130		
Chloroethane	19.9		µg/l		20.0		100	70-136		
Chloroform	19.9		µg/l		20.0		100	70-130		
Chloromethane	19.8		µg/l		20.0		99	70-130		
2-Chlorotoluene	23.8		µg/l		20.0		119	70-130		
4-Chlorotoluene	23.0		µg/l		20.0		115	70-130		
1,2-Dibromo-3-chloropropane	18.5		µg/l		20.0		93	70-130		
Dibromochloromethane	21.8		µg/l		20.0		109	59.7-133		
1,2-Dibromoethane (EDB)	21.9		µg/l		20.0		109	70-130		
Dibromomethane	18.7		µg/l		20.0		93	70-130		
1,2-Dichlorobenzene	22.0		µg/l		20.0		110	70-130		
1,3-Dichlorobenzene	23.4		µg/l		20.0		117	70-130		
1,4-Dichlorobenzene	19.0		µg/l		20.0		95	70-130		
Dichlorodifluoromethane (Freon12)	17.7		µg/l		20.0		88	43-134		
1,1-Dichloroethane	20.3		µg/l		20.0		102	70-130		
1,2-Dichloroethane	21.4		µg/l		20.0		107	70-130		
1,1-Dichloroethene	20.2		µg/l		20.0		101	70-130		
cis-1,2-Dichloroethene	22.4		µg/l		20.0		112	70-130		
trans-1,2-Dichloroethene	19.6		µg/l		20.0		98	70-130		
1,2-Dichloropropane	21.8		µg/l		20.0		109	70-130		
1,3-Dichloropropane	20.8		µg/l		20.0		104	70-130		
2,2-Dichloropropane	24.8		µg/l		20.0		124	70-130		
1,1-Dichloropropene	20.4		µg/l		20.0		102	70-130		
cis-1,3-Dichloropropene	22.2		µg/l		20.0		111	70-130		
trans-1,3-Dichloropropene	25.6		µg/l		20.0		128	70-130		
Ethylbenzene	20.4		µg/l		20.0		102	70-130		
Ethylbenzene	20.4		µg/l		20.0		102	70-130		
Hexachlorobutadiene	20.7		µg/l		20.0		103	50.9-165		
2-Hexanone (MBK)	18.4		µg/l		20.0		92	70-130		
Isopropylbenzene	19.1		µg/l		20.0		95	70-130		
4-Isopropyltoluene	21.8		µg/l		20.0		109	70-130		
Methyl tert-butyl ether	21.1		µg/l		20.0		106	70-130		
Methyl tert-butyl ether	21.1		µg/l		20.0		106	70-130		
4-Methyl-2-pentanone (MIBK)	20.0		µg/l		20.0		100	52.8-134		
Methylene chloride	19.8		µg/l		20.0		99	70-130		
Naphthalene	15.6		µg/l		20.0		78	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9031308 - SW846 5030 Water MS										
LCS (9031308-BS1)										
Prepared & Analyzed: 19-Mar-09										
n-Propylbenzene	17.9		µg/l		20.0		89	70-130		
Styrene	18.4		µg/l		20.0		92	70-130		
1,1,1,2-Tetrachloroethane	21.5		µg/l		20.0		108	70-130		
1,1,2,2-Tetrachloroethane	20.4		µg/l		20.0		102	70-130		
Tetrachloroethene	20.1		µg/l		20.0		100	70-130		
Toluene	21.2		µg/l		20.0		106	70-130		
Toluene	21.2		µg/l		20.0		106	70-130		
1,2,3-Trichlorobenzene	18.8		µg/l		20.0		94	70-130		
1,2,4-Trichlorobenzene	17.1		µg/l		20.0		85	70-130		
1,3,5-Trichlorobenzene	20.8		µg/l		20.0		104	70-130		
1,1,1-Trichloroethane	21.4		µg/l		20.0		107	70-130		
1,1,2-Trichloroethane	21.1		µg/l		20.0		106	70-130		
Trichloroethene	20.6		µg/l		20.0		103	70-130		
Trichlorofluoromethane (Freon 11)	21.8		µg/l		20.0		109	60-147		
1,2,3-Trichloropropane	23.3		µg/l		20.0		116	70-130		
1,2,4-Trimethylbenzene	19.7		µg/l		20.0		98	70-130		
1,3,5-Trimethylbenzene	19.3		µg/l		20.0		96	70-130		
m,p-Xylene	43.9		µg/l		40.0		110	70-130		
Vinyl chloride	20.1		µg/l		20.0		100	70-130		
o-Xylene	21.2		µg/l		20.0		106	70-130		
m,p-Xylene	43.9		µg/l		40.0		110	70-130		
o-Xylene	21.2		µg/l		20.0		106	70-130		
Tetrahydrofuran	17.0		µg/l		20.0		85	70-130		
Ethyl ether	20.7		µg/l		20.0		104	67.1-130		
Tert-amyl methyl ether	21.4		µg/l		20.0		107	70-130		
Ethyl tert-butyl ether	18.7		µg/l		20.0		94	70-130		
Di-isopropyl ether	19.8		µg/l		20.0		99	70-130		
Tert-Butanol / butyl alcohol	212		µg/l		200		106	70-130		
1,4-Dioxane	192		µg/l		200		96	56.4-130		
trans-1,4-Dichloro-2-butene	24.2		µg/l		20.0		121	70-130		
Ethanol	399		µg/l		400		100	70-130		
Surrogate: 4-Bromofluorobenzene	*53.4*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*53.4*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Toluene-d8	*51.3*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.3*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*47.3*		µg/l		*50.0*		*95*	*70-130*		
Surrogate: Dibromofluoromethane	*47.3*		µg/l		*50.0*		*95*	*70-130*		
LCS Dup (9031308-BSD1)										
Prepared & Analyzed: 19-Mar-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	22.4		µg/l		20.0		112	70-130	4	25
Acetone	19.4		µg/l		20.0		97	45.7-161	2	50
Acrylonitrile	21.6		µg/l		20.0		108	70-130	4	25
Benzene	18.5		µg/l		20.0		92	70-130	9	25
Benzene	18.5		µg/l		20.0		92	70-130	9	25
Bromobenzene	19.9		µg/l		20.0		100	70-130	8	25
Bromochloromethane	18.1		µg/l		20.0		90	70-130	12	25
Bromodichloromethane	20.7		µg/l		20.0		103	70-130	4	25
Bromoform	18.9		µg/l		20.0		94	70-130	2	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9031308 - SW846 5030 Water MS										
LCS Dup (9031308-BSD1)										
Prepared & Analyzed: 19-Mar-09										
Bromomethane	18.4		µg/l		20.0		92	39.7-172	9	50
2-Butanone (MEK)	22.9		µg/l		20.0		115	50.8-149	0.9	50
n-Butylbenzene	17.4		µg/l		20.0		87	70-130	8	25
sec-Butylbenzene	17.9		µg/l		20.0		89	70-130	9	25
tert-Butylbenzene	17.9		µg/l		20.0		89	70-130	11	25
Carbon disulfide	18.3		µg/l		20.0		92	70-130	13	25
Carbon tetrachloride	19.2		µg/l		20.0		96	70-130	10	25
Chlorobenzene	19.0		µg/l		20.0		95	70-130	10	25
Chloroethane	17.2		µg/l		20.0		86	70-136	15	50
Chloroform	18.8		µg/l		20.0		94	70-130	6	25
Chloromethane	18.4		µg/l		20.0		92	70-130	7	25
2-Chlorotoluene	20.6		µg/l		20.0		103	70-130	14	25
4-Chlorotoluene	21.3		µg/l		20.0		107	70-130	8	25
1,2-Dibromo-3-chloropropane	19.2		µg/l		20.0		96	70-130	3	25
Dibromochloromethane	20.5		µg/l		20.0		102	59.7-133	6	50
1,2-Dibromoethane (EDB)	20.3		µg/l		20.0		101	70-130	8	25
Dibromomethane	18.6		µg/l		20.0		93	70-130	0.2	25
1,2-Dichlorobenzene	20.0		µg/l		20.0		100	70-130	9	25
1,3-Dichlorobenzene	22.5		µg/l		20.0		113	70-130	4	25
1,4-Dichlorobenzene	18.4		µg/l		20.0		92	70-130	3	25
Dichlorodifluoromethane (Freon12)	16.9		µg/l		20.0		84	43-134	5	50
1,1-Dichloroethane	18.5		µg/l		20.0		92	70-130	9	25
1,2-Dichloroethane	21.0		µg/l		20.0		105	70-130	2	25
1,1-Dichloroethene	18.6		µg/l		20.0		93	70-130	8	25
cis-1,2-Dichloroethene	18.3		µg/l		20.0		91	70-130	20	25
trans-1,2-Dichloroethene	17.8		µg/l		20.0		89	70-130	9	25
1,2-Dichloropropane	20.4		µg/l		20.0		102	70-130	7	25
1,3-Dichloropropane	19.9		µg/l		20.0		100	70-130	4	25
2,2-Dichloropropane	21.1		µg/l		20.0		105	70-130	16	25
1,1-Dichloropropene	17.6		µg/l		20.0		88	70-130	15	25
cis-1,3-Dichloropropene	21.5		µg/l		20.0		107	70-130	3	25
trans-1,3-Dichloropropene	25.5		µg/l		20.0		127	70-130	0.3	25
Ethylbenzene	19.2		µg/l		20.0		96	70-130	6	25
Ethylbenzene	19.2		µg/l		20.0		96	70-130	6	25
Hexachlorobutadiene	19.8		µg/l		20.0		99	50.9-165	4	50
2-Hexanone (MBK)	18.1		µg/l		20.0		91	70-130	2	25
Isopropylbenzene	17.5		µg/l		20.0		88	70-130	8	25
4-Isopropyltoluene	19.7		µg/l		20.0		98	70-130	10	25
Methyl tert-butyl ether	20.0		µg/l		20.0		100	70-130	6	25
Methyl tert-butyl ether	20.0		µg/l		20.0		100	70-130	6	25
4-Methyl-2-pentanone (MIBK)	18.0		µg/l		20.0		90	52.8-134	10	50
Methylene chloride	18.7		µg/l		20.0		94	70-130	6	25
Naphthalene	15.0		µg/l		20.0		75	70-130	4	25
n-Propylbenzene	16.2		µg/l		20.0		81	70-130	10	25
Styrene	17.2		µg/l		20.0		86	70-130	7	25
1,1,1,2-Tetrachloroethane	20.2		µg/l		20.0		101	70-130	6	25
1,1,2,2-Tetrachloroethane	20.9		µg/l		20.0		104	70-130	3	25
Tetrachloroethene	17.3		µg/l		20.0		86	70-130	15	25
Toluene	18.8		µg/l		20.0		94	70-130	12	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9031308 - SW846 5030 Water MS										
LCS Dup (9031308-BSD1)										
Prepared & Analyzed: 19-Mar-09										
Toluene	18.8		µg/l		20.0		94	70-130	12	25
1,2,3-Trichlorobenzene	17.9		µg/l		20.0		90	70-130	4	25
1,2,4-Trichlorobenzene	16.9		µg/l		20.0		85	70-130	0.8	25
1,3,5-Trichlorobenzene	19.2		µg/l		20.0		96	70-130	8	25
1,1,1-Trichloroethane	19.2		µg/l		20.0		96	70-130	11	25
1,1,2-Trichloroethane	21.0		µg/l		20.0		105	70-130	0.6	25
Trichloroethene	18.6		µg/l		20.0		93	70-130	10	25
Trichlorofluoromethane (Freon 11)	19.4		µg/l		20.0		97	60-147	12	50
1,2,3-Trichloropropane	22.0		µg/l		20.0		110	70-130	6	25
1,2,4-Trimethylbenzene	17.5		µg/l		20.0		87	70-130	12	25
1,3,5-Trimethylbenzene	17.7		µg/l		20.0		89	70-130	8	25
m,p-Xylene	40.0		µg/l		40.0		100	70-130	9	25
Vinyl chloride	17.7		µg/l		20.0		89	70-130	12	25
m,p-Xylene	40.0		µg/l		40.0		100	70-130	9	25
o-Xylene	20.3		µg/l		20.0		102	70-130	4	25
o-Xylene	20.3		µg/l		20.0		102	70-130	4	25
Tetrahydrofuran	19.5		µg/l		20.0		97	70-130	13	25
Ethyl ether	20.6		µg/l		20.0		103	67.1-130	0.7	50
Tert-amyl methyl ether	20.9		µg/l		20.0		104	70-130	3	25
Ethyl tert-butyl ether	17.7		µg/l		20.0		88	70-130	6	25
Di-isopropyl ether	18.8		µg/l		20.0		94	70-130	5	25
Tert-Butanol / butyl alcohol	206		µg/l		200		103	70-130	3	25
1,4-Dioxane	191		µg/l		200		96	56.4-130	0.4	25
trans-1,4-Dichloro-2-butene	23.2		µg/l		20.0		116	70-130	4	25
Ethanol	434		µg/l		400		109	70-130	8	30
Surrogate: 4-Bromofluorobenzene	*52.6*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*52.6*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*45.9*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: Dibromofluoromethane	*45.9*		µg/l		*50.0*		*92*	*70-130*		
Matrix Spike (9031308-MS1) **Source: SA92273-01**										
Prepared: 19-Mar-09 Analyzed: 20-Mar-09										
Benzene	17.0		µg/l		20.0	BRL	85	70-130		
Benzene	17.0		µg/l		20.0	BRL	85	70-130		
Chlorobenzene	24.4		µg/l		20.0	BRL	122	70-130		
1,1-Dichloroethene	5.1	QM7	µg/l		20.0	BRL	26	70-130		
Toluene	23.4		µg/l		20.0	0.4	115	70-130		
Toluene	23.4		µg/l		20.0	0.4	115	70-130		
Trichloroethene	19.3		µg/l		20.0	BRL	97	70-130		
Chlorobenzene	24.4		µg/l		20.0	0.0	122	70-130		
1,1-Dichloroethene	5.1	QM7	µg/l		20.0	0.0	26	70-130		
Trichloroethene	19.3		µg/l		20.0	0.0	97	70-130		
Surrogate: 4-Bromofluorobenzene	*47.2*		µg/l		*50.0*		*94*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*47.2*		µg/l		*50.0*		*94*	*70-130*		
Surrogate: Toluene-d8	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*54.7*		µg/l		*50.0*		*109*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*54.7*		µg/l		*50.0*		*109*	*70-130*		
Surrogate: Dibromofluoromethane	*50.2*		µg/l		*50.0*		*100*	*70-130*		

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9031308 - SW846 5030 Water MS										
Matrix Spike (9031308-MS1) **Source: SA92273-01**										
Prepared: 19-Mar-09 Analyzed: 20-Mar-09										
Surrogate: Dibromofluoromethane	*50.2*		µg/l		*50.0*		*100*	*70-130*		
Matrix Spike Dup (9031308-MSD1) **Source: SA92273-01**										
Prepared: 19-Mar-09 Analyzed: 20-Mar-09										
Benzene	16.4		µg/l		20.0	BRL	82	70-130	3	30
Benzene	16.4		µg/l		20.0	BRL	82	70-130	3	30
Chlorobenzene	23.8		µg/l		20.0	BRL	119	70-130	2	30
1,1-Dichloroethene	4.2	QM7	µg/l		20.0	BRL	21	70-130	19	30
Toluene	22.5		µg/l		20.0	0.4	111	70-130	4	30
Toluene	22.5		µg/l		20.0	0.4	111	70-130	4	30
Trichloroethene	18.9		µg/l		20.0	BRL	95	70-130	2	30
Chlorobenzene	23.8		µg/l		20.0	0.0	119	70-130	2	30
1,1-Dichloroethene	4.2	QM7	µg/l		20.0	0.0	21	70-130	19	30
Trichloroethene	18.9		µg/l		20.0	0.0	95	70-130	2	30
Surrogate: 4-Bromofluorobenzene	*46.1*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*46.1*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: Toluene-d8	*49.6*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*49.6*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.6*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.6*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Dibromofluoromethane	*47.6*		µg/l		*50.0*		*95*	*70-130*		
Surrogate: Dibromofluoromethane	*47.6*		µg/l		*50.0*		*95*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9031276 - SW846 3510C										
Blank (9031276-BLK1)										
Prepared: 19-Mar-09 Analyzed: 20-Mar-09										
Non-polar material (SGT-HEM)	BRL		mg/l	1.0						
LCS (9031276-BS1)										
Prepared: 19-Mar-09 Analyzed: 20-Mar-09										
Non-polar material (SGT-HEM)	20.4		mg/l		25.4		80	77.5-86.4		

Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9031548 - EPA 200 Series										
Blank (9031548-BLK1)										
Prepared & Analyzed: 24-Mar-09										
Iron	BRL		mg/l	0.0150						
LCS (9031548-BS1)										
Prepared & Analyzed: 24-Mar-09										
Iron	1.28		mg/l	0.0150	1.25		102	85-115		
Duplicate (9031548-DUP1)	**Source: SA92304-01**									
Prepared & Analyzed: 24-Mar-09										
Iron	28.8		mg/l	0.0150		28.3			2	20
Matrix Spike (9031548-MS1)	**Source: SA92304-04**									
Prepared & Analyzed: 24-Mar-09										
Iron	1.35		mg/l	0.0150	1.25	0.154	96	70-130		
Post Spike (9031548-PS1)	**Source: SA92304-04**									
Prepared & Analyzed: 24-Mar-09										
Iron	1.33		mg/l	0.0150	1.25	0.154	94	85-115		

Notes and Definitions

QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
SGC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

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 *TPH (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.

Validated by:
Hanibal C. Tayeh, Ph.D.
Rebecca Merz

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: Spectrum Analytical, Inc. - Agawam, MA	Project #: J40076
Project Location: Sandri - Bernardston, MA	MADEP RTN [1]:

This form provides certifications for the following data set:
SA92304-01 through SA92304-05

Sample matrices:	Deionized Water Ground Water				
MCP SW-846 Methods Used	☑ 8260B	☐ 8151A	☐ 8330	☐ 6010B	☐ 7470A/1A
	☐ 8270C	☐ 8081A	☐ VPH	☐ 6020	☐ 9014M [2]
	☐ 8082	☐ 8021B	☐ EPH	☐ 7000S [3]	☐ 7196A

1 List Release Tracking Number (RTN), if known
2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S - SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain of Custody documentation for the data set?	☑ Yes	☐ No
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	☑ Yes	☐ No
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
D	***VPH and EPH methods only***: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective methods)?	☐ Yes	☐ No

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all analytical QC performance standards and recommendations for the specified methods achieved?	☑ Yes	☐ No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	☐ 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.

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Date: 3/31/2009

SA923021 CL

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: SHAWN R.

Project Mgr.: S.R.

Telephone #: _____

Invoice To: ECS - AGAWAM

P.O. No.: _____ RQN: 0003

Project No.: ~~SAIL~~ J40076

Site Name: SANDRI

Location: BERNARDSTON State: MA.

Sampler(s): ROB H.

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=_____ 10=_____ 11=_____

List preservative code below: 2 2 3 4

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=_____ 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: BTEX, MTBE by 8260B	TBA by 8260B	TPH 1664	TOTAL Fe 200.7
SA923021-01	A.S. INFLUENT	3/18/09	9:00	G	GW	3	1		1	X	X	X	X
02	LGAC INFLUENT	3/18	9:20	G	GW	3				X			
03	LGAC MIDPT	3/18	9:25	G	GW	3				X			
04	LGAC EFFLUENT	3/18	9:30	G	GW	3	1		1	X	X	X	X
05	TRIP	3/18	AM	G	DI	1				X			

- [ ] Provide MA DEP MCP CAM Report
- [ ] Provide CT DPH RCP Report

QA/QC Reporting Level
- [ ] Standard [ ] No QC
- [ ] Other _____

State specific reporting standards: CAM GW-1, GW-2, GW-3

EDD Format _____
- [ ] E-mail to _____

Relinquished by:	Received by:	Date:	Time:
Rob Haynes		3/18/09	1625

Condition upon receipt: [X] Iced [ ] Ambient [ ] °C 4.9

11 Almgren Drive • Agawam, MA 01001 • 413-789-9018 • FAX 413-789-4076 • www.spectrum-analytical.com

Submit to Spectrum w/ NPDES samples

Appendix VI: Minimums Levels and Test Methods

PARAMETER - CAS No. -	Minimum Levels and Test Methods[1,2,3]				
	GC[4]	GCMS[5]	LC[6]	FAA[7]	Other
1. Total Suspended Solids (TSS)					5 mg/l Method 160.2
2. Total Residual Chlorine (TRC)					20 ug/l Method 330.5
3. Total Petroleum Hydrocarbons (TPH)					5 mg/l Method 1664
4. Cyanide (total) - 57125 -					10 ug/l Method 335.4
5. Benzene (B) - 71432 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[7]
6. Toluene (T) - 108883 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[7]
7. Ethylbenzene (E) - 100414 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[7]
8. (m,p,o) Xylenes (X) - 108383;106423; 95476-	0.5 ug/l Method 602	10 ug/l Method 1624			Method 8260C[7]
9. Total BTEX	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[7]
10. Ethylene Dibromide (EDB) (1,2- Dibromoethane) - 106934 -	1.0 ug/l Method 618 0.01 ug/l Method 504.1	0.1 ug/l Methods 524.2			Method 8260C[7]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
11. Methyl-tert-Butyl Ether[4](MtBE)	0.5 ug/l Method 602[5]	5.0 ug/l Method 524.2			Method 8260C[2]
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol) - 75650 -	0.5 ug/l Method 602[5]	100 ug/l Method 1666			Method 8260C[2]
13. tert-Amyl Methyl Ether (TAME) -994058-	0.5 ug/l Method 602[5]				Method 8260C[2]
14. Naphthalene - 91203 -	10 ug/l Method 610 GC/FID	2 ug/l Method 625 5.0 ug/l Method 524.2	0.2 ug/l Method 610 HPLC		Method 8270D[3]
15. Carbon Tetrachloride - 56235 -	0.5 ug/l Method 601	2 ug/l Methods 624, 1624			Method 8260C[2]
16. 1,4 Dichlorobenzene (p-DCB) - 106467 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
17. 1,2 Dichlorobenzene (o-DCB) - 95501 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
18. 1,3 Dichlorobenzene (m-DCB) - 541731 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
19. 1,1 Dichloruethane (DCA) - 75343 -	0.5 ug/l Method 601	1 ug/l Method 624			Method 8260C[2]
20. 1,2 Dichloroethane (DCA)- 107062 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
21. 1,1 Dichloroethylene (DCE) - 75354 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
22. cis-1,3 Dichloro-ethylene (DCE) -156592-	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
23. Dichloromethane (Methylene Chloride)- 75092 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
24. Tetrachloroethylene (PCE) - 127184 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
25. 1,1,1 Trichloro-ethane (TCA) - 71556 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
26. 1,1,2 Trichloro-ethane (TCA) - 79005 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
27. Trichloroethylene (TCE) - 79016 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
28. Vinyl Chloride - 75014 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
29. Acetone - 67641 -	1.0 ug/l Method 524.2	50 ug/l Method 1624			Method 8260C[2]
30. 1,4 Dioxane -123911-		50 ug/l Method 1624			Method 8260C[2]
31. Total Phenols - 108952	1.0 ug/l Method 624 Method 8260[7]	1 ug/l Methods 625, 1625			Method 8260C[2] Method 8270D[3]
32. Pentachlorophenol (PCP) - 87865 -	1.0 ug/l Method 604 GCFID	5 ug/l Methods 625, 1625			Method 8270D[3]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
33. Total Phthalates [7] (Phthalate esthers)		5 ug/l Method 625			Method 8270D[2]
34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate] - 117817 -	10 ug/l Method 606	5 ug/l Method 625			Method 8270D[3]
35. Total Group I Polynuclear Aromatic Hydrocarbons (PAH)					Method 8270D[1]
a. Benzo(a) Anthracene -56553-	10 ug/l Method 610 GC	5 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[2]
b. Benzo(a) Pyrene -50328 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
c. Benzo(b)Fluoranthene - 205992 -		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[2]
d. Benzo(k)Fluoranthene - 207089 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
e. Chrysene - 218019 -		10 ug/l Method 625	5 ug/l Method 610 HPLC		Method 8270D[3]
f. Dibenzo(a,h) anthracene		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[2]
g. Indeno(1,2,3-cd) Pyrene - 193395 -		10 ug/l Method 625	0.15 ug/l Method 610		Method 8270D[3]
36. Total Group II Polynuclear Aromatic Hydrocarbons (PAH)					Method 8270D[1]
h. Acenaphthene - 83329 -	1 ug/l Method 610 GC/FID	1 ug/l Method 625	0.5 ug/l Method 610 HPLC		Method 8270D[3]
i. Acenaphthylene - 208968 -		10 ug/l Method 625	0.2 ug/l Method 610 HPLC		Method 8270D[3]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
j. Anthracene - 120127 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
k. Benzo(ghi) Perylene - 191242 -		5 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
l. Fluoranthene - 206440 -	10 ug/l Method 610 GC/FID	1 ug/l Method 625	0.5 ug/l Method 610 HPLC		Method 8270D[3]
m. Fluorene - 86737 -		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
n. Naphthalene - 91203 -	10 ug/l Method 610 GC/FID	2 ug/l Method 625 5.0 ug/l Method 524.2	0.2 ug/l Method 610 HPLC		Method 8270D[3]
o. Phenanthrene - 85018 -		5 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
p. Pyrene - 129000 -		10 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
37. Total Polychlorinated Biphenyls (PCBs)[10]	0.5 ug/l Method 608				0.00005 ug/l Method 1668a[11]
Inorganic parameters:		Minimum Levels (ug/l) and Test Methods			
		Flame Atomic Absorption	Inductively Coupled Plasma	Furnace Atomic Absorption	Other
38. Antimony		200 ug/l	50 ug/l	5 ug/l	
39. Arsenic			5 ug/l	2 ug/l	
40. Cadmium		10 ug/l	5 ug/l	0.5 ug/l	

Inorganic parameters:	Minimum Levels (ug/l) and Test Methods			
	Flame Atomic Absorption	Inductively Coupled Plasma	Furnace Atomic Absorption	Other
41. Chromium (total)	Method 218.1	10 ug/l Methods 200.7[1], 200.8, 200.15, 1620	5 ug/l Method 200.9	50 ug/l
42. Chromium (hexavalent)				10 ug/l Method 218.6 Method 1636
43. Copper	20 ug/l	5 ug/l	3 ug/l	
44. Lead	100 ug/l	40 ug/l	3 ug/l	
45. Mercury				0.2 ug/l
46. Nickel	50 ug/l	10 ug/l	5 ug/l	
47. Selenium		50 ug/l	5 ug/l	
48. Silver	50 ug/l	10 ug/l	2 ug/l	
49. Zinc	30 ug/l	10 ug/l		
50. Iron		Methods 6010b 200.7[1]		

1. 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). Where a minimum level (ML) is listed but a test method is not specified, permittee may use any of the available methods approved for use under 40 CFR 136, including alternatives approved by this permit, that meets that ML. See EPA's "Methods and Guidance for the Analysis of Water" at www.epa.gov/water/owrccatalog.nsf. Where test method is specified but ML not listed for that method, the lowest ML for listed methods must be used before concentration can be considered as "non-detect."

Report Date:
23-Apr-09 13:19

☑ 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: Shawn Rising

Project: Sandri - Bernardston, MA
Project J40076

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA93515-01	AS-Influent	Ground Water	16-Apr-09 09:00	16-Apr-09 14:25
SA93515-02	GAC-Influent	Ground Water	16-Apr-09 09:10	16-Apr-09 14:25
SA93515-03	GAC-Mid Pt	Ground Water	16-Apr-09 09:12	16-Apr-09 14:25
SA93515-04	GAC-Effluent	Ground Water	16-Apr-09 09:15	16-Apr-09 14:25
SA93515-05	Trip	Deionized Water	16-Apr-09 00:00	16-Apr-09 14:25

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
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

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 27 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is 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.

CASE NARRATIVE:

The samples were received 6.0 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

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.

According to WSC-CAM 5/2004 Rev.4, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended 70%-130% recovery range, a range has been set based on historical control limits.

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

SW846 8260B

Laboratory Control Samples:

9041285-BS1

Analyte out of acceptance range.

1,2,4-Trichlorobenzene
Bromomethane
Naphthalene

9041285-BSD1

Analyte out of acceptance range.

1,2,4-Trichlorobenzene
Chloromethane

9041386-BS1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

1,2,3-Trichloropropane

9041386-BSD1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

1,2,3-Trichloropropane

Analyte out of acceptance range.

2-Chlorotoluene

SW846 8260B

Spikes:

9041285-MS1 *Source: SA93515-04*

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

1,1-Dichloroethene
1,1-Dichloroethene
Benzene
Benzene

9041285-MSD1 *Source: SA93515-04*

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

1,1-Dichloroethene
1,1-Dichloroethene
Benzene
Benzene

9041386-MSD1 *Source: SA93576-08*

Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

Dibromofluoromethane

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

1,1-Dichloroethene
Benzene
Toluene

Samples:

S903505-CCV1

Analyte percent drift/percent difference is greater than 30%, data is accepted due to all CCC analytes passing within the 20% Drift/Difference criteria

1,2,4-Trichlorobenzene
Bromomethane
Dichlorodifluoromethane (Freon12)
Naphthalene

SA93515-01RE1 *AS-Influent*

Analyte concentration confirmed by duplicate analysis.

