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

CERTIFIED MAIL RETURN RECEIPT REQUESTED

APR 27 2012

Michael Decoteau
Senior Project Engineer
Groundwater & Environmental Services, Inc.
364 Littleton Road, Suite 4
Westford, MA 01886

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. Mobil Station No. 1476 site located at 44 Great Road, Acton, MA 01720, Middlesex County; Authorization # MAG910532

Dear Mr. Decoteau:

Based on the review of a Notice of Intent (NOI) submitted on behalf of Global Companies LLC, by your firm Groundwater & Environmental 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 which you are required to monitor. Also indicated on the checklist are the effluent limits, test methods and minimum levels (MLs) for each pollutant. Please note that the checklist does not represent the complete requirements of the RGP. Operators must comply with all of the applicable requirements of this permit, including influent and effluent monitoring, narrative water quality standards, record keeping, and reporting requirements, found in Parts I and II, and Appendices I – VIII of the RGP. See EPA's website for the complete RGP and other information at: http://www.epa.gov/region1/npdes/mass.html#dgp.

Please note the enclosed checklist includes parameters you have marked "Believe Present." The checklist also includes other parameters which in accordance with the laboratory records they were found present at levels above the levels established in the Appendix III list of the RGP.

Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on a dilution factor range (DFR). With the absence of dilution to wetlands, EPA determined that the DFR for each parameter is in the one and five (1-5) range. (See the RGP Appendix IV for Massachusetts facilities) Therefore, the limits for arsenic of 10 ug/L, nickel of 29 ug/L, lead of 1.3 ug/L, selenium

of 5 ug/L, zinc of 66.6 ug/L and iron of 1,000 ug/L, are required to achieve permit compliance at your site.

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

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on November 30, 2012. If for any reason the discharge terminates sooner you are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

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

Sincerely,

Thelma Murphy

Thelma Murphy, Manager
Storm Water and Construction
Permits Section

Enclosure

cc: Kathleen Keohane, MassDEP
William Turner, WCC
Mary W. Cathey, GES Inc.

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**MAG910532**
Authorization Issued:	April, 2012
Facility/Site Name:	Mobil Station No. 1476
Facility/Site Address:	44 Great Road, Acton, Massachusetts, 01720, Middlesex County
	Email address of owner: SCharron@globalp.com
Legal Name of Operator:	Ground Water and Environmental Services Inc.
Operator contact name, title, and Address:	Michael Decoteau, Senior Project Engineer, 364 Littleton Road, Suite 4. Westford, MA 01886, Middlesex County
	Email: Not provided Telephone: 800-221-6119
Estimated date of Completion:	May 30. 2012
Category and Sub-Category:	Category I- Petroleum Related Site Remediation. Sub-category B and Category III- Contaminated Construction Dewatering. Sub-category A. General Urban Fill Sites
RGP Termination Date:	September 10, 2015
Receiving Water:	Wetland

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/ML5ug/L
	2. Total Residual Chlorine (TRC) [1]	Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L
	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/L/ Me# 1664A/ML 5.0mg/L
	4. Cyanide (CN) [2, 3]	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 10ug/L
√	5. Benzene (B)	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
√	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
√	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
√	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
√	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes	100 ug/L/ Me#8260C/ ML 2ug/L

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

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	a. Benzo(a) Anthracene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	b. Benzo(a) Pyrene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	c. Benzo(b)Fluoranthene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	d. Benzo(k)Fluoranthene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	e. Chrysene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	f. Dibenzo(a,h)anthracene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	g. Indeno(1,2,3-cd) Pyrene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML5ug/L
√	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
	h. Acenaphthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	i. Acenaphthylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	j. Anthracene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	l. Fluoranthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	m. Fluorene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	n. Naphthalene [5]	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	o. Phenanthrene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	p. Pyrene	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) [8, 9]	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
√	38. Chloride	Monitor only/Me# 300.0/ ML 0.1ug/L

	Metal parameter	Total Recoverable Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11/12]		Minimum level=ML	
		Freshwater	Saltwater		
	39. Antimony	5.6/ML 10			

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

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

Footnotes:

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

April 13, 2012

U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, MA 02109-3912
ATTN: Remediation General Permit NOI Processing

Re: Remediation General Permit – Notice of Intent
Mobil-branded Petroleum Retail Station
44 Great Road
Acton, Massachusetts 02149-5909
MassDEP Site No. 2-0253

To Whom It May Concern:

At the request of Global Companies LLC (Global), Groundwater & Environmental Services, Inc. (GES) is submitting the attached Remediation General Permit (RGP) – Notice of Intent (NOI) for the above-referenced location, referred to as the site. Global is currently in the process of planning for the removal and upgrade of the current underground storage tank (UST) system at the site which will include groundwater dewatering.

The RGP-NOI form is included as Attachment A. The site is currently a Mobil-branded petroleum retail station. A Site Location Map and Site Map are provided as Figures 1 and 2, respectively. Based on gauging of monitoring wells at the site, the depth to groundwater is approximately 7.5 feet below ground surface (bgs). Excavations to approximately 15 feet bgs will be required for the UST installation. Temporary construction dewatering will be required to facilitate the removal and installation of USTs.

The site is the location of a subsurface release of petroleum hydrocarbons that was initially discovered in 1987 for which the Massachusetts Department of Environmental Protection (MassDEP) assigned Site Number 2-0253. Since 1987, additional Release Tracking Numbers (RTNs) have been assigned to the subject property, and have been subsequently linked to the main MassDEP Site Number, including RTN 2-13870 (July 2001), RTN 2-15512 (December 2004), RTN 2-16150 (March 2006) and RTN 2-16160. The site is located within 500 feet of private drinking water wells and is within one of the Town of Acton's Aquifer Protection Areas.

On March 1, 2012, groundwater samples were obtained from existing onsite monitoring wells (MW-6R and MW-9) adjacent to the proposed excavation area. Per RGP-Appendix III, groundwater samples were analyzed for parameters applicable to Category I, Subcategories A and B (gasoline only and fuel oil and other oil sites, respectively) and Category III (contaminated construction dewatering). Laboratory analytical results indicated that the concentrations of select metals (silver, cadmium, lead, antimony and selenium) were non-detect at the reporting limit however that limit was above the

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Massachusetts Effluent Limit for the subject metals. Therefore, the groundwater samples were re-run, for these select metals only, using a different method. Similarly, VOC results indicated that a few analytes were non-detect with the reporting limit above the MA Effluent limit. A second groundwater sample was collected from monitoring well MW-6R on March 23, 2012 and re-analyzed for VOCs. Overall, results indicated that the concentrations of arsenic, iron, benzene, methyl-tert-butyl-ether (MTBE) and toluene exceeded the MA Effluent Limitations listed in RGP-Appendix III under the National Pollutant Discharge Elimination System for Discharges in Massachusetts. The laboratory analytical reports supporting this submittal are included as Attachment B.

During the construction dewatering process, groundwater will be pumped from the excavation into a fractionation tank for settling and equalization. The groundwater will then be pumped at 50 gallons per minute or less from the fractionation tank through a bag filter skid equipped with 10 micron filter bags, two trains of two liquid phase carbon units (2,000 lbs per vessel) in parallel, a 20 cubic foot ion exchange vessel bedded with CGS resin, and a totalizer before ultimately discharging into the catch basin that is located north of the site on the south side of Great Road. A schematic drawing, or process flow diagram, is included in Attachment C and the location of the subject catch basin is shown on Figure 2. From the catch basin, the storm drain line extends across and southeast beneath Great Road, turns south beneath Keefe Road for approximately 510 feet before discharging to the wetland (adjacent to Nashoba Brook) west of Keefe Road. The location of the site, the storm drain line, the discharge point and the receiving waters are depicted the aerial photo included in Attachment D.

The site is not located at or near any location specified in Appendix VII of the RGP as subject to consultation with the U.S. Fisheries and Wildlife Service or the National Fisheries Service. According to the Massachusetts Division of Fisheries and Wildlife the site is not located within a National Heritage Endangered Species Program (NHESP) Estimated or Priority Habitat (http://www.mass.gov/dfwele/dfw/nhesp/nhesp.htm). According to the National Park Service's National Register Information System (NRIS) (http://www.nps.gov/nr/) there are more than 1,300 listed historical sites in Middlesex county and seven listed for the Town of Acton, Massachusetts. The Massachusetts Historical Commission's Massachusetts Cultural Resource Information System (MACRIS) (http://mhc-macris.net/) listed more than 600 sites in Acton with the closest one approximately 60 feet northwest of the site. Based upon the information contained in the MACRIS listing, the historical sites adjacent to the site are comprised of homes and are unlikely to be adversely affected by the proposed discharge. Copies of the NRIS, MACRIS and NHESP listings and /or maps are included in Attachment E.

If you have any questions or require further information, please contact the undersigned at (800) 221-6119.

Sincerely,

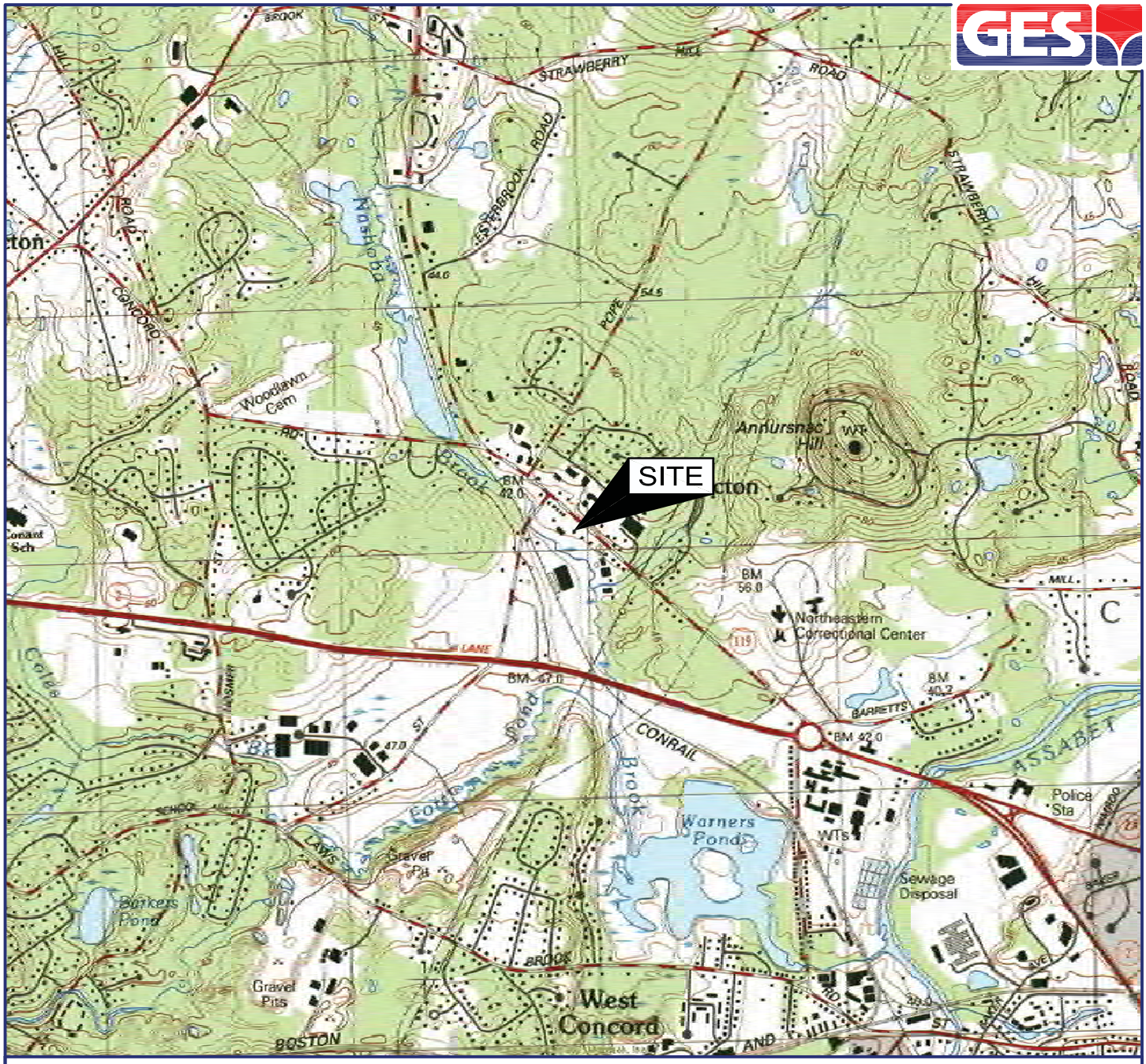
Groundwater & Environmental Services, Inc.

Mary W. Cathey
Project Geologist

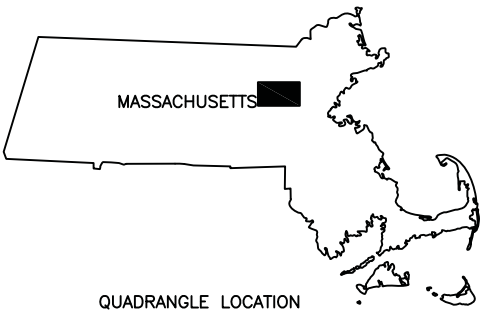
Michael Decoteau, PE
Senior Project Engineer

cc: Global

Figures



SOURCE: USGS 7.5 MINUTE SERIES
TOPOGRAPHIC QUADRANGLE 1987
MAYNARD, MASSACHUSETTS
CONTOUR INTERVAL = 3 METERS

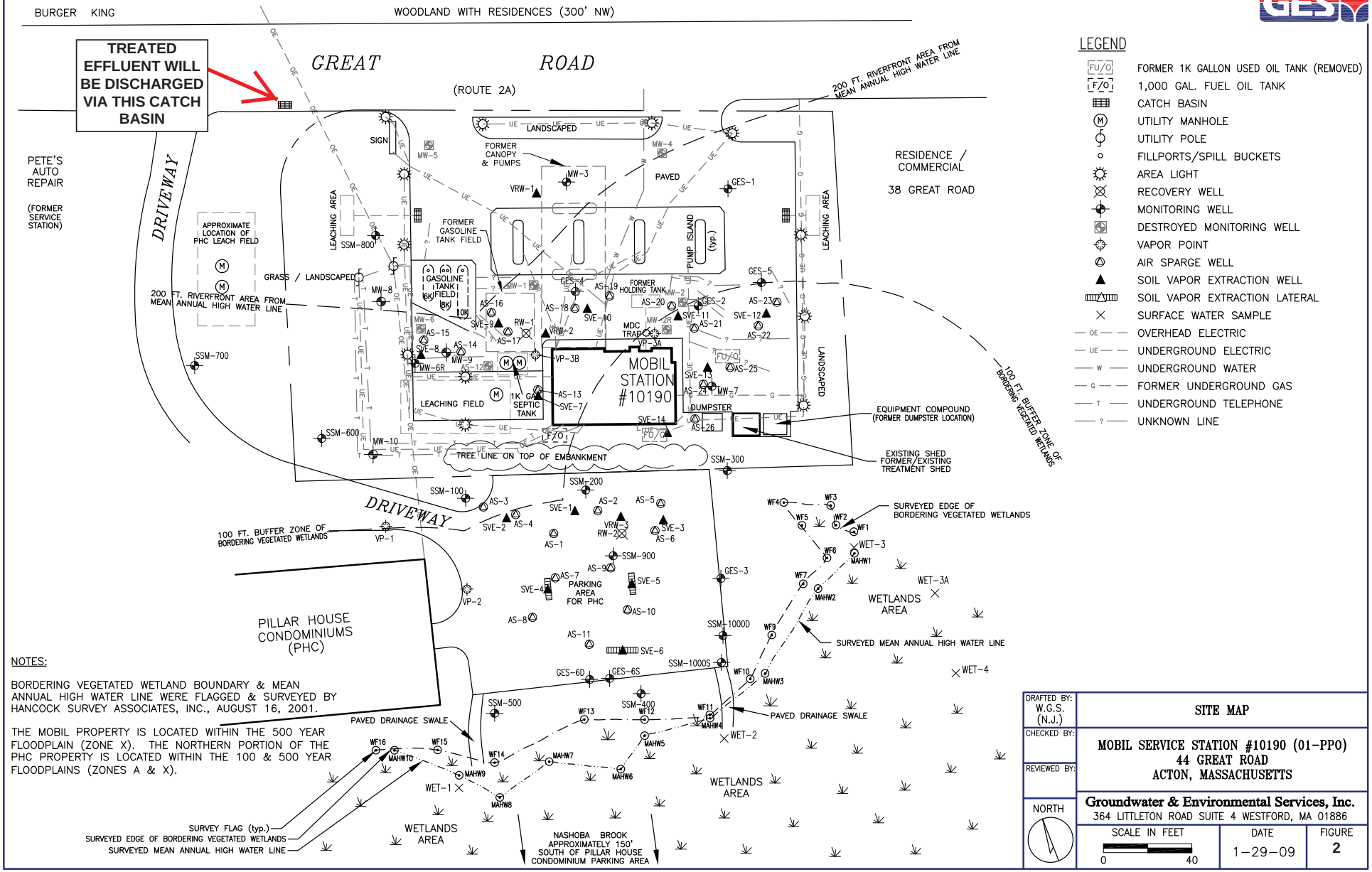


QUADRANGLE LOCATION

DRAFTED BY: W.G.S. (N.J.)	SITE LOCATION MAP
CHECKED BY:	MOBIL SERVICE STATION #10190 (01-PPO) 44 GREAT ROAD ACTON, MASSACHUSETTS
REVIEWED BY:	
NORTH	Groundwater & Environmental Services, Inc. 364 LITTLETON ROAD, SUITE 4, WESTFORD, MA 01886

SCALE IN FEET	DATE	FIGURE
0 2000	5-5-06	1

M:\Graphics\1600-Westford\ExxonMobil\Mobil\01-PPO Acton\01-PPO acton SLM.dwg, 5/5/2006 9:45:42 AM, WShea



LEGEND

- FORMER 1K GALLON USED OIL TANK (REMOVED)
- 1,000 GAL. FUEL OIL TANK
- CATCH BASIN
- UTILITY MANHOLE
- UTILITY POLE
- FILLPORTS/SPILL BUCKETS
- AREA LIGHT
- RECOVERY WELL
- MONITORING WELL
- DESTROYED MONITORING WELL
- VAPOR POINT
- AIR SPARGE WELL
- SOIL VAPOR EXTRACTION WELL
- SOIL VAPOR EXTRACTION LATERAL
- SURFACE WATER SAMPLE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- UNDERGROUND WATER
- FORMER UNDERGROUND GAS
- UNDERGROUND TELEPHONE
- UNKNOWN LINE

NOTES:

BORDERING VEGETATED WETLAND BOUNDARY & MEAN ANNUAL HIGH WATER LINE WERE FLAGGED & SURVEYED BY HANCOCK SURVEY ASSOCIATES, INC., AUGUST 16, 2001.

THE MOBIL PROPERTY IS LOCATED WITHIN THE 500 YEAR FLOODPLAIN (ZONE X). THE NORTHERN PORTION OF THE PHC PROPERTY IS LOCATED WITHIN THE 100 & 500 YEAR FLOODPLAINS (ZONES A & X).

DRAFTED BY: W.G.S. (N.J.)	SITE MAP
CHECKED BY:	MOBIL SERVICE STATION #10190 (01-PPO) 44 GREAT ROAD ACTON, MASSACHUSETTS
REVIEWED BY:	Groundwater & Environmental Services, Inc. 364 LITTLETON ROAD SUITE 4 WESTFORD, MA 01886
NORTH	SCALE IN FEET: 0 – 40 / DATE: 1-29-09 / FIGURE: 2

M:\Graphics\1600-Westford\ExxonMobil\Mobil\01-PPO Acton\01-PPO acton SM.dwg, Model, 1/29/2010 3:20:55 PM, WShea

Attachment A

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**: Mobil Station No. 1476		**Facility/site** mailing address:		
Location of **facility/site**: longitude: -71.408609 latitude: 42.474789	Facility SIC code(s): 5541	Street: 44 Great Road		
b) Name of **facility/site owner:**		Town: Acton		
Email address of facility/site owner: SCharron@globalp.com		State: Massachusetts	Zip: 01720	County: Middlesex
Telephone no. of facility/site **owner**: 781-786-6320				
Fax no. of facility/site **owner**:		**Owner** is (check one): 1. Federal ○ 2. State/Tribal ○ 3. Private ◉ 4. Other ○ if so, describe:		
Address of **owner** (if different from site):				
Street: 404 Wyman Street, Suite 425				
Town: Waltham	State: MA	Zip: 02451	County: Middlesex	
c) Legal name of **operator**:		**Operator** telephone no: 800-221-6119		
Groundwater & Environmental Services, Inc. (GES)		**Operator** fax no.: 978-392-8583	**Operator** email:	
Operator contact name and title: Michael Decoteau, PE, Senior Project Engineer				
Address of **operator** (if different from owner):	Street: 364 Littleton Road, Suite 4			
Town: Westford	State: MA	Zip: 01886	County: Middlesex	

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

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

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:

Treated groundwater that will be generated during construction dewatering project associated with UST replacement.

b) Provide the following information about each discharge:

1) Number of discharge points: 1

2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)?
Max. flow: 0.11 Is maximum flow a **design value**? Y ◉ N ○
Average flow (include units): 0.11 Is average flow a design value or estimate? design

3) Latitude and longitude of each discharge within 100 feet:
pt.1: lat. 42.473698 long. -71.407374 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): 250,000 (Est)

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

c) Expected dates of discharge (mm/dd/yy): start June 01, 2012 end November 30, 2012

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). Please see the attached figures.

3. Contaminant information.

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

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids (TSS)		☐	☒	2	grab	2540	5	6000	1.63	6000	1.63
2. Total Residual Chlorine (TRC)		☒	☐	2	grab	4500	20				
3. Total Petroleum Hydrocarbons (TPH)		☒	☐	2	grab	1664	1				
4. Cyanide (CN)	57125	☒	☐	2	grab						
5. Benzene (B)	71432	☐	☒	2	grab	8260C	20	476	0.13	476	0.13
6. Toluene (T)	108883	☐	☒	2	grab	8260C	20	1280	0.35	1280	0.35
7. Ethylbenzene (E)	100414	☐	☒	1	grab	8260C	20	56	0.015	56	0.015
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☐	☒	2	grab	8260C	60	421	0.12	421	0.12
9. Total BTEX [2]	n/a	☐	☒	2	grab	8260C	120	2233	0.61	2233	0.61
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☒	☐	2	grab	504	0.0100				
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☐	☒	2	grab	8260C	20	296	0.081	296	0.081
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☐	☒	2	grab	8260C	200	1400	0.38	1400	0.38

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

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

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

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
13. tert-Amyl Methyl Ether (TAME)	9940508	☒	☐	2	grab	8260C	20				
14. Naphthalene	91203	☒	☐	2	grab	8260C	20				
15. Carbon Tetrachloride	56235	☒	☐	2	grab	8260C	20				
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	2	grab	8260C	20				
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	2	grab	8260C	20				
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	2	grab	8260C	20				
18a. Total dichlorobenzene		☒	☐	2	grab	8260C	60				
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	2	grab	8260C	20				
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	2	grab	8260C	20				
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	2	grab	8260C	20				
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	2	grab	8260C	20				
23. Methylene Chloride	75092	☒	☐	2	grab	8260C	40				
24. Tetrachloroethene (PCE)	127184	☒	☐	2	grab	8260C	20				
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	2	grab	8260C	20				
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	2	grab	8260C	20				
27. Trichloroethene (TCE)	79016	☒	☐	2	grab	8260C	20				

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	☒	☐	2	grab	8260C	20				
29. Acetone	67641	☒	☐	2	grab	8260C	200				
30. 1,4 Dioxane	123911	☒	☐	2	grab	8260C	400				
31. Total Phenols	108952	☐	☒	2	grab	8270D	7	15.8	4.30 E-3	15.8	4.30 E-3
32. Pentachlorophenol (PCP)	87865	☒	☐	2	grab	8270D	5				
33. Total Phthalates (Phthalate esters) [4]		☐	☒	2	grab	8270D	3	1.56	4.25 E-4	1.56	4.25 E-4
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☐	☒	2	grab	8270D	5	0.68	1.85 E-4	0.68	1.85 E-4
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	2	grab	8270D	5				
a. Benzo(a) Anthracene	56553	☒	☐	2	grab	8270D	5				
b. Benzo(a) Pyrene	50328	☒	☐	2	grab	8270D	5				
c. Benzo(b)Fluoranthene	205992	☒	☐	2	grab	8270D	5				
d. Benzo(k)Fluoranthene	207089	☒	☐	2	grab	8270D	5				
e. Chrysene	21801	☒	☐	2	grab	8270D	5				
f. Dibenzo(a,h)anthracene	53703	☒	☐	2	grab	8270D	5				
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	2	grab	8270D	5				
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☐	☒	2	grab	8270D	5	1.78	4.85 E-4	1.78	4.85 E-4

[4] The sum of individual phthalate compounds.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
h. Acenaphthene	83329	☒	☐	2	grab	8270D	5				
i. Acenaphthylene	208968	☒	☐	2	grab	8270D	5				
j. Anthracene	120127	☒	☐	2	grab	8270D	5				
k. Benzo(ghi) Perylene	191242	☒	☐	2	grab	8270D	5				
l. Fluoranthene	206440	☐	☒	2	grab	8270D	5	0.72	1.96 E-4	0.72	1.96 E-4
m. Fluorene	86737	☒	☐	2	grab	8270D	5				
n. Naphthalene	91203	☐	☒	2	grab	8270D	5	1.6	4.36 E-4	1.6	4.36 E-4
o. Phenanthrene	85018	☒	☐	2	grab	8270D	5				
p. Pyrene	129000	☐	☒	2	grab	8270D	5	0.53	1.44 E-4	0.53	1.44 E-4
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	2	grab	8082	1.9				
38. Chloride	16887006	☐	☒	2	grab	300	10	617	1.68 E-1	617	1.68 E-1
39. Antimony	7440360	☒	☐	2	grab	200.7	6				
40. Arsenic	7440382	☐	☒	2	grab	200.7	4	15.6	4.25 E-3	15.6	4.25 E-3
41. Cadmium	7440439	☒	☐	2	grab	200.7	2.5				
42. Chromium III (trivalent)	16065831	☒	☐	2	grab	calculation					
43. Chromium VI (hexavalent)	18540299	☒	☐	2	grab	7196A					
44. Copper	7440508	☒	☐	2	grab	200.7	5				
45. Lead	7439921	☒	☐	2	grab	200.7	7.5				
46. Mercury	7439976	☒	☐	2	grab	245.1	0.2				
47. Nickel	7440020	☐	☐			200.7	5				
48. Selenium	7782492	☒	☐	2	grab	200.7	15				
49. Silver	7440224	☒	☐	2	grab	200.7	5				
50. Zinc	7440666	☐	☒	2	grab	200.7	5	15.9	4.33 E-3	15.9	4.33 E-3
51. Iron	7439896	☐	☒	1	grab	200.7	15	12700	4.36 E-3	12700	4.36 E-3
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)
Barium		☐	☒	2	grab	200.7	5	124	3.38 E-2	124	3.38 E-2
		☐	☐								

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

Step 1: Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y◉ N○	If yes, which metals? iron and arsenic
Step 2: For any metals which exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metal: iron DF: 2.08 Metal: arsenic DF: 2.08 Metal: DF: Metal: DF: Etc. See attachment	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:

Groundwater will be pumped from the excavation to a 21,000 gallon frac tank. Groundwater will be pumped from the frac tank through a series of bag filters equipped with 10 micron filter bags. The groundwater will be then processed within two 2,000 lb liquid carbon vessels bedded with virgin carbon. When pumping at 50 gallons per minute, two trains of two vessels will be plumbed in parallel to treat the volatile organic compounds (VOCs). When pumping at 25 gpm, the VOCs contained within the groundwater will be treated by two 2,000 lb vessels plumbed in series. Following the liquid phase carbon vessels, a 20 cubic foot bed of CGS resin will treat residual metals impacts. The treated groundwater will be pumped through a totalizer before discharge to the catch basin located along Great Road.

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):	CGS ion exchange resin		

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 25 to 50 gpm Maximum flow rate of treatment system 50 gpm
Design flow rate of treatment system 50 gpm

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

none

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

a) Identify the discharge pathway:	Direct to receiving water ☐	Within facility (sewer) ☐	Storm drain ☒	Wetlands ☐	Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:

12" drain line extends across then southeast beneath Great Rd for ~580', meets 18" line and extends south beneath Keefe Rd for ~510', extends west to discharge pt.