Benzene
Ethylbenzene
m,p-Xylene
Methyl tert-butyl ether
o-Xylene
Toluene

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
AS-Influent SA93515-01	J40076	Ground Water	16-Apr-09 09:00	16-Apr-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	118		µg/l	1.0	1	SW846 8260B	20-Apr-09	20-Apr-09	9041285	
100-41-4	Ethylbenzene	7.4		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	100		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	170		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	277		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	824	E	µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	22.7		µg/l	10.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*95*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*101*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*104*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*99*		*70-130 %*			"	"	"	"	
Re-analysis of Volatile Organic Compounds											
71-43-2	Benzene	153	V11	µg/l	10.0	10	SW846 8260B	21-Apr-09	21-Apr-09	9041386	
100-41-4	Ethylbenzene	BRL	V11	µg/l	10.0	10	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	144	V11	µg/l	10.0	10	"	"	"	"	
108-88-3	Toluene	211	V11	µg/l	10.0	10	"	"	"	"	
179601-23-1	m,p-Xylene	318	V11	µg/l	20.0	10	"	"	"	"	
95-47-6	o-Xylene	1,130	V11	µg/l	10.0	10	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	100	10	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*106*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*94*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*114*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*106*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	17-Apr-09	20-Apr-09	9041147	
Total Metals by EPA 200 Series Methods											
7439-89-6	Iron	16.0		mg/l	0.125	1	EPA 200.7	22-Apr-09	23-Apr-09	9041453	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC-Influent SA93515-02	J40076	Ground Water	16-Apr-09 09:10	16-Apr-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	21-Apr-09	22-Apr-09	9041422	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	1.5		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*83*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*98*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*106*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC-Mid Pt SA93515-03	J40076	Ground Water	16-Apr-09 09:12	16-Apr-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	20-Apr-09	20-Apr-09	9041285	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*91*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*98*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*100*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*96*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC-Effluent SA93515-04	J40076	Ground Water	16-Apr-09 09:15	16-Apr-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	20-Apr-09	20-Apr-09	9041285	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*89*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*101*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	17-Apr-09	20-Apr-09	9041147	
Total Metals by EPA 200 Series Methods											
7439-89-6	Iron	BRL		mg/l	0.125	1	EPA 200.7	22-Apr-09	23-Apr-09	9041453	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip SA93515-05	J40076	Deionized Water	16-Apr-09 00:00	16-Apr-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	20-Apr-09	20-Apr-09	9041285	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*89*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*99*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*106*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*105*		*70-130 %*			"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041285 - SW846 5030 Water MS										
Blank (9041285-BLK1)										
Prepared & Analyzed: 20-Apr-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	5.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041285 - SW846 5030 Water MS										
Blank (9041285-BLK1)										
Prepared & Analyzed: 20-Apr-09										
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	5.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	5.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
Trichloroethene	BRL		µg/l	1.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*47.7*		µg/l		*50.0*		*95*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*47.7*		µg/l		*50.0*		*95*	*70-130*		
Surrogate: Toluene-d8	*49.1*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*49.1*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.4*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.4*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Dibromofluoromethane	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*51.2*		µg/l		*50.0*		*102*	*70-130*		
LCS (9041285-BS1)										
Prepared & Analyzed: 20-Apr-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	17.7		µg/l		20.0		88	70-130		
Acetone	16.8		µg/l		20.0		84	41.6-158		
Acrylonitrile	19.3		µg/l		20.0		96	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041285 - SW846 5030 Water MS										
LCS (9041285-BS1)										
Prepared & Analyzed: 20-Apr-09										
Benzene	17.8		µg/l		20.0		89	70-130		
Benzene	17.8		µg/l		20.0		89	70-130		
Bromobenzene	19.4		µg/l		20.0		97	70-130		
Bromochloromethane	17.9		µg/l		20.0		90	70-130		
Bromodichloromethane	19.6		µg/l		20.0		98	70-130		
Bromoform	18.7		µg/l		20.0		93	70-130		
Bromomethane	9.2	QC1	µg/l		20.0		46	47-147		
2-Butanone (MEK)	19.7		µg/l		20.0		98	60.9-144		
n-Butylbenzene	17.0		µg/l		20.0		85	70-130		
sec-Butylbenzene	17.4		µg/l		20.0		87	70-130		
tert-Butylbenzene	17.8		µg/l		20.0		89	70-130		
Carbon disulfide	19.2		µg/l		20.0		96	70-130		
Carbon tetrachloride	16.1		µg/l		20.0		81	70-130		
Chlorobenzene	19.2		µg/l		20.0		96	70-130		
Chloroethane	15.6		µg/l		20.0		78	63.6-131		
Chloroform	17.6		µg/l		20.0		88	70-130		
Chloromethane	14.4		µg/l		20.0		72	70-130		
2-Chlorotoluene	21.8		µg/l		20.0		109	70-130		
4-Chlorotoluene	19.1		µg/l		20.0		96	70-130		
1,2-Dibromo-3-chloropropane	17.8		µg/l		20.0		89	70-130		
Dibromochloromethane	17.5		µg/l		20.0		87	58.8-145		
1,2-Dibromoethane (EDB)	18.5		µg/l		20.0		92	70-130		
Dibromomethane	18.8		µg/l		20.0		94	70-130		
1,2-Dichlorobenzene	21.0		µg/l		20.0		105	70-130		
1,3-Dichlorobenzene	20.8		µg/l		20.0		104	70-130		
1,4-Dichlorobenzene	20.4		µg/l		20.0		102	70-130		
Dichlorodifluoromethane (Freon12)	11.4		µg/l		20.0		57	56.6-137		
1,1-Dichloroethane	19.0		µg/l		20.0		95	70-130		
1,2-Dichloroethane	18.3		µg/l		20.0		91	70-130		
1,1-Dichloroethene	17.7		µg/l		20.0		88	70-130		
cis-1,2-Dichloroethene	19.3		µg/l		20.0		97	70-130		
trans-1,2-Dichloroethene	17.6		µg/l		20.0		88	70-130		
1,2-Dichloropropane	17.5		µg/l		20.0		87	70-130		
1,3-Dichloropropane	18.2		µg/l		20.0		91	70-130		
2,2-Dichloropropane	20.1		µg/l		20.0		101	70-130		
1,1-Dichloropropene	18.3		µg/l		20.0		91	70-130		
cis-1,3-Dichloropropene	20.4		µg/l		20.0		102	70-130		
trans-1,3-Dichloropropene	19.2		µg/l		20.0		96	70-130		
Ethylbenzene	17.2		µg/l		20.0		86	70-130		
Ethylbenzene	17.2		µg/l		20.0		86	70-130		
Hexachlorobutadiene	20.1		µg/l		20.0		101	70-134		
2-Hexanone (MBK)	15.3		µg/l		20.0		76	70-130		
Isopropylbenzene	16.7		µg/l		20.0		84	70-130		
4-Isopropyltoluene	18.5		µg/l		20.0		92	70-130		
Methyl tert-butyl ether	17.1		µg/l		20.0		85	70-130		
Methyl tert-butyl ether	17.1		µg/l		20.0		85	70-130		
4-Methyl-2-pentanone (MIBK)	17.2		µg/l		20.0		86	64.8-130		
Methylene chloride	19.4		µg/l		20.0		97	70-130		
Naphthalene	13.4	QC1	µg/l		20.0		67	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041285 - SW846 5030 Water MS										
LCS (9041285-BS1)										
Prepared & Analyzed: 20-Apr-09										
n-Propylbenzene	16.7		µg/l		20.0		83	70-130		
Styrene	17.3		µg/l		20.0		87	70-130		
1,1,1,2-Tetrachloroethane	19.5		µg/l		20.0		98	70-130		
1,1,2,2-Tetrachloroethane	19.7		µg/l		20.0		98	70-130		
Tetrachloroethene	18.6		µg/l		20.0		93	70-130		
Toluene	18.2		µg/l		20.0		91	70-130		
Toluene	18.2		µg/l		20.0		91	70-130		
1,2,3-Trichlorobenzene	16.8		µg/l		20.0		84	70-130		
1,2,4-Trichlorobenzene	13.8	QC1	µg/l		20.0		69	70-130		
1,3,5-Trichlorobenzene	16.5		µg/l		20.0		82	70-130		
1,1,1-Trichloroethane	18.6		µg/l		20.0		93	70-130		
1,1,2-Trichloroethane	18.6		µg/l		20.0		93	70-130		
Trichloroethene	18.5		µg/l		20.0		93	70-130		
Trichlorofluoromethane (Freon 11)	16.2		µg/l		20.0		81	70-152		
1,2,3-Trichloropropane	21.0		µg/l		20.0		105	70-130		
1,2,4-Trimethylbenzene	17.8		µg/l		20.0		89	70-130		
1,3,5-Trimethylbenzene	17.2		µg/l		20.0		86	70-130		
Vinyl chloride	17.2		µg/l		20.0		86	70-130		
m,p-Xylene	37.1		µg/l		40.0		93	70-130		
m,p-Xylene	37.1		µg/l		40.0		93	70-130		
o-Xylene	21.8		µg/l		20.0		109	70-130		
o-Xylene	21.8		µg/l		20.0		109	70-130		
Tetrahydrofuran	19.3		µg/l		20.0		96	70-130		
Ethyl ether	17.2		µg/l		20.0		86	70-133		
Tert-amyl methyl ether	19.3		µg/l		20.0		97	70-130		
Ethyl tert-butyl ether	16.0		µg/l		20.0		80	70-130		
Di-isopropyl ether	16.4		µg/l		20.0		82	70-130		
Tert-Butanol / butyl alcohol	176		µg/l		200		88	70-130		
1,4-Dioxane	245		µg/l		200		123	53.1-139		
trans-1,4-Dichloro-2-butene	20.7		µg/l		20.0		104	70-130		
Ethanol	427		µg/l		400		107	70-130		
Surrogate: 4-Bromofluorobenzene	*49.6*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*49.6*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*48.2*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*48.2*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.7*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.7*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Dibromofluoromethane	*49.4*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*49.4*		µg/l		*50.0*		*99*	*70-130*		
LCS Dup (9041285-BSD1)										
Prepared & Analyzed: 20-Apr-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	16.7		µg/l		20.0		84	70-130	6	25
Acetone	18.5		µg/l		20.0		92	41.6-158	10	50
Acrylonitrile	20.0		µg/l		20.0		100	70-130	4	25
Benzene	17.0		µg/l		20.0		85	70-130	5	25
Benzene	17.0		µg/l		20.0		85	70-130	5	25
Bromobenzene	18.0		µg/l		20.0		90	70-130	7	25
Bromochloromethane	19.5		µg/l		20.0		97	70-130	8	25
Bromodichloromethane	19.4		µg/l		20.0		97	70-130	1	25
Bromoform	18.7		µg/l		20.0		94	70-130	0.2	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041285 - SW846 5030 Water MS										
LCS Dup (9041285-BSD1)										
Prepared & Analyzed: 20-Apr-09										
Bromomethane	10.0		µg/l		20.0		50	47-147	8	50
2-Butanone (MEK)	18.6		µg/l		20.0		93	60.9-144	5	50
n-Butylbenzene	15.5		µg/l		20.0		78	70-130	9	25
sec-Butylbenzene	16.3		µg/l		20.0		82	70-130	6	25
tert-Butylbenzene	16.8		µg/l		20.0		84	70-130	6	25
Carbon disulfide	18.3		µg/l		20.0		91	70-130	5	25
Carbon tetrachloride	15.4		µg/l		20.0		77	70-130	4	25
Chlorobenzene	17.8		µg/l		20.0		89	70-130	7	25
Chloroethane	15.2		µg/l		20.0		76	63.6-131	2	50
Chloroform	17.6		µg/l		20.0		88	70-130	0.2	25
Chloromethane	13.9	QC1	µg/l		20.0		69	70-130	4	25
2-Chlorotoluene	21.1		µg/l		20.0		106	70-130	3	25
4-Chlorotoluene	18.2		µg/l		20.0		91	70-130	5	25
1,2-Dibromo-3-chloropropane	19.4		µg/l		20.0		97	70-130	8	25
Dibromochloromethane	18.0		µg/l		20.0		90	58.8-145	3	50
1,2-Dibromoethane (EDB)	18.7		µg/l		20.0		94	70-130	1	25
Dibromomethane	18.6		µg/l		20.0		93	70-130	1	25
1,2-Dichlorobenzene	20.6		µg/l		20.0		103	70-130	2	25
1,3-Dichlorobenzene	20.0		µg/l		20.0		100	70-130	4	25
1,4-Dichlorobenzene	18.9		µg/l		20.0		95	70-130	7	25
Dichlorodifluoromethane (Freon12)	11.5		µg/l		20.0		58	56.6-137	0.8	50
1,1-Dichloroethane	18.3		µg/l		20.0		92	70-130	3	25
1,2-Dichloroethane	18.9		µg/l		20.0		94	70-130	3	25
1,1-Dichloroethene	17.4		µg/l		20.0		87	70-130	1	25
cis-1,2-Dichloroethene	18.9		µg/l		20.0		95	70-130	2	25
trans-1,2-Dichloroethene	17.1		µg/l		20.0		86	70-130	3	25
1,2-Dichloropropane	16.6		µg/l		20.0		83	70-130	5	25
1,3-Dichloropropane	18.1		µg/l		20.0		90	70-130	0.6	25
2,2-Dichloropropane	18.1		µg/l		20.0		90	70-130	11	25
1,1-Dichloropropene	18.0		µg/l		20.0		90	70-130	2	25
cis-1,3-Dichloropropene	20.0		µg/l		20.0		100	70-130	2	25
trans-1,3-Dichloropropene	19.6		µg/l		20.0		98	70-130	2	25
Ethylbenzene	16.4		µg/l		20.0		82	70-130	5	25
Ethylbenzene	16.4		µg/l		20.0		82	70-130	5	25
Hexachlorobutadiene	18.8		µg/l		20.0		94	70-134	7	50
2-Hexanone (MBK)	16.2		µg/l		20.0		81	70-130	6	25
Isopropylbenzene	15.5		µg/l		20.0		77	70-130	8	25
4-Isopropyltoluene	17.0		µg/l		20.0		85	70-130	8	25
Methyl tert-butyl ether	17.7		µg/l		20.0		88	70-130	4	25
Methyl tert-butyl ether	17.7		µg/l		20.0		88	70-130	4	25
4-Methyl-2-pentanone (MIBK)	21.4		µg/l		20.0		107	64.8-130	22	50
Methylene chloride	18.5		µg/l		20.0		92	70-130	5	25
Naphthalene	14.2		µg/l		20.0		71	70-130	6	25
n-Propylbenzene	15.7		µg/l		20.0		78	70-130	6	25
Styrene	16.0		µg/l		20.0		80	70-130	8	25
1,1,1,2-Tetrachloroethane	17.8		µg/l		20.0		89	70-130	9	25
1,1,2,2-Tetrachloroethane	19.3		µg/l		20.0		97	70-130	2	25
Tetrachloroethene	17.6		µg/l		20.0		88	70-130	6	25
Toluene	17.8		µg/l		20.0		89	70-130	2	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041285 - SW846 5030 Water MS										
LCS Dup (9041285-BSD1)										
Prepared & Analyzed: 20-Apr-09										
Toluene	17.8		µg/l		20.0		89	70-130	2	25
1,2,3-Trichlorobenzene	16.7		µg/l		20.0		84	70-130	0.3	25
1,2,4-Trichlorobenzene	13.9	QC1	µg/l		20.0		69	70-130	0.4	25
1,3,5-Trichlorobenzene	16.3		µg/l		20.0		81	70-130	1	25
1,1,1-Trichloroethane	17.6		µg/l		20.0		88	70-130	6	25
1,1,2-Trichloroethane	18.6		µg/l		20.0		93	70-130	0.2	25
Trichloroethene	17.3		µg/l		20.0		87	70-130	7	25
Trichlorofluoromethane (Freon 11)	15.5		µg/l		20.0		78	70-152	4	50
1,2,3-Trichloropropane	20.6		µg/l		20.0		103	70-130	2	25
1,2,4-Trimethylbenzene	16.5		µg/l		20.0		82	70-130	8	25
1,3,5-Trimethylbenzene	16.5		µg/l		20.0		82	70-130	5	25
Vinyl chloride	17.0		µg/l		20.0		85	70-130	0.9	25
m,p-Xylene	33.0		µg/l		40.0		83	70-130	12	25
o-Xylene	21.3		µg/l		20.0		107	70-130	2	25
m,p-Xylene	33.0		µg/l		40.0		83	70-130	12	25
o-Xylene	21.3		µg/l		20.0		107	70-130	2	25
Tetrahydrofuran	19.6		µg/l		20.0		98	70-130	2	25
Ethyl ether	17.4		µg/l		20.0		87	70-133	1	50
Tert-amyl methyl ether	19.4		µg/l		20.0		97	70-130	0.4	25
Ethyl tert-butyl ether	15.8		µg/l		20.0		79	70-130	2	25
Di-isopropyl ether	15.7		µg/l		20.0		79	70-130	4	25
Tert-Butanol / butyl alcohol	196		µg/l		200		98	70-130	11	25
1,4-Dioxane	201		µg/l		200		101	53.1-139	20	25
trans-1,4-Dichloro-2-butene	19.9		µg/l		20.0		99	70-130	4	25
Ethanol	451		µg/l		400		113	70-130	6	30
Surrogate: 4-Bromofluorobenzene	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*49.5*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*49.5*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*49.2*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*49.2*		µg/l		*50.0*		*98*	*70-130*		
Matrix Spike (9041285-MS1)	**Source: SA93515-04**									
Prepared & Analyzed: 20-Apr-09										
Benzene	12.8	QM7	µg/l		20.0	BRL	64	70-130		
Benzene	12.8	QM7	µg/l		20.0	BRL	64	70-130		
Chlorobenzene	16.3		µg/l		20.0	BRL	82	70-130		
1,1-Dichloroethene	11.2	QM7	µg/l		20.0	BRL	56	70-130		
Toluene	14.7		µg/l		20.0	BRL	73	70-130		
Toluene	14.7		µg/l		20.0	BRL	73	70-130		
Trichloroethene	14.5		µg/l		20.0	BRL	72	70-130		
Chlorobenzene	16.3		µg/l		20.0	0.0	82	70-130		
1,1-Dichloroethene	11.2	QM7	µg/l		20.0	0.0	56	70-130		
Trichloroethene	14.5		µg/l		20.0	0.0	72	70-130		
Surrogate: 4-Bromofluorobenzene	*48.5*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*48.5*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: Toluene-d8	*49.0*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*49.0*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.0*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.0*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*46.2*		µg/l		*50.0*		*92*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041285 - SW846 5030 Water MS										
Matrix Spike (9041285-MS1)	**Source: SA93515-04**									
Prepared & Analyzed: 20-Apr-09										
Surrogate: Dibromofluoromethane	*46.2*		µg/l		*50.0*		*92*	*70-130*		
Matrix Spike Dup (9041285-MSD1)	**Source: SA93515-04**									
Prepared & Analyzed: 20-Apr-09										
Benzene	11.9	QM7	µg/l		20.0	BRL	60	70-130	7	30
Benzene	11.9	QM7	µg/l		20.0	BRL	60	70-130	7	30
Chlorobenzene	15.3		µg/l		20.0	BRL	76	70-130	7	30
1,1-Dichloroethene	7.8	QM7	µg/l		20.0	BRL	39	70-130	35	30
Toluene	15.0		µg/l		20.0	BRL	75	70-130	2	30
Toluene	15.0		µg/l		20.0	BRL	75	70-130	2	30
Trichloroethene	14.2		µg/l		20.0	BRL	71	70-130	2	30
Chlorobenzene	15.3		µg/l		20.0	0.0	76	70-130	7	30
1,1-Dichloroethene	7.8	QM7	µg/l		20.0	0.0	39	70-130	35	30
Trichloroethene	14.2		µg/l		20.0	0.0	71	70-130	2	30
Surrogate: 4-Bromofluorobenzene	*45.1*		µg/l		*50.0*		*90*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*45.1*		µg/l		*50.0*		*90*	*70-130*		
Surrogate: Toluene-d8	*48.7*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: Toluene-d8	*48.7*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*57.7*		µg/l		*50.0*		*115*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*57.7*		µg/l		*50.0*		*115*	*70-130*		
Surrogate: Dibromofluoromethane	*53.8*		µg/l		*50.0*		*108*	*70-130*		
Surrogate: Dibromofluoromethane	*53.8*		µg/l		*50.0*		*108*	*70-130*		
Batch 9041386 - SW846 5030 Water MS										
Blank (9041386-BLK1)										
Prepared & Analyzed: 21-Apr-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	5.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041386 - SW846 5030 Water MS										
Blank (9041386-BLK1)										
Prepared & Analyzed: 21-Apr-09										
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	5.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	10.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041386 - SW846 5030 Water MS										
Blank (9041386-BLK1)										
Prepared & Analyzed: 21-Apr-09										
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*23.5*		µg/l		*30.0*		*78*	*70-130*		
Surrogate: Toluene-d8	*27.5*		µg/l		*30.0*		*92*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*31.7*		µg/l		*30.0*		*106*	*70-130*		
Surrogate: Dibromofluoromethane	*30.3*		µg/l		*30.0*		*101*	*70-130*		
Blank (9041386-BLK2)										
Prepared & Analyzed: 21-Apr-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	5.0						
Acetone	BRL		µg/l	50.0						
Acrylonitrile	BRL		µg/l	2.5						
Benzene	BRL		µg/l	5.0						
Bromobenzene	BRL		µg/l	5.0						
Bromochloromethane	BRL		µg/l	5.0						
Bromodichloromethane	BRL		µg/l	2.5						
Bromoform	BRL		µg/l	5.0						
Bromomethane	BRL		µg/l	10.0						
2-Butanone (MEK)	BRL		µg/l	50.0						
n-Butylbenzene	BRL		µg/l	5.0						
sec-Butylbenzene	BRL		µg/l	5.0						
tert-Butylbenzene	BRL		µg/l	5.0						
Carbon disulfide	BRL		µg/l	25.0						
Carbon tetrachloride	BRL		µg/l	5.0						
Chlorobenzene	BRL		µg/l	5.0						
Chloroethane	BRL		µg/l	10.0						
Chloroform	BRL		µg/l	5.0						
Chloromethane	BRL		µg/l	10.0						
2-Chlorotoluene	BRL		µg/l	5.0						
4-Chlorotoluene	BRL		µg/l	5.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	10.0						
Dibromochloromethane	BRL		µg/l	2.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	2.5						
Dibromomethane	BRL		µg/l	5.0						
1,2-Dichlorobenzene	BRL		µg/l	5.0						
1,3-Dichlorobenzene	BRL		µg/l	5.0						
1,4-Dichlorobenzene	BRL		µg/l	5.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	10.0						
1,1-Dichloroethane	BRL		µg/l	5.0						
1,2-Dichloroethane	BRL		µg/l	5.0						
1,1-Dichloroethene	BRL		µg/l	5.0						
cis-1,2-Dichloroethene	BRL		µg/l	5.0						
trans-1,2-Dichloroethene	BRL		µg/l	5.0						
1,2-Dichloropropane	BRL		µg/l	5.0						
1,3-Dichloropropane	BRL		µg/l	5.0						
2,2-Dichloropropane	BRL		µg/l	5.0						
1,1-Dichloropropene	BRL		µg/l	5.0						
cis-1,3-Dichloropropene	BRL		µg/l	2.5						
trans-1,3-Dichloropropene	BRL		µg/l	2.5						
Ethylbenzene	BRL		µg/l	5.0						
Hexachlorobutadiene	BRL		µg/l	2.5						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041386 - SW846 5030 Water MS										
Blank (9041386-BLK2)										
Prepared & Analyzed: 21-Apr-09										
2-Hexanone (MBK)	BRL		µg/l	50.0						
Isopropylbenzene	BRL		µg/l	5.0						
4-Isopropyltoluene	BRL		µg/l	5.0						
Methyl tert-butyl ether	BRL		µg/l	5.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	50.0						
Methylene chloride	BRL		µg/l	25.0						
Naphthalene	BRL		µg/l	5.0						
n-Propylbenzene	BRL		µg/l	5.0						
Styrene	BRL		µg/l	5.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	5.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	2.5						
Tetrachloroethene	BRL		µg/l	5.0						
Toluene	BRL		µg/l	5.0						
1,2,3-Trichlorobenzene	BRL		µg/l	5.0						
1,2,4-Trichlorobenzene	BRL		µg/l	5.0						
1,3,5-Trichlorobenzene	BRL		µg/l	5.0						
1,1,1-Trichloroethane	BRL		µg/l	5.0						
1,1,2-Trichloroethane	BRL		µg/l	5.0						
Trichloroethene	BRL		µg/l	5.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	5.0						
1,2,3-Trichloropropane	BRL		µg/l	5.0						
1,2,4-Trimethylbenzene	BRL		µg/l	5.0						
1,3,5-Trimethylbenzene	BRL		µg/l	5.0						
Vinyl chloride	BRL		µg/l	5.0						
m,p-Xylene	BRL		µg/l	10.0						
o-Xylene	BRL		µg/l	5.0						
Tetrahydrofuran	BRL		µg/l	50.0						
Ethyl ether	BRL		µg/l	5.0						
Tert-amyl methyl ether	BRL		µg/l	5.0						
Ethyl tert-butyl ether	BRL		µg/l	5.0						
Di-isopropyl ether	BRL		µg/l	5.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	50.0						
1,4-Dioxane	BRL		µg/l	100						
trans-1,4-Dichloro-2-butene	BRL		µg/l	25.0						
Ethanol	BRL		µg/l	2000						
Surrogate: 4-Bromofluorobenzene	*21.9*		µg/l		*30.0*		*73*	*70-130*		
Surrogate: Toluene-d8	*26.9*		µg/l		*30.0*		*90*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*30.5*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*30.4*		µg/l		*30.0*		*101*	*70-130*		
LCS (9041386-BS1)										
Prepared & Analyzed: 21-Apr-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	23.9		µg/l		20.0		119	70-130		
Acetone	21.0		µg/l		20.0		105	41.6-158		
Acrylonitrile	22.0		µg/l		20.0		110	70-130		
Benzene	19.2		µg/l		20.0		96	70-130		
Bromobenzene	22.6		µg/l		20.0		113	70-130		
Bromochloromethane	20.6		µg/l		20.0		103	70-130		
Bromodichloromethane	21.5		µg/l		20.0		108	70-130		
Bromoform	22.0		µg/l		20.0		110	70-130		
Bromomethane	16.0		µg/l		20.0		80	47-147		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041386 - SW846 5030 Water MS										
LCS (9041386-BS1)										
Prepared & Analyzed: 21-Apr-09										
2-Butanone (MEK)	24.4		µg/l		20.0		122	60.9-144		
n-Butylbenzene	17.7		µg/l		20.0		88	70-130		
sec-Butylbenzene	21.1		µg/l		20.0		105	70-130		
tert-Butylbenzene	20.0		µg/l		20.0		100	70-130		
Carbon disulfide	19.8		µg/l		20.0		99	70-130		
Carbon tetrachloride	19.4		µg/l		20.0		97	70-130		
Chlorobenzene	21.7		µg/l		20.0		108	70-130		
Chloroethane	17.6		µg/l		20.0		88	63.6-131		
Chloroform	20.1		µg/l		20.0		101	70-130		
Chloromethane	17.5		µg/l		20.0		87	70-130		
2-Chlorotoluene	24.4		µg/l		20.0		122	70-130		
4-Chlorotoluene	22.0		µg/l		20.0		110	70-130		
1,2-Dibromo-3-chloropropane	21.0		µg/l		20.0		105	70-130		
Dibromochloromethane	18.2		µg/l		20.0		91	58.8-145		
1,2-Dibromoethane (EDB)	19.5		µg/l		20.0		97	70-130		
Dibromomethane	20.9		µg/l		20.0		104	70-130		
1,2-Dichlorobenzene	23.3		µg/l		20.0		116	70-130		
1,3-Dichlorobenzene	24.0		µg/l		20.0		120	70-130		
1,4-Dichlorobenzene	19.4		µg/l		20.0		97	70-130		
Dichlorodifluoromethane (Freon12)	15.9		µg/l		20.0		80	56.6-137		
1,1-Dichloroethane	20.3		µg/l		20.0		102	70-130		
1,2-Dichloroethane	20.8		µg/l		20.0		104	70-130		
1,1-Dichloroethene	20.5		µg/l		20.0		102	70-130		
cis-1,2-Dichloroethene	21.1		µg/l		20.0		105	70-130		
trans-1,2-Dichloroethene	18.9		µg/l		20.0		94	70-130		
1,2-Dichloropropane	20.8		µg/l		20.0		104	70-130		
1,3-Dichloropropane	21.9		µg/l		20.0		109	70-130		
2,2-Dichloropropane	19.3		µg/l		20.0		96	70-130		
1,1-Dichloropropene	17.6		µg/l		20.0		88	70-130		
cis-1,3-Dichloropropene	17.6		µg/l		20.0		88	70-130		
trans-1,3-Dichloropropene	19.8		µg/l		20.0		99	70-130		
Ethylbenzene	21.6		µg/l		20.0		108	70-130		
Hexachlorobutadiene	18.6		µg/l		20.0		93	70-134		
2-Hexanone (MBK)	20.0		µg/l		20.0		100	70-130		
Isopropylbenzene	19.2		µg/l		20.0		96	70-130		
4-Isopropyltoluene	17.6		µg/l		20.0		88	70-130		
Methyl tert-butyl ether	22.8		µg/l		20.0		114	70-130		
4-Methyl-2-pentanone (MIBK)	21.5		µg/l		20.0		108	64.8-130		
Methylene chloride	19.7		µg/l		20.0		98	70-130		
Naphthalene	16.7		µg/l		20.0		84	70-130		
n-Propylbenzene	18.0		µg/l		20.0		90	70-130		
Styrene	18.6		µg/l		20.0		93	70-130		
1,1,1,2-Tetrachloroethane	23.2		µg/l		20.0		116	70-130		
1,1,2,2-Tetrachloroethane	25.4		µg/l		20.0		127	70-130		
Tetrachloroethene	18.7		µg/l		20.0		93	70-130		
Toluene	19.6		µg/l		20.0		98	70-130		
1,2,3-Trichlorobenzene	19.6		µg/l		20.0		98	70-130		
1,2,4-Trichlorobenzene	16.7		µg/l		20.0		84	70-130		
1,3,5-Trichlorobenzene	17.5		µg/l		20.0		87	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041386 - SW846 5030 Water MS										
LCS (9041386-BS1)										
Prepared & Analyzed: 21-Apr-09										
1,1,1-Trichloroethane	20.4		µg/l		20.0		102	70-130		
1,1,2-Trichloroethane	22.8		µg/l		20.0		114	70-130		
Trichloroethene	19.2		µg/l		20.0		96	70-130		
Trichlorofluoromethane (Freon 11)	20.8		µg/l		20.0		104	70-152		
1,2,3-Trichloropropane	27.2	QC2	µg/l		20.0		136	70-130		
1,2,4-Trimethylbenzene	19.9		µg/l		20.0		99	70-130		
1,3,5-Trimethylbenzene	19.2		µg/l		20.0		96	70-130		
Vinyl chloride	19.4		µg/l		20.0		97	70-130		
m,p-Xylene	42.5		µg/l		40.0		106	70-130		
o-Xylene	23.7		µg/l		20.0		119	70-130		
Tetrahydrofuran	22.0		µg/l		20.0		110	70-130		
Ethyl ether	23.3		µg/l		20.0		116	70-133		
Tert-amyl methyl ether	20.6		µg/l		20.0		103	70-130		
Ethyl tert-butyl ether	20.4		µg/l		20.0		102	70-130		
Di-isopropyl ether	20.6		µg/l		20.0		103	70-130		
Tert-Butanol / butyl alcohol	227		µg/l		200		114	70-130		
1,4-Dioxane	209		µg/l		200		105	53.1-139		
trans-1,4-Dichloro-2-butene	21.1		µg/l		20.0		106	70-130		
Ethanol	491		µg/l		400		123	70-130		
Surrogate: 4-Bromofluorobenzene	*33.7*		µg/l		*30.0*		*112*	*70-130*		
Surrogate: Toluene-d8	*30.1*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*30.7*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*30.0*		µg/l		*30.0*		*100*	*70-130*		
LCS Dup (9041386-BSD1)										
Prepared & Analyzed: 21-Apr-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	24.9		µg/l		20.0		124	70-130	4	25
Acetone	23.4		µg/l		20.0		117	41.6-158	11	50
Acrylonitrile	22.4		µg/l		20.0		112	70-130	2	25
Benzene	21.0		µg/l		20.0		105	70-130	9	25
Bromobenzene	24.1		µg/l		20.0		121	70-130	7	25
Bromochloromethane	21.5		µg/l		20.0		107	70-130	4	25
Bromodichloromethane	22.9		µg/l		20.0		114	70-130	6	25
Bromoform	22.9		µg/l		20.0		114	70-130	4	25
Bromomethane	17.0		µg/l		20.0		85	47-147	6	50
2-Butanone (MEK)	20.1		µg/l		20.0		100	60.9-144	20	50
n-Butylbenzene	18.7		µg/l		20.0		94	70-130	6	25
sec-Butylbenzene	22.9		µg/l		20.0		115	70-130	8	25
tert-Butylbenzene	22.0		µg/l		20.0		110	70-130	10	25
Carbon disulfide	21.0		µg/l		20.0		105	70-130	6	25
Carbon tetrachloride	20.6		µg/l		20.0		103	70-130	6	25
Chlorobenzene	22.2		µg/l		20.0		111	70-130	2	25
Chloroethane	19.8		µg/l		20.0		99	63.6-131	12	50
Chloroform	21.7		µg/l		20.0		108	70-130	8	25
Chloromethane	19.9		µg/l		20.0		99	70-130	13	25
2-Chlorotoluene	28.0	QC1	µg/l		20.0		140	70-130	14	25
4-Chlorotoluene	23.9		µg/l		20.0		119	70-130	8	25
1,2-Dibromo-3-chloropropane	19.8		µg/l		20.0		99	70-130	6	25
Dibromochloromethane	18.9		µg/l		20.0		94	58.8-145	4	50
1,2-Dibromoethane (EDB)	21.5		µg/l		20.0		108	70-130	10	25
Dibromomethane	22.2		µg/l		20.0		111	70-130	6	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041386 - SW846 5030 Water MS										
LCS Dup (9041386-BSD1)										
Prepared & Analyzed: 21-Apr-09										
1,2-Dichlorobenzene	24.4		µg/l		20.0		122	70-130	5	25
1,3-Dichlorobenzene	25.2		µg/l		20.0		126	70-130	5	25
1,4-Dichlorobenzene	21.0		µg/l		20.0		105	70-130	8	25
Dichlorodifluoromethane (Freon12)	18.0		µg/l		20.0		90	56.6-137	12	50
1,1-Dichloroethane	21.5		µg/l		20.0		108	70-130	6	25
1,2-Dichloroethane	22.0		µg/l		20.0		110	70-130	5	25
1,1-Dichloroethene	21.0		µg/l		20.0		105	70-130	2	25
cis-1,2-Dichloroethene	22.5		µg/l		20.0		112	70-130	6	25
trans-1,2-Dichloroethene	19.7		µg/l		20.0		98	70-130	4	25
1,2-Dichloropropane	22.0		µg/l		20.0		110	70-130	5	25
1,3-Dichloropropane	23.7		µg/l		20.0		118	70-130	8	25
2,2-Dichloropropane	20.7		µg/l		20.0		104	70-130	7	25
1,1-Dichloropropene	19.2		µg/l		20.0		96	70-130	9	25
cis-1,3-Dichloropropene	19.2		µg/l		20.0		96	70-130	9	25
trans-1,3-Dichloropropene	21.3		µg/l		20.0		106	70-130	7	25
Ethylbenzene	23.6		µg/l		20.0		118	70-130	9	25
Hexachlorobutadiene	20.0		µg/l		20.0		100	70-134	7	50
2-Hexanone (MBK)	21.3		µg/l		20.0		106	70-130	6	25
Isopropylbenzene	21.1		µg/l		20.0		105	70-130	9	25
4-Isopropyltoluene	19.1		µg/l		20.0		96	70-130	8	25
Methyl tert-butyl ether	23.6		µg/l		20.0		118	70-130	4	25
4-Methyl-2-pentanone (MIBK)	23.0		µg/l		20.0		115	64.8-130	7	50
Methylene chloride	20.6		µg/l		20.0		103	70-130	5	25
Naphthalene	17.2		µg/l		20.0		86	70-130	3	25
n-Propylbenzene	19.3		µg/l		20.0		97	70-130	7	25
Styrene	21.6		µg/l		20.0		108	70-130	14	25
1,1,1,2-Tetrachloroethane	23.8		µg/l		20.0		119	70-130	3	25
1,1,2,2-Tetrachloroethane	25.3		µg/l		20.0		126	70-130	0.2	25
Tetrachloroethene	20.2		µg/l		20.0		101	70-130	8	25
Toluene	21.2		µg/l		20.0		106	70-130	8	25
1,2,3-Trichlorobenzene	21.3		µg/l		20.0		106	70-130	8	25
1,2,4-Trichlorobenzene	18.0		µg/l		20.0		90	70-130	7	25
1,3,5-Trichlorobenzene	18.4		µg/l		20.0		92	70-130	5	25
1,1,1-Trichloroethane	22.2		µg/l		20.0		111	70-130	8	25
1,1,2-Trichloroethane	24.2		µg/l		20.0		121	70-130	6	25
Trichloroethene	21.0		µg/l		20.0		105	70-130	9	25
Trichlorofluoromethane (Freon 11)	21.9		µg/l		20.0		110	70-152	5	50
1,2,3-Trichloropropane	27.0	QC2	µg/l		20.0		135	70-130	1	25
1,2,4-Trimethylbenzene	21.3		µg/l		20.0		106	70-130	7	25
1,3,5-Trimethylbenzene	21.1		µg/l		20.0		105	70-130	9	25
Vinyl chloride	21.7		µg/l		20.0		109	70-130	11	25
m,p-Xylene	47.0		µg/l		40.0		117	70-130	10	25
o-Xylene	25.1		µg/l		20.0		126	70-130	6	25
Tetrahydrofuran	23.9		µg/l		20.0		120	70-130	9	25
Ethyl ether	23.0		µg/l		20.0		115	70-133	1	50
Tert-amyl methyl ether	22.2		µg/l		20.0		111	70-130	8	25
Ethyl tert-butyl ether	22.0		µg/l		20.0		110	70-130	8	25
Di-isopropyl ether	22.1		µg/l		20.0		110	70-130	7	25
Tert-Butanol / butyl alcohol	234		µg/l		200		117	70-130	3	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041386 - SW846 5030 Water MS										
LCS Dup (9041386-BSD1)										
Prepared & Analyzed: 21-Apr-09										
1,4-Dioxane	229		µg/l		200		114	53.1-139	9	25
trans-1,4-Dichloro-2-butene	21.1		µg/l		20.0		106	70-130	0.05	25
Ethanol	467		µg/l		400		117	70-130	5	30
Surrogate: 4-Bromofluorobenzene	*33.4*		µg/l		*30.0*		*111*	*70-130*		
Surrogate: Toluene-d8	*30.6*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*30.2*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Matrix Spike (9041386-MS1)	**Source: SA93576-08**									
Prepared & Analyzed: 21-Apr-09										
Benzene	20.9		µg/l		20.0	BRL	104	70-130		
Chlorobenzene	22.9		µg/l		20.0	BRL	115	70-130		
1,1-Dichloroethene	22.6		µg/l		20.0	BRL	113	70-130		
Toluene	21.8		µg/l		20.0	BRL	109	70-130		
Trichloroethene	17.7		µg/l		20.0	BRL	88	70-130		
Surrogate: 4-Bromofluorobenzene	*33.8*		µg/l		*30.0*		*113*	*70-130*		
Surrogate: Toluene-d8	*30.7*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*30.5*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*30.6*		µg/l		*30.0*		*102*	*70-130*		
Matrix Spike Dup (9041386-MSD1)	**Source: SA93576-08**									
Prepared & Analyzed: 21-Apr-09										
Benzene	27.2	QM7	µg/l		20.0	BRL	136	70-130	27	30
Chlorobenzene	24.2		µg/l		20.0	BRL	121	70-130	5	30
1,1-Dichloroethene	30.3	QM7	µg/l		20.0	BRL	151	70-130	29	30
Toluene	29.3	QM7	µg/l		20.0	BRL	146	70-130	29	30
Trichloroethene	23.3		µg/l		20.0	BRL	117	70-130	28	30
Surrogate: 4-Bromofluorobenzene	*33.6*		µg/l		*30.0*		*112*	*70-130*		
Surrogate: Toluene-d8	*38.9*		µg/l		*30.0*		*130*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*39.1*		µg/l		*30.0*		*130*	*70-130*		
Surrogate: Dibromofluoromethane	*39.3*	SGC	µg/l		*30.0*		*131*	*70-130*		
Batch 9041422 - SW846 5030 Water MS										
Blank (9041422-BLK1)										
Prepared & Analyzed: 21-Apr-09										
Benzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Surrogate: 4-Bromofluorobenzene	*25.4*		µg/l		*30.0*		*84*	*70-130*		
Surrogate: Toluene-d8	*26.2*		µg/l		*30.0*		*87*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*31.1*		µg/l		*30.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*29.9*		µg/l		*30.0*		*100*	*70-130*		
LCS (9041422-BS1)										
Prepared & Analyzed: 21-Apr-09										
Benzene	20.1		µg/l		20.0		101	70-130		
Ethylbenzene	22.4		µg/l		20.0		112	70-130		
Methyl tert-butyl ether	23.8		µg/l		20.0		119	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041422 - SW846 5030 Water MS										
LCS (9041422-BS1)										
Prepared & Analyzed: 21-Apr-09										
Toluene	21.0		µg/l		20.0		105	70-130		
m,p-Xylene	43.6		µg/l		40.0		109	70-130		
o-Xylene	24.3		µg/l		20.0		122	70-130		
Surrogate: 4-Bromofluorobenzene	*33.3*		µg/l		*30.0*		*111*	*70-130*		
Surrogate: Toluene-d8	*31.4*		µg/l		*30.0*		*105*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*30.7*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*30.0*		µg/l		*30.0*		*100*	*70-130*		
LCS Dup (9041422-BSD1)										
Prepared & Analyzed: 21-Apr-09										
Benzene	19.7		µg/l		20.0		99	70-130	2	25
Ethylbenzene	21.7		µg/l		20.0		108	70-130	3	25
Methyl tert-butyl ether	23.7		µg/l		20.0		118	70-130	0.6	25
Toluene	20.4		µg/l		20.0		102	70-130	3	25
m,p-Xylene	41.4		µg/l		40.0		104	70-130	5	25
o-Xylene	22.5		µg/l		20.0		112	70-130	8	25
Surrogate: 4-Bromofluorobenzene	*33.0*		µg/l		*30.0*		*110*	*70-130*		
Surrogate: Toluene-d8	*30.4*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*30.9*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: Dibromofluoromethane	*30.2*		µg/l		*30.0*		*101*	*70-130*		
Matrix Spike (9041422-MS1) **Source: SA93576-12**										
Prepared: 21-Apr-09 Analyzed: 22-Apr-09										
Benzene	21.2		µg/l		20.0	BRL	106	70-130		
Toluene	22.8		µg/l		20.0	BRL	114	70-130		
Chlorobenzene	23.5		µg/l		20.0	0.0	117	70-130		
1,1-Dichloroethene	26.0		µg/l		20.0	0.0	130	70-130		
Trichloroethene	35.2		µg/l		20.0	14.1	106	70-130		
Surrogate: 4-Bromofluorobenzene	*33.1*		µg/l		*30.0*		*110*	*70-130*		
Surrogate: Toluene-d8	*29.8*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.1*		µg/l		*30.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Matrix Spike Dup (9041422-MSD1) **Source: SA93576-12**										
Prepared: 21-Apr-09 Analyzed: 22-Apr-09										
Benzene	21.4		µg/l		20.0	BRL	107	70-130	0.9	30
Toluene	22.9		µg/l		20.0	BRL	115	70-130	0.5	30
Chlorobenzene	23.2		µg/l		20.0	0.0	116	70-130	1	30
1,1-Dichloroethene	24.3		µg/l		20.0	0.0	121	70-130	7	30
Trichloroethene	36.7		µg/l		20.0	14.1	113	70-130	7	30
Surrogate: 4-Bromofluorobenzene	*32.8*		µg/l		*30.0*		*109*	*70-130*		
Surrogate: Toluene-d8	*31.4*		µg/l		*30.0*		*105*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*30.6*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*30.1*		µg/l		*30.0*		*100*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041147 - SW846 3510C										
Blank (9041147-BLK1)										
Prepared: 17-Apr-09 Analyzed: 20-Apr-09										
Non-polar material (SGT-HEM)	BRL		mg/l	1.0						
LCS (9041147-BS1)										
Prepared: 17-Apr-09 Analyzed: 20-Apr-09										
Non-polar material (SGT-HEM)	20.6		mg/l		25.4		81	75.2-87.5		
Matrix Spike (9041147-MS1)	**Source: SA93309-01**									
Prepared: 17-Apr-09 Analyzed: 20-Apr-09										
Non-polar material (SGT-HEM)	19.5		mg/l		25.4	BRL	77	64-132		

Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9041453 - EPA 200 Series										
Blank (9041453-BLK1)										
Prepared: 22-Apr-09 Analyzed: 23-Apr-09										
Iron	BRL		mg/l	0.125						
LCS (9041453-BS1)										
Prepared: 22-Apr-09 Analyzed: 23-Apr-09										
Iron	1.38		mg/l	0.125	1.25		110	85-115		
Duplicate (9041453-DUP1)	**Source: SA93515-01**									
Prepared: 22-Apr-09 Analyzed: 23-Apr-09										
Iron	16.2		mg/l	0.125		16.0			1	20
Matrix Spike (9041453-MS1)	**Source: SA93757-01**									
Prepared: 22-Apr-09 Analyzed: 23-Apr-09										
Iron	1.63		mg/l	0.125	1.25	0.284	108	70-130		
Post Spike (9041453-PS1)	**Source: SA93757-01**									
Prepared: 22-Apr-09 Analyzed: 23-Apr-09										
Iron	1.68		mg/l	0.125	1.25	0.284	112	85-115		

Notes and Definitions

CAL2	Analyte percent drift/percent difference is greater than 30%, data is accepted due to all CCC analytes passing within the 20% Drift/Difference criteria
E	The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).
QC1	Analyte out of acceptance range.
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
SGC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
V11	Analyte concentration confirmed by duplicate analysis.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

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 *TPH (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.

Validated by:
Hanibal C. Tayeh, Ph.D.
Nicole Leja

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: Spectrum Analytical, Inc. - Agawam, MA	Project #: J40076
Project Location: Sandri - Bernardston, MA	MADEP RTN [1]:

This form provides certifications for the following data set:
SA93515-01 through SA93515-05

Sample matrices:	Deionized Water Ground Water				
MCP SW-846 Methods Used	☑ 8260B	☐ 8151A	☐ 8330	☐ 6010B	☐ 7470A/1A
	☐ 8270C	☐ 8081A	☐ VPH	☐ 6020	☐ 9014M [2]
	☐ 8082	☐ 8021B	☐ EPH	☐ 7000S [3]	☐ 7196A

1 List Release Tracking Number (RTN), if known
2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S - SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain of Custody documentation for the data set?	☑ Yes	☐ No
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	☑ Yes	☐ No
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
D	***VPH and EPH methods only***: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective methods)?	☐ Yes	☐ No

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all analytical QC performance standards and recommendations for the specified methods achieved?	☑ Yes	☐ No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	☐ 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.

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Date: 4/23/2009

SA-93515 EM

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Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

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

Report To: SHAWN RISING
Project Mgr.: SR
Telephone #:

Invoice To: ECS - AGAWAM
P.O. No.: RQN: 0003

Project No.: J40076
Site Name: SANDRI
Location: BERNARDSTON State: MA
Sampler(s): ROB H.

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=_____ 10=_____ 11=_____

List preservative code below: 2 2 3 4

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=_____ 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: BTEX MTBE by 8260b	TBA by 8260b	TPH 1664	TOTAL Fe 200.7	QA/QC Reporting Notes:
93515-01	A.S INFLUENT	4/16/09	9:00	G	GW	3	1		1	✓	✓	✓	✓	SEE ATTACHED
02	GAC INFLUENT	4/16	9:10	G	GW	3				✓				DETECTION LIMITS
03	GAC MIDPT	4/16	9:12	G	GW	3				✓			✓	
04	GAC EFFLUENT	4/16	9:15	G	GW	3	1		1	✓	✓	✓	✓	CAM
05	TRIP	4/16	AM	G	DI	1				✓				GW-1/GW-2/GW-3

☐ Provide MA DEP MCP CAM Report
☐ Provide CT DPH RCP Report
QA/QC Reporting Level
☐ Standard ☐ No QC
☐ Other _____
State specific reporting standards: _____

EDD Format _____
☐ E-mail to _____

Relinquished by:	Received by:	Date:	Time:
Robert Haynes		4/16/09	1425

Condition upon receipt: ☒ Iced ☐ Ambient ☐ °C 6

11 Almgren Drive • Agawam, MA 01001 • 413-789-9018 • FAX 413-789-4076 • www.spectrum-analytical.com

Submit to Spectrum w/ NPDES samples

Appendix VI: Minimum Levels and Test Methods

PARAMETER - CAS No. -	Minimum Levels and Test Methods[1,2,3]				
	GC[4]	GCMS[5]	LC[6]	FAA[7]	Other -
1. Total Suspended Solids (TSS)					5 mg/l Method 160.2
2. Total Residual Chlorine (TRC)					20 ug/l Method 330.5
3. Total Petroleum Hydrocarbons (TPH)					5 mg/l Method 1664
4. Cyanide (total) - 57125 -					10 ug/l Method 335.4
5. Benzene (B) - 71432 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[2]
6. Toluene (T) - 108883 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[2]
7. Ethylbenzene (E) - 100414 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[2]
8. (m,p,o) Xylenes (X) - 108383;106423; 95476-	0.5 ug/l Method 602	10 ug/l Method 1624			Method 8260C[2]
9. Total BTEX	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[2]
10. Ethylene Dibromide (EDB) (1,2- Dibromoethane) - 106934 -	1.0 ug/l Method 618 0.01 ug/l Method 504.1	0.1 ug/l Methods 524.2			Method 8260C[2]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
11. Methyl-tert-Butyl Ether (MtBE)	0.5 ug/l Method 602[8]	5.0 ug/l Method 524.2			Method 8260C[2]
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol) - 75650 -	0.5 ug/l Method 602[8]	100 ug/l Method 1666			Method 8260C[2]
13. tert-Amyl Methyl Ether (TAME) -994058-	0.5 ug/l Method 602[8]				Method 8260C[2]
14. Naphthalene - 91203 -	10 ug/l Method 610 GC/FID	2 ug/l Method 625 5.0 ug/l Method 524.2	0.2 ug/l Method 610 HPLC		Method 8270D[3]
15. Carbon Tetrachloride - 56235 -	0.5 ug/l Method 601	2 ug/l Methods 624, 1624			Method 8260C[2]
16. 1,4 Dichlorobenzene (p-DCB) - 106467 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
17. 1,2 Dichlorobenzene (o-DCB) - 95501 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
18. 1,3 Dichlorobenzene (m-DCB) - 541731 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
19. 1,1 Dichloroethane (DCA) - 75343 -	0.5 ug/l Method 601	1 ug/l Method 624			Method 8260C[2]
20. 1,2 Dichloroethane (DCA)- 107062 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
21. 1,1 Dichloroethylene (DCE) - 75354 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
22. cis-1,2 Dichloro-ethylene (DCE) -156592-	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
23. Dichloromethane (Methylene Chloride)- 75092 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
24. Tetrachloroethylene (PCE) - 127184 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
25. 1,1,1 Trichloro-ethane (TCA) - 71556 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
26. 1,1,2 Trichloro-ethane (TCA) - 79005 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
27. Trichloroethylene (TCE) - 79016 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
28. Vinyl Chloride - 75014 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
29. Acetone - 67641 -	1.0 ug/l Method 524.2	50 ug/l Method 1624			Method 8260C[2]
30. 1,4 Dioxane -123911-		50 ug/l Method 1624			Method 8260C[2]
31. Total Phenols - 108952	1.0 ug/l Method 624 Method 8260[2]	1 ug/l Methods 625, 1625			Method 8260C[2] Method 8270D[3]
32. Pentachlorophenol (PCP) - 87865 -	1.0 ug/l Method 604 GCFID	5 ug/l Methods 625, 1625			Method 8270D[3]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
33. Total Phthalates [9] (Phthalate esthers)		5 ug/l Method 625			Method 8270D[3]
34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate] - 117817 -	10 ug/l Method 606	5 ug/l Method 625			Method 8270D[3]
35. Total Group I Polynuclear Aromatic Hydrocarbons (PAH)					Method 8270D[3]
a. Benzo(a) Anthracene -56553-	10 ug/l Method 610 GC	5 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
b. Benzo(a) Pyrene -50328 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
c. Benzo(b)Fluoranthene - 205992 -		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
d. Benzo(k)Fluoranthene - 207089 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
e. Chrysene - 218019 -		10 ug/l Method 625	5 ug/l Method 610 HPLC		Method 8270D[3]
f. Dibenzo(a,h) anthracene		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
g. Indeno(1,2,3-cd) Pyrene - 193395 -		10 ug/l Method 625	0.15 ug/l Method 610		Method 8270D[3]
36. Total Group II Polynuclear Aromatic Hydrocarbons (PAH)					Method 8270D[3]
h. Acenaphthene - 83329 -	1 ug/l Method 610 GC/FID	1 ug/l Method 625	0.5 ug/l Method 610 HPLC		Method 8270D[3]
i. Acenaphthylene - 208968 -		10 ug/l Method 625	0.2 ug/l Method 610 HPLC		Method 8270D[3]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
j. Anthracene - 120127 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
k. Benzo(ghi) Perylene - 191242 -		5 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
l. Fluoranthene - 206440 -	10 ug/l Method 610 GC/FID	1 ug/l Method 625	0.5 ug/l Method 610 HPLC		Method 8270D[3]
m. Fluorene - 86737 -		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
n. Naphthalene - 91203 -	10 ug/l Method 610 GC/FID	2 ug/l Method 625 5.0 ug/l Method 524.2	0.2 ug/l Method 610 HPLC		Method 8270D[3]
o. Phenanthrene - 85018 -		5 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
p. Pyrene - 129000 -		10 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
37. Total Polychlorinated Biphenyls (PCBs)[10]	0.5 ug/l Method 608				0.00005 ug/l Method 1668a[11]
Inorganic parameters:		Minimum Levels (ug/l) and Test Methods			
		Flame Atomic Absorption	Inductively Coupled Plasma	Furnace Atomic Absorption	Other
38. Antimony		200 ug/l	50 ug/l	5 ug/l	
39. Arsenic			5 ug/l	2 ug/l	
40. Cadmium		10 ug/l	5 ug/l	0.5 ug/l	

Inorganic parameters:	Minimum Levels (ug/l) and Test Methods			
	Flame Atomic Absorption	Inductively Coupled Plasma	Furnace Atomic Absorption	Other
41. Chromium (total)	Method 218.1	10 ug/l Methods 200.7[11], 200.8, 200.15, 1620	5 ug/l Method 200.9	50 ug/l
42. Chromium (hexavalent)				10 ug/l Method 218.6 Method 1636
43. Copper	20 ug/l	5 ug/l	3 ug/l	
44. Lead	100 ug/l	40 ug/l	3 ug/l	
45. Mercury				0.2 ug/l
46. Nickel	30 ug/l	10 ug/l	5 ug/l	
47. Selenium		50 ug/l	5 ug/l	
48. Silver	50 ug/l	10 ug/l	2 ug/l	
49. Zinc	30 ug/l	10 ug/l		
50. Iron		Methods 6010b 200.7[12]		

1. 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). Where a minimum level (ML) is listed but a test method is not specified, permittee may use any of the available methods approved for use under 40 CFR 136, including alternatives approved by this permit, that meets that ML. See EPA's "Methods and Guidance for the Analysis of Water" at www.epa.gov/water/owrccatalog.nsf. Where test method is specified but ML not listed for that method, the lowest ML for listed methods must be used before concentration can be considered as "non-detect."

2 . For measuring volatile organic compounds, Method 8260C (or the latest version) may be used as a substitute for CWA Methods 524.2, 602, 624, or 1624. Method 8260C must be preceded by Method 5030 as the preparation method. However, any method changes must be accompanied by documented quality assurance quality control (QA/QC) test results to prove that the analytical process can achieve the lower detection limits of Method 8260C.

3 . For measuring semi-volatile organic compounds, Method 8270D may be used as a substitute for Methods 610, 625, or 1625. Method 8270D must be preceded by Method 3535 or Method 3520C as the sample preparation method. In either case, the quality control requirements of Method 3500B must be taken into account. The sample preparation method must be specified with data analysis records. Method 8270D may be modified to provide lower detection and quantitation limits using Selected Ion Monitoring (SIM). Any method changes must be accompanied by documented quality assurance quality control (QA/QC) test results to prove that the analytical process can achieve the lower detection limits of Method 8270D.

4 . GC - gas chromatography

5 . GCMS - gas chromatography/mass spectrometry

6 . LC - high pressure liquid chromatography

7 . Flame Atomic Absorption

8 . For measuring fuel oxygenates, Method 602 must be modified to include a heated purge.

9 . The sum of individual phthalate compounds.

10 . 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 Aroclor analyses"*.

11 . Method 1668a (HRGC/HRMS) has been proposed by EPA and is currently being validated. When approval of the method is finalized, it will be approved for use with this general permit.

12 . Methods 6010b and 200.7 for metals may only be used when sample prepared with SW-846 digestion method, Method 3010.

Report Date:
02-Jun-09 15:47

☑ 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: Shawn Rising

Project: Sandri-50 Church St, Bernardston, MA
Project J40076.94

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA95454-01	AS Influent	Ground Water	28-May-09 11:00	28-May-09 16:50
SA95454-02	GAC Influent	Ground Water	28-May-09 11:10	28-May-09 16:50
SA95454-03	GAC Midpt	Ground Water	28-May-09 11:12	28-May-09 16:50
SA95454-04	GAC Effluent	Ground Water	28-May-09 11:15	28-May-09 16:50
SA95454-05	TB	Deionized Water	28-May-09 08:00	28-May-09 16:50

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
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

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 13 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is 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.

CASE NARRATIVE:

The samples were received 3.7 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

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.

According to WSC-CAM 5/2004 Rev.4, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended 70%-130% recovery range, a range has been set based on historical control limits.

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

SW846 8260B

Spikes:

9052104-MS1 *Source: SA95306-01RE1*

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

1,1-Dichloroethene
1,1-Dichloroethene
Benzene
Benzene

9052104-MSD1 *Source: SA95306-01RE1*

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

Benzene
Benzene

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
AS Influent SA95454-01	J40076.94	Ground Water	28-May-09 11:00	28-May-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	63.4		µg/l	5.0	5	SW846 8260B	29-May-09	29-May-09	9052104	
100-41-4	Ethylbenzene	BRL		µg/l	5.0	5	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	87.7		µg/l	5.0	5	"	"	"	"	
91-20-3	Naphthalene	17.0		µg/l	5.0	5	"	"	"	"	
108-88-3	Toluene	79.4		µg/l	5.0	5	"	"	"	"	
179601-23-1	m,p-Xylene	157		µg/l	10.0	5	"	"	"	"	
95-47-6	o-Xylene	501		µg/l	5.0	5	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/l	5.0	5	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	50.0	5	"	"	"	"	
Microextractable Organic Compounds											
106-93-4	1,2-Dibromoethane (EDB)	1.00		µg/l	0.0100	1	EPA 504.1	29-May-09	29-May-09	9052092	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	29-May-09	01-Jun-09	9052111	
Total Metals by EPA 6000/7000 Series Methods											
7439-89-6	Iron	14.1		mg/l	0.0150	1	SW846 6010B	01-Jun-09	02-Jun-09	9060015	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Influent SA95454-02	J40076.94	Ground Water	28-May-09 11:10	28-May-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	29-May-09	29-May-09	9052104	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
91-20-3	Naphthalene	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*95*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*101*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Midpt SA95454-03	J40076.94	Ground Water	28-May-09 11:12	28-May-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	29-May-09	29-May-09	9052104	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
91-20-3	Naphthalene	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*97*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*101*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*108*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*105*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Effluent SA95454-04	J40076.94	Ground Water	28-May-09 11:15	28-May-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	29-May-09	29-May-09	9052104	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
91-20-3	Naphthalene	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*100*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*105*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*109*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*		*70-130 %*			"	"	"	"	
Microextractable Organic Compounds											
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/l	0.0100	1	EPA 504.1	29-May-09	29-May-09	9052092	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	29-May-09	01-Jun-09	9052111	
Total Metals by EPA 6000/7000 Series Methods											
7439-89-6	Iron	0.0860		mg/l	0.0150	1	SW846 6010B	01-Jun-09	02-Jun-09	9060015	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB SA95454-05	J40076.94	Deionized Water	28-May-09 08:00	28-May-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	29-May-09	29-May-09	9052104	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
91-20-3	Naphthalene	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	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*	*105*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*		*70-130 %*			"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9052104 - SW846 5030 Water MS										
Blank (9052104-BLK1)										
Prepared & Analyzed: 29-May-09										
Benzene	BRL		µg/l	1.0						
Benzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Naphthalene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
o-Xylene	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
Trichloroethene	BRL		µg/l	1.0						
Surrogate: 4-Bromofluorobenzene	*28.7*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*28.7*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*30.6*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*30.6*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.4*		µg/l		*30.0*		*108*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.4*		µg/l		*30.0*		*108*	*70-130*		
Surrogate: Dibromofluoromethane	*30.4*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*30.4*		µg/l		*30.0*		*101*	*70-130*		
LCS (9052104-BS1)										
Prepared & Analyzed: 29-May-09										
Benzene	22.1		µg/l		20.0		110	70-130		
Benzene	22.1		µg/l		20.0		110	70-130		
Ethylbenzene	22.1		µg/l		20.0		111	70-130		
Ethylbenzene	22.1		µg/l		20.0		111	70-130		
Methyl tert-butyl ether	22.4		µg/l		20.0		112	70-130		
Methyl tert-butyl ether	22.4		µg/l		20.0		112	70-130		
Naphthalene	22.7		µg/l		20.0		113	70-130		
Toluene	22.1		µg/l		20.0		110	70-130		
Toluene	22.1		µg/l		20.0		110	70-130		
m,p-Xylene	43.2		µg/l		40.0		108	70-130		
o-Xylene	21.9		µg/l		20.0		110	70-130		
m,p-Xylene	43.2		µg/l		40.0		108	70-130		
o-Xylene	21.9		µg/l		20.0		110	70-130		
Tert-amyl methyl ether	19.5		µg/l		20.0		97	70-130		
Tert-Butanol / butyl alcohol	255		µg/l		200		128	70-130		
Surrogate: 4-Bromofluorobenzene	*30.2*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*30.2*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*30.2*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*30.2*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.4*		µg/l		*30.0*		*108*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.4*		µg/l		*30.0*		*108*	*70-130*		
Surrogate: Dibromofluoromethane	*30.9*		µg/l		*30.0*		*103*	*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 9052104 - SW846 5030 Water MS										
LCS Dup (9052104-BSD1)										
Prepared & Analyzed: 29-May-09										
Benzene	22.5		µg/l		20.0		113	70-130	2	25
Benzene	22.5		µg/l		20.0		113	70-130	2	25
Ethylbenzene	23.6		µg/l		20.0		118	70-130	6	25
Ethylbenzene	23.6		µg/l		20.0		118	70-130	6	25
Methyl tert-butyl ether	23.7		µg/l		20.0		118	70-130	6	25
Methyl tert-butyl ether	23.7		µg/l		20.0		118	70-130	6	25
Naphthalene	22.4		µg/l		20.0		112	70-130	1	25
Toluene	23.2		µg/l		20.0		116	70-130	5	25
Toluene	23.2		µg/l		20.0		116	70-130	5	25
m,p-Xylene	45.8		µg/l		40.0		114	70-130	6	25
m,p-Xylene	45.8		µg/l		40.0		114	70-130	6	25
o-Xylene	23.0		µg/l		20.0		115	70-130	5	25
o-Xylene	23.0		µg/l		20.0		115	70-130	5	25
Tert-amyl methyl ether	20.1		µg/l		20.0		100	70-130	3	25
Tert-Butanol / butyl alcohol	242		µg/l		200		121	70-130	5	25
Surrogate: 4-Bromofluorobenzene	*29.8*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*29.8*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*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	*32.1*		µg/l		*30.0*		*107*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.1*		µg/l		*30.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*32.0*		µg/l		*30.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*32.0*		µg/l		*30.0*		*107*	*70-130*		
Matrix Spike (9052104-MS1)	**Source: SA95306-01**									
Prepared & Analyzed: 29-May-09										
Benzene	16.6	QM7	µg/l		20.0	6.9	49	70-130		
Benzene	16.6	QM7	µg/l		20.0	6.9	49	70-130		
Chlorobenzene	19.0		µg/l		20.0	BRL	95	70-130		
1,1-Dichloroethene	13.8	QM7	µg/l		20.0	BRL	69	70-130		
Toluene	16.8		µg/l		20.0	BRL	84	70-130		
Toluene	16.8		µg/l		20.0	BRL	84	70-130		
Trichloroethene	17.8		µg/l		20.0	BRL	89	70-130		
Chlorobenzene	19.0		µg/l		20.0	0.0	95	70-130		
1,1-Dichloroethene	13.8	QM7	µg/l		20.0	0.0	69	70-130		
Trichloroethene	17.8		µg/l		20.0	0.0	89	70-130		
Surrogate: 4-Bromofluorobenzene	*29.6*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*29.6*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*31.0*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*31.0*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.2*		µg/l		*30.0*		*107*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.2*		µg/l		*30.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*30.9*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: Dibromofluoromethane	*30.9*		µg/l		*30.0*		*103*	*70-130*		
Matrix Spike Dup (9052104-MSD1)	**Source: SA95306-01**									
Prepared & Analyzed: 29-May-09										
Benzene	17.7	QM7	µg/l		20.0	6.9	54	70-130	10	30
Benzene	17.7	QM7	µg/l		20.0	6.9	54	70-130	10	30
Chlorobenzene	21.7		µg/l		20.0	BRL	109	70-130	14	30
1,1-Dichloroethene	14.7		µg/l		20.0	BRL	74	70-130	7	30
Toluene	19.1		µg/l		20.0	BRL	96	70-130	13	30
Toluene	19.1		µg/l		20.0	BRL	96	70-130	13	30
Trichloroethene	19.0		µg/l		20.0	BRL	95	70-130	7	30

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9052104 - SW846 5030 Water MS										
Matrix Spike Dup (9052104-MSD1)	**Source: SA95306-01**									
Prepared & Analyzed: 29-May-09										
Chlorobenzene	21.7		µg/l		20.0	0.0	109	70-130	14	30
1,1-Dichloroethene	14.7		µg/l		20.0	0.0	74	70-130	7	30
Trichloroethene	19.0		µg/l		20.0	0.0	95	70-130	7	30
Surrogate: 4-Bromofluorobenzene	*30.0*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*30.0*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*31.0*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*31.0*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.0*		µg/l		*30.0*		*107*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.0*		µg/l		*30.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*31.9*		µg/l		*30.0*		*106*	*70-130*		
Surrogate: Dibromofluoromethane	*31.9*		µg/l		*30.0*		*106*	*70-130*		

Microextractable Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9052092 - General Preparation SVOC										
Blank (9052092-BLK1)										
Prepared & Analyzed: 29-May-09										
1,2-Dibromoethane (EDB)	BRL		µg/l	0.0100						
LCS (9052092-BS1)										
Prepared & Analyzed: 29-May-09										
1,2-Dibromoethane (EDB)	0.217		µg/l	0.0100	0.200		108	50-150		
Duplicate (9052092-DUP1)	**Source: SA95454-01**									
Prepared & Analyzed: 29-May-09										
1,2-Dibromoethane (EDB)	0.942		µg/l	0.0100		1.00			6	30

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9052111 - SW846 3510C										
Blank (9052111-BLK1)										
Prepared: 29-May-09 Analyzed: 01-Jun-09										
Non-polar material (SGT-HEM)	BRL		mg/l	1.0						
LCS (9052111-BS1)										
Prepared: 29-May-09 Analyzed: 01-Jun-09										
Non-polar material (SGT-HEM)	27.1		mg/l		32.4		84	75.2-87.5		

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

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9060015 - SW846 3005A										
Blank (9060015-BLK1)										
Prepared: 01-Jun-09 Analyzed: 02-Jun-09										
Iron	BRL		mg/l	0.0150						
LCS (9060015-BS1)										
Prepared: 01-Jun-09 Analyzed: 02-Jun-09										
Iron	1.31		mg/l	0.0150	1.25		105	85-115		
LCS Dup (9060015-BSD1)										
Prepared: 01-Jun-09 Analyzed: 02-Jun-09										
Iron	1.29		mg/l	0.0150	1.25		103	85-115	2	20
Duplicate (9060015-DUP1) **Source: SA95454-01**										
Prepared: 01-Jun-09 Analyzed: 02-Jun-09										
Iron	13.9		mg/l	0.0150		14.1			1	20
Matrix Spike (9060015-MS1) **Source: SA95454-04**										
Prepared: 01-Jun-09 Analyzed: 02-Jun-09										
Iron	1.26		mg/l	0.0150	1.25	0.0860	94	75-125		
Matrix Spike Dup (9060015-MSD1) **Source: SA95454-04**										
Prepared: 01-Jun-09 Analyzed: 02-Jun-09										
Iron	1.27		mg/l	0.0150	1.25	0.0860	95	75-125	1	20
Post Spike (9060015-PS1) **Source: SA95454-04**										
Prepared: 01-Jun-09 Analyzed: 02-Jun-09										
Iron	1.29		mg/l	0.0150	1.25	0.0860	97	80-120		

Notes and Definitions

QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

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 *TPH (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.

Validated by:
Hanibal C. Tayeh, Ph.D.
Kim Wisk

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: Spectrum Analytical, Inc. - Agawam, MA	Project #: J40076.94
Project Location: Sandri-50 Church St, Bernardston, MA	MADEP RTN [1]:

This form provides certifications for the following data set:
SA95454-01 through SA95454-05

Sample matrices:	Deionized Water Ground Water				
MCP SW-846 Methods Used	☑ 8260B	☐ 8151A	☐ 8330	☑ 6010B	☐ 7470A/1A
	☐ 8270C	☐ 8081A	☐ VPH	☐ 6020	☐ 9014M [2]
	☐ 8082	☐ 8021B	☐ EPH	☐ 7000S [3]	☐ 7196A

1 List Release Tracking Number (RTN), if known
2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S - SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain of Custody documentation for the data set?	☑ Yes	☐ No
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	☑ Yes	☐ No
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
D	***VPH and EPH methods only***: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective methods)?	☐ Yes	☐ No

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all analytical QC performance standards and recommendations for the specified methods achieved?	☑ Yes	☐ No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	☐ 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.

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Date: 6/2/2009

SA95454: EM

SPECTRUM ANALYTICAL, INC.
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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 6/2/09
- 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: ECS - Agawam

Project No.: J40076.94

Site Name: SANOFI

Location: 50 CHURCH STREET, BERNARDSTON State: MA

Project Mgr.: SHAWN RISING

P.O. No.: _____ RQN: 0003

Sampler(s): TIM REGAN

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=4°C Ice 10=_____

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	Preservative	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	8260, MTBE, Naphthalene VIA 8260B	TBA & TMBE VIA 8260B	EDB 504.1	TPH 1664	Total Fe 200.7				QA Reporting Notes: (check if needed)
95454-01	AS INFLUENT	5/28/09	11:00	G	GW	1,2,3 H,S	5	1		1	X	X	X	X	X				SEE ATTACHED
02	GAC INFLUENT		11:10	G	GW	2,9	3				X								DETECTION LIMITS
03	GAC MIDDT		11:12	G	GW	2,9	3				X								
04	GAC EFFLUENT		11:15	G	GW	1,2,3 H,S	5	1		1	X	X	X	X	X				CAM
05	TB		8:00	G	X1	2,9	1				X								GW-1/GW-2/GW-3

☐ Fax results when available to (____) _____

☒ E-mail to SRISING@ECSCONSULT.COM

EDD Format _____

Condition upon receipt: ☐ Iced ☐ Ambient ☒ °C 3.7

Relinquished by:	Received by:	Date:	Time:
		5/28/09	16:50

11 Almgren Drive • Agawam, Massachusetts 01001 • 413-789-9018 • Fax 413-789-4076 • www.spectrum-analytical.com

Submit to Spectrum w/ NPDES samples

Appendix VI: Minimum Levels and Test Methods

PARAMETER - CAS No. -	Minimum Levels and Test Methods[1,2,3]				
	GC[4]	GCMS[5]	LC[6]	FAA[7]	Other
1. Total Suspended Solids (TSS)					5 mg/l Method 160.2
2. Total Residual Chlorine (TRC)					20 ug/l Method 330.5
3. Total Petroleum Hydrocarbons (TPH)					5 mg/l Method 1664
4. Cyanide (total) - 57125 -					10 ug/l Method 335.4
5. Benzene (B) - 71432 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[2]
6. Toluene (T) - 108883 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[2]
7. Ethylbenzene (E) - 100414 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[2]
8. (m,p,o) Xylenes (X) - 108383;106423; 95476-	0.5 ug/l Method 602	10 ug/l Method 1624			Method 8260C[2]
9. Total BTEX	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[2]
10. Ethylene Dibromide (EDB) (1,2- Dibromoethane) - 106934 -	1.0 ug/l Method 618 0.01 ug/l Method 504.1	0.1 ug/l Methods 524.2			Method 8260C[2]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
11. Methyl-tert-Butyl Ether (MtBE)	0.5 ug/l Method 602[8]	5.0 ug/l Method 524.2			Method 8260C[2]
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol) - 75650 -	0.5 ug/l Method 602[8]	100 ug/l Method 1666			Method 8260C[2]
13. tert-Amyl Methyl Ether (TAME) -994058-	0.5 ug/l Method 602[8]				Method 8260C[2]
14. Naphthalene - 91203 -	10 ug/l Method 610 GC/FID	2 ug/l Method 625 5.0 ug/l Method 524.2	0.2 ug/l Method 610 HPLC		Method 8270D[3]
15. Carbon Tetrachloride - 56235 -	0.5 ug/l Method 601	2 ug/l Methods 624, 1624			Method 8260C[2]
16. 1,4 Dichlorobenzene (p-DCB) - 106467 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
17. 1,2 Dichlorobenzene (o-DCB) - 95501 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
18. 1,3 Dichlorobenzene (m-DCB) - 541731 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
19. 1,1 Dichloroethane (DCA) - 75343 -	0.5 ug/l Method 601	1 ug/l Method 624			Method 8260C[2]
20. 1,2 Dichloroethane (DCA)- 107062 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
21. 1,1 Dichloroethylene (DCE) - 75354 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
22. cis-1,2 Dichloro-ethylene (DCE) -156592-	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
23. Dichloromethane (Methylene Chloride)- 75092 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
24. Tetrachloroethylene (PCE) - 127184 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
25. 1,1,1 Trichloro-ethane (TCA) - 71556 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
26. 1,1,2 Trichloro-ethane (TCA) - 79005 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
27. Trichloroethylene (TCE) - 79016 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
28. Vinyl Chloride - 75014 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
29. Acetone - 67641 -	1.0 ug/l Method 524.2	50 ug/l Method 1624			Method 8260C[2]
30. 1,4 Dioxane -123911-		50 ug/l Method 1624			Method 8260C[2]
31. Total Phenols - 108952	1.0 ug/l Method 624 Method 8260[2]	1 ug/l Methods 625, 1625			Method 8260C[2] Method 8270D[3]
32. Pentachlorophenol (PCP) - 87865 -	1.0 ug/l Method 604 GCFID	5 ug/l Methods 625, 1625			Method 8270D[3]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
33. Total Phthalates [9] (Phthalate esthers)		5 ug/l Method 625			Method 8270D[3]
34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate] - 117817 -	10 ug/l Method 606	5 ug/l Method 625			Method 8270D[3]
35. Total Group I Polynuclear Aromatic Hydrocarbons (PAH)					Method 8270D[3]
a. Benzo(a) Anthracene -56553-	10 ug/l Method 610 GC	5 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
b. Benzo(a) Pyrene -50328 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
c. Benzo(b)Fluoranthene - 205992 -		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
d. Benzo(k)Fluoranthene - 207089 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
e. Chrysene - 218019 -		10 ug/l Method 625	5 ug/l Method 610 HPLC		Method 8270D[3]
f. Dibenzo(a,h) anthracene		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
g. Indeno(1,2,3-cd) Pyrene - 193395 -		10 ug/l Method 625	0.15 ug/l Method 610		Method 8270D[3]
36. Total Group II Polynuclear Aromatic Hydrocarbons (PAH)					Method 8270D[3]
h. Acenaphthene - 83329 -	1 ug/l Method 610 GC/FID	1 ug/l Method 625	0.5 ug/l Method 610 HPLC		Method 8270D[3]
i. Acenaphthylene - 208968 -		10 ug/l Method 625	0.2 ug/l Method 610 HPLC		Method 8270D[3]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
j. Anthracene - 120127 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
k. Benzo(ghi) Perylene - 191242 -		5 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
l. Fluoranthene - 206440 -	10 ug/l Method 610 GC/FID	1 ug/l Method 625	0.5 ug/l Method 610 HPLC		Method 8270D[3]
m. Fluorene - 86737 -		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
n. Naphthalene - 91203 -	10 ug/l Method 610 GC/FID	2 ug/l Method 625 5.0 ug/l Method 524.2	0.2 ug/l Method 610 HPLC		Method 8270D[3]
o. Phenanthrene - 85018 -		5 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
p. Pyrene - 129000 -		10 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
37. Total Polychlorinated Biphenyls (PCBs)[10]	0.5 ug/l Method 608				0.00005 ug/l Method 1668a[11]
Inorganic parameters:		Minimum Levels (ug/l) and Test Methods			
		Flame Atomic Absorption	Inductively Coupled Plasma	Furnace Atomic Absorption	Other
38. Antimony		200 ug/l	50 ug/l	5 ug/l	
39. Arsenic			5 ug/l	2 ug/l	
40. Cadmium		10 ug/l	5 ug/l	0.5 ug/l	

Inorganic parameters:	Minimum Levels (ug/l) and Test Methods			
	Flame Atomic Absorption	Inductively Coupled Plasma	Furnace Atomic Absorption	Other
41. Chromium (total)	Method 218.1	10 ug/l Methods 200.7[11], 200.8, 200.15, 1620	5 ug/l Method 200.9	50 ug/l
42. Chromium (hexavalent)				10 ug/l Method 218.6 Method 1636
43. Copper	20 ug/l	5 ug/l	3 ug/l	
44. Lead	100 ug/l	40 ug/l	3 ug/l	
45. Mercury				0.2 ug/l
46. Nickel	30 ug/l	10 ug/l	5 ug/l	
47. Selenium		50 ug/l	5 ug/l	
48. Silver	50 ug/l	10 ug/l	2 ug/l	
49. Zinc	30 ug/l	10 ug/l		
50. Iron		Methods 6010b 200.7[12]		

1. 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). Where a minimum level (ML) is listed but a test method is not specified, permittee may use any of the available methods approved for use under 40 CFR 136, including alternatives approved by this permit, that meets that ML. See EPA's "Methods and Guidance for the Analysis of Water" at www.epa.gov/water/owrccatalog.nsf. Where test method is specified but ML not listed for that method, the lowest ML for listed methods must be used before concentration can be considered as "non-detect."

2. For measuring volatile organic compounds, Method 8260C (or the latest version) may be used as a substitute for CWA Methods 524.2, 602, 624, or 1624. Method 8260C must be preceded by Method 5030 as the preparation method. However, any method changes must be accompanied by documented quality assurance quality control (QA/QC) test results to prove that the analytical process can achieve the lower detection limits of Method 8260C.

3. For measuring semi-volatile organic compounds, Method 8270D may be used as a substitute for Methods 610, 625, or 1625. Method 8270D must be preceded by Method 3535 or Method 3520C as the sample preparation method. In either case, the quality control requirements of Method 3500B must be taken into account. The sample preparation method must be specified with data analysis records. Method 8270D may be modified to provide lower detection and quantitation limits using Selected Ion Monitoring (SIM). Any method changes must be accompanied by documented quality assurance quality control (QA/QC) test results to prove that the analytical process can achieve the lower detection limits of Method 8270D.

4. GC - gas chromatography

5. GCMS - gas chromatography/mass spectrometry

6. LC - high pressure liquid chromatography

7. Flame Atomic Absorption

8. For measuring fuel oxygenates, Method 602 must be modified to include a heated purge.

9. The sum of individual phthalate compounds.

10. 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 Aroclor analyses"*.

11. Method 1668a (HRGC/HRMS) has been proposed by EPA and is currently being validated. When approval of the method is finalized, it will be approved for use with this general permit.

12. Methods 6010b and 200.7 for metals may only be used when sample prepared with SW-846 digestion method, Method 3010.

SA 95454: EM

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 6/2/09
- 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: ECS - Agawam

Project No.: J40076.94

Site Name: SANOFI

Location: 56 CHURCH STREET, BENNINGTON State: VT

Project Mgr.: SHAWN RISING

P.O. No.: _____ RQN: 0003

Sampler(s): TIM REISNER

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= 4°C ICE 10=_____

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	Preservative	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: 8260B, MTBE, NAPHTHALENE VIA 8260B	TBA & TAME VIA 8260B	EDB 504.1	TOH 1664	TPHC EC 200.7 GOLD	QA Reporting Notes: (check if needed)
95454-01	AS INFLUENT	5/28/09	11:00	G	GW	1,2,3	5	1		1	X	X	X	X	X	SEE ATTACHED
02	GAC INFLUENT		11:10	G	GW	2,3	3				X					DETECTION LIMITS
03	GAC MIDPT		11:12	G	GW	2,3	3				X					
04	GAC EFFLUENT		11:15	G	GW	1,2,3	5	1		1	X	X	X	X	X	CAM
05	TB		8:00	G	X1	2,3	1				X					GW-1/GW-2/GW-3
																See attached

☐ Fax results when available to (____) _____

☒ E-mail to SRISING@ECSCONSULT.com

EDD Format _____

Condition upon receipt: ☐ Iced ☐ Ambient ☒ °C 3.7

Relinquished by:	Received by:	Date:	Time:
		5/28/09	16:50

QA 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: _____

Report Date:
29-Jun-09 14:20

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
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Laboratory Report

Environmental Compliance Services
588 Silver Street
Agawam, MA 01001
Attn: Shawn Rising

Project: Sandri - Bernardston, MA
Project J40076

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA96786-01	A.S. Influent	Ground Water	24-Jun-09 08:30	24-Jun-09 17:30
SA96786-02	GAC Influent	Ground Water	24-Jun-09 08:40	24-Jun-09 17:30
SA96786-03	GAC Midpt	Ground Water	24-Jun-09 08:45	24-Jun-09 17:30
SA96786-04	GAC Effluent	Ground Water	24-Jun-09 08:50	24-Jun-09 17:30
SA96786-05	Trip	Deionized Water	24-Jun-09 00:00	24-Jun-09 17:30

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
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

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 17 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is 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.

CASE NARRATIVE:

The samples were received 3.2 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 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.

According to WSC-CAM 5/2004 Rev.4, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended 70%-130% recovery range, a range has been set based on historical control limits.

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

SW846 8260B

Blanks:

9062084-BLK1

Analyte quantified by quadratic equation type calibration.

Naphthalene

Laboratory Control Samples:

9062084-BS1

Analyte quantified by quadratic equation type calibration.

Naphthalene

9062084-BSD1

Analyte quantified by quadratic equation type calibration.

Naphthalene

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.

trans-1,4-Dichloro-2-butene

Samples:

S905967-CCV1

Analyte quantified by quadratic equation type calibration.

Naphthalene

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
A.S. Influent SA96786-01	J40076	Ground Water	24-Jun-09 08:30	24-Jun-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	55.0		µg/l	5.0	5	SW846 8260B	26-Jun-09	26-Jun-09	9062084	
100-41-4	Ethylbenzene	BRL		µg/l	5.0	5	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	91.8		µg/l	5.0	5	"	"	"	"	
108-88-3	Toluene	35.8		µg/l	5.0	5	"	"	"	"	
179601-23-1	m,p-Xylene	50.4		µg/l	10.0	5	"	"	"	"	
95-47-6	o-Xylene	415		µg/l	5.0	5	"	"	"	"	
994-05-8	Tert-amyl methyl ether	7.0		µg/l	5.0	5	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	50.0	5	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*95*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*102*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*117*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*105*		*70-130 %*			"	"	"	"	
Microextractable Organic Compounds											
106-93-4	1,2-Dibromoethane (EDB)	0.598		µg/l	0.0100	1	EPA 504.1	25-Jun-09	25-Jun-09	9061862	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	25-Jun-09	26-Jun-09	9061965	
Total Metals by EPA 6000/7000 Series Methods											
7439-89-6	Iron	14.7		mg/l	0.0150	1	SW846 6010B	26-Jun-09	27-Jun-09	9062078	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Influent SA96786-02	J40076	Ground Water	24-Jun-09 08:40	24-Jun-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	25-Jun-09	25-Jun-09	9061981	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*94*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*78*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*105*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Midpt SA96786-03	J40076	Ground Water	24-Jun-09 08:45	24-Jun-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	25-Jun-09	25-Jun-09	9061981	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*93*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*78*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*107*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Effluent SA96786-04	J40076	Ground Water	24-Jun-09 08:50	24-Jun-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	26-Jun-09	26-Jun-09	9062084	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	13.0		µg/l	10.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*88*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*101*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*116*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*		*70-130 %*			"	"	"	"	
Microextractable Organic Compounds											
106-93-4	1,2-Dibromoethane (EDB)	BRL		µg/l	0.0100	1	EPA 504.1	25-Jun-09	25-Jun-09	9061862	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	25-Jun-09	26-Jun-09	9061965	
Total Metals by EPA 6000/7000 Series Methods											
7439-89-6	Iron	0.0485		mg/l	0.0150	1	SW846 6010B	26-Jun-09	27-Jun-09	9062078	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip SA96786-05	J40076	Deionized Water	24-Jun-09 00:00	24-Jun-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	25-Jun-09	25-Jun-09	9061981	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*93*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*78*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*		*70-130 %*			"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9061981 - SW846 5030 Water MS										
Blank (9061981-BLK1)										
Prepared & Analyzed: 25-Jun-09										
Benzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Surrogate: 4-Bromofluorobenzene	*47.2*		µg/l		*50.0*		*94*	*70-130*		
Surrogate: Toluene-d8	*40.6*		µg/l		*50.0*		*81*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*47.8*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Dibromofluoromethane	*52.4*		µg/l		*50.0*		*105*	*70-130*		
LCS (9061981-BS1)										
Prepared & Analyzed: 25-Jun-09										
Benzene	19.7		µg/l		20.0		98	70-130		
Ethylbenzene	20.7		µg/l		20.0		103	70-130		
Methyl tert-butyl ether	20.6		µg/l		20.0		103	70-130		
Toluene	16.8		µg/l		20.0		84	70-130		
m,p-Xylene	43.4		µg/l		40.0		109	70-130		
o-Xylene	22.3		µg/l		20.0		111	70-130		
Surrogate: 4-Bromofluorobenzene	*51.1*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*41.9*		µg/l		*50.0*		*84*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*45.8*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: Dibromofluoromethane	*53.6*		µg/l		*50.0*		*107*	*70-130*		
LCS Dup (9061981-BSD1)										
Prepared & Analyzed: 25-Jun-09										
Benzene	19.6		µg/l		20.0		98	70-130	0.6	25
Ethylbenzene	20.1		µg/l		20.0		100	70-130	3	25
Methyl tert-butyl ether	20.4		µg/l		20.0		102	70-130	0.8	25
Toluene	16.4		µg/l		20.0		82	70-130	2	25
m,p-Xylene	42.1		µg/l		40.0		105	70-130	3	25
o-Xylene	21.7		µg/l		20.0		108	70-130	3	25
Surrogate: 4-Bromofluorobenzene	*50.5*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*42.0*		µg/l		*50.0*		*84*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*45.7*		µg/l		*50.0*		*91*	*70-130*		
Surrogate: Dibromofluoromethane	*53.2*		µg/l		*50.0*		*106*	*70-130*		
Batch 9062084 - SW846 5030 Water MS										
Blank (9062084-BLK1)										
Prepared & Analyzed: 26-Jun-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9062084 - SW846 5030 Water MS										
Blank (9062084-BLK1)										
Prepared & Analyzed: 26-Jun-09										
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	5.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	5.0						
Naphthalene	BRL	CAL1	µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9062084 - SW846 5030 Water MS										
Blank (9062084-BLK1)										
Prepared & Analyzed: 26-Jun-09										
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	10.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*45.4*		µg/l		*50.0*		*91*	*70-130*		
Surrogate: Toluene-d8	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*60.5*		µg/l		*50.0*		*121*	*70-130*		
Surrogate: Dibromofluoromethane	*54.5*		µg/l		*50.0*		*109*	*70-130*		
LCS (9062084-BS1)										
Prepared & Analyzed: 26-Jun-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	25.6		µg/l		20.0		128	70-130		
Acetone	20.7		µg/l		20.0		103	41.6-158		
Acrylonitrile	22.1		µg/l		20.0		111	70-130		
Benzene	21.1		µg/l		20.0		105	70-130		
Bromobenzene	20.2		µg/l		20.0		101	70-130		
Bromochloromethane	20.2		µg/l		20.0		101	70-130		
Bromodichloromethane	24.1		µg/l		20.0		121	70-130		
Bromoform	21.3		µg/l		20.0		106	70-130		
Bromomethane	18.2		µg/l		20.0		91	47-147		
2-Butanone (MEK)	21.6		µg/l		20.0		108	60.9-144		
n-Butylbenzene	24.5		µg/l		20.0		123	70-130		
sec-Butylbenzene	21.6		µg/l		20.0		108	70-130		
tert-Butylbenzene	21.3		µg/l		20.0		107	70-130		
Carbon disulfide	18.8		µg/l		20.0		94	70-130		
Carbon tetrachloride	20.2		µg/l		20.0		101	70-130		
Chlorobenzene	21.5		µg/l		20.0		108	70-130		
Chloroethane	21.4		µg/l		20.0		107	63.6-131		
Chloroform	23.2		µg/l		20.0		116	70-130		
Chloromethane	21.2		µg/l		20.0		106	70-130		
2-Chlorotoluene	19.3		µg/l		20.0		96	70-130		
4-Chlorotoluene	20.6		µg/l		20.0		103	70-130		
1,2-Dibromo-3-chloropropane	20.0		µg/l		20.0		100	70-130		
Dibromochloromethane	18.0		µg/l		20.0		90	58.8-145		
1,2-Dibromoethane (EDB)	22.2		µg/l		20.0		111	70-130		
Dibromomethane	21.7		µg/l		20.0		109	70-130		
1,2-Dichlorobenzene	22.5		µg/l		20.0		113	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9062084 - SW846 5030 Water MS										
LCS (9062084-BS1)										
Prepared & Analyzed: 26-Jun-09										
1,3-Dichlorobenzene	21.2		µg/l		20.0		106	70-130		
1,4-Dichlorobenzene	20.8		µg/l		20.0		104	70-130		
Dichlorodifluoromethane (Freon12)	19.0		µg/l		20.0		95	56.6-137		
1,1-Dichloroethane	22.8		µg/l		20.0		114	70-130		
1,2-Dichloroethane	24.8		µg/l		20.0		124	70-130		
1,1-Dichloroethene	21.3		µg/l		20.0		107	70-130		
cis-1,2-Dichloroethene	22.1		µg/l		20.0		111	70-130		
trans-1,2-Dichloroethene	19.3		µg/l		20.0		96	70-130		
1,2-Dichloropropane	22.5		µg/l		20.0		113	70-130		
1,3-Dichloropropane	22.2		µg/l		20.0		111	70-130		
2,2-Dichloropropane	21.8		µg/l		20.0		109	70-130		
1,1-Dichloropropene	21.7		µg/l		20.0		109	70-130		
cis-1,3-Dichloropropene	22.0		µg/l		20.0		110	70-130		
trans-1,3-Dichloropropene	21.5		µg/l		20.0		108	70-130		
Ethylbenzene	21.2		µg/l		20.0		106	70-130		
Hexachlorobutadiene	22.5		µg/l		20.0		113	70-134		
2-Hexanone (MBK)	21.9		µg/l		20.0		109	70-130		
Isopropylbenzene	18.0		µg/l		20.0		90	70-130		
4-Isopropyltoluene	24.2		µg/l		20.0		121	70-130		
Methyl tert-butyl ether	21.2		µg/l		20.0		106	70-130		
4-Methyl-2-pentanone (MIBK)	21.9		µg/l		20.0		110	64.8-130		
Methylene chloride	18.8		µg/l		20.0		94	70-130		
Naphthalene	17.2	CAL1	µg/l		20.0		86	70-130		
n-Propylbenzene	21.7		µg/l		20.0		109	70-130		
Styrene	21.0		µg/l		20.0		105	70-130		
1,1,1,2-Tetrachloroethane	16.8		µg/l		20.0		84	70-130		
1,1,2,2-Tetrachloroethane	21.5		µg/l		20.0		107	70-130		
Tetrachloroethene	20.4		µg/l		20.0		102	70-130		
Toluene	21.5		µg/l		20.0		107	70-130		
1,2,3-Trichlorobenzene	19.6		µg/l		20.0		98	70-130		
1,2,4-Trichlorobenzene	17.3		µg/l		20.0		86	70-130		
1,3,5-Trichlorobenzene	22.1		µg/l		20.0		110	70-130		
1,1,1-Trichloroethane	22.4		µg/l		20.0		112	70-130		
1,1,2-Trichloroethane	22.6		µg/l		20.0		113	70-130		
Trichloroethene	21.2		µg/l		20.0		106	70-130		
Trichlorofluoromethane (Freon 11)	24.0		µg/l		20.0		120	70-152		
1,2,3-Trichloropropane	24.1		µg/l		20.0		120	70-130		
1,2,4-Trimethylbenzene	21.9		µg/l		20.0		110	70-130		
1,3,5-Trimethylbenzene	21.5		µg/l		20.0		108	70-130		
Vinyl chloride	20.7		µg/l		20.0		103	70-130		
m,p-Xylene	41.7		µg/l		40.0		104	70-130		
o-Xylene	21.3		µg/l		20.0		106	70-130		
Tetrahydrofuran	21.9		µg/l		20.0		110	70-130		
Ethyl ether	21.7		µg/l		20.0		109	70-133		
Tert-amyl methyl ether	21.7		µg/l		20.0		108	70-130		
Ethyl tert-butyl ether	22.1		µg/l		20.0		110	70-130		
Di-isopropyl ether	23.0		µg/l		20.0		115	70-130		
Tert-Butanol / butyl alcohol	213		µg/l		200		106	70-130		
1,4-Dioxane	216		µg/l		200		108	53.1-139		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9062084 - SW846 5030 Water MS										
LCS (9062084-BS1)										
Prepared & Analyzed: 26-Jun-09										
trans-1,4-Dichloro-2-butene	14.3		µg/l		20.0		72	70-130		
Ethanol	494		µg/l		400		123	70-130		
Surrogate: 4-Bromofluorobenzene	*48.2*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*51.5*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*57.3*		µg/l		*50.0*		*115*	*70-130*		
Surrogate: Dibromofluoromethane	*51.9*		µg/l		*50.0*		*104*	*70-130*		
LCS Dup (9062084-BSD1)										
Prepared & Analyzed: 26-Jun-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	24.2		µg/l		20.0		121	70-130	6	25
Acetone	19.9		µg/l		20.0		100	41.6-158	4	50
Acrylonitrile	22.0		µg/l		20.0		110	70-130	0.5	25
Benzene	20.4		µg/l		20.0		102	70-130	3	25
Bromobenzene	18.7		µg/l		20.0		94	70-130	8	25
Bromochloromethane	19.9		µg/l		20.0		100	70-130	1	25
Bromodichloromethane	22.6		µg/l		20.0		113	70-130	7	25
Bromoform	21.4		µg/l		20.0		107	70-130	0.3	25
Bromomethane	18.6		µg/l		20.0		93	47-147	2	50
2-Butanone (MEK)	20.6		µg/l		20.0		103	60.9-144	5	50
n-Butylbenzene	24.1		µg/l		20.0		121	70-130	2	25
sec-Butylbenzene	20.4		µg/l		20.0		102	70-130	6	25
tert-Butylbenzene	20.3		µg/l		20.0		101	70-130	5	25
Carbon disulfide	18.2		µg/l		20.0		91	70-130	3	25
Carbon tetrachloride	20.0		µg/l		20.0		100	70-130	0.8	25
Chlorobenzene	20.2		µg/l		20.0		101	70-130	6	25
Chloroethane	19.8		µg/l		20.0		99	63.6-131	8	50
Chloroform	22.6		µg/l		20.0		113	70-130	3	25
Chloromethane	20.4		µg/l		20.0		102	70-130	4	25
2-Chlorotoluene	18.3		µg/l		20.0		92	70-130	5	25
4-Chlorotoluene	19.8		µg/l		20.0		99	70-130	4	25
1,2-Dibromo-3-chloropropane	22.2		µg/l		20.0		111	70-130	11	25
Dibromochloromethane	17.3		µg/l		20.0		86	58.8-145	4	50
1,2-Dibromoethane (EDB)	21.7		µg/l		20.0		109	70-130	2	25
Dibromomethane	21.0		µg/l		20.0		105	70-130	3	25
1,2-Dichlorobenzene	22.2		µg/l		20.0		111	70-130	1	25
1,3-Dichlorobenzene	20.6		µg/l		20.0		103	70-130	3	25
1,4-Dichlorobenzene	20.5		µg/l		20.0		102	70-130	1	25
Dichlorodifluoromethane (Freon12)	18.1		µg/l		20.0		91	56.6-137	5	50
1,1-Dichloroethane	22.0		µg/l		20.0		110	70-130	3	25
1,2-Dichloroethane	23.8		µg/l		20.0		119	70-130	4	25
1,1-Dichloroethene	20.4		µg/l		20.0		102	70-130	5	25
cis-1,2-Dichloroethene	21.0		µg/l		20.0		105	70-130	5	25
trans-1,2-Dichloroethene	18.6		µg/l		20.0		93	70-130	4	25
1,2-Dichloropropane	21.1		µg/l		20.0		106	70-130	7	25
1,3-Dichloropropane	21.4		µg/l		20.0		107	70-130	4	25
2,2-Dichloropropane	20.6		µg/l		20.0		103	70-130	6	25
1,1-Dichloropropene	20.2		µg/l		20.0		101	70-130	7	25
cis-1,3-Dichloropropene	21.3		µg/l		20.0		107	70-130	3	25
trans-1,3-Dichloropropene	20.5		µg/l		20.0		102	70-130	5	25
Ethylbenzene	20.3		µg/l		20.0		101	70-130	4	25
Hexachlorobutadiene	21.2		µg/l		20.0		106	70-134	6	50

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9062084 - SW846 5030 Water MS										
LCS Dup (9062084-BSD1)										
Prepared & Analyzed: 26-Jun-09										
2-Hexanone (MBK)	21.7		µg/l		20.0		109	70-130	0.6	25
Isopropylbenzene	17.4		µg/l		20.0		87	70-130	4	25
4-Isopropyltoluene	23.4		µg/l		20.0		117	70-130	3	25
Methyl tert-butyl ether	20.5		µg/l		20.0		103	70-130	3	25
4-Methyl-2-pentanone (MIBK)	21.4		µg/l		20.0		107	64.8-130	2	50
Methylene chloride	18.1		µg/l		20.0		91	70-130	4	25
Naphthalene	17.1	CAL1	µg/l		20.0		85	70-130	0.6	25
n-Propylbenzene	20.4		µg/l		20.0		102	70-130	6	25
Styrene	20.1		µg/l		20.0		101	70-130	4	25
1,1,1,2-Tetrachloroethane	17.1		µg/l		20.0		85	70-130	2	25
1,1,2,2-Tetrachloroethane	21.0		µg/l		20.0		105	70-130	2	25
Tetrachloroethene	19.5		µg/l		20.0		98	70-130	4	25
Toluene	20.4		µg/l		20.0		102	70-130	5	25
1,2,3-Trichlorobenzene	18.8		µg/l		20.0		94	70-130	4	25
1,2,4-Trichlorobenzene	17.7		µg/l		20.0		88	70-130	2	25
1,3,5-Trichlorobenzene	22.0		µg/l		20.0		110	70-130	0.2	25
1,1,1-Trichloroethane	21.6		µg/l		20.0		108	70-130	4	25
1,1,2-Trichloroethane	22.2		µg/l		20.0		111	70-130	2	25
Trichloroethene	20.8		µg/l		20.0		104	70-130	2	25
Trichlorofluoromethane (Freon 11)	23.4		µg/l		20.0		117	70-152	3	50
1,2,3-Trichloropropane	23.2		µg/l		20.0		116	70-130	4	25
1,2,4-Trimethylbenzene	20.8		µg/l		20.0		104	70-130	5	25
1,3,5-Trimethylbenzene	20.5		µg/l		20.0		103	70-130	5	25
Vinyl chloride	17.4		µg/l		20.0		87	70-130	18	25
m,p-Xylene	40.0		µg/l		40.0		100	70-130	4	25
o-Xylene	20.3		µg/l		20.0		102	70-130	5	25
Tetrahydrofuran	22.1		µg/l		20.0		110	70-130	0.8	25
Ethyl ether	20.8		µg/l		20.0		104	70-133	5	50
Tert-amyl methyl ether	21.1		µg/l		20.0		105	70-130	3	25
Ethyl tert-butyl ether	21.4		µg/l		20.0		107	70-130	3	25
Di-isopropyl ether	22.2		µg/l		20.0		111	70-130	3	25
Tert-Butanol / butyl alcohol	204		µg/l		200		102	70-130	4	25
1,4-Dioxane	198		µg/l		200		99	53.1-139	9	25
trans-1,4-Dichloro-2-butene	13.4	QM9	µg/l		20.0		67	70-130	7	25
Ethanol	460		µg/l		400		115	70-130	7	30
Surrogate: 4-Bromofluorobenzene	*47.7*		µg/l		*50.0*		*95*	*70-130*		
Surrogate: Toluene-d8	*50.2*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*56.5*		µg/l		*50.0*		*113*	*70-130*		
Surrogate: Dibromofluoromethane	*52.0*		µg/l		*50.0*		*104*	*70-130*		

Microextractable Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9061862 - General Preparation SVOC										
Blank (9061862-BLK1)										
Prepared & Analyzed: 25-Jun-09										
1,2-Dibromoethane (EDB)	BRL		µg/l	0.0100						
LCS (9061862-BS1)										
Prepared & Analyzed: 25-Jun-09										
1,2-Dibromoethane (EDB)	0.213		µg/l	0.0100	0.200		106	50-150		
LCS Dup (9061862-BSD1)										
Prepared & Analyzed: 25-Jun-09										
1,2-Dibromoethane (EDB)	0.183		µg/l	0.0100	0.200		92	50-150	15	50

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9061965 - SW846 3510C										
Blank (9061965-BLK1)										
Prepared: 25-Jun-09 Analyzed: 26-Jun-09										
Non-polar material (SGT-HEM)	BRL		mg/l	1.0						
LCS (9061965-BS1)										
Prepared: 25-Jun-09 Analyzed: 26-Jun-09										
Non-polar material (SGT-HEM)	26.0		mg/l		32.4		80	75.2-87.5		

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

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9062078 - SW846 3005A										
Blank (9062078-BLK1)										
Prepared: 26-Jun-09 Analyzed: 27-Jun-09										
Iron	BRL		mg/l	0.0150						
LCS (9062078-BS1)										
Prepared: 26-Jun-09 Analyzed: 28-Jun-09										
Iron	1.31		mg/l	0.0150	1.25		105	85-115		
LCS Dup (9062078-BSD1)										
Prepared: 26-Jun-09 Analyzed: 28-Jun-09										
Iron	1.30		mg/l	0.0150	1.25		104	85-115	0.9	20
Duplicate (9062078-DUP1) **Source: SA96786-01**										
Prepared: 26-Jun-09 Analyzed: 27-Jun-09										
Iron	14.6		mg/l	0.0150		14.7			0.3	20
Matrix Spike (9062078-MS1) **Source: SA96786-04**										
Prepared: 26-Jun-09 Analyzed: 28-Jun-09										
Iron	1.34		mg/l	0.0150	1.25	0.0485	103	75-125		
Matrix Spike Dup (9062078-MSD1) **Source: SA96786-04**										
Prepared: 26-Jun-09 Analyzed: 28-Jun-09										
Iron	1.33		mg/l	0.0150	1.25	0.0485	102	75-125	0.6	20
Post Spike (9062078-PS1) **Source: SA96786-04**										
Prepared: 26-Jun-09 Analyzed: 28-Jun-09										
Iron	1.32		mg/l	0.0150	1.25	0.0485	102	80-120		

Notes and Definitions

CAL1 Analyte quantified by quadratic equation type calibration.

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.

BRL Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit

dry Sample results reported on a dry weight basis

NR Not Reported

RPD Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

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 *TPH (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.

Validated by:
Hanibal C. Tayeh, Ph.D.
Kim Wisk

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: Spectrum Analytical, Inc. - Agawam, MA	Project #: J40076
Project Location: Sandri - Bernardston, MA	MADEP RTN [1]:

This form provides certifications for the following data set:
SA96786-01 through SA96786-05

Sample matrices:	Deionized Water Ground Water				
MCP SW-846 Methods Used	☑ 8260B	☐ 8151A	☐ 8330	☑ 6010B	☐ 7470A/1A
	☐ 8270C	☐ 8081A	☐ VPH	☐ 6020	☐ 9014M [2]
	☐ 8082	☐ 8021B	☐ EPH	☐ 7000S [3]	☐ 7196A

1 List Release Tracking Number (RTN), if known
2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S - SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain of Custody documentation for the data set?	☑ Yes	☐ No
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	☑ Yes	☐ No
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
D	***VPH and EPH methods only***: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective methods)?	☐ Yes	☐ No

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all analytical QC performance standards and recommendations for the specified methods achieved?	☑ Yes	☐ No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	☐ 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.

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Date: 6/29/2009

SA96786 EM

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: 6/29/09
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: SHAWN R.
Project Mgr.: S. R.
Telephone #:

Invoice To: ECS AGAWAM
P.O. No.: RQN: 0003

Project No.: J40076
Site Name: SANDRI
Location: 50 CHURCH ST. BERNARDSTON State: MA
Sampler(s): ROB H/ STEVE B.

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=_____ 10=_____ 11=_____

List preservative code below: 2 2 3 4 1

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=_____ 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: BTEX+MTBE by 8260B	TBA+ETBE+DIPE by 8260B	TPH 1664	TOTAL Fe 200.7	EDB/504
9678601	AS INFLUENT	6/24/09	8:30	G	GW	6	1		1	✓	✓	✓	✓	✓
02	GAC INFLUENT	6/24	8:40	G	GW	3				✓				
03	GAC MIDPT	6/24	8:45	G	GW	3				✓				
04	GAC EFFLUENT	6/24	8:50	G	GW	6	1		1	✓	✓	✓	✓	✓
05	TRIP	6/24	AM	G	DI	1				✓				

QA/QC Reporting Notes (continued):
- ☒ Provide MA DEP MCP CAM Report
- ☐ Provide CT DPH RCP Report

QA/QC Reporting Level
- ☒ Standard ☐ No QC
- ☐ Other _____

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

EDD Format _____
☐ E-mail to _____

Relinquished by:	Received by:	Date:	Time:
Steve Beaubien			
		6/24/09	17:30

Condition upon receipt: ☒ Iced ☐ Ambient ☐ °C 3.2

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Please Attach to Chain of Custody:

Appendix VI: Minimum Levels and Test Methods

PARAMETER - CAS No. -	Minimum Levels and Test Methods[1, 2, 3]				
	GC[4]	GCMS[5]	LC[6]	FAA[7]	Other
1. Total Suspended Solids (TSS)					**5 mg/l** **Method 160.2**
2. Total Residual Chlorine (TRC)					**20 ug/l** **Method 330.5**
3. Total Petroleum Hydrocarbons (TPH)					**5 mg/l** **Method 1664**
4. Cyanide (total) - 57125 -					**10 ug/l** **Method 335.4**
5. Benzene (B) - 71432 -	**0.5 ug/l** Method 602	**2** ug/l Method 624			Method 8260C[2]
6. Toluene (T) - 108883 -	**0.5 ug/l** Method 602	**2 ug/l** Method 624			Method 8260C[2]
7. Ethylbenzene (E) - 100414 -	**0.5 ug/l** Method 602	**2 ug/l** Method 624			Method 8260C[2]
8. (m,p,o) Xylenes (X) - 108383;106423; 95476-	**0.5 ug/l** Method 602	**10 ug/l** Method 1624			Method 8260C[2]
9. Total BTEX	**0.5 ug/l** Method 602	**2 ug/l** Method 624			Method 8260C[2]
10. Ethylene Dibromide (EDB) (1,2- Dibromoethane) - 106934 -	**1.0 ug/l** Method 618 **0.01 ug/l** Method 504.1	**0.1 ug/l** Methods 524.2			Method 8260C[2]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
11. Methyl-tert-Butyl Ether (MtBE)	**0.5 ug/l** Method 602[8]	**5.0 ug/l** **Method 524.2**			Method 8260C[2]
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol) - 75650 -	**0.5 ug/l** Method 602[8]	**100 ug/l** **Method 1666**			Method 8260C[2]
13. tert-Amyl Methyl Ether (TAME) -994058-	**0.5 ug/l** Method 602[8]				Method 8260C[2]
14. Naphthalene - 91203 -	**10 ug/l** Method 610 GC/FID	**2 ug/l** Method 625 **5.0 ug/l** **Method 524.2**	**0.2 ug/l** Method 610 HPLC		Method 8270D[3]
15. Carbon Tetrachloride - 56235 -	**0.5 ug/l** Method 601	**2 ug/l** Methods 624, 1624			Method 8260C[2]
16. 1,4 Dichlorobenzene (p-DCB) - 106467 -	**0.5 ug/l** Methods 601, 602	**2 ug/l** Methods 624, 625			Method 8260C[2]
17. 1,2 Dichlorobenzene (o-DCB) - 95501 -	**0.5 ug/l** Methods 601, 602	**2 ug/l** Methods 624, 625			Method 8260C[2]
18. 1,3 Dichlorobenzene (m-DCB) - 541731 -	**0.5 ug/l** Methods 601, 602	**2 ug/l** Methods 624, 625			Method 8260C[2]
19. 1,1 Dichloroethane (DCA) - 75343 -	**0.5 ug/l** Method 601	**1 ug/l** Method 624			Method 8260C[2]
20. 1,2 Dichloroethane (DCA)- 107062 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
21. 1,1 Dichloroethylene (DCE) - 75354 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
22. cis-1,2 Dichloro-ethylene (DCE) -156592-	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
23. Dichloromethane (Methylene Chloride)- 75092 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
24. Tetrachloroethylene (PCE) - 127184 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
25. 1,1,1 Trichloro-ethane (TCA) - 71556 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
26. 1,1,2 Trichloro-ethane (TCA) - 79005 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
27. Trichloroethylene (TCE) - 79016 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
28. Vinyl Chloride - 75014 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
29. Acetone - 67641 -	**1.0 ug/l** Method 524.2	**50 ug/l** Method 1624			Method 8260C[2]
30. 1,4 Dioxane -123911-		**50 ug/l** Method 1624			Method 8260C[2]
31. Total Phenols - 108952	**1.0 ug/l** **Method 624** Method 8260[2]	**1 ug/l** Methods 625, 1625			Method 8260C[2] Method 8270D[3]
32. Pentachlorophenol (PCP) - 87865 -	**1.0 ug/l** Method 604 GCFID	**5 ug/l** Methods 625, 1625			Method 8270D[3]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
33. Total Phthalates [9] (Phthalate esthers)		**5 ug/l** Method 625			Method 8270D[3]
34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate] - 117817 -	**10 ug/l** Method 606	**5 ug/l** Method 625			Method 8270D[3]
35. Total Group I Polynuclear Aromatic Hydrocarbons (PAH)					Method 8270D[3]
a. Benzo(a) Anthracene -56553-	**10 ug/l** Method 610 GC	**5 ug/l** Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
b. Benzo(a) Pyrene -50328 -		**10 ug/l** Method 625	**2 ug/l** Method 610 HPLC		Method 8270D[3]
c. Benzo(b)Fluoranthene - 205992 -		**10 ug/l** Method 625	**0.1 ug/l** Method 610 HPLC		Method 8270D[3]
d. Benzo(k)Fluoranthene - 207089 -		**10 ug/l** Method 625	**2 ug/l** Method 610 HPLC		Method 8270D[3]
e. Chrysene - 218019 -		**10 ug/l** Method 625	**5 ug/l** Method 610 HPLC		Method 8270D[3]
f. Dibenzo(a,h) anthracene		**10 ug/l** Method 625	**0.1 ug/l** Method 610 HPLC		Method 8270D[3]
g. Indeno(1,2,3-cd) Pyrene - 193395 -		**10 ug/l** Method 625	**0.15 ug/l** Method 610		Method 8270D[3]
36. Total Group II Polynuclear Aromatic Hydrocarbons (PAH)					Method 8270D[3]
h. Acenaphthene - 83329 -	**1 ug/l** Method 610 GC/FID	**1 ug/l** Method 625	**0.5 ug/l** Method 610 HPLC		Method 8270D[3]
i. Acenaphthylene - 208968 -		**10 ug/l** Method 625	**0.2 ug/l** Method 610 HPLC		Method 8270D[3]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
j. Anthracene - 120127 -		**10 ug/l** Method 625	**2 ug/l** Method 610 HPLC		Method 8270D[3]
k. Benzo(ghi) Perylene - 191242 -		**5 ug/l** Method 625	**0.1 ug/l** Method 610 HPLC		Method 8270D[3]
l. Fluoranthene - 206440 -	**10 ug/l** Method 610 GC/FID	**1 ug/l** Method 625	**0.5 ug/l** Method 610 HPLC		Method 8270D[3]
m. Fluorene - 86737 -		**10 ug/l** Method 625	**0.1 ug/l** Method 610 HPLC		Method 8270D[3]
n. Naphthalene - 91203 -	**10 ug/l** Method 610 GC/FID	**2 ug/l** Method 625 **5.0 ug/l** **Method 524.2**	**0.2 ug/l** Method 610 HPLC		Method 8270D[3]
o. Phenanthrene - 85018 -		**5 ug/l** Method 625	**0.05 ug/l** Method 610 HPLC		Method 8270D[3]
p. Pyrene - 129000 -		**10 ug/l** Method 625	**0.05 ug/l** Method 610 HPLC		Method 8270D[3]
37. Total Polychlorinated Biphenyls (PCBs)[10]	**0.5 ug/l** Method 608				**0.00005** ug/l Method 1668a[11]
Inorganic parameters:		Minimum Levels (ug/l) and Test Methods			
		Flame Atomic Absorption	Inductively Coupled Plasma	Furnace Atomic Absorption	Other
38. Antimony		200 ug/l	50 ug/l	5 ug/l	
39. Arsenic			5 ug/l	2 ug/l	
40. Cadmium		10 ug/l	5 ug/l	0.5 ug/l	

Inorganic parameters:	Minimum Levels (ug/l) and Test Methods			
	Flame Atomic Absorption	Inductively Coupled Plasma	Furnace Atomic Absorption	Other
41. Chromium (total)	Method 218.1	10 ug/l Methods 200.7[11], 200.8, 200.15, 1620	5 ug/l Method 200.9	50 ug/l
42. Chromium (hexavalent)				10 ug/l Method 218.6 Method 1636
43. Copper	20 ug/l	5 ug/l	3 ug/l	
44. Lead	100 ug/l	40 ug/l	3 ug/l	
45. Mercury				0.2 ug/l
46. Nickel	30 ug/l	10 ug/l	5 ug/l	
47. Selenium		50 ug/l	5 ug/l	
48. Silver	50 ug/l	10 ug/l	2 ug/l	
49. Zinc	30 ug/l	10 ug/l		
50. Iron		Methods 6010b 200.7[12]		

1. 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). Where a minimum level (ML) is listed but a test method is not specified, permittee may use any of the available methods approved for use under 40 CFR 136, including alternatives approved by this permit, that meets that ML. See EPA's "Methods and Guidance for the Analysis of Water" at www.epa.gov/water/owrccatalog.nsf. Where test method is specified but ML not listed for that method, the lowest ML for listed methods must be used before concentration can be considered as "non-detect."

2. For measuring volatile organic compounds, Method 8260C (or the latest version) may be used as a substitute for CWA Methods 524.2, 602, 624, or 1624. Method 8260C must be preceded by Method 5030 as the preparation method. However, any method changes must be accompanied by documented quality assurance quality control (QA/QC) test results to prove that the analytical process can achieve the lower detection limits of Method 8260C.

3. For measuring semi-volatile organic compounds, Method 8270D may be used as a substitute for Methods 610, 625, or 1625. Method 8270D must be preceded by Method 3535 or Method 3520C as the sample preparation method. In either case, the quality control requirements of Method 3500B must be taken into account. The sample preparation method must be specified with data analysis records. Method 8270D may be modified to provide lower detection and quantitation limits using Selected Ion Monitoring (SIM). Any method changes must be accompanied by documented quality assurance quality control (QA/QC) test results to prove that the analytical process can achieve the lower detection limits of Method 8270D.

4. GC - gas chromatography

5. GCMS - gas chromatography/mass spectrometry

6. LC - high pressure liquid chromatography

7. Flame Atomic Absorption

8. For measuring fuel oxygenates, Method 602 must be modified to include a heated purge.

9. The sum of individual phthalate compounds.

10. 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 Aroclor analyses"*.

11. Method 1668a (HRGC/HRMS) has been proposed by EPA and is currently being validated. When approval of the method is finalized, it will be approved for use with this general permit.

12. Methods 6010b and 200.7 for metals may only be used when sample prepared with SW-846 digestion method, Method 3010.

SA 96786 Ex

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 6/29/09
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: SHAWN R.
Project Mgr.: S. R.
Telephone #:

Invoice To: ECS AGAWAM
P.O. No.: RQN: 0003

Project No.: J40076
Site Name: SANDRI
Location: 50 CHURCH ST. BERNARDSTON State: MA
Sampler(s): ROB H/ STEVE B.

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=_____ 10=_____ 11=_____

List preservative code below: 2 2 3 4 1

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=_____ X2=_____ X3=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials*	# of Amber Glass	# of Clear Glass	# of Plastic	BTEX + MTBE by 8260B	TBA + Ethanol by 8260B	TPH 1664	TOTAL Fe (2+3)	EDB/504
96786-01	A.S INFLUENT	6/24/09	8:30	G	GW	6	1		1	✓	✓	✓	✓	✓
-02	GAC INFLUENT	6/24	8:40	G	GW	3				✓				
-03	GAC MIDDT	6/24	8:45	G	GW	3				✓				
-04	GAC EFFLUENT	6/24	8:50	G	GW	6	1		1	✓	✓	✓	✓	✓
-05	TRIP	6/24	AM	G	DI	1				✓				

☒ Provide MA DEP MCP CAM Report
☐ Provide CT DPH RCP Report

QA/QC Reporting Level
☒ Standard ☐ No QC
☐ Other

State specific reporting standards:

CAM
GW-1/GW-2/GW-3

EDD Format
☐ E-mail to

Relinquished by:	Received by:	Date:	Time:
Steve Brodeur		6/24/09	17:30

Condition upon receipt: ☒ Iced ☐ Ambient ☐ °C 3.2

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Report Date:
07-Aug-09 13:58

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
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HANIBAL TECHNOLOGY

Laboratory Report

Environmental Compliance Services
588 Silver Street
Agawam, MA 01001
Attn: Shawn Rising

Project: Sandri - Bernardston, MA
Project #: J40076

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA98604-01	A.S. Influent	Ground Water	28-Jul-09 12:00	31-Jul-09 12:37
SA98604-02	GAC Influent	Ground Water	28-Jul-09 12:05	31-Jul-09 12:37
SA98604-03	GAC MIDPT	Ground Water	28-Jul-09 12:07	31-Jul-09 12:37
SA98604-04	GAC Effluent	Ground Water	28-Jul-09 12:09	31-Jul-09 12:37
SA98604-05	Trip	Deionized Water	28-Jul-09 00:00	31-Jul-09 12:37

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
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

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 21 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is 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.

CASE NARRATIVE:

The sample temperature upon receipt by Spectrum Analytical courier was recorded as 4.9 degrees Celsius. The condition of these samples was further noted as received on ice. The samples were transported on ice to the laboratory facility and the temperature was recorded at 4.9 degrees Celsius upon receipt at the laboratory. Please refer to the Chain of Custody for details specific to sample receipt times.

An infrared thermometer with a tolerance of +/- 2.0 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.

According to WSC-CAM 5/2004 Rev.4, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended 70%-130% recovery range, a range has been set based on historical control limits.

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

SW846 8260B

Laboratory Control Samples:

9080235-BS1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

1,1,2-Trichlorotrifluoroethane (Freon 113)
Bromodichloromethane

9080235-BSD1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

1,1,2-Trichlorotrifluoroethane (Freon 113)
Bromodichloromethane

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.