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

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

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 0.12 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)? see note below

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

Note: In the MA 2010 Integrated List of Waters, Nashoba Brook is listed as a Category 5 (requires TMDL). The impairment causes listed are low flow alteration and fishes bioassessment. Due to a non-pollutant cause, a TMDL is not required.

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 ○ n/a

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 ◉ n/a

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.

Laboratory analytical data, Site Map, Site Location Map, Aerial Photo, MassDEP Bureau of Waste Site Cleanup Site Scoring Map, National Park Service & Massachusetts Historical Commission lists, dilution factor calculations, mass calculations, liquid phase carbon treatment system design calculations, treatment system schematic

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:	Global Companies LLC / Mobil Acton No. 1476
Operator signature:	
Printed Name &Title:	Michael Decoteau, PE / Senior Project Engineer
Date:	4/12/12

Mobil Station 1476
44 Great Road
Acton, Massachusetts

Dilution Factor Calculations

$$DF = (Q_d + Q_s)/Q_d$$

DF = dilution factor

Q_d = max flow rate of the discharge (cfs) (conversion factor: 1 gpm = 0.00223 cfs)

Q_s = receiving water 7Q10 flow (cfs) where 7Q10 is the min flow (cfs) for 7 consecutive days with a recurrence interval of 10 years

	gpm	cfs
Q_d =	50	0.1115
Q_s =	--	0.12
DF =	--	**2.08**

Notes: 7Q10 value obtained for USGS gauging station 01097300.

Reference: *Streamflow Measurements, Basin Characteristics, and Streamflow Statistics for Low-Flow Partial-Record Stations Operated in Massachusetts from 1989 through 1996*

http://pubs.usgs.gov/wri/wri994006/wrir99-4006.pdf

Mass Calculations Summary Sheet
Mobil Station 1476
Acton, Massachusetts

Analyte	Concentration (ug/L)	Concentration (mg/L)	Flowrate (gpm)	Mass (lb/hr)	Mass (lb/day)	Mass (kg/day)
Total Suspended Solids	--	6	50	1.50E-01	3.60E+00	1.634
Chloride	--	617	50	1.54E+01	3.70E+02	168
Benzene	476	0.476	50	1.19E-02	2.86E-01	0.130
Toluene	1,280	1.280	50	3.20E-02	7.69E-01	0.349
Ethylbenzene	56	0.056	50	1.40E-03	3.36E-02	0.0152
Xylenes	421	0.421	50	1.05E-02	2.53E-01	0.115
Total BTEX	2,233	2.233	50	5.59E-02	1.34E+00	0.608
MTBE	296	0.296	50	7.41E-03	1.78E-01	0.0806
ethyl tert-butyl ether	61	0.0607	50	1.52E-03	3.64E-02	0.0165
Tert-butyl alcohol	1400	1.4	50	3.50E-02	8.41E-01	0.381
Total Phenols	15.8	0.0158	50	3.95E-04	9.49E-03	0.00430
Total Phthalates	1.56	0.00156	50	3.90E-05	9.37E-04	0.000425
Bis(2-ethylhexyl)phthalate	0.68	0.00068	50	1.70E-05	4.08E-04	0.000185
Total Group 2 PAHs	1.78	0.00178	50	4.45E-05	1.07E-03	0.000485
Fluoranthene	0.72	0.00072	50	1.80E-05	4.32E-04	0.000196
Naphthalene	1.6	0.0016	50	4.00E-05	9.61E-04	0.000436
Pyrene	0.53	0.00053	50	1.33E-05	3.18E-04	0.000144
Arsenic	--	0.0156	50	3.90E-04	9.37E-03	0.00425
Barium	--	0.124	50	3.10E-03	7.45E-02	0.0338
Iron	--	12.7	50	3.18E-01	7.63E+00	3.46
Nickel	--	0.012	50	3.00E-04	7.21E-03	0.00327
Zinc	--	0.0159	50	3.98E-04	9.55E-03	0.00433

Sample Calculations:

Mass (lb/day) = concentration (mg/l) * flowrate (MGD) * 8.34

Mass (lb/hr) = concentration (mg/l) * flowrate (gpm) * 0.0005004

Mass (lb/day) = Mass (lb/hr) * 24 hrs/day

LIQUID PHASE CARBON TREATMENT SYSTEM DESIGN CALCULATIONS

Global Companies LLC
Mobil Station No. 1476
44 Great Road
Acton, Massachusetts

I. Influent Concentrations (Design) [1]

Benzene =	456	ppb[2]
Toluene =	1,038	ppb[2]
Ethyl Benzene =	24	ppb[2]
Xylene =	130	ppb[2]
MTBE =	199	ppb[2]

1 - Assumes that groundwater will be extracted from the excavation using submerisble pumps.
2 - In order to estimate the influent BTEX/MTBE concentrations in the UST area, groundwater samples were collected from MW-6R and MW-9 in March 2012.

II. Treatment System Flowrate

Peak Flowrate (Design) = 50.0 gpm (System Total)

1) Size Carbon Units

Determine Minimum Diameter Of Carbon Units

Design Flowrate (Peak Flow) = 50.0 gpm

Maximum Acceptable Hydraulic Loading[3] = 4 gpm/sq. ft.

Minimum Cross-Sectional Area Of Carbon Units = $\frac{50 \text{ gpm}}{4 \text{ gpm/sq. ft.}}$ = 12.5 sq. ft.

Minimum Diameter Of Carbon Units = 48 inches

3 - Empirical value supplied by Cetco, Arlington Heights, IL and Norit Americas, Inc., Atlanta, GA.

Determine Contact Time

For 99.9% Removal Of BTEX Compounds[4]:

Contact Time = 15-20 minutes

For 99.99% Removal Of BTEX Compounds[4]:

Contact Time = 20-25 minutes

For 99.9% Removal Of BTEX Compounds and MTBE[4]:

Contact Time = 30-40 minutes

For 99.99% Removal Of BTEX Compounds and MTBE[4]:

Contact Time = 40-50 minutes

4 - Empirical values supplied by Cetco, Arlington Heights, IL

Calculate Bed Volume

A 40-minute contact time has been chosen for design purposes. Based on the information provided above, this should correspond with a removal efficiency of approximately 99.99% for BTEX and MTBE.

50 gpm x 40 min = 2000 gal = 267 cu. ft.

Recommended Granular Activated Carbon Units

Number Of Carbon Units (2 Parallel Series) = 4 units

Diameter Of Carbon Units = 48 inches Reference: Seimens LGAC Model PV-2000

48	inches	>	48	inches

Weight Of Carbon Per Unit = 2,000 lbs

Volume Of Carbon Per Unit = 68 cu. ft. Reference: Seimens LGAC Model PV-2000

Total Volume of Carbon = 272 cu. ft.

272	cu. ft.	>	267	cu. ft.

Engineer: JW
Checked by: MED

LIQUID PHASE CARBON TREATMENT SYSTEM DESIGN CALCULATIONS

Global Companies LLC
Mobil Station No. 1476
44 Great Road
Acton, Massachusetts

2) Estimate Carbon Usage

Calculate Pounds Of Total Adsorbable Organics (TAO) Per Day

Estimated organic loading (Section I)

Benzene =	456	ppb
Toluene =	1,038	ppb
Ethyl Benzene =	24	ppb
Xylene =	130	ppb
MTBE =	199	ppb
TAO =	2,463	ppb[5]

5 - Assumes BTEX and MTBE account for 75% of the TAO based on analysis of groundwater samples collected in March 2012.

$$\text{TAO (lb/day)} = 2.46 \text{ ppm} \times 50 \text{ gpm} \times 0.012 \frac{\text{lb/day}}{\text{gpm - ppm}} = 1.48 \text{ lb/day}$$

Calculate Pounds Of MTBE Per Day

$$\text{MTBE (lb/day)} = \frac{199 \text{ ppb}}{2{,}463 \text{ ppb}} \times 1.48 \text{ lb/day} = 0.12 \text{ lb/day}$$

Calculate Granular Activated Carbon Usage For MTBE

MTBE = 199 ppb

Adsorption Capacity From MTBE Isotherm[6] = 0.26 %

$$\frac{0.12 \text{ lb/day}}{0.26 \%} = 45.20 \text{ lb/day}$$ Granular Activated Carbon Required For MTBE Adsorption

6 - Freundlich coefficients deduced from Freundlich isotherm supplied by Norit Americas, Inc., Atlanta, GA, (k = .308, 1/n = .406) The isotherm provided is valid for a residual concentration range of 10 to 10,000 ug/L. As a conservative estimate of the adsorption capacity for concentrations above this range, the value for a concentration of 10,000 ug/L is used as opposed to extrapolating the isotherm to the specific value.

Calculate Granular Activated Carbon Usage For Remainder of TAO

Assume that the benzene isotherm is adequate for characterizing the remaining TAO

Remaining TAO = TAO - MTBE

Remaining TAO (lb/day) = 1.48 lb/day - 0.12 lb/day = 1.36 lb/day

Remaining TAO (ppb) = 2,463 ppb - 199 ppb - = 2,264 ppb

Remaining TAO (ppb) = 2,264 ppb

Adsorption Capacity From Benzene Isotherm[7] = 5.60 %

$$\frac{1.36 \text{ lb/day}}{5.60 \%} = 24.26 \text{ lb/day}$$ Granular Activated Carbon Required For Remaining TAO Adsorption

7 - Based on Freundlich isotherm supplied by Norit Americas, Inc., Atlanta, GA, (k = 2.021, 1/n = 0.43). The isotherm provided is valid for a residual concentration range of 0.1 to 100,000 ug/L. As a conservative estimate of the adsorption capacity for concentrations above this range, the value for a concentration of 100,000 ug/L is used as opposed to extrapolating the isotherm to the specific value.

Total Granular Activated Carbon Usage

Total Carbon Usage = Carbon Usage For Remaining TAO + Carbon Usage For MTBE

Total Carbon Usage = 24.26 lb/day + 45.20 lb/day 69.46 lb/day

Increase carbon usage by an additional 70% due to adsorption interference from background organics. This assumes naturally occurring background organics are at a concentration of 1 - 2 ppm in the groundwater. (Based on information provided by Cetco, Arlington Heights, IL.)

1.7 x 69.46 lb/day = 118 lb/day Total Granular Activated Carbon Usage

3) Estimate Carbon Breakthrough Time

4,000 lbs / 118 lb/day = 33.9 Days Until Breakthrough for Each Water Stream (Assumes two 2000-lb vessels in series)

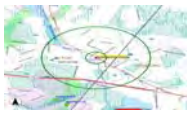
Engineer: JW
Checked by: MED

MassDEP - Bureau of Waste Site Cleanup

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

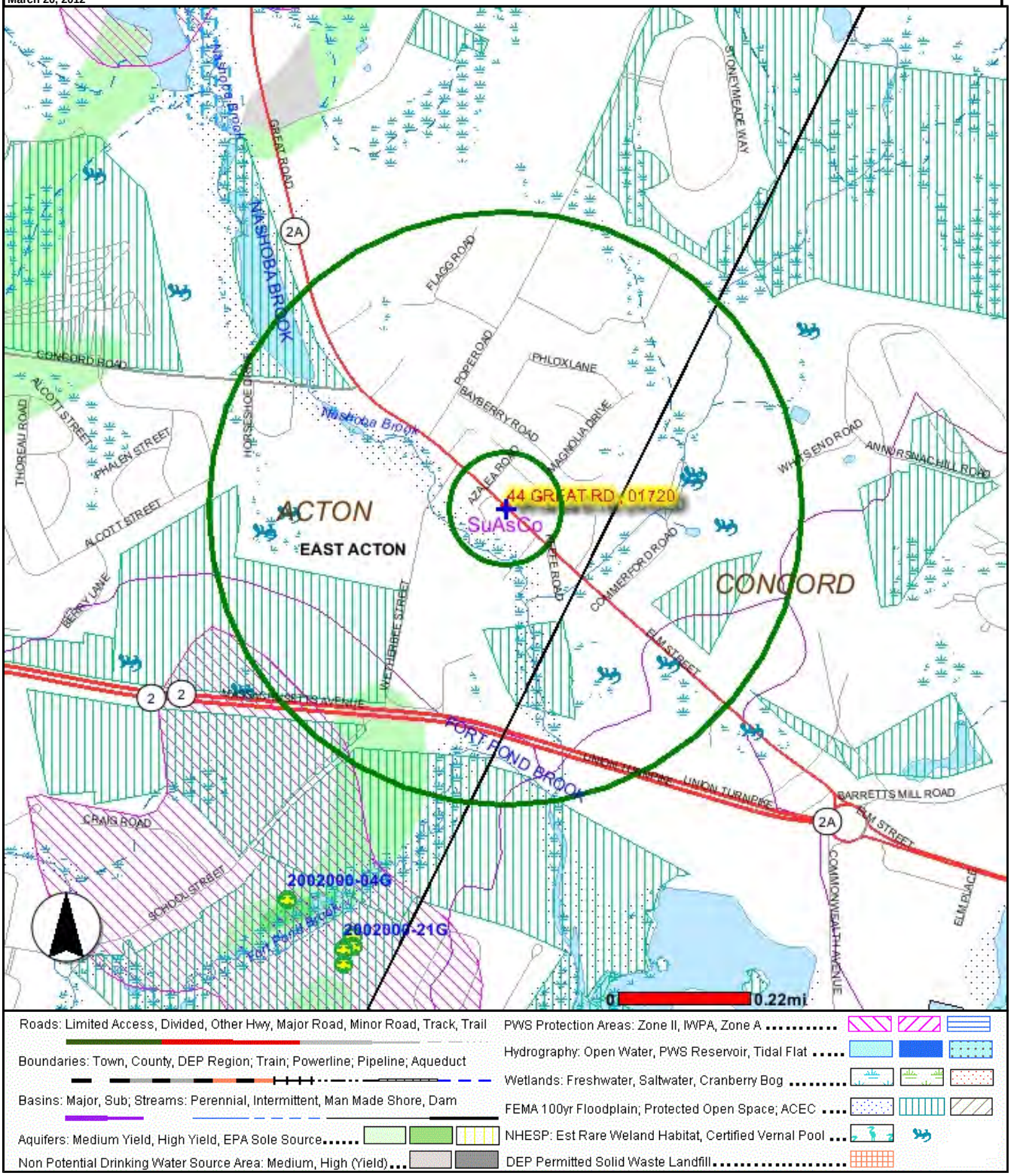
Site Name:
Mobil 1476
44 Great Road
Acton, MA
RTN:
NAD83 MA Coordinates:
207529mE, 913832mN

March 20, 2012



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

MassDEP
Department of Environmental Protection



Attachment B

Report Date:
26-Mar-12 17:08

☐ Final Report
☐ Re-Issued Report
☑ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

GES, Inc.
364 Littleton Road, Suite 4
Westford, MA 01886
Attn: Mary Cathey

Project: Mobil Station No. 1476 - Acton, MA
Project #: 1604100

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB44647-01	MW-6R	Ground Water	01-Mar-12 11:20	01-Mar-12 17:35
SB44647-02	MW-9	Ground Water	01-Mar-12 12:50	01-Mar-12 17:35
SB44647-03	Trip Blank	Aqueous	01-Mar-12 00:00	01-Mar-12 17:35

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

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

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes.
Please note that this report contains 26 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

CASE NARRATIVE:

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

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

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

EPA 200.8

Duplicates:

1206583-DUP1 *Source: SB44647-02*

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

Antimony
Cadmium
Silver

Samples:

SB44647-01 *MW-6R*

The Reporting Limit has been raised to account for matrix interference.

Selenium

SB44647-02 *MW-9*

The Reporting Limit has been raised to account for matrix interference.

Selenium

SW846 8260C

Calibration:

1202020

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2-Dibromo-3-chloropropane
Bromoform
Dibromochloromethane
Naphthalene

This affected the following samples:

1204713-BLK1
1204713-BS1
1204713-BSD1
1204822-BLK1
1204822-BS1
1204822-BSD1
MW-6R
MW-9
S201804-ICV1
S202342-CCV1
S202374-CCV1
Trip Blank

Samples:

SW846 8260C

Samples:

S202342-CCV1

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

Bromomethane (22.5%)

This affected the following samples:

1204713-BLK1
1204713-BS1
1204713-BSD1
MW-6R
MW-9
Trip Blank

S202374-CCV1

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

Bromomethane (29.3%)
Carbon disulfide (21.9%)

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

Bromoform (22.1%)

This affected the following samples:

1204822-BLK1
1204822-BS1
1204822-BSD1

SB44647-01 *MW-6R*

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

SB44647-02 *MW-9*

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

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

Toluene

SB44647-02RE1 *MW-9*

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

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-6R	1604100	Ground Water	01-Mar-12 11:20	01-Mar-12
SB44647-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 20.0		µg/l	20.0	12.9	20	SW846 8260C	02-Mar-12	02-Mar-12	eq	1204713	
67-64-1	Acetone	< 200		µg/l	200	51.1	20	"	"	"	"	"	
107-13-1	Acrylonitrile	< 10.0		µg/l	10.0	9.2	20	"	"	"	"	"	
71-43-2	Benzene	464		µg/l	20.0	13.4	20	"	"	"	"	"	
108-86-1	Bromobenzene	< 20.0		µg/l	20.0	14.4	20	"	"	"	"	"	
74-97-5	Bromochloromethane	< 20.0		µg/l	20.0	14.2	20	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 10.0		µg/l	10.0	9.6	20	"	"	"	"	"	
75-25-2	Bromoform	< 20.0		µg/l	20.0	12.1	20	"	"	"	"	"	
74-83-9	Bromomethane	< 40.0		µg/l	40.0	22.8	20	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 200		µg/l	200	34.7	20	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 20.0		µg/l	20.0	11.2	20	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 20.0		µg/l	20.0	16.4	20	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 20.0		µg/l	20.0	14.9	20	"	"	"	"	"	
75-15-0	Carbon disulfide	< 40.0		µg/l	40.0	12.5	20	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 20.0		µg/l	20.0	11.0	20	"	"	"	"	"	
108-90-7	Chlorobenzene	< 20.0		µg/l	20.0	13.1	20	"	"	"	"	"	
75-00-3	Chloroethane	< 40.0		µg/l	40.0	20.7	20	"	"	"	"	"	
67-66-3	Chloroform	< 20.0		µg/l	20.0	13.8	20	"	"	"	"	"	
74-87-3	Chloromethane	< 40.0		µg/l	40.0	29.5	20	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 20.0		µg/l	20.0	15.8	20	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 20.0		µg/l	20.0	14.6	20	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 40.0		µg/l	40.0	18.5	20	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 10.0		µg/l	10.0	5.8	20	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 10.0		µg/l	10.0	6.5	20	"	"	"	"	"	
74-95-3	Dibromomethane	< 20.0		µg/l	20.0	13.3	20	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 20.0		µg/l	20.0	13.4	20	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 20.0		µg/l	20.0	14.2	20	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 20.0		µg/l	20.0	12.5	20	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 40.0		µg/l	40.0	8.9	20	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 20.0		µg/l	20.0	13.6	20	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 20.0		µg/l	20.0	15.6	20	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 20.0		µg/l	20.0	9.8	20	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 20.0		µg/l	20.0	14.3	20	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 20.0		µg/l	20.0	13.6	20	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 20.0		µg/l	20.0	14.2	20	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 20.0		µg/l	20.0	16.1	20	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 20.0		µg/l	20.0	12.1	20	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 20.0		µg/l	20.0	12.7	20	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 10.0		µg/l	10.0	5.0	20	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 10.0		µg/l	10.0	10.0	20	"	"	"	"	"	
100-41-4	Ethylbenzene	< 20.0		µg/l	20.0	14.6	20	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 10.0		µg/l	10.0	9.0	20	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 200		µg/l	200	10.9	20	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-6R	1604100	Ground Water	01-Mar-12 11:20	01-Mar-12
SB44647-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds Prepared by method SW846 5030 Water MS			GS1										
98-82-8	Isopropylbenzene	< 20.0		µg/l	20.0	12.4	20	SW846 8260C	02-Mar-12	02-Mar-12	eq	1204713	
99-87-6	4-Isopropyltoluene	< 20.0		µg/l	20.0	12.2	20	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	**202**		µg/l	20.0	13.0	20	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 200		µg/l	200	18.6	20	"	"	"	"	"	
75-09-2	Methylene chloride	< 40.0		µg/l	40.0	13.8	20	"	"	"	"	"	
91-20-3	Naphthalene	< 20.0		µg/l	20.0	6.6	20	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 20.0		µg/l	20.0	15.2	20	"	"	"	"	"	
100-42-5	Styrene	< 20.0		µg/l	20.0	12.3	20	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 20.0		µg/l	20.0	12.5	20	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 10.0		µg/l	10.0	7.0	20	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 20.0		µg/l	20.0	14.9	20	"	"	"	"	"	
108-88-3	Toluene	**903**		µg/l	20.0	16.2	20	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 20.0		µg/l	20.0	7.5	20	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 20.0		µg/l	20.0	7.2	20	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 20.0		µg/l	20.0	15.7	20	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 20.0		µg/l	20.0	11.6	20	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 20.0		µg/l	20.0	12.8	20	"	"	"	"	"	
79-01-6	Trichloroethene	< 20.0		µg/l	20.0	15.1	20	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 20.0		µg/l	20.0	12.6	20	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 20.0		µg/l	20.0	14.7	20	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 20.0		µg/l	20.0	15.1	20	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 20.0		µg/l	20.0	14.9	20	"	"	"	"	"	
75-01-4	Vinyl chloride	< 20.0		µg/l	20.0	16.1	20	"	"	"	"	"	
179601-23-1	m,p-Xylene	**52.8**		µg/l	40.0	32.8	20	"	"	"	"	"	
95-47-6	o-Xylene	**73.2**		µg/l	20.0	17.6	20	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 40.0		µg/l	40.0	28.8	20	"	"	"	"	"	
60-29-7	Ethyl ether	< 20.0		µg/l	20.0	13.9	20	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 20.0		µg/l	20.0	14.4	20	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	**45.4**		µg/l	20.0	15.6	20	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 20.0		µg/l	20.0	14.5	20	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	**1,290**		µg/l	200	173	20	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 400		µg/l	400	280	20	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 100		µg/l	100	15.3	20	"	"	"	"	"	
64-17-5	Ethanol	< 8000		µg/l	8000	714	20	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*101*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*89*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*97*			*70-130 %*			"	"	"	"	"	
Microextractable Organic Compounds													
106-93-4	1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100	0.00740	1	EPA 504.1	02-Mar-12	02-Mar-12	DS	1204703	
Total Metals by EPA 200/6000 Series Methods													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-6R SB44647-01	1604100	Ground Water	01-Mar-12 11:20	01-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Field Preserved**		N/A			1	EPA 200/6000 methods	02-Mar-12	02-Mar-12	JLM	1204702	
Total Metals by EPA 200 Series Methods													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0012	1	EPA 200.7	02-Mar-12	04-Mar-12	EDT	1204740	X
7440-22-4	Silver	< 0.00025		mg/l	0.00025	0.000007	1	EPA 200.8	23-Mar-12	26-Mar-12	TBC	1206583	X
7440-38-2	Arsenic	**0.0156**		mg/l	0.0040	0.0035	1	EPA 200.7	02-Mar-12	04-Mar-12	EDT	1204740	X
7440-39-3	Barium	**0.110**		mg/l	0.0050	0.0021	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.0020		mg/l	0.0020	0.0008	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0003	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.0002		mg/l	0.0002	0.000005	1	EPA 200.8	23-Mar-12	26-Mar-12	TBC	1206583	X
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0026	1	EPA 200.7	02-Mar-12	05-Mar-12	LR	1204740	X
7440-50-8	Copper	< 0.0050		mg/l	0.0050	0.0024	1	"	"	04-Mar-12	"	"	X
7439-89-6	Iron	**12.7**		mg/l	0.0150	0.0098	1	"	"	"	"	"	X
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00007	1	EPA 245.1/7470A	"	02-Mar-12	RH	1204741	X
7440-02-0	Nickel	**0.0120**		mg/l	0.0050	0.0012	1	EPA 200.7	"	04-Mar-12	EDT	1204740	X
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0028	1	"	"	"	"	"	X
7439-92-1	Lead	**0.00066**		mg/l	0.00025	0.000009	1	EPA 200.8	23-Mar-12	26-Mar-12	TBC	1206583	X
7440-36-0	Antimony	< 0.0060		mg/l	0.0060	0.0026	1	EPA 200.7	02-Mar-12	04-Mar-12	EDT	1204740	X
7440-36-0	Antimony	< 0.00055		mg/l	0.00055	0.00001	1	EPA 200.8	23-Mar-12	26-Mar-12	TBC	1206583	X
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0037	1	EPA 200.7	02-Mar-12	04-Mar-12	EDT	1204740	X
7782-49-2	Selenium	< 0.00125	R01	mg/l	0.00125	0.00023	5	EPA 200.8	23-Mar-12	26-Mar-12	TBC	1206583	X
7440-28-0	Thallium	< 0.0050		mg/l	0.0050	0.0038	1	EPA 200.7	02-Mar-12	05-Mar-12	LR	1204740	X
7440-66-6	Zinc	**0.0159**		mg/l	0.0050	0.0025	1	"	"	04-Mar-12	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9	1604100	Ground Water	01-Mar-12 12:50	01-Mar-12
SB44647-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 10.0		µg/l	10.0	6.5	10	SW846 8260C	02-Mar-12	02-Mar-12	eq	1204713	
67-64-1	Acetone	< 100		µg/l	100	25.6	10	"	"	"	"	"	
107-13-1	Acrylonitrile	< 5.0		µg/l	5.0	4.6	10	"	"	"	"	"	
71-43-2	Benzene	**476**		µg/l	10.0	6.7	10	"	"	"	"	"	
108-86-1	Bromobenzene	< 10.0		µg/l	10.0	7.2	10	"	"	"	"	"	
74-97-5	Bromochloromethane	< 10.0		µg/l	10.0	7.1	10	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.0		µg/l	5.0	4.8	10	"	"	"	"	"	
75-25-2	Bromoform	< 10.0		µg/l	10.0	6.0	10	"	"	"	"	"	
74-83-9	Bromomethane	< 20.0		µg/l	20.0	11.4	10	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 100		µg/l	100	17.3	10	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 10.0		µg/l	10.0	5.6	10	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 10.0		µg/l	10.0	8.2	10	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 10.0		µg/l	10.0	7.4	10	"	"	"	"	"	
75-15-0	Carbon disulfide	< 20.0		µg/l	20.0	6.3	10	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 10.0		µg/l	10.0	5.5	10	"	"	"	"	"	
108-90-7	Chlorobenzene	< 10.0		µg/l	10.0	6.5	10	"	"	"	"	"	
75-00-3	Chloroethane	< 20.0		µg/l	20.0	10.3	10	"	"	"	"	"	
67-66-3	Chloroform	< 10.0		µg/l	10.0	6.9	10	"	"	"	"	"	
74-87-3	Chloromethane	< 20.0		µg/l	20.0	14.7	10	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 10.0		µg/l	10.0	7.9	10	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 10.0		µg/l	10.0	7.3	10	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 20.0		µg/l	20.0	9.3	10	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.0		µg/l	5.0	2.9	10	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.0		µg/l	5.0	3.3	10	"	"	"	"	"	
74-95-3	Dibromomethane	< 10.0		µg/l	10.0	6.7	10	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 10.0		µg/l	10.0	6.7	10	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 10.0		µg/l	10.0	7.1	10	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 10.0		µg/l	10.0	6.2	10	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 20.0		µg/l	20.0	4.5	10	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 10.0		µg/l	10.0	6.8	10	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 10.0		µg/l	10.0	7.8	10	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 10.0		µg/l	10.0	4.9	10	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 10.0		µg/l	10.0	7.2	10	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 10.0		µg/l	10.0	6.8	10	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 10.0		µg/l	10.0	7.1	10	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 10.0		µg/l	10.0	8.1	10	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 10.0		µg/l	10.0	6.0	10	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 10.0		µg/l	10.0	6.4	10	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.0		µg/l	5.0	2.5	10	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.0		µg/l	5.0	5.0	10	"	"	"	"	"	
100-41-4	Ethylbenzene	**55.9**		µg/l	10.0	7.3	10	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 5.0		µg/l	5.0	4.5	10	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 100		µg/l	100	5.4	10	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9	1604100	Ground Water	01-Mar-12 12:50	01-Mar-12
SB44647-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds Prepared by method SW846 5030 Water MS			GS1										
98-82-8	Isopropylbenzene	< 10.0		µg/l	10.0	6.2	10	SW846 8260C	02-Mar-12	02-Mar-12	eq	1204713	
99-87-6	4-Isopropyltoluene	< 10.0		µg/l	10.0	6.1	10	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	**296**		µg/l	10.0	6.5	10	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 100		µg/l	100	9.3	10	"	"	"	"	"	
75-09-2	Methylene chloride	< 20.0		µg/l	20.0	6.9	10	"	"	"	"	"	
91-20-3	Naphthalene	< 10.0		µg/l	10.0	3.3	10	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 10.0		µg/l	10.0	7.6	10	"	"	"	"	"	
100-42-5	Styrene	< 10.0		µg/l	10.0	6.2	10	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 10.0		µg/l	10.0	6.3	10	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.0		µg/l	5.0	3.5	10	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 10.0		µg/l	10.0	7.4	10	"	"	"	"	"	
108-88-3	Toluene	**1,280**	E	µg/l	10.0	8.1	10	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 10.0		µg/l	10.0	3.8	10	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 10.0		µg/l	10.0	3.6	10	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 10.0		µg/l	10.0	7.8	10	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 10.0		µg/l	10.0	5.8	10	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 10.0		µg/l	10.0	6.4	10	"	"	"	"	"	
79-01-6	Trichloroethene	< 10.0		µg/l	10.0	7.6	10	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 10.0		µg/l	10.0	6.3	10	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 10.0		µg/l	10.0	7.4	10	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	**23.0**		µg/l	10.0	7.6	10	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 10.0		µg/l	10.0	7.4	10	"	"	"	"	"	
75-01-4	Vinyl chloride	< 10.0		µg/l	10.0	8.1	10	"	"	"	"	"	
179601-23-1	m,p-Xylene	**251**		µg/l	20.0	16.4	10	"	"	"	"	"	
95-47-6	o-Xylene	**170**		µg/l	10.0	8.8	10	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 20.0		µg/l	20.0	14.4	10	"	"	"	"	"	
60-29-7	Ethyl ether	< 10.0		µg/l	10.0	6.9	10	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 10.0		µg/l	10.0	7.2	10	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	**60.7**		µg/l	10.0	7.8	10	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 10.0		µg/l	10.0	7.3	10	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	**1,400**		µg/l	100	86.4	10	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 200		µg/l	200	140	10	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 50.0		µg/l	50.0	7.7	10	"	"	"	"	"	
64-17-5	Ethanol	< 4000		µg/l	4000	357	10	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*100*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*98*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*70-130 %*			"	"	"	"	"	
Re-analysis of Volatile Organic Compounds Prepared by method SW846 5030 Water MS			GS1										
108-88-3	Toluene	**1,290**		µg/l	25.0	20.3	25	SW846 8260C	05-Mar-12	05-Mar-12	eq	1204822	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9 SB44647-02	1604100	Ground Water	01-Mar-12 12:50	01-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Re-analysis of Volatile Organic Compounds Prepared by method SW846 5030 Water MS			GS1										
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*101*			*70-130 %*			SW846 8260C	05-Mar-12	05-Mar-12	eq	1204822	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*90*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*99*			*70-130 %*			"	"	"	"	"	
Microextractable Organic Compounds													
106-93-4	1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100	0.00740	1	EPA 504.1	02-Mar-12	02-Mar-12	DS	1204703	
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Field Preserved**		N/A			1	EPA 200/6000 methods	02-Mar-12	02-Mar-12	JLM	1204702	
Total Metals by EPA 200 Series Methods													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0012	1	EPA 200.7	02-Mar-12	04-Mar-12	EDT	1204740	X
7440-22-4	Silver	< 0.00025		mg/l	0.00025	0.000007	1	EPA 200.8	23-Mar-12	26-Mar-12	TBC	1206583	X
7440-38-2	Arsenic	**0.0060**		mg/l	0.0040	0.0035	1	EPA 200.7	02-Mar-12	04-Mar-12	EDT	1204740	X
7440-39-3	Barium	**0.124**		mg/l	0.0050	0.0021	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.0020		mg/l	0.0020	0.0008	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0003	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.0002		mg/l	0.0002	0.000005	1	EPA 200.8	23-Mar-12	26-Mar-12	TBC	1206583	X
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0026	1	EPA 200.7	02-Mar-12	05-Mar-12	LR	1204740	X
7440-50-8	Copper	< 0.0050		mg/l	0.0050	0.0024	1	"	"	04-Mar-12	"	"	X
7439-89-6	Iron	**10.3**		mg/l	0.0150	0.0098	1	"	"	"	"	"	X
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00007	1	EPA 245.1/7470A	"	02-Mar-12	RH	1204741	X
7440-02-0	Nickel	< 0.0050		mg/l	0.0050	0.0012	1	EPA 200.7	"	04-Mar-12	EDT	1204740	X
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0028	1	"	"	"	"	"	X
7439-92-1	Lead	< 0.00025		mg/l	0.00025	0.000009	1	EPA 200.8	23-Mar-12	26-Mar-12	TBC	1206583	X
7440-36-0	Antimony	< 0.0060		mg/l	0.0060	0.0026	1	EPA 200.7	02-Mar-12	04-Mar-12	EDT	1204740	X
7440-36-0	Antimony	< 0.00055		mg/l	0.00055	0.00001	1	EPA 200.8	23-Mar-12	26-Mar-12	TBC	1206583	X
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0037	1	EPA 200.7	02-Mar-12	04-Mar-12	EDT	1204740	X
7782-49-2	Selenium	< 0.00125	R01	mg/l	0.00125	0.00023	5	EPA 200.8	23-Mar-12	26-Mar-12	TBC	1206583	X
7440-28-0	Thallium	< 0.0050		mg/l	0.0050	0.0038	1	EPA 200.7	02-Mar-12	05-Mar-12	LR	1204740	X
7440-66-6	Zinc	**0.0080**		mg/l	0.0050	0.0025	1	"	"	04-Mar-12	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip Blank	1604100	Aqueous	01-Mar-12 00:00	01-Mar-12
SB44647-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.0		µg/l	1.0	0.6	1	SW846 8260C	02-Mar-12	02-Mar-12	eq	1204713	
67-64-1	Acetone	< 10.0		µg/l	10.0	2.6	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.5		µg/l	0.5	0.5	1	"	"	"	"	"	
71-43-2	Benzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 0.5		µg/l	0.5	0.5	1	"	"	"	"	"	
75-25-2	Bromoform	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.0		µg/l	2.0	1.1	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	1.7	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 2.0		µg/l	2.0	0.6	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.0		µg/l	2.0	1.0	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.0		µg/l	2.0	1.5	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 2.0		µg/l	2.0	0.9	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.5	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 0.5		µg/l	0.5	0.4	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.5	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip Blank	1604100	Aqueous	01-Mar-12 00:00	01-Mar-12
SB44647-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 1.0		µg/l	1.0	0.6	1	SW846 8260C	02-Mar-12	02-Mar-12	eq	1204713	
99-87-6	4-Isopropyltoluene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.9	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.0		µg/l	2.0	0.7	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
100-42-5	Styrene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
108-88-3	Toluene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 2.0		µg/l	2.0	1.6	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.0		µg/l	1.0	0.9	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 2.0		µg/l	2.0	1.4	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	8.6	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	14.0	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.0		µg/l	5.0	0.8	1	"	"	"	"	"	
64-17-5	Ethanol	< 400		µg/l	400	35.7	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*99*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*84*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*94*			*70-130 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204713 - SW846 5030 Water MS										
Blank (1204713-BLK1)					Prepared & Analyzed: 02-Mar-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.0		µg/l	1.0						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.5		µg/l	0.5						
Benzene	< 1.0		µg/l	1.0						
Bromobenzene	< 1.0		µg/l	1.0						
Bromochloromethane	< 1.0		µg/l	1.0						
Bromodichloromethane	< 0.5		µg/l	0.5						
Bromoform	< 1.0		µg/l	1.0						
Bromomethane	< 2.0		µg/l	2.0						
2-Butanone (MEK)	< 10.0		µg/l	10.0						
n-Butylbenzene	< 1.0		µg/l	1.0						
sec-Butylbenzene	< 1.0		µg/l	1.0						
tert-Butylbenzene	< 1.0		µg/l	1.0						
Carbon disulfide	< 2.0		µg/l	2.0						
Carbon tetrachloride	< 1.0		µg/l	1.0						
Chlorobenzene	< 1.0		µg/l	1.0						
Chloroethane	< 2.0		µg/l	2.0						
Chloroform	< 1.0		µg/l	1.0						
Chloromethane	< 2.0		µg/l	2.0						
2-Chlorotoluene	< 1.0		µg/l	1.0						
4-Chlorotoluene	< 1.0		µg/l	1.0						
1,2-Dibromo-3-chloropropane	< 2.0		µg/l	2.0						
Dibromochloromethane	< 0.5		µg/l	0.5						
1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5						
Dibromomethane	< 1.0		µg/l	1.0						
1,2-Dichlorobenzene	< 1.0		µg/l	1.0						
1,3-Dichlorobenzene	< 1.0		µg/l	1.0						
1,4-Dichlorobenzene	< 1.0		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0						
1,1-Dichloroethane	< 1.0		µg/l	1.0						
1,2-Dichloroethane	< 1.0		µg/l	1.0						
1,1-Dichloroethene	< 1.0		µg/l	1.0						
cis-1,2-Dichloroethene	< 1.0		µg/l	1.0						
trans-1,2-Dichloroethene	< 1.0		µg/l	1.0						
1,2-Dichloropropane	< 1.0		µg/l	1.0						
1,3-Dichloropropane	< 1.0		µg/l	1.0						
2,2-Dichloropropane	< 1.0		µg/l	1.0						
1,1-Dichloropropene	< 1.0		µg/l	1.0						
cis-1,3-Dichloropropene	< 0.5		µg/l	0.5						
trans-1,3-Dichloropropene	< 0.5		µg/l	0.5						
Ethylbenzene	< 1.0		µg/l	1.0						
Hexachlorobutadiene	< 0.5		µg/l	0.5						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Isopropylbenzene	< 1.0		µg/l	1.0						
4-Isopropyltoluene	< 1.0		µg/l	1.0						
Methyl tert-butyl ether	< 1.0		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 2.0		µg/l	2.0						
Naphthalene	< 1.0		µg/l	1.0						
n-Propylbenzene	< 1.0		µg/l	1.0						
Styrene	< 1.0		µg/l	1.0						
1,1,1,2-Tetrachloroethane	< 1.0		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204713 - SW846 5030 Water MS										
Blank (1204713-BLK1)					Prepared & Analyzed: 02-Mar-12					
1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5						
Tetrachloroethene	< 1.0		µg/l	1.0						
Toluene	< 1.0		µg/l	1.0						
1,2,3-Trichlorobenzene	< 1.0		µg/l	1.0						
1,2,4-Trichlorobenzene	< 1.0		µg/l	1.0						
1,3,5-Trichlorobenzene	< 1.0		µg/l	1.0						
1,1,1-Trichloroethane	< 1.0		µg/l	1.0						
1,1,2-Trichloroethane	< 1.0		µg/l	1.0						
Trichloroethene	< 1.0		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0						
1,2,3-Trichloropropane	< 1.0		µg/l	1.0						
1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0						
1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0						
Vinyl chloride	< 1.0		µg/l	1.0						
m,p-Xylene	< 2.0		µg/l	2.0						
o-Xylene	< 1.0		µg/l	1.0						
Tetrahydrofuran	< 2.0		µg/l	2.0						
Ethyl ether	< 1.0		µg/l	1.0						
Tert-amyl methyl ether	< 1.0		µg/l	1.0						
Ethyl tert-butyl ether	< 1.0		µg/l	1.0						
Di-isopropyl ether	< 1.0		µg/l	1.0						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
1,4-Dioxane	< 20.0		µg/l	20.0						
trans-1,4-Dichloro-2-butene	< 5.0		µg/l	5.0						
Ethanol	< 400		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*30.0*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*29.6*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.1*		µg/l		*30.0*		*90*	*70-130*		
Surrogate: Dibromofluoromethane	*29.0*		µg/l		*30.0*		*97*	*70-130*		
LCS (1204713-BS1)					Prepared & Analyzed: 02-Mar-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.3**		µg/l		20.0		102	70-130		
Acetone	**22.9**		µg/l		20.0		115	70-130		
Acrylonitrile	**20.1**		µg/l		20.0		100	70-130		
Benzene	**19.0**		µg/l		20.0		95	70-130		
Bromobenzene	**20.2**		µg/l		20.0		101	70-130		
Bromochloromethane	**19.9**		µg/l		20.0		99	70-130		
Bromodichloromethane	**19.9**		µg/l		20.0		99	70-130		
Bromoform	**22.6**		µg/l		20.0		113	70-130		
Bromomethane	**23.4**		µg/l		20.0		117	70-130		
2-Butanone (MEK)	**22.4**		µg/l		20.0		112	70-130		
n-Butylbenzene	**19.8**		µg/l		20.0		99	70-130		
sec-Butylbenzene	**20.1**		µg/l		20.0		100	70-130		
tert-Butylbenzene	**20.2**		µg/l		20.0		101	70-130		
Carbon disulfide	**21.6**		µg/l		20.0		108	70-130		
Carbon tetrachloride	**19.4**		µg/l		20.0		97	70-130		
Chlorobenzene	**19.7**		µg/l		20.0		98	70-130		
Chloroethane	**18.2**		µg/l		20.0		91	70-130		
Chloroform	**18.2**		µg/l		20.0		91	70-130		
Chloromethane	**17.6**		µg/l		20.0		88	70-130		
2-Chlorotoluene	**19.6**		µg/l		20.0		98	70-130		
4-Chlorotoluene	**19.6**		µg/l		20.0		98	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204713 - SW846 5030 Water MS										
LCS (1204713-BS1)					Prepared & Analyzed: 02-Mar-12					
1,2-Dibromo-3-chloropropane	**21.2**		µg/l		20.0		106	70-130		
Dibromochloromethane	**19.6**		µg/l		20.0		98	70-130		
1,2-Dibromoethane (EDB)	**20.4**		µg/l		20.0		102	70-130		
Dibromomethane	**19.0**		µg/l		20.0		95	70-130		
1,2-Dichlorobenzene	**19.9**		µg/l		20.0		100	70-130		
1,3-Dichlorobenzene	**19.9**		µg/l		20.0		100	70-130		
1,4-Dichlorobenzene	**19.2**		µg/l		20.0		96	70-130		
Dichlorodifluoromethane (Freon12)	**18.0**		µg/l		20.0		90	70-130		
1,1-Dichloroethane	**18.6**		µg/l		20.0		93	70-130		
1,2-Dichloroethane	**17.2**		µg/l		20.0		86	70-130		
1,1-Dichloroethene	**20.0**		µg/l		20.0		100	70-130		
cis-1,2-Dichloroethene	**18.8**		µg/l		20.0		94	70-130		
trans-1,2-Dichloroethene	**19.3**		µg/l		20.0		96	70-130		
1,2-Dichloropropane	**19.4**		µg/l		20.0		97	70-130		
1,3-Dichloropropane	**19.2**		µg/l		20.0		96	70-130		
2,2-Dichloropropane	**19.0**		µg/l		20.0		95	70-130		
1,1-Dichloropropene	**18.7**		µg/l		20.0		94	70-130		
cis-1,3-Dichloropropene	**20.7**		µg/l		20.0		103	70-130		
trans-1,3-Dichloropropene	**20.8**		µg/l		20.0		104	70-130		
Ethylbenzene	**20.0**		µg/l		20.0		100	70-130		
Hexachlorobutadiene	**17.8**		µg/l		20.0		89	70-130		
2-Hexanone (MBK)	**20.1**		µg/l		20.0		101	70-130		
Isopropylbenzene	**19.6**		µg/l		20.0		98	70-130		
4-Isopropyltoluene	**19.6**		µg/l		20.0		98	70-130		
Methyl tert-butyl ether	**19.8**		µg/l		20.0		99	70-130		
4-Methyl-2-pentanone (MIBK)	**22.0**		µg/l		20.0		110	70-130		
Methylene chloride	**19.7**		µg/l		20.0		98	70-130		
Naphthalene	**19.0**		µg/l		20.0		95	70-130		
n-Propylbenzene	**20.1**		µg/l		20.0		101	70-130		
Styrene	**20.8**		µg/l		20.0		104	70-130		
1,1,1,2-Tetrachloroethane	**21.0**		µg/l		20.0		105	70-130		
1,1,2,2-Tetrachloroethane	**21.0**		µg/l		20.0		105	70-130		
Tetrachloroethene	**19.5**		µg/l		20.0		98	70-130		
Toluene	**18.3**		µg/l		20.0		92	70-130		
1,2,3-Trichlorobenzene	**17.6**		µg/l		20.0		88	70-130		
1,2,4-Trichlorobenzene	**15.8**		µg/l		20.0		79	70-130		
1,3,5-Trichlorobenzene	**17.4**		µg/l		20.0		87	70-130		
1,1,1-Trichloroethane	**18.4**		µg/l		20.0		92	70-130		
1,1,2-Trichloroethane	**20.1**		µg/l		20.0		101	70-130		
Trichloroethene	**19.1**		µg/l		20.0		95	70-130		
Trichlorofluoromethane (Freon 11)	**18.6**		µg/l		20.0		93	70-130		
1,2,3-Trichloropropane	**20.5**		µg/l		20.0		102	70-130		
1,2,4-Trimethylbenzene	**19.4**		µg/l		20.0		97	70-130		
1,3,5-Trimethylbenzene	**20.0**		µg/l		20.0		100	70-130		
Vinyl chloride	**15.4**		µg/l		20.0		77	70-130		
m,p-Xylene	**39.9**		µg/l		40.0		100	70-130		
o-Xylene	**19.9**		µg/l		20.0		99	70-130		
Tetrahydrofuran	**18.7**		µg/l		20.0		94	70-130		
Ethyl ether	**20.7**		µg/l		20.0		103	70-130		
Tert-amyl methyl ether	**19.2**		µg/l		20.0		96	70-130		
Ethyl tert-butyl ether	**19.0**		µg/l		20.0		95	70-130		
Di-isopropyl ether	**18.2**		µg/l		20.0		91	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204713 - SW846 5030 Water MS										
LCS (1204713-BS1)					Prepared & Analyzed: 02-Mar-12					
Tert-Butanol / butyl alcohol	**231**		µg/l		200		116	70-130		
1,4-Dioxane	**228**		µg/l		200		114	70-130		
trans-1,4-Dichloro-2-butene	**20.5**		µg/l		20.0		102	70-130		
Ethanol	**410**		µg/l		400		103	70-130		
Surrogate: 4-Bromofluorobenzene	*30.3*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*29.8*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*26.7*		µg/l		*30.0*		*89*	*70-130*		
Surrogate: Dibromofluoromethane	*30.1*		µg/l		*30.0*		*100*	*70-130*		
LCS Dup (1204713-BSD1)					Prepared & Analyzed: 02-Mar-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**21.3**		µg/l		20.0		107	70-130	5	25
Acetone	**22.4**		µg/l		20.0		112	70-130	2	50
Acrylonitrile	**20.6**		µg/l		20.0		103	70-130	2	25
Benzene	**20.1**		µg/l		20.0		101	70-130	6	25
Bromobenzene	**21.1**		µg/l		20.0		106	70-130	5	25
Bromochloromethane	**21.2**		µg/l		20.0		106	70-130	6	25
Bromodichloromethane	**20.6**		µg/l		20.0		103	70-130	4	25
Bromoform	**23.3**		µg/l		20.0		116	70-130	3	25
Bromomethane	**25.5**		µg/l		20.0		128	70-130	9	50
2-Butanone (MEK)	**21.5**		µg/l		20.0		107	70-130	4	50
n-Butylbenzene	**21.0**		µg/l		20.0		105	70-130	6	25
sec-Butylbenzene	**21.4**		µg/l		20.0		107	70-130	6	25
tert-Butylbenzene	**21.3**		µg/l		20.0		106	70-130	5	25
Carbon disulfide	**22.3**		µg/l		20.0		111	70-130	3	25
Carbon tetrachloride	**20.5**		µg/l		20.0		102	70-130	6	25
Chlorobenzene	**20.8**		µg/l		20.0		104	70-130	6	25
Chloroethane	**19.8**		µg/l		20.0		99	70-130	8	50
Chloroform	**19.1**		µg/l		20.0		95	70-130	5	25
Chloromethane	**18.4**		µg/l		20.0		92	70-130	4	25
2-Chlorotoluene	**20.3**		µg/l		20.0		101	70-130	3	25
4-Chlorotoluene	**20.4**		µg/l		20.0		102	70-130	4	25
1,2-Dibromo-3-chloropropane	**22.6**		µg/l		20.0		113	70-130	6	25
Dibromochloromethane	**20.0**		µg/l		20.0		100	70-130	2	50
1,2-Dibromoethane (EDB)	**21.3**		µg/l		20.0		106	70-130	4	25
Dibromomethane	**19.8**		µg/l		20.0		99	70-130	4	25
1,2-Dichlorobenzene	**20.5**		µg/l		20.0		102	70-130	3	25
1,3-Dichlorobenzene	**20.9**		µg/l		20.0		105	70-130	5	25
1,4-Dichlorobenzene	**19.7**		µg/l		20.0		98	70-130	3	25
Dichlorodifluoromethane (Freon12)	**18.8**		µg/l		20.0		94	70-130	4	50
1,1-Dichloroethane	**19.8**		µg/l		20.0		99	70-130	6	25
1,2-Dichloroethane	**18.0**		µg/l		20.0		90	70-130	5	25
1,1-Dichloroethene	**21.2**		µg/l		20.0		106	70-130	6	25
cis-1,2-Dichloroethene	**20.1**		µg/l		20.0		101	70-130	7	25
trans-1,2-Dichloroethene	**20.5**		µg/l		20.0		102	70-130	6	25
1,2-Dichloropropane	**19.9**		µg/l		20.0		100	70-130	3	25
1,3-Dichloropropane	**19.8**		µg/l		20.0		99	70-130	3	25
2,2-Dichloropropane	**20.1**		µg/l		20.0		100	70-130	6	25
1,1-Dichloropropene	**19.8**		µg/l		20.0		99	70-130	5	25
cis-1,3-Dichloropropene	**21.5**		µg/l		20.0		108	70-130	4	25
trans-1,3-Dichloropropene	**21.6**		µg/l		20.0		108	70-130	4	25
Ethylbenzene	**20.8**		µg/l		20.0		104	70-130	4	25
Hexachlorobutadiene	**19.8**		µg/l		20.0		99	70-130	11	50

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204713 - SW846 5030 Water MS										
LCS Dup (1204713-BSD1)					Prepared & Analyzed: 02-Mar-12					
2-Hexanone (MBK)	**20.5**		µg/l		20.0		102	70-130	2	25
Isopropylbenzene	**20.6**		µg/l		20.0		103	70-130	5	25
4-Isopropyltoluene	**20.5**		µg/l		20.0		103	70-130	5	25
Methyl tert-butyl ether	**20.2**		µg/l		20.0		101	70-130	2	25
4-Methyl-2-pentanone (MIBK)	**21.3**		µg/l		20.0		106	70-130	3	50
Methylene chloride	**20.4**		µg/l		20.0		102	70-130	3	25
Naphthalene	**20.1**		µg/l		20.0		101	70-130	6	25
n-Propylbenzene	**21.2**		µg/l		20.0		106	70-130	5	25
Styrene	**21.6**		µg/l		20.0		108	70-130	4	25
1,1,1,2-Tetrachloroethane	**21.8**		µg/l		20.0		109	70-130	4	25
1,1,2,2-Tetrachloroethane	**22.4**		µg/l		20.0		112	70-130	7	25
Tetrachloroethene	**20.6**		µg/l		20.0		103	70-130	6	25
Toluene	**19.4**		µg/l		20.0		97	70-130	6	25
1,2,3-Trichlorobenzene	**19.4**		µg/l		20.0		97	70-130	10	25
1,2,4-Trichlorobenzene	**17.5**		µg/l		20.0		87	70-130	10	25
1,3,5-Trichlorobenzene	**18.4**		µg/l		20.0		92	70-130	6	25
1,1,1-Trichloroethane	**19.6**		µg/l		20.0		98	70-130	7	25
1,1,2-Trichloroethane	**20.7**		µg/l		20.0		104	70-130	3	25
Trichloroethene	**20.3**		µg/l		20.0		101	70-130	6	25
Trichlorofluoromethane (Freon 11)	**19.9**		µg/l		20.0		100	70-130	7	50
1,2,3-Trichloropropane	**21.3**		µg/l		20.0		107	70-130	4	25
1,2,4-Trimethylbenzene	**20.1**		µg/l		20.0		101	70-130	4	25
1,3,5-Trimethylbenzene	**21.1**		µg/l		20.0		105	70-130	5	25
Vinyl chloride	**16.3**		µg/l		20.0		81	70-130	6	25
m,p-Xylene	**41.4**		µg/l		40.0		104	70-130	4	25
o-Xylene	**20.6**		µg/l		20.0		103	70-130	3	25
Tetrahydrofuran	**19.4**		µg/l		20.0		97	70-130	3	25
Ethyl ether	**21.7**		µg/l		20.0		108	70-130	5	50
Tert-amyl methyl ether	**19.7**		µg/l		20.0		98	70-130	3	25
Ethyl tert-butyl ether	**19.7**		µg/l		20.0		98	70-130	3	25
Di-isopropyl ether	**18.9**		µg/l		20.0		94	70-130	4	25
Tert-Butanol / butyl alcohol	**217**		µg/l		200		109	70-130	6	25
1,4-Dioxane	**237**		µg/l		200		118	70-130	4	25
trans-1,4-Dichloro-2-butene	**20.5**		µg/l		20.0		103	70-130	0.3	25
Ethanol	**409**		µg/l		400		102	70-130	0.3	30
Surrogate: 4-Bromofluorobenzene	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.2*		µg/l		*30.0*		*91*	*70-130*		
Surrogate: Dibromofluoromethane	*29.8*		µg/l		*30.0*		*99*	*70-130*		
Batch 1204822 - SW846 5030 Water MS										
Blank (1204822-BLK1)					Prepared & Analyzed: 05-Mar-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.0		µg/l	1.0						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.5		µg/l	0.5						
Benzene	< 1.0		µg/l	1.0						
Bromobenzene	< 1.0		µg/l	1.0						
Bromochloromethane	< 1.0		µg/l	1.0						
Bromodichloromethane	< 0.5		µg/l	0.5						
Bromoform	< 1.0		µg/l	1.0						
Bromomethane	< 2.0		µg/l	2.0						
2-Butanone (MEK)	< 10.0		µg/l	10.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204822 - SW846 5030 Water MS										
Blank (1204822-BLK1)					Prepared & Analyzed: 05-Mar-12					
n-Butylbenzene	< 1.0		µg/l	1.0						
sec-Butylbenzene	< 1.0		µg/l	1.0						
tert-Butylbenzene	< 1.0		µg/l	1.0						
Carbon disulfide	< 2.0		µg/l	2.0						
Carbon tetrachloride	< 1.0		µg/l	1.0						
Chlorobenzene	< 1.0		µg/l	1.0						
Chloroethane	< 2.0		µg/l	2.0						
Chloroform	< 1.0		µg/l	1.0						
Chloromethane	< 2.0		µg/l	2.0						
2-Chlorotoluene	< 1.0		µg/l	1.0						
4-Chlorotoluene	< 1.0		µg/l	1.0						
1,2-Dibromo-3-chloropropane	< 2.0		µg/l	2.0						
Dibromochloromethane	< 0.5		µg/l	0.5						
1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5						
Dibromomethane	< 1.0		µg/l	1.0						
1,2-Dichlorobenzene	< 1.0		µg/l	1.0						
1,3-Dichlorobenzene	< 1.0		µg/l	1.0						
1,4-Dichlorobenzene	< 1.0		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0						
1,1-Dichloroethane	< 1.0		µg/l	1.0						
1,2-Dichloroethane	< 1.0		µg/l	1.0						
1,1-Dichloroethene	< 1.0		µg/l	1.0						
cis-1,2-Dichloroethene	< 1.0		µg/l	1.0						
trans-1,2-Dichloroethene	< 1.0		µg/l	1.0						
1,2-Dichloropropane	< 1.0		µg/l	1.0						
1,3-Dichloropropane	< 1.0		µg/l	1.0						
2,2-Dichloropropane	< 1.0		µg/l	1.0						
1,1-Dichloropropene	< 1.0		µg/l	1.0						
cis-1,3-Dichloropropene	< 0.5		µg/l	0.5						
trans-1,3-Dichloropropene	< 0.5		µg/l	0.5						
Ethylbenzene	< 1.0		µg/l	1.0						
Hexachlorobutadiene	< 0.5		µg/l	0.5						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Isopropylbenzene	< 1.0		µg/l	1.0						
4-Isopropyltoluene	< 1.0		µg/l	1.0						
Methyl tert-butyl ether	< 1.0		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 2.0		µg/l	2.0						
Naphthalene	< 1.0		µg/l	1.0						
n-Propylbenzene	< 1.0		µg/l	1.0						
Styrene	< 1.0		µg/l	1.0						
1,1,1,2-Tetrachloroethane	< 1.0		µg/l	1.0						
1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5						
Tetrachloroethene	< 1.0		µg/l	1.0						
Toluene	< 1.0		µg/l	1.0						
1,2,3-Trichlorobenzene	< 1.0		µg/l	1.0						
1,2,4-Trichlorobenzene	< 1.0		µg/l	1.0						
1,3,5-Trichlorobenzene	< 1.0		µg/l	1.0						
1,1,1-Trichloroethane	< 1.0		µg/l	1.0						
1,1,2-Trichloroethane	< 1.0		µg/l	1.0						
Trichloroethene	< 1.0		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204822 - SW846 5030 Water MS										
Blank (1204822-BLK1)					Prepared & Analyzed: 05-Mar-12					
1,2,3-Trichloropropane	< 1.0		µg/l	1.0						
1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0						
1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0						
Vinyl chloride	< 1.0		µg/l	1.0						
m,p-Xylene	< 2.0		µg/l	2.0						
o-Xylene	< 1.0		µg/l	1.0						
Tetrahydrofuran	< 2.0		µg/l	2.0						
Ethyl ether	< 1.0		µg/l	1.0						
Tert-amyl methyl ether	< 1.0		µg/l	1.0						
Ethyl tert-butyl ether	< 1.0		µg/l	1.0						
Di-isopropyl ether	< 1.0		µg/l	1.0						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
1,4-Dioxane	< 20.0		µg/l	20.0						
trans-1,4-Dichloro-2-butene	< 5.0		µg/l	5.0						
Ethanol	< 400		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*29.8*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*30.2*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.7*		µg/l		*30.0*		*92*	*70-130*		
Surrogate: Dibromofluoromethane	*29.9*		µg/l		*30.0*		*100*	*70-130*		
LCS (1204822-BS1)					Prepared & Analyzed: 05-Mar-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.8**		µg/l		20.0		104	70-130		
Acetone	**21.5**		µg/l		20.0		108	70-130		
Acrylonitrile	**20.0**		µg/l		20.0		100	70-130		
Benzene	**19.4**		µg/l		20.0		97	70-130		
Bromobenzene	**20.8**		µg/l		20.0		104	70-130		
Bromochloromethane	**20.2**		µg/l		20.0		101	70-130		
Bromodichloromethane	**20.6**		µg/l		20.0		103	70-130		
Bromoform	**24.2**		µg/l		20.0		121	70-130		
Bromomethane	**26.2**	QM9	µg/l		20.0		131	70-130		
2-Butanone (MEK)	**20.8**		µg/l		20.0		104	70-130		
n-Butylbenzene	**19.3**		µg/l		20.0		96	70-130		
sec-Butylbenzene	**20.8**		µg/l		20.0		104	70-130		
tert-Butylbenzene	**20.7**		µg/l		20.0		103	70-130		
Carbon disulfide	**21.5**		µg/l		20.0		107	70-130		
Carbon tetrachloride	**21.0**		µg/l		20.0		105	70-130		
Chlorobenzene	**20.3**		µg/l		20.0		102	70-130		
Chloroethane	**18.9**		µg/l		20.0		95	70-130		
Chloroform	**18.9**		µg/l		20.0		95	70-130		
Chloromethane	**18.1**		µg/l		20.0		90	70-130		
2-Chlorotoluene	**19.8**		µg/l		20.0		99	70-130		
4-Chlorotoluene	**19.5**		µg/l		20.0		98	70-130		
1,2-Dibromo-3-chloropropane	**22.2**		µg/l		20.0		111	70-130		
Dibromochloromethane	**20.6**		µg/l		20.0		103	70-130		
1,2-Dibromoethane (EDB)	**20.7**		µg/l		20.0		104	70-130		
Dibromomethane	**19.3**		µg/l		20.0		96	70-130		
1,2-Dichlorobenzene	**19.8**		µg/l		20.0		99	70-130		
1,3-Dichlorobenzene	**20.1**		µg/l		20.0		101	70-130		
1,4-Dichlorobenzene	**19.0**		µg/l		20.0		95	70-130		
Dichlorodifluoromethane (Freon12)	**18.4**		µg/l		20.0		92	70-130		
1,1-Dichloroethane	**19.1**		µg/l		20.0		96	70-130		
1,2-Dichloroethane	**17.2**		µg/l		20.0		86	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204822 - SW846 5030 Water MS										
LCS (1204822-BS1)						Prepared & Analyzed: 05-Mar-12				
1,1-Dichloroethene	**20.9**		µg/l		20.0		104	70-130		
cis-1,2-Dichloroethene	**19.7**		µg/l		20.0		99	70-130		
trans-1,2-Dichloroethene	**19.9**		µg/l		20.0		99	70-130		
1,2-Dichloropropane	**19.3**		µg/l		20.0		97	70-130		
1,3-Dichloropropane	**19.7**		µg/l		20.0		99	70-130		
2,2-Dichloropropane	**19.2**		µg/l		20.0		96	70-130		
1,1-Dichloropropene	**19.1**		µg/l		20.0		95	70-130		
cis-1,3-Dichloropropene	**21.0**		µg/l		20.0		105	70-130		
trans-1,3-Dichloropropene	**21.3**		µg/l		20.0		107	70-130		
Ethylbenzene	**20.2**		µg/l		20.0		101	70-130		
Hexachlorobutadiene	**19.0**		µg/l		20.0		95	70-130		
2-Hexanone (MBK)	**19.4**		µg/l		20.0		97	70-130		
Isopropylbenzene	**20.2**		µg/l		20.0		101	70-130		
4-Isopropyltoluene	**19.4**		µg/l		20.0		97	70-130		
Methyl tert-butyl ether	**19.7**		µg/l		20.0		99	70-130		
4-Methyl-2-pentanone (MIBK)	**21.2**		µg/l		20.0		106	70-130		
Methylene chloride	**19.4**		µg/l		20.0		97	70-130		
Naphthalene	**20.3**		µg/l		20.0		102	70-130		
n-Propylbenzene	**20.5**		µg/l		20.0		102	70-130		
Styrene	**21.1**		µg/l		20.0		105	70-130		
1,1,1,2-Tetrachloroethane	**22.8**		µg/l		20.0		114	70-130		
1,1,2,2-Tetrachloroethane	**21.8**		µg/l		20.0		109	70-130		
Tetrachloroethene	**19.5**		µg/l		20.0		97	70-130		
Toluene	**18.8**		µg/l		20.0		94	70-130		
1,2,3-Trichlorobenzene	**19.5**		µg/l		20.0		97	70-130		
1,2,4-Trichlorobenzene	**16.4**		µg/l		20.0		82	70-130		
1,3,5-Trichlorobenzene	**16.8**		µg/l		20.0		84	70-130		
1,1,1-Trichloroethane	**19.7**		µg/l		20.0		98	70-130		
1,1,2-Trichloroethane	**20.6**		µg/l		20.0		103	70-130		
Trichloroethene	**19.6**		µg/l		20.0		98	70-130		
Trichlorofluoromethane (Freon 11)	**20.1**		µg/l		20.0		100	70-130		
1,2,3-Trichloropropane	**20.6**		µg/l		20.0		103	70-130		
1,2,4-Trimethylbenzene	**19.2**		µg/l		20.0		96	70-130		
1,3,5-Trimethylbenzene	**20.1**		µg/l		20.0		100	70-130		
Vinyl chloride	**16.4**		µg/l		20.0		82	70-130		
m,p-Xylene	**40.3**		µg/l		40.0		101	70-130		
o-Xylene	**20.0**		µg/l		20.0		100	70-130		
Tetrahydrofuran	**18.5**		µg/l		20.0		93	70-130		
Ethyl ether	**20.9**		µg/l		20.0		104	70-130		
Tert-amyl methyl ether	**19.2**		µg/l		20.0		96	70-130		
Ethyl tert-butyl ether	**19.1**		µg/l		20.0		95	70-130		
Di-isopropyl ether	**18.3**		µg/l		20.0		92	70-130		
Tert-Butanol / butyl alcohol	**220**		µg/l		200		110	70-130		
1,4-Dioxane	**230**		µg/l		200		115	70-130		
trans-1,4-Dichloro-2-butene	**20.4**		µg/l		20.0		102	70-130		
Ethanol	**395**		µg/l		400		99	70-130		
Surrogate: 4-Bromofluorobenzene	*30.1*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*30.1*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*26.8*		µg/l		*30.0*		*89*	*70-130*		
Surrogate: Dibromofluoromethane	*29.7*		µg/l		*30.0*		*99*	*70-130*		
LCS Dup (1204822-BSD1)						Prepared & Analyzed: 05-Mar-12				

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204822 - SW846 5030 Water MS										
LCS Dup (1204822-BSD1)					Prepared & Analyzed: 05-Mar-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.3**		µg/l		20.0		101	70-130	2	25
Acetone	**21.5**		µg/l		20.0		108	70-130	0.1	50
Acrylonitrile	**20.9**		µg/l		20.0		105	70-130	5	25
Benzene	**18.3**		µg/l		20.0		92	70-130	6	25
Bromobenzene	**20.0**		µg/l		20.0		100	70-130	4	25
Bromochloromethane	**20.0**		µg/l		20.0		100	70-130	1	25
Bromodichloromethane	**21.1**		µg/l		20.0		106	70-130	3	25
Bromoform	**24.3**		µg/l		20.0		122	70-130	0.4	25
Bromomethane	**24.1**		µg/l		20.0		121	70-130	8	50
2-Butanone (MEK)	**20.4**		µg/l		20.0		102	70-130	2	50
n-Butylbenzene	**18.5**		µg/l		20.0		92	70-130	4	25
sec-Butylbenzene	**19.6**		µg/l		20.0		98	70-130	6	25
tert-Butylbenzene	**19.8**		µg/l		20.0		99	70-130	4	25
Carbon disulfide	**21.0**		µg/l		20.0		105	70-130	2	25
Carbon tetrachloride	**20.6**		µg/l		20.0		103	70-130	2	25
Chlorobenzene	**19.2**		µg/l		20.0		96	70-130	6	25
Chloroethane	**18.4**		µg/l		20.0		92	70-130	3	50
Chloroform	**18.6**		µg/l		20.0		93	70-130	2	25
Chloromethane	**17.7**		µg/l		20.0		89	70-130	2	25
2-Chlorotoluene	**18.7**		µg/l		20.0		94	70-130	5	25
4-Chlorotoluene	**18.8**		µg/l		20.0		94	70-130	4	25
1,2-Dibromo-3-chloropropane	**21.8**		µg/l		20.0		109	70-130	2	25
Dibromochloromethane	**21.2**		µg/l		20.0		106	70-130	3	50
1,2-Dibromoethane (EDB)	**20.8**		µg/l		20.0		104	70-130	0.5	25
Dibromomethane	**19.1**		µg/l		20.0		96	70-130	0.7	25
1,2-Dichlorobenzene	**19.0**		µg/l		20.0		95	70-130	4	25
1,3-Dichlorobenzene	**19.6**		µg/l		20.0		98	70-130	3	25
1,4-Dichlorobenzene	**18.2**		µg/l		20.0		91	70-130	4	25
Dichlorodifluoromethane (Freon12)	**17.8**		µg/l		20.0		89	70-130	3	50
1,1-Dichloroethane	**18.5**		µg/l		20.0		92	70-130	4	25
1,2-Dichloroethane	**17.9**		µg/l		20.0		89	70-130	4	25
1,1-Dichloroethene	**20.1**		µg/l		20.0		101	70-130	4	25
cis-1,2-Dichloroethene	**18.9**		µg/l		20.0		95	70-130	4	25
trans-1,2-Dichloroethene	**18.4**		µg/l		20.0		92	70-130	8	25
1,2-Dichloropropane	**18.9**		µg/l		20.0		94	70-130	3	25
1,3-Dichloropropane	**19.9**		µg/l		20.0		99	70-130	0.9	25
2,2-Dichloropropane	**19.1**		µg/l		20.0		96	70-130	0.5	25
1,1-Dichloropropene	**18.2**		µg/l		20.0		91	70-130	5	25
cis-1,3-Dichloropropene	**20.6**		µg/l		20.0		103	70-130	2	25
trans-1,3-Dichloropropene	**21.5**		µg/l		20.0		107	70-130	0.7	25
Ethylbenzene	**19.1**		µg/l		20.0		95	70-130	6	25
Hexachlorobutadiene	**18.2**		µg/l		20.0		91	70-130	4	50
2-Hexanone (MBK)	**19.7**		µg/l		20.0		98	70-130	1	25
Isopropylbenzene	**19.2**		µg/l		20.0		96	70-130	6	25
4-Isopropyltoluene	**18.4**		µg/l		20.0		92	70-130	5	25
Methyl tert-butyl ether	**19.5**		µg/l		20.0		97	70-130	1	25
4-Methyl-2-pentanone (MIBK)	**21.6**		µg/l		20.0		108	70-130	2	50
Methylene chloride	**19.6**		µg/l		20.0		98	70-130	1	25
Naphthalene	**19.3**		µg/l		20.0		96	70-130	5	25
n-Propylbenzene	**19.1**		µg/l		20.0		96	70-130	7	25
Styrene	**20.2**		µg/l		20.0		101	70-130	4	25
1,1,1,2-Tetrachloroethane	**21.6**		µg/l		20.0		108	70-130	6	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204822 - SW846 5030 Water MS										
LCS Dup (1204822-BSD1)					Prepared & Analyzed: 05-Mar-12					
1,1,2,2-Tetrachloroethane	**21.3**		µg/l		20.0		106	70-130	2	25
Tetrachloroethene	**19.4**		µg/l		20.0		97	70-130	0.7	25
Toluene	**18.5**		µg/l		20.0		92	70-130	1	25
1,2,3-Trichlorobenzene	**18.6**		µg/l		20.0		93	70-130	5	25
1,2,4-Trichlorobenzene	**16.2**		µg/l		20.0		81	70-130	0.9	25
1,3,5-Trichlorobenzene	**17.0**		µg/l		20.0		85	70-130	1	25
1,1,1-Trichloroethane	**19.4**		µg/l		20.0		97	70-130	1	25
1,1,2-Trichloroethane	**20.4**		µg/l		20.0		102	70-130	1	25
Trichloroethene	**18.8**		µg/l		20.0		94	70-130	4	25
Trichlorofluoromethane (Freon 11)	**19.5**		µg/l		20.0		98	70-130	3	50
1,2,3-Trichloropropane	**19.9**		µg/l		20.0		100	70-130	4	25
1,2,4-Trimethylbenzene	**18.6**		µg/l		20.0		93	70-130	3	25
1,3,5-Trimethylbenzene	**19.3**		µg/l		20.0		96	70-130	4	25
Vinyl chloride	**15.8**		µg/l		20.0		79	70-130	4	25
m,p-Xylene	**37.8**		µg/l		40.0		95	70-130	6	25
o-Xylene	**19.1**		µg/l		20.0		96	70-130	4	25
Tetrahydrofuran	**18.2**		µg/l		20.0		91	70-130	2	25
Ethyl ether	**20.9**		µg/l		20.0		104	70-130	0	50
Tert-amyl methyl ether	**18.9**		µg/l		20.0		94	70-130	2	25
Ethyl tert-butyl ether	**19.2**		µg/l		20.0		96	70-130	0.4	25
Di-isopropyl ether	**18.0**		µg/l		20.0		90	70-130	1	25
Tert-Butanol / butyl alcohol	**213**		µg/l		200		106	70-130	3	25
1,4-Dioxane	**217**		µg/l		200		108	70-130	6	25
trans-1,4-Dichloro-2-butene	**19.6**		µg/l		20.0		98	70-130	4	25
Ethanol	**393**		µg/l		400		98	70-130	0.5	30
Surrogate: 4-Bromofluorobenzene	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*31.0*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*28.8*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: Dibromofluoromethane	*30.6*		µg/l		*30.0*		*102*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204703 - General Preparation SVOC										
Blank (1204703-BLK1)						Prepared & Analyzed: 02-Mar-12				
1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100						
LCS (1204703-BS1)						Prepared & Analyzed: 02-Mar-12				
1,2-Dibromoethane (EDB)	**0.226**		µg/l	0.0100	0.200		113	50-150		
LCS Dup (1204703-BSD1)						Prepared & Analyzed: 02-Mar-12				
1,2-Dibromoethane (EDB)	**0.215**		µg/l	0.0100	0.200		108	50-150	5	50
Duplicate (1204703-DUP1)			**Source: SB44647-01**			Prepared & Analyzed: 02-Mar-12				
1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100		BRL				30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204740 - EPA 200 Series										
Blank (1204740-BLK1)					Prepared: 02-Mar-12 Analyzed: 04-Mar-12					
Nickel	< 0.0050		mg/l	0.0050						
Lead	< 0.0075		mg/l	0.0075						
Thallium	< 0.0050		mg/l	0.0050						
Zinc	< 0.0050		mg/l	0.0050						
Selenium	< 0.0150		mg/l	0.0150						
Iron	< 0.0150		mg/l	0.0150						
Antimony	< 0.0060		mg/l	0.0060						
Silver	< 0.0050		mg/l	0.0050						
Copper	< 0.0050		mg/l	0.0050						
Cadmium	< 0.0025		mg/l	0.0025						
Beryllium	< 0.0020		mg/l	0.0020						
Chromium	< 0.0050		mg/l	0.0050						
Barium	< 0.0050		mg/l	0.0050						
Arsenic	< 0.0040		mg/l	0.0040						
LCS (1204740-BS1)					Prepared: 02-Mar-12 Analyzed: 04-Mar-12					
Selenium	**1.30**		mg/l	0.0150	1.25		104	85-115		
Nickel	**1.29**		mg/l	0.0050	1.25		103	85-115		
Antimony	**1.25**		mg/l	0.0060	1.25		100	85-115		
Zinc	**1.35**		mg/l	0.0050	1.25		108	85-115		
Iron	**1.20**		mg/l	0.0150	1.25		96	85-115		
Thallium	**1.32**		mg/l	0.0050	1.25		105	85-115		
Lead	**1.24**		mg/l	0.0075	1.25		99.5	85-115		
Arsenic	**1.28**		mg/l	0.0040	1.25		102	85-115		
Copper	**1.24**		mg/l	0.0050	1.25		99	85-115		
Cadmium	**1.31**		mg/l	0.0025	1.25		105	85-115		
Barium	**1.28**		mg/l	0.0050	1.25		103	85-115		
Silver	**1.21**		mg/l	0.0050	1.25		97	85-115		
Beryllium	**1.24**		mg/l	0.0020	1.25		100	85-115		
Chromium	**1.32**		mg/l	0.0050	1.25		106	85-115		
Duplicate (1204740-DUP1)			**Source: SB44647-01**		Prepared: 02-Mar-12 Analyzed: 04-Mar-12					
Zinc	**0.0152**		mg/l	0.0050		0.0159			5	20
Selenium	< 0.0150		mg/l	0.0150		BRL				20
Antimony	< 0.0060		mg/l	0.0060		BRL				20
Lead	< 0.0075		mg/l	0.0075		BRL				20
Nickel	**0.0112**		mg/l	0.0050		0.0120			6	20
Iron	**12.3**		mg/l	0.0150		12.7			3	20
Thallium	< 0.0050		mg/l	0.0050		BRL				20
Copper	< 0.0050		mg/l	0.0050		BRL				20
Silver	**0.0025**	J	mg/l	0.0050		0.0024			4	20
Arsenic	**0.0128**		mg/l	0.0040		0.0156			20	20
Barium	**0.110**		mg/l	0.0050		0.110			0.3	20
Cadmium	**0.0003**	J	mg/l	0.0025		0.0004				20
Chromium	< 0.0050		mg/l	0.0050		BRL				20
Beryllium	< 0.0020		mg/l	0.0020		BRL				20
Matrix Spike (1204740-MS1)			**Source: SB44647-02**		Prepared: 02-Mar-12 Analyzed: 04-Mar-12					
Nickel	**1.28**		mg/l	0.0050	1.25	BRL	102	70-130		
Thallium	**1.27**		mg/l	0.0050	1.25	BRL	102	70-130		
Iron	**11.3**		mg/l	0.0150	1.25	10.3	78	70-130		
Lead	**1.21**		mg/l	0.0075	1.25	BRL	96.9	70-130		
Antimony	**1.23**		mg/l	0.0060	1.25	BRL	98	70-130		
Selenium	**1.32**		mg/l	0.0150	1.25	BRL	106	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204740 - EPA 200 Series										
Matrix Spike (1204740-MS1)			**Source: SB44647-02**			Prepared: 02-Mar-12 Analyzed: 04-Mar-12				
Zinc	**1.34**		mg/l	0.0050	1.25	0.0080	107	70-130		
Copper	**1.31**		mg/l	0.0050	1.25	BRL	105	70-130		
Cadmium	**1.25**		mg/l	0.0025	1.25	BRL	100	70-130		
Beryllium	**1.25**		mg/l	0.0020	1.25	BRL	100	70-130		
Barium	**1.38**		mg/l	0.0050	1.25	0.124	101	70-130		
Arsenic	**1.29**		mg/l	0.0040	1.25	0.0060	103	70-130		
Silver	**1.24**		mg/l	0.0050	1.25	BRL	99	70-130		
Chromium	**1.28**		mg/l	0.0050	1.25	BRL	103	70-130		
Post Spike (1204740-PS1)			**Source: SB44647-02**			Prepared: 02-Mar-12 Analyzed: 04-Mar-12				
Zinc	**1.38**		mg/l	0.0050	1.25	0.0080	109	85-115		
Lead	**1.25**		mg/l	0.0075	1.25	BRL	99.8	85-115		
Thallium	**1.30**		mg/l	0.0050	1.25	BRL	104	85-115		
Antimony	**1.26**		mg/l	0.0060	1.25	BRL	101	85-115		
Nickel	**1.31**		mg/l	0.0050	1.25	BRL	105	85-115		
Iron	**11.6**		mg/l	0.0150	1.25	10.3	106	85-115		
Selenium	**1.36**		mg/l	0.0150	1.25	BRL	109	85-115		
Copper	**1.35**		mg/l	0.0050	1.25	BRL	108	85-115		
Cadmium	**1.29**		mg/l	0.0025	1.25	BRL	103	85-115		
Beryllium	**1.27**		mg/l	0.0020	1.25	BRL	102	85-115		
Barium	**1.41**		mg/l	0.0050	1.25	0.124	103	85-115		
Arsenic	**1.33**		mg/l	0.0040	1.25	0.0060	106	85-115		
Chromium	**1.32**		mg/l	0.0050	1.25	BRL	106	85-115		
Silver	**1.27**		mg/l	0.0050	1.25	BRL	102	85-115		
Batch 1204741 - EPA200/SW7000 Series										
Blank (1204741-BLK1)						Prepared & Analyzed: 02-Mar-12				
Mercury	< 0.00020		mg/l	0.00020						
LCS (1204741-BS1)						Prepared & Analyzed: 02-Mar-12				
Mercury	**0.00447**		mg/l	0.00020	0.00500		89	85-115		
Duplicate (1204741-DUP1)			**Source: SB44647-01**			Prepared & Analyzed: 02-Mar-12				
Mercury	< 0.00020		mg/l	0.00020		BRL				20
Matrix Spike (1204741-MS1)			**Source: SB44647-01**			Prepared & Analyzed: 02-Mar-12				
Mercury	**0.00468**		mg/l	0.00020	0.00500	BRL	94	80-120		
Post Spike (1204741-PS1)			**Source: SB44647-01**			Prepared & Analyzed: 02-Mar-12				
Mercury	**0.00472**		mg/l	0.00020	0.00500	BRL	94	85-115		
Batch 1206583 - EPA 200 Series										
Blank (1206583-BLK1)						Prepared: 23-Mar-12 Analyzed: 26-Mar-12				
Lead	< 0.00025		mg/l	0.00025						
Selenium	< 0.00025		mg/l	0.00025						
Antimony	< 0.00055		mg/l	0.00055						
Silver	< 0.00025		mg/l	0.00025						
Cadmium	< 0.0002		mg/l	0.0002						
LCS (1206583-BS1)						Prepared: 23-Mar-12 Analyzed: 26-Mar-12				
Lead	**0.0556**		mg/l	0.00250	0.0500		111	85-115		
Antimony	**0.0550**		mg/l	0.00550	0.0500		110	85-115		
Selenium	**0.259**		mg/l	0.00250	0.250		103	85-115		
Silver	**0.0500**		mg/l	0.00250	0.0500		100	85-115		
Cadmium	**0.0509**		mg/l	0.0020	0.0500		102	85-115		
Duplicate (1206583-DUP1)			**Source: SB44647-02**			Prepared: 23-Mar-12 Analyzed: 26-Mar-12				
Antimony	**0.00022**	J,QR8	mg/l	0.00055		0.00054			84	20
Lead	**0.00022**	J	mg/l	0.00025		0.00024			10	20

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 1206583 - EPA 200 Series										
Duplicate (1206583-DUP1)			**Source: SB44647-02**			Prepared: 23-Mar-12 Analyzed: 26-Mar-12				
Selenium	< 0.00125		mg/l	0.00125		BRL				20
Cadmium	**0.000008**	J,QR8	mg/l	0.0002		0.00001			37	20
Silver	**0.00001**	J,QR8	mg/l	0.00025		0.00003			85	20
Matrix Spike (1206583-MS1)			**Source: SB44647-01**			Prepared: 23-Mar-12 Analyzed: 26-Mar-12				
Lead	**0.0546**		mg/l	0.00250	0.0500	0.00066	108	70-130		
Antimony	**0.0573**		mg/l	0.00550	0.0500	0.00023	114	70-130		
Selenium	**0.260**		mg/l	0.00250	0.250	BRL	104	70-130		
Cadmium	**0.0518**		mg/l	0.0020	0.0500	0.00009	103	70-130		
Silver	**0.0496**		mg/l	0.00250	0.0500	0.00003	99	70-130		
Post Spike (1206583-PS1)			**Source: SB44647-01**			Prepared: 23-Mar-12 Analyzed: 26-Mar-12				
Lead	**0.0553**		mg/l	0.00250	0.0500	0.00066	109	85-115		
Antimony	**0.0576**		mg/l	0.00550	0.0500	0.00023	115	85-115		
Selenium	**0.270**		mg/l	0.00250	0.250	BRL	108	85-115		
Silver	**0.0490**		mg/l	0.00250	0.0500	0.00003	98	85-115		
Cadmium	**0.0517**		mg/l	0.0020	0.0500	0.00009	103	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).
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.
QR8	Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.
R01	The Reporting Limit has been raised to account for matrix interference.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

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

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

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

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

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

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

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

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

Validated by:
June O'Connor
Nicole Leja

SB44647 /SR

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

Report To: Brian Horan & Mary Cathey
GES
364 Littleton Rd, Ste 4
Westford, MA 01886
Telephone #: 800-221-6119 x3244
Project Mgr. Mary Cathey

Invoice To: GES
364 Littleton Rd, Ste 4
Westford, MA 01886
P.O. No.: 1604100 RQN:

Project No.: 1604100
Site Name: MOBIL 1476
Location: Acton, State: MA
Sampler(s): Jason Aloysius

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8= $NaHSO_4$ 9= Deionized Water 10= 11=