1,1,1-Trichloroethane

Samples:

S907351-CCV1

Analyte percent drift/percent difference is greater than 30%, data is accepted due to all CCC analytes passing within the 20% Drift/Difference criteria

1,1,2-Trichlorotrifluoroethane (Freon 113)
Bromodichloromethane
Trichlorofluoromethane (Freon 11)

This affected the following samples:

A.S. Influent

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
A.S. Influent SA98604-01	J40076	Ground Water	28-Jul-09 12:00	31-Jul-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	54.3		µg/l	1.0	1	SW846 8260B	04-Aug-09	05-Aug-09	9080147	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	128	E	µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	52.4		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	85.3		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	492	E	µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	31.2		µg/l	10.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*99*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*101*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*99*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*97*		*70-130 %*			"	"	"	"	
Re-analysis of Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	39.0		µg/l	5.0	5	SW846 8260B	05-Aug-09	05-Aug-09	9080235	
100-41-4	Ethylbenzene	BRL		µg/l	5.0	5	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	105		µg/l	5.0	5	"	"	"	"	
108-88-3	Toluene	39.3		µg/l	5.0	5	"	"	"	"	
179601-23-1	m,p-Xylene	71.1		µg/l	10.0	5	"	"	"	"	
95-47-6	o-Xylene	379		µg/l	5.0	5	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	50.0	5	"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	03-Aug-09	05-Aug-09	9080037	
Total Metals by EPA 6000/7000 Series Methods											
7439-89-6	Iron	14.5		mg/l	0.0150	1	SW846 6010B	06-Aug-09	06-Aug-09	9080223	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Influent SA98604-02	J40076	Ground Water	28-Jul-09 12:05	31-Jul-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	04-Aug-09	05-Aug-09	9080147	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	11.8		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	1.7		µg/l	1.0	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*	*100*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*98*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC MIDPT SA98604-03	J40076	Ground Water	28-Jul-09 12:07	31-Jul-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	04-Aug-09	05-Aug-09	9080147	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	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*	*101*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Effluent SA98604-04	J40076	Ground Water	28-Jul-09 12:09	31-Jul-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	04-Aug-09	05-Aug-09	9080147	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	14.6		µg/l	10.0	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*	*101*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	03-Aug-09	05-Aug-09	9080037	
Total Metals by EPA 6000/7000 Series Methods											
7439-89-6	Iron	0.0564		mg/l	0.0150	1	SW846 6010B	06-Aug-09	06-Aug-09	9080223	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip SA98604-05	J40076	Deionized Water	28-Jul-09 00:00	31-Jul-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	04-Aug-09	05-Aug-09	9080147	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	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*	*101*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*		*70-130 %*			"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080147 - SW846 5030 Water MS										
Blank (9080147-BLK1)										
Prepared & Analyzed: 04-Aug-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	5.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080147 - SW846 5030 Water MS										
Blank (9080147-BLK1)										
Prepared & Analyzed: 04-Aug-09										
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	5.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	10.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*48.0*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*48.0*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.5*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.5*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*49.8*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*49.8*		µg/l		*50.0*		*100*	*70-130*		
LCS (9080147-BS1)										
Prepared & Analyzed: 04-Aug-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	26.0		µg/l		20.0		130	70-130		
Acetone	21.9		µg/l		20.0		109	52.2-144		
Acrylonitrile	20.6		µg/l		20.0		103	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080147 - SW846 5030 Water MS										
LCS (9080147-BS1)										
Prepared & Analyzed: 04-Aug-09										
Benzene	22.8		µg/l		20.0		114	70-130		
Benzene	22.8		µg/l		20.0		114	70-130		
Bromobenzene	21.7		µg/l		20.0		109	70-130		
Bromochloromethane	23.1		µg/l		20.0		116	70-130		
Bromodichloromethane	25.2		µg/l		20.0		126	70-130		
Bromoform	19.1		µg/l		20.0		96	70-130		
Bromomethane	19.3		µg/l		20.0		96	40-167		
2-Butanone (MEK)	24.1		µg/l		20.0		120	57.7-141		
n-Butylbenzene	23.6		µg/l		20.0		118	70-130		
sec-Butylbenzene	23.0		µg/l		20.0		115	70-130		
tert-Butylbenzene	22.9		µg/l		20.0		115	70-130		
Carbon disulfide	20.7		µg/l		20.0		103	70-130		
Carbon tetrachloride	20.0		µg/l		20.0		100	70-130		
Chlorobenzene	21.9		µg/l		20.0		109	70-130		
Chloroethane	20.8		µg/l		20.0		104	65.1-130		
Chloroform	22.7		µg/l		20.0		113	70-130		
Chloromethane	19.1		µg/l		20.0		96	70-130		
2-Chlorotoluene	22.6		µg/l		20.0		113	70-130		
4-Chlorotoluene	22.6		µg/l		20.0		113	70-130		
1,2-Dibromo-3-chloropropane	19.3		µg/l		20.0		96	70-130		
Dibromochloromethane	19.5		µg/l		20.0		98	55.6-155		
1,2-Dibromoethane (EDB)	23.4		µg/l		20.0		117	70-130		
Dibromomethane	23.0		µg/l		20.0		115	70-130		
1,2-Dichlorobenzene	22.8		µg/l		20.0		114	70-130		
1,3-Dichlorobenzene	22.3		µg/l		20.0		112	70-130		
1,4-Dichlorobenzene	21.8		µg/l		20.0		109	70-130		
Dichlorodifluoromethane (Freon12)	16.9		µg/l		20.0		85	45.8-135		
1,1-Dichloroethane	22.5		µg/l		20.0		113	70-130		
1,2-Dichloroethane	22.5		µg/l		20.0		112	70-130		
1,1-Dichloroethene	21.7		µg/l		20.0		108	70-130		
cis-1,2-Dichloroethene	24.2		µg/l		20.0		121	70-130		
trans-1,2-Dichloroethene	21.1		µg/l		20.0		105	70-130		
1,2-Dichloropropane	23.6		µg/l		20.0		118	70-130		
1,3-Dichloropropane	23.3		µg/l		20.0		116	70-130		
2,2-Dichloropropane	16.8		µg/l		20.0		84	70-130		
1,1-Dichloropropene	23.4		µg/l		20.0		117	70-130		
cis-1,3-Dichloropropene	23.1		µg/l		20.0		116	70-130		
trans-1,3-Dichloropropene	19.4		µg/l		20.0		97	70-130		
Ethylbenzene	22.2		µg/l		20.0		111	70-130		
Ethylbenzene	22.2		µg/l		20.0		111	70-130		
Hexachlorobutadiene	21.3		µg/l		20.0		107	63.3-141		
2-Hexanone (MBK)	22.1		µg/l		20.0		111	70-130		
Isopropylbenzene	18.8		µg/l		20.0		94	70-130		
4-Isopropyltoluene	23.6		µg/l		20.0		118	70-130		
Methyl tert-butyl ether	20.3		µg/l		20.0		102	70-130		
Methyl tert-butyl ether	20.3		µg/l		20.0		102	70-130		
4-Methyl-2-pentanone (MIBK)	22.1		µg/l		20.0		111	40-157		
Methylene chloride	21.0		µg/l		20.0		105	70-130		
Naphthalene	18.1		µg/l		20.0		90	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080147 - SW846 5030 Water MS										
LCS (9080147-BS1)										
Prepared & Analyzed: 04-Aug-09										
n-Propylbenzene	22.1		µg/l		20.0		110	70-130		
Styrene	23.0		µg/l		20.0		115	70-130		
1,1,1,2-Tetrachloroethane	23.9		µg/l		20.0		119	70-130		
1,1,2,2-Tetrachloroethane	23.0		µg/l		20.0		115	70-130		
Tetrachloroethene	22.1		µg/l		20.0		110	70-130		
Toluene	22.2		µg/l		20.0		111	70-130		
Toluene	22.2		µg/l		20.0		111	70-130		
1,2,3-Trichlorobenzene	20.0		µg/l		20.0		100	70-130		
1,2,4-Trichlorobenzene	19.2		µg/l		20.0		96	70-130		
1,3,5-Trichlorobenzene	22.0		µg/l		20.0		110	70-130		
1,1,1-Trichloroethane	22.8		µg/l		20.0		114	70-130		
1,1,2-Trichloroethane	24.4		µg/l		20.0		122	70-130		
Trichloroethene	23.2		µg/l		20.0		116	70-130		
Trichlorofluoromethane (Freon 11)	22.7		µg/l		20.0		113	61.9-167		
1,2,3-Trichloropropane	25.0		µg/l		20.0		125	70-130		
1,2,4-Trimethylbenzene	22.8		µg/l		20.0		114	70-130		
1,3,5-Trimethylbenzene	22.6		µg/l		20.0		113	70-130		
Vinyl chloride	21.7		µg/l		20.0		108	70-130		
m,p-Xylene	44.9		µg/l		40.0		112	70-130		
m,p-Xylene	44.9		µg/l		40.0		112	70-130		
o-Xylene	23.1		µg/l		20.0		115	70-130		
o-Xylene	23.1		µg/l		20.0		115	70-130		
Tetrahydrofuran	24.1		µg/l		20.0		120	70-130		
Ethyl ether	21.6		µg/l		20.0		108	70-133		
Tert-amyl methyl ether	22.0		µg/l		20.0		110	70-130		
Ethyl tert-butyl ether	22.5		µg/l		20.0		113	70-130		
Di-isopropyl ether	22.5		µg/l		20.0		112	70-130		
Tert-Butanol / butyl alcohol	220		µg/l		200		110	70-130		
1,4-Dioxane	268		µg/l		200		134	50.6-156		
trans-1,4-Dichloro-2-butene	16.4		µg/l		20.0		82	70-130		
Ethanol	497		µg/l		400		124	70-130		
Surrogate: 4-Bromofluorobenzene	*49.5*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*49.5*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*50.2*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*50.2*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*50.0*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*50.0*		µg/l		*50.0*		*100*	*70-130*		
LCS Dup (9080147-BSD1)										
Prepared: 04-Aug-09 Analyzed: 05-Aug-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	25.4		µg/l		20.0		127	70-130	2	25
Acetone	21.4		µg/l		20.0		107	52.2-144	2	50
Acrylonitrile	21.3		µg/l		20.0		107	70-130	3	25
Benzene	22.6		µg/l		20.0		113	70-130	1	25
Benzene	22.6		µg/l		20.0		113	70-130	1	25
Bromobenzene	21.4		µg/l		20.0		107	70-130	1	25
Bromochloromethane	22.9		µg/l		20.0		115	70-130	0.9	25
Bromodichloromethane	25.2		µg/l		20.0		126	70-130	0.4	25
Bromoform	19.2		µg/l		20.0		96	70-130	0.6	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080147 - SW846 5030 Water MS										
LCS Dup (9080147-BSD1)										
Prepared: 04-Aug-09 Analyzed: 05-Aug-09										
Bromomethane	18.9		µg/l		20.0		95	40-167	2	50
2-Butanone (MEK)	24.9		µg/l		20.0		124	57.7-141	3	50
n-Butylbenzene	22.8		µg/l		20.0		114	70-130	4	25
sec-Butylbenzene	22.6		µg/l		20.0		113	70-130	2	25
tert-Butylbenzene	22.4		µg/l		20.0		112	70-130	2	25
Carbon disulfide	20.1		µg/l		20.0		101	70-130	3	25
Carbon tetrachloride	19.8		µg/l		20.0		99	70-130	2	25
Chlorobenzene	21.5		µg/l		20.0		108	70-130	2	25
Chloroethane	20.5		µg/l		20.0		102	65.1-130	1	50
Chloroform	22.3		µg/l		20.0		111	70-130	2	25
Chloromethane	18.8		µg/l		20.0		94	70-130	2	25
2-Chlorotoluene	22.2		µg/l		20.0		111	70-130	2	25
4-Chlorotoluene	22.2		µg/l		20.0		111	70-130	2	25
1,2-Dibromo-3-chloropropane	19.8		µg/l		20.0		99	70-130	3	25
Dibromochloromethane	19.5		µg/l		20.0		97	55.6-155	0.3	50
1,2-Dibromoethane (EDB)	23.5		µg/l		20.0		118	70-130	0.3	25
Dibromomethane	22.8		µg/l		20.0		114	70-130	0.6	25
1,2-Dichlorobenzene	22.6		µg/l		20.0		113	70-130	1	25
1,3-Dichlorobenzene	22.0		µg/l		20.0		110	70-130	1	25
1,4-Dichlorobenzene	21.3		µg/l		20.0		107	70-130	2	25
Dichlorodifluoromethane (Freon12)	16.6		µg/l		20.0		83	45.8-135	2	50
1,1-Dichloroethane	22.1		µg/l		20.0		111	70-130	2	25
1,2-Dichloroethane	22.2		µg/l		20.0		111	70-130	1	25
1,1-Dichloroethene	21.4		µg/l		20.0		107	70-130	2	25
cis-1,2-Dichloroethene	23.6		µg/l		20.0		118	70-130	2	25
trans-1,2-Dichloroethene	20.7		µg/l		20.0		104	70-130	2	25
1,2-Dichloropropane	23.4		µg/l		20.0		117	70-130	0.7	25
1,3-Dichloropropane	23.2		µg/l		20.0		116	70-130	0.6	25
2,2-Dichloropropane	16.1		µg/l		20.0		81	70-130	4	25
1,1-Dichloropropene	22.8		µg/l		20.0		114	70-130	3	25
cis-1,3-Dichloropropene	22.9		µg/l		20.0		115	70-130	0.9	25
trans-1,3-Dichloropropene	19.4		µg/l		20.0		97	70-130	0	25
Ethylbenzene	21.8		µg/l		20.0		109	70-130	2	25
Ethylbenzene	21.8		µg/l		20.0		109	70-130	2	25
Hexachlorobutadiene	19.8		µg/l		20.0		99	63.3-141	7	50
2-Hexanone (MBK)	22.8		µg/l		20.0		114	70-130	3	25
Isopropylbenzene	18.5		µg/l		20.0		92	70-130	2	25
4-Isopropyltoluene	23.0		µg/l		20.0		115	70-130	3	25
Methyl tert-butyl ether	20.3		µg/l		20.0		101	70-130	0.1	25
Methyl tert-butyl ether	20.3		µg/l		20.0		101	70-130	0.1	25
4-Methyl-2-pentanone (MIBK)	22.8		µg/l		20.0		114	40-157	3	50
Methylene chloride	20.8		µg/l		20.0		104	70-130	1	25
Naphthalene	18.2		µg/l		20.0		91	70-130	0.8	25
n-Propylbenzene	21.7		µg/l		20.0		109	70-130	2	25
Styrene	22.7		µg/l		20.0		113	70-130	1	25
1,1,1,2-Tetrachloroethane	23.7		µg/l		20.0		119	70-130	0.7	25
1,1,2,2-Tetrachloroethane	23.4		µg/l		20.0		117	70-130	2	25
Tetrachloroethene	21.8		µg/l		20.0		109	70-130	1	25
Toluene	21.9		µg/l		20.0		110	70-130	2	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080147 - SW846 5030 Water MS										
LCS Dup (9080147-BSD1)										
Prepared: 04-Aug-09 Analyzed: 05-Aug-09										
Toluene	21.9		µg/l		20.0		110	70-130	2	25
1,2,3-Trichlorobenzene	19.9		µg/l		20.0		100	70-130	0.4	25
1,2,4-Trichlorobenzene	18.8		µg/l		20.0		94	70-130	2	25
1,3,5-Trichlorobenzene	21.4		µg/l		20.0		107	70-130	2	25
1,1,1-Trichloroethane	22.4		µg/l		20.0		112	70-130	2	25
1,1,2-Trichloroethane	24.4		µg/l		20.0		122	70-130	0	25
Trichloroethene	22.7		µg/l		20.0		113	70-130	3	25
Trichlorofluoromethane (Freon 11)	22.0		µg/l		20.0		110	61.9-167	3	50
1,2,3-Trichloropropane	25.2		µg/l		20.0		126	70-130	0.8	25
1,2,4-Trimethylbenzene	22.4		µg/l		20.0		112	70-130	2	25
1,3,5-Trimethylbenzene	22.2		µg/l		20.0		111	70-130	2	25
m,p-Xylene	44.3		µg/l		40.0		111	70-130	1	25
Vinyl chloride	21.4		µg/l		20.0		107	70-130	1	25
m,p-Xylene	44.3		µg/l		40.0		111	70-130	1	25
o-Xylene	22.8		µg/l		20.0		114	70-130	1	25
o-Xylene	22.8		µg/l		20.0		114	70-130	1	25
Tetrahydrofuran	24.0		µg/l		20.0		120	70-130	0.4	25
Ethyl ether	21.1		µg/l		20.0		106	70-133	2	50
Tert-amyl methyl ether	22.1		µg/l		20.0		110	70-130	0.2	25
Ethyl tert-butyl ether	22.4		µg/l		20.0		112	70-130	0.4	25
Di-isopropyl ether	22.2		µg/l		20.0		111	70-130	1	25
Tert-Butanol / butyl alcohol	222		µg/l		200		111	70-130	0.6	25
1,4-Dioxane	272		µg/l		200		136	50.6-156	2	25
trans-1,4-Dichloro-2-butene	16.5		µg/l		20.0		82	70-130	0.6	25
Ethanol	476		µg/l		400		119	70-130	4	30
Surrogate: 4-Bromofluorobenzene	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*50.4*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*50.4*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.2*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.2*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Matrix Spike (9080147-MS1) **Source: SA98604-04**										
Prepared: 04-Aug-09 Analyzed: 05-Aug-09										
Benzene	18.3		µg/l		20.0	BRL	92	70-130		
Benzene	18.3		µg/l		20.0	BRL	92	70-130		
Chlorobenzene	18.5		µg/l		20.0	BRL	92	70-130		
1,1-Dichloroethene	16.1		µg/l		20.0	BRL	81	70-130		
Toluene	18.1		µg/l		20.0	BRL	90	70-130		
Toluene	18.1		µg/l		20.0	BRL	90	70-130		
Trichloroethene	18.5		µg/l		20.0	BRL	93	70-130		
Chlorobenzene	18.5		µg/l		20.0	BRL	92	70-130		
1,1-Dichloroethene	16.1		µg/l		20.0	BRL	81	70-130		
Trichloroethene	18.5		µg/l		20.0	BRL	93	70-130		
Surrogate: 4-Bromofluorobenzene	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.4*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.4*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*49.7*		µg/l		*50.0*		*99*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080147 - SW846 5030 Water MS										
Matrix Spike (9080147-MS1) **Source: SA98604-04**										
Prepared: 04-Aug-09 Analyzed: 05-Aug-09										
Surrogate: Dibromofluoromethane	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Matrix Spike Dup (9080147-MSD1) **Source: SA98604-04**										
Prepared: 04-Aug-09 Analyzed: 05-Aug-09										
Benzene	19.0		µg/l		20.0	BRL	95	70-130	4	30
Benzene	19.0		µg/l		20.0	BRL	95	70-130	4	30
Chlorobenzene	19.2		µg/l		20.0	BRL	96	70-130	4	30
1,1-Dichloroethene	17.2		µg/l		20.0	BRL	86	70-130	7	30
Toluene	18.8		µg/l		20.0	BRL	94	70-130	4	30
Toluene	18.8		µg/l		20.0	BRL	94	70-130	4	30
Trichloroethene	19.2		µg/l		20.0	BRL	96	70-130	3	30
Chlorobenzene	19.2		µg/l		20.0	BRL	96	70-130	4	30
1,1-Dichloroethene	17.2		µg/l		20.0	BRL	86	70-130	7	30
Trichloroethene	19.2		µg/l		20.0	BRL	96	70-130	3	30
Surrogate: 4-Bromofluorobenzene	*49.8*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*49.8*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.5*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.5*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*49.8*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*49.8*		µg/l		*50.0*		*100*	*70-130*		
Batch 9080235 - SW846 5030 Water MS										
Blank (9080235-BLK1)										
Prepared & Analyzed: 05-Aug-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	5.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080235 - SW846 5030 Water MS										
Blank (9080235-BLK1)										
Prepared & Analyzed: 05-Aug-09										
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	5.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	10.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080235 - SW846 5030 Water MS										
Blank (9080235-BLK1)										
Prepared & Analyzed: 05-Aug-09										
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*31.8*		µg/l		*30.0*		*106*	*70-130*		
Surrogate: Toluene-d8	*30.4*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*36.2*		µg/l		*30.0*		*120*	*70-130*		
Surrogate: Dibromofluoromethane	*35.3*		µg/l		*30.0*		*118*	*70-130*		
LCS (9080235-BS1)										
Prepared & Analyzed: 05-Aug-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	26.6	QC2	µg/l		20.0		133	70-130		
Acetone	18.9		µg/l		20.0		95	52.2-144		
Acrylonitrile	17.8		µg/l		20.0		89	70-130		
Benzene	16.9		µg/l		20.0		84	70-130		
Bromobenzene	21.6		µg/l		20.0		108	70-130		
Bromochloromethane	22.2		µg/l		20.0		111	70-130		
Bromodichloromethane	27.2	QC2	µg/l		20.0		136	70-130		
Bromoform	23.6		µg/l		20.0		118	70-130		
Bromomethane	18.3		µg/l		20.0		92	40-167		
2-Butanone (MEK)	18.1		µg/l		20.0		91	57.7-141		
n-Butylbenzene	17.6		µg/l		20.0		88	70-130		
sec-Butylbenzene	19.3		µg/l		20.0		96	70-130		
tert-Butylbenzene	21.7		µg/l		20.0		108	70-130		
Carbon disulfide	16.6		µg/l		20.0		83	70-130		
Carbon tetrachloride	24.6		µg/l		20.0		123	70-130		
Chlorobenzene	18.6		µg/l		20.0		93	70-130		
Chloroethane	16.4		µg/l		20.0		82	65.1-130		
Chloroform	22.3		µg/l		20.0		111	70-130		
Chloromethane	14.6		µg/l		20.0		73	70-130		
2-Chlorotoluene	19.5		µg/l		20.0		98	70-130		
4-Chlorotoluene	19.6		µg/l		20.0		98	70-130		
1,2-Dibromo-3-chloropropane	23.1		µg/l		20.0		115	70-130		
Dibromochloromethane	23.4		µg/l		20.0		117	55.6-155		
1,2-Dibromoethane (EDB)	22.1		µg/l		20.0		111	70-130		
Dibromomethane	19.7		µg/l		20.0		98	70-130		
1,2-Dichlorobenzene	19.1		µg/l		20.0		95	70-130		
1,3-Dichlorobenzene	20.3		µg/l		20.0		101	70-130		
1,4-Dichlorobenzene	19.1		µg/l		20.0		95	70-130		
Dichlorodifluoromethane (Freon12)	20.4		µg/l		20.0		102	45.8-135		
1,1-Dichloroethane	18.9		µg/l		20.0		94	70-130		
1,2-Dichloroethane	21.9		µg/l		20.0		109	70-130		
1,1-Dichloroethene	21.3		µg/l		20.0		106	70-130		
cis-1,2-Dichloroethene	21.6		µg/l		20.0		108	70-130		
trans-1,2-Dichloroethene	19.0		µg/l		20.0		95	70-130		
1,2-Dichloropropane	16.4		µg/l		20.0		82	70-130		
1,3-Dichloropropane	19.1		µg/l		20.0		96	70-130		
2,2-Dichloropropane	22.7		µg/l		20.0		114	70-130		
1,1-Dichloropropene	20.8		µg/l		20.0		104	70-130		
cis-1,3-Dichloropropene	19.5		µg/l		20.0		97	70-130		
trans-1,3-Dichloropropene	21.1		µg/l		20.0		105	70-130		
Ethylbenzene	18.3		µg/l		20.0		92	70-130		
Hexachlorobutadiene	22.4		µg/l		20.0		112	63.3-141		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080235 - SW846 5030 Water MS										
LCS (9080235-BS1)										
Prepared & Analyzed: 05-Aug-09										
2-Hexanone (MBK)	16.7		µg/l		20.0		84	70-130		
Isopropylbenzene	17.3		µg/l		20.0		86	70-130		
4-Isopropyltoluene	19.6		µg/l		20.0		98	70-130		
Methyl tert-butyl ether	20.5		µg/l		20.0		102	70-130		
4-Methyl-2-pentanone (MIBK)	22.4		µg/l		20.0		112	40-157		
Methylene chloride	18.6		µg/l		20.0		93	70-130		
Naphthalene	18.4		µg/l		20.0		92	70-130		
n-Propylbenzene	18.0		µg/l		20.0		90	70-130		
Styrene	18.9		µg/l		20.0		94	70-130		
1,1,1,2-Tetrachloroethane	22.5		µg/l		20.0		112	70-130		
1,1,2,2-Tetrachloroethane	16.5		µg/l		20.0		82	70-130		
Tetrachloroethene	23.8		µg/l		20.0		119	70-130		
Toluene	18.0		µg/l		20.0		90	70-130		
1,2,3-Trichlorobenzene	20.9		µg/l		20.0		104	70-130		
1,2,4-Trichlorobenzene	20.3		µg/l		20.0		102	70-130		
1,3,5-Trichlorobenzene	19.5		µg/l		20.0		97	70-130		
1,1,1-Trichloroethane	24.6		µg/l		20.0		123	70-130		
1,1,2-Trichloroethane	18.8		µg/l		20.0		94	70-130		
Trichloroethene	20.1		µg/l		20.0		101	70-130		
Trichlorofluoromethane (Freon 11)	26.4		µg/l		20.0		132	61.9-167		
1,2,3-Trichloropropane	19.7		µg/l		20.0		99	70-130		
1,2,4-Trimethylbenzene	20.9		µg/l		20.0		105	70-130		
1,3,5-Trimethylbenzene	20.8		µg/l		20.0		104	70-130		
Vinyl chloride	23.8		µg/l		20.0		119	70-130		
m,p-Xylene	36.8		µg/l		40.0		92	70-130		
o-Xylene	18.7		µg/l		20.0		93	70-130		
Tetrahydrofuran	19.2		µg/l		20.0		96	70-130		
Ethyl ether	19.4		µg/l		20.0		97	70-133		
Tert-amyl methyl ether	19.9		µg/l		20.0		100	70-130		
Ethyl tert-butyl ether	19.0		µg/l		20.0		95	70-130		
Di-isopropyl ether	16.4		µg/l		20.0		82	70-130		
Tert-Butanol / butyl alcohol	209		µg/l		200		105	70-130		
1,4-Dioxane	204		µg/l		200		102	50.6-156		
trans-1,4-Dichloro-2-butene	19.8		µg/l		20.0		99	70-130		
Ethanol	360		µg/l		400		90	70-130		
Surrogate: 4-Bromofluorobenzene	*32.1*		µg/l		*30.0*		*107*	*70-130*		
Surrogate: Toluene-d8	*30.6*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*35.9*		µg/l		*30.0*		*120*	*70-130*		
Surrogate: Dibromofluoromethane	*35.8*		µg/l		*30.0*		*119*	*70-130*		
LCS Dup (9080235-BSD1)										
Prepared & Analyzed: 05-Aug-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	28.7	QC2	µg/l		20.0		144	70-130	7	25
Acetone	17.6		µg/l		20.0		88	52.2-144	7	50
Acrylonitrile	17.0		µg/l		20.0		85	70-130	4	25
Benzene	18.0		µg/l		20.0		90	70-130	6	25
Bromobenzene	21.6		µg/l		20.0		108	70-130	0.1	25
Bromochloromethane	23.0		µg/l		20.0		115	70-130	4	25
Bromodichloromethane	27.3	QC2	µg/l		20.0		136	70-130	0.5	25
Bromoform	23.1		µg/l		20.0		115	70-130	2	25
Bromomethane	19.0		µg/l		20.0		95	40-167	3	50

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080235 - SW846 5030 Water MS										
LCS Dup (9080235-BSD1)										
Prepared & Analyzed: 05-Aug-09										
2-Butanone (MEK)	18.5		µg/l		20.0		93	57.7-141	2	50
n-Butylbenzene	17.8		µg/l		20.0		89	70-130	1	25
sec-Butylbenzene	20.5		µg/l		20.0		102	70-130	6	25
tert-Butylbenzene	21.9		µg/l		20.0		109	70-130	0.9	25
Carbon disulfide	17.7		µg/l		20.0		88	70-130	6	25
Carbon tetrachloride	25.7		µg/l		20.0		128	70-130	4	25
Chlorobenzene	19.2		µg/l		20.0		96	70-130	3	25
Chloroethane	17.4		µg/l		20.0		87	65.1-130	6	50
Chloroform	23.2		µg/l		20.0		116	70-130	4	25
Chloromethane	15.5		µg/l		20.0		78	70-130	6	25
2-Chlorotoluene	20.0		µg/l		20.0		100	70-130	3	25
4-Chlorotoluene	20.2		µg/l		20.0		101	70-130	3	25
1,2-Dibromo-3-chloropropane	21.1		µg/l		20.0		106	70-130	9	25
Dibromochloromethane	23.3		µg/l		20.0		117	55.6-155	0.6	50
1,2-Dibromoethane (EDB)	22.7		µg/l		20.0		114	70-130	3	25
Dibromomethane	20.1		µg/l		20.0		100	70-130	2	25
1,2-Dichlorobenzene	19.4		µg/l		20.0		97	70-130	2	25
1,3-Dichlorobenzene	21.7		µg/l		20.0		108	70-130	7	25
1,4-Dichlorobenzene	19.2		µg/l		20.0		96	70-130	0.6	25
Dichlorodifluoromethane (Freon12)	21.8		µg/l		20.0		109	45.8-135	7	50
1,1-Dichloroethane	19.4		µg/l		20.0		97	70-130	3	25
1,2-Dichloroethane	23.0		µg/l		20.0		115	70-130	5	25
1,1-Dichloroethene	23.3		µg/l		20.0		116	70-130	9	25
cis-1,2-Dichloroethene	21.9		µg/l		20.0		109	70-130	1	25
trans-1,2-Dichloroethene	20.0		µg/l		20.0		100	70-130	5	25
1,2-Dichloropropane	17.1		µg/l		20.0		85	70-130	4	25
1,3-Dichloropropane	19.4		µg/l		20.0		97	70-130	1	25
2,2-Dichloropropane	24.2		µg/l		20.0		121	70-130	7	25
1,1-Dichloropropene	21.8		µg/l		20.0		109	70-130	5	25
cis-1,3-Dichloropropene	19.9		µg/l		20.0		100	70-130	2	25
trans-1,3-Dichloropropene	21.3		µg/l		20.0		106	70-130	0.9	25
Ethylbenzene	18.7		µg/l		20.0		93	70-130	2	25
Hexachlorobutadiene	23.1		µg/l		20.0		116	63.3-141	3	50
2-Hexanone (MBK)	17.0		µg/l		20.0		85	70-130	2	25
Isopropylbenzene	17.4		µg/l		20.0		87	70-130	0.9	25
4-Isopropyltoluene	20.1		µg/l		20.0		100	70-130	2	25
Methyl tert-butyl ether	20.7		µg/l		20.0		104	70-130	1	25
4-Methyl-2-pentanone (MIBK)	21.2		µg/l		20.0		106	40-157	6	50
Methylene chloride	18.7		µg/l		20.0		94	70-130	0.5	25
Naphthalene	18.7		µg/l		20.0		94	70-130	2	25
n-Propylbenzene	18.7		µg/l		20.0		94	70-130	4	25
Styrene	19.6		µg/l		20.0		98	70-130	4	25
1,1,1,2-Tetrachloroethane	23.1		µg/l		20.0		115	70-130	3	25
1,1,2,2-Tetrachloroethane	16.8		µg/l		20.0		84	70-130	2	25
Tetrachloroethene	24.5		µg/l		20.0		123	70-130	3	25
Toluene	18.7		µg/l		20.0		94	70-130	4	25
1,2,3-Trichlorobenzene	22.4		µg/l		20.0		112	70-130	7	25
1,2,4-Trichlorobenzene	21.3		µg/l		20.0		107	70-130	5	25
1,3,5-Trichlorobenzene	20.0		µg/l		20.0		100	70-130	2	25

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080235 - SW846 5030 Water MS										
LCS Dup (9080235-BSD1)										
Prepared & Analyzed: 05-Aug-09										
1,1,1-Trichloroethane	26.2	QM9	µg/l		20.0		131	70-130	6	25
1,1,2-Trichloroethane	19.2		µg/l		20.0		96	70-130	2	25
Trichloroethene	19.9		µg/l		20.0		100	70-130	1	25
Trichlorofluoromethane (Freon 11)	28.1		µg/l		20.0		140	61.9-167	6	50
1,2,3-Trichloropropane	19.5		µg/l		20.0		97	70-130	1	25
1,2,4-Trimethylbenzene	21.1		µg/l		20.0		105	70-130	0.6	25
1,3,5-Trimethylbenzene	21.3		µg/l		20.0		106	70-130	2	25
Vinyl chloride	25.8		µg/l		20.0		129	70-130	8	25
m,p-Xylene	38.1		µg/l		40.0		95	70-130	3	25
o-Xylene	19.7		µg/l		20.0		99	70-130	6	25
Tetrahydrofuran	19.5		µg/l		20.0		98	70-130	2	25
Ethyl ether	20.3		µg/l		20.0		102	70-133	5	50
Tert-amyl methyl ether	20.0		µg/l		20.0		100	70-130	0.5	25
Ethyl tert-butyl ether	19.4		µg/l		20.0		97	70-130	2	25
Di-isopropyl ether	17.0		µg/l		20.0		85	70-130	3	25
Tert-Butanol / butyl alcohol	215		µg/l		200		107	70-130	3	25
1,4-Dioxane	205		µg/l		200		102	50.6-156	0.2	25
trans-1,4-Dichloro-2-butene	19.1		µg/l		20.0		96	70-130	3	25
Ethanol	333		µg/l		400		83	70-130	8	30
Surrogate: 4-Bromofluorobenzene	*30.7*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*31.0*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*35.5*		µg/l		*30.0*		*118*	*70-130*		
Surrogate: Dibromofluoromethane	*36.6*		µg/l		*30.0*		*122*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080037 - SW846 3510C										
Blank (9080037-BLK1)										
Prepared: 03-Aug-09 Analyzed: 05-Aug-09										
Non-polar material (SGT-HEM)	BRL		mg/l	1.0						
LCS (9080037-BS1)										
Prepared: 03-Aug-09 Analyzed: 05-Aug-09										
Non-polar material (SGT-HEM)	26.7		mg/l		32.4		82	71.6-85.2		

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

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9080223 - SW846 3005A										
Blank (9080223-BLK1)										
Prepared: 06-Aug-09 Analyzed: 07-Aug-09										
Iron	BRL		mg/l	0.0150						
LCS (9080223-BS1)										
Prepared & Analyzed: 06-Aug-09										
Iron	1.38		mg/l	0.0150				85-115		
LCS Dup (9080223-BSD1)										
Prepared & Analyzed: 06-Aug-09										
Iron	1.39		mg/l	0.0150				85-115	0.5	20

Notes and Definitions

CAL2	Analyte percent drift/percent difference is greater than 30%, data is accepted due to all CCC analytes passing within the 20% Drift/Difference criteria
E	The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
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.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

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 *TPH (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.

Validated by:
Hanibal C. Tayeh, Ph.D.
Kim Wisk

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: Spectrum Analytical, Inc. - Agawam, MA	Project #: J40076
Project Location: Sandri - Bernardston, MA	MADEP RTN [1]:

This form provides certifications for the following data set:
SA98604-01 through SA98604-05

Sample matrices:	Deionized Water Ground Water				
MCP SW-846 Methods Used	☑ 8260B	☐ 8151A	☐ 8330	☑ 6010B	☐ 7470A/1A
	☐ 8270C	☐ 8081A	☐ VPH	☐ 6020	☐ 9014M [2]
	☐ 8082	☐ 8021B	☐ EPH	☐ 7000S [3]	☐ 7196A

1 List Release Tracking Number (RTN), if known
2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S - SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain of Custody documentation for the data set?	☑ Yes	☐ No
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	☑ Yes	☐ No
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
D	***VPH and EPH methods only***: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective methods)?	☐ Yes	☐ No

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all analytical QC performance standards and recommendations for the specified methods achieved?	☑ Yes	☐ No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	☐ 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.

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Date: 8/7/2009

SA98604: EM

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: 5 DAYS
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: SHAWN R.

Invoice To: ECS-AGAWAM

Project No.: J40076

Site Name: SANDRI

Location: BERNARDSTON State: MA.

Project Mgr.: S.R.

Telephone #:

P.O. No.: RQN: 0003

Sampler(s): ROB H

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= 10= 11=

List preservative code below: 2 2 3 4

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= 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: BTEX + MTBE by 8260B	TBA by 8260B	TPH 1664	TOTAL FE 6010B
98604 01	A.S/INFLUENT	7/28/09	12:00	G	GW	3	1		1	✓	✓	✓	✓
02	GAC INFLUENT	7/28	12:05	G	GW	3				✓			
03	GAC MIDPT	7/28	12:07	G	GW	3				✓		✓	
04	GAC EFFLUENT	7/28	12:09	G	GW	3	1		1	✓	✓	✓	✓
05	TRIP	7/28	AM	G	DI	1				✓			

☒ Provide MA DEP MCP CAM Report
☐ Provide CT DPH RCP Report

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

State specific reporting standards:

CAM

GW1, GW-2, GW-3

SEE ATTACHED DETECTION LIMITS.

EDD Format

☐ E-mail to

Relinquished by:	Received by:	Date:	Time:
Rob Haynes		7/31/09	1237

Condition upon receipt: ☒ Iced ☐ Ambient ☐ °C 4.9

Please Attach to Chain of Custody:

Appendix VI: Minimum Levels and Test Methods

PARAMETER - CAS No. -	Minimum Levels and Test Methods[1, 2, 3]				
	GC[4]	GCMS[5]	LC[6]	FAA[7]	Other
1. Total Suspended Solids (TSS)					**5 mg/l** **Method 160.2**
2. Total Residual Chlorine (TRC)					**20 ug/l** **Method 330.5**
3. Total Petroleum Hydrocarbons (TPH)					**5 mg/l** **Method 1664**
4. Cyanide (total) - 57125 -					**10 ug/l** **Method 335.4**
5. Benzene (B) - 71432 -	**0.5 ug/l** Method 602	**2** ug/l Method 624			Method 8260C[2]
6. Toluene (T) - 108883 -	**0.5 ug/l** Method 602	**2 ug/l** Method 624			Method 8260C[2]
7. Ethylbenzene (E) - 100414 -	**0.5 ug/l** Method 602	**2 ug/l** Method 624			Method 8260C[2]
8. (m,p,o) Xylenes (X) - 108383;106423; 95476-	**0.5 ug/l** Method 602	**10 ug/l** Method 1624			Method 8260C[2]
9. Total BTEX	**0.5 ug/l** Method 602	**2 ug/l** Method 624			Method 8260C[2]
10. Ethylene Dibromide (EDB) (1,2- Dibromoethane) - 106934 -	**1.0 ug/l** Method 618 **0.01 ug/l** Method 504.1	**0.1 ug/l** Methods 524.2			Method 8260C[2]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
11. Methyl-tert-Butyl Ether (MtBE)	**0.5 ug/l** Method 602[8]	**5.0 ug/l** **Method 524.2**			Method 8260C[2]
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol) - 75650 -	**0.5 ug/l** Method 602[8]	**100 ug/l** **Method 1666**			Method 8260C[2]
13. tert-Amyl Methyl Ether (TAME) -994058-	**0.5 ug/l** Method 602[8]				Method 8260C[2]
14. Naphthalene - 91203 -	**10 ug/l** Method 610 GC/FID	**2 ug/l** Method 625 **5.0 ug/l** **Method 524.2**	**0.2 ug/l** Method 610 HPLC		Method 8270D[3]
15. Carbon Tetrachloride - 56235 -	**0.5 ug/l** Method 601	**2 ug/l** Methods 624, 1624			Method 8260C[2]
16. 1,4 Dichlorobenzene (p-DCB) - 106467 -	**0.5 ug/l** Methods 601, 602	**2 ug/l** Methods 624, 625			Method 8260C[2]
17. 1,2 Dichlorobenzene (o-DCB) - 95501 -	**0.5 ug/l** Methods 601, 602	**2 ug/l** Methods 624, 625			Method 8260C[2]
18. 1,3 Dichlorobenzene (m-DCB) - 541731 -	**0.5 ug/l** Methods 601, 602	**2 ug/l** Methods 624, 625			Method 8260C[2]
19. 1,1 Dichloroethane (DCA) - 75343 -	**0.5 ug/l** Method 601	**1 ug/l** Method 624			Method 8260C[2]
20. 1,2 Dichloroethane (DCA)- 107062 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
21. 1,1 Dichloroethylene (DCE) - 75354 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
22. cis-1,2 Dichloro-ethylene (DCE) -156592-	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
23. Dichloromethane (Methylene Chloride)- 75092 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
24. Tetrachloroethylene (PCE) - 127184 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
25. 1,1,1 Trichloro-ethane (TCA) - 71556 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
26. 1,1,2 Trichloro-ethane (TCA) - 79005 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
27. Trichloroethylene (TCE) - 79016 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
28. Vinyl Chloride - 75014 -	**0.5 ug/l** Method 601	**2 ug/l** Method 624			Method 8260C[2]
29. Acetone - 67641 -	**1.0 ug/l** Method 524.2	**50 ug/l** Method 1624			Method 8260C[2]
30. 1,4 Dioxane -123911-		**50 ug/l** Method 1624			Method 8260C[2]
31. Total Phenols - 108952	**1.0 ug/l** **Method 624** Method 8260[2]	**1 ug/l** Methods 625, 1625			Method 8260C[2] Method 8270D[3]
32. Pentachlorophenol (PCP) - 87865 -	**1.0 ug/l** Method 604 GCFID	**5 ug/l** Methods 625, 1625			Method 8270D[3]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
33. Total Phthalates [9] (Phthalate esthers)		**5 ug/l** Method 625			Method 8270D[3]
34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate] - 117817 -	**10 ug/l** Method 606	**5 ug/l** Method 625			Method 8270D[3]
35. Total Group I Polynuclear Aromatic Hydrocarbons (PAH)					Method 8270D[3]
a. Benzo(a) Anthracene -56553-	**10 ug/l** Method 610 GC	**5 ug/l** Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
b. Benzo(a) Pyrene -50328 -		**10 ug/l** Method 625	**2 ug/l** Method 610 HPLC		Method 8270D[3]
c. Benzo(b)Fluoranthene - 205992 -		**10 ug/l** Method 625	**0.1 ug/l** Method 610 HPLC		Method 8270D[3]
d. Benzo(k)Fluoranthene - 207089 -		**10 ug/l** Method 625	**2 ug/l** Method 610 HPLC		Method 8270D[3]
e. Chrysene - 218019 -		**10 ug/l** Method 625	**5 ug/l** Method 610 HPLC		Method 8270D[3]
f. Dibenzo(a,h) anthracene		**10 ug/l** Method 625	**0.1 ug/l** Method 610 HPLC		Method 8270D[3]
g. Indeno(1,2,3-cd) Pyrene - 193395 -		**10 ug/l** Method 625	**0.15 ug/l** Method 610		Method 8270D[3]
36. Total Group II Polynuclear Aromatic Hydrocarbons (PAH)					Method 8270D[3]
h. Acenaphthene - 83329 -	**1 ug/l** Method 610 GC/FID	**1 ug/l** Method 625	**0.5 ug/l** Method 610 HPLC		Method 8270D[3]
i. Acenaphthylene - 208968 -		**10 ug/l** Method 625	**0.2 ug/l** Method 610 HPLC		Method 8270D[3]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
j. Anthracene - 120127 -		**10 ug/l** Method 625	**2 ug/l** Method 610 HPLC		Method 8270D[3]
k. Benzo(ghi) Perylene - 191242 -		**5 ug/l** Method 625	**0.1 ug/l** Method 610 HPLC		Method 8270D[3]
l. Fluoranthene - 206440 -	**10 ug/l** Method 610 GC/FID	**1 ug/l** Method 625	**0.5 ug/l** Method 610 HPLC		Method 8270D[3]
m. Fluorene - 86737 -		**10 ug/l** Method 625	**0.1 ug/l** Method 610 HPLC		Method 8270D[3]
n. Naphthalene - 91203 -	**10 ug/l** Method 610 GC/FID	**2 ug/l** Method 625 **5.0 ug/l** **Method 524.2**	**0.2 ug/l** Method 610 HPLC		Method 8270D[3]
o. Phenanthrene - 85018 -		**5 ug/l** Method 625	**0.05 ug/l** Method 610 HPLC		Method 8270D[3]
p. Pyrene - 129000 -		**10 ug/l** Method 625	**0.05 ug/l** Method 610 HPLC		Method 8270D[3]
37. Total Polychlorinated Biphenyls (PCBs)[10]	**0.5 ug/l** Method 608				**0.00005** ug/l Method 1668a[11]
Inorganic parameters:		Minimum Levels (ug/l) and Test Methods			
		Flame Atomic Absorption	Inductively Coupled Plasma	Furnace Atomic Absorption	Other
38. Antimony		200 ug/l	50 ug/l	5 ug/l	
39. Arsenic			5 ug/l	2 ug/l	
40. Cadmium		10 ug/l	5 ug/l	0.5 ug/l	

Inorganic parameters:	Minimum Levels (ug/l) and Test Methods			
	Flame Atomic Absorption	Inductively Coupled Plasma	Furnace Atomic Absorption	Other
41. Chromium (total)	Method 218.1	10 ug/l Methods 200.7[11], 200.8, 200.15, 1620	5 ug/l Method 200.9	50 ug/l
42. Chromium (hexavalent)				10 ug/l Method 218.6 Method 1636
43. Copper	20 ug/l	5 ug/l	3 ug/l	
44. Lead	100 ug/l	40 ug/l	3 ug/l	
45. Mercury				0.2 ug/l
46. Nickel	30 ug/l	10 ug/l	5 ug/l	
47. Selenium		50 ug/l	5 ug/l	
48. Silver	50 ug/l	10 ug/l	2 ug/l	
49. Zinc	30 ug/l	10 ug/l		
50. Iron		Methods 6010b 200.7[12]		

1. 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). Where a minimum level (ML) is listed but a test method is not specified, permittee may use any of the available methods approved for use under 40 CFR 136, including alternatives approved by this permit, that meets that ML. See EPA's "Methods and Guidance for the Analysis of Water" at www.epa.gov/water/owrccatalog.nsf. Where test method is specified but ML not listed for that method, the lowest ML for listed methods must be used before concentration can be considered as "non-detect."

2. For measuring volatile organic compounds, Method 8260C (or the latest version) may be used as a substitute for CWA Methods 524.2, 602, 624, or 1624. Method 8260C must be preceded by Method 5030 as the preparation method. However, any method changes must be accompanied by documented quality assurance quality control (QA/QC) test results to prove that the analytical process can achieve the lower detection limits of Method 8260C.

3. For measuring semi-volatile organic compounds, Method 8270D may be used as a substitute for Methods 610, 625, or 1625. Method 8270D must be preceded by Method 3535 or Method 3520C as the sample preparation method. In either case, the quality control requirements of Method 3500B must be taken into account. The sample preparation method must be specified with data analysis records. Method 8270D may be modified to provide lower detection and quantitation limits using Selected Ion Monitoring (SIM). Any method changes must be accompanied by documented quality assurance quality control (QA/QC) test results to prove that the analytical process can achieve the lower detection limits of Method 8270D.

4. GC - gas chromatography

5. GCMS - gas chromatography/mass spectrometry

6. LC - high pressure liquid chromatography

7. Flame Atomic Absorption

8. For measuring fuel oxygenates, Method 602 must be modified to include a heated purge.

9. The sum of individual phthalate compounds.

10. 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 Aroclor analyses"*.

11. Method 1668a (HRGC/HRMS) has been proposed by EPA and is currently being validated. When approval of the method is finalized, it will be approved for use with this general permit.

12. Methods 6010b and 200.7 for metals may only be used when sample prepared with SW-846 digestion method, Method 3010.

Report Date:
02-Oct-09 15:43

☑ 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: Shawn Rising

Project: Sandri - Bernardston, MA
Project #: J40076

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB01485-01	A.S. Influent	Ground Water	24-Sep-09 14:00	25-Sep-09 10:30
SB01485-02	LGAC Influent	Ground Water	24-Sep-09 14:10	25-Sep-09 10:30
SB01485-03	LGAC Midpt	Ground Water	24-Sep-09 14:12	25-Sep-09 10:30
SB01485-04	LGAC Effluent	Ground Water	24-Sep-09 14:20	25-Sep-09 10:30
SB01485-05	Trip	Deionized Water	23-Sep-09 00:00	25-Sep-09 10:30

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
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

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 24 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is 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.

CASE NARRATIVE:

The samples were received 5.1 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 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.

According to WSC-CAM 5/2004 Rev.4, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended 70%-130% recovery range, a range has been set based on historical control limits.

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

SW846 8260B

SW846 8260B

Laboratory Control Samples:

9091903 LCS/LCSD

1,1,2-Trichlorotrifluoroethane (Freon 113) recoveries (132%/132%) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

LGAC Effluent
Trip

Bromoform recoveries (148%/144%) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

LGAC Effluent
Trip

9091903-BS1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

1,1,2-Trichlorotrifluoroethane (Freon 113)
Bromoform

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.

Vinyl chloride

9091903-BSD1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

1,1,2-Trichlorotrifluoroethane (Freon 113)
Bromoform

9091980 LCS/LCSD

2,2-Dichloropropane recoveries (64%/58%) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

A.S. Influent

Bromoform recoveries (151%/144%) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

A.S. Influent

9091980-BS1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

2,2-Dichloropropane
Bromoform

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.