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

G=Grab C=Composite

List preservative code below: 2, 4, 4, [illegible], 4, 4

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VOCs + oxygenates (8260)	Total 13 metals	Total Barium	EDB (low reporting limit)	Iron (total)	cyanide
44647.1	MW-6R	3/1/2012	11:20	G	GW	5			1	X	X	X	X	X	X
.2	MW-9	3/1/2012	12:50	G	GW	5			1	X	X	X	X	X	X
.3	trip blk					1				X					

QA/QC Reporting Notes:
* additional charges may apply

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

QA/QC Reporting Level
☒ Standard ☐ No QC ☐ DQA*
☐ NY ASP A* ☐ NY ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ TIER II* ☐ TIER V*
☐ Other
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp°C
[illegible]	Spectrum	3/1/12	[illegible]	
Freddy	[illegible]	3.1.12	14:33	
[illegible]	[illegible]	3-1-12	17:35	2.7

☐ EDD Format
☒ E-mail to mcathey@gesonline.com

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

(3)

Category I - Petroleum Related Site Remediation
Sub-categories A (Gasoline) & B (fuel oil)
Category III - Contaminated Construction Dewatering

Analysis	Method	Spectrum Price per sample
TSS	~~Method 160.2~~ SM5 2540D (5 mg/L)	$10.00
TPH	Method 1664A (5 mg/l)	$47.00
TPH-GRO	SW846 8015 Mod	$45.00
Volatile Organics + EDB, oxygenates	Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)	$50.00
Total Metals - 13 Priority Pollutants	ICP/AES 2 Methods 200.7, 3010A/6010C & 245.1/7470A	$73.00
Mercury	Method 245.1,7470A (0.2 ug/L), ~~Methods 245.7, 1631 (0.001 ug/l)~~	$15.00
Total EPH & target PAHs	MA EPH (5 ug/L)	$50.00
Iron	ICP/AES 2 Methods 200.7, 3010A/6010C	$15.00
Total Chromium - hex	Method 7196A /SM3500CrD (10 ug/L), ~~Methods 218.6, 1636 (1 ug/L)~~	$16.00
Total Chromium - tri	3500 CrD	$21.00
Chloride	300.0, ~~SM5 4110B~~ (0.1 mg/L) SAI MRL 1.0 mg/L	$9.00
Total Group II PAHs	MA EPH (5 ug/L)	$50.00
Cyanide (total)	Method 335.4 / SW846 9012B (5 ug/L)	$13.00
Total residual chlorine (TRC)	Methods ~~330.1, 330.5, SM5 4500-Cl D (200 ug/L) SM5 4500-Cl E (10 ug/L)~~ SM4500-Cl-G at MRL of 20 ug/L	$9.00
Total Phenols	~~5 ug/L, Methods 8260C, 8270D, 2 ug/L, Methods 420.1, 420.2,~~ 50 ug/L, Method 420.4	$19.00
Total Phenols	5 ug/L, Methods ~~8260C,~~ 8270D, 2 ug/L, ~~Methods 420.1, 420.2, 50 ug/L, Method 420.4~~	$74.00
Pentachlorophenol (PCP)	Methods 3510C/8270D, ~~525 (5 ug/L)~~	$74.00
Total Phthalates (Phthalate esters)	Method 3510C/8270D (5 ug/L), ~~525.2 (0.5 ug/L)~~	$79.00
Bis (2-Ethylhexyl) Phthalate	Method 3510C/8270D (5 ug/L), ~~525.2 (0.5 ug/L)~~	$79.00
Total PCBs	Method 8082 (0.5 ug/L), ~~Method 1668b (0.00005 ug/L)~~	$42.00

Notes:
Priority Pollutant Metals (13) - Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn

SB44647 [illegible]

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

Report To: Brian Horan & Mary Cathey
GES
364 Littleton Rd, Ste 4
Westford, MA 01886
Telephone #: 800-221-6119 x3244
Project Mgr. Mary Cathey

Invoice To: GES
364 Littleton Rd, Ste 4
Westford, MA 01886
P.O. No.: 1604100 RQN:

Project No.: 1604100
Site Name: MOBIL 1476
Location: Acton, State: MA
Sampler(s): Jason [illegible]

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8=$NaHSO_4$ 9=Deionized Water 10= 11=

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

G=Grab C=Composite

List preservative code below: 2 | 4 | 4 | [illegible] | 4 | 4

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VOCs & oxygenates (8260)	Total 13 metals	Total Barium	EDB (low reporting limit)	Iron (total)	~~cyanide~~ EM
44647.01	MW-6R	3/1/2012	11:20	G	GW	5			1	X	X	X	X	X	X
.02	MW-9	3/1/2012	12:50	G	GW	5			1	X	X	X	X	X	X
.03	trip blk					1				X					

QA/QC Reporting Notes:
* additional charges may apply

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

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

State-specific reporting standards:
Cyanide to be analysed from other sample sent on the same day.

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	Spectrum	3/1/12	14:30	
Fred [illegible]	[signature]	3-1-12	14:30	
[signature]	[signature]	3-1-12	17:35	2.7

☐ EDD Format
☒ E-mail to mcathey@gesonline.com

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

(3)

SB44647 [illegible]

CHAIN OF CUSTODY RECORD

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Page 1 of 1

Special Handling:
- ☒ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 2-day approved by Dulce
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Brian Horan & Mary Cathey
GES
364 Littleton Rd, Ste 4
Westford, MA 01886
Telephone #: 800-221-6119 x3244
Project Mgr. Mary Cathey

Invoice To: GES
364 Littleton Rd, Ste 4
Westford, MA 01886
P.O. No.: 1604100 RQN:

Project No.: 1604100
Site Name: MOBIL 1476
Location: Acton, State: MA
Sampler(s): Jason Aligovice

$1=Na_2S_2O_3$ 2=HCl $3=H_2SO_4$ $4=HNO_3$ 5=NaOH 6=Ascorbic Acid $7=CH_3OH$
$8=NaHSO_4$ 9=Deionized Water 10= 11=

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

G=Grab C=Composite

List preservative code below: 2 | 4 | 4 | [illegible] | 4 | 4

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic		VOCs & oxygenates (8260)	Total 13 metals	Total Barium	EDB (low reporting limit)	Iron (total)	~~cyanide~~ EM	Metals by 200.8
44647.01	MW-6R	3/1/2012	11:20	G	GW	5			1		X	X	X	X	X	~~X~~	(X)
.02	MW-9	3/1/2012	12:50	G	GW	5			1		X	X	X	X	X	~~X~~	(X)
.03	trip blk					1					X						

QA/QC Reporting Notes:
* additional charges may apply

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

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

State-specific reporting standards:
Cyanide to be analysed from other sample sent on the same day.
(X) Added analysis per client req 3/21/12 MB

Relinquished by:	Received by:	Date:	Time:	Temp°C
[illegible]	Spectrum	3/1/12	[illegible]	
[illegible]	[illegible]	3-1-12	17:30	
[illegible]	[illegible]	3-1-12	17:35	2.7

☐ EDD Format
☒ E-mail to mcathey@gesonline.com

☐ Ambient ☐ Iced ☐ Refrigerated ☐ Fridge temp __ °C ☐ Freezer temp __ °C

(3)

Report Date:
05-Mar-12 16:18

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

GES, Inc.
364 Littleton Road, Suite 4
Westford, MA 01886
Attn: Mary Cathey

Project: Mobil Station No. 1476 - Acton, MA
Project #: 1604100

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB44647-01	MW-6R	Ground Water	01-Mar-12 11:20	01-Mar-12 17:35
SB44647-02	MW-9	Ground Water	01-Mar-12 12:50	01-Mar-12 17:35
SB44647-03	Trip Blank	Aqueous	01-Mar-12 00:00	01-Mar-12 17:35

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

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

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes.
Please 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).

CASE NARRATIVE:

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

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

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

SW846 8260C

Calibration:

1202020

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2-Dibromo-3-chloropropane
Bromoform
Dibromochloromethane
Naphthalene

This affected the following samples:

1204713-BLK1
1204713-BS1
1204713-BSD1
1204822-BLK1
1204822-BS1
1204822-BSD1
MW-6R
MW-9
S201804-ICV1
S202342-CCV1
S202374-CCV1
Trip Blank

Samples:

S202342-CCV1

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

Bromomethane (22.5%)

This affected the following samples:

1204713-BLK1
1204713-BS1
1204713-BSD1
MW-6R
MW-9
Trip Blank

S202374-CCV1

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

Bromomethane (29.3%)
Carbon disulfide (21.9%)

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

Bromoform (22.1%)

SW846 8260C

Samples:

S202374-CCV1

This affected the following samples:

1204822-BLK1
1204822-BS1
1204822-BSD1

SB44647-01 *MW-6R*

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

SB44647-02 *MW-9*

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

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

Toluene

SB44647-02RE1 *MW-9*

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

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-6R	1604100	Ground Water	01-Mar-12 11:20	01-Mar-12
SB44647-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 20.0		µg/l	20.0	12.9	20	SW846 8260C	02-Mar-12	02-Mar-12	eq	1204713	
67-64-1	Acetone	< 200		µg/l	200	51.1	20	"	"	"	"	"	
107-13-1	Acrylonitrile	< 10.0		µg/l	10.0	9.2	20	"	"	"	"	"	
71-43-2	Benzene	464		µg/l	20.0	13.4	20	"	"	"	"	"	
108-86-1	Bromobenzene	< 20.0		µg/l	20.0	14.4	20	"	"	"	"	"	
74-97-5	Bromochloromethane	< 20.0		µg/l	20.0	14.2	20	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 10.0		µg/l	10.0	9.6	20	"	"	"	"	"	
75-25-2	Bromoform	< 20.0		µg/l	20.0	12.1	20	"	"	"	"	"	
74-83-9	Bromomethane	< 40.0		µg/l	40.0	22.8	20	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 200		µg/l	200	34.7	20	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 20.0		µg/l	20.0	11.2	20	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 20.0		µg/l	20.0	16.4	20	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 20.0		µg/l	20.0	14.9	20	"	"	"	"	"	
75-15-0	Carbon disulfide	< 40.0		µg/l	40.0	12.5	20	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 20.0		µg/l	20.0	11.0	20	"	"	"	"	"	
108-90-7	Chlorobenzene	< 20.0		µg/l	20.0	13.1	20	"	"	"	"	"	
75-00-3	Chloroethane	< 40.0		µg/l	40.0	20.7	20	"	"	"	"	"	
67-66-3	Chloroform	< 20.0		µg/l	20.0	13.8	20	"	"	"	"	"	
74-87-3	Chloromethane	< 40.0		µg/l	40.0	29.5	20	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 20.0		µg/l	20.0	15.8	20	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 20.0		µg/l	20.0	14.6	20	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 40.0		µg/l	40.0	18.5	20	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 10.0		µg/l	10.0	5.8	20	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 10.0		µg/l	10.0	6.5	20	"	"	"	"	"	
74-95-3	Dibromomethane	< 20.0		µg/l	20.0	13.3	20	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 20.0		µg/l	20.0	13.4	20	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 20.0		µg/l	20.0	14.2	20	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 20.0		µg/l	20.0	12.5	20	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 40.0		µg/l	40.0	8.9	20	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 20.0		µg/l	20.0	13.6	20	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 20.0		µg/l	20.0	15.6	20	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 20.0		µg/l	20.0	9.8	20	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 20.0		µg/l	20.0	14.3	20	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 20.0		µg/l	20.0	13.6	20	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 20.0		µg/l	20.0	14.2	20	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 20.0		µg/l	20.0	16.1	20	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 20.0		µg/l	20.0	12.1	20	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 20.0		µg/l	20.0	12.7	20	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 10.0		µg/l	10.0	5.0	20	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 10.0		µg/l	10.0	10.0	20	"	"	"	"	"	
100-41-4	Ethylbenzene	< 20.0		µg/l	20.0	14.6	20	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 10.0		µg/l	10.0	9.0	20	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 200		µg/l	200	10.9	20	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-6R	1604100	Ground Water	01-Mar-12 11:20	01-Mar-12
SB44647-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 20.0		µg/l	20.0	12.4	20	SW846 8260C	02-Mar-12	02-Mar-12	eq	1204713	
99-87-6	4-Isopropyltoluene	< 20.0		µg/l	20.0	12.2	20	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	**202**		µg/l	20.0	13.0	20	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 200		µg/l	200	18.6	20	"	"	"	"	"	
75-09-2	Methylene chloride	< 40.0		µg/l	40.0	13.8	20	"	"	"	"	"	
91-20-3	Naphthalene	< 20.0		µg/l	20.0	6.6	20	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 20.0		µg/l	20.0	15.2	20	"	"	"	"	"	
100-42-5	Styrene	< 20.0		µg/l	20.0	12.3	20	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 20.0		µg/l	20.0	12.5	20	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 10.0		µg/l	10.0	7.0	20	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 20.0		µg/l	20.0	14.9	20	"	"	"	"	"	
108-88-3	Toluene	**903**		µg/l	20.0	16.2	20	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 20.0		µg/l	20.0	7.5	20	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 20.0		µg/l	20.0	7.2	20	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 20.0		µg/l	20.0	15.7	20	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 20.0		µg/l	20.0	11.6	20	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 20.0		µg/l	20.0	12.8	20	"	"	"	"	"	
79-01-6	Trichloroethene	< 20.0		µg/l	20.0	15.1	20	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 20.0		µg/l	20.0	12.6	20	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 20.0		µg/l	20.0	14.7	20	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 20.0		µg/l	20.0	15.1	20	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 20.0		µg/l	20.0	14.9	20	"	"	"	"	"	
75-01-4	Vinyl chloride	< 20.0		µg/l	20.0	16.1	20	"	"	"	"	"	
179601-23-1	m,p-Xylene	**52.8**		µg/l	40.0	32.8	20	"	"	"	"	"	
95-47-6	o-Xylene	**73.2**		µg/l	20.0	17.6	20	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 40.0		µg/l	40.0	28.8	20	"	"	"	"	"	
60-29-7	Ethyl ether	< 20.0		µg/l	20.0	13.9	20	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 20.0		µg/l	20.0	14.4	20	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	**45.4**		µg/l	20.0	15.6	20	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 20.0		µg/l	20.0	14.5	20	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	**1,290**		µg/l	200	173	20	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 400		µg/l	400	280	20	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 100		µg/l	100	15.3	20	"	"	"	"	"	
64-17-5	Ethanol	< 8000		µg/l	8000	714	20	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*101*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*89*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*97*			*70-130 %*			"	"	"	"	"	
Microextractable Organic Compounds													
106-93-4	1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100	0.00740	1	EPA 504.1	02-Mar-12	02-Mar-12	DS	1204703	
Total Metals by EPA 200/6000 Series Methods													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-6R SB44647-01	1604100	Ground Water	01-Mar-12 11:20	01-Mar-12

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Field Preserved**		N/A			1	EPA 200/6000 methods	02-Mar-12	02-Mar-12	JLM	1204702	
Total Metals by EPA 200 Series Methods													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0012	1	EPA 200.7	02-Mar-12	04-Mar-12	EDT	1204740	X
7440-38-2	Arsenic	**0.0156**		mg/l	0.0040	0.0035	1	"	"	"	"	"	X
7440-39-3	Barium	**0.110**		mg/l	0.0050	0.0021	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.0020		mg/l	0.0020	0.0008	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0003	1	"	"	"	"	"	X
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0026	1	"	"	05-Mar-12	"	"	X
7440-50-8	Copper	< 0.0050		mg/l	0.0050	0.0024	1	"	"	04-Mar-12	"	"	X
7439-89-6	Iron	**12.7**		mg/l	0.0150	0.0098	1	"	"	"	"	"	X
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00007	1	EPA 245.1/7470A	"	02-Mar-12	RH	1204741	X
7440-02-0	Nickel	**0.0120**		mg/l	0.0050	0.0012	1	EPA 200.7	"	04-Mar-12	EDT	1204740	X
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0028	1	"	"	"	"	"	X
7440-36-0	Antimony	< 0.0060		mg/l	0.0060	0.0026	1	"	"	"	"	"	X
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0037	1	"	"	"	"	"	X
7440-28-0	Thallium	< 0.0050		mg/l	0.0050	0.0038	1	"	"	05-Mar-12	"	"	X
7440-66-6	Zinc	**0.0159**		mg/l	0.0050	0.0025	1	"	"	04-Mar-12	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9	1604100	Ground Water	01-Mar-12 12:50	01-Mar-12
SB44647-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 10.0		µg/l	10.0	6.5	10	SW846 8260C	02-Mar-12	02-Mar-12	eq	1204713	
67-64-1	Acetone	< 100		µg/l	100	25.6	10	"	"	"	"	"	
107-13-1	Acrylonitrile	< 5.0		µg/l	5.0	4.6	10	"	"	"	"	"	
71-43-2	Benzene	**476**		µg/l	10.0	6.7	10	"	"	"	"	"	
108-86-1	Bromobenzene	< 10.0		µg/l	10.0	7.2	10	"	"	"	"	"	
74-97-5	Bromochloromethane	< 10.0		µg/l	10.0	7.1	10	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.0		µg/l	5.0	4.8	10	"	"	"	"	"	
75-25-2	Bromoform	< 10.0		µg/l	10.0	6.0	10	"	"	"	"	"	
74-83-9	Bromomethane	< 20.0		µg/l	20.0	11.4	10	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 100		µg/l	100	17.3	10	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 10.0		µg/l	10.0	5.6	10	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 10.0		µg/l	10.0	8.2	10	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 10.0		µg/l	10.0	7.4	10	"	"	"	"	"	
75-15-0	Carbon disulfide	< 20.0		µg/l	20.0	6.3	10	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 10.0		µg/l	10.0	5.5	10	"	"	"	"	"	
108-90-7	Chlorobenzene	< 10.0		µg/l	10.0	6.5	10	"	"	"	"	"	
75-00-3	Chloroethane	< 20.0		µg/l	20.0	10.3	10	"	"	"	"	"	
67-66-3	Chloroform	< 10.0		µg/l	10.0	6.9	10	"	"	"	"	"	
74-87-3	Chloromethane	< 20.0		µg/l	20.0	14.7	10	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 10.0		µg/l	10.0	7.9	10	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 10.0		µg/l	10.0	7.3	10	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 20.0		µg/l	20.0	9.3	10	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.0		µg/l	5.0	2.9	10	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.0		µg/l	5.0	3.3	10	"	"	"	"	"	
74-95-3	Dibromomethane	< 10.0		µg/l	10.0	6.7	10	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 10.0		µg/l	10.0	6.7	10	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 10.0		µg/l	10.0	7.1	10	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 10.0		µg/l	10.0	6.2	10	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 20.0		µg/l	20.0	4.5	10	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 10.0		µg/l	10.0	6.8	10	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 10.0		µg/l	10.0	7.8	10	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 10.0		µg/l	10.0	4.9	10	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 10.0		µg/l	10.0	7.2	10	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 10.0		µg/l	10.0	6.8	10	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 10.0		µg/l	10.0	7.1	10	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 10.0		µg/l	10.0	8.1	10	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 10.0		µg/l	10.0	6.0	10	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 10.0		µg/l	10.0	6.4	10	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.0		µg/l	5.0	2.5	10	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.0		µg/l	5.0	5.0	10	"	"	"	"	"	
100-41-4	Ethylbenzene	**55.9**		µg/l	10.0	7.3	10	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 5.0		µg/l	5.0	4.5	10	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 100		µg/l	100	5.4	10	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9	1604100	Ground Water	01-Mar-12 12:50	01-Mar-12
SB44647-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 10.0		µg/l	10.0	6.2	10	SW846 8260C	02-Mar-12	02-Mar-12	eq	1204713	
99-87-6	4-Isopropyltoluene	< 10.0		µg/l	10.0	6.1	10	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	**296**		µg/l	10.0	6.5	10	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 100		µg/l	100	9.3	10	"	"	"	"	"	
75-09-2	Methylene chloride	< 20.0		µg/l	20.0	6.9	10	"	"	"	"	"	
91-20-3	Naphthalene	< 10.0		µg/l	10.0	3.3	10	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 10.0		µg/l	10.0	7.6	10	"	"	"	"	"	
100-42-5	Styrene	< 10.0		µg/l	10.0	6.2	10	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 10.0		µg/l	10.0	6.3	10	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.0		µg/l	5.0	3.5	10	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 10.0		µg/l	10.0	7.4	10	"	"	"	"	"	
108-88-3	Toluene	**1,280**	E	µg/l	10.0	8.1	10	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 10.0		µg/l	10.0	3.8	10	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 10.0		µg/l	10.0	3.6	10	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 10.0		µg/l	10.0	7.8	10	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 10.0		µg/l	10.0	5.8	10	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 10.0		µg/l	10.0	6.4	10	"	"	"	"	"	
79-01-6	Trichloroethene	< 10.0		µg/l	10.0	7.6	10	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 10.0		µg/l	10.0	6.3	10	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 10.0		µg/l	10.0	7.4	10	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	**23.0**		µg/l	10.0	7.6	10	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 10.0		µg/l	10.0	7.4	10	"	"	"	"	"	
75-01-4	Vinyl chloride	< 10.0		µg/l	10.0	8.1	10	"	"	"	"	"	
179601-23-1	m,p-Xylene	**251**		µg/l	20.0	16.4	10	"	"	"	"	"	
95-47-6	o-Xylene	**170**		µg/l	10.0	8.8	10	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 20.0		µg/l	20.0	14.4	10	"	"	"	"	"	
60-29-7	Ethyl ether	< 10.0		µg/l	10.0	6.9	10	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 10.0		µg/l	10.0	7.2	10	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	**60.7**		µg/l	10.0	7.8	10	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 10.0		µg/l	10.0	7.3	10	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	**1,400**		µg/l	100	86.4	10	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 200		µg/l	200	140	10	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 50.0		µg/l	50.0	7.7	10	"	"	"	"	"	
64-17-5	Ethanol	< 4000		µg/l	4000	357	10	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*100*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*98*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*70-130 %*			"	"	"	"	"	
Re-analysis of Volatile Organic Compounds			GS1										
Prepared by method SW846 5030 Water MS													
108-88-3	Toluene	**1,290**		µg/l	25.0	20.3	25	SW846 8260C	05-Mar-12	05-Mar-12	eq	1204822	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9 SB44647-02	1604100	Ground Water	01-Mar-12 12:50	01-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Re-analysis of Volatile Organic Compounds Prepared by method SW846 5030 Water MS			GS1										
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*101*			*70-130 %*			SW846 8260C	05-Mar-12	05-Mar-12	eq	1204822	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*90*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*99*			*70-130 %*			"	"	"	"	"	
Microextractable Organic Compounds													
106-93-4	1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100	0.00740	1	EPA 504.1	02-Mar-12	02-Mar-12	DS	1204703	
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Field Preserved**		N/A			1	EPA 200/6000 methods	02-Mar-12	02-Mar-12	JLM	1204702	
Total Metals by EPA 200 Series Methods													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0012	1	EPA 200.7	02-Mar-12	04-Mar-12	EDT	1204740	X
7440-38-2	Arsenic	**0.0060**		mg/l	0.0040	0.0035	1	"	"	"	"	"	X
7440-39-3	Barium	**0.124**		mg/l	0.0050	0.0021	1	"	"	"	"	"	
7440-41-7	Beryllium	< 0.0020		mg/l	0.0020	0.0008	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0003	1	"	"	"	"	"	X
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0026	1	"	"	05-Mar-12	"	"	X
7440-50-8	Copper	< 0.0050		mg/l	0.0050	0.0024	1	"	"	04-Mar-12	"	"	X
7439-89-6	Iron	**10.3**		mg/l	0.0150	0.0098	1	"	"	"	"	"	X
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00007	1	EPA 245.1/7470A	"	02-Mar-12	RH	1204741	X
7440-02-0	Nickel	< 0.0050		mg/l	0.0050	0.0012	1	EPA 200.7	"	04-Mar-12	EDT	1204740	X
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0028	1	"	"	"	"	"	X
7440-36-0	Antimony	< 0.0060		mg/l	0.0060	0.0026	1	"	"	"	"	"	X
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0037	1	"	"	"	"	"	X
7440-28-0	Thallium	< 0.0050		mg/l	0.0050	0.0038	1	"	"	05-Mar-12	"	"	X
7440-66-6	Zinc	**0.0080**		mg/l	0.0050	0.0025	1	"	"	04-Mar-12	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip Blank	1604100	Aqueous	01-Mar-12 00:00	01-Mar-12
SB44647-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.0		µg/l	1.0	0.6	1	SW846 8260C	02-Mar-12	02-Mar-12	eq	1204713	
67-64-1	Acetone	< 10.0		µg/l	10.0	2.6	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.5		µg/l	0.5	0.5	1	"	"	"	"	"	
71-43-2	Benzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 0.5		µg/l	0.5	0.5	1	"	"	"	"	"	
75-25-2	Bromoform	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.0		µg/l	2.0	1.1	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	1.7	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 2.0		µg/l	2.0	0.6	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.0		µg/l	2.0	1.0	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.0		µg/l	2.0	1.5	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 2.0		µg/l	2.0	0.9	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.5		µg/l	0.5	0.5	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 0.5		µg/l	0.5	0.4	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.5	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip Blank	1604100	Aqueous	01-Mar-12 00:00	01-Mar-12
SB44647-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds													
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 1.0		µg/l	1.0	0.6	1	SW846 8260C	02-Mar-12	02-Mar-12	eq	1204713	
99-87-6	4-Isopropyltoluene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.9	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.0		µg/l	2.0	0.7	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
100-42-5	Styrene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5	0.3	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
108-88-3	Toluene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 2.0		µg/l	2.0	1.6	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.0		µg/l	1.0	0.9	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 2.0		µg/l	2.0	1.4	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 1.0		µg/l	1.0	0.8	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	8.6	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	14.0	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.0		µg/l	5.0	0.8	1	"	"	"	"	"	
64-17-5	Ethanol	< 400		µg/l	400	35.7	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*99*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*84*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*94*			*70-130 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204713 - SW846 5030 Water MS										
Blank (1204713-BLK1)					Prepared & Analyzed: 02-Mar-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.0		µg/l	1.0						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.5		µg/l	0.5						
Benzene	< 1.0		µg/l	1.0						
Bromobenzene	< 1.0		µg/l	1.0						
Bromochloromethane	< 1.0		µg/l	1.0						
Bromodichloromethane	< 0.5		µg/l	0.5						
Bromoform	< 1.0		µg/l	1.0						
Bromomethane	< 2.0		µg/l	2.0						
2-Butanone (MEK)	< 10.0		µg/l	10.0						
n-Butylbenzene	< 1.0		µg/l	1.0						
sec-Butylbenzene	< 1.0		µg/l	1.0						
tert-Butylbenzene	< 1.0		µg/l	1.0						
Carbon disulfide	< 2.0		µg/l	2.0						
Carbon tetrachloride	< 1.0		µg/l	1.0						
Chlorobenzene	< 1.0		µg/l	1.0						
Chloroethane	< 2.0		µg/l	2.0						
Chloroform	< 1.0		µg/l	1.0						
Chloromethane	< 2.0		µg/l	2.0						
2-Chlorotoluene	< 1.0		µg/l	1.0						
4-Chlorotoluene	< 1.0		µg/l	1.0						
1,2-Dibromo-3-chloropropane	< 2.0		µg/l	2.0						
Dibromochloromethane	< 0.5		µg/l	0.5						
1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5						
Dibromomethane	< 1.0		µg/l	1.0						
1,2-Dichlorobenzene	< 1.0		µg/l	1.0						
1,3-Dichlorobenzene	< 1.0		µg/l	1.0						
1,4-Dichlorobenzene	< 1.0		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0						
1,1-Dichloroethane	< 1.0		µg/l	1.0						
1,2-Dichloroethane	< 1.0		µg/l	1.0						
1,1-Dichloroethene	< 1.0		µg/l	1.0						
cis-1,2-Dichloroethene	< 1.0		µg/l	1.0						
trans-1,2-Dichloroethene	< 1.0		µg/l	1.0						
1,2-Dichloropropane	< 1.0		µg/l	1.0						
1,3-Dichloropropane	< 1.0		µg/l	1.0						
2,2-Dichloropropane	< 1.0		µg/l	1.0						
1,1-Dichloropropene	< 1.0		µg/l	1.0						
cis-1,3-Dichloropropene	< 0.5		µg/l	0.5						
trans-1,3-Dichloropropene	< 0.5		µg/l	0.5						
Ethylbenzene	< 1.0		µg/l	1.0						
Hexachlorobutadiene	< 0.5		µg/l	0.5						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Isopropylbenzene	< 1.0		µg/l	1.0						
4-Isopropyltoluene	< 1.0		µg/l	1.0						
Methyl tert-butyl ether	< 1.0		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 2.0		µg/l	2.0						
Naphthalene	< 1.0		µg/l	1.0						
n-Propylbenzene	< 1.0		µg/l	1.0						
Styrene	< 1.0		µg/l	1.0						
1,1,1,2-Tetrachloroethane	< 1.0		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204713 - SW846 5030 Water MS										
Blank (1204713-BLK1)					Prepared & Analyzed: 02-Mar-12					
1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5						
Tetrachloroethene	< 1.0		µg/l	1.0						
Toluene	< 1.0		µg/l	1.0						
1,2,3-Trichlorobenzene	< 1.0		µg/l	1.0						
1,2,4-Trichlorobenzene	< 1.0		µg/l	1.0						
1,3,5-Trichlorobenzene	< 1.0		µg/l	1.0						
1,1,1-Trichloroethane	< 1.0		µg/l	1.0						
1,1,2-Trichloroethane	< 1.0		µg/l	1.0						
Trichloroethene	< 1.0		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0						
1,2,3-Trichloropropane	< 1.0		µg/l	1.0						
1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0						
1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0						
Vinyl chloride	< 1.0		µg/l	1.0						
m,p-Xylene	< 2.0		µg/l	2.0						
o-Xylene	< 1.0		µg/l	1.0						
Tetrahydrofuran	< 2.0		µg/l	2.0						
Ethyl ether	< 1.0		µg/l	1.0						
Tert-amyl methyl ether	< 1.0		µg/l	1.0						
Ethyl tert-butyl ether	< 1.0		µg/l	1.0						
Di-isopropyl ether	< 1.0		µg/l	1.0						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
1,4-Dioxane	< 20.0		µg/l	20.0						
trans-1,4-Dichloro-2-butene	< 5.0		µg/l	5.0						
Ethanol	< 400		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*30.0*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*29.6*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.1*		µg/l		*30.0*		*90*	*70-130*		
Surrogate: Dibromofluoromethane	*29.0*		µg/l		*30.0*		*97*	*70-130*		
LCS (1204713-BS1)					Prepared & Analyzed: 02-Mar-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.3**		µg/l		20.0		102	70-130		
Acetone	**22.9**		µg/l		20.0		115	70-130		
Acrylonitrile	**20.1**		µg/l		20.0		100	70-130		
Benzene	**19.0**		µg/l		20.0		95	70-130		
Bromobenzene	**20.2**		µg/l		20.0		101	70-130		
Bromochloromethane	**19.9**		µg/l		20.0		99	70-130		
Bromodichloromethane	**19.9**		µg/l		20.0		99	70-130		
Bromoform	**22.6**		µg/l		20.0		113	70-130		
Bromomethane	**23.4**		µg/l		20.0		117	70-130		
2-Butanone (MEK)	**22.4**		µg/l		20.0		112	70-130		
n-Butylbenzene	**19.8**		µg/l		20.0		99	70-130		
sec-Butylbenzene	**20.1**		µg/l		20.0		100	70-130		
tert-Butylbenzene	**20.2**		µg/l		20.0		101	70-130		
Carbon disulfide	**21.6**		µg/l		20.0		108	70-130		
Carbon tetrachloride	**19.4**		µg/l		20.0		97	70-130		
Chlorobenzene	**19.7**		µg/l		20.0		98	70-130		
Chloroethane	**18.2**		µg/l		20.0		91	70-130		
Chloroform	**18.2**		µg/l		20.0		91	70-130		
Chloromethane	**17.6**		µg/l		20.0		88	70-130		
2-Chlorotoluene	**19.6**		µg/l		20.0		98	70-130		
4-Chlorotoluene	**19.6**		µg/l		20.0		98	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204713 - SW846 5030 Water MS										
LCS (1204713-BS1)						Prepared & Analyzed: 02-Mar-12				
1,2-Dibromo-3-chloropropane	**21.2**		µg/l		20.0		106	70-130		
Dibromochloromethane	**19.6**		µg/l		20.0		98	70-130		
1,2-Dibromoethane (EDB)	**20.4**		µg/l		20.0		102	70-130		
Dibromomethane	**19.0**		µg/l		20.0		95	70-130		
1,2-Dichlorobenzene	**19.9**		µg/l		20.0		100	70-130		
1,3-Dichlorobenzene	**19.9**		µg/l		20.0		100	70-130		
1,4-Dichlorobenzene	**19.2**		µg/l		20.0		96	70-130		
Dichlorodifluoromethane (Freon12)	**18.0**		µg/l		20.0		90	70-130		
1,1-Dichloroethane	**18.6**		µg/l		20.0		93	70-130		
1,2-Dichloroethane	**17.2**		µg/l		20.0		86	70-130		
1,1-Dichloroethene	**20.0**		µg/l		20.0		100	70-130		
cis-1,2-Dichloroethene	**18.8**		µg/l		20.0		94	70-130		
trans-1,2-Dichloroethene	**19.3**		µg/l		20.0		96	70-130		
1,2-Dichloropropane	**19.4**		µg/l		20.0		97	70-130		
1,3-Dichloropropane	**19.2**		µg/l		20.0		96	70-130		
2,2-Dichloropropane	**19.0**		µg/l		20.0		95	70-130		
1,1-Dichloropropene	**18.7**		µg/l		20.0		94	70-130		
cis-1,3-Dichloropropene	**20.7**		µg/l		20.0		103	70-130		
trans-1,3-Dichloropropene	**20.8**		µg/l		20.0		104	70-130		
Ethylbenzene	**20.0**		µg/l		20.0		100	70-130		
Hexachlorobutadiene	**17.8**		µg/l		20.0		89	70-130		
2-Hexanone (MBK)	**20.1**		µg/l		20.0		101	70-130		
Isopropylbenzene	**19.6**		µg/l		20.0		98	70-130		
4-Isopropyltoluene	**19.6**		µg/l		20.0		98	70-130		
Methyl tert-butyl ether	**19.8**		µg/l		20.0		99	70-130		
4-Methyl-2-pentanone (MIBK)	**22.0**		µg/l		20.0		110	70-130		
Methylene chloride	**19.7**		µg/l		20.0		98	70-130		
Naphthalene	**19.0**		µg/l		20.0		95	70-130		
n-Propylbenzene	**20.1**		µg/l		20.0		101	70-130		
Styrene	**20.8**		µg/l		20.0		104	70-130		
1,1,1,2-Tetrachloroethane	**21.0**		µg/l		20.0		105	70-130		
1,1,2,2-Tetrachloroethane	**21.0**		µg/l		20.0		105	70-130		
Tetrachloroethene	**19.5**		µg/l		20.0		98	70-130		
Toluene	**18.3**		µg/l		20.0		92	70-130		
1,2,3-Trichlorobenzene	**17.6**		µg/l		20.0		88	70-130		
1,2,4-Trichlorobenzene	**15.8**		µg/l		20.0		79	70-130		
1,3,5-Trichlorobenzene	**17.4**		µg/l		20.0		87	70-130		
1,1,1-Trichloroethane	**18.4**		µg/l		20.0		92	70-130		
1,1,2-Trichloroethane	**20.1**		µg/l		20.0		101	70-130		
Trichloroethene	**19.1**		µg/l		20.0		95	70-130		
Trichlorofluoromethane (Freon 11)	**18.6**		µg/l		20.0		93	70-130		
1,2,3-Trichloropropane	**20.5**		µg/l		20.0		102	70-130		
1,2,4-Trimethylbenzene	**19.4**		µg/l		20.0		97	70-130		
1,3,5-Trimethylbenzene	**20.0**		µg/l		20.0		100	70-130		
Vinyl chloride	**15.4**		µg/l		20.0		77	70-130		
m,p-Xylene	**39.9**		µg/l		40.0		100	70-130		
o-Xylene	**19.9**		µg/l		20.0		99	70-130		
Tetrahydrofuran	**18.7**		µg/l		20.0		94	70-130		
Ethyl ether	**20.7**		µg/l		20.0		103	70-130		
Tert-amyl methyl ether	**19.2**		µg/l		20.0		96	70-130		
Ethyl tert-butyl ether	**19.0**		µg/l		20.0		95	70-130		
Di-isopropyl ether	**18.2**		µg/l		20.0		91	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204713 - SW846 5030 Water MS										
LCS (1204713-BS1)						Prepared & Analyzed: 02-Mar-12				
Tert-Butanol / butyl alcohol	**231**		µg/l		200		116	70-130		
1,4-Dioxane	**228**		µg/l		200		114	70-130		
trans-1,4-Dichloro-2-butene	**20.5**		µg/l		20.0		102	70-130		
Ethanol	**410**		µg/l		400		103	70-130		
Surrogate: 4-Bromofluorobenzene	*30.3*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*29.8*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*26.7*		µg/l		*30.0*		*89*	*70-130*		
Surrogate: Dibromofluoromethane	*30.1*		µg/l		*30.0*		*100*	*70-130*		
LCS Dup (1204713-BSD1)						Prepared & Analyzed: 02-Mar-12				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**21.3**		µg/l		20.0		107	70-130	5	25
Acetone	**22.4**		µg/l		20.0		112	70-130	2	50
Acrylonitrile	**20.6**		µg/l		20.0		103	70-130	2	25
Benzene	**20.1**		µg/l		20.0		101	70-130	6	25
Bromobenzene	**21.1**		µg/l		20.0		106	70-130	5	25
Bromochloromethane	**21.2**		µg/l		20.0		106	70-130	6	25
Bromodichloromethane	**20.6**		µg/l		20.0		103	70-130	4	25
Bromoform	**23.3**		µg/l		20.0		116	70-130	3	25
Bromomethane	**25.5**		µg/l		20.0		128	70-130	9	50
2-Butanone (MEK)	**21.5**		µg/l		20.0		107	70-130	4	50
n-Butylbenzene	**21.0**		µg/l		20.0		105	70-130	6	25
sec-Butylbenzene	**21.4**		µg/l		20.0		107	70-130	6	25
tert-Butylbenzene	**21.3**		µg/l		20.0		106	70-130	5	25
Carbon disulfide	**22.3**		µg/l		20.0		111	70-130	3	25
Carbon tetrachloride	**20.5**		µg/l		20.0		102	70-130	6	25
Chlorobenzene	**20.8**		µg/l		20.0		104	70-130	6	25
Chloroethane	**19.8**		µg/l		20.0		99	70-130	8	50
Chloroform	**19.1**		µg/l		20.0		95	70-130	5	25
Chloromethane	**18.4**		µg/l		20.0		92	70-130	4	25
2-Chlorotoluene	**20.3**		µg/l		20.0		101	70-130	3	25
4-Chlorotoluene	**20.4**		µg/l		20.0		102	70-130	4	25
1,2-Dibromo-3-chloropropane	**22.6**		µg/l		20.0		113	70-130	6	25
Dibromochloromethane	**20.0**		µg/l		20.0		100	70-130	2	50
1,2-Dibromoethane (EDB)	**21.3**		µg/l		20.0		106	70-130	4	25
Dibromomethane	**19.8**		µg/l		20.0		99	70-130	4	25
1,2-Dichlorobenzene	**20.5**		µg/l		20.0		102	70-130	3	25
1,3-Dichlorobenzene	**20.9**		µg/l		20.0		105	70-130	5	25
1,4-Dichlorobenzene	**19.7**		µg/l		20.0		98	70-130	3	25
Dichlorodifluoromethane (Freon12)	**18.8**		µg/l		20.0		94	70-130	4	50
1,1-Dichloroethane	**19.8**		µg/l		20.0		99	70-130	6	25
1,2-Dichloroethane	**18.0**		µg/l		20.0		90	70-130	5	25
1,1-Dichloroethene	**21.2**		µg/l		20.0		106	70-130	6	25
cis-1,2-Dichloroethene	**20.1**		µg/l		20.0		101	70-130	7	25
trans-1,2-Dichloroethene	**20.5**		µg/l		20.0		102	70-130	6	25
1,2-Dichloropropane	**19.9**		µg/l		20.0		100	70-130	3	25
1,3-Dichloropropane	**19.8**		µg/l		20.0		99	70-130	3	25
2,2-Dichloropropane	**20.1**		µg/l		20.0		100	70-130	6	25
1,1-Dichloropropene	**19.8**		µg/l		20.0		99	70-130	5	25
cis-1,3-Dichloropropene	**21.5**		µg/l		20.0		108	70-130	4	25
trans-1,3-Dichloropropene	**21.6**		µg/l		20.0		108	70-130	4	25
Ethylbenzene	**20.8**		µg/l		20.0		104	70-130	4	25
Hexachlorobutadiene	**19.8**		µg/l		20.0		99	70-130	11	50