2-Butanone (MEK)

SW846 8260B

Laboratory Control Samples:

9091980-BSD1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

2,2-Dichloropropane
Bromoform

RPD out of acceptance range.

cis-1,2-Dichloroethene

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.

cis-1,2-Dichloroethene

Samples:

S909191-CCV1

Analyte percent drift/percent difference is greater than 30%, data is accepted due to all CCC analytes passing within the 20% Drift/Difference criteria

1,1,2-Trichlorotrifluoroethane (Freon 113)

SPCC criteria was met however analyte percent drift/percent difference is greater than 30%, data is accepted due to CCC analytes passing within the 20% Drift/Difference criteria

Bromoform

This affected the following samples:

LGAC Effluent
LGAC Effluent
Trip
Trip

S909291-CCV1

Analyte percent drift/percent difference is greater than 30%, data is accepted due to all CCC analytes passing within the 20% Drift/Difference criteria

2,2-Dichloropropane
cis-1,2-Dichloroethene

SPCC criteria was met however analyte percent drift/percent difference is greater than 30%, data is accepted due to CCC analytes passing within the 20% Drift/Difference criteria

Bromoform

This affected the following samples:

A.S. Influent
A.S. Influent

SB01485-01 *A.S. Influent*

Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

Dibromofluoromethane

SB01485-05 *Trip*

Sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
A.S. Influent SB01485-01	J40076	Ground Water	24-Sep-09 14:00	25-Sep-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	12.9		µg/l	1.0	1	SW846 8260B	29-Sep-09	30-Sep-09	9091980	
100-41-4	Ethylbenzene	24.8		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	6.1		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	99.8		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	122		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	87.9		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*102*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*103*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*98*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*170*	SGC	*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	01-Oct-09	02-Oct-09	9100002	
Total Metals by EPA 6000/7000 Series Methods											
7439-89-6	Iron	17.6		mg/l	0.0150	1	SW846 6010B	30-Sep-09	30-Sep-09	9091990	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
LGAC Influent SB01485-02	J40076	Ground Water	24-Sep-09 14:10	25-Sep-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	28-Sep-09	29-Sep-09	9091903	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*92*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*102*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*107*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*111*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
LGAC Midpt SB01485-03	J40076	Ground Water	24-Sep-09 14:12	25-Sep-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	28-Sep-09	29-Sep-09	9091903	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*92*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*100*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*100*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*105*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
LGAC Effluent SB01485-04	J40076	Ground Water	24-Sep-09 14:20	25-Sep-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	28-Sep-09	29-Sep-09	9091903	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	13.4		µg/l	10.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*92*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*100*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*108*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	01-Oct-09	02-Oct-09	9100002	
Total Metals by EPA 6000/7000 Series Methods											
7439-89-6	Iron	0.259		mg/l	0.0150	1	SW846 6010B	30-Sep-09	30-Sep-09	9091990	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip SB01485-05	J40076	Deionized Water	23-Sep-09 00:00	25-Sep-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds			HDS								
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	28-Sep-09	29-Sep-09	9091903	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*93*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*100*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*106*		*70-130 %*			"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9091903 - SW846 5030 Water MS										
Blank (9091903-BLK1)										
Prepared & Analyzed: 29-Sep-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	5.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9091903 - SW846 5030 Water MS										
Blank (9091903-BLK1)										
Prepared & Analyzed: 29-Sep-09										
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	5.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
Vinyl chloride	BRL		µg/l	1.0						
o-Xylene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	5.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*47.5*		µg/l		*50.0*		*95*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*47.5*		µg/l		*50.0*		*95*	*70-130*		
Surrogate: Toluene-d8	*50.7*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*50.7*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*54.6*		µg/l		*50.0*		*109*	*70-130*		
Surrogate: Dibromofluoromethane	*54.6*		µg/l		*50.0*		*109*	*70-130*		
Blank (9091903-BLK2)										
Prepared & Analyzed: 29-Sep-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	5.0						
Acetone	BRL		µg/l	50.0						
Acrylonitrile	BRL		µg/l	2.5						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9091903 - SW846 5030 Water MS										
Blank (9091903-BLK2)										
Prepared & Analyzed: 29-Sep-09										
Benzene	BRL		µg/l	5.0						
Benzene	BRL		µg/l	5.0						
Bromobenzene	BRL		µg/l	5.0						
Bromochloromethane	BRL		µg/l	5.0						
Bromodichloromethane	BRL		µg/l	2.5						
Bromoform	BRL		µg/l	5.0						
Bromomethane	BRL		µg/l	10.0						
2-Butanone (MEK)	BRL		µg/l	50.0						
n-Butylbenzene	BRL		µg/l	5.0						
sec-Butylbenzene	BRL		µg/l	5.0						
tert-Butylbenzene	BRL		µg/l	5.0						
Carbon disulfide	BRL		µg/l	25.0						
Carbon tetrachloride	BRL		µg/l	5.0						
Chlorobenzene	BRL		µg/l	5.0						
Chloroethane	BRL		µg/l	10.0						
Chloroform	BRL		µg/l	5.0						
Chloromethane	BRL		µg/l	10.0						
2-Chlorotoluene	BRL		µg/l	5.0						
4-Chlorotoluene	BRL		µg/l	5.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	10.0						
Dibromochloromethane	BRL		µg/l	2.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	2.5						
Dibromomethane	BRL		µg/l	5.0						
1,2-Dichlorobenzene	BRL		µg/l	5.0						
1,3-Dichlorobenzene	BRL		µg/l	5.0						
1,4-Dichlorobenzene	BRL		µg/l	5.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	10.0						
1,1-Dichloroethane	BRL		µg/l	5.0						
1,2-Dichloroethane	BRL		µg/l	5.0						
1,1-Dichloroethene	BRL		µg/l	5.0						
cis-1,2-Dichloroethene	BRL		µg/l	5.0						
trans-1,2-Dichloroethene	BRL		µg/l	5.0						
1,2-Dichloropropane	BRL		µg/l	5.0						
1,3-Dichloropropane	BRL		µg/l	5.0						
2,2-Dichloropropane	BRL		µg/l	5.0						
1,1-Dichloropropene	BRL		µg/l	5.0						
cis-1,3-Dichloropropene	BRL		µg/l	2.5						
trans-1,3-Dichloropropene	BRL		µg/l	2.5						
Ethylbenzene	BRL		µg/l	5.0						
Ethylbenzene	BRL		µg/l	5.0						
Hexachlorobutadiene	BRL		µg/l	2.5						
2-Hexanone (MBK)	BRL		µg/l	50.0						
Isopropylbenzene	BRL		µg/l	5.0						
4-Isopropyltoluene	BRL		µg/l	5.0						
Methyl tert-butyl ether	BRL		µg/l	5.0						
Methyl tert-butyl ether	BRL		µg/l	5.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	50.0						
Methylene chloride	BRL		µg/l	25.0						
Naphthalene	BRL		µg/l	5.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9091903 - SW846 5030 Water MS										
Blank (9091903-BLK2)										
Prepared & Analyzed: 29-Sep-09										
n-Propylbenzene	BRL		µg/l	5.0						
Styrene	BRL		µg/l	5.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	5.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	2.5						
Tetrachloroethene	BRL		µg/l	5.0						
Toluene	BRL		µg/l	5.0						
Toluene	BRL		µg/l	5.0						
1,2,3-Trichlorobenzene	BRL		µg/l	5.0						
1,2,4-Trichlorobenzene	BRL		µg/l	5.0						
1,3,5-Trichlorobenzene	BRL		µg/l	5.0						
1,1,1-Trichloroethane	BRL		µg/l	5.0						
1,1,2-Trichloroethane	BRL		µg/l	5.0						
Trichloroethene	BRL		µg/l	5.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	5.0						
1,2,3-Trichloropropane	BRL		µg/l	5.0						
1,2,4-Trimethylbenzene	BRL		µg/l	5.0						
1,3,5-Trimethylbenzene	BRL		µg/l	5.0						
m,p-Xylene	BRL		µg/l	10.0						
Vinyl chloride	BRL		µg/l	5.0						
o-Xylene	BRL		µg/l	5.0						
m,p-Xylene	BRL		µg/l	10.0						
o-Xylene	BRL		µg/l	5.0						
Tetrahydrofuran	BRL		µg/l	25.0						
Ethyl ether	BRL		µg/l	5.0						
Tert-amyl methyl ether	BRL		µg/l	5.0						
Chlorobenzene	BRL		µg/l	5.0						
Ethyl tert-butyl ether	BRL		µg/l	5.0						
1,1-Dichloroethene	BRL		µg/l	5.0						
Di-isopropyl ether	BRL		µg/l	5.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	50.0						
Trichloroethene	BRL		µg/l	5.0						
1,4-Dioxane	BRL		µg/l	100						
trans-1,4-Dichloro-2-butene	BRL		µg/l	25.0						
Ethanol	BRL		µg/l	2000						
Surrogate: 4-Bromofluorobenzene	*44.3*		µg/l		*50.0*		*89*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*44.3*		µg/l		*50.0*		*89*	*70-130*		
Surrogate: Toluene-d8	*49.1*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*49.1*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.2*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.2*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Dibromofluoromethane	*50.8*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*50.8*		µg/l		*50.0*		*102*	*70-130*		
LCS (9091903-BS1)										
Prepared & Analyzed: 29-Sep-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	26.4	QC2	µg/l		20.0		132	70-130		
Acetone	22.6		µg/l		20.0		113	52.2-144		
Acrylonitrile	21.1		µg/l		20.0		105	70-130		
Benzene	20.1		µg/l		20.0		101	70-130		
Benzene	20.1		µg/l		20.0		101	70-130		
Bromobenzene	23.0		µg/l		20.0		115	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9091903 - SW846 5030 Water MS										
LCS (9091903-BS1)										
Prepared & Analyzed: 29-Sep-09										
Bromochloromethane	20.6		µg/l		20.0		103	70-130		
Bromodichloromethane	20.2		µg/l		20.0		101	70-130		
Bromoform	29.5	QC2	µg/l		20.0		148	70-130		
Bromomethane	27.2		µg/l		20.0		136	40-167		
2-Butanone (MEK)	21.5		µg/l		20.0		108	57.7-141		
n-Butylbenzene	21.0		µg/l		20.0		105	70-130		
sec-Butylbenzene	20.6		µg/l		20.0		103	70-130		
tert-Butylbenzene	24.2		µg/l		20.0		121	70-130		
Carbon disulfide	21.8		µg/l		20.0		109	70-130		
Carbon tetrachloride	23.8		µg/l		20.0		119	70-130		
Chlorobenzene	23.0		µg/l		20.0		115	70-130		
Chloroethane	20.4		µg/l		20.0		102	65.1-130		
Chloroform	20.5		µg/l		20.0		103	70-130		
Chloromethane	18.8		µg/l		20.0		94	70-130		
2-Chlorotoluene	22.7		µg/l		20.0		114	70-130		
4-Chlorotoluene	23.1		µg/l		20.0		115	70-130		
1,2-Dibromo-3-chloropropane	21.5		µg/l		20.0		108	70-130		
Dibromochloromethane	18.4		µg/l		20.0		92	55.6-155		
1,2-Dibromoethane (EDB)	19.9		µg/l		20.0		99	70-130		
Dibromomethane	20.0		µg/l		20.0		100	70-130		
1,2-Dichlorobenzene	21.6		µg/l		20.0		108	70-130		
1,3-Dichlorobenzene	23.8		µg/l		20.0		119	70-130		
1,4-Dichlorobenzene	21.2		µg/l		20.0		106	70-130		
Dichlorodifluoromethane (Freon12)	21.2		µg/l		20.0		106	45.8-135		
1,1-Dichloroethane	21.9		µg/l		20.0		110	70-130		
1,2-Dichloroethane	19.9		µg/l		20.0		100	70-130		
1,1-Dichloroethene	21.8		µg/l		20.0		109	70-130		
cis-1,2-Dichloroethene	21.4		µg/l		20.0		107	70-130		
trans-1,2-Dichloroethene	21.2		µg/l		20.0		106	70-130		
1,2-Dichloropropane	19.5		µg/l		20.0		98	70-130		
1,3-Dichloropropane	19.8		µg/l		20.0		99	70-130		
2,2-Dichloropropane	19.8		µg/l		20.0		99	70-130		
1,1-Dichloropropene	18.0		µg/l		20.0		90	70-130		
cis-1,3-Dichloropropene	19.8		µg/l		20.0		99	70-130		
trans-1,3-Dichloropropene	20.3		µg/l		20.0		101	70-130		
Ethylbenzene	21.9		µg/l		20.0		110	70-130		
Ethylbenzene	21.9		µg/l		20.0		110	70-130		
Hexachlorobutadiene	19.7		µg/l		20.0		99	63.3-141		
2-Hexanone (MBK)	18.3		µg/l		20.0		91	70-130		
Isopropylbenzene	19.6		µg/l		20.0		98	70-130		
4-Isopropyltoluene	18.2		µg/l		20.0		91	70-130		
Methyl tert-butyl ether	20.6		µg/l		20.0		103	70-130		
Methyl tert-butyl ether	20.6		µg/l		20.0		103	70-130		
4-Methyl-2-pentanone (MIBK)	21.2		µg/l		20.0		106	40-157		
Methylene chloride	21.7		µg/l		20.0		108	70-130		
Naphthalene	17.5		µg/l		20.0		87	70-130		
n-Propylbenzene	22.8		µg/l		20.0		114	70-130		
Styrene	22.1		µg/l		20.0		110	70-130		
1,1,1,2-Tetrachloroethane	25.7		µg/l		20.0		128	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9091903 - SW846 5030 Water MS										
LCS (9091903-BS1)										
Prepared & Analyzed: 29-Sep-09										
1,1,2,2-Tetrachloroethane	23.5		µg/l		20.0		118	70-130		
Tetrachloroethene	20.6		µg/l		20.0		103	70-130		
Toluene	20.4		µg/l		20.0		102	70-130		
Toluene	20.4		µg/l		20.0		102	70-130		
1,2,3-Trichlorobenzene	21.2		µg/l		20.0		106	70-130		
1,2,4-Trichlorobenzene	21.5		µg/l		20.0		108	70-130		
1,3,5-Trichlorobenzene	20.0		µg/l		20.0		100	70-130		
1,1,1-Trichloroethane	20.3		µg/l		20.0		101	70-130		
1,1,2-Trichloroethane	21.2		µg/l		20.0		106	70-130		
Trichloroethene	20.2		µg/l		20.0		101	70-130		
Trichlorofluoromethane (Freon 11)	25.1		µg/l		20.0		126	61.9-167		
1,2,3-Trichloropropane	24.0		µg/l		20.0		120	70-130		
1,2,4-Trimethylbenzene	23.1		µg/l		20.0		116	70-130		
1,3,5-Trimethylbenzene	22.9		µg/l		20.0		115	70-130		
m,p-Xylene	39.9		µg/l		40.0		100	70-130		
Vinyl chloride	26.6	QM9	µg/l		20.0		133	70-130		
m,p-Xylene	39.9		µg/l		40.0		100	70-130		
o-Xylene	24.2		µg/l		20.0		121	70-130		
o-Xylene	24.2		µg/l		20.0		121	70-130		
Tetrahydrofuran	16.3		µg/l		20.0		82	70-130		
Ethyl ether	21.9		µg/l		20.0		109	70-133		
Tert-amyl methyl ether	18.7		µg/l		20.0		94	70-130		
Ethyl tert-butyl ether	18.2		µg/l		20.0		91	70-130		
Di-isopropyl ether	18.2		µg/l		20.0		91	70-130		
Tert-Butanol / butyl alcohol	206		µg/l		200		103	70-130		
1,4-Dioxane	173		µg/l		200		86	50.6-156		
trans-1,4-Dichloro-2-butene	25.0		µg/l		20.0		125	70-130		
Ethanol	418		µg/l		400		104	70-130		
Surrogate: 4-Bromofluorobenzene	*52.2*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*52.2*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*48.8*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*48.8*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.8*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*48.8*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*50.7*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*50.7*		µg/l		*50.0*		*101*	*70-130*		
LCS Dup (9091903-BSD1)										
Prepared & Analyzed: 29-Sep-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	26.3	QC2	µg/l		20.0		132	70-130	0.4	25
Acetone	20.6		µg/l		20.0		103	52.2-144	9	50
Acrylonitrile	23.1		µg/l		20.0		116	70-130	9	25
Benzene	18.8		µg/l		20.0		94	70-130	7	25
Benzene	18.8		µg/l		20.0		94	70-130	7	25
Bromobenzene	21.4		µg/l		20.0		107	70-130	7	25
Bromochloromethane	21.2		µg/l		20.0		106	70-130	3	25
Bromodichloromethane	20.5		µg/l		20.0		103	70-130	2	25
Bromoform	28.9	QC2	µg/l		20.0		144	70-130	2	25
Bromomethane	24.9		µg/l		20.0		124	40-167	9	50
2-Butanone (MEK)	18.9		µg/l		20.0		95	57.7-141	13	50
n-Butylbenzene	20.0		µg/l		20.0		100	70-130	5	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9091903 - SW846 5030 Water MS										
LCS Dup (9091903-BSD1)										
Prepared & Analyzed: 29-Sep-09										
sec-Butylbenzene	18.6		µg/l		20.0		93	70-130	10	25
tert-Butylbenzene	22.4		µg/l		20.0		112	70-130	8	25
Carbon disulfide	21.0		µg/l		20.0		105	70-130	4	25
Carbon tetrachloride	22.4		µg/l		20.0		112	70-130	6	25
Chlorobenzene	22.0		µg/l		20.0		110	70-130	4	25
Chloroethane	18.4		µg/l		20.0		92	65.1-130	10	50
Chloroform	20.4		µg/l		20.0		102	70-130	0.5	25
Chloromethane	17.1		µg/l		20.0		86	70-130	9	25
2-Chlorotoluene	21.6		µg/l		20.0		108	70-130	5	25
4-Chlorotoluene	21.6		µg/l		20.0		108	70-130	7	25
1,2-Dibromo-3-chloropropane	19.8		µg/l		20.0		99	70-130	8	25
Dibromochloromethane	18.6		µg/l		20.0		93	55.6-155	1	50
1,2-Dibromoethane (EDB)	19.8		µg/l		20.0		99	70-130	0.5	25
Dibromomethane	19.8		µg/l		20.0		99	70-130	1	25
1,2-Dichlorobenzene	21.5		µg/l		20.0		108	70-130	0.3	25
1,3-Dichlorobenzene	21.7		µg/l		20.0		109	70-130	9	25
1,4-Dichlorobenzene	20.5		µg/l		20.0		102	70-130	3	25
Dichlorodifluoromethane (Freon12)	19.6		µg/l		20.0		98	45.8-135	8	50
1,1-Dichloroethane	21.1		µg/l		20.0		106	70-130	4	25
1,2-Dichloroethane	18.1		µg/l		20.0		91	70-130	9	25
1,1-Dichloroethene	20.7		µg/l		20.0		103	70-130	5	25
cis-1,2-Dichloroethene	21.6		µg/l		20.0		108	70-130	1	25
trans-1,2-Dichloroethene	19.4		µg/l		20.0		97	70-130	9	25
1,2-Dichloropropane	18.4		µg/l		20.0		92	70-130	6	25
1,3-Dichloropropane	19.8		µg/l		20.0		99	70-130	0.4	25
2,2-Dichloropropane	19.0		µg/l		20.0		95	70-130	4	25
1,1-Dichloropropene	17.4		µg/l		20.0		87	70-130	3	25
cis-1,3-Dichloropropene	19.2		µg/l		20.0		96	70-130	3	25
trans-1,3-Dichloropropene	19.4		µg/l		20.0		97	70-130	4	25
Ethylbenzene	20.4		µg/l		20.0		102	70-130	7	25
Ethylbenzene	20.4		µg/l		20.0		102	70-130	7	25
Hexachlorobutadiene	17.8		µg/l		20.0		89	63.3-141	10	50
2-Hexanone (MBK)	19.1		µg/l		20.0		96	70-130	4	25
Isopropylbenzene	18.4		µg/l		20.0		92	70-130	6	25
4-Isopropyltoluene	17.0		µg/l		20.0		85	70-130	7	25
Methyl tert-butyl ether	20.7		µg/l		20.0		104	70-130	0.5	25
Methyl tert-butyl ether	20.7		µg/l		20.0		104	70-130	0.5	25
4-Methyl-2-pentanone (MIBK)	20.8		µg/l		20.0		104	40-157	2	50
Methylene chloride	20.8		µg/l		20.0		104	70-130	4	25
Naphthalene	16.3		µg/l		20.0		82	70-130	7	25
n-Propylbenzene	21.0		µg/l		20.0		105	70-130	8	25
Styrene	20.8		µg/l		20.0		104	70-130	6	25
1,1,1,2-Tetrachloroethane	25.8		µg/l		20.0		129	70-130	0.2	25
1,1,2,2-Tetrachloroethane	22.0		µg/l		20.0		110	70-130	7	25
Tetrachloroethene	19.3		µg/l		20.0		97	70-130	7	25
Toluene	19.2		µg/l		20.0		96	70-130	6	25
Toluene	19.2		µg/l		20.0		96	70-130	6	25
1,2,3-Trichlorobenzene	20.2		µg/l		20.0		101	70-130	5	25
1,2,4-Trichlorobenzene	19.9		µg/l		20.0		100	70-130	8	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9091903 - SW846 5030 Water MS										
LCS Dup (9091903-BSD1)										
Prepared & Analyzed: 29-Sep-09										
1,3,5-Trichlorobenzene	19.4		µg/l		20.0		97	70-130	3	25
1,1,1-Trichloroethane	19.6		µg/l		20.0		98	70-130	3	25
1,1,2-Trichloroethane	19.8		µg/l		20.0		99	70-130	6	25
Trichloroethene	19.0		µg/l		20.0		95	70-130	6	25
Trichlorofluoromethane (Freon 11)	23.1		µg/l		20.0		115	61.9-167	8	50
1,2,3-Trichloropropane	22.5		µg/l		20.0		112	70-130	6	25
1,2,4-Trimethylbenzene	21.3		µg/l		20.0		106	70-130	8	25
1,3,5-Trimethylbenzene	21.3		µg/l		20.0		106	70-130	7	25
m,p-Xylene	36.9		µg/l		40.0		92	70-130	8	25
Vinyl chloride	23.8		µg/l		20.0		119	70-130	11	25
m,p-Xylene	36.9		µg/l		40.0		92	70-130	8	25
o-Xylene	22.3		µg/l		20.0		111	70-130	8	25
o-Xylene	22.3		µg/l		20.0		111	70-130	8	25
Tetrahydrofuran	16.4		µg/l		20.0		82	70-130	0.7	25
Ethyl ether	21.1		µg/l		20.0		106	70-133	4	50
Tert-amyl methyl ether	19.0		µg/l		20.0		95	70-130	2	25
Ethyl tert-butyl ether	17.6		µg/l		20.0		88	70-130	3	25
Di-isopropyl ether	18.0		µg/l		20.0		90	70-130	0.8	25
Tert-Butanol / butyl alcohol	206		µg/l		200		103	70-130	0.2	25
1,4-Dioxane	176		µg/l		200		88	50.6-156	2	25
trans-1,4-Dichloro-2-butene	24.2		µg/l		20.0		121	70-130	3	25
Ethanol	468		µg/l		400		117	70-130	11	30
Surrogate: 4-Bromofluorobenzene	*52.4*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*52.4*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*49.1*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*49.1*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.4*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.4*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Batch 9091980 - SW846 5030 Water MS										
Blank (9091980-BLK1)										
Prepared & Analyzed: 30-Sep-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	5.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9091980 - SW846 5030 Water MS										
Blank (9091980-BLK1)										
Prepared & Analyzed: 30-Sep-09										
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	5.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
Vinyl chloride	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9091980 - SW846 5030 Water MS										
Blank (9091980-BLK1)										
Prepared & Analyzed: 30-Sep-09										
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	10.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*46.1*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: Toluene-d8	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.7*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*54.8*		µg/l		*50.0*		*110*	*70-130*		
LCS (9091980-BS1)										
Prepared & Analyzed: 30-Sep-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	25.6		µg/l		20.0		128	70-130		
Acetone	25.0		µg/l		20.0		125	52.2-144		
Acrylonitrile	23.4		µg/l		20.0		117	70-130		
Benzene	19.1		µg/l		20.0		95	70-130		
Bromobenzene	21.5		µg/l		20.0		107	70-130		
Bromochloromethane	20.7		µg/l		20.0		103	70-130		
Bromodichloromethane	20.5		µg/l		20.0		102	70-130		
Bromoform	30.2	QC2	µg/l		20.0		151	70-130		
Bromomethane	26.8		µg/l		20.0		134	40-167		
2-Butanone (MEK)	28.5	QM9	µg/l		20.0		143	57.7-141		
n-Butylbenzene	18.5		µg/l		20.0		92	70-130		
sec-Butylbenzene	19.2		µg/l		20.0		96	70-130		
tert-Butylbenzene	22.5		µg/l		20.0		112	70-130		
Carbon disulfide	21.6		µg/l		20.0		108	70-130		
Carbon tetrachloride	24.2		µg/l		20.0		121	70-130		
Chlorobenzene	22.1		µg/l		20.0		110	70-130		
Chloroethane	18.5		µg/l		20.0		92	65.1-130		
Chloroform	19.6		µg/l		20.0		98	70-130		
Chloromethane	17.4		µg/l		20.0		87	70-130		
2-Chlorotoluene	22.2		µg/l		20.0		111	70-130		
4-Chlorotoluene	22.6		µg/l		20.0		113	70-130		
1,2-Dibromo-3-chloropropane	21.0		µg/l		20.0		105	70-130		
Dibromochloromethane	20.0		µg/l		20.0		100	55.6-155		
1,2-Dibromoethane (EDB)	20.0		µg/l		20.0		100	70-130		
Dibromomethane	19.8		µg/l		20.0		99	70-130		
1,2-Dichlorobenzene	21.1		µg/l		20.0		106	70-130		
1,3-Dichlorobenzene	22.3		µg/l		20.0		111	70-130		
1,4-Dichlorobenzene	19.5		µg/l		20.0		98	70-130		
Dichlorodifluoromethane (Freon12)	19.5		µg/l		20.0		97	45.8-135		
1,1-Dichloroethane	20.9		µg/l		20.0		104	70-130		
1,2-Dichloroethane	18.8		µg/l		20.0		94	70-130		
1,1-Dichloroethene	20.8		µg/l		20.0		104	70-130		
cis-1,2-Dichloroethene	21.5		µg/l		20.0		107	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9091980 - SW846 5030 Water MS										
LCS (9091980-BS1)										
Prepared & Analyzed: 30-Sep-09										
trans-1,2-Dichloroethene	20.1		µg/l		20.0		100	70-130		
1,2-Dichloropropane	18.0		µg/l		20.0		90	70-130		
1,3-Dichloropropane	19.6		µg/l		20.0		98	70-130		
2,2-Dichloropropane	12.7	QC2	µg/l		20.0		64	70-130		
1,1-Dichloropropene	17.3		µg/l		20.0		87	70-130		
cis-1,3-Dichloropropene	18.4		µg/l		20.0		92	70-130		
trans-1,3-Dichloropropene	19.7		µg/l		20.0		98	70-130		
Ethylbenzene	20.9		µg/l		20.0		104	70-130		
Hexachlorobutadiene	17.6		µg/l		20.0		88	63.3-141		
2-Hexanone (MBK)	17.8		µg/l		20.0		89	70-130		
Isopropylbenzene	18.5		µg/l		20.0		93	70-130		
4-Isopropyltoluene	16.8		µg/l		20.0		84	70-130		
Methyl tert-butyl ether	20.6		µg/l		20.0		103	70-130		
4-Methyl-2-pentanone (MIBK)	18.2		µg/l		20.0		91	40-157		
Methylene chloride	21.3		µg/l		20.0		106	70-130		
Naphthalene	16.1		µg/l		20.0		80	70-130		
n-Propylbenzene	21.2		µg/l		20.0		106	70-130		
Styrene	21.1		µg/l		20.0		105	70-130		
1,1,1,2-Tetrachloroethane	25.6		µg/l		20.0		128	70-130		
1,1,2,2-Tetrachloroethane	22.5		µg/l		20.0		112	70-130		
Tetrachloroethene	19.4		µg/l		20.0		97	70-130		
Toluene	19.5		µg/l		20.0		97	70-130		
1,2,3-Trichlorobenzene	20.2		µg/l		20.0		101	70-130		
1,2,4-Trichlorobenzene	19.6		µg/l		20.0		98	70-130		
1,3,5-Trichlorobenzene	17.8		µg/l		20.0		89	70-130		
1,1,1-Trichloroethane	19.4		µg/l		20.0		97	70-130		
1,1,2-Trichloroethane	20.2		µg/l		20.0		101	70-130		
Trichloroethene	19.4		µg/l		20.0		97	70-130		
Trichlorofluoromethane (Freon 11)	23.7		µg/l		20.0		119	61.9-167		
1,2,3-Trichloropropane	22.2		µg/l		20.0		111	70-130		
1,2,4-Trimethylbenzene	22.0		µg/l		20.0		110	70-130		
1,3,5-Trimethylbenzene	21.4		µg/l		20.0		107	70-130		
Vinyl chloride	24.6		µg/l		20.0		123	70-130		
m,p-Xylene	37.6		µg/l		40.0		94	70-130		
o-Xylene	23.9		µg/l		20.0		120	70-130		
Tetrahydrofuran	20.6		µg/l		20.0		103	70-130		
Ethyl ether	20.8		µg/l		20.0		104	70-133		
Tert-amyl methyl ether	19.2		µg/l		20.0		96	70-130		
Ethyl tert-butyl ether	17.6		µg/l		20.0		88	70-130		
Di-isopropyl ether	19.1		µg/l		20.0		95	70-130		
Tert-Butanol / butyl alcohol	214		µg/l		200		107	70-130		
1,4-Dioxane	203		µg/l		200		101	50.6-156		
trans-1,4-Dichloro-2-butene	21.9		µg/l		20.0		110	70-130		
Ethanol	454		µg/l		400		114	70-130		
Surrogate: 4-Bromofluorobenzene	*51.8*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*50.1*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*47.8*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Dibromofluoromethane	*51.6*		µg/l		*50.0*		*103*	*70-130*		
LCS Dup (9091980-BSD1)										
Prepared & Analyzed: 30-Sep-09										

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9091980 - SW846 5030 Water MS										
LCS Dup (9091980-BSD1)										
Prepared & Analyzed: 30-Sep-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	22.3		µg/l		20.0		112	70-130	14	25
Acetone	24.4		µg/l		20.0		122	52.2-144	2	50
Acrylonitrile	23.9		µg/l		20.0		120	70-130	2	25
Benzene	17.4		µg/l		20.0		87	70-130	9	25
Bromobenzene	20.4		µg/l		20.0		102	70-130	5	25
Bromochloromethane	19.8		µg/l		20.0		99	70-130	4	25
Bromodichloromethane	18.9		µg/l		20.0		94	70-130	8	25
Bromoform	28.8	QC2	µg/l		20.0		144	70-130	5	25
Bromomethane	24.8		µg/l		20.0		124	40-167	8	50
2-Butanone (MEK)	25.1		µg/l		20.0		126	57.7-141	13	50
n-Butylbenzene	17.2		µg/l		20.0		86	70-130	7	25
sec-Butylbenzene	17.4		µg/l		20.0		87	70-130	10	25
tert-Butylbenzene	21.0		µg/l		20.0		105	70-130	7	25
Carbon disulfide	19.7		µg/l		20.0		99	70-130	9	25
Carbon tetrachloride	20.8		µg/l		20.0		104	70-130	15	25
Chlorobenzene	20.8		µg/l		20.0		104	70-130	6	25
Chloroethane	16.7		µg/l		20.0		83	65.1-130	10	50
Chloroform	18.5		µg/l		20.0		92	70-130	6	25
Chloromethane	15.1		µg/l		20.0		75	70-130	14	25
2-Chlorotoluene	20.4		µg/l		20.0		102	70-130	8	25
4-Chlorotoluene	21.0		µg/l		20.0		105	70-130	8	25
1,2-Dibromo-3-chloropropane	19.0		µg/l		20.0		95	70-130	10	25
Dibromochloromethane	18.6		µg/l		20.0		93	55.6-155	7	50
1,2-Dibromoethane (EDB)	20.0		µg/l		20.0		100	70-130	0.2	25
Dibromomethane	19.7		µg/l		20.0		99	70-130	0.7	25
1,2-Dichlorobenzene	19.9		µg/l		20.0		99	70-130	6	25
1,3-Dichlorobenzene	21.5		µg/l		20.0		107	70-130	4	25
1,4-Dichlorobenzene	19.4		µg/l		20.0		97	70-130	0.3	25
Dichlorodifluoromethane (Freon12)	17.5		µg/l		20.0		87	45.8-135	11	50
1,1-Dichloroethane	19.1		µg/l		20.0		96	70-130	9	25
1,2-Dichloroethane	17.7		µg/l		20.0		88	70-130	6	25
1,1-Dichloroethene	18.5		µg/l		20.0		93	70-130	12	25
cis-1,2-Dichloroethene	28.2	QM9, QR5	µg/l		20.0		141	70-130	27	25
trans-1,2-Dichloroethene	18.0		µg/l		20.0		90	70-130	11	25
1,2-Dichloropropane	17.7		µg/l		20.0		88	70-130	2	25
1,3-Dichloropropane	19.4		µg/l		20.0		97	70-130	0.8	25
2,2-Dichloropropane	11.7	QC2	µg/l		20.0		58	70-130	9	25
1,1-Dichloropropene	16.0		µg/l		20.0		80	70-130	8	25
cis-1,3-Dichloropropene	16.8		µg/l		20.0		84	70-130	9	25
trans-1,3-Dichloropropene	18.3		µg/l		20.0		92	70-130	7	25
Ethylbenzene	19.1		µg/l		20.0		96	70-130	9	25
Hexachlorobutadiene	14.2		µg/l		20.0		71	63.3-141	22	50
2-Hexanone (MBK)	18.6		µg/l		20.0		93	70-130	4	25
Isopropylbenzene	17.3		µg/l		20.0		87	70-130	7	25
4-Isopropyltoluene	15.6		µg/l		20.0		78	70-130	7	25
Methyl tert-butyl ether	20.8		µg/l		20.0		104	70-130	1	25
4-Methyl-2-pentanone (MIBK)	18.7		µg/l		20.0		94	40-157	3	50
Methylene chloride	19.2		µg/l		20.0		96	70-130	10	25
Naphthalene	15.6		µg/l		20.0		78	70-130	3	25

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9091980 - SW846 5030 Water MS										
LCS Dup (9091980-BSD1)										
Prepared & Analyzed: 30-Sep-09										
n-Propylbenzene	19.0		µg/l		20.0		95	70-130	11	25
Styrene	19.1		µg/l		20.0		95	70-130	10	25
1,1,1,2-Tetrachloroethane	23.5		µg/l		20.0		118	70-130	8	25
1,1,2,2-Tetrachloroethane	23.1		µg/l		20.0		116	70-130	3	25
Tetrachloroethene	18.9		µg/l		20.0		94	70-130	3	25
Toluene	17.3		µg/l		20.0		86	70-130	12	25
1,2,3-Trichlorobenzene	19.2		µg/l		20.0		96	70-130	5	25
1,2,4-Trichlorobenzene	18.6		µg/l		20.0		93	70-130	5	25
1,3,5-Trichlorobenzene	16.8		µg/l		20.0		84	70-130	6	25
1,1,1-Trichloroethane	17.9		µg/l		20.0		90	70-130	8	25
1,1,2-Trichloroethane	19.0		µg/l		20.0		95	70-130	6	25
Trichloroethene	17.8		µg/l		20.0		89	70-130	8	25
Trichlorofluoromethane (Freon 11)	21.2		µg/l		20.0		106	61.9-167	11	50
1,2,3-Trichloropropane	22.9		µg/l		20.0		115	70-130	3	25
1,2,4-Trimethylbenzene	20.6		µg/l		20.0		103	70-130	6	25
1,3,5-Trimethylbenzene	20.3		µg/l		20.0		101	70-130	6	25
Vinyl chloride	23.6		µg/l		20.0		118	70-130	4	25
m,p-Xylene	34.8		µg/l		40.0		87	70-130	8	25
o-Xylene	21.6		µg/l		20.0		108	70-130	10	25
Tetrahydrofuran	19.1		µg/l		20.0		96	70-130	7	25
Ethyl ether	20.3		µg/l		20.0		101	70-133	2	50
Tert-amyl methyl ether	19.3		µg/l		20.0		96	70-130	0.7	25
Ethyl tert-butyl ether	17.4		µg/l		20.0		87	70-130	1	25
Di-isopropyl ether	22.2		µg/l		20.0		111	70-130	15	25
Tert-Butanol / butyl alcohol	212		µg/l		200		106	70-130	0.8	25
1,4-Dioxane	194		µg/l		200		97	50.6-156	4	25
trans-1,4-Dichloro-2-butene	22.5		µg/l		20.0		113	70-130	3	25
Ethanol	415		µg/l		400		104	70-130	9	30
Surrogate: 4-Bromofluorobenzene	*53.7*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Toluene-d8	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*47.5*		µg/l		*50.0*		*95*	*70-130*		
Surrogate: Dibromofluoromethane	*51.5*		µg/l		*50.0*		*103*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9100002 - SW846 3510C										
Blank (9100002-BLK1)										
Prepared: 01-Oct-09 Analyzed: 02-Oct-09										
Non-polar material (SGT-HEM)	BRL		mg/l	1.0						
LCS (9100002-BS1)										
Prepared: 01-Oct-09 Analyzed: 02-Oct-09										
Non-polar material (SGT-HEM)	32.3		mg/l		38.4		84	83-101		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9091990 - SW846 3005A										
Blank (9091990-BLK1)										
Prepared & Analyzed: 30-Sep-09										
Iron	BRL		mg/l	0.0150						
LCS (9091990-BS1)										
Prepared & Analyzed: 30-Sep-09										
Iron	1.44		mg/l	0.0150	1.25		115	85-115		
LCS Dup (9091990-BSD1)										
Prepared & Analyzed: 30-Sep-09										
Iron	1.44		mg/l	0.0150	1.25		115	85-115	0.6	20
Duplicate (9091990-DUP1)	**Source: SB01485-01**									
Prepared & Analyzed: 30-Sep-09										
Iron	17.7		mg/l	0.0150		17.6			0.6	20
Matrix Spike (9091990-MS1)	**Source: SB01485-04**									
Prepared & Analyzed: 30-Sep-09										
Iron	1.60		mg/l	0.0150	1.25	0.259	107	75-125		
Matrix Spike Dup (9091990-MSD1)	**Source: SB01485-04**									
Prepared & Analyzed: 30-Sep-09										
Iron	1.58		mg/l	0.0150	1.25	0.259	105	75-125	1	20
Post Spike (9091990-PS1)	**Source: SB01485-04**									
Prepared & Analyzed: 30-Sep-09										
Iron	1.57		mg/l	0.0150	1.25	0.259	105	80-120		

Notes and Definitions

CAL2	Analyte percent drift/percent difference is greater than 30%, data is accepted due to all CCC analytes passing within the 20% Drift/Difference criteria
CAL3	SPCC criteria was met however analyte percent drift/percent difference is greater than 30%, data is accepted due to CCC analytes passing within the 20% Drift/Difference criteria
HDS	Sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
QR5	RPD out of acceptance range.
SGC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

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 *TPH (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.

Validated by:
Hanibal C. Tayeh, Ph.D.
Kim Wisk
Nicole Leja

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: Spectrum Analytical, Inc. - Agawam, MA	Project #: J40076
Project Location: Sandri - Bernardston, MA	MADEP RTN [1]:

This form provides certifications for the following data set:
SB01485-01 through SB01485-05

Sample matrices:	Deionized Water Ground Water				
MCP SW-846 Methods Used	☑ 8260B	☐ 8151A	☐ 8330	☑ 6010B	☐ 7470A/1A
	☐ 8270C	☐ 8081A	☐ VPH	☐ 6020	☐ 9014M [2]
	☐ 8082	☐ 8021B	☐ EPH	☐ 7000S [3]	☐ 7196A

1 List Release Tracking Number (RTN), if known
2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S - SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain of Custody documentation for the data set?	☑ Yes	☐ No
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	☑ Yes	☐ No
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
D	***VPH and EPH methods only***: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective methods)?	☐ Yes	☐ No

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all analytical QC performance standards and recommendations for the specified methods achieved?	☑ Yes	☐ No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	☐ 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.

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Date: 10/2/2009

DB01485

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: 5-7 DAYS
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: SHAWN R.

Invoice To: ECS AGAWAM

Project No.: J40076

Site Name: SANDRI

Location: BERNARDSTON State: MA

Project Mgr.: S, R

Telephone #:

Sampler(s): ROB H.

P.O. No.: RQN:

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= 10= 11=

List preservative code below: 2 3 3 4

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= 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: BTEX+MTBE by 8260B	TBA by 8260B	TPH-1664	TOTAL Fe 6010B
01485-01	A.S INFLUENT	9/24/09	2:00	G	GW	3	1		1	✓	✓	✓	✓
-02	LAK INFLUENT	9/24	2:10	G	GW	3				✓			
-03	LAK MIDPT	9/24	2:12	G	GW	3				✓			
-04	LAK EFFLUENT	9/24	2:20	G	GW	3	1		1	✓	✓	✓	✓
-05	TRIP	9/23	pm	G	DI	1				✓	✓		

☒ Provide MA DEP MCP CAM Report
☐ Provide CT DPH RCP Report

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

State specific reporting standards:

Re-client req 9/28/09

EDD Format
☐ E-mail to

Relinquished by:	Received by:	Date:	Time:
Rob Haynes		9/25/09	1030

Condition upon receipt: ☒ Iced ☐ Ambient ☐ °C 5.1

11 Almgren Drive • Agawam, MA 01001 • 413-789-9018 • FAX 413-789-4076 • www.spectrum-analytical.com

Report Date:
28-Oct-09 12:34

☑ 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: Shawn Rising

Project: Sandri - Bernardston, MA
Project #: J40076.94

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB02927-01	AS Influent	Ground Water	22-Oct-09 12:00	23-Oct-09 08:30
SB02927-02	LGAC Influent	Ground Water	22-Oct-09 12:10	23-Oct-09 08:30
SB02927-03	LGAC Mdpt	Ground Water	22-Oct-09 12:15	23-Oct-09 08:30
SB02927-04	LGAC Effluent	Ground Water	22-Oct-09 12:20	23-Oct-09 08:30
SB02927-05	TB	Deionized Water	22-Oct-09 08:00	23-Oct-09 08:30

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
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

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 17 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is 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.

CASE NARRATIVE:

The samples were received 2.0 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 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.

According to WSC-CAM 5/2004 Rev.4, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended 70%-130% recovery range, a range has been set based on historical control limits.

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

SW846 8260B

Laboratory Control Samples:

9101856-BS1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

1,4-Dioxane

9101856-BSD1

Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

1,4-Dioxane

Samples:

S910193-CCV1

Analyte percent drift/percent difference is greater than 30%, data is accepted due to all CCC analytes passing within the 20% Drift/Difference criteria

1,4-Dioxane
Acetone

This affected the following samples:

AS Influent
LGAC Effluent
TB

SB02927-01 *AS Influent*

Elevated Reporting Limits due to the presence of high levels of non-target analytes.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
AS Influent SB02927-01	J40076.94	Ground Water	22-Oct-09 12:00	23-Oct-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds			R05								
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	5.0	5	SW846 8260B	26-Oct-09	26-Oct-09	9101856	
100-41-4	Ethylbenzene	BRL		µg/l	5.0	5	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	39.9		µg/l	5.0	5	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	5.0	5	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	10.0	5	"	"	"	"	
95-47-6	o-Xylene	63.5		µg/l	5.0	5	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	50.0	5	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*99*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*107*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*109*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*106*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	26-Oct-09	27-Oct-09	9101839	
Total Metals by EPA 6000/7000 Series Methods											
7439-89-6	Iron	65.8		mg/l	0.0150	1	SW846 6010B	23-Oct-09	26-Oct-09	9101754	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
LGAC Influent SB02927-02	J40076.94	Ground Water	22-Oct-09 12:10	23-Oct-09

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Batch*	*Cert.*
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	26-Oct-09	26-Oct-09	9101856	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*95*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*109*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*113*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*111*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
LGAC Mdpt SB02927-03	J40076.94	Ground Water	22-Oct-09 12:15	23-Oct-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	26-Oct-09	26-Oct-09	9101856	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*94*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*102*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*108*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*106*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
LGAC Effluent SB02927-04	J40076.94	Ground Water	22-Oct-09 12:20	23-Oct-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	26-Oct-09	26-Oct-09	9101856	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	10.7		µg/l	10.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*91*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*100*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*105*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*105*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	26-Oct-09	27-Oct-09	9101839	
Total Metals by EPA 6000/7000 Series Methods											
7439-89-6	Iron	0.0311		mg/l	0.0150	1	SW846 6010B	23-Oct-09	26-Oct-09	9101754	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TB SB02927-05	J40076.94	Deionized Water	22-Oct-09 08:00	23-Oct-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	26-Oct-09	26-Oct-09	9101856	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*95*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*100*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*		*70-130 %*			"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9101856 - SW846 5030 Water MS										
Blank (9101856-BLK1)										
Prepared & Analyzed: 26-Oct-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	5.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9101856 - SW846 5030 Water MS										
Blank (9101856-BLK1)										
Prepared & Analyzed: 26-Oct-09										
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	5.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	10.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*48.2*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*48.2*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.6*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.6*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*48.8*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*48.8*		µg/l		*50.0*		*98*	*70-130*		
LCS (9101856-BS1)										
Prepared & Analyzed: 26-Oct-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	21.7		µg/l		20.0		108	70-130		
Acetone	13.2		µg/l		20.0		66	60.2-138		
Acrylonitrile	20.6		µg/l		20.0		103	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9101856 - SW846 5030 Water MS										
LCS (9101856-BS1)										
Prepared & Analyzed: 26-Oct-09										
Benzene	18.4		µg/l		20.0		92	70-130		
Benzene	18.4		µg/l		20.0		92	70-130		
Bromobenzene	22.0		µg/l		20.0		110	70-130		
Bromochloromethane	20.5		µg/l		20.0		103	70-130		
Bromodichloromethane	22.6		µg/l		20.0		113	70-130		
Bromoform	23.4		µg/l		20.0		117	70-130		
Bromomethane	20.0		µg/l		20.0		100	56.4-147		
2-Butanone (MEK)	14.8		µg/l		20.0		74	70-142		
n-Butylbenzene	22.9		µg/l		20.0		114	70-130		
sec-Butylbenzene	23.8		µg/l		20.0		119	70-130		
tert-Butylbenzene	23.0		µg/l		20.0		115	70-130		
Carbon disulfide	21.6		µg/l		20.0		108	70-130		
Carbon tetrachloride	19.6		µg/l		20.0		98	70-130		
Chlorobenzene	21.3		µg/l		20.0		107	70-130		
Chloroethane	17.8		µg/l		20.0		89	67.2-130		
Chloroform	20.2		µg/l		20.0		101	70-130		
Chloromethane	16.2		µg/l		20.0		81	70-130		
2-Chlorotoluene	21.5		µg/l		20.0		108	70-130		
4-Chlorotoluene	22.2		µg/l		20.0		111	70-130		
1,2-Dibromo-3-chloropropane	19.7		µg/l		20.0		98	70-130		
Dibromochloromethane	20.6		µg/l		20.0		103	68.9-130		
1,2-Dibromoethane (EDB)	20.9		µg/l		20.0		105	70-130		
Dibromomethane	18.5		µg/l		20.0		93	70-130		
1,2-Dichlorobenzene	21.2		µg/l		20.0		106	70-130		
1,3-Dichlorobenzene	21.9		µg/l		20.0		109	70-130		
1,4-Dichlorobenzene	20.4		µg/l		20.0		102	70-130		
Dichlorodifluoromethane (Freon12)	16.1		µg/l		20.0		81	54.2-135		
1,1-Dichloroethane	18.3		µg/l		20.0		91	70-130		
1,2-Dichloroethane	18.5		µg/l		20.0		92	70-130		
1,1-Dichloroethene	20.9		µg/l		20.0		104	70-130		
cis-1,2-Dichloroethene	18.9		µg/l		20.0		94	70-130		
trans-1,2-Dichloroethene	17.2		µg/l		20.0		86	70-130		
1,2-Dichloropropane	21.1		µg/l		20.0		106	70-130		
1,3-Dichloropropane	20.4		µg/l		20.0		102	70-130		
2,2-Dichloropropane	19.7		µg/l		20.0		98	70-130		
1,1-Dichloropropene	19.2		µg/l		20.0		96	70-130		
cis-1,3-Dichloropropene	21.3		µg/l		20.0		106	70-130		
trans-1,3-Dichloropropene	22.1		µg/l		20.0		110	70-130		
Ethylbenzene	21.6		µg/l		20.0		108	70-130		
Ethylbenzene	21.6		µg/l		20.0		108	70-130		
Hexachlorobutadiene	23.4		µg/l		20.0		117	70-133		
2-Hexanone (MBK)	19.6		µg/l		20.0		98	70-130		
Isopropylbenzene	18.4		µg/l		20.0		92	70-130		
4-Isopropyltoluene	22.6		µg/l		20.0		113	70-130		
Methyl tert-butyl ether	19.2		µg/l		20.0		96	70-130		
Methyl tert-butyl ether	19.2		µg/l		20.0		96	70-130		
4-Methyl-2-pentanone (MIBK)	20.7		µg/l		20.0		104	69.1-130		
Methylene chloride	17.6		µg/l		20.0		88	70-130		
Naphthalene	19.0		µg/l		20.0		95	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9101856 - SW846 5030 Water MS										
LCS (9101856-BS1)										
Prepared & Analyzed: 26-Oct-09										
n-Propylbenzene	22.3		µg/l		20.0		112	70-130		
Styrene	22.5		µg/l		20.0		112	70-130		
1,1,1,2-Tetrachloroethane	22.9		µg/l		20.0		115	70-130		
1,1,2,2-Tetrachloroethane	24.6		µg/l		20.0		123	70-130		
Tetrachloroethene	18.6		µg/l		20.0		93	70-130		
Toluene	18.8		µg/l		20.0		94	70-130		
Toluene	18.8		µg/l		20.0		94	70-130		
1,2,3-Trichlorobenzene	22.0		µg/l		20.0		110	70-130		
1,2,4-Trichlorobenzene	21.7		µg/l		20.0		109	70-130		
1,3,5-Trichlorobenzene	21.4		µg/l		20.0		107	70-130		
1,1,1-Trichloroethane	19.9		µg/l		20.0		100	70-130		
1,1,2-Trichloroethane	21.1		µg/l		20.0		106	70-130		
Trichloroethene	20.0		µg/l		20.0		100	70-130		
Trichlorofluoromethane (Freon 11)	21.1		µg/l		20.0		106	69.8-161		
1,2,3-Trichloropropane	24.2		µg/l		20.0		121	70-130		
1,2,4-Trimethylbenzene	22.1		µg/l		20.0		111	70-130		
1,3,5-Trimethylbenzene	22.6		µg/l		20.0		113	70-130		
m,p-Xylene	44.7		µg/l		40.0		112	70-130		
Vinyl chloride	17.4		µg/l		20.0		87	70-130		
m,p-Xylene	44.7		µg/l		40.0		112	70-130		
o-Xylene	23.6		µg/l		20.0		118	70-130		
o-Xylene	23.6		µg/l		20.0		118	70-130		
Tetrahydrofuran	18.8		µg/l		20.0		94	70-130		
Ethyl ether	18.6		µg/l		20.0		93	70-130		
Tert-amyl methyl ether	17.1		µg/l		20.0		86	70-130		
Ethyl tert-butyl ether	19.2		µg/l		20.0		96	70-130		
Di-isopropyl ether	19.3		µg/l		20.0		97	70-130		
Tert-Butanol / butyl alcohol	196		µg/l		200		98	70-130		
1,4-Dioxane	701	QC2	µg/l		200		351	55.2-158		
trans-1,4-Dichloro-2-butene	23.9		µg/l		20.0		120	70-130		
Ethanol	418		µg/l		400		105	70-130		
Surrogate: 4-Bromofluorobenzene	*52.1*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*52.1*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*47.4*		µg/l		*50.0*		*95*	*70-130*		
Surrogate: Toluene-d8	*47.4*		µg/l		*50.0*		*95*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*45.8*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*45.8*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: Dibromofluoromethane	*47.2*		µg/l		*50.0*		*94*	*70-130*		
Surrogate: Dibromofluoromethane	*47.2*		µg/l		*50.0*		*94*	*70-130*		
LCS Dup (9101856-BSD1)										
Prepared & Analyzed: 26-Oct-09										
1,1,2-Trichlorotrifluoroethane (Freon 113)	23.0		µg/l		20.0		115	70-130	6	25
Acetone	14.1		µg/l		20.0		70	60.2-138	7	50
Acrylonitrile	22.0		µg/l		20.0		110	70-130	7	25
Benzene	20.4		µg/l		20.0		102	70-130	10	25
Benzene	20.4		µg/l		20.0		102	70-130	10	25
Bromobenzene	21.0		µg/l		20.0		105	70-130	5	25
Bromochloromethane	21.9		µg/l		20.0		110	70-130	7	25
Bromodichloromethane	22.5		µg/l		20.0		112	70-130	0.4	25
Bromoform	23.1		µg/l		20.0		115	70-130	1	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9101856 - SW846 5030 Water MS										
LCS Dup (9101856-BSD1)										
Prepared & Analyzed: 26-Oct-09										
Bromomethane	20.3		µg/l		20.0		102	56.4-147	2	50
2-Butanone (MEK)	17.9		µg/l		20.0		90	70-142	19	50
n-Butylbenzene	21.6		µg/l		20.0		108	70-130	6	25
sec-Butylbenzene	22.9		µg/l		20.0		115	70-130	4	25
tert-Butylbenzene	22.8		µg/l		20.0		114	70-130	1	25
Carbon disulfide	17.5		µg/l		20.0		88	70-130	21	25
Carbon tetrachloride	20.0		µg/l		20.0		100	70-130	2	25
Chlorobenzene	20.7		µg/l		20.0		104	70-130	3	25
Chloroethane	18.9		µg/l		20.0		94	67.2-130	6	50
Chloroform	21.5		µg/l		20.0		108	70-130	6	25
Chloromethane	16.5		µg/l		20.0		83	70-130	2	25
2-Chlorotoluene	21.3		µg/l		20.0		107	70-130	0.9	25
4-Chlorotoluene	22.0		µg/l		20.0		110	70-130	1	25
1,2-Dibromo-3-chloropropane	19.7		µg/l		20.0		98	70-130	0	25
Dibromochloromethane	21.0		µg/l		20.0		105	68.9-130	2	50
1,2-Dibromoethane (EDB)	23.3		µg/l		20.0		117	70-130	11	25
Dibromomethane	22.1		µg/l		20.0		110	70-130	18	25
1,2-Dichlorobenzene	21.1		µg/l		20.0		105	70-130	0.9	25
1,3-Dichlorobenzene	21.8		µg/l		20.0		109	70-130	0.3	25
1,4-Dichlorobenzene	19.9		µg/l		20.0		100	70-130	3	25
Dichlorodifluoromethane (Freon12)	16.4		µg/l		20.0		82	54.2-135	2	50
1,1-Dichloroethane	19.3		µg/l		20.0		97	70-130	6	25
1,2-Dichloroethane	20.0		µg/l		20.0		100	70-130	8	25
1,1-Dichloroethene	21.2		µg/l		20.0		106	70-130	2	25
cis-1,2-Dichloroethene	19.8		µg/l		20.0		99	70-130	5	25
trans-1,2-Dichloroethene	17.5		µg/l		20.0		88	70-130	2	25
1,2-Dichloropropane	21.4		µg/l		20.0		107	70-130	1	25
1,3-Dichloropropane	20.7		µg/l		20.0		103	70-130	1	25
2,2-Dichloropropane	19.4		µg/l		20.0		97	70-130	1	25
1,1-Dichloropropene	20.5		µg/l		20.0		102	70-130	6	25
cis-1,3-Dichloropropene	22.6		µg/l		20.0		113	70-130	6	25
trans-1,3-Dichloropropene	23.3		µg/l		20.0		116	70-130	5	25
Ethylbenzene	21.2		µg/l		20.0		106	70-130	2	25
Ethylbenzene	21.2		µg/l		20.0		106	70-130	2	25
Hexachlorobutadiene	21.9		µg/l		20.0		110	70-133	7	50
2-Hexanone (MBK)	21.8		µg/l		20.0		109	70-130	11	25
Isopropylbenzene	18.1		µg/l		20.0		90	70-130	2	25
4-Isopropyltoluene	21.7		µg/l		20.0		108	70-130	4	25
Methyl tert-butyl ether	20.5		µg/l		20.0		102	70-130	7	25
Methyl tert-butyl ether	20.5		µg/l		20.0		102	70-130	7	25
4-Methyl-2-pentanone (MIBK)	22.7		µg/l		20.0		114	69.1-130	9	50
Methylene chloride	18.7		µg/l		20.0		93	70-130	6	25
Naphthalene	18.2		µg/l		20.0		91	70-130	4	25
n-Propylbenzene	21.7		µg/l		20.0		108	70-130	3	25
Styrene	22.0		µg/l		20.0		110	70-130	2	25
1,1,1,2-Tetrachloroethane	23.0		µg/l		20.0		115	70-130	0.4	25
1,1,2,2-Tetrachloroethane	24.8		µg/l		20.0		124	70-130	1	25
Tetrachloroethene	20.0		µg/l		20.0		100	70-130	7	25
Toluene	19.3		µg/l		20.0		96	70-130	3	25

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9101856 - SW846 5030 Water MS										
LCS Dup (9101856-BSD1)										
Prepared & Analyzed: 26-Oct-09										
Toluene	19.3		µg/l		20.0		96	70-130	3	25
1,2,3-Trichlorobenzene	21.1		µg/l		20.0		105	70-130	4	25
1,2,4-Trichlorobenzene	20.5		µg/l		20.0		102	70-130	6	25
1,3,5-Trichlorobenzene	20.4		µg/l		20.0		102	70-130	4	25
1,1,1-Trichloroethane	20.8		µg/l		20.0		104	70-130	5	25
1,1,2-Trichloroethane	22.1		µg/l		20.0		111	70-130	5	25
Trichloroethene	19.3		µg/l		20.0		96	70-130	4	25
Trichlorofluoromethane (Freon 11)	21.8		µg/l		20.0		109	69.8-161	3	50
1,2,3-Trichloropropane	23.5		µg/l		20.0		118	70-130	3	25
1,2,4-Trimethylbenzene	21.7		µg/l		20.0		108	70-130	2	25
1,3,5-Trimethylbenzene	22.1		µg/l		20.0		110	70-130	2	25
m,p-Xylene	44.5		µg/l		40.0		111	70-130	0.4	25
Vinyl chloride	18.3		µg/l		20.0		91	70-130	5	25
o-Xylene	22.9		µg/l		20.0		115	70-130	3	25
m,p-Xylene	44.5		µg/l		40.0		111	70-130	0.4	25
o-Xylene	22.9		µg/l		20.0		115	70-130	3	25
Tetrahydrofuran	20.4		µg/l		20.0		102	70-130	8	25
Ethyl ether	19.6		µg/l		20.0		98	70-130	5	50
Tert-amyl methyl ether	18.7		µg/l		20.0		94	70-130	9	25
Ethyl tert-butyl ether	20.8		µg/l		20.0		104	70-130	8	25
Di-isopropyl ether	20.0		µg/l		20.0		100	70-130	3	25
Tert-Butanol / butyl alcohol	210		µg/l		200		105	70-130	7	25
1,4-Dioxane	827	QC2	µg/l		200		413	55.2-158	16	25
trans-1,4-Dichloro-2-butene	24.7		µg/l		20.0		124	70-130	3	25
Ethanol	404		µg/l		400		101	70-130	4	30
Surrogate: 4-Bromofluorobenzene	*51.7*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*51.7*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*50.1*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*50.1*		µg/l		*50.0*		*100*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9101839 - SW846 3510C										
Blank (9101839-BLK1)										
Prepared: 26-Oct-09 Analyzed: 27-Oct-09										
Non-polar material (SGT-HEM)	BRL		mg/l	1.0						
LCS (9101839-BS1)										
Prepared: 26-Oct-09 Analyzed: 27-Oct-09										
Non-polar material (SGT-HEM)	32.1		mg/l		38.4		84	83-101		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9101754 - SW846 3005A										
Blank (9101754-BLK1)										
Prepared: 23-Oct-09 Analyzed: 26-Oct-09										
Iron	BRL		mg/l	0.0150						
LCS (9101754-BS1)										
Prepared: 23-Oct-09 Analyzed: 26-Oct-09										
Iron	1.40		mg/l	0.0150	1.25		112	85-115		
LCS Dup (9101754-BSD1)										
Prepared: 23-Oct-09 Analyzed: 26-Oct-09										
Iron	1.35		mg/l	0.0150	1.25		108	85-115	4	20
Duplicate (9101754-DUP1) **Source: SB02927-01**										
Prepared: 23-Oct-09 Analyzed: 26-Oct-09										
Iron	65.7		mg/l	0.0150		65.8			0.2	20
Matrix Spike (9101754-MS1) **Source: SB02927-04**										
Prepared: 23-Oct-09 Analyzed: 26-Oct-09										
Iron	1.38		mg/l	0.0150	1.25	0.0311	108	75-125		
Matrix Spike Dup (9101754-MSD1) **Source: SB02927-04**										
Prepared: 23-Oct-09 Analyzed: 26-Oct-09										
Iron	1.49		mg/l	0.0150	1.25	0.0311	117	75-125	7	20
Post Spike (9101754-PS1) **Source: SB02927-04**										
Prepared: 23-Oct-09 Analyzed: 26-Oct-09										
Iron	1.37		mg/l	0.0150	1.25	0.0311	107	80-120		

Notes and Definitions

CAL2	Analyte percent drift/percent difference is greater than 30%, data is accepted due to all CCC analytes passing within the 20% Drift/Difference criteria
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
R05	Elevated Reporting Limits due to the presence of high levels of non-target analytes.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

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 *TPH (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.