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204713 - SW846 5030 Water MS										
LCS Dup (1204713-BSD1)					Prepared & Analyzed: 02-Mar-12					
2-Hexanone (MBK)	**20.5**		µg/l		20.0		102	70-130	2	25
Isopropylbenzene	**20.6**		µg/l		20.0		103	70-130	5	25
4-Isopropyltoluene	**20.5**		µg/l		20.0		103	70-130	5	25
Methyl tert-butyl ether	**20.2**		µg/l		20.0		101	70-130	2	25
4-Methyl-2-pentanone (MIBK)	**21.3**		µg/l		20.0		106	70-130	3	50
Methylene chloride	**20.4**		µg/l		20.0		102	70-130	3	25
Naphthalene	**20.1**		µg/l		20.0		101	70-130	6	25
n-Propylbenzene	**21.2**		µg/l		20.0		106	70-130	5	25
Styrene	**21.6**		µg/l		20.0		108	70-130	4	25
1,1,1,2-Tetrachloroethane	**21.8**		µg/l		20.0		109	70-130	4	25
1,1,2,2-Tetrachloroethane	**22.4**		µg/l		20.0		112	70-130	7	25
Tetrachloroethene	**20.6**		µg/l		20.0		103	70-130	6	25
Toluene	**19.4**		µg/l		20.0		97	70-130	6	25
1,2,3-Trichlorobenzene	**19.4**		µg/l		20.0		97	70-130	10	25
1,2,4-Trichlorobenzene	**17.5**		µg/l		20.0		87	70-130	10	25
1,3,5-Trichlorobenzene	**18.4**		µg/l		20.0		92	70-130	6	25
1,1,1-Trichloroethane	**19.6**		µg/l		20.0		98	70-130	7	25
1,1,2-Trichloroethane	**20.7**		µg/l		20.0		104	70-130	3	25
Trichloroethene	**20.3**		µg/l		20.0		101	70-130	6	25
Trichlorofluoromethane (Freon 11)	**19.9**		µg/l		20.0		100	70-130	7	50
1,2,3-Trichloropropane	**21.3**		µg/l		20.0		107	70-130	4	25
1,2,4-Trimethylbenzene	**20.1**		µg/l		20.0		101	70-130	4	25
1,3,5-Trimethylbenzene	**21.1**		µg/l		20.0		105	70-130	5	25
Vinyl chloride	**16.3**		µg/l		20.0		81	70-130	6	25
m,p-Xylene	**41.4**		µg/l		40.0		104	70-130	4	25
o-Xylene	**20.6**		µg/l		20.0		103	70-130	3	25
Tetrahydrofuran	**19.4**		µg/l		20.0		97	70-130	3	25
Ethyl ether	**21.7**		µg/l		20.0		108	70-130	5	50
Tert-amyl methyl ether	**19.7**		µg/l		20.0		98	70-130	3	25
Ethyl tert-butyl ether	**19.7**		µg/l		20.0		98	70-130	3	25
Di-isopropyl ether	**18.9**		µg/l		20.0		94	70-130	4	25
Tert-Butanol / butyl alcohol	**217**		µg/l		200		109	70-130	6	25
1,4-Dioxane	**237**		µg/l		200		118	70-130	4	25
trans-1,4-Dichloro-2-butene	**20.5**		µg/l		20.0		103	70-130	0.3	25
Ethanol	**409**		µg/l		400		102	70-130	0.3	30
Surrogate: 4-Bromofluorobenzene	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.2*		µg/l		*30.0*		*91*	*70-130*		
Surrogate: Dibromofluoromethane	*29.8*		µg/l		*30.0*		*99*	*70-130*		
Batch 1204822 - SW846 5030 Water MS										
Blank (1204822-BLK1)					Prepared & Analyzed: 05-Mar-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.0		µg/l	1.0						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.5		µg/l	0.5						
Benzene	< 1.0		µg/l	1.0						
Bromobenzene	< 1.0		µg/l	1.0						
Bromochloromethane	< 1.0		µg/l	1.0						
Bromodichloromethane	< 0.5		µg/l	0.5						
Bromoform	< 1.0		µg/l	1.0						
Bromomethane	< 2.0		µg/l	2.0						
2-Butanone (MEK)	< 10.0		µg/l	10.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204822 - SW846 5030 Water MS										
Blank (1204822-BLK1)					Prepared & Analyzed: 05-Mar-12					
n-Butylbenzene	< 1.0		µg/l	1.0						
sec-Butylbenzene	< 1.0		µg/l	1.0						
tert-Butylbenzene	< 1.0		µg/l	1.0						
Carbon disulfide	< 2.0		µg/l	2.0						
Carbon tetrachloride	< 1.0		µg/l	1.0						
Chlorobenzene	< 1.0		µg/l	1.0						
Chloroethane	< 2.0		µg/l	2.0						
Chloroform	< 1.0		µg/l	1.0						
Chloromethane	< 2.0		µg/l	2.0						
2-Chlorotoluene	< 1.0		µg/l	1.0						
4-Chlorotoluene	< 1.0		µg/l	1.0						
1,2-Dibromo-3-chloropropane	< 2.0		µg/l	2.0						
Dibromochloromethane	< 0.5		µg/l	0.5						
1,2-Dibromoethane (EDB)	< 0.5		µg/l	0.5						
Dibromomethane	< 1.0		µg/l	1.0						
1,2-Dichlorobenzene	< 1.0		µg/l	1.0						
1,3-Dichlorobenzene	< 1.0		µg/l	1.0						
1,4-Dichlorobenzene	< 1.0		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0						
1,1-Dichloroethane	< 1.0		µg/l	1.0						
1,2-Dichloroethane	< 1.0		µg/l	1.0						
1,1-Dichloroethene	< 1.0		µg/l	1.0						
cis-1,2-Dichloroethene	< 1.0		µg/l	1.0						
trans-1,2-Dichloroethene	< 1.0		µg/l	1.0						
1,2-Dichloropropane	< 1.0		µg/l	1.0						
1,3-Dichloropropane	< 1.0		µg/l	1.0						
2,2-Dichloropropane	< 1.0		µg/l	1.0						
1,1-Dichloropropene	< 1.0		µg/l	1.0						
cis-1,3-Dichloropropene	< 0.5		µg/l	0.5						
trans-1,3-Dichloropropene	< 0.5		µg/l	0.5						
Ethylbenzene	< 1.0		µg/l	1.0						
Hexachlorobutadiene	< 0.5		µg/l	0.5						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Isopropylbenzene	< 1.0		µg/l	1.0						
4-Isopropyltoluene	< 1.0		µg/l	1.0						
Methyl tert-butyl ether	< 1.0		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 2.0		µg/l	2.0						
Naphthalene	< 1.0		µg/l	1.0						
n-Propylbenzene	< 1.0		µg/l	1.0						
Styrene	< 1.0		µg/l	1.0						
1,1,1,2-Tetrachloroethane	< 1.0		µg/l	1.0						
1,1,2,2-Tetrachloroethane	< 0.5		µg/l	0.5						
Tetrachloroethene	< 1.0		µg/l	1.0						
Toluene	< 1.0		µg/l	1.0						
1,2,3-Trichlorobenzene	< 1.0		µg/l	1.0						
1,2,4-Trichlorobenzene	< 1.0		µg/l	1.0						
1,3,5-Trichlorobenzene	< 1.0		µg/l	1.0						
1,1,1-Trichloroethane	< 1.0		µg/l	1.0						
1,1,2-Trichloroethane	< 1.0		µg/l	1.0						
Trichloroethene	< 1.0		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204822 - SW846 5030 Water MS										
Blank (1204822-BLK1)					Prepared & Analyzed: 05-Mar-12					
1,2,3-Trichloropropane	< 1.0		µg/l	1.0						
1,2,4-Trimethylbenzene	< 1.0		µg/l	1.0						
1,3,5-Trimethylbenzene	< 1.0		µg/l	1.0						
Vinyl chloride	< 1.0		µg/l	1.0						
m,p-Xylene	< 2.0		µg/l	2.0						
o-Xylene	< 1.0		µg/l	1.0						
Tetrahydrofuran	< 2.0		µg/l	2.0						
Ethyl ether	< 1.0		µg/l	1.0						
Tert-amyl methyl ether	< 1.0		µg/l	1.0						
Ethyl tert-butyl ether	< 1.0		µg/l	1.0						
Di-isopropyl ether	< 1.0		µg/l	1.0						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
1,4-Dioxane	< 20.0		µg/l	20.0						
trans-1,4-Dichloro-2-butene	< 5.0		µg/l	5.0						
Ethanol	< 400		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*29.8*		µg/l		*30.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*30.2*		µg/l		*30.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*27.7*		µg/l		*30.0*		*92*	*70-130*		
Surrogate: Dibromofluoromethane	*29.9*		µg/l		*30.0*		*100*	*70-130*		
LCS (1204822-BS1)					Prepared & Analyzed: 05-Mar-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.8**		µg/l		20.0		104	70-130		
Acetone	**21.5**		µg/l		20.0		108	70-130		
Acrylonitrile	**20.0**		µg/l		20.0		100	70-130		
Benzene	**19.4**		µg/l		20.0		97	70-130		
Bromobenzene	**20.8**		µg/l		20.0		104	70-130		
Bromochloromethane	**20.2**		µg/l		20.0		101	70-130		
Bromodichloromethane	**20.6**		µg/l		20.0		103	70-130		
Bromoform	**24.2**		µg/l		20.0		121	70-130		
Bromomethane	**26.2**	QM9	µg/l		20.0		131	70-130		
2-Butanone (MEK)	**20.8**		µg/l		20.0		104	70-130		
n-Butylbenzene	**19.3**		µg/l		20.0		96	70-130		
sec-Butylbenzene	**20.8**		µg/l		20.0		104	70-130		
tert-Butylbenzene	**20.7**		µg/l		20.0		103	70-130		
Carbon disulfide	**21.5**		µg/l		20.0		107	70-130		
Carbon tetrachloride	**21.0**		µg/l		20.0		105	70-130		
Chlorobenzene	**20.3**		µg/l		20.0		102	70-130		
Chloroethane	**18.9**		µg/l		20.0		95	70-130		
Chloroform	**18.9**		µg/l		20.0		95	70-130		
Chloromethane	**18.1**		µg/l		20.0		90	70-130		
2-Chlorotoluene	**19.8**		µg/l		20.0		99	70-130		
4-Chlorotoluene	**19.5**		µg/l		20.0		98	70-130		
1,2-Dibromo-3-chloropropane	**22.2**		µg/l		20.0		111	70-130		
Dibromochloromethane	**20.6**		µg/l		20.0		103	70-130		
1,2-Dibromoethane (EDB)	**20.7**		µg/l		20.0		104	70-130		
Dibromomethane	**19.3**		µg/l		20.0		96	70-130		
1,2-Dichlorobenzene	**19.8**		µg/l		20.0		99	70-130		
1,3-Dichlorobenzene	**20.1**		µg/l		20.0		101	70-130		
1,4-Dichlorobenzene	**19.0**		µg/l		20.0		95	70-130		
Dichlorodifluoromethane (Freon12)	**18.4**		µg/l		20.0		92	70-130		
1,1-Dichloroethane	**19.1**		µg/l		20.0		96	70-130		
1,2-Dichloroethane	**17.2**		µg/l		20.0		86	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204822 - SW846 5030 Water MS										
LCS (1204822-BS1)						Prepared & Analyzed: 05-Mar-12				
1,1-Dichloroethene	**20.9**		µg/l		20.0		104	70-130		
cis-1,2-Dichloroethene	**19.7**		µg/l		20.0		99	70-130		
trans-1,2-Dichloroethene	**19.9**		µg/l		20.0		99	70-130		
1,2-Dichloropropane	**19.3**		µg/l		20.0		97	70-130		
1,3-Dichloropropane	**19.7**		µg/l		20.0		99	70-130		
2,2-Dichloropropane	**19.2**		µg/l		20.0		96	70-130		
1,1-Dichloropropene	**19.1**		µg/l		20.0		95	70-130		
cis-1,3-Dichloropropene	**21.0**		µg/l		20.0		105	70-130		
trans-1,3-Dichloropropene	**21.3**		µg/l		20.0		107	70-130		
Ethylbenzene	**20.2**		µg/l		20.0		101	70-130		
Hexachlorobutadiene	**19.0**		µg/l		20.0		95	70-130		
2-Hexanone (MBK)	**19.4**		µg/l		20.0		97	70-130		
Isopropylbenzene	**20.2**		µg/l		20.0		101	70-130		
4-Isopropyltoluene	**19.4**		µg/l		20.0		97	70-130		
Methyl tert-butyl ether	**19.7**		µg/l		20.0		99	70-130		
4-Methyl-2-pentanone (MIBK)	**21.2**		µg/l		20.0		106	70-130		
Methylene chloride	**19.4**		µg/l		20.0		97	70-130		
Naphthalene	**20.3**		µg/l		20.0		102	70-130		
n-Propylbenzene	**20.5**		µg/l		20.0		102	70-130		
Styrene	**21.1**		µg/l		20.0		105	70-130		
1,1,1,2-Tetrachloroethane	**22.8**		µg/l		20.0		114	70-130		
1,1,2,2-Tetrachloroethane	**21.8**		µg/l		20.0		109	70-130		
Tetrachloroethene	**19.5**		µg/l		20.0		97	70-130		
Toluene	**18.8**		µg/l		20.0		94	70-130		
1,2,3-Trichlorobenzene	**19.5**		µg/l		20.0		97	70-130		
1,2,4-Trichlorobenzene	**16.4**		µg/l		20.0		82	70-130		
1,3,5-Trichlorobenzene	**16.8**		µg/l		20.0		84	70-130		
1,1,1-Trichloroethane	**19.7**		µg/l		20.0		98	70-130		
1,1,2-Trichloroethane	**20.6**		µg/l		20.0		103	70-130		
Trichloroethene	**19.6**		µg/l		20.0		98	70-130		
Trichlorofluoromethane (Freon 11)	**20.1**		µg/l		20.0		100	70-130		
1,2,3-Trichloropropane	**20.6**		µg/l		20.0		103	70-130		
1,2,4-Trimethylbenzene	**19.2**		µg/l		20.0		96	70-130		
1,3,5-Trimethylbenzene	**20.1**		µg/l		20.0		100	70-130		
Vinyl chloride	**16.4**		µg/l		20.0		82	70-130		
m,p-Xylene	**40.3**		µg/l		40.0		101	70-130		
o-Xylene	**20.0**		µg/l		20.0		100	70-130		
Tetrahydrofuran	**18.5**		µg/l		20.0		93	70-130		
Ethyl ether	**20.9**		µg/l		20.0		104	70-130		
Tert-amyl methyl ether	**19.2**		µg/l		20.0		96	70-130		
Ethyl tert-butyl ether	**19.1**		µg/l		20.0		95	70-130		
Di-isopropyl ether	**18.3**		µg/l		20.0		92	70-130		
Tert-Butanol / butyl alcohol	**220**		µg/l		200		110	70-130		
1,4-Dioxane	**230**		µg/l		200		115	70-130		
trans-1,4-Dichloro-2-butene	**20.4**		µg/l		20.0		102	70-130		
Ethanol	**395**		µg/l		400		99	70-130		
Surrogate: 4-Bromofluorobenzene	*30.1*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*30.1*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*26.8*		µg/l		*30.0*		*89*	*70-130*		
Surrogate: Dibromofluoromethane	*29.7*		µg/l		*30.0*		*99*	*70-130*		
LCS Dup (1204822-BSD1)						Prepared & Analyzed: 05-Mar-12				