Validated by:
Hanibal C. Tayeh, Ph.D.
Nicole Leja

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: Spectrum Analytical, Inc. - Agawam, MA	Project #: J40076.94
Project Location: Sandri - Bernardston, MA	MADEP RTN [1]:

This form provides certifications for the following data set:
SB02927-01 through SB02927-05

Sample matrices:	Deionized Water Ground Water				
MCP SW-846 Methods Used	☑ 8260B	☐ 8151A	☐ 8330	☑ 6010B	☐ 7470A/1A
	☐ 8270C	☐ 8081A	☐ VPH	☐ 6020	☐ 9014M [2]
	☐ 8082	☐ 8021B	☐ EPH	☐ 7000S [3]	☐ 7196A

1 List Release Tracking Number (RTN), if known
2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S - SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain of Custody documentation for the data set?	☑ Yes	☐ No
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	☑ Yes	☐ No
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
D	***VPH and EPH methods only***: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective methods)?	☐ Yes	☐ No

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all analytical QC performance standards and recommendations for the specified methods achieved?	☐ Yes	☑ No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	☐ 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.

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Date: 10/28/2009

SB02927 CT

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: 10/28/09
- 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: ECS - Agawam

Project No.: J40076.94

Site Name: SANDRI

Location: 50 CHURCH STREET, BERNARDSTON State: MA

Project Mgr.: SHAWN RISING

P.O. No.: _____ RQN: 0003

Sampler(s): TIM Ribbins

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= 4°C Ice 10= _____

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	Preservative	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: BTEX + MTBE by 8260B	TBA by 8260B	TAH (1664)	Total Fe 6010B	QA Reporting Notes: (check if needed)
SB02927-01	AS INFLUENT	10/22/09	12:00	G	GW	2,3,4,9	3	1		2	X	X	X	X	(Field) pH
-02	LGAC INFLUENT	↓	12:10	G	GW	2,9	3				X				INFLUENT pH = 6.1 SU
-03	LGAC MDPT		12:15	G	GW	2,9	3				X				EFFLUENT pH = 6.4 SU
-04	LGAC EFFLUENT		12:20	G	GW	2,3,4,9	3	1		2	X	X	X	X	
-05	TB		8:00	G	X1	2,9	1				X	X			

☐ Fax results when available to (____) _____

☒ E-mail to SRISING@ECSUNLIT.COM

EDD Format _____

Condition upon receipt: ☑ Iced ☐ Ambient ☐ °C 2.0

Relinquished by:	Received by:	Date:	Time:
		10/23/09	8:50

11 Almgren Drive • Agawam, Massachusetts 01001 • 413-789-9018 • Fax 413-789-4076 • www.spectrum-analytical.com

Report Date:
01-Dec-09 16:59

☑ 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: Shawn Rising

Project: Sandri - Bernardston, MA
Project #: J40076

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB04614-01	AS Influent	Ground Water	23-Nov-09 13:15	24-Nov-09 09:50
SB04614-02	GAC Influent	Ground Water	23-Nov-09 13:20	24-Nov-09 09:50
SB04614-03	GAC Midpt	Ground Water	23-Nov-09 13:22	24-Nov-09 09:50
SB04614-04	GAC Effluent	Ground Water	23-Nov-09 13:24	24-Nov-09 09:50
SB04614-05	Trip	Deionized Water	23-Nov-09 00:00	24-Nov-09 09:50

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
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

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 15 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supercedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report is 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.

CASE NARRATIVE:

The samples were received 4.4 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 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.

According to WSC-CAM 5/2004 Rev.4, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended 70%-130% recovery range, a range has been set based on historical control limits.

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

SW846 8260B

Laboratory Control Samples:

9112043-BS1

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.

Tert-Butanol / butyl alcohol

Spikes:

9112043-MS1 *Source: SB04614-02*

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

1,1-Dichloroethene
1,1-Dichloroethene
Benzene
Benzene
Methyl tert-butyl ether
Methyl tert-butyl ether
Tert-Butanol / butyl alcohol
Toluene
Toluene
Trichloroethene
Trichloroethene

9112043-MSD1 *Source: SB04614-02*

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

1,1-Dichloroethene
1,1-Dichloroethene
Benzene
Benzene
Methyl tert-butyl ether
Methyl tert-butyl ether
Tert-Butanol / butyl alcohol
Toluene
Toluene
Trichloroethene
Trichloroethene

SW846 8260B

Samples:

SB04614-01 *AS Influent*

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
AS Influent SB04614-01	J40076	Ground Water	23-Nov-09 13:15	24-Nov-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds			GS1								
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	9.8		µg/l	5.0	5	SW846 8260B	25-Nov-09	28-Nov-09	9112043	
100-41-4	Ethylbenzene	BRL		µg/l	5.0	5	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	66.6		µg/l	5.0	5	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	5.0	5	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	10.0	5	"	"	"	"	
95-47-6	o-Xylene	160		µg/l	5.0	5	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	50.0	5	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*91*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*95*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*114*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*97*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	25-Nov-09	30-Nov-09	9111978	
Total Metals by EPA 6000/7000 Series Methods											
7439-89-6	Iron	38.8		mg/l	0.0150	1	SW846 6010B	01-Dec-09	01-Dec-09	9112156	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Influent SB04614-02	J40076	Ground Water	23-Nov-09 13:20	24-Nov-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	25-Nov-09	28-Nov-09	9112043	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	3.6		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*83*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*97*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*116*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Midpt SB04614-03	J40076	Ground Water	23-Nov-09 13:22	24-Nov-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Aromatics by SW846 8260B											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	25-Nov-09	28-Nov-09	9112043	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*81*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*94*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*118*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*98*		*70-130 %*			"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Effluent SB04614-04	J40076	Ground Water	23-Nov-09 13:24	24-Nov-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	25-Nov-09	28-Nov-09	9112043	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*80*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*98*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*122*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*		*70-130 %*			"	"	"	"	
Extractable Petroleum Hydrocarbons											
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	25-Nov-09	30-Nov-09	9111978	
Total Metals by EPA 6000/7000 Series Methods											
7439-89-6	Iron	0.0616		mg/l	0.0150	1	SW846 6010B	01-Dec-09	01-Dec-09	9112156	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip SB04614-05	J40076	Deionized Water	23-Nov-09 00:00	24-Nov-09

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Cert.
Volatile Organic Compounds											
Volatile Organic Compounds											
Prepared by method SW846 5030 Water MS											
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	25-Nov-09	28-Nov-09	9112043	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	
Surrogate recoveries:											
460-00-4	*4-Bromofluorobenzene*	*85*		*70-130 %*			"	"	"	"	
2037-26-5	*Toluene-d8*	*93*		*70-130 %*			"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*117*		*70-130 %*			"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*100*		*70-130 %*			"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9112043 - SW846 5030 Water MS										
Blank (9112043-BLK1)										
Prepared: 25-Nov-09 Analyzed: 28-Nov-09										
Benzene	BRL		µg/l	1.0						
Benzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
Surrogate: 4-Bromofluorobenzene	*41.4*		µg/l		*50.0*		*83*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*41.4*		µg/l		*50.0*		*83*	*70-130*		
Surrogate: Toluene-d8	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*63.4*		µg/l		*50.0*		*127*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*63.4*		µg/l		*50.0*		*127*	*70-130*		
Surrogate: Dibromofluoromethane	*52.5*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Dibromofluoromethane	*52.5*		µg/l		*50.0*		*105*	*70-130*		
LCS (9112043-BS1)										
Prepared: 25-Nov-09 Analyzed: 28-Nov-09										
Benzene	21.4		µg/l		20.0		107	70-130		
Benzene	21.4		µg/l		20.0		107	70-130		
Ethylbenzene	24.0		µg/l		20.0		120	70-130		
Ethylbenzene	24.0		µg/l		20.0		120	70-130		
Methyl tert-butyl ether	23.9		µg/l		20.0		120	70-130		
Methyl tert-butyl ether	23.9		µg/l		20.0		120	70-130		
Toluene	21.1		µg/l		20.0		105	70-130		
Toluene	21.1		µg/l		20.0		105	70-130		
m,p-Xylene	48.2		µg/l		40.0		121	70-130		
m,p-Xylene	48.2		µg/l		40.0		121	70-130		
o-Xylene	24.0		µg/l		20.0		120	70-130		
o-Xylene	24.0		µg/l		20.0		120	70-130		
Tert-Butanol / butyl alcohol	264	QM9	µg/l		200		132	70-130		
Surrogate: 4-Bromofluorobenzene	*45.9*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*45.9*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: Toluene-d8	*50.0*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*50.0*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*56.0*		µg/l		*50.0*		*112*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*56.0*		µg/l		*50.0*		*112*	*70-130*		
Surrogate: Dibromofluoromethane	*49.4*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*49.4*		µg/l		*50.0*		*99*	*70-130*		
LCS Dup (9112043-BSD1)										
Prepared: 25-Nov-09 Analyzed: 28-Nov-09										
Benzene	20.3		µg/l		20.0		102	70-130	5	25
Benzene	20.3		µg/l		20.0		102	70-130	5	25
Ethylbenzene	23.1		µg/l		20.0		115	70-130	4	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9112043 - SW846 5030 Water MS										
LCS Dup (9112043-BSD1)										
Prepared: 25-Nov-09 Analyzed: 28-Nov-09										
Ethylbenzene	23.1		µg/l		20.0		115	70-130	4	25
Methyl tert-butyl ether	23.0		µg/l		20.0		115	70-130	4	25
Methyl tert-butyl ether	23.0		µg/l		20.0		115	70-130	4	25
Toluene	20.1		µg/l		20.0		101	70-130	4	25
Toluene	20.1		µg/l		20.0		101	70-130	4	25
m,p-Xylene	44.6		µg/l		40.0		111	70-130	8	25
m,p-Xylene	44.6		µg/l		40.0		111	70-130	8	25
o-Xylene	23.0		µg/l		20.0		115	70-130	5	25
o-Xylene	23.0		µg/l		20.0		115	70-130	5	25
Tert-Butanol / butyl alcohol	244		µg/l		200		122	70-130	8	25
Surrogate: 4-Bromofluorobenzene	*47.8*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*47.8*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*51.6*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.6*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*59.2*		µg/l		*50.0*		*118*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*59.2*		µg/l		*50.0*		*118*	*70-130*		
Surrogate: Dibromofluoromethane	*48.9*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Dibromofluoromethane	*48.9*		µg/l		*50.0*		*98*	*70-130*		
Matrix Spike (9112043-MS1) **Source: SB04614-02**										
Prepared: 25-Nov-09 Analyzed: 28-Nov-09										
Benzene	8.4	QM7	µg/l		20.0	BRL	42	70-130		
Benzene	8.4	QM7	µg/l		20.0	BRL	42	70-130		
Chlorobenzene	19.0		µg/l		20.0	BRL	95	70-130		
1,1-Dichloroethene	10.6	QM7	µg/l		20.0	BRL	53	70-130		
Ethylbenzene	21.6		µg/l		20.0	BRL	108	70-130		
Ethylbenzene	21.6		µg/l		20.0	BRL	108	70-130		
Methyl tert-butyl ether	10.7	QM7	µg/l		20.0	3.6	36	70-130		
Methyl tert-butyl ether	10.7	QM7	µg/l		20.0	3.6	36	70-130		
Toluene	9.2	QM7	µg/l		20.0	BRL	46	70-130		
Toluene	9.2	QM7	µg/l		20.0	BRL	46	70-130		
Trichloroethene	9.3	QM7	µg/l		20.0	BRL	47	70-130		
m,p-Xylene	43.4		µg/l		40.0	BRL	109	70-130		
o-Xylene	20.5		µg/l		20.0	BRL	103	70-130		
m,p-Xylene	43.4		µg/l		40.0	BRL	109	70-130		
o-Xylene	20.5		µg/l		20.0	BRL	103	70-130		
Chlorobenzene	19.0		µg/l		20.0	BRL	95	70-130		
1,1-Dichloroethene	10.6	QM7	µg/l		20.0	BRL	53	70-130		
Trichloroethene	9.3	QM7	µg/l		20.0	BRL	47	70-130		
Tert-Butanol / butyl alcohol	73.2	QM7	µg/l		200	8.9	32	70-130		
Surrogate: 4-Bromofluorobenzene	*41.9*		µg/l		*50.0*		*84*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*41.9*		µg/l		*50.0*		*84*	*70-130*		
Surrogate: Toluene-d8	*35.0*		µg/l		*50.0*		*70*	*70-130*		
Surrogate: Toluene-d8	*35.0*		µg/l		*50.0*		*70*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*45.5*		µg/l		*50.0*		*91*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*45.5*		µg/l		*50.0*		*91*	*70-130*		
Surrogate: Dibromofluoromethane	*36.8*		µg/l		*50.0*		*74*	*70-130*		
Surrogate: Dibromofluoromethane	*36.8*		µg/l		*50.0*		*74*	*70-130*		
Matrix Spike Dup (9112043-MSD1) **Source: SB04614-02**										
Prepared: 25-Nov-09 Analyzed: 28-Nov-09										
Benzene	7.5	QM7	µg/l		20.0	BRL	37	70-130	11	30
Benzene	7.5	QM7	µg/l		20.0	BRL	37	70-130	11	30
Chlorobenzene	19.1		µg/l		20.0	BRL	95	70-130	0.3	30

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9112043 - SW846 5030 Water MS										
Matrix Spike Dup (9112043-MSD1) **Source: SB04614-02**										
Prepared: 25-Nov-09 Analyzed: 28-Nov-09										
1,1-Dichloroethene	8.2	QM7	µg/l		20.0	BRL	41	70-130	25	30
Ethylbenzene	21.6		µg/l		20.0	BRL	108	70-130	0.09	30
Ethylbenzene	21.6		µg/l		20.0	BRL	108	70-130	0.09	30
Methyl tert-butyl ether	10.3	QM7	µg/l		20.0	3.6	34	70-130	6	30
Methyl tert-butyl ether	10.3	QM7	µg/l		20.0	3.6	34	70-130	6	30
Toluene	8.8	QM7	µg/l		20.0	BRL	44	70-130	4	30
Toluene	8.8	QM7	µg/l		20.0	BRL	44	70-130	4	30
Trichloroethene	8.5	QM7	µg/l		20.0	BRL	43	70-130	9	30
m,p-Xylene	42.6		µg/l		40.0	BRL	107	70-130	2	30
o-Xylene	20.4		µg/l		20.0	BRL	102	70-130	0.5	30
m,p-Xylene	42.6		µg/l		40.0	BRL	107	70-130	2	30
o-Xylene	20.4		µg/l		20.0	BRL	102	70-130	0.5	30
Chlorobenzene	19.1		µg/l		20.0	BRL	95	70-130	0.3	30
1,1-Dichloroethene	8.2	QM7	µg/l		20.0	BRL	41	70-130	25	30
Tert-Butanol / butyl alcohol	87.1	QM7	µg/l		200	8.9	39	70-130	20	30
Trichloroethene	8.5	QM7	µg/l		20.0	BRL	43	70-130	9	30
Surrogate: 4-Bromofluorobenzene	*42.7*		µg/l		*50.0*		*85*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*42.7*		µg/l		*50.0*		*85*	*70-130*		
Surrogate: Toluene-d8	*35.6*		µg/l		*50.0*		*71*	*70-130*		
Surrogate: Toluene-d8	*35.6*		µg/l		*50.0*		*71*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*46.1*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*46.1*		µg/l		*50.0*		*92*	*70-130*		
Surrogate: Dibromofluoromethane	*37.7*		µg/l		*50.0*		*75*	*70-130*		
Surrogate: Dibromofluoromethane	*37.7*		µg/l		*50.0*		*75*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9111978 - SW846 3510C										
Blank (9111978-BLK1)										
Prepared: 25-Nov-09 Analyzed: 30-Nov-09										
Non-polar material (SGT-HEM)	BRL		mg/l	1.0						
LCS (9111978-BS1)										
Prepared: 25-Nov-09 Analyzed: 30-Nov-09										
Non-polar material (SGT-HEM)	38.2		mg/l		44.3		86	83-101		

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

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 9112156 - SW846 3005A										
Blank (9112156-BLK1)										
Prepared & Analyzed: 01-Dec-09										
Iron	BRL		mg/l	0.0150						
LCS (9112156-BS1)										
Prepared & Analyzed: 01-Dec-09										
Iron	1.31		mg/l	0.0150	1.25		105	85-115		
LCS Dup (9112156-BSD1)										
Prepared & Analyzed: 01-Dec-09										
Iron	1.28		mg/l	0.0150	1.25		102	85-115	2	20

Notes and Definitions

GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

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 *TPH (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.

Validated by:
Hanibal C. Tayeh, Ph.D.
Kim Wisk

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: Spectrum Analytical, Inc. - Agawam, MA	Project #: J40076
Project Location: Sandri - Bernardston, MA	MADEP RTN [1]:

This form provides certifications for the following data set:
SB04614-01 through SB04614-05

Sample matrices:	Deionized Water Ground Water				
MCP SW-846 Methods Used	☑ 8260B	☐ 8151A	☐ 8330	☑ 6010B	☐ 7470A/1A
	☐ 8270C	☐ 8081A	☐ VPH	☐ 6020	☐ 9014M [2]
	☐ 8082	☐ 8021B	☐ EPH	☐ 7000S [3]	☐ 7196A

1 List Release Tracking Number (RTN), if known
2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S - SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain of Custody documentation for the data set?	☑ Yes	☐ No
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	☑ Yes	☐ No
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes	☐ No
D	***VPH and EPH methods only***: Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective methods)?	☐ Yes	☐ No

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all analytical QC performance standards and recommendations for the specified methods achieved?	☐ Yes	☑ No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	☐ 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.

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Date: 12/1/2009

S804614 CLC

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: 72 HRS.
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: SKR

Telephone #:

Project Mgr. SKR

Invoice To: ECS-AGAWAM

P.O. No.: RQN:

Project No.: J40076

Site Name: SANDRI

Location: BERNARDSTON State: MA

Sampler(s): ROB H

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= 10= 11=

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

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	List preservative code below: 2 2 3 4 — Analyses: BTEX + MTBE by 8260B	TBA by 8260B	TPH 1664	TO TAL Fe 6010B
S804614-01	A-SYINFLUENT	11/23/09	1:15	G	GW	3	1		1	✓	✓	✓	✓
02	GAC INFLUENT	11/23	1:20	G	GW	3				✓			
03	GAC MID PT	11/23	1:22	G	GW	3				✓	✓	✓	✓
04	GAC EFFLUENT	11/23	1:24	G	GW	3	1		1	✓	✓	✓	✓
05	TRIP	11/23	AM	G	DI	1				✓	✓		

QA/QC Reporting Notes: (check as needed)
- ☒ 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-7

Relinquished by:	Received by:	Date:	Time:	Temp°C
Rob Haynes		11/24/09	950	4.4

☐ EDD Format
☐ E-mail to

☐ Ambient ☒ Iced ☐ Refrigerated ☐ Fridge temp ___ °C ☐ Freezer temp ___ °C

Report Date:
17-Mar-10 16:53

☑ 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: Lori McCarthy

Project: Sandri-50 Church St, Bernardston, MA
Project #: J40076

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB09104-01	AS INF	Ground Water	11-Mar-10 15:40	12-Mar-10 10:00
SB09104-02	GAC INF	Ground Water	11-Mar-10 15:43	12-Mar-10 10:00
SB09104-03	GAC MID	Ground Water	11-Mar-10 15:46	12-Mar-10 10:00
SB09104-04	GAC EFF	Ground Water	11-Mar-10 15:49	12-Mar-10 10:00
SB09104-05	Trip	Deionized Water	11-Mar-10 00:00	12-Mar-10 10:00

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
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

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

CASE NARRATIVE:

The samples were received 3.2 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 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.

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 8260B

Laboratory Control Samples:

1005605 BS/BSD

Bromoform percent recoveries 136/138 (70-130) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

AS INF

Carbon tetrachloride percent recoveries 134/124 (70-130) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

AS INF

Dibromochloromethane percent recoveries 139/134 (52.9-130) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

AS INF

1005811 BS/BSD

1,1,1-Trichloroethane percent recoveries 133/128 (70-130) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

AS INF
GAC EFF

1,1,2,2-Tetrachloroethane percent recoveries 67/65 (70-130) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

AS INF
GAC EFF

1,1,2-Trichlorotrifluoroethane (Freon 113) percent recoveries 142/133 (70-130) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

AS INF
GAC EFF

SW846 8260B

Laboratory Control Samples:

1005811 BS/BSD

1,1-Dichloroethene percent recoveries 140/131 (70-130) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

AS INF
GAC EFF

Carbon tetrachloride percent recoveries 132/129 (70-130) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

AS INF
GAC EFF

Dichlorodifluoromethane (Freon12) percent recoveries 163/145 (63.1-130) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

AS INF
GAC EFF

Samples:

S001909-ICV1

Analyte percent recovery is outside individual acceptance criteria, but within overall method allowances.

1,1,2-Trichlorotrifluoroethane (Freon 113) (134%)

S002278-CCV1

Analyte >40 % difference. However no reportable concentration present in sample.

Trichlorofluoromethane (Freon 11)

Analyte >40 % difference. However no reportable concentration present in sample.

Dichlorodifluoromethane (Freon12)

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

Methyl tert-butyl ether (21.0%)
Tert-Butanol / butyl alcohol (21.5%)

This affected the following samples:

AS INF
GAC EFF
GAC MID

SB09104-01 *AS INF*

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

m,p-Xylene
o-Xylene

This sample was not able to be analyzed for client requested reporting limits due to high concentrations of target analytes in the sample.

SB09104-03 *GAC MID*

Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

1,2-Dichloroethane-d4

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
AS INF	J40076	Ground Water	11-Mar-10 15:40	12-Mar-10
SB09104-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds												
Volatile Organic Compounds Prepared by method SW846 5030 Water MS			GS									
71-43-2	Benzene	127		µg/l	5.0	5	SW846 8260B	15-Mar-10	15-Mar-10	JLG	1005605	
100-41-4	Ethylbenzene	90.2		µg/l	5.0	5	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	108		µg/l	5.0	5	"	"	"	"	"	
108-88-3	Toluene	242		µg/l	5.0	5	"	"	"	"	"	
179601-23-1	m,p-Xylene	1,310	E	µg/l	10.0	5	"	"	"	"	"	
95-47-6	o-Xylene	653	E	µg/l	5.0	5	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	50.0	5	"	"	"	"	"	
Surrogate recoveries:												
460-00-4	*4-Bromofluorobenzene*	*103*			*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*96*			*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*103*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*110*			*70-130 %*		"	"	"	"	"	
Re-analysis of Volatile Organic Compounds Prepared by method SW846 5030 Water MS												
71-43-2	Benzene	53.2		µg/l	20.0	20	SW846 8260B	17-Mar-10	17-Mar-10	JRO	1005811	
100-41-4	Ethylbenzene	39.4		µg/l	20.0	20	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	73.2		µg/l	20.0	20	"	"	"	"	"	
108-88-3	Toluene	125		µg/l	20.0	20	"	"	"	"	"	
179601-23-1	m,p-Xylene	717		µg/l	40.0	20	"	"	"	"	"	
95-47-6	o-Xylene	353		µg/l	20.0	20	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	200	20	"	"	"	"	"	
Surrogate recoveries:												
460-00-4	*4-Bromofluorobenzene*	*103*			*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*129*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*118*			*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons												
	Non-polar material (SGT-HEM)	1.5		mg/l	1.0	1	EPA 1664 Rev. A	15-Mar-10	16-Mar-10	JK	1005585	
Total Metals by EPA 200 Series Methods												
7439-89-6	Iron	14.4		mg/l	0.0150	1	EPA 200.7	15-Mar-10	16-Mar-10	TBG	1005641	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC INF	J40076	Ground Water	11-Mar-10 15:43	12-Mar-10
SB09104-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds												
Volatile Organic Aromatics by SW846 8260B Prepared by method SW846 5030 Water MS												
71-43-2	Benzene	3.0		µg/l	1.0	1	SW846 8260B	16-Mar-10	16-Mar-10	adu	1005706	
100-41-4	Ethylbenzene	1.0		µg/l	1.0	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	11.0		µg/l	1.0	1	"	"	"	"	"	
108-88-3	Toluene	4.9		µg/l	1.0	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	31.2		µg/l	2.0	1	"	"	"	"	"	
95-47-6	o-Xylene	25.9		µg/l	1.0	1	"	"	"	"	"	
Surrogate recoveries:												
460-00-4	*4-Bromofluorobenzene*	*103*			*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*99*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*99*			*70-130 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC MID	J40076	Ground Water	11-Mar-10 15:46	12-Mar-10
SB09104-03				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds												
Volatile Organic Aromatics by SW846 8260B Prepared by method SW846 5030 Water MS												
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	17-Mar-10	17-Mar-10	JRO	1005811	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	"	
Surrogate recoveries:												
460-00-4	*4-Bromofluorobenzene*	*90*			*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*131*	SGC		*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*120*			*70-130 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC EFF	J40076	Ground Water	11-Mar-10 15:49	12-Mar-10
SB09104-04				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds												
Volatile Organic Compounds Prepared by method SW846 5030 Water MS												
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	17-Mar-10	17-Mar-10	JRO	1005811	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	13.4		µg/l	10.0	1	"	"	"	"	"	
Surrogate recoveries:												
460-00-4	*4-Bromofluorobenzene*	*91*			*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*98*			*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*130*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*121*			*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons												
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	15-Mar-10	16-Mar-10	JK	1005585	
Total Metals by EPA 200 Series Methods												
7439-89-6	Iron	0.0567		mg/l	0.0150	1	EPA 200.7	15-Mar-10	16-Mar-10	TBG	1005641	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip	J40076	Deionized Water	11-Mar-10 00:00	12-Mar-10
SB09104-05				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds												
Volatile Organic Aromatics by SW846 8260B Prepared by method SW846 5030 Water MS												
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	15-Mar-10	15-Mar-10	JLG	1005605	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	"	
Surrogate recoveries:												
460-00-4	*4-Bromofluorobenzene*	*98*			*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*97*			*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*105*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*113*			*70-130 %*		"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1005605 - SW846 5030 Water MS										
Blank (1005605-BLK1)						Prepared & Analyzed: 15-Mar-10				
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	2.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	2.0						
Naphthalene	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1005605 - SW846 5030 Water MS										
Blank (1005605-BLK1)					Prepared & Analyzed: 15-Mar-10					
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	2.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*49.1*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*49.1*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*48.7*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: Toluene-d8	*48.7*		µg/l		*50.0*		*97*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.6*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.6*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Dibromofluoromethane	*56.7*		µg/l		*50.0*		*113*	*70-130*		
Surrogate: Dibromofluoromethane	*56.7*		µg/l		*50.0*		*113*	*70-130*		
LCS (1005605-BS1)					Prepared & Analyzed: 15-Mar-10					
1,1,2-Trichlorotrifluoroethane (Freon 113)	21.6		µg/l		20.0		108	70-130		
Acetone	27.0		µg/l		20.0		135	53.2-137		
Acrylonitrile	23.0		µg/l		20.0		115	70-130		
Benzene	22.4		µg/l		20.0		112	70-130		
Benzene	22.4		µg/l		20.0		112	70-130		
Bromobenzene	21.8		µg/l		20.0		109	70-130		
Bromochloromethane	24.2		µg/l		20.0		121	70-130		
Bromodichloromethane	24.8		µg/l		20.0		124	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1005605 - SW846 5030 Water MS										
LCS (1005605-BS1)						Prepared & Analyzed: 15-Mar-10				
Bromoform	27.2	QC2	µg/l		20.0		136	70-130		
Bromomethane	15.3		µg/l		20.0		77	48.9-147		
2-Butanone (MEK)	25.1		µg/l		20.0		125	70-139		
n-Butylbenzene	19.7		µg/l		20.0		99	70-130		
sec-Butylbenzene	20.8		µg/l		20.0		104	70-130		
tert-Butylbenzene	21.9		µg/l		20.0		110	70-130		
Carbon disulfide	23.3		µg/l		20.0		116	70-130		
Carbon tetrachloride	26.8	QM9	µg/l		20.0		134	70-130		
Chlorobenzene	20.6		µg/l		20.0		103	70-130		
Chloroethane	24.4		µg/l		20.0		122	65.6-130		
Chloroform	22.9		µg/l		20.0		114	70-130		
Chloromethane	19.6		µg/l		20.0		98	70-130		
2-Chlorotoluene	20.9		µg/l		20.0		104	70-130		
4-Chlorotoluene	20.4		µg/l		20.0		102	70-130		
1,2-Dibromo-3-chloropropane	26.0		µg/l		20.0		130	70-130		
Dibromochloromethane	27.9	QC2	µg/l		20.0		139	52.9-130		
1,2-Dibromoethane (EDB)	23.0		µg/l		20.0		115	70-130		
Dibromomethane	23.7		µg/l		20.0		119	70-130		
1,2-Dichlorobenzene	20.9		µg/l		20.0		105	70-130		
1,3-Dichlorobenzene	20.1		µg/l		20.0		101	70-130		
1,4-Dichlorobenzene	19.7		µg/l		20.0		98	70-130		
Dichlorodifluoromethane (Freon12)	21.7		µg/l		20.0		108	63.1-130		
1,1-Dichloroethane	22.6		µg/l		20.0		113	70-130		
1,2-Dichloroethane	21.3		µg/l		20.0		107	70-130		
1,1-Dichloroethene	23.2		µg/l		20.0		116	70-130		
cis-1,2-Dichloroethene	22.2		µg/l		20.0		111	70-130		
trans-1,2-Dichloroethene	24.0		µg/l		20.0		120	70-130		
1,2-Dichloropropane	23.2		µg/l		20.0		116	70-130		
1,3-Dichloropropane	22.0		µg/l		20.0		110	70-130		
2,2-Dichloropropane	22.5		µg/l		20.0		112	70-130		
1,1-Dichloropropene	23.7		µg/l		20.0		119	70-130		
cis-1,3-Dichloropropene	22.1		µg/l		20.0		110	70-130		
trans-1,3-Dichloropropene	23.6		µg/l		20.0		118	70-130		
Ethylbenzene	21.5		µg/l		20.0		107	70-130		
Ethylbenzene	21.5		µg/l		20.0		107	70-130		
Hexachlorobutadiene	24.0		µg/l		20.0		120	70-130		
2-Hexanone (MBK)	22.6		µg/l		20.0		113	70-130		
Isopropylbenzene	23.7		µg/l		20.0		119	70-130		
4-Isopropyltoluene	20.0		µg/l		20.0		100	70-130		
Methyl tert-butyl ether	21.1		µg/l		20.0		106	70-130		
Methyl tert-butyl ether	21.1		µg/l		20.0		106	70-130		
4-Methyl-2-pentanone (MIBK)	23.4		µg/l		20.0		117	61-130		
Methylene chloride	22.9		µg/l		20.0		115	70-130		
Naphthalene	21.2		µg/l		20.0		106	70-130		
n-Propylbenzene	20.5		µg/l		20.0		102	70-130		
Styrene	21.9		µg/l		20.0		109	70-130		
1,1,1,2-Tetrachloroethane	24.5		µg/l		20.0		122	70-130		
1,1,2,2-Tetrachloroethane	21.6		µg/l		20.0		108	70-130		
Tetrachloroethene	22.7		µg/l		20.0		113	70-130		
Toluene	22.0		µg/l		20.0		110	70-130		
Toluene	22.0		µg/l		20.0		110	70-130		
1,2,3-Trichlorobenzene	20.9		µg/l		20.0		105	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1005605 - SW846 5030 Water MS										
LCS (1005605-BS1)						Prepared & Analyzed: 15-Mar-10				
1,2,4-Trichlorobenzene	20.6		µg/l		20.0		103	70-130		
1,3,5-Trichlorobenzene	20.5		µg/l		20.0		103	70-130		
1,1,1-Trichloroethane	23.7		µg/l		20.0		118	70-130		
1,1,2-Trichloroethane	22.7		µg/l		20.0		113	70-130		
Trichloroethene	23.6		µg/l		20.0		118	70-130		
Trichlorofluoromethane (Freon 11)	21.9		µg/l		20.0		109	60-172		
1,2,3-Trichloropropane	19.7		µg/l		20.0		99	70-130		
1,2,4-Trimethylbenzene	21.2		µg/l		20.0		106	70-130		
1,3,5-Trimethylbenzene	21.5		µg/l		20.0		107	70-130		
m,p-Xylene	43.7		µg/l		40.0		109	70-130		
Vinyl chloride	19.6		µg/l		20.0		98	70-130		
m,p-Xylene	43.7		µg/l		40.0		109	70-130		
o-Xylene	22.0		µg/l		20.0		110	70-130		
o-Xylene	22.0		µg/l		20.0		110	70-130		
Tetrahydrofuran	23.7		µg/l		20.0		119	70-130		
Ethyl ether	24.3		µg/l		20.0		122	70-130		
Tert-amyl methyl ether	21.3		µg/l		20.0		106	70-130		
Ethyl tert-butyl ether	21.8		µg/l		20.0		109	70-130		
Di-isopropyl ether	22.5		µg/l		20.0		112	70-130		
Tert-Butanol / butyl alcohol	194		µg/l		200		97	70-130		
1,4-Dioxane	258		µg/l		200		129	54.2-130		
trans-1,4-Dichloro-2-butene	20.7		µg/l		20.0		104	70-130		
Ethanol	505		µg/l		400		126	70-130		
Surrogate: 4-Bromofluorobenzene	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*49.9*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*48.2*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*48.2*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*54.0*		µg/l		*50.0*		*108*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*54.0*		µg/l		*50.0*		*108*	*70-130*		
Surrogate: Dibromofluoromethane	*55.9*		µg/l		*50.0*		*112*	*70-130*		
Surrogate: Dibromofluoromethane	*55.9*		µg/l		*50.0*		*112*	*70-130*		
LCS Dup (1005605-BSD1)						Prepared & Analyzed: 15-Mar-10				
1,1,2-Trichlorotrifluoroethane (Freon 113)	19.4		µg/l		20.0		97	70-130	11	25
Acetone	24.8		µg/l		20.0		124	53.2-137	9	50
Acrylonitrile	20.9		µg/l		20.0		104	70-130	10	25
Benzene	20.5		µg/l		20.0		102	70-130	9	25
Benzene	20.5		µg/l		20.0		102	70-130	9	25
Bromobenzene	22.5		µg/l		20.0		112	70-130	3	25
Bromochloromethane	24.2		µg/l		20.0		121	70-130	0.3	25
Bromodichloromethane	22.3		µg/l		20.0		112	70-130	11	25
Bromoform	27.7	QC2	µg/l		20.0		138	70-130	2	25
Bromomethane	15.8		µg/l		20.0		79	48.9-147	3	50
2-Butanone (MEK)	22.4		µg/l		20.0		112	70-139	11	50
n-Butylbenzene	17.0		µg/l		20.0		85	70-130	15	25
sec-Butylbenzene	20.0		µg/l		20.0		100	70-130	4	25
tert-Butylbenzene	21.9		µg/l		20.0		109	70-130	0.2	25
Carbon disulfide	21.0		µg/l		20.0		105	70-130	10	25
Carbon tetrachloride	24.8		µg/l		20.0		124	70-130	8	25
Chlorobenzene	20.4		µg/l		20.0		102	70-130	0.8	25
Chloroethane	20.4		µg/l		20.0		102	65.6-130	18	50
Chloroform	21.2		µg/l		20.0		106	70-130	8	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1005605 - SW846 5030 Water MS										
LCS Dup (1005605-BSD1)					Prepared & Analyzed: 15-Mar-10					
Chloromethane	16.6		µg/l		20.0		83	70-130	17	25
2-Chlorotoluene	20.2		µg/l		20.0		101	70-130	3	25
4-Chlorotoluene	19.7		µg/l		20.0		99	70-130	4	25
1,2-Dibromo-3-chloropropane	22.3		µg/l		20.0		112	70-130	15	25
Dibromochloromethane	26.9	QC2	µg/l		20.0		134	52.9-130	4	50
1,2-Dibromoethane (EDB)	22.7		µg/l		20.0		113	70-130	1	25
Dibromomethane	22.6		µg/l		20.0		113	70-130	5	25
1,2-Dichlorobenzene	20.0		µg/l		20.0		100	70-130	4	25
1,3-Dichlorobenzene	20.7		µg/l		20.0		103	70-130	3	25
1,4-Dichlorobenzene	18.6		µg/l		20.0		93	70-130	5	25
Dichlorodifluoromethane (Freon12)	18.5		µg/l		20.0		92	63.1-130	16	50
1,1-Dichloroethane	20.3		µg/l		20.0		102	70-130	11	25
1,2-Dichloroethane	19.7		µg/l		20.0		99	70-130	8	25
1,1-Dichloroethene	21.0		µg/l		20.0		105	70-130	10	25
cis-1,2-Dichloroethene	20.9		µg/l		20.0		105	70-130	6	25
trans-1,2-Dichloroethene	22.2		µg/l		20.0		111	70-130	7	25
1,2-Dichloropropane	21.5		µg/l		20.0		108	70-130	7	25
1,3-Dichloropropane	20.7		µg/l		20.0		103	70-130	6	25
2,2-Dichloropropane	20.0		µg/l		20.0		100	70-130	12	25
1,1-Dichloropropene	20.9		µg/l		20.0		104	70-130	13	25
cis-1,3-Dichloropropene	20.5		µg/l		20.0		102	70-130	7	25
trans-1,3-Dichloropropene	21.8		µg/l		20.0		109	70-130	8	25
Ethylbenzene	20.7		µg/l		20.0		104	70-130	4	25
Ethylbenzene	20.7		µg/l		20.0		104	70-130	4	25
Hexachlorobutadiene	23.2		µg/l		20.0		116	70-130	3	50
2-Hexanone (MBK)	20.9		µg/l		20.0		105	70-130	8	25
Isopropylbenzene	23.2		µg/l		20.0		116	70-130	2	25
4-Isopropyltoluene	18.2		µg/l		20.0		91	70-130	9	25
Methyl tert-butyl ether	20.0		µg/l		20.0		100	70-130	6	25
Methyl tert-butyl ether	20.0		µg/l		20.0		100	70-130	6	25
4-Methyl-2-pentanone (MIBK)	21.4		µg/l		20.0		107	61-130	9	50
Methylene chloride	20.5		µg/l		20.0		102	70-130	11	25
Naphthalene	20.0		µg/l		20.0		100	70-130	6	25
n-Propylbenzene	19.7		µg/l		20.0		98	70-130	4	25
Styrene	21.6		µg/l		20.0		108	70-130	1	25
1,1,1,2-Tetrachloroethane	24.8		µg/l		20.0		124	70-130	1	25
1,1,2,2-Tetrachloroethane	21.7		µg/l		20.0		108	70-130	0.1	25
Tetrachloroethene	22.9		µg/l		20.0		115	70-130	1	25
Toluene	20.8		µg/l		20.0		104	70-130	6	25
Toluene	20.8		µg/l		20.0		104	70-130	6	25
1,2,3-Trichlorobenzene	20.4		µg/l		20.0		102	70-130	3	25
1,2,4-Trichlorobenzene	19.9		µg/l		20.0		99	70-130	4	25
1,3,5-Trichlorobenzene	19.7		µg/l		20.0		99	70-130	4	25
1,1,1-Trichloroethane	22.2		µg/l		20.0		111	70-130	6	25
1,1,2-Trichloroethane	21.8		µg/l		20.0		109	70-130	4	25
Trichloroethene	21.4		µg/l		20.0		107	70-130	10	25
Trichlorofluoromethane (Freon 11)	20.1		µg/l		20.0		100	60-172	9	50
1,2,3-Trichloropropane	19.0		µg/l		20.0		95	70-130	4	25
1,2,4-Trimethylbenzene	20.8		µg/l		20.0		104	70-130	2	25
1,3,5-Trimethylbenzene	21.2		µg/l		20.0		106	70-130	2	25
m,p-Xylene	42.8		µg/l		40.0		107	70-130	2	25
Vinyl chloride	17.0		µg/l		20.0		85	70-130	14	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1005605 - SW846 5030 Water MS										
LCS Dup (1005605-BSD1)					Prepared & Analyzed: 15-Mar-10					
m,p-Xylene	42.8		µg/l		40.0		107	70-130	2	25
o-Xylene	21.7		µg/l		20.0		109	70-130	1	25
o-Xylene	21.7		µg/l		20.0		109	70-130	1	25
Tetrahydrofuran	21.0		µg/l		20.0		105	70-130	12	25
Ethyl ether	22.0		µg/l		20.0		110	70-130	10	50
Tert-amyl methyl ether	19.9		µg/l		20.0		99	70-130	7	25
Ethyl tert-butyl ether	20.3		µg/l		20.0		101	70-130	7	25
Di-isopropyl ether	20.4		µg/l		20.0		102	70-130	9	25
Tert-Butanol / butyl alcohol	193		µg/l		200		96	70-130	1	25
1,4-Dioxane	254		µg/l		200		127	54.2-130	2	25
trans-1,4-Dichloro-2-butene	20.4		µg/l		20.0		102	70-130	1	25
Ethanol	379		µg/l		400		95	70-130	29	30
Surrogate: 4-Bromofluorobenzene	*51.6*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*51.6*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*48.1*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*48.1*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*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	*54.9*		µg/l		*50.0*		*110*	*70-130*		
Surrogate: Dibromofluoromethane	*54.9*		µg/l		*50.0*		*110*	*70-130*		
Batch 1005706 - SW846 5030 Water MS										
Blank (1005706-BLK1)					Prepared & Analyzed: 16-Mar-10					
Benzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Surrogate: 4-Bromofluorobenzene	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*29.4*		µg/l		*30.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*30.7*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*30.9*		µg/l		*30.0*		*103*	*70-130*		
LCS (1005706-BS1)					Prepared & Analyzed: 16-Mar-10					
Benzene	20.8		µg/l		20.0		104	70-130		
Ethylbenzene	21.0		µg/l		20.0		105	70-130		
Methyl tert-butyl ether	21.1		µg/l		20.0		105	70-130		
Toluene	20.5		µg/l		20.0		103	70-130		
m,p-Xylene	43.2		µg/l		40.0		108	70-130		
o-Xylene	21.2		µg/l		20.0		106	70-130		
Surrogate: 4-Bromofluorobenzene	*30.3*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*29.8*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*29.6*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: Dibromofluoromethane	*30.4*		µg/l		*30.0*		*101*	*70-130*		
LCS Dup (1005706-BSD1)					Prepared & Analyzed: 16-Mar-10					
Benzene	21.2		µg/l		20.0		106	70-130	2	25
Ethylbenzene	22.6		µg/l		20.0		113	70-130	7	25
Methyl tert-butyl ether	21.2		µg/l		20.0		106	70-130	0.5	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1005706 - SW846 5030 Water MS										
LCS Dup (1005706-BSD1)					Prepared & Analyzed: 16-Mar-10					
Toluene	21.7		µg/l		20.0		108	70-130	5	25
m,p-Xylene	47.3		µg/l		40.0		118	70-130	9	25
o-Xylene	23.1		µg/l		20.0		116	70-130	9	25
Surrogate: 4-Bromofluorobenzene	*31.3*		µg/l		*30.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*28.9*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*28.5*		µg/l		*30.0*		*95*	*70-130*		
Surrogate: Dibromofluoromethane	*29.7*		µg/l		*30.0*		*99*	*70-130*		
Batch 1005811 - SW846 5030 Water MS										
Blank (1005811-BLK1)					Prepared & Analyzed: 17-Mar-10					
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	2.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1005811 - SW846 5030 Water MS										
Blank (1005811-BLK1)					Prepared & Analyzed: 17-Mar-10					
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	2.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	2.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
Trichloroethene	BRL		µg/l	1.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*43.6*		µg/l		*50.0*		*87*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*43.6*		µg/l		*50.0*		*87*	*70-130*		
Surrogate: Toluene-d8	*49.4*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*49.4*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*65.2*		µg/l		*50.0*		*130*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*65.2*		µg/l		*50.0*		*130*	*70-130*		
Surrogate: Dibromofluoromethane	*55.2*		µg/l		*50.0*		*110*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1005811 - SW846 5030 Water MS										
Blank (1005811-BLK1)						Prepared & Analyzed: 17-Mar-10				
Surrogate: Dibromofluoromethane	*55.2*		µg/l		*50.0*		*110*	*70-130*		
LCS (1005811-BS1)						Prepared & Analyzed: 17-Mar-10				
1,1,2-Trichlorotrifluoroethane (Freon 113)	28.4	QC2	µg/l		20.0		142	70-130		
Acetone	24.9		µg/l		20.0		125	53.2-137		
Acrylonitrile	21.7		µg/l		20.0		109	70-130		
Benzene	21.5		µg/l		20.0		107	70-130		
Benzene	21.5		µg/l		20.0		107	70-130		
Bromobenzene	22.4		µg/l		20.0		112	70-130		
Bromochloromethane	25.4		µg/l		20.0		127	70-130		
Bromodichloromethane	23.5		µg/l		20.0		118	70-130		
Bromoform	21.9		µg/l		20.0		110	70-130		
Bromomethane	29.1		µg/l		20.0		145	48.9-147		
2-Butanone (MEK)	25.5		µg/l		20.0		127	70-139		
n-Butylbenzene	16.6		µg/l		20.0		83	70-130		
sec-Butylbenzene	19.8		µg/l		20.0		99	70-130		
tert-Butylbenzene	20.6		µg/l		20.0		103	70-130		
Carbon disulfide	24.2		µg/l		20.0		121	70-130		
Carbon tetrachloride	26.3	QM9	µg/l		20.0		132	70-130		
Chlorobenzene	20.2		µg/l		20.0		101	70-130		
Chloroethane	23.8		µg/l		20.0		119	65.6-130		
Chloroform	25.0		µg/l		20.0		125	70-130		
Chloromethane	21.4		µg/l		20.0		107	70-130		
2-Chlorotoluene	24.0		µg/l		20.0		120	70-130		
4-Chlorotoluene	19.8		µg/l		20.0		99	70-130		
1,2-Dibromo-3-chloropropane	17.3		µg/l		20.0		87	70-130		
Dibromochloromethane	24.0		µg/l		20.0		120	52.9-130		
1,2-Dibromoethane (EDB)	22.5		µg/l		20.0		113	70-130		
Dibromomethane	22.3		µg/l		20.0		111	70-130		
1,2-Dichlorobenzene	21.1		µg/l		20.0		106	70-130		
1,3-Dichlorobenzene	22.8		µg/l		20.0		114	70-130		
1,4-Dichlorobenzene	19.4		µg/l		20.0		97	70-130		
Dichlorodifluoromethane (Freon12)	32.5	QC2	µg/l		20.0		163	63.1-130		
1,1-Dichloroethane	23.7		µg/l		20.0		118	70-130		
1,2-Dichloroethane	23.9		µg/l		20.0		119	70-130		
1,1-Dichloroethene	27.9	QC2	µg/l		20.0		140	70-130		
cis-1,2-Dichloroethene	24.4		µg/l		20.0		122	70-130		
trans-1,2-Dichloroethene	25.2		µg/l		20.0		126	70-130		
1,2-Dichloropropane	19.4		µg/l		20.0		97	70-130		
1,3-Dichloropropane	21.3		µg/l		20.0		107	70-130		
2,2-Dichloropropane	22.2		µg/l		20.0		111	70-130		
1,1-Dichloropropene	20.3		µg/l		20.0		102	70-130		
cis-1,3-Dichloropropene	17.6		µg/l		20.0		88	70-130		
trans-1,3-Dichloropropene	18.1		µg/l		20.0		90	70-130		
Ethylbenzene	19.2		µg/l		20.0		96	70-130		
Ethylbenzene	19.2		µg/l		20.0		96	70-130		
Hexachlorobutadiene	25.6		µg/l		20.0		128	70-130		
2-Hexanone (MBK)	16.3		µg/l		20.0		82	70-130		
Isopropylbenzene	22.8		µg/l		20.0		114	70-130		
4-Isopropyltoluene	18.2		µg/l		20.0		91	70-130		
Methyl tert-butyl ether	25.2		µg/l		20.0		126	70-130		
Methyl tert-butyl ether	25.2		µg/l		20.0		126	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1005811 - SW846 5030 Water MS										
LCS (1005811-BS1)					Prepared & Analyzed: 17-Mar-10					
4-Methyl-2-pentanone (MIBK)	20.5		µg/l		20.0		103	61-130		
Methylene chloride	23.4		µg/l		20.0		117	70-130		
Naphthalene	15.8		µg/l		20.0		79	70-130		
n-Propylbenzene	18.0		µg/l		20.0		90	70-130		
Styrene	17.8		µg/l		20.0		89	70-130		
1,1,1,2-Tetrachloroethane	23.6		µg/l		20.0		118	70-130		
1,1,2,2-Tetrachloroethane	13.4	QC2	µg/l		20.0		67	70-130		
Tetrachloroethene	24.8		µg/l		20.0		124	70-130		
Toluene	21.6		µg/l		20.0		108	70-130		
Toluene	21.6		µg/l		20.0		108	70-130		
1,2,3-Trichlorobenzene	21.7		µg/l		20.0		108	70-130		
1,2,4-Trichlorobenzene	18.4		µg/l		20.0		92	70-130		
1,3,5-Trichlorobenzene	19.6		µg/l		20.0		98	70-130		
1,1,1-Trichloroethane	26.7	QM9	µg/l		20.0		133	70-130		
1,1,2-Trichloroethane	20.8		µg/l		20.0		104	70-130		
Trichloroethene	25.7		µg/l		20.0		129	70-130		
Trichlorofluoromethane (Freon 11)	31.5		µg/l		20.0		157	60-172		
1,2,3-Trichloropropane	21.2		µg/l		20.0		106	70-130		
1,2,4-Trimethylbenzene	19.6		µg/l		20.0		98	70-130		
1,3,5-Trimethylbenzene	19.7		µg/l		20.0		98	70-130		
Vinyl chloride	23.5		µg/l		20.0		118	70-130		
m,p-Xylene	40.0		µg/l		40.0		100	70-130		
o-Xylene	20.4		µg/l		20.0		102	70-130		
m,p-Xylene	40.0		µg/l		40.0		100	70-130		
o-Xylene	20.4		µg/l		20.0		102	70-130		
Tetrahydrofuran	20.0		µg/l		20.0		100	70-130		
Ethyl ether	23.9		µg/l		20.0		120	70-130		
Tert-amyl methyl ether	19.7		µg/l		20.0		98	70-130		
Ethyl tert-butyl ether	21.6		µg/l		20.0		108	70-130		
Di-isopropyl ether	21.2		µg/l		20.0		106	70-130		
Tert-Butanol / butyl alcohol	254		µg/l		200		127	70-130		
1,4-Dioxane	183		µg/l		200		92	54.2-130		
trans-1,4-Dichloro-2-butene	17.8		µg/l		20.0		89	70-130		
Ethanol	477		µg/l		400		119	70-130		
Surrogate: 4-Bromofluorobenzene	*52.2*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*52.2*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*50.8*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*50.8*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*59.2*		µg/l		*50.0*		*118*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*59.2*		µg/l		*50.0*		*118*	*70-130*		
Surrogate: Dibromofluoromethane	*51.1*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*51.1*		µg/l		*50.0*		*102*	*70-130*		
LCS Dup (1005811-BSD1)					Prepared & Analyzed: 17-Mar-10					
1,1,2-Trichlorotrifluoroethane (Freon 113)	26.7	QC2	µg/l		20.0		133	70-130	6	25
Acetone	23.4		µg/l		20.0		117	53.2-137	6	50
Acrylonitrile	20.6		µg/l		20.0		103	70-130	5	25
Benzene	20.5		µg/l		20.0		102	70-130	5	25
Benzene	20.5		µg/l		20.0		102	70-130	5	25
Bromobenzene	22.0		µg/l		20.0		110	70-130	1	25
Bromochloromethane	22.3		µg/l		20.0		111	70-130	13	25
Bromodichloromethane	23.9		µg/l		20.0		119	70-130	1	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1005811 - SW846 5030 Water MS										
LCS Dup (1005811-BSD1)					Prepared & Analyzed: 17-Mar-10					
Bromoform	21.2		µg/l		20.0		106	70-130	3	25
Bromomethane	27.1		µg/l		20.0		136	48.9-147	7	50
2-Butanone (MEK)	23.7		µg/l		20.0		119	70-139	7	50
n-Butylbenzene	15.9		µg/l		20.0		79	70-130	4	25
sec-Butylbenzene	19.0		µg/l		20.0		95	70-130	5	25
tert-Butylbenzene	19.9		µg/l		20.0		99	70-130	4	25
Carbon disulfide	22.9		µg/l		20.0		115	70-130	5	25
Carbon tetrachloride	25.8		µg/l		20.0		129	70-130	2	25
Chlorobenzene	19.3		µg/l		20.0		96	70-130	5	25
Chloroethane	21.7		µg/l		20.0		108	65.6-130	9	50
Chloroform	23.4		µg/l		20.0		117	70-130	7	25
Chloromethane	20.6		µg/l		20.0		103	70-130	4	25
2-Chlorotoluene	23.0		µg/l		20.0		115	70-130	4	25
4-Chlorotoluene	19.0		µg/l		20.0		95	70-130	4	25
1,2-Dibromo-3-chloropropane	17.0		µg/l		20.0		85	70-130	2	25
Dibromochloromethane	23.6		µg/l		20.0		118	52.9-130	2	50
1,2-Dibromoethane (EDB)	22.2		µg/l		20.0		111	70-130	2	25
Dibromomethane	21.0		µg/l		20.0		105	70-130	6	25
1,2-Dichlorobenzene	20.7		µg/l		20.0		103	70-130	2	25
1,3-Dichlorobenzene	21.3		µg/l		20.0		106	70-130	7	25
1,4-Dichlorobenzene	19.1		µg/l		20.0		96	70-130	1	25
Dichlorodifluoromethane (Freon12)	29.1	QC2	µg/l		20.0		145	63.1-130	11	50
1,1-Dichloroethane	22.7		µg/l		20.0		113	70-130	4	25
1,2-Dichloroethane	23.1		µg/l		20.0		116	70-130	3	25
1,1-Dichloroethene	26.1	QC2	µg/l		20.0		131	70-130	7	25
cis-1,2-Dichloroethene	23.4		µg/l		20.0		117	70-130	4	25
trans-1,2-Dichloroethene	23.7		µg/l		20.0		119	70-130	6	25
1,2-Dichloropropane	18.8		µg/l		20.0		94	70-130	4	25
1,3-Dichloropropane	20.5		µg/l		20.0		102	70-130	4	25
2,2-Dichloropropane	21.2		µg/l		20.0		106	70-130	5	25
1,1-Dichloropropene	19.4		µg/l		20.0		97	70-130	5	25
cis-1,3-Dichloropropene	16.8		µg/l		20.0		84	70-130	4	25
trans-1,3-Dichloropropene	18.1		µg/l		20.0		90	70-130	0.2	25
Ethylbenzene	18.6		µg/l		20.0		93	70-130	3	25
Ethylbenzene	18.6		µg/l		20.0		93	70-130	3	25
Hexachlorobutadiene	25.4		µg/l		20.0		127	70-130	0.7	50
2-Hexanone (MBK)	16.4		µg/l		20.0		82	70-130	0.4	25
Isopropylbenzene	22.2		µg/l		20.0		111	70-130	3	25
4-Isopropyltoluene	17.8		µg/l		20.0		89	70-130	2	25
Methyl tert-butyl ether	24.2		µg/l		20.0		121	70-130	4	25
Methyl tert-butyl ether	24.2		µg/l		20.0		121	70-130	4	25
4-Methyl-2-pentanone (MIBK)	21.5		µg/l		20.0		108	61-130	5	50
Methylene chloride	23.0		µg/l		20.0		115	70-130	2	25
Naphthalene	15.0		µg/l		20.0		75	70-130	5	25
n-Propylbenzene	17.3		µg/l		20.0		86	70-130	4	25
Styrene	17.0		µg/l		20.0		85	70-130	5	25
1,1,1,2-Tetrachloroethane	23.1		µg/l		20.0		116	70-130	2	25
1,1,2,2-Tetrachloroethane	13.1	QC2	µg/l		20.0		65	70-130	2	25
Tetrachloroethene	23.7		µg/l		20.0		119	70-130	4	25
Toluene	20.8		µg/l		20.0		104	70-130	3	25
Toluene	20.8		µg/l		20.0		104	70-130	3	25
1,2,3-Trichlorobenzene	20.2		µg/l		20.0		101	70-130	7	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1005811 - SW846 5030 Water MS										
LCS Dup (1005811-BSD1)					Prepared & Analyzed: 17-Mar-10					
1,2,4-Trichlorobenzene	17.9		µg/l		20.0		89	70-130	3	25
1,3,5-Trichlorobenzene	19.7		µg/l		20.0		99	70-130	0.5	25
1,1,1-Trichloroethane	25.6		µg/l		20.0		128	70-130	4	25
1,1,2-Trichloroethane	20.4		µg/l		20.0		102	70-130	2	25
Trichloroethene	25.4		µg/l		20.0		127	70-130	1	25
Trichlorofluoromethane (Freon 11)	29.6		µg/l		20.0		148	60-172	6	50
1,2,3-Trichloropropane	20.3		µg/l		20.0		102	70-130	4	25
1,2,4-Trimethylbenzene	18.8		µg/l		20.0		94	70-130	4	25
1,3,5-Trimethylbenzene	19.2		µg/l		20.0		96	70-130	3	25
m,p-Xylene	39.3		µg/l		40.0		98	70-130	2	25
Vinyl chloride	22.7		µg/l		20.0		113	70-130	4	25
o-Xylene	19.9		µg/l		20.0		99	70-130	3	25
m,p-Xylene	39.3		µg/l		40.0		98	70-130	2	25
o-Xylene	19.9		µg/l		20.0		99	70-130	3	25
Tetrahydrofuran	18.6		µg/l		20.0		93	70-130	7	25
Ethyl ether	23.5		µg/l		20.0		118	70-130	2	50
Tert-amyl methyl ether	18.8		µg/l		20.0		94	70-130	5	25
Ethyl tert-butyl ether	21.1		µg/l		20.0		106	70-130	2	25
Di-isopropyl ether	20.5		µg/l		20.0		103	70-130	3	25
Tert-Butanol / butyl alcohol	243		µg/l		200		122	70-130	4	25
1,4-Dioxane	177		µg/l		200		89	54.2-130	3	25
trans-1,4-Dichloro-2-butene	16.4		µg/l		20.0		82	70-130	8	25
Ethanol	461		µg/l		400		115	70-130	3	30
Surrogate: 4-Bromofluorobenzene	*51.9*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*51.9*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*50.9*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*50.9*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*57.6*		µg/l		*50.0*		*115*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*57.6*		µg/l		*50.0*		*115*	*70-130*		
Surrogate: Dibromofluoromethane	*50.2*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*50.2*		µg/l		*50.0*		*100*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1005585 - SW846 3510C										
Blank (1005585-BLK1)						Prepared: 15-Mar-10 Analyzed: 16-Mar-10				
Non-polar material (SGT-HEM)	BRL		mg/l	1.0						
LCS (1005585-BS1)						Prepared: 15-Mar-10 Analyzed: 16-Mar-10				
Non-polar material (SGT-HEM)	17.1		mg/l		20.7		83	83-101		

Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1005641 - EPA 200 Series										
Blank (1005641-BLK1)						Prepared: 15-Mar-10 Analyzed: 16-Mar-10				
Iron	BRL		mg/l	0.0150						
LCS (1005641-BS1)						Prepared: 15-Mar-10 Analyzed: 16-Mar-10				
Iron	1.30		mg/l	0.0150	1.25		104	85-115		

Notes and Definitions

E	The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).
GS	This sample was not able to be analyzed for client requested reporting limits due to high concentrations of target analytes in the sample.
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
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.
SGC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
Z-2	Analyte >40 % difference. However no reportable concentration present in sample.
Z-2a	Analyte >40 % difference. However no reportable concentration present in sample.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

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 *TPH (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.

Validated by:
Hanibal C. Tayeh, Ph.D.
Nicole Leja

MassDEP Analytical Protocol Certification Form

Laboratory Name: Spectrum Analytical, Inc.	**Project #:** J40076
Project Location: Sandri-50 Church St, Bernardston, MA	**RTN:**
This form provides certifications for the following data set:	SB09104-01 through SB09104-05
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	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.

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director
Date: 3/17/2010

SB09104 EM

SPECTRUM ANALYTICAL, INC.
Fearing
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 3-17-10
- 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: ECS - Agawam

Project No.: J40076

Site Name: Sandfi

Location: Bernardston State: MA

Project Mgr.: Lori McCarthy

Telephone #: 789 3530

P.O. No.: RQN: 0003

Sampler(s): Steve

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=_____ 10=_____ 11=_____

List preservative code below: 2 2 3 4

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= DF 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: BTEX + MTBE by 8260B	TBA by 8260B	TPH 1664	Total Fe 3500-Fe (only if Perm NPDES)					
09104-01	AS Inf	3-11-10	3:40	G	GW	3	1		1	X	X	X	X					
02	GAC Inf		3:43	G	GW	3				X								
03	GAC Mid		3:46	G	GW	3				X								
04	GAC Eff		3:49	G	GW	3	1		1	X	X	X	X					
05	Trip		AM	G	X1	1				X								

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
~~for Rush Request~~
NPDES detection limits
5 ug/L Benzene
1 mg/L Fe
5 mg/L TPH

EDD Format _____

☒ E-mail to LMccarthy@ecsconsult.com

Condition upon receipt: ☒ Iced ☐ Ambient ☐ °C 3.2

Relinquished by:	Received by:	Date:	Time:
Steve Bernardston		3/12/10	10:00
K. White		3/12/10	17:00

3.2°

EM

Report Date:
28-Apr-10 15:00

☑ 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: Lori McCarthy

Project: Sandri - Bernardston, MA
Project #: J40076

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB11065-01	A.S. Influent	Ground Water	22-Apr-10 09:30	23-Apr-10 08:35
SB11065-02	GAC Influent	Ground Water	22-Apr-10 09:35	23-Apr-10 08:35
SB11065-03	GAC Mid Pt	Ground Water	22-Apr-10 09:37	23-Apr-10 08:35
SB11065-04	GAC Effluent	Ground Water	22-Apr-10 09:39	23-Apr-10 08:35
SB11065-05	Trip	Deionized Water	22-Apr-10 00:00	23-Apr-10 08:35

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

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

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 20 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.

CASE NARRATIVE:

The samples were received 3.9 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 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.

Required site-specific Matrix Spike/Matrix Spike Duplicate (MS/MSD) must be requested by the client and sufficient sample must be submitted for the additional analyses. Samples submitted with insufficient volume/weight will not be analyzed for site specific MS/MSD, however a batch MS/MSD may be analyzed from a non-site specific sample.

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.

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.

CTDEP has published a list of analytical methods which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of decisions being made utilizing the Reasonable Confidence Protocol (RCP). "Reasonable Confidence" can be established only for those methods published by the CTDEP in the RCP guidelines. 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.

The CTDEP RCP requests that "all non-detects and all results below the reporting limit are reported as ND (Not Detected at the Specified Reporting Limit)". All non-detects and all results below the reporting limit are reported as "BRL" (Below the Reporting Limit) in this report.

If no reporting limits were specified or referenced on the chain-of-custody the laboratory's practical quantitation limits were applied.

According to CTDEP RCP Quality Assurance and Quality Control Requirements for VOCs by method 8260, SW-846 version 1, 7/28/05 Table 1A, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended 70%-130% 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 8260B

Calibration:

1004036

Analyte quantified by quadratic equation type calibration.

Naphthalene

Samples:

S003656-CCV1

SW846 8260B

Samples:

S003656-CCV1

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

1,1,2,2-Tetrachloroethane (23.3%)
1,2,3-Trichloropropane (32.2%)
1,2-Dibromo-3-chloropropane (21.0%)
2,2-Dichloropropane (-20.2%)
Acetone (21.6%)
Bromoform (29.1%)
Bromomethane (23.0%)
trans-1,4-Dichloro-2-butene (21.0%)

This affected the following samples:

1008805-BLK1
1008805-BS1
1008805-BSD1

SB11065-01 *A.S. Influent*

This sample was not able to be analyzed for client requested reporting limits due to high concentrations of target analytes in the sample.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
A.S. Influent	J40076	Ground Water	22-Apr-10 09:30	23-Apr-10
SB11065-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds												
Volatile Organic Compounds Prepared by method SW846 5030 Water MS			GS									
71-43-2	Benzene	107		µg/l	10.0	10	SW846 8260B	27-Apr-10	27-Apr-10	eq	1008805	
100-41-4	Ethylbenzene	BRL		µg/l	10.0	10	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	104		µg/l	10.0	10	"	"	"	"	"	
108-88-3	Toluene	162		µg/l	10.0	10	"	"	"	"	"	
179601-23-1	m,p-Xylene	167		µg/l	20.0	10	"	"	"	"	"	
95-47-6	o-Xylene	902		µg/l	10.0	10	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	100	10	"	"	"	"	"	
Surrogate recoveries:												
460-00-4	*4-Bromofluorobenzene*	*101*			*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*92*			*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*115*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*107*			*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons												
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	26-Apr-10	28-Apr-10	JK	1008678	
Total Metals by EPA 6000/7000 Series Methods												
7439-89-6	Iron	14.4		mg/l	0.0150	1	SW846 6010B	27-Apr-10	27-Apr-10	KNJ	1008850	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Influent	J40076	Ground Water	22-Apr-10 09:35	23-Apr-10
SB11065-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds												
Volatile Organic Aromatics by SW846 8260B Prepared by method SW846 5030 Water MS												
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	26-Apr-10	27-Apr-10	eq	1008735	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	9.8		µg/l	1.0	1	"	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	"	
Surrogate recoveries:												
460-00-4	*4-Bromofluorobenzene*	*93*			*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*93*			*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*123*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*107*			*70-130 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Mid Pt	J40076	Ground Water	22-Apr-10 09:37	23-Apr-10
SB11065-03				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds												
Volatile Organic Aromatics by SW846 8260B Prepared by method SW846 5030 Water MS												
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	26-Apr-10	27-Apr-10	eq	1008735	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	1.0		µg/l	1.0	1	"	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	"	
Surrogate recoveries:												
460-00-4	*4-Bromofluorobenzene*	*96*			*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*95*			*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*123*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*108*			*70-130 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Effluent SB11065-04	J40076	Ground Water	22-Apr-10 09:39	23-Apr-10

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds												
Volatile Organic Compounds Prepared by method SW846 5030 Water MS												
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	27-Apr-10	27-Apr-10	eq	1008805	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	15.8		µg/l	10.0	1	"	"	"	"	"	
Surrogate recoveries:												
460-00-4	*4-Bromofluorobenzene*	*92*			*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*92*			*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*109*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons												
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	26-Apr-10	28-Apr-10	JK	1008678	
Total Metals by EPA 6000/7000 Series Methods												
7439-89-6	Iron	0.0326		mg/l	0.0150	1	SW846 6010B	27-Apr-10	27-Apr-10	KNJ	1008850	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip	J40076	Deionized Water	22-Apr-10 00:00	23-Apr-10
SB11065-05				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds												
Volatile Organic Aromatics by SW846 8260B Prepared by method SW846 5030 Water MS												
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	27-Apr-10	27-Apr-10	adu	1008808	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	"	
Surrogate recoveries:												
460-00-4	*4-Bromofluorobenzene*	*93*			*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*92*			*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*95*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*91*			*70-130 %*		"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1008735 - SW846 5030 Water MS										
Blank (1008735-BLK1)					Prepared & Analyzed: 26-Apr-10					
Benzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Surrogate: 4-Bromofluorobenzene	*27.5*		µg/l		*30.0*		*92*	*70-130*		
Surrogate: Toluene-d8	*28.3*		µg/l		*30.0*		*94*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*37.1*		µg/l		*30.0*		*124*	*70-130*		
Surrogate: Dibromofluoromethane	*32.5*		µg/l		*30.0*		*108*	*70-130*		
LCS (1008735-BS1)					Prepared & Analyzed: 26-Apr-10					
Benzene	20.1		µg/l		20.0		101	70-130		
Ethylbenzene	20.9		µg/l		20.0		104	70-130		
Methyl tert-butyl ether	20.8		µg/l		20.0		104	70-130		
Toluene	18.6		µg/l		20.0		93	70-130		
m,p-Xylene	43.3		µg/l		40.0		108	70-130		
o-Xylene	22.1		µg/l		20.0		111	70-130		
Surrogate: 4-Bromofluorobenzene	*30.5*		µg/l		*30.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*27.8*		µg/l		*30.0*		*93*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.9*		µg/l		*30.0*		*110*	*70-130*		
Surrogate: Dibromofluoromethane	*30.7*		µg/l		*30.0*		*102*	*70-130*		
LCS Dup (1008735-BSD1)					Prepared & Analyzed: 26-Apr-10					
Benzene	18.8		µg/l		20.0		94	70-130	7	25
Ethylbenzene	20.4		µg/l		20.0		102	70-130	2	25
Methyl tert-butyl ether	21.3		µg/l		20.0		107	70-130	3	25
Toluene	18.3		µg/l		20.0		92	70-130	2	25
m,p-Xylene	42.4		µg/l		40.0		106	70-130	2	25
o-Xylene	21.6		µg/l		20.0		108	70-130	3	25
Surrogate: 4-Bromofluorobenzene	*31.2*		µg/l		*30.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*28.8*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*33.2*		µg/l		*30.0*		*111*	*70-130*		
Surrogate: Dibromofluoromethane	*31.6*		µg/l		*30.0*		*105*	*70-130*		
Batch 1008805 - SW846 5030 Water MS										
Blank (1008805-BLK1)					Prepared & Analyzed: 27-Apr-10					
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1008805 - SW846 5030 Water MS										
Blank (1008805-BLK1)					Prepared & Analyzed: 27-Apr-10					
Carbon disulfide	BRL		µg/l	2.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	2.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1008805 - SW846 5030 Water MS										
Blank (1008805-BLK1)					Prepared & Analyzed: 27-Apr-10					
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	2.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*28.0*		µg/l		*30.0*		*93*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*33.2*		µg/l		*30.0*		*110*	*70-130*		
Surrogate: Dibromofluoromethane	*32.5*		µg/l		*30.0*		*108*	*70-130*		
LCS (1008805-BS1)					Prepared & Analyzed: 27-Apr-10					
1,1,2-Trichlorotrifluoroethane (Freon 113)	20.0		µg/l		20.0		100	70-130		
Acetone	24.3		µg/l		20.0		122	53.2-137		
Acrylonitrile	21.4		µg/l		20.0		107	70-130		
Benzene	17.8		µg/l		20.0		89	70-130		
Bromobenzene	22.3		µg/l		20.0		112	70-130		
Bromochloromethane	19.0		µg/l		20.0		95	70-130		
Bromodichloromethane	19.3		µg/l		20.0		97	70-130		
Bromoform	25.8		µg/l		20.0		129	70-130		
Bromomethane	24.6		µg/l		20.0		123	48.9-147		
2-Butanone (MEK)	19.6		µg/l		20.0		98	70-139		
n-Butylbenzene	19.8		µg/l		20.0		99	70-130		
sec-Butylbenzene	22.1		µg/l		20.0		111	70-130		
tert-Butylbenzene	22.6		µg/l		20.0		113	70-130		
Carbon disulfide	19.2		µg/l		20.0		96	70-130		
Carbon tetrachloride	20.4		µg/l		20.0		102	70-130		
Chlorobenzene	21.0		µg/l		20.0		105	70-130		
Chloroethane	17.5		µg/l		20.0		87	65.6-130		
Chloroform	20.3		µg/l		20.0		102	70-130		
Chloromethane	16.5		µg/l		20.0		83	70-130		
2-Chlorotoluene	22.3		µg/l		20.0		111	70-130		
4-Chlorotoluene	21.9		µg/l		20.0		110	70-130		
1,2-Dibromo-3-chloropropane	24.2		µg/l		20.0		121	70-130		
Dibromochloromethane	20.9		µg/l		20.0		104	52.9-130		
1,2-Dibromoethane (EDB)	21.1		µg/l		20.0		106	70-130		
Dibromomethane	20.2		µg/l		20.0		101	70-130		
1,2-Dichlorobenzene	21.2		µg/l		20.0		106	70-130		
1,3-Dichlorobenzene	22.2		µg/l		20.0		111	70-130		
1,4-Dichlorobenzene	19.7		µg/l		20.0		99	70-130		
Dichlorodifluoromethane (Freon12)	21.1		µg/l		20.0		105	63.1-130		
1,1-Dichloroethane	18.6		µg/l		20.0		93	70-130		
1,2-Dichloroethane	18.6		µg/l		20.0		93	70-130		
1,1-Dichloroethene	19.0		µg/l		20.0		95	70-130		
cis-1,2-Dichloroethene	18.2		µg/l		20.0		91	70-130		
trans-1,2-Dichloroethene	18.4		µg/l		20.0		92	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1008805 - SW846 5030 Water MS										
LCS (1008805-BS1)					Prepared & Analyzed: 27-Apr-10					
1,2-Dichloropropane	18.1		µg/l		20.0		90	70-130		
1,3-Dichloropropane	21.0		µg/l		20.0		105	70-130		
2,2-Dichloropropane	16.0		µg/l		20.0		80	70-130		
1,1-Dichloropropene	19.1		µg/l		20.0		96	70-130		
cis-1,3-Dichloropropene	18.3		µg/l		20.0		91	70-130		
trans-1,3-Dichloropropene	18.3		µg/l		20.0		91	70-130		
Ethylbenzene	19.2		µg/l		20.0		96	70-130		
Hexachlorobutadiene	22.2		µg/l		20.0		111	70-130		
2-Hexanone (MBK)	22.2		µg/l		20.0		111	70-130		
Isopropylbenzene	21.5		µg/l		20.0		107	70-130		
4-Isopropyltoluene	20.3		µg/l		20.0		102	70-130		
Methyl tert-butyl ether	19.6		µg/l		20.0		98	70-130		
4-Methyl-2-pentanone (MIBK)	21.5		µg/l		20.0		107	61-130		
Methylene chloride	17.9		µg/l		20.0		90	70-130		
Naphthalene	23.1		µg/l		20.0		115	70-130		
n-Propylbenzene	21.4		µg/l		20.0		107	70-130		
Styrene	20.9		µg/l		20.0		105	70-130		
1,1,1,2-Tetrachloroethane	21.7		µg/l		20.0		108	70-130		
1,1,2,2-Tetrachloroethane	24.6		µg/l		20.0		123	70-130		
Tetrachloroethene	19.1		µg/l		20.0		95	70-130		
Toluene	17.4		µg/l		20.0		87	70-130		
1,2,3-Trichlorobenzene	23.1		µg/l		20.0		116	70-130		
1,2,4-Trichlorobenzene	22.4		µg/l		20.0		112	70-130		
1,3,5-Trichlorobenzene	20.3		µg/l		20.0		102	70-130		
1,1,1-Trichloroethane	17.9		µg/l		20.0		90	70-130		
1,1,2-Trichloroethane	19.0		µg/l		20.0		95	70-130		
Trichloroethene	17.6		µg/l		20.0		88	70-130		
Trichlorofluoromethane (Freon 11)	20.4		µg/l		20.0		102	60-172		
1,2,3-Trichloropropane	26.4	QM9	µg/l		20.0		132	70-130		
1,2,4-Trimethylbenzene	21.8		µg/l		20.0		109	70-130		
1,3,5-Trimethylbenzene	21.9		µg/l		20.0		109	70-130		
Vinyl chloride	18.8		µg/l		20.0		94	70-130		
m,p-Xylene	41.4		µg/l		40.0		103	70-130		
o-Xylene	21.3		µg/l		20.0		106	70-130		
Tetrahydrofuran	20.0		µg/l		20.0		100	70-130		
Ethyl ether	19.9		µg/l		20.0		99	70-130		
Tert-amyl methyl ether	17.0		µg/l		20.0		85	70-130		
Ethyl tert-butyl ether	17.8		µg/l		20.0		89	70-130		
Di-isopropyl ether	19.5		µg/l		20.0		98	70-130		
Tert-Butanol / butyl alcohol	213		µg/l		200		107	70-130		
1,4-Dioxane	191		µg/l		200		96	54.2-130		
trans-1,4-Dichloro-2-butene	24.2		µg/l		20.0		121	70-130		
Ethanol	425		µg/l		400		106	70-130		
Surrogate: 4-Bromofluorobenzene	*31.1*		µg/l		*30.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*28.1*		µg/l		*30.0*		*94*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.0*		µg/l		*30.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*30.4*		µg/l		*30.0*		*101*	*70-130*		
LCS Dup (1008805-BSD1)					Prepared & Analyzed: 27-Apr-10					
1,1,2-Trichlorotrifluoroethane (Freon 113)	19.4		µg/l		20.0		97	70-130	3	25
Acetone	25.1		µg/l		20.0		125	53.2-137	3	50
Acrylonitrile	20.3		µg/l		20.0		102	70-130	5	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1008805 - SW846 5030 Water MS										
LCS Dup (1008805-BSD1)					Prepared & Analyzed: 27-Apr-10					
Benzene	18.3		µg/l		20.0		91	70-130	3	25
Bromobenzene	22.7		µg/l		20.0		114	70-130	2	25
Bromochloromethane	19.5		µg/l		20.0		98	70-130	2	25
Bromodichloromethane	20.4		µg/l		20.0		102	70-130	6	25
Bromoform	24.1		µg/l		20.0		120	70-130	7	25
Bromomethane	24.0		µg/l		20.0		120	48.9-147	3	50
2-Butanone (MEK)	21.0		µg/l		20.0		105	70-139	7	50
n-Butylbenzene	19.6		µg/l		20.0		98	70-130	1	25
sec-Butylbenzene	21.9		µg/l		20.0		110	70-130	1	25
tert-Butylbenzene	22.5		µg/l		20.0		112	70-130	0.8	25
Carbon disulfide	20.1		µg/l		20.0		100	70-130	4	25
Carbon tetrachloride	21.5		µg/l		20.0		108	70-130	6	25
Chlorobenzene	20.1		µg/l		20.0		101	70-130	4	25
Chloroethane	19.3		µg/l		20.0		96	65.6-130	10	50
Chloroform	21.0		µg/l		20.0		105	70-130	4	25
Chloromethane	17.8		µg/l		20.0		89	70-130	7	25
2-Chlorotoluene	22.0		µg/l		20.0		110	70-130	1	25
4-Chlorotoluene	22.0		µg/l		20.0		110	70-130	0.4	25
1,2-Dibromo-3-chloropropane	23.1		µg/l		20.0		115	70-130	5	25
Dibromochloromethane	21.9		µg/l		20.0		110	52.9-130	5	50
1,2-Dibromoethane (EDB)	21.9		µg/l		20.0		109	70-130	3	25
Dibromomethane	20.2		µg/l		20.0		101	70-130	0.3	25
1,2-Dichlorobenzene	20.8		µg/l		20.0		104	70-130	2	25
1,3-Dichlorobenzene	21.7		µg/l		20.0		109	70-130	2	25
1,4-Dichlorobenzene	20.1		µg/l		20.0		101	70-130	2	25
Dichlorodifluoromethane (Freon12)	21.3		µg/l		20.0		106	63.1-130	1	50
1,1-Dichloroethane	19.6		µg/l		20.0		98	70-130	5	25
1,2-Dichloroethane	19.3		µg/l		20.0		96	70-130	3	25
1,1-Dichloroethene	19.8		µg/l		20.0		99	70-130	4	25
cis-1,2-Dichloroethene	18.9		µg/l		20.0		94	70-130	4	25
trans-1,2-Dichloroethene	19.9		µg/l		20.0		99	70-130	8	25
1,2-Dichloropropane	18.6		µg/l		20.0		93	70-130	3	25
1,3-Dichloropropane	20.4		µg/l		20.0		102	70-130	3	25
2,2-Dichloropropane	17.3		µg/l		20.0		86	70-130	8	25
1,1-Dichloropropene	19.9		µg/l		20.0		99	70-130	4	25
cis-1,3-Dichloropropene	19.1		µg/l		20.0		95	70-130	4	25
trans-1,3-Dichloropropene	17.8		µg/l		20.0		89	70-130	3	25
Ethylbenzene	19.4		µg/l		20.0		97	70-130	0.9	25
Hexachlorobutadiene	20.5		µg/l		20.0		102	70-130	8	50
2-Hexanone (MBK)	20.2		µg/l		20.0		101	70-130	9	25
Isopropylbenzene	21.3		µg/l		20.0		107	70-130	0.7	25
4-Isopropyltoluene	20.3		µg/l		20.0		102	70-130	0.1	25
Methyl tert-butyl ether	20.1		µg/l		20.0		101	70-130	3	25
4-Methyl-2-pentanone (MIBK)	21.7		µg/l		20.0		109	61-130	1	50
Methylene chloride	18.5		µg/l		20.0		92	70-130	3	25
Naphthalene	21.3		µg/l		20.0		107	70-130	8	25
n-Propylbenzene	21.1		µg/l		20.0		105	70-130	2	25
Styrene	20.3		µg/l		20.0		102	70-130	3	25
1,1,1,2-Tetrachloroethane	21.8		µg/l		20.0		109	70-130	0.8	25
1,1,2,2-Tetrachloroethane	22.7		µg/l		20.0		113	70-130	8	25
Tetrachloroethene	20.6		µg/l		20.0		103	70-130	8	25
Toluene	18.2		µg/l		20.0		91	70-130	4	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1008805 - SW846 5030 Water MS										
LCS Dup (1008805-BSD1)					Prepared & Analyzed: 27-Apr-10					
1,2,3-Trichlorobenzene	21.1		µg/l		20.0		106	70-130	9	25
1,2,4-Trichlorobenzene	22.3		µg/l		20.0		112	70-130	0.6	25
1,3,5-Trichlorobenzene	20.7		µg/l		20.0		103	70-130	2	25
1,1,1-Trichloroethane	18.7		µg/l		20.0		94	70-130	4	25
1,1,2-Trichloroethane	19.7		µg/l		20.0		98	70-130	4	25
Trichloroethene	18.4		µg/l		20.0		92	70-130	5	25
Trichlorofluoromethane (Freon 11)	21.7		µg/l		20.0		108	60-172	6	50
1,2,3-Trichloropropane	25.5		µg/l		20.0		127	70-130	4	25
1,2,4-Trimethylbenzene	20.9		µg/l		20.0		105	70-130	4	25
1,3,5-Trimethylbenzene	22.1		µg/l		20.0		110	70-130	1	25
Vinyl chloride	19.9		µg/l		20.0		99	70-130	6	25
m,p-Xylene	41.3		µg/l		40.0		103	70-130	0.1	25
o-Xylene	21.3		µg/l		20.0		107	70-130	0.3	25
Tetrahydrofuran	21.5		µg/l		20.0		108	70-130	7	25
Ethyl ether	20.1		µg/l		20.0		100	70-130	1	50
Tert-amyl methyl ether	17.4		µg/l		20.0		87	70-130	2	25
Ethyl tert-butyl ether	18.0		µg/l		20.0		90	70-130	2	25
Di-isopropyl ether	20.1		µg/l		20.0		101	70-130	3	25
Tert-Butanol / butyl alcohol	201		µg/l		200		101	70-130	6	25
1,4-Dioxane	207		µg/l		200		104	54.2-130	8	25
trans-1,4-Dichloro-2-butene	22.3		µg/l		20.0		112	70-130	8	25
Ethanol	462		µg/l		400		115	70-130	8	30
Surrogate: 4-Bromofluorobenzene	*29.8*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*28.3*		µg/l		*30.0*		*94*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*31.7*		µg/l		*30.0*		*106*	*70-130*		
Surrogate: Dibromofluoromethane	*31.7*		µg/l		*30.0*		*106*	*70-130*		
Batch 1008808 - SW846 5030 Water MS										
Blank (1008808-BLK1)					Prepared & Analyzed: 27-Apr-10					
Benzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Surrogate: 4-Bromofluorobenzene	*29.0*		µg/l		*30.0*		*97*	*70-130*		
Surrogate: Toluene-d8	*28.0*		µg/l		*30.0*		*93*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.3*		µg/l		*30.0*		*91*	*70-130*		
Surrogate: Dibromofluoromethane	*27.3*		µg/l		*30.0*		*91*	*70-130*		
LCS (1008808-BS1)					Prepared & Analyzed: 27-Apr-10					
Benzene	16.6		µg/l		20.0		83	70-130		
Ethylbenzene	18.9		µg/l		20.0		94	70-130		
Methyl tert-butyl ether	17.0		µg/l		20.0		85	70-130		
Toluene	16.2		µg/l		20.0		81	70-130		
m,p-Xylene	39.3		µg/l		40.0		98	70-130		
o-Xylene	19.4		µg/l		20.0		97	70-130		
Surrogate: 4-Bromofluorobenzene	*28.8*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*28.3*		µg/l		*30.0*		*94*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1008808 - SW846 5030 Water MS										
LCS (1008808-BS1)						Prepared & Analyzed: 27-Apr-10				
Surrogate: 1,2-Dichloroethane-d4	*27.7*		µg/l		*30.0*		*92*	*70-130*		
Surrogate: Dibromofluoromethane	*27.5*		µg/l		*30.0*		*92*	*70-130*		
LCS Dup (1008808-BSD1)						Prepared & Analyzed: 27-Apr-10				
Benzene	17.3		µg/l		20.0		86	70-130	4	25
Ethylbenzene	19.4		µg/l		20.0		97	70-130	3	25
Methyl tert-butyl ether	17.5		µg/l		20.0		87	70-130	3	25
Toluene	16.8		µg/l		20.0		84	70-130	3	25
m,p-Xylene	39.9		µg/l		40.0		100	70-130	2	25
o-Xylene	19.8		µg/l		20.0		99	70-130	2	25
Surrogate: 4-Bromofluorobenzene	*28.6*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*28.4*		µg/l		*30.0*		*95*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*28.1*		µg/l		*30.0*		*94*	*70-130*		
Surrogate: Dibromofluoromethane	*27.7*		µg/l		*30.0*		*92*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1008678 - SW846 3510C										
Blank (1008678-BLK1)						Prepared: 26-Apr-10 Analyzed: 28-Apr-10				
Non-polar material (SGT-HEM)	BRL		mg/l	1.0						
LCS (1008678-BS1)						Prepared: 26-Apr-10 Analyzed: 28-Apr-10				
Non-polar material (SGT-HEM)	17.6		mg/l		20.7		85	83-101		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1008850 - SW846 3005A										
Blank (1008850-BLK1)						Prepared & Analyzed: 27-Apr-10				
Iron	BRL		mg/l	0.0150						
LCS (1008850-BS1)						Prepared & Analyzed: 27-Apr-10				
Iron	1.29		mg/l	0.0150	1.25		103	85-115		
LCS Dup (1008850-BSD1)						Prepared & Analyzed: 27-Apr-10				
Iron	1.27		mg/l	0.0150	1.25		102	85-115	2	20
Duplicate (1008850-DUP1)			**Source: SB11065-01**			Prepared & Analyzed: 27-Apr-10				
Iron	14.7		mg/l	0.0150		14.4			2	20
Matrix Spike (1008850-MS1)			**Source: SB11065-04**			Prepared & Analyzed: 27-Apr-10				
Iron	1.26		mg/l	0.0150	1.25	0.0326	98	75-125		
Matrix Spike Dup (1008850-MSD1)			**Source: SB11065-04**			Prepared & Analyzed: 27-Apr-10				
Iron	1.26		mg/l	0.0150	1.25	0.0326	98	75-125	0.4	20
Post Spike (1008850-PS1)			**Source: SB11065-04**			Prepared & Analyzed: 27-Apr-10				
Iron	1.27		mg/l	0.0150	1.25	0.0326	99	80-120		

Notes and Definitions

GS	This sample was not able to be analyzed for client requested reporting limits due to high concentrations of target analytes in the sample.
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.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

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 *TPH (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

Validated by:
Hanibal C. Tayeh, Ph.D.
Nicole Leja

MassDEP Analytical Protocol Certification Form

Laboratory Name: Spectrum Analytical, Inc.	**Project #:** J40076
Project Location: Sandri - Bernardston, MA	**RTN:**
This form provides certifications for the following data set:	SB11065-01 through SB11065-05
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	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.

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director
Date: 4/28/2010

SB 11065 SM

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: 72 HRS.
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed. ORDER # 7223

Report To: LORI A. McCARTHY
Invoice To: ECS - AGAWAM
Project No.: J40076
Site Name: SANDRI
Location: BERNARDSTON State: MA
Project Mgr.: LAM
Telephone #:
P.O. No.: RQN: 0003
Sampler(s): ROB H

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= 10= 11=

List preservative code below: 2 2 3 4

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= 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: BTEX, MTBE BY 8260B	TBA by 8260B	TPH 1664	TOTAL Fe 6010B
11065-01	A.S. INFLUENT	4/22/10	9:30	G	GW	3	1		1	X	X	X	X
02	GAC INFLUENT	4/22	9:35	G	GW	3				X			
03	GAC MIDPT	4/22	9:37	G	GW	3				X			
04	GAC EFFLUENT	4/22	9:39	G	GW	3	1		1	X	X	X	X
05	TRIP	4/22	AM	G	DI	1				X			

QA/QC Reporting Notes (continued):
- ☒ Provide MA DEP MCP CAM Report
- ☐ Provide CT DPH RCP Report
- QA/QC Reporting Level: ☒ Standard ☐ No QC
- ☐ Other
- State specific reporting standards:

CAM
GW-1/GW-2/GW-3
SEE PREVIOUS PROJECT DETECTION LIMITS.

EDD Format
☒ E-mail to LMCCARTHY@ECSCONSULT.COM

Relinquished by: Robert Haynes
Received by:
Date: 4/23/10 Time: 8:35

Condition upon receipt: ☒ Iced ☐ Ambient ☒ °C 3.9

Submit to Spectrum w/ NPDES samples

Appendix VI: Minimums Levels and Test Methods

PARAMETER - CAS No. -	Minimum Levels and Test Methods[1,2,3]				
	GC[4]	GCMS[5]	LC[6]	FAA[7]	Other
1. Total Suspended Solids (TSS)					5 mg/l Method 160.2
2. Total Residual Chlorine (TRC)					20 ug/l Method 330.5
3. Total Petroleum Hydrocarbons (TPH)					5 mg/l Method 1664
4. Cyanide (total) - 57125 -					10 ug/l Method 335.4
5. Benzene (B) - 71432 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[7]
6. Toluene (T) - 108883 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[8]
7. Ethylbenzene (E) - 100414 -	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[9]
8. (m,p,o) Xylenes (X) - 108383; 106423; 95476-	0.5 ug/l Method 602	10 ug/l Method 1624			Method 8260C[7]
9. Total BTEX	0.5 ug/l Method 602	2 ug/l Method 624			Method 8260C[7]
10. Ethylene Dibromide (EDB) (1,2- Dibromoethane) - 106934 -	1.0 ug/l Method 618 0.01 ug/l Method 504.1	0.1 ug/l Methods 524.2			Method 8260C[7]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
11. Methyl-tert-Butyl Ether[4](MtBE)	0.5 ug/l Method 602[1]	5.0 ug/l Method 524.2			Method 8260C[2]
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol) - 75650 -	0.5 ug/l Method 602[1]	100 ug/l Method 1666			Method 8260C[2]
13. tert-Amyl Methyl Ether (TAME) -994058-	0.5 ug/l Method 602[1]				Method 8260C[2]
14. Naphthalene - 91203 -	10 ug/l Method 610 GC/FID	2 ug/l Method 625 5.0 ug/l Method 524.2	0.2 ug/l Method 610 HPLC		Method 8270D[3]
15. Carbon Tetrachloride - 56235 -	0.5 ug/l Method 601	2 ug/l Methods 624, 1624			Method 8260C[2]
16. 1,4 Dichlorobenzene (p-DCB) - 106467 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
17. 1,2 Dichlorobenzene (o-DCB) - 95501 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
18. 1,3 Dichlorobenzene (m-DCB) - 541731 -	0.5 ug/l Methods 601, 602	2 ug/l Methods 624, 625			Method 8260C[2]
19. 1,1 Dichloroethane (DCA) - 75343 -	0.5 ug/l Method 601	1 ug/l Method 624			Method 8260C[2]
20. 1,2 Dichloroethane (DCA)- 107062 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
21. 1,1 Dichloroethylene (DCE) - 75354 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
22. cis-1,2 Dichloro-ethylene (DCE) -156592-	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
23. Dichloromethane (Methylene Chloride)- 75092 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
24. Tetrachloroethylene (PCE) - 127184 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
25. 1,1,1 Trichloro-ethane (TCA) - 71556 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
26. 1,1,2 Trichloro-ethane (TCA) - 79005 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
27. Trichloroethylene (TCE) - 79016 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
28. Vinyl Chloride - 75014 -	0.5 ug/l Method 601	2 ug/l Method 624			Method 8260C[2]
29. Acetone - 67641 -	1.0 ug/l Method 524.2	50 ug/l Method 1624			Method 8260C[2]
30. 1,4 Dioxane -123911-		50 ug/l Method 1624			Method 8260C[2]
31. Total Phenols - 108952	1.0 ug/l Method 624 Method 8260[7]	1 ug/l Methods 625, 1625			Method 8260C[2] Method 8270D[3]
32. Pentachlorophenol (PCP) - 87865 -	1.0 ug/l Method 604 GCFID	5 ug/l Methods 625, 1625			Method 8270D[3]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
33. Total Phthalates [9] (Phthalate esthers)		5 ug/l Method 625			Method 8270D[3]
34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate] - 117817 -	10 ug/l Method 606	5 ug/l Method 625			Method 8270D[3]
35. Total Group I Polynuclear Aromatic Hydrocarbons (PAH)					Method 8270D[3]
a. Benzo(a) Anthracene -56553-	10 ug/l Method 610 GC	5 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
b. Benzo(a) Pyrene -50328 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
c. Benzo(b)Fluoranthene - 205992 -		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
d. Benzo(k)Fluoranthene - 207089 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
e. Chrysene - 218019 -		10 ug/l Method 625	5 ug/l Method 610 HPLC		Method 8270D[3]
f. Dibenzo(a,h) anthracene		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
g. Indeno(1,2,3-cd) Pyrene - 193395 -		10 ug/l Method 625	0.15 ug/l Method 610		Method 8270D[3]
36. Total Group II Polynuclear Aromatic Hydrocarbons (PAH)					Method 8270D[3]
h. Acenaphthene - 83329 -	1 ug/l Method 610 GC/FID	1 ug/l Method 625	0.5 ug/l Method 610 HPLC		Method 8270D[3]
i. Acenaphthylene - 208968 -		10 ug/l Method 625	0.2 ug/l Method 610 HPLC		Method 8270D[3]

PARAMETER - CAS No. -	Minimum Levels and Test Methods (40 CFR 136)				
	GC	GCMS	LC	FAA	Other
j. Anthracene - 120127 -		10 ug/l Method 625	2 ug/l Method 610 HPLC		Method 8270D[3]
k. Benzo(ghi) Perylene - 191242 -		5 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
l. Fluoranthene - 206440 -	10 ug/l Method 610 GC/FID	1 ug/l Method 625	0.5 ug/l Method 610 HPLC		Method 8270D[3]
m. Fluorene - 86737 -		10 ug/l Method 625	0.1 ug/l Method 610 HPLC		Method 8270D[3]
n. Naphthalene - 91203 -	10 ug/l Method 610 GC/FID	2 ug/l Method 625 5.0 ug/l Method 524.2	0.2 ug/l Method 610 HPLC		Method 8270D[3]
o. Phenanthrene - 85018 -		5 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
p. Pyrene - 129000 -		10 ug/l Method 625	0.05 ug/l Method 610 HPLC		Method 8270D[3]
37. Total Polychlorinated Biphenyls (PCBs)[7]	0.5 ug/l Method 608				0.00005 ug/l Method 1668c[8]
Inorganic parameters:		Minimum Levels (ug/l) and Test Methods			
		Flame Atomic Absorption	Inductively Coupled Plasma	Furnace Atomic Absorption	Other
38. Antimony		200 ug/l	50 ug/l	5 ug/l	
39. Arsenic			5 ug/l	2 ug/l	
40. Cadmium		10 ug/l	5 ug/l	0.5 ug/l	

Inorganic parameters:	Minimum Levels (ug/l) and Test Methods			
	Flame Atomic Absorption	Inductively Coupled Plasma	Furnace Atomic Absorption	Other
41. Chromium (total)	Method 218.1	10 ug/l Methods 200.7[1], 200.8, 200.15, 1620	5 ug/l Method 200.9	50 ug/l
42. Chromium (hexavalent)				10 ug/l Method 218.6 Method 1636
43. Copper	20 ug/l	5 ug/l	3 ug/l	
44. Lead	100 ug/l	40 ug/l	3 ug/l	
45. Mercury				0.2 ug/l
46. Nickel	30 ug/l	10 ug/l	5 ug/l	
47. Selenium		50 ug/l	5 ug/l	
48. Silver	50 ug/l	10 ug/l	2 ug/l	
49. Zinc	30 ug/l	10 ug/l		
50. Iron		Methods 6010b 200.7[1]		

1. 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). Where a minimum level (ML) is listed but a test method is not specified, permittee may use any of the available methods approved for use under 40 CFR 136, including alternatives approved by this permit, that meets that ML. See EPA's "Methods and Guidance for the Analysis of Water" at www.epa.gov/waterscience/methods.usf. Where test method is specified but ML not listed for that method, the lowest ML for listed methods must be used before concentration can be considered as "non-detect."

Report Date:
02-Jun-10 16:50

☑ 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: Lori Gilmore

Project: Sandri - Bernardston, MA
Project #: J40076

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB12884-01	A.S. Influent	Ground Water	28-May-10 12:05	28-May-10 14:45
SB12884-02	GAC Influent	Ground Water	28-May-10 12:07	28-May-10 14:45
SB12884-03	GAC MidPt	Ground Water	28-May-10 12:09	28-May-10 14:45
SB12884-04	GAC Effluent	Ground Water	28-May-10 12:11	28-May-10 14:45
SB12884-05	Trip	Deionized Water	27-May-10 00:00	28-May-10 14:45

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
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Technical Reviewer's Initial:

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 24 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.

CASE NARRATIVE:

The samples were received 7.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 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.

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 8260B

Samples:

S004849-CCV1

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

Bromoform (34.5%)
Carbon tetrachloride (29.7%)
Dibromochloromethane (25.2%)

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

Chloroform (21.3%)

This affected the following samples:

1011492-BLK1
1011492-BS1
1011492-BSD1

S004887-CCV1

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

1,2,4-Trimethylbenzene (24.2%)
1,3,5-Trimethylbenzene (23.9%)
2-Butanone (MEK) (-20.6%)
Bromoform (27.5%)
Carbon tetrachloride (24.3%)
Chloromethane (-21.6%)
Dibromochloromethane (20.2%)
sec-Butylbenzene (21.8%)
tert-Butylbenzene (22.6%)

This affected the following samples:

1011590-BLK1
1011590-BS1
1011590-BSD1

SW846 8260B

Samples:

SB12884-01 *A.S. Influent*

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
A.S. Influent	J40076	Ground Water	28-May-10 12:05	28-May-10
SB12884-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds												
Volatile Organic Compounds Prepared by method SW846 5030 Water MS			GS1									
71-43-2	Benzene	22.0		µg/l	5.0	5	SW846 8260B	02-Jun-10	02-Jun-10	JLG	1011590	
100-41-4	Ethylbenzene	BRL		µg/l	5.0	5	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	47.7		µg/l	5.0	5	"	"	"	"	"	
108-88-3	Toluene	40.0		µg/l	5.0	5	"	"	"	"	"	
179601-23-1	m,p-Xylene	65.1		µg/l	10.0	5	"	"	"	"	"	
95-47-6	o-Xylene	204		µg/l	5.0	5	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	50.0	5	"	"	"	"	"	
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*	*114*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*113*			*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons												
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	01-Jun-10	02-Jun-10	JK	1011458	
Total Metals by EPA 6000/7000 Series Methods												
7439-89-6	Iron	25.2		mg/l	0.0150	1	SW846 6010B	01-Jun-10	02-Jun-10	LR	1011483	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Influent	J40076	Ground Water	28-May-10 12:07	28-May-10
SB12884-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds												
Volatile Organic Aromatics by SW846 8260B Prepared by method SW846 5030 Water MS												
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	01-Jun-10	01-Jun-10	JLG	1011492	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	"	
Surrogate recoveries:												
460-00-4	*4-Bromofluorobenzene*	*98*			*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*104*			*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*118*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*114*			*70-130 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC MidPt	J40076	Ground Water	28-May-10 12:09	28-May-10
SB12884-03				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds												
Volatile Organic Aromatics by SW846 8260B Prepared by method SW846 5030 Water MS												
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	01-Jun-10	01-Jun-10	JLG	1011492	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	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*	*120*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*114*			*70-130 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GAC Effluent	J40076	Ground Water	28-May-10 12:11	28-May-10
SB12884-04				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds												
Volatile Organic Compounds Prepared by method SW846 5030 Water MS												
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	01-Jun-10	01-Jun-10	JLG	1011492	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL		µg/l	10.0	1	"	"	"	"	"	
Surrogate recoveries:												
460-00-4	*4-Bromofluorobenzene*	*97*			*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*120*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*115*			*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons												
	Non-polar material (SGT-HEM)	BRL		mg/l	1.0	1	EPA 1664 Rev. A	01-Jun-10	02-Jun-10	JK	1011458	
Total Metals by EPA 6000/7000 Series Methods												
7439-89-6	Iron	0.494		mg/l	0.0150	1	SW846 6010B	01-Jun-10	02-Jun-10	LR	1011483	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip	J40076	Deionized Water	27-May-10 00:00	28-May-10
SB12884-05				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds												
Volatile Organic Aromatics by SW846 8260B Prepared by method SW846 5030 Water MS												
71-43-2	Benzene	BRL		µg/l	1.0	1	SW846 8260B	01-Jun-10	01-Jun-10	JLG	1011492	
100-41-4	Ethylbenzene	BRL		µg/l	1.0	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL		µg/l	1.0	1	"	"	"	"	"	
108-88-3	Toluene	BRL		µg/l	1.0	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	BRL		µg/l	2.0	1	"	"	"	"	"	
95-47-6	o-Xylene	BRL		µg/l	1.0	1	"	"	"	"	"	
Surrogate recoveries:												
460-00-4	*4-Bromofluorobenzene*	*95*			*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*103*			*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*120*			*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*116*			*70-130 %*		"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1011492 - SW846 5030 Water MS										
Blank (1011492-BLK1)						Prepared & Analyzed: 01-Jun-10				
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	2.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	2.0						
Naphthalene	BRL		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1011492 - SW846 5030 Water MS										
Blank (1011492-BLK1)					Prepared & Analyzed: 01-Jun-10					
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
Vinyl chloride	BRL		µg/l	1.0						
o-Xylene	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	2.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
Trichloroethene	BRL		µg/l	1.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*49.3*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*49.8*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*49.8*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*54.2*		µg/l		*50.0*		*108*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*54.2*		µg/l		*50.0*		*108*	*70-130*		
Surrogate: Dibromofluoromethane	*55.1*		µg/l		*50.0*		*110*	*70-130*		
Surrogate: Dibromofluoromethane	*55.1*		µg/l		*50.0*		*110*	*70-130*		
LCS (1011492-BS1)					Prepared & Analyzed: 01-Jun-10					
1,1,2-Trichlorotrifluoroethane (Freon 113)	21.6		µg/l		20.0		108	70-130		
Acetone	20.0		µg/l		20.0		100	70-130		
Acrylonitrile	19.7		µg/l		20.0		99	70-130		
Benzene	19.9		µg/l		20.0		99	70-130		
Benzene	19.9		µg/l		20.0		99	70-130		
Bromobenzene	21.5		µg/l		20.0		107	70-130		
Bromochloromethane	22.7		µg/l		20.0		114	70-130		
Bromodichloromethane	22.4		µg/l		20.0		112	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1011492 - SW846 5030 Water MS										
LCS (1011492-BS1)					Prepared & Analyzed: 01-Jun-10					
Bromoform	27.1	QM9	µg/l		20.0		136	70-130		
Bromomethane	22.3		µg/l		20.0		111	70-130		
2-Butanone (MEK)	18.2		µg/l		20.0		91	70-130		
n-Butylbenzene	19.7		µg/l		20.0		99	70-130		
sec-Butylbenzene	22.8		µg/l		20.0		114	70-130		
tert-Butylbenzene	23.9		µg/l		20.0		120	70-130		
Carbon disulfide	19.7		µg/l		20.0		98	70-130		
Carbon tetrachloride	26.6	QM9	µg/l		20.0		133	70-130		
Chlorobenzene	19.7		µg/l		20.0		98	70-130		
Chloroethane	18.4		µg/l		20.0		92	70-130		
Chloroform	23.1		µg/l		20.0		116	70-130		
Chloromethane	17.8		µg/l		20.0		89	70-130		
2-Chlorotoluene	20.9		µg/l		20.0		104	70-130		
4-Chlorotoluene	20.8		µg/l		20.0		104	70-130		
1,2-Dibromo-3-chloropropane	17.7		µg/l		20.0		88	70-130		
Dibromochloromethane	25.2		µg/l		20.0		126	70-130		
1,2-Dibromoethane (EDB)	21.3		µg/l		20.0		106	70-130		
Dibromomethane	20.4		µg/l		20.0		102	70-130		
1,2-Dichlorobenzene	19.8		µg/l		20.0		99	70-130		
1,3-Dichlorobenzene	22.4		µg/l		20.0		112	70-130		
1,4-Dichlorobenzene	18.6		µg/l		20.0		93	70-130		
Dichlorodifluoromethane (Freon12)	20.7		µg/l		20.0		103	70-130		
1,1-Dichloroethane	19.3		µg/l		20.0		96	70-130		
1,2-Dichloroethane	20.7		µg/l		20.0		104	70-130		
1,1-Dichloroethene	20.5		µg/l		20.0		103	70-130		
cis-1,2-Dichloroethene	21.5		µg/l		20.0		108	70-130		
trans-1,2-Dichloroethene	20.0		µg/l		20.0		100	70-130		
1,2-Dichloropropane	17.6		µg/l		20.0		88	70-130		
1,3-Dichloropropane	18.9		µg/l		20.0		95	70-130		
2,2-Dichloropropane	22.6		µg/l		20.0		113	70-130		
1,1-Dichloropropene	21.7		µg/l		20.0		109	70-130		
cis-1,3-Dichloropropene	21.4		µg/l		20.0		107	70-130		
trans-1,3-Dichloropropene	23.4		µg/l		20.0		117	70-130		
Ethylbenzene	21.2		µg/l		20.0		106	70-130		
Ethylbenzene	21.2		µg/l		20.0		106	70-130		
Hexachlorobutadiene	20.1		µg/l		20.0		100	70-130		
2-Hexanone (MBK)	22.2		µg/l		20.0		111	70-130		
Isopropylbenzene	21.9		µg/l		20.0		110	70-130		
4-Isopropyltoluene	20.6		µg/l		20.0		103	70-130		
Methyl tert-butyl ether	21.0		µg/l		20.0		105	70-130		
Methyl tert-butyl ether	21.0		µg/l		20.0		105	70-130		
4-Methyl-2-pentanone (MIBK)	21.0		µg/l		20.0		105	70-130		
Methylene chloride	19.0		µg/l		20.0		95	70-130		
Naphthalene	22.6		µg/l		20.0		113	70-130		
n-Propylbenzene	21.5		µg/l		20.0		107	70-130		
Styrene	22.6		µg/l		20.0		113	70-130		
1,1,1,2-Tetrachloroethane	24.2		µg/l		20.0		121	70-130		
1,1,2,2-Tetrachloroethane	20.1		µg/l		20.0		100	70-130		
Tetrachloroethene	23.0		µg/l		20.0		115	70-130		
Toluene	19.4		µg/l		20.0		97	70-130		
Toluene	19.4		µg/l		20.0		97	70-130		
1,2,3-Trichlorobenzene	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 1011492 - SW846 5030 Water MS										
LCS (1011492-BS1)					Prepared & Analyzed: 01-Jun-10					
1,2,4-Trichlorobenzene	20.5		µg/l		20.0		103	70-130		
1,3,5-Trichlorobenzene	20.5		µg/l		20.0		103	70-130		
1,1,1-Trichloroethane	24.1		µg/l		20.0		120	70-130		
1,1,2-Trichloroethane	19.2		µg/l		20.0		96	70-130		
Trichloroethene	20.3		µg/l		20.0		102	70-130		
Trichlorofluoromethane (Freon 11)	22.8		µg/l		20.0		114	70-130		
1,2,3-Trichloropropane	18.8		µg/l		20.0		94	70-130		
1,2,4-Trimethylbenzene	23.8		µg/l		20.0		119	70-130		
1,3,5-Trimethylbenzene	23.5		µg/l		20.0		118	70-130		
m,p-Xylene	44.3		µg/l		40.0		111	70-130		
Vinyl chloride	19.9		µg/l		20.0		100	70-130		
m,p-Xylene	44.3		µg/l		40.0		111	70-130		
o-Xylene	22.9		µg/l		20.0		115	70-130		
o-Xylene	22.9		µg/l		20.0		115	70-130		
Tetrahydrofuran	19.5		µg/l		20.0		97	70-130		
Ethyl ether	19.4		µg/l		20.0		97	70-130		
Tert-amyl methyl ether	20.6		µg/l		20.0		103	70-130		
Ethyl tert-butyl ether	21.8		µg/l		20.0		109	70-130		
Di-isopropyl ether	20.3		µg/l		20.0		102	70-130		
Tert-Butanol / butyl alcohol	188		µg/l		200		94	70-130		
1,4-Dioxane	243		µg/l		200		122	70-130		
trans-1,4-Dichloro-2-butene	19.3		µg/l		20.0		96	70-130		
Ethanol	341		µg/l		400		85	70-130		
Surrogate: 4-Bromofluorobenzene	*52.5*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*52.5*		µg/l		*50.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.6*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.6*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*55.9*		µg/l		*50.0*		*112*	*70-130*		
Surrogate: Dibromofluoromethane	*55.9*		µg/l		*50.0*		*112*	*70-130*		
LCS Dup (1011492-BSD1)					Prepared & Analyzed: 01-Jun-10					
1,1,2-Trichlorotrifluoroethane (Freon 113)	19.8		µg/l		20.0		99	70-130	9	25
Acetone	19.7		µg/l		20.0		98	70-130	2	50
Acrylonitrile	21.0		µg/l		20.0		105	70-130	6	25
Benzene	18.6		µg/l		20.0		93	70-130	6	25
Benzene	18.6		µg/l		20.0		93	70-130	6	25
Bromobenzene	20.4		µg/l		20.0		102	70-130	5	25
Bromochloromethane	22.0		µg/l		20.0		110	70-130	3	25
Bromodichloromethane	21.1		µg/l		20.0		106	70-130	6	25
Bromoform	25.4		µg/l		20.0		127	70-130	6	25
Bromomethane	21.4		µg/l		20.0		107	70-130	4	50
2-Butanone (MEK)	17.3		µg/l		20.0		86	70-130	5	50
n-Butylbenzene	18.2		µg/l		20.0		91	70-130	8	25
sec-Butylbenzene	21.2		µg/l		20.0		106	70-130	8	25
tert-Butylbenzene	21.8		µg/l		20.0		109	70-130	9	25
Carbon disulfide	18.0		µg/l		20.0		90	70-130	9	25
Carbon tetrachloride	24.3		µg/l		20.0		121	70-130	9	25
Chlorobenzene	18.2		µg/l		20.0		91	70-130	8	25
Chloroethane	16.9		µg/l		20.0		84	70-130	9	50
Chloroform	22.2		µg/l		20.0		111	70-130	4	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1011492 - SW846 5030 Water MS										
LCS Dup (1011492-BSD1)					Prepared & Analyzed: 01-Jun-10					
Chloromethane	16.9		µg/l		20.0		84	70-130	5	25
2-Chlorotoluene	19.6		µg/l		20.0		98	70-130	6	25
4-Chlorotoluene	19.8		µg/l		20.0		99	70-130	5	25
1,2-Dibromo-3-chloropropane	17.0		µg/l		20.0		85	70-130	4	25
Dibromochloromethane	23.9		µg/l		20.0		119	70-130	5	50
1,2-Dibromoethane (EDB)	20.7		µg/l		20.0		103	70-130	3	25
Dibromomethane	19.7		µg/l		20.0		98	70-130	4	25
1,2-Dichlorobenzene	18.7		µg/l		20.0		93	70-130	6	25
1,3-Dichlorobenzene	20.6		µg/l		20.0		103	70-130	8	25
1,4-Dichlorobenzene	18.0		µg/l		20.0		90	70-130	4	25
Dichlorodifluoromethane (Freon12)	18.5		µg/l		20.0		92	70-130	11	50
1,1-Dichloroethane	18.6		µg/l		20.0		93	70-130	3	25
1,2-Dichloroethane	20.0		µg/l		20.0		100	70-130	4	25
1,1-Dichloroethene	18.6		µg/l		20.0		93	70-130	10	25
cis-1,2-Dichloroethene	19.7		µg/l		20.0		98	70-130	9	25
trans-1,2-Dichloroethene	18.5		µg/l		20.0		92	70-130	8	25
1,2-Dichloropropane	17.8		µg/l		20.0		89	70-130	0.8	25
1,3-Dichloropropane	18.3		µg/l		20.0		91	70-130	4	25
2,2-Dichloropropane	20.7		µg/l		20.0		103	70-130	9	25
1,1-Dichloropropene	19.9		µg/l		20.0		99	70-130	9	25
cis-1,3-Dichloropropene	20.3		µg/l		20.0		102	70-130	5	25
trans-1,3-Dichloropropene	22.4		µg/l		20.0		112	70-130	4	25
Ethylbenzene	20.0		µg/l		20.0		100	70-130	6	25
Ethylbenzene	20.0		µg/l		20.0		100	70-130	6	25
Hexachlorobutadiene	18.4		µg/l		20.0		92	70-130	9	50
2-Hexanone (MBK)	21.7		µg/l		20.0		109	70-130	2	25
Isopropylbenzene	20.6		µg/l		20.0		103	70-130	6	25
4-Isopropyltoluene	18.6		µg/l		20.0		93	70-130	10	25
Methyl tert-butyl ether	20.5		µg/l		20.0		102	70-130	3	25
Methyl tert-butyl ether	20.5		µg/l		20.0		102	70-130	3	25
4-Methyl-2-pentanone (MIBK)	21.0		µg/l		20.0		105	70-130	0.2	50
Methylene chloride	17.8		µg/l		20.0		89	70-130	6	25
Naphthalene	20.6		µg/l		20.0		103	70-130	9	25
n-Propylbenzene	20.2		µg/l		20.0		101	70-130	6	25
Styrene	21.7		µg/l		20.0		108	70-130	4	25
1,1,1,2-Tetrachloroethane	22.3		µg/l		20.0		112	70-130	8	25
1,1,2,2-Tetrachloroethane	19.4		µg/l		20.0		97	70-130	4	25
Tetrachloroethene	20.9		µg/l		20.0		105	70-130	10	25
Toluene	18.3		µg/l		20.0		92	70-130	6	25
Toluene	18.3		µg/l		20.0		92	70-130	6	25
1,2,3-Trichlorobenzene	18.8		µg/l		20.0		94	70-130	8	25
1,2,4-Trichlorobenzene	18.8		µg/l		20.0		94	70-130	9	25
1,3,5-Trichlorobenzene	18.6		µg/l		20.0		93	70-130	10	25
1,1,1-Trichloroethane	22.6		µg/l		20.0		113	70-130	6	25
1,1,2-Trichloroethane	18.6		µg/l		20.0		93	70-130	3	25
Trichloroethene	18.8		µg/l		20.0		94	70-130	8	25
Trichlorofluoromethane (Freon 11)	21.0		µg/l		20.0		105	70-130	8	50
1,2,3-Trichloropropane	18.4		µg/l		20.0		92	70-130	2	25
1,2,4-Trimethylbenzene	22.0		µg/l		20.0		110	70-130	8	25
1,3,5-Trimethylbenzene	22.1		µg/l		20.0		110	70-130	6	25
Vinyl chloride	18.1		µg/l		20.0		90	70-130	10	25
m,p-Xylene	41.5		µg/l		40.0		104	70-130	7	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1011492 - SW846 5030 Water MS										
LCS Dup (1011492-BSD1)					Prepared & Analyzed: 01-Jun-10					
o-Xylene	21.1		µg/l		20.0		106	70-130	8	25
m,p-Xylene	41.5		µg/l		40.0		104	70-130	7	25
o-Xylene	21.1		µg/l		20.0		106	70-130	8	25
Tetrahydrofuran	19.6		µg/l		20.0		98	70-130	0.7	25
Ethyl ether	19.0		µg/l		20.0		95	70-130	2	50
Tert-amyl methyl ether	20.0		µg/l		20.0		100	70-130	3	25
Ethyl tert-butyl ether	21.4		µg/l		20.0		107	70-130	2	25
Di-isopropyl ether	19.6		µg/l		20.0		98	70-130	4	25
Tert-Butanol / butyl alcohol	184		µg/l		200		92	70-130	2	25
1,4-Dioxane	207		µg/l		200		103	70-130	16	25
trans-1,4-Dichloro-2-butene	19.1		µg/l		20.0		95	70-130	1	25
Ethanol	394		µg/l		400		98	70-130	14	30
Surrogate: 4-Bromofluorobenzene	*51.6*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 4-Bromofluorobenzene	*51.6*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*49.5*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*49.5*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.2*		µg/l		*50.0*		*106*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.2*		µg/l		*50.0*		*106*	*70-130*		
Surrogate: Dibromofluoromethane	*54.2*		µg/l		*50.0*		*108*	*70-130*		
Surrogate: Dibromofluoromethane	*54.2*		µg/l		*50.0*		*108*	*70-130*		
Batch 1011590 - SW846 5030 Water MS										
Blank (1011590-BLK1)					Prepared & Analyzed: 02-Jun-10					
1,1,2-Trichlorotrifluoroethane (Freon 113)	BRL		µg/l	1.0						
Acetone	BRL		µg/l	10.0						
Acrylonitrile	BRL		µg/l	0.5						
Benzene	BRL		µg/l	1.0						
Bromobenzene	BRL		µg/l	1.0						
Bromochloromethane	BRL		µg/l	1.0						
Bromodichloromethane	BRL		µg/l	0.5						
Bromoform	BRL		µg/l	1.0						
Bromomethane	BRL		µg/l	2.0						
2-Butanone (MEK)	BRL		µg/l	10.0						
n-Butylbenzene	BRL		µg/l	1.0						
sec-Butylbenzene	BRL		µg/l	1.0						
tert-Butylbenzene	BRL		µg/l	1.0						
Carbon disulfide	BRL		µg/l	2.0						
Carbon tetrachloride	BRL		µg/l	1.0						
Chlorobenzene	BRL		µg/l	1.0						
Chloroethane	BRL		µg/l	2.0						
Chloroform	BRL		µg/l	1.0						
Chloromethane	BRL		µg/l	2.0						
2-Chlorotoluene	BRL		µg/l	1.0						
4-Chlorotoluene	BRL		µg/l	1.0						
1,2-Dibromo-3-chloropropane	BRL		µg/l	2.0						
Dibromochloromethane	BRL		µg/l	0.5						
1,2-Dibromoethane (EDB)	BRL		µg/l	0.5						
Dibromomethane	BRL		µg/l	1.0						
1,2-Dichlorobenzene	BRL		µg/l	1.0						
1,3-Dichlorobenzene	BRL		µg/l	1.0						
1,4-Dichlorobenzene	BRL		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	BRL		µg/l	2.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1011590 - SW846 5030 Water MS										
Blank (1011590-BLK1)					Prepared & Analyzed: 02-Jun-10					
1,1-Dichloroethane	BRL		µg/l	1.0						
1,2-Dichloroethane	BRL		µg/l	1.0						
1,1-Dichloroethene	BRL		µg/l	1.0						
cis-1,2-Dichloroethene	BRL		µg/l	1.0						
trans-1,2-Dichloroethene	BRL		µg/l	1.0						
1,2-Dichloropropane	BRL		µg/l	1.0						
1,3-Dichloropropane	BRL		µg/l	1.0						
2,2-Dichloropropane	BRL		µg/l	1.0						
1,1-Dichloropropene	BRL		µg/l	1.0						
cis-1,3-Dichloropropene	BRL		µg/l	0.5						
trans-1,3-Dichloropropene	BRL		µg/l	0.5						
Ethylbenzene	BRL		µg/l	1.0						
Hexachlorobutadiene	BRL		µg/l	0.5						
2-Hexanone (MBK)	BRL		µg/l	10.0						
Isopropylbenzene	BRL		µg/l	1.0						
4-Isopropyltoluene	BRL		µg/l	1.0						
Methyl tert-butyl ether	BRL		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	BRL		µg/l	10.0						
Methylene chloride	BRL		µg/l	2.0						
Naphthalene	BRL		µg/l	1.0						
n-Propylbenzene	BRL		µg/l	1.0						
Styrene	BRL		µg/l	1.0						
1,1,1,2-Tetrachloroethane	BRL		µg/l	1.0						
1,1,2,2-Tetrachloroethane	BRL		µg/l	0.5						
Tetrachloroethene	BRL		µg/l	1.0						
Toluene	BRL		µg/l	1.0						
1,2,3-Trichlorobenzene	BRL		µg/l	1.0						
1,2,4-Trichlorobenzene	BRL		µg/l	1.0						
1,3,5-Trichlorobenzene	BRL		µg/l	1.0						
1,1,1-Trichloroethane	BRL		µg/l	1.0						
1,1,2-Trichloroethane	BRL		µg/l	1.0						
Trichloroethene	BRL		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	BRL		µg/l	1.0						
1,2,3-Trichloropropane	BRL		µg/l	1.0						
1,2,4-Trimethylbenzene	BRL		µg/l	1.0						
1,3,5-Trimethylbenzene	BRL		µg/l	1.0						
Vinyl chloride	BRL		µg/l	1.0						
m,p-Xylene	BRL		µg/l	2.0						
o-Xylene	BRL		µg/l	1.0						
Tetrahydrofuran	BRL		µg/l	2.0						
Ethyl ether	BRL		µg/l	1.0						
Tert-amyl methyl ether	BRL		µg/l	1.0						
Ethyl tert-butyl ether	BRL		µg/l	1.0						
Di-isopropyl ether	BRL		µg/l	1.0						
Tert-Butanol / butyl alcohol	BRL		µg/l	10.0						
1,4-Dioxane	BRL		µg/l	20.0						
trans-1,4-Dichloro-2-butene	BRL		µg/l	5.0						
Ethanol	BRL		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*49.2*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: Toluene-d8	*51.3*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*56.6*		µg/l		*50.0*		*113*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1011590 - SW846 5030 Water MS										
Blank (1011590-BLK1)					Prepared & Analyzed: 02-Jun-10					
Surrogate: Dibromofluoromethane	*56.6*		µg/l		*50.0*		*113*	*70-130*		
LCS (1011590-BS1)					Prepared & Analyzed: 02-Jun-10					
1,1,2-Trichlorotrifluoroethane (Freon 113)	19.9		µg/l		20.0		99	70-130		
Acetone	20.6		µg/l		20.0		103	70-130		
Acrylonitrile	20.0		µg/l		20.0		100	70-130		
Benzene	18.3		µg/l		20.0		91	70-130		
Bromobenzene	20.3		µg/l		20.0		102	70-130		
Bromochloromethane	22.1		µg/l		20.0		110	70-130		
Bromodichloromethane	20.6		µg/l		20.0		103	70-130		
Bromoform	24.0		µg/l		20.0		120	70-130		
Bromomethane	22.7		µg/l		20.0		114	70-130		
2-Butanone (MEK)	18.0		µg/l		20.0		90	70-130		
n-Butylbenzene	19.0		µg/l		20.0		95	70-130		
sec-Butylbenzene	22.0		µg/l		20.0		110	70-130		
tert-Butylbenzene	22.4		µg/l		20.0		112	70-130		
Carbon disulfide	18.2		µg/l		20.0		91	70-130		
Carbon tetrachloride	23.9		µg/l		20.0		120	70-130		
Chlorobenzene	18.7		µg/l		20.0		94	70-130		
Chloroethane	18.0		µg/l		20.0		90	70-130		
Chloroform	22.8		µg/l		20.0		114	70-130		
Chloromethane	17.3		µg/l		20.0		86	70-130		
2-Chlorotoluene	20.8		µg/l		20.0		104	70-130		
4-Chlorotoluene	20.4		µg/l		20.0		102	70-130		
1,2-Dibromo-3-chloropropane	18.1		µg/l		20.0		90	70-130		
Dibromochloromethane	22.8		µg/l		20.0		114	70-130		
1,2-Dibromoethane (EDB)	20.3		µg/l		20.0		102	70-130		
Dibromomethane	19.3		µg/l		20.0		97	70-130		
1,2-Dichlorobenzene	18.9		µg/l		20.0		95	70-130		
1,3-Dichlorobenzene	21.4		µg/l		20.0		107	70-130		
1,4-Dichlorobenzene	18.2		µg/l		20.0		91	70-130		
Dichlorodifluoromethane (Freon12)	19.8		µg/l		20.0		99	70-130		
1,1-Dichloroethane	18.9		µg/l		20.0		95	70-130		
1,2-Dichloroethane	20.2		µg/l		20.0		101	70-130		
1,1-Dichloroethene	18.8		µg/l		20.0		94	70-130		
cis-1,2-Dichloroethene	20.0		µg/l		20.0		100	70-130		
trans-1,2-Dichloroethene	18.8		µg/l		20.0		94	70-130		
1,2-Dichloropropane	17.7		µg/l		20.0		88	70-130		
1,3-Dichloropropane	18.8		µg/l		20.0		94	70-130		
2,2-Dichloropropane	20.5		µg/l		20.0		103	70-130		
1,1-Dichloropropene	18.8		µg/l		20.0		94	70-130		
cis-1,3-Dichloropropene	19.2		µg/l		20.0		96	70-130		
trans-1,3-Dichloropropene	21.6		µg/l		20.0		108	70-130		
Ethylbenzene	19.8		µg/l		20.0		99	70-130		
Hexachlorobutadiene	18.5		µg/l		20.0		92	70-130		
2-Hexanone (MBK)	21.6		µg/l		20.0		108	70-130		
Isopropylbenzene	20.7		µg/l		20.0		104	70-130		
4-Isopropyltoluene	19.2		µg/l		20.0		96	70-130		
Methyl tert-butyl ether	19.2		µg/l		20.0		96	70-130		
4-Methyl-2-pentanone (MIBK)	20.3		µg/l		20.0		102	70-130		
Methylene chloride	17.7		µg/l		20.0		88	70-130		
Naphthalene	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 1011590 - SW846 5030 Water MS										
LCS (1011590-BS1)					Prepared & Analyzed: 02-Jun-10					
n-Propylbenzene	20.8		µg/l		20.0		104	70-130		
Styrene	21.3		µg/l		20.0		106	70-130		
1,1,1,2-Tetrachloroethane	22.6		µg/l		20.0		113	70-130		
1,1,2,2-Tetrachloroethane	20.4		µg/l		20.0		102	70-130		
Tetrachloroethene	20.2		µg/l		20.0		101	70-130		
Toluene	18.5		µg/l		20.0		92	70-130		
1,2,3-Trichlorobenzene	19.7		µg/l		20.0		99	70-130		
1,2,4-Trichlorobenzene	19.0		µg/l		20.0		95	70-130		
1,3,5-Trichlorobenzene	18.3		µg/l		20.0		92	70-130		
1,1,1-Trichloroethane	22.2		µg/l		20.0		111	70-130		
1,1,2-Trichloroethane	19.7		µg/l		20.0		98	70-130		
Trichloroethene	18.9		µg/l		20.0		95	70-130		
Trichlorofluoromethane (Freon 11)	21.8		µg/l		20.0		109	70-130		
1,2,3-Trichloropropane	19.2		µg/l		20.0		96	70-130		
1,2,4-Trimethylbenzene	22.6		µg/l		20.0		113	70-130		
1,3,5-Trimethylbenzene	22.4		µg/l		20.0		112	70-130		
Vinyl chloride	19.7		µg/l		20.0		99	70-130		
m,p-Xylene	41.9		µg/l		40.0		105	70-130		
o-Xylene	21.6		µg/l		20.0		108	70-130		
Tetrahydrofuran	19.0		µg/l		20.0		95	70-130		
Ethyl ether	19.0		µg/l		20.0		95	70-130		
Tert-amyl methyl ether	21.0		µg/l		20.0		105	70-130		
Ethyl tert-butyl ether	20.7		µg/l		20.0		104	70-130		
Di-isopropyl ether	19.3		µg/l		20.0		96	70-130		
Tert-Butanol / butyl alcohol	187		µg/l		200		93	70-130		
1,4-Dioxane	173		µg/l		200		87	70-130		
trans-1,4-Dichloro-2-butene	17.2		µg/l		20.0		86	70-130		
Ethanol	400		µg/l		400		100	70-130		
Surrogate: 4-Bromofluorobenzene	*53.6*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Toluene-d8	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*55.4*		µg/l		*50.0*		*111*	*70-130*		
Surrogate: Dibromofluoromethane	*54.5*		µg/l		*50.0*		*109*	*70-130*		
LCS Dup (1011590-BSD1)					Prepared & Analyzed: 02-Jun-10					
1,1,2-Trichlorotrifluoroethane (Freon 113)	18.9		µg/l		20.0		94	70-130	5	25
Acetone	19.2		µg/l		20.0		96	70-130	7	50
Acrylonitrile	20.8		µg/l		20.0		104	70-130	4	25
Benzene	17.5		µg/l		20.0		87	70-130	4	25
Bromobenzene	20.0		µg/l		20.0		100	70-130	2	25
Bromochloromethane	20.3		µg/l		20.0		101	70-130	8	25
Bromodichloromethane	20.0		µg/l		20.0		100	70-130	3	25
Bromoform	24.5		µg/l		20.0		122	70-130	2	25
Bromomethane	20.9		µg/l		20.0		105	70-130	8	50
2-Butanone (MEK)	17.5		µg/l		20.0		87	70-130	3	50
n-Butylbenzene	17.1		µg/l		20.0		85	70-130	11	25
sec-Butylbenzene	20.2		µg/l		20.0		101	70-130	9	25
tert-Butylbenzene	20.9		µg/l		20.0		105	70-130	7	25
Carbon disulfide	16.0		µg/l		20.0		80	70-130	13	25
Carbon tetrachloride	21.8		µg/l		20.0		109	70-130	9	25
Chlorobenzene	18.0		µg/l		20.0		90	70-130	4	25
Chloroethane	15.6		µg/l		20.0		78	70-130	14	50
Chloroform	20.9		µg/l		20.0		104	70-130	9	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1011590 - SW846 5030 Water MS										
LCS Dup (1011590-BSD1)					Prepared & Analyzed: 02-Jun-10					
Chloromethane	15.5		µg/l		20.0		77	70-130	11	25
2-Chlorotoluene	19.2		µg/l		20.0		96	70-130	8	25
4-Chlorotoluene	19.3		µg/l		20.0		96	70-130	6	25
1,2-Dibromo-3-chloropropane	17.7		µg/l		20.0		89	70-130	2	25
Dibromochloromethane	22.3		µg/l		20.0		112	70-130	2	50
1,2-Dibromoethane (EDB)	19.4		µg/l		20.0		97	70-130	4	25
Dibromomethane	19.2		µg/l		20.0		96	70-130	0.5	25
1,2-Dichlorobenzene	17.9		µg/l		20.0		89	70-130	6	25
1,3-Dichlorobenzene	20.2		µg/l		20.0		101	70-130	6	25
1,4-Dichlorobenzene	17.3		µg/l		20.0		86	70-130	5	25
Dichlorodifluoromethane (Freon12)	17.1		µg/l		20.0		86	70-130	15	50
1,1-Dichloroethane	17.7		µg/l		20.0		89	70-130	7	25
1,2-Dichloroethane	19.8		µg/l		20.0		99	70-130	2	25
1,1-Dichloroethene	17.4		µg/l		20.0		87	70-130	8	25
cis-1,2-Dichloroethene	18.3		µg/l		20.0		91	70-130	9	25
trans-1,2-Dichloroethene	17.0		µg/l		20.0		85	70-130	10	25
1,2-Dichloropropane	16.7		µg/l		20.0		83	70-130	6	25
1,3-Dichloropropane	18.2		µg/l		20.0		91	70-130	3	25
2,2-Dichloropropane	19.1		µg/l		20.0		95	70-130	7	25
1,1-Dichloropropene	17.6		µg/l		20.0		88	70-130	7	25
cis-1,3-Dichloropropene	18.2		µg/l		20.0		91	70-130	5	25
trans-1,3-Dichloropropene	20.8		µg/l		20.0		104	70-130	4	25
Ethylbenzene	18.5		µg/l		20.0		92	70-130	7	25
Hexachlorobutadiene	17.3		µg/l		20.0		86	70-130	7	50
2-Hexanone (MBK)	21.2		µg/l		20.0		106	70-130	2	25
Isopropylbenzene	19.4		µg/l		20.0		97	70-130	7	25
4-Isopropyltoluene	17.7		µg/l		20.0		88	70-130	8	25
Methyl tert-butyl ether	19.0		µg/l		20.0		95	70-130	0.6	25
4-Methyl-2-pentanone (MIBK)	20.2		µg/l		20.0		101	70-130	0.7	50
Methylene chloride	17.4		µg/l		20.0		87	70-130	2	25
Naphthalene	20.5		µg/l		20.0		102	70-130	3	25
n-Propylbenzene	19.0		µg/l		20.0		95	70-130	9	25
Styrene	19.9		µg/l		20.0		100	70-130	7	25
1,1,1,2-Tetrachloroethane	21.3		µg/l		20.0		106	70-130	6	25
1,1,2,2-Tetrachloroethane	20.4		µg/l		20.0		102	70-130	0.1	25
Tetrachloroethene	19.0		µg/l		20.0		95	70-130	6	25
Toluene	17.5		µg/l		20.0		88	70-130	5	25
1,2,3-Trichlorobenzene	18.3		µg/l		20.0		91	70-130	8	25
1,2,4-Trichlorobenzene	17.8		µg/l		20.0		89	70-130	7	25
1,3,5-Trichlorobenzene	17.3		µg/l		20.0		87	70-130	6	25
1,1,1-Trichloroethane	20.4		µg/l		20.0		102	70-130	8	25
1,1,2-Trichloroethane	18.7		µg/l		20.0		94	70-130	5	25
Trichloroethene	17.6		µg/l		20.0		88	70-130	7	25
Trichlorofluoromethane (Freon 11)	19.7		µg/l		20.0		99	70-130	10	50
1,2,3-Trichloropropane	18.4		µg/l		20.0		92	70-130	4	25
1,2,4-Trimethylbenzene	21.1		µg/l		20.0		106	70-130	7	25
1,3,5-Trimethylbenzene	21.0		µg/l		20.0		105	70-130	6	25
Vinyl chloride	16.0		µg/l		20.0		80	70-130	21	25
m,p-Xylene	39.4		µg/l		40.0		98	70-130	6	25
o-Xylene	20.6		µg/l		20.0		103	70-130	5	25
Tetrahydrofuran	18.9		µg/l		20.0		94	70-130	0.8	25
Ethyl ether	17.9		µg/l		20.0		90	70-130	6	50

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1011590 - SW846 5030 Water MS										
LCS Dup (1011590-BSD1)					Prepared & Analyzed: 02-Jun-10					
Tert-amyl methyl ether	20.0		µg/l		20.0		100	70-130	5	25
Ethyl tert-butyl ether	19.5		µg/l		20.0		98	70-130	6	25
Di-isopropyl ether	18.0		µg/l		20.0		90	70-130	7	25
Tert-Butanol / butyl alcohol	188		µg/l		200		94	70-130	0.6	25
1,4-Dioxane	187		µg/l		200		93	70-130	8	25
trans-1,4-Dichloro-2-butene	17.8		µg/l		20.0		89	70-130	3	25
Ethanol	378		µg/l		400		95	70-130	6	30
Surrogate: 4-Bromofluorobenzene	*53.7*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Toluene-d8	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*54.9*		µg/l		*50.0*		*110*	*70-130*		
Surrogate: Dibromofluoromethane	*53.2*		µg/l		*50.0*		*106*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1011458 - SW846 3510C										
Blank (1011458-BLK1)						Prepared: 01-Jun-10 Analyzed: 02-Jun-10				
Non-polar material (SGT-HEM)	BRL		mg/l	1.0						
LCS (1011458-BS1)						Prepared: 01-Jun-10 Analyzed: 02-Jun-10				
Non-polar material (SGT-HEM)	26.2		mg/l		31.0		85	83-101		

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

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1011483 - SW846 3005A										
Blank (1011483-BLK1)					Prepared: 01-Jun-10 Analyzed: 02-Jun-10					
Iron	BRL		mg/l	0.0150						
LCS (1011483-BS1)					Prepared: 01-Jun-10 Analyzed: 02-Jun-10					
Iron	1.43		mg/l	0.0150	1.25		114	85-115		
LCS Dup (1011483-BSD1)					Prepared: 01-Jun-10 Analyzed: 02-Jun-10					
Iron	1.41		mg/l	0.0150	1.25		113	85-115	1	20

Notes and Definitions

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.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

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 *TPH (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

Validated by:
Hanibal C. Tayeh, Ph.D.
Kimberly Wisk
Nicole Leja

MassDEP Analytical Protocol Certification Form

Laboratory Name: Spectrum Analytical, Inc.	**Project #:** J40076
Project Location: Sandri - Bernardston, MA	**RTN:**
This form provides certifications for the following data set:	SB12884-01 through SB12884-05
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	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.

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director
Date: 6/2/2010

SB 12884 SG #7370

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: 72 HRS
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: LORI McCARTHY
Project Mgr.: LAM
Telephone #:

Invoice To: ECS- AGAWAM
P.O. No.: RQN: 0003

Project No.: J40076
Site Name: SANDRI.
Location: BERNARDSTON State: MA
Sampler(s): ROB H.

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= 10= 11=

List preservative code below:

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

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: BTEX + MTBE by 8260B	TBA by 8260B	TPH 1664	TOTAL Fe 6010B	QA/QC Reporting Notes: (check as needed)
12884 01	A.S INFLUENT	5/28/10	12:05	G	GW	3	1		1	X	X	X	X	GW-1/GW-2/GW-3
02	AR INFLUENT	5/28	12:07	G	GW	3				X				NPDES DETECTION
03	AR MIDPT	5/28	12:09	G	GW	3				X				LIMITS
04	AR EFFLUENT	5/28	12:11	G	GW	3	1		1	X	X	X	X	5ug/L BENZENE
05	TRIP	5/27/10	PM	G	DI	1				X				1 mg/L Fe
														5 mg/L TPH

☒ Provide MA DEP MCP CAM Report
☐ Provide CT DPH RCP Report

QA/QC Reporting Level
☒ Standard ☐ No QC
☐ Other

State specific reporting standards:

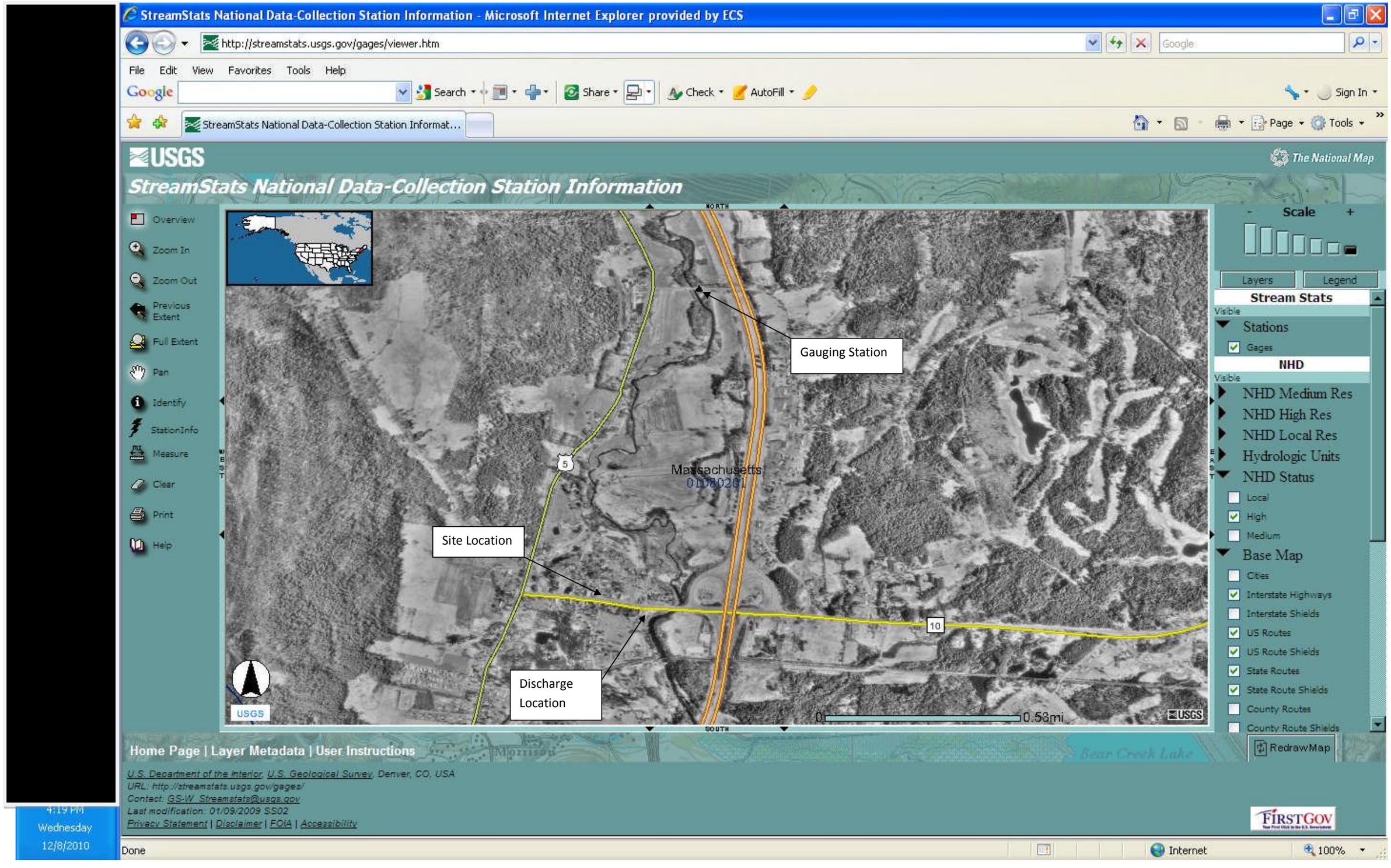
EDD Format
☒ E-mail to L McCARTHY@ECSCONSULT.com

Relinquished by:	Received by:	Date:	Time:
Rob Haynes		5/28/10	14:45

Condition upon receipt: ☒ Iced ☐ Ambient ☐ °C 7.3

ATTACHMENT III

STREAMSTATS UNGAUGED SITE REPORT AND MAP


StreamStats National Data-Collection Station Information - Microsoft Internet Explorer provided by ECS
http://streamstats.usgs.gov/gages/viewer.htm
File Edit View Favorites Tools Help
StreamStats National Data-Collection Station Information
USGS
The National Map
StreamStats National Data-Collection Station Information
Overview
Zoom In
Zoom Out
Previous Extent
Full Extent
Pan
Identify
StationInfo
Measure
Clear
Print
Help
NORTH
WEST
EAST
SOUTH
Gauging Station
Site Location
Discharge Location
Massachusetts
01080201
5
10
0
0.58mi
USGS
Scale
Layers
Legend
Stream Stats
Visible
Stations
Gages
NHD
Visible
NHD Medium Res
NHD High Res
NHD Local Res
Hydrologic Units
NHD Status
Local
High
Medium
Base Map
Cities
Interstate Highways
Interstate Shields
US Routes
US Route Shields
State Routes
State Route Shields
County Routes
County Route Shields
RedrawMap
Home Page | Layer Metadata | User Instructions
U.S. Department of the Interior, U.S. Geological Survey, Denver, CO, USA
URL: http://streamstats.usgs.gov/gages/
Contact: GS-W_Streamstats@usgs.gov
Last modification: 01/09/2009 SS02
Privacy Statement | Disclaimer | FOIA | Accessibility
FIRSTGOV
Done
Internet
100%
4:19 PM
Wednesday
12/8/2010

StreamStats Data-Collection Station Report

USGS Station Number 01167200
Station Name FALL RIVER AT BERNARDSTON, MA

Click here to link to available data on NWIS-Web for this site.

Descriptive Information

Station Type	Low Flow, partial record
Regulated?	False
Period of Record	1971-73
Remarks	None
Latitude (degrees NAD83)	42.68758417
Longitude (degrees NAD83)	-72.54481139
Hydrologic unit code	01080201
Local Basin	6-Connecticut
County	011-Franklin
MCD	05560-Bernardston town
Directions to station	Burke Falls Road

Physical Characteristics

Characteristic Name	Value	Units	Citation Number
Area_of_Coarse_Stratified_Drift	0.2	square miles	15
Area_of_Lakes_and_Ponds	0.05	square miles	15
Area_of_Wetlands	0.03	square miles	15
Drainage_Area	22.31	square miles	15
Maximum_Basin_Elevation	2831	feet	15
Mean_Basin_Elevation	858	feet	15
Mean_Basin_Slope_ft_per_mi	10.61	feet per mi	30
Minimum_Basin_Elevation	395	feet	15

Total_Stream_Length	38.58	miles	15
Mean_Basin_Slope_from_250K_DEM	10.61	percent	15

Streamflow Statistics

Statistic Name	Value	Units	Citation Number
Low-Flow Statistics			
7_Day_10_Year_Low_Flow	2.89	cubic feet per second	15
7_Day_2_Year_Low_Flow	1.46	cubic feet per second	15
Stand_Er_of_7_Day_10_Year_Min	8.7	percent	15
Stand_Er_of_7_Day_2_Year_Min	11	percent	15
Flow-Duration Statistics			
50_Percent_Duration	13.2	cubic feet per second	15
55_Percent_Duration	11.9	cubic feet per second	15
60_Percent_Duration	10.9	cubic feet per second	15
65_Percent_Duration	10.4	cubic feet per second	15
70_Percent_Duration	9.61	cubic feet per second	15
75_Percent_Duration	8.66	cubic feet per second	15
80_Percent_Duration	7.71	cubic feet per second	15
85_Percent_Duration	6.58	cubic feet per second	15
90_Percent_Duration	5.21	cubic feet per second	15
93_Percent_Duration	4.04	cubic feet per second	15
95_Percent_Duration	3.48	cubic feet per second	15
97_Percent_Duration	2.75	cubic feet per second	15
98_Percent_Duration	2.43	cubic feet per second	15
99_Percent_Duration	1.91	cubic feet per	15

		second	
Stand_Er_of_50_Percent_Duration	7.3	percent	15
Stand_Er_of_55_Percent_Duration	7.3	percent	15
Stand_Er_of_60_Percent_Duration	7.4	percent	15
Stand_Er_of_65_Percent_Duration	7.7	percent	15
Stand_Er_of_70_Percent_Duration	7.7	percent	15
Stand_Er_of_75_Percent_Duration	7.7	percent	15
Stand_Er_of_80_Percent_Duration	7.6	percent	15
Stand_Er_of_85_Percent_Duration	7.4	percent	15
Stand_Er_of_90_Percent_Duration	7.1	percent	15
Stand_Er_of_93_Percent_Duration	6.9	percent	15
Stand_Er_of_95_Percent_Duration	6.9	percent	15
Stand_Er_of_97_Percent_Duration	7	percent	15
Stand_Er_of_98_Percent_Duration	7.2	percent	15
Stand_Er_of_99_Percent_Duration	7.7	percent	15

Citations

Citation Number	Citation Name and URL
15	Ries, K.G., III, 1999, Streamflow measurements, basin characteristics, and streamflow statistics for low-flow partial-record stations operated in Massachusetts from 1989 through 1996: U.S. Geological Survey Water Resources Investigations Report 99-4006, 162 p.
30	Imported from NWIS file

ATTACHMENT IV

MASSGIS ONLINE DATA VIEWER MAP

Bernardston Sunoco

50 Church Street, Bernardston, MA

300 m (1:15000)

Source: MassGIS (www.mass.gov/mgis). Maps and photos are for planning purposes only.

WARNING: This map does not meet national map accuracy standards, and cannot be used for engineering purposes. Please consult conditions of use at http://www.state.ma.us/mgis/

- ☑ **Areas of Critical Environmental Concern ACECs Solid**
- ☑ **2005 Color Orthos**
- ☑ **Outlines Protected**
- ☑ **NHESP Priority Habitats of Rare Species**
- ☑ **NHESP Estimated Habitats of Rare Wildlife**
- ☑ **NHESP Certified Vernal Pools**
- ☑ **Areas of Critical Environmental Concern ACECs Outlines**
  - ROAD/RAIL BASED
  - RIVER BASED
  - WETLAND BASED
  - FLOODPLAIN BASED
  - TIDAL BASED
  - CONTOUR BASED
  - POLITICAL BOUNDARY
  - PROPERTY LINE BASED
  - OTHER
  - NOT DEFINED