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204822 - SW846 5030 Water MS										
LCS Dup (1204822-BSD1)					Prepared & Analyzed: 05-Mar-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.3**		µg/l		20.0		101	70-130	2	25
Acetone	**21.5**		µg/l		20.0		108	70-130	0.1	50
Acrylonitrile	**20.9**		µg/l		20.0		105	70-130	5	25
Benzene	**18.3**		µg/l		20.0		92	70-130	6	25
Bromobenzene	**20.0**		µg/l		20.0		100	70-130	4	25
Bromochloromethane	**20.0**		µg/l		20.0		100	70-130	1	25
Bromodichloromethane	**21.1**		µg/l		20.0		106	70-130	3	25
Bromoform	**24.3**		µg/l		20.0		122	70-130	0.4	25
Bromomethane	**24.1**		µg/l		20.0		121	70-130	8	50
2-Butanone (MEK)	**20.4**		µg/l		20.0		102	70-130	2	50
n-Butylbenzene	**18.5**		µg/l		20.0		92	70-130	4	25
sec-Butylbenzene	**19.6**		µg/l		20.0		98	70-130	6	25
tert-Butylbenzene	**19.8**		µg/l		20.0		99	70-130	4	25
Carbon disulfide	**21.0**		µg/l		20.0		105	70-130	2	25
Carbon tetrachloride	**20.6**		µg/l		20.0		103	70-130	2	25
Chlorobenzene	**19.2**		µg/l		20.0		96	70-130	6	25
Chloroethane	**18.4**		µg/l		20.0		92	70-130	3	50
Chloroform	**18.6**		µg/l		20.0		93	70-130	2	25
Chloromethane	**17.7**		µg/l		20.0		89	70-130	2	25
2-Chlorotoluene	**18.7**		µg/l		20.0		94	70-130	5	25
4-Chlorotoluene	**18.8**		µg/l		20.0		94	70-130	4	25
1,2-Dibromo-3-chloropropane	**21.8**		µg/l		20.0		109	70-130	2	25
Dibromochloromethane	**21.2**		µg/l		20.0		106	70-130	3	50
1,2-Dibromoethane (EDB)	**20.8**		µg/l		20.0		104	70-130	0.5	25
Dibromomethane	**19.1**		µg/l		20.0		96	70-130	0.7	25
1,2-Dichlorobenzene	**19.0**		µg/l		20.0		95	70-130	4	25
1,3-Dichlorobenzene	**19.6**		µg/l		20.0		98	70-130	3	25
1,4-Dichlorobenzene	**18.2**		µg/l		20.0		91	70-130	4	25
Dichlorodifluoromethane (Freon12)	**17.8**		µg/l		20.0		89	70-130	3	50
1,1-Dichloroethane	**18.5**		µg/l		20.0		92	70-130	4	25
1,2-Dichloroethane	**17.9**		µg/l		20.0		89	70-130	4	25
1,1-Dichloroethene	**20.1**		µg/l		20.0		101	70-130	4	25
cis-1,2-Dichloroethene	**18.9**		µg/l		20.0		95	70-130	4	25
trans-1,2-Dichloroethene	**18.4**		µg/l		20.0		92	70-130	8	25
1,2-Dichloropropane	**18.9**		µg/l		20.0		94	70-130	3	25
1,3-Dichloropropane	**19.9**		µg/l		20.0		99	70-130	0.9	25
2,2-Dichloropropane	**19.1**		µg/l		20.0		96	70-130	0.5	25
1,1-Dichloropropene	**18.2**		µg/l		20.0		91	70-130	5	25
cis-1,3-Dichloropropene	**20.6**		µg/l		20.0		103	70-130	2	25
trans-1,3-Dichloropropene	**21.5**		µg/l		20.0		107	70-130	0.7	25
Ethylbenzene	**19.1**		µg/l		20.0		95	70-130	6	25
Hexachlorobutadiene	**18.2**		µg/l		20.0		91	70-130	4	50
2-Hexanone (MBK)	**19.7**		µg/l		20.0		98	70-130	1	25
Isopropylbenzene	**19.2**		µg/l		20.0		96	70-130	6	25
4-Isopropyltoluene	**18.4**		µg/l		20.0		92	70-130	5	25
Methyl tert-butyl ether	**19.5**		µg/l		20.0		97	70-130	1	25
4-Methyl-2-pentanone (MIBK)	**21.6**		µg/l		20.0		108	70-130	2	50
Methylene chloride	**19.6**		µg/l		20.0		98	70-130	1	25
Naphthalene	**19.3**		µg/l		20.0		96	70-130	5	25
n-Propylbenzene	**19.1**		µg/l		20.0		96	70-130	7	25
Styrene	**20.2**		µg/l		20.0		101	70-130	4	25
1,1,1,2-Tetrachloroethane	**21.6**		µg/l		20.0		108	70-130	6	25

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204822 - SW846 5030 Water MS										
LCS Dup (1204822-BSD1)					Prepared & Analyzed: 05-Mar-12					
1,1,2,2-Tetrachloroethane	**21.3**		µg/l		20.0		106	70-130	2	25
Tetrachloroethene	**19.4**		µg/l		20.0		97	70-130	0.7	25
Toluene	**18.5**		µg/l		20.0		92	70-130	1	25
1,2,3-Trichlorobenzene	**18.6**		µg/l		20.0		93	70-130	5	25
1,2,4-Trichlorobenzene	**16.2**		µg/l		20.0		81	70-130	0.9	25
1,3,5-Trichlorobenzene	**17.0**		µg/l		20.0		85	70-130	1	25
1,1,1-Trichloroethane	**19.4**		µg/l		20.0		97	70-130	1	25
1,1,2-Trichloroethane	**20.4**		µg/l		20.0		102	70-130	1	25
Trichloroethene	**18.8**		µg/l		20.0		94	70-130	4	25
Trichlorofluoromethane (Freon 11)	**19.5**		µg/l		20.0		98	70-130	3	50
1,2,3-Trichloropropane	**19.9**		µg/l		20.0		100	70-130	4	25
1,2,4-Trimethylbenzene	**18.6**		µg/l		20.0		93	70-130	3	25
1,3,5-Trimethylbenzene	**19.3**		µg/l		20.0		96	70-130	4	25
Vinyl chloride	**15.8**		µg/l		20.0		79	70-130	4	25
m,p-Xylene	**37.8**		µg/l		40.0		95	70-130	6	25
o-Xylene	**19.1**		µg/l		20.0		96	70-130	4	25
Tetrahydrofuran	**18.2**		µg/l		20.0		91	70-130	2	25
Ethyl ether	**20.9**		µg/l		20.0		104	70-130	0	50
Tert-amyl methyl ether	**18.9**		µg/l		20.0		94	70-130	2	25
Ethyl tert-butyl ether	**19.2**		µg/l		20.0		96	70-130	0.4	25
Di-isopropyl ether	**18.0**		µg/l		20.0		90	70-130	1	25
Tert-Butanol / butyl alcohol	**213**		µg/l		200		106	70-130	3	25
1,4-Dioxane	**217**		µg/l		200		108	70-130	6	25
trans-1,4-Dichloro-2-butene	**19.6**		µg/l		20.0		98	70-130	4	25
Ethanol	**393**		µg/l		400		98	70-130	0.5	30
Surrogate: 4-Bromofluorobenzene	*29.9*		µg/l		*30.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*31.0*		µg/l		*30.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*28.8*		µg/l		*30.0*		*96*	*70-130*		
Surrogate: Dibromofluoromethane	*30.6*		µg/l		*30.0*		*102*	*70-130*		

Microextractable Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204703 - General Preparation SVOC										
Blank (1204703-BLK1)						Prepared & Analyzed: 02-Mar-12				
1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100						
LCS (1204703-BS1)						Prepared & Analyzed: 02-Mar-12				
1,2-Dibromoethane (EDB)	**0.226**		µg/l	0.0100	0.200		113	50-150		
LCS Dup (1204703-BSD1)						Prepared & Analyzed: 02-Mar-12				
1,2-Dibromoethane (EDB)	**0.215**		µg/l	0.0100	0.200		108	50-150	5	50
Duplicate (1204703-DUP1)			**Source: SB44647-01**			Prepared & Analyzed: 02-Mar-12				
1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100		BRL				30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204740 - EPA 200 Series										
Blank (1204740-BLK1)					Prepared: 02-Mar-12 Analyzed: 04-Mar-12					
Zinc	< 0.0050		mg/l	0.0050						
Thallium	< 0.0050		mg/l	0.0050						
Selenium	< 0.0150		mg/l	0.0150						
Antimony	< 0.0060		mg/l	0.0060						
Lead	< 0.0075		mg/l	0.0075						
Nickel	< 0.0050		mg/l	0.0050						
Iron	< 0.0150		mg/l	0.0150						
Copper	< 0.0050		mg/l	0.0050						
Cadmium	< 0.0025		mg/l	0.0025						
Beryllium	< 0.0020		mg/l	0.0020						
Barium	< 0.0050		mg/l	0.0050						
Arsenic	< 0.0040		mg/l	0.0040						
Silver	< 0.0050		mg/l	0.0050						
Chromium	< 0.0050		mg/l	0.0050						
LCS (1204740-BS1)					Prepared: 02-Mar-12 Analyzed: 04-Mar-12					
Zinc	**1.35**		mg/l	0.0050	1.25		108	85-115		
Iron	**1.20**		mg/l	0.0150	1.25		96	85-115		
Thallium	**1.32**		mg/l	0.0050	1.25		105	85-115		
Nickel	**1.29**		mg/l	0.0050	1.25		103	85-115		
Lead	**1.24**		mg/l	0.0075	1.25		99.5	85-115		
Selenium	**1.30**		mg/l	0.0150	1.25		104	85-115		
Antimony	**1.25**		mg/l	0.0060	1.25		100	85-115		
Silver	**1.21**		mg/l	0.0050	1.25		97	85-115		
Arsenic	**1.28**		mg/l	0.0040	1.25		102	85-115		
Barium	**1.28**		mg/l	0.0050	1.25		103	85-115		
Beryllium	**1.24**		mg/l	0.0020	1.25		100	85-115		
Cadmium	**1.31**		mg/l	0.0025	1.25		105	85-115		
Copper	**1.24**		mg/l	0.0050	1.25		99	85-115		
Chromium	**1.32**		mg/l	0.0050	1.25		106	85-115		
Duplicate (1204740-DUP1)			**Source: SB44647-01**		Prepared: 02-Mar-12 Analyzed: 04-Mar-12					
Selenium	< 0.0150		mg/l	0.0150		BRL				20
Iron	**12.3**		mg/l	0.0150		12.7			3	20
Nickel	**0.0112**		mg/l	0.0050		0.0120			6	20
Thallium	< 0.0050		mg/l	0.0050		BRL				20
Zinc	**0.0152**		mg/l	0.0050		0.0159			5	20
Antimony	< 0.0060		mg/l	0.0060		BRL				20
Lead	< 0.0075		mg/l	0.0075		BRL				20
Beryllium	< 0.0020		mg/l	0.0020		BRL				20
Chromium	< 0.0050		mg/l	0.0050		BRL				20
Silver	**0.0025**	J	mg/l	0.0050		0.0024			4	20
Copper	< 0.0050		mg/l	0.0050		BRL				20
Cadmium	**0.0003**	J	mg/l	0.0025		0.0004				20
Barium	**0.110**		mg/l	0.0050		0.110			0.3	20
Arsenic	**0.0128**		mg/l	0.0040		0.0156			20	20
Matrix Spike (1204740-MS1)			**Source: SB44647-02**		Prepared: 02-Mar-12 Analyzed: 04-Mar-12					
Nickel	**1.28**		mg/l	0.0050	1.25	BRL	102	70-130		
Lead	**1.21**		mg/l	0.0075	1.25	BRL	96.9	70-130		
Antimony	**1.23**		mg/l	0.0060	1.25	BRL	98	70-130		
Selenium	**1.32**		mg/l	0.0150	1.25	BRL	106	70-130		
Zinc	**1.34**		mg/l	0.0050	1.25	0.0080	107	70-130		
Thallium	**1.27**		mg/l	0.0050	1.25	BRL	102	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204740 - EPA 200 Series										
Matrix Spike (1204740-MS1)			**Source: SB44647-02**			Prepared: 02-Mar-12	Analyzed: 04-Mar-12			
Iron	**11.3**		mg/l	0.0150	1.25	10.3	78	70-130		
Barium	**1.38**		mg/l	0.0050	1.25	0.124	101	70-130		
Arsenic	**1.29**		mg/l	0.0040	1.25	0.0060	103	70-130		
Beryllium	**1.25**		mg/l	0.0020	1.25	BRL	100	70-130		
Cadmium	**1.25**		mg/l	0.0025	1.25	BRL	100	70-130		
Copper	**1.31**		mg/l	0.0050	1.25	BRL	105	70-130		
Chromium	**1.28**		mg/l	0.0050	1.25	BRL	103	70-130		
Silver	**1.24**		mg/l	0.0050	1.25	BRL	99	70-130		
Post Spike (1204740-PS1)			**Source: SB44647-02**			Prepared: 02-Mar-12	Analyzed: 04-Mar-12			
Selenium	**1.36**		mg/l	0.0150	1.25	BRL	109	85-115		
Antimony	**1.26**		mg/l	0.0060	1.25	BRL	101	85-115		
Thallium	**1.30**		mg/l	0.0050	1.25	BRL	104	85-115		
Lead	**1.25**		mg/l	0.0075	1.25	BRL	99.8	85-115		
Zinc	**1.38**		mg/l	0.0050	1.25	0.0080	109	85-115		
Nickel	**1.31**		mg/l	0.0050	1.25	BRL	105	85-115		
Iron	**11.6**		mg/l	0.0150	1.25	10.3	106	85-115		
Copper	**1.35**		mg/l	0.0050	1.25	BRL	108	85-115		
Cadmium	**1.29**		mg/l	0.0025	1.25	BRL	103	85-115		
Silver	**1.27**		mg/l	0.0050	1.25	BRL	102	85-115		
Beryllium	**1.27**		mg/l	0.0020	1.25	BRL	102	85-115		
Barium	**1.41**		mg/l	0.0050	1.25	0.124	103	85-115		
Arsenic	**1.33**		mg/l	0.0040	1.25	0.0060	106	85-115		
Chromium	**1.32**		mg/l	0.0050	1.25	BRL	106	85-115		
Batch 1204741 - EPA200/SW7000 Series										
Blank (1204741-BLK1)						Prepared & Analyzed: 02-Mar-12				
Mercury	< 0.00020		mg/l	0.00020						
LCS (1204741-BS1)						Prepared & Analyzed: 02-Mar-12				
Mercury	**0.00447**		mg/l	0.00020	0.00500		89	85-115		
Duplicate (1204741-DUP1)			**Source: SB44647-01**			Prepared & Analyzed: 02-Mar-12				
Mercury	< 0.00020		mg/l	0.00020		BRL				20
Matrix Spike (1204741-MS1)			**Source: SB44647-01**			Prepared & Analyzed: 02-Mar-12				
Mercury	**0.00468**		mg/l	0.00020	0.00500	BRL	94	80-120		
Post Spike (1204741-PS1)			**Source: SB44647-01**			Prepared & Analyzed: 02-Mar-12				
Mercury	**0.00472**		mg/l	0.00020	0.00500	BRL	94	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).
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

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

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

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

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

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

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

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

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

Validated by:
June O'Connor
Nicole Leja

SB44647 - [illegible]

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

Report To: Brian Horan & Mary Cathey
GES
364 Littleton Rd, Ste 4
Westford, MA 01886
Telephone #: 800-221-6119 x3244
Project Mgr. Mary Cathey

Invoice To: GES
364 Littleton Rd, Ste 4
Westford, MA 01886
P.O. No.: 1604100 RQN:

Project No.: 1604100
Site Name: MOBIL 1476
Location: Acton, State: MA
Sampler(s): Jason Alzgouie

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8= $NaHSO_4$ 9= Deionized Water 10= 11=

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

G=Grab C=Composite

List preservative code below: 2 | 4 | 4 | [illegible] | 4 | 4

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VOCs + oxygenates (8260)	Total 13 metals	Total Barium	EDB (low reporting limit)	Iron (total)	cyanide
44647.1	MW-6R	3/1/2012	11:20	G	GW	5			1	X	X	X	X	X	X
.2	MW-9	3/1/2012	12:50	G	GW	5			1	X	X	X	X	X	X
.3	trip blk					1				X					

QA/QC Reporting Notes:
* additional charges may apply

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

QA/QC Reporting Level
☒ Standard ☐ No QC ☐ DQA*
☐ NY ASP A* ☐ NY ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ TIER II* ☐ TIER V*
☐ Other
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	Spectrum	3/1/12	[illegible]	
Fredm	[signature]	3-1-12	14:33	
[signature]	[signature]	3-1-12	17:35	2.7

☐ EDD Format
☒ E-mail to mcathey@gesonline.com

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

(3)

Category I - Petroleum Related Site Remediation
Sub-categories A (Gasoline) & B (fuel oil)
Category III - Contaminated Construction Dewatering

Analysis	Method	Spectrum Price per sample
TSS	~~Method 160.2~~ SM5 2540D (5 mg/L)	$10.00
TPH	Method 1664A (5 mg/l)	$47.00
TPH-GRO	SW846 8015 Mod	$45.00
Volatile Organics + EDB, oxygenates	Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)	$50.00
Total Metals - 13 Priority Pollutants	ICP/AES 2 Methods 200.7, 3010A/6010C & 245.1/7470A	$73.00
Mercury	Method 245.1,7470A (0.2 ug/L), ~~Methods 245.7, 1631 (0.001 ug/l)~~	$15.00
Total EPH & target PAHs	MA EPH (5 ug/L)	$50.00
Iron	ICP/AES 2 Methods 200.7, 3010A/6010C	$15.00
Total Chromium - hex	Method 7196A /SM3500CrD (10 ug/L), ~~Methods 218.6, 1636 (1 ug/L)~~	$16.00
Total Chromium - tri	3500 CrD	$21.00
Chloride	300.0, ~~SM5 4110B~~ (0.1 mg/L) SAI MRL 1.0 mg/L	$9.00
Total Group II PAHs	MA EPH (5 ug/L)	$50.00
Cyanide (total)	Method 335.4 / SW846 9012B (5 ug/L)	$13.00
Total residual chlorine (TRC)	Methods ~~330.1, 330.5, SM5 4500-Cl D (200 ug/L) SM5 4500-Cl E (10 ug/L)~~ SM4500-Cl-G at MRL of 20 ug/L	$9.00
Total Phenols	~~5 ug/L, Methods 8260C, 8270D, 2 ug/L, Methods 420.1, 420.2,~~ 50 ug/L, Method 420.4	$19.00
Total Phenols	5 ug/L, Methods ~~8260C,~~ 8270D, 2 ug/L, ~~Methods 420.1, 420.2, 50 ug/L, Method 420.4~~	$74.00
Pentachlorophenol (PCP)	Methods 3510C/8270D, ~~525 (5 ug/L)~~	$74.00
Total Phthalates (Phthalate esters)	Method 3510C/8270D (5 ug/L), ~~525.2 (0.5 ug/L)~~	$79.00
Bis (2-Ethylhexyl) Phthalate	Method 3510C/8270D (5 ug/L), ~~525.2 (0.5 ug/L)~~	$79.00
Total PCBs	Method 8082 (0.5 ug/L), ~~Method 1668b (0.00005 ug/L)~~	$42.00

Notes:
Priority Pollutant Metals (13) - Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn

SB44647 [initials]

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CHAIN OF CUSTODY RECORD

Page 1 of 1

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Project No.: 1604100
Site Name: MOBIL 1476
Location: Acton, State: MA
Sampler(s): Jason Aligeovic

$1=Na_2S_2O_3$ 2=HCl $3=H_2SO_4$ $4=HNO_3$ 5=NaOH 6=Ascorbic Acid $7=CH_3OH$
$8=NaHSO_4$ 9= Deionized Water 10= 11=

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G=Grab C=Composite

List preservative code below: 2 | 4 | 4 | 4 | 4 | 4

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VOCs & oxygenates (8260)	Total 13 metals	Total Barium	EDB (low reporting limit)	Iron (total)	~~cyanide~~ EM
44647.1	MW-6R	3/1/2012	11:20	G	GW	5			1	X	X	X	X	X	~~X~~
.2	MW-9	3/1/2012	12:50	G	GW	5			1	X	X	X	X	X	~~X~~
.3	trip blk					1				X					

QA/QC Reporting Notes:
* additional charges may apply

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

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

State-specific reporting standards:
Cyanide To be analysed from other sample sent on the same day.

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	SpecTrum	3/1/12	1430	
Fredn	[signature]	3-1-12	1730	
[signature]	[signature]	3-1-12	17:35	2.7

☐ EDD Format
☒ E-mail to mcathey@gesonline.com

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

Report Date:
07-Mar-12 10:00

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

GES, Inc.
364 Littleton Road, Suite 4
Westford, MA 01886
Attn: Mary Cathey

Project: Mobil Station No. 1476 - Acton, MA
Project #: 1604100

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB44630-01	MW-6R	Ground Water	01-Mar-12 11:20	01-Mar-12 17:30
SB44630-02	MW-9	Ground Water	01-Mar-12 12:50	01-Mar-12 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

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes.
Please note that this report contains 22 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

CASE NARRATIVE:

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

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

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

Samples:

SB44630-01 *MW-6R*

The pH of this sample has been adjusted in the laboratory for the tests listed below in accordance with the preservation requirements of the applicable methods.

Cyanide, Total

SB44630-02 *MW-9*

The pH of this sample has been adjusted in the laboratory for the tests listed below in accordance with the preservation requirements of the applicable methods.

Cyanide, Total

EPA 300.0

Samples:

SB44630-01 *MW-6R*

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

Chloride

SB44630-02 *MW-9*

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

Chloride

SW846 7196A/SM3500CrD

Spikes:

1204660-MS1 *Source: SB44630-01*

The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.

Hexavalent Chromium

1204660-MSD1 *Source: SB44630-01*

The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.

Hexavalent Chromium

Samples:

SB44630-01 *MW-6R*

The Reporting Limit has been raised to account for matrix interference.

Hexavalent Chromium

SB44630-02 *MW-9*

The Reporting Limit has been raised to account for matrix interference.

Hexavalent Chromium

SW846 8270D

Blanks:

MB-64977

Matrix spike recovery falls outside of the control limit

2,4,6-Tribromophenol

Laboratory Control Samples:

64926 BS

2,4-Dinitrophenol percent recovery 156 (15-140) is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MW-9

4-Nitrophenol percent recovery 132 (0-125) is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MW-9

64977 BS

2,4-Dinitrophenol percent recovery 161 (15-140) is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MW-6R

4-Nitrophenol percent recovery 135 (0-125) is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MW-6R

LCS-64926

Matrix spike recovery falls outside of the control limit

2,4-Dinitrophenol
4-Nitrophenol

LCS-64977

Matrix spike recovery falls outside of the control limit

2,4,6-Tribromophenol
2,4-Dinitrophenol
4-Nitrophenol

Result is estimated due to possible interference or the result was greater than the calibration range

2,4-Dinitrophenol

LCSD-64926

Matrix spike recovery falls outside of the control limit

2,4-Dinitrophenol
4-Nitrophenol

LCSD-64977

Matrix spike recovery falls outside of the control limit

2,4,6-Tribromophenol
2,4-Dinitrophenol
4-Nitrophenol

Samples:

SW846 8270D

Samples:

SB44630-01 *MW-6R*

Matrix spike recovery falls outside of the control limit

2,4,6-Tribromophenol

SB44630-02 *MW-9*

Matrix spike recovery falls outside of the control limit

2,4,6-Tribromophenol
2-Fluorophenol
Phenol-d5

SW846 8270D_RE

Samples:

SB44630-02 *MW-9*

Matrix spike recovery falls outside of the control limit

2-Fluorophenol
Phenol-d5

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-6R SB44630-01	1604100	Ground Water	01-Mar-12 11:20	01-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3510C													
12674-11-2	Aroclor-1016	< 0.213		µg/l	0.213	0.00915	1	SW846 8082A	02-Mar-12	02-Mar-12	IMR	1204677	
11104-28-2	Aroclor-1221	< 0.213		µg/l	0.213	0.0152	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 0.213		µg/l	0.213	0.0143	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 0.213		µg/l	0.213	0.00777	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 0.213		µg/l	0.213	0.0120	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 0.213		µg/l	0.213	0.0105	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 0.213		µg/l	0.213	0.00617	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 0.213		µg/l	0.213	0.00926	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 0.213		µg/l	0.213	0.0101	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*61*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*94*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*44*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*39*			*30-150 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
	Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0	0.6	1	EPA 1664 Rev. A	02-Mar-12	05-Mar-12	JK	1204669	
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Lab Preserved**		N/A			1	EPA 200/6000 methods	02-Mar-12	02-Mar-12	AMT	1204702	
Total Metals by EPA 200 Series Methods													
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0026	1	EPA 200.7	03-Mar-12	04-Mar-12	EDT	1204688	X
General Chemistry Parameters													
16065-83-1	Trivalent Chromium	< 0.0050		mg/l	0.0050	0.0034	1	Calculation	03-Mar-12	05-Mar-12	LR	1204688	
7782-50-5	Total Residual Chlorine	< 0.020	CIHT	mg/l	0.020	0.009	1	SM4500-Cl-G	01-Mar-12 17:30	01-Mar-12 17:30	GMA	1204649	X
16887-00-6	Chloride	**522**	GS1	mg/l	10.0	3.07	10	EPA 300.0	02-Mar-12	02-Mar-12	Jolan	1204835	X
18540-29-9	Hexavalent Chromium	< 0.010	R01	mg/l	0.010	0.005	1	SW846 7196A/SM3500CrD	01-Mar-12 18:15	01-Mar-12 18:52	GMA	1204660	
57-12-5	Cyanide (total)	< 0.00500		mg/l	0.00500	0.00498	1	EPA 335.4 / SW846 9012B	02-Mar-12	02-Mar-12	eemon	1204681	X
	Total Suspended Solids	**6**		mg/l	5	3	1	SM2540D	02-Mar-12	02-Mar-12	BD	1204719	X
Subcontracted Analyses													
Subcontracted Analyses													
Prepared by method BNA_W_PR													
Analysis performed by Spectrum Analytical, Inc.-- RI Division													
83-32-9	Acenaphthene	< 5.0	U	ug/L	5.0	0.33	1	SW846 8270D	06-Mar-12	06-Mar-12	MRI90	64977	
208-96-8	Acenaphthylene	< 5.0	U	ug/L	5.0	0.21	1	"	"	"	"	"	
120-12-7	Anthracene	< 5.0	U	ug/L	5.0	0.24	1	"	"	"	"	"	
56-55-3	Benzo(a)anthracene	< 5.0	U	ug/L	5.0	0.20	1	"	"	"	"	"	
106-44-5	4-Methylphenol	**7.1**		ug/L	5.0	0.70	1	"	"	"	"	"	
50-32-8	Benzo(a)pyrene	< 5.0	U	ug/L	5.0	0.60	1	"	"	"	"	"	
205-99-2	Benzo(b)fluoranthene	< 5.0	U	ug/L	5.0	0.47	1	"	"	"	"	"	
191-24-2	Benzo(g,h,i)perylene	< 5.0	U	ug/L	5.0	0.20	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-6R SB44630-01	1604100	Ground Water	01-Mar-12 11:20	01-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Subcontracted Analyses													
Subcontracted Analyses													
Prepared by method BNA_W_PR													
Analysis performed by Spectrum Analytical, Inc.-- RI Division													
207-08-9	Benzo(k)fluoranthene	< 5.0	U	ug/L	5.0	0.60	1	SW846 8270D	06-Mar-12	06-Mar-12	MRI90	64977	
117-81-7	Bis(2-ethylhexyl)phthalate	**0.68**	J	ug/L	5.0	0.65	1	"	"	"	"	"	
85-68-7	Butylbenzylphthalate	< 5.0	U	ug/L	5.0	0.16	1	"	"	"	"	"	
59-50-7	4-Chloro-3-methylphenol	< 5.0	U	ug/L	5.0	0.30	1	"	"	"	"	"	
95-57-8	2-Chlorophenol	< 5.0	U	ug/L	5.0	0.31	1	"	"	"	"	"	
218-01-9	Chrysene	< 5.0	U	ug/L	5.0	0.21	1	"	"	"	"	"	
53-70-3	Dibenzo(a,h)anthracene	< 5.0	U	ug/L	5.0	0.22	1	"	"	"	"	"	
120-83-2	2,4-Dichlorophenol	< 5.0	U	ug/L	5.0	0.29	1	"	"	"	"	"	
84-66-2	Diethylphthalate	< 5.0	U	ug/L	5.0	0.23	1	"	"	"	"	"	
131-11-3	Dimethylphthalate	< 5.0	U	ug/L	5.0	0.19	1	"	"	"	"	"	
105-67-9	2,4-Dimethylphenol	< 5.0	U	ug/L	5.0	0.90	1	"	"	"	"	"	
84-74-2	Di-n-butylphthalate	**0.88**	J	ug/L	5.0	0.24	1	"	"	"	"	"	
534-52-1	4,6-Dinitro-2-methylphenol	< 5.0	U	ug/L	5.0	0.40	1	"	"	"	"	"	
51-28-5	2,4-Dinitrophenol	< 5.0	U	ug/L	5.0	1.8	1	"	"	"	"	"	
117-84-0	Di-n-octylphthalate	< 5.0	U	ug/L	5.0	0.24	1	"	"	"	"	"	
206-44-0	Fluoranthene	**0.72**	J	ug/L	5.0	0.17	1	"	"	"	"	"	
86-73-7	Fluorene	< 5.0	U	ug/L	5.0	0.22	1	"	"	"	"	"	
193-39-5	Indeno(1,2,3-cd)pyrene	< 5.0	U	ug/L	5.0	0.19	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 5.0	U	ug/L	5.0	0.47	1	"	"	"	"	"	
95-48-7	2-Methylphenol	**7.0**		ug/L	5.0	0.48	1	"	"	"	"	"	
91-20-3	Naphthalene	**0.53**	J	ug/L	5.0	0.48	1	"	"	"	"	"	
88-75-5	2-Nitrophenol	**0.82**	J	ug/L	5.0	0.30	1	"	"	"	"	"	
100-02-7	4-Nitrophenol	< 5.0	U	ug/L	5.0	0.27	1	"	"	"	"	"	
87-86-5	Pentachlorophenol	< 5.0	U	ug/L	5.0	0.85	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 5.0	U	ug/L	5.0	0.23	1	"	"	"	"	"	
108-95-2	Phenol	**1.7**	J	ug/L	5.0	0.38	1	"	"	"	"	"	
129-00-0	Pyrene	**0.53**	J	ug/L	5.0	0.22	1	"	"	"	"	"	
95-95-4	2,4,5-Trichlorophenol	< 5.0	U	ug/L	5.0	0.13	1	"	"	"	"	"	
88-06-2	2,4,6-Trichlorophenol	< 5.0	U	ug/L	5.0	0.27	1	"	"	"	"	"	
Surrogate recoveries:													
321-60-8	*2-Fluorobiphenyl*	*82.4*			*50-110 %*			"	"	"	"	"	
367-12-4	*2-Fluorophenol*	*46.4*			*20-110 %*			"	"	"	"	"	
4165-60-0	*Nitrobenzene-d5*	*81.5*			*40-110 %*			"	"	"	"	"	
4165-62-2	*Phenol-d5*	*30.0*			*10-115 %*			"	"	"	"	"	
1718-51-0	*Terphenyl-d14*	*84.2*			*50-135 %*			"	"	"	"	"	
118-79-6	*2,4,6-Tribromophenol*	*138*	S		*40-125 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9 SB44630-02	1604100	Ground Water	01-Mar-12 12:50	01-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3510C													
12674-11-2	Aroclor-1016	< 0.217		µg/l	0.217	0.00935	1	SW846 8082A	02-Mar-12	02-Mar-12	IMR	1204677	
11104-28-2	Aroclor-1221	< 0.217		µg/l	0.217	0.0155	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 0.217		µg/l	0.217	0.0146	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 0.217		µg/l	0.217	0.00793	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 0.217		µg/l	0.217	0.0123	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 0.217		µg/l	0.217	0.0108	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 0.217		µg/l	0.217	0.00630	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 0.217		µg/l	0.217	0.00946	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 0.217		µg/l	0.217	0.0103	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*75*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*57*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*44*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*31*			*30-150 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
	Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0	0.6	1	EPA 1664 Rev. A	02-Mar-12	05-Mar-12	JK	1204669	
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Lab Preserved**		N/A			1	EPA 200/6000 methods	02-Mar-12	02-Mar-12	AMT	1204702	
Total Metals by EPA 200 Series Methods													
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0026	1	EPA 200.7	03-Mar-12	04-Mar-12	EDT	1204688	X
General Chemistry Parameters													
16065-83-1	Trivalent Chromium	< 0.0050		mg/l	0.0050	0.0034	1	Calculation	03-Mar-12	05-Mar-12	LR	1204688	
7782-50-5	Total Residual Chlorine	< 0.020	CIHT	mg/l	0.020	0.009	1	SM4500-Cl-G	01-Mar-12 17:30	01-Mar-12 17:30	GMA	1204649	X
16887-00-6	Chloride	**617**	GS1	mg/l	10.0	3.07	10	EPA 300.0	02-Mar-12	02-Mar-12	Jolan	1204835	X
18540-29-9	Hexavalent Chromium	< 0.010	R01	mg/l	0.010	0.005	1	SW846 7196A/SM3500CrD	01-Mar-12 18:15	01-Mar-12 18:54	GMA	1204660	
57-12-5	Cyanide (total)	< 0.00500		mg/l	0.00500	0.00498	1	EPA 335.4 / SW846 9012B	02-Mar-12	02-Mar-12	eemon	1204681	X
	Total Suspended Solids	**5**		mg/l	5	3	1	SM2540D	02-Mar-12	02-Mar-12	BD	1204719	X
Subcontracted Analyses													
Subcontracted Analyses													
Prepared by method BNA_W_PR													
Analysis performed by Spectrum Analytical, Inc.-- RI Division													
83-32-9	Acenaphthene	< 5.0	U	ug/L	5.0	0.33	1	SW846 8270D	02-Mar-12	05-Mar-12	MRI90	64926	
208-96-8	Acenaphthylene	< 5.0	U	ug/L	5.0	0.21	1	"	"	"	"	"	
120-12-7	Anthracene	< 5.0	U	ug/L	5.0	0.24	1	"	"	"	"	"	
56-55-3	Benzo(a)anthracene	< 5.0	U	ug/L	5.0	0.20	1	"	"	"	"	"	
106-44-5	4-Methylphenol	< 5.0	U	ug/L	5.0	0.70	1	"	"	"	"	"	
50-32-8	Benzo(a)pyrene	< 5.0	U	ug/L	5.0	0.60	1	"	"	"	"	"	
205-99-2	Benzo(b)fluoranthene	< 5.0	U	ug/L	5.0	0.47	1	"	"	"	"	"	
191-24-2	Benzo(g,h,i)perylene	< 5.0	U	ug/L	5.0	0.20	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9	1604100	Ground Water	01-Mar-12 12:50	01-Mar-12
SB44630-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Subcontracted Analyses													
Subcontracted Analyses													
Prepared by method BNA_W_PR													
Analysis performed by Spectrum Analytical, Inc.-- RI Division													
207-08-9	Benzo(k)fluoranthene	< 5.0	U	ug/L	5.0	0.60	1	SW846 8270D	02-Mar-12	05-Mar-12	MRI90	64926	
117-81-7	Bis(2-ethylhexyl)phthalate	< 5.0	U	ug/L	5.0	0.65	1	"	"	"	"	"	
85-68-7	Butylbenzylphthalate	< 5.0	U	ug/L	5.0	0.16	1	"	"	"	"	"	
59-50-7	4-Chloro-3-methylphenol	< 5.0	U	ug/L	5.0	0.30	1	"	"	"	"	"	
95-57-8	2-Chlorophenol	< 5.0	U	ug/L	5.0	0.31	1	"	"	"	"	"	
218-01-9	Chrysene	< 5.0	U	ug/L	5.0	0.21	1	"	"	"	"	"	
53-70-3	Dibenzo(a,h)anthracene	< 5.0	U	ug/L	5.0	0.22	1	"	"	"	"	"	
120-83-2	2,4-Dichlorophenol	< 5.0	U	ug/L	5.0	0.29	1	"	"	"	"	"	
84-66-2	Diethylphthalate	< 5.0	U	ug/L	5.0	0.23	1	"	"	"	"	"	
131-11-3	Dimethylphthalate	< 5.0	U	ug/L	5.0	0.19	1	"	"	"	"	"	
105-67-9	2,4-Dimethylphenol	< 5.0	U	ug/L	5.0	0.90	1	"	"	"	"	"	
84-74-2	Di-n-butylphthalate	< 5.0	U	ug/L	5.0	0.24	1	"	"	"	"	"	
534-52-1	4,6-Dinitro-2-methylphenol	< 5.0	U	ug/L	5.0	0.40	1	"	"	"	"	"	
51-28-5	2,4-Dinitrophenol	< 5.0	U	ug/L	5.0	1.8	1	"	"	"	"	"	
117-84-0	Di-n-octylphthalate	< 5.0	U	ug/L	5.0	0.24	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 5.0	U	ug/L	5.0	0.17	1	"	"	"	"	"	
86-73-7	Fluorene	< 5.0	U	ug/L	5.0	0.22	1	"	"	"	"	"	
193-39-5	Indeno(1,2,3-cd)pyrene	< 5.0	U	ug/L	5.0	0.19	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 5.0	U	ug/L	5.0	0.47	1	"	"	"	"	"	
95-48-7	2-Methylphenol	< 5.0	U	ug/L	5.0	0.48	1	"	"	"	"	"	
91-20-3	Naphthalene	1.6	J	ug/L	5.0	0.48	1	"	"	"	"	"	
88-75-5	2-Nitrophenol	< 5.0	U	ug/L	5.0	0.30	1	"	"	"	"	"	
100-02-7	4-Nitrophenol	< 5.0	U	ug/L	5.0	0.27	1	"	"	"	"	"	
87-86-5	Pentachlorophenol	< 5.0	U	ug/L	5.0	0.85	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 5.0	U	ug/L	5.0	0.23	1	"	"	"	"	"	
108-95-2	Phenol	< 5.0	U	ug/L	5.0	0.38	1	"	"	"	"	"	
129-00-0	Pyrene	< 5.0	U	ug/L	5.0	0.22	1	"	"	"	"	"	
95-95-4	2,4,5-Trichlorophenol	< 5.0	U	ug/L	5.0	0.13	1	"	"	"	"	"	
88-06-2	2,4,6-Trichlorophenol	< 5.0	U	ug/L	5.0	0.27	1	"	"	"	"	"	
Surrogate recoveries:													
321-60-8	*2-Fluorobiphenyl*	*79.7*			*50-110 %*			"	"	"	"	"	
367-12-4	*2-Fluorophenol*	*15.6*	S		*20-110 %*			"	"	"	"	"	
4165-60-0	*Nitrobenzene-d5*	*87.3*			*40-110 %*			"	"	"	"	"	
4165-62-2	*Phenol-d5*	*4.27*	S		*10-115 %*			"	"	"	"	"	
1718-51-0	*Terphenyl-d14*	*69.0*			*50-135 %*			"	"	"	"	"	
118-79-6	*2,4,6-Tribromophenol*	*5.14*	S		*40-125 %*			"	"	"	"	"	
Subcontracted Analyses													
Prepared by method BNA_W_PR													
Analysis performed by Spectrum Analytical, Inc.-- RI Division													
83-32-9	Acenaphthene	< 5.0	U	ug/L	5.0	0.33	1	SW846 8270D_RE	06-Mar-12	06-Mar-12	MRI90	64977	
208-96-8	Acenaphthylene	< 5.0	U	ug/L	5.0	0.21	1	"	"	"	"	"	
120-12-7	Anthracene	< 5.0	U	ug/L	5.0	0.24	1	"	"	"	"	"	
56-55-3	Benzo(a)anthracene	< 5.0	U	ug/L	5.0	0.20	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9 SB44630-02	1604100	Ground Water	01-Mar-12 12:50	01-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Subcontracted Analyses													
Subcontracted Analyses													
Prepared by method BNA_W_PR													
Analysis performed by Spectrum Analytical, Inc.-- RI Division													
106-44-5	4-Methylphenol	< 5.0	U	ug/L	5.0	0.70	1	SW846 8270D_RE	06-Mar-12	06-Mar-12	MRI90	64977	
50-32-8	Benzo(a)pyrene	< 5.0	U	ug/L	5.0	0.60	1	"	"	"	"	"	
205-99-2	Benzo(b)fluoranthene	< 5.0	U	ug/L	5.0	0.47	1	"	"	"	"	"	
191-24-2	Benzo(g,h,i)perylene	< 5.0	U	ug/L	5.0	0.20	1	"	"	"	"	"	
207-08-9	Benzo(k)fluoranthene	< 5.0	U	ug/L	5.0	0.60	1	"	"	"	"	"	
117-81-7	Bis(2-ethylhexyl)phthalate	< 5.0	U	ug/L	5.0	0.65	1	"	"	"	"	"	
85-68-7	Butylbenzylphthalate	< 5.0	U	ug/L	5.0	0.16	1	"	"	"	"	"	
59-50-7	4-Chloro-3-methylphenol	< 5.0	U	ug/L	5.0	0.30	1	"	"	"	"	"	
95-57-8	2-Chlorophenol	< 5.0	U	ug/L	5.0	0.31	1	"	"	"	"	"	
218-01-9	Chrysene	< 5.0	U	ug/L	5.0	0.21	1	"	"	"	"	"	
53-70-3	Dibenzo(a,h)anthracene	< 5.0	U	ug/L	5.0	0.22	1	"	"	"	"	"	
120-83-2	2,4-Dichlorophenol	< 5.0	U	ug/L	5.0	0.29	1	"	"	"	"	"	
84-66-2	Diethylphthalate	< 5.0	U	ug/L	5.0	0.23	1	"	"	"	"	"	
131-11-3	Dimethylphthalate	< 5.0	U	ug/L	5.0	0.19	1	"	"	"	"	"	
105-67-9	2,4-Dimethylphenol	< 5.0	U	ug/L	5.0	0.90	1	"	"	"	"	"	
84-74-2	Di-n-butylphthalate	**0.59**	J	ug/L	5.0	0.24	1	"	"	"	"	"	
534-52-1	4,6-Dinitro-2-methylphenol	< 5.0	U	ug/L	5.0	0.40	1	"	"	"	"	"	
51-28-5	2,4-Dinitrophenol	< 5.0	U	ug/L	5.0	1.8	1	"	"	"	"	"	
117-84-0	Di-n-octylphthalate	< 5.0	U	ug/L	5.0	0.24	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 5.0	U	ug/L	5.0	0.17	1	"	"	"	"	"	
86-73-7	Fluorene	< 5.0	U	ug/L	5.0	0.22	1	"	"	"	"	"	
193-39-5	Indeno(1,2,3-cd)pyrene	< 5.0	U	ug/L	5.0	0.19	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 5.0	U	ug/L	5.0	0.47	1	"	"	"	"	"	
95-48-7	2-Methylphenol	< 5.0	U	ug/L	5.0	0.48	1	"	"	"	"	"	
91-20-3	Naphthalene	**1.5**	J	ug/L	5.0	0.48	1	"	"	"	"	"	
88-75-5	2-Nitrophenol	< 5.0	U	ug/L	5.0	0.30	1	"	"	"	"	"	
100-02-7	4-Nitrophenol	< 5.0	U	ug/L	5.0	0.27	1	"	"	"	"	"	
87-86-5	Pentachlorophenol	< 5.0	U	ug/L	5.0	0.85	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 5.0	U	ug/L	5.0	0.23	1	"	"	"	"	"	
108-95-2	Phenol	**1.5**	J	ug/L	5.0	0.38	1	"	"	"	"	"	
129-00-0	Pyrene	< 5.0	U	ug/L	5.0	0.22	1	"	"	"	"	"	
95-95-4	2,4,5-Trichlorophenol	< 5.0	U	ug/L	5.0	0.13	1	"	"	"	"	"	
88-06-2	2,4,6-Trichlorophenol	< 5.0	U	ug/L	5.0	0.27	1	"	"	"	"	"	
Surrogate recoveries:													
321-60-8	*2-Fluorobiphenyl*	*76.4*			*50-110 %*			"	"	"	"	"	
367-12-4	*2-Fluorophenol*	*14.1*	S		*20-110 %*			"	"	"	"	"	
4165-60-0	*Nitrobenzene-d5*	*73.0*			*40-110 %*			"	"	"	"	"	
4165-62-2	*Phenol-d5*	*3.40*	S		*10-115 %*			"	"	"	"	"	
1718-51-0	*Terphenyl-d14*	*80.7*			*50-135 %*			"	"	"	"	"	
118-79-6	*2,4,6-Tribromophenol*	*53.3*			*40-125 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204677 - SW846 3510C										
Blank (1204677-BLK1)					Prepared & Analyzed: 02-Mar-12					
Aroclor-1016	< 0.200		µg/l	0.200						
Aroclor-1016 [2C]	< 0.200		µg/l	0.200						
Aroclor-1221	< 0.200		µg/l	0.200						
Aroclor-1221 [2C]	< 0.200		µg/l	0.200						
Aroclor-1232	< 0.200		µg/l	0.200						
Aroclor-1232 [2C]	< 0.200		µg/l	0.200						
Aroclor-1242	< 0.200		µg/l	0.200						
Aroclor-1242 [2C]	< 0.200		µg/l	0.200						
Aroclor-1248	< 0.200		µg/l	0.200						
Aroclor-1248 [2C]	< 0.200		µg/l	0.200						
Aroclor-1254	< 0.200		µg/l	0.200						
Aroclor-1254 [2C]	< 0.200		µg/l	0.200						
Aroclor-1260	< 0.200		µg/l	0.200						
Aroclor-1260 [2C]	< 0.200		µg/l	0.200						
Aroclor-1262	< 0.200		µg/l	0.200						
Aroclor-1262 [2C]	< 0.200		µg/l	0.200						
Aroclor-1268	< 0.200		µg/l	0.200						
Aroclor-1268 [2C]	< 0.200		µg/l	0.200						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.193*		µg/l		*0.200*		*96*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.254*		µg/l		*0.200*		*127*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.217*		µg/l		*0.200*		*109*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.245*		µg/l		*0.200*		*123*	*30-150*		
LCS (1204677-BS1)					Prepared & Analyzed: 02-Mar-12					
Aroclor-1016	**2.52**		µg/l	0.200	2.50		101	50-140		
Aroclor-1016 [2C]	**2.59**		µg/l	0.200	2.50		103	50-140		
Aroclor-1260	**2.29**		µg/l	0.200	2.50		92	50-140		
Aroclor-1260 [2C]	**2.52**		µg/l	0.200	2.50		101	50-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.186*		µg/l		*0.200*		*93*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.208*		µg/l		*0.200*		*104*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.189*		µg/l		*0.200*		*94*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.202*		µg/l		*0.200*		*101*	*30-150*		
LCS Dup (1204677-BSD1)					Prepared & Analyzed: 02-Mar-12					
Aroclor-1016	**2.55**		µg/l	0.200	2.50		102	50-140	1	30
Aroclor-1016 [2C]	**2.60**		µg/l	0.200	2.50		104	50-140	0.7	30
Aroclor-1260	**2.39**		µg/l	0.200	2.50		95	50-140	4	30
Aroclor-1260 [2C]	**2.56**		µg/l	0.200	2.50		102	50-140	2	30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.201*		µg/l		*0.200*		*101*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.210*		µg/l		*0.200*		*105*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.196*		µg/l		*0.200*		*98*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.204*		µg/l		*0.200*		*102*	*30-150*		
Duplicate (1204677-DUP1)			**Source: SB44630-01**		Prepared & Analyzed: 02-Mar-12					
Aroclor-1016	< 0.215		µg/l	0.215		BRL				40
Aroclor-1016 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1221	< 0.215		µg/l	0.215		BRL				40
Aroclor-1221 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1232	< 0.215		µg/l	0.215		BRL				40
Aroclor-1232 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1242	< 0.215		µg/l	0.215		BRL				40
Aroclor-1242 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1248	< 0.215		µg/l	0.215		BRL				40

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204677 - SW846 3510C										
Duplicate (1204677-DUP1)			**Source: SB44630-01**		Prepared & Analyzed: 02-Mar-12					
Aroclor-1248 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1254	< 0.215		µg/l	0.215		BRL				40
Aroclor-1254 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1260	< 0.215		µg/l	0.215		BRL				40
Aroclor-1260 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1262	< 0.215		µg/l	0.215		BRL				40
Aroclor-1262 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1268	< 0.215		µg/l	0.215		BRL				40
Aroclor-1268 [2C]	< 0.215		µg/l	0.215		BRL				40
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.101*		µg/l		*0.215*		*47*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.106*		µg/l		*0.215*		*49*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.0720*		µg/l		*0.215*		*33*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.0785*		µg/l		*0.215*		*36*	*30-150*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204669 - SW846 3510C										
Blank (1204669-BLK1)						Prepared: 02-Mar-12	Analyzed: 05-Mar-12			
Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0						
LCS (1204669-BS1)						Prepared: 02-Mar-12	Analyzed: 05-Mar-12			
Non-polar material (SGT-HEM)	**24.0**		mg/l		27.9		86	83-101		
Matrix Spike (1204669-MS1)			**Source: SB44630-01**			Prepared: 02-Mar-12	Analyzed: 05-Mar-12			
Non-polar material (SGT-HEM)	**23.4**		mg/l		27.9	BRL	84	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 1204688 - EPA 200 Series										
Blank (1204688-BLK1)						Prepared: 03-Mar-12 Analyzed: 04-Mar-12				
Chromium	< 0.0050		mg/l	0.0050						
LCS (1204688-BS1)						Prepared: 03-Mar-12 Analyzed: 04-Mar-12				
Chromium	**1.25**		mg/l	0.0050	1.25		100	85-115		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204649 - General Preparation										
Blank (1204649-BLK1)						Prepared & Analyzed: 01-Mar-12				
Total Residual Chlorine	< 0.020		mg/l	0.020						
LCS (1204649-BS1)						Prepared & Analyzed: 01-Mar-12				
Total Residual Chlorine	**0.048**		mg/l	0.020	0.0500		96	90-110		
Reference (1204649-SRM1)						Prepared & Analyzed: 01-Mar-12				
Total Residual Chlorine	**0.114**		mg/l	0.020	0.110		103	85-115		
Batch 1204660 - General Preparation										
Blank (1204660-BLK1)						Prepared & Analyzed: 01-Mar-12				
Hexavalent Chromium	< 0.005		mg/l	0.005						
LCS (1204660-BS1)						Prepared & Analyzed: 01-Mar-12				
Hexavalent Chromium	**0.051**		mg/l	0.005	0.0500		102	80-120		
Duplicate (1204660-DUP1)			**Source: SB44630-01**			Prepared & Analyzed: 01-Mar-12				
Hexavalent Chromium	< 0.010		mg/l	0.010		BRL				20
Matrix Spike (1204660-MS1)			**Source: SB44630-01**			Prepared & Analyzed: 01-Mar-12				
Hexavalent Chromium	**0.022**	QM1	mg/l	0.010	0.100	BRL	22	85-115		
Matrix Spike Dup (1204660-MSD1)			**Source: SB44630-01**			Prepared & Analyzed: 01-Mar-12				
Hexavalent Chromium	**0.024**	QM1	mg/l	0.010	0.100	BRL	24	85-115	9	20
Reference (1204660-SRM1)						Prepared & Analyzed: 01-Mar-12				
Hexavalent Chromium	**0.023**		mg/l	0.005	0.0248		93	85-115		
Batch 1204681 - General Preparation										
Blank (1204681-BLK1)						Prepared & Analyzed: 02-Mar-12				
Cyanide (total)	< 0.00500		mg/l	0.00500						
Blank (1204681-BLK2)						Prepared & Analyzed: 02-Mar-12				
Cyanide (total)	< 0.00500		mg/l	0.00500						
LCS (1204681-BS1)						Prepared & Analyzed: 02-Mar-12				
Cyanide (total)	**0.295**		mg/l	0.00500	0.300		98	90-110		
LCS (1204681-BS2)						Prepared & Analyzed: 02-Mar-12				
Cyanide (total)	**0.281**		mg/l	0.00500	0.300		94	90-110		
Reference (1204681-SRM1)						Prepared & Analyzed: 02-Mar-12				
Cyanide (total)	**0.174**		mg/l	0.00500	0.185		94	65-135		
Batch 1204719 - General Preparation										
Blank (1204719-BLK1)						Prepared & Analyzed: 02-Mar-12				
Total Suspended Solids	< 5		mg/l	5						
LCS (1204719-BS1)						Prepared & Analyzed: 02-Mar-12				
Total Suspended Solids	**90**		mg/l	10	96.6		93	90-110		
Batch 1204835 - General Preparation										
Blank (1204835-BLK1)						Prepared & Analyzed: 02-Mar-12				
Chloride	< 1.00		mg/l	1.00						
Blank (1204835-BLK2)						Prepared & Analyzed: 02-Mar-12				
Chloride	< 1.00		mg/l	1.00						
LCS (1204835-BS1)						Prepared & Analyzed: 02-Mar-12				
Chloride	**19.2**		mg/l	1.00	20.0		96	90-110		
LCS (1204835-BS2)						Prepared & Analyzed: 02-Mar-12				
Chloride	**3.71**		mg/l	1.00	4.00		93	90-110		
Reference (1204835-SRM1)						Prepared & Analyzed: 02-Mar-12				
Chloride	**24.9**		mg/l	1.00	25.0		99	90-110		
Reference (1204835-SRM2)						Prepared & Analyzed: 02-Mar-12				
Chloride	**4.63**		mg/l	1.00	5.00		93	90-110		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 64926 - BNA_W_PR										
LCS (LCS-64926)						Prepared: 02-Mar-12 Analyzed: 05-Mar-12				
Acenaphthene	**20.02**		ug/L	5.0			80.1	45-110		
Acenaphthylene	**20.39**		ug/L	5.0			81.6	50-105		
Anthracene	**20.57**		ug/L	5.0			82.3	55-110		
Benzo(a)anthracene	**20.42**		ug/L	5.0			81.7	55-110		
4-Methylphenol	**17.28**		ug/L	5.0			69.1	30-110		
Benzo(a)pyrene	**20.11**		ug/L	5.0			80.4	55-110		
Benzo(b)fluoranthene	**21.62**		ug/L	5.0			86.5	45-120		
Benzo(g,h,i)perylene	**20.46**		ug/L	5.0			81.8	40-125		
Benzo(k)fluoranthene	**19.13**		ug/L	5.0			76.5	45-125		
Bis(2-ethylhexyl)phthalate	**18.20**		ug/L	5.0			72.8	40-125		
Butylbenzylphthalate	**18.53**		ug/L	5.0			74.1	45-115		
4-Chloro-3-methylphenol	**20.07**		ug/L	5.0			80.3	45-110		
2-Chlorophenol	**18.63**		ug/L	5.0			74.5	35-105		
Chrysene	**18.77**		ug/L	5.0			75.1	55-110		
Dibenzo(a,h)anthracene	**21.95**		ug/L	5.0			87.8	40-125		
2,4-Dichlorophenol	**19.67**		ug/L	5.0			78.7	50-105		
Diethylphthalate	**22.82**		ug/L	5.0			91.3	40-120		
Dimethylphthalate	**21.65**		ug/L	5.0			86.6	25-125		
2,4-Dimethylphenol	**24.39**		ug/L	5.0			97.5	30-110		
Di-n-butylphthalate	**21.28**		ug/L	5.0			85.1	55-115		
4,6-Dinitro-2-methylphenol	**28.67**		ug/L	5.0			115	40-130		
2,4-Dinitrophenol	**38.98**	S	ug/L	5.0			156	15-140		
Di-n-octylphthalate	**19.41**		ug/L	5.0			77.7	35-135		
Fluoranthene	**20.42**		ug/L	5.0			81.7	55-115		
Fluorene	**20.71**		ug/L	5.0			82.8	50-110		
Indeno(1,2,3-cd)pyrene	**21.16**		ug/L	5.0			84.6	45-125		
2-Methylnaphthalene	**19.86**		ug/L	5.0			79.4	45-105		
2-Methylphenol	**18.28**		ug/L	5.0			73.1	40-110		
Naphthalene	**19.27**		ug/L	5.0			77.1	40-100		
2-Nitrophenol	**20.61**		ug/L	5.0			82.5	40-115		
4-Nitrophenol	**33.00**	S	ug/L	5.0			132	0-125		
Pentachlorophenol	**23.50**		ug/L	5.0			94.0	40-115		
Phenanthrene	**20.00**		ug/L	5.0			80.0	50-115		
Phenol	**15.80**		ug/L	5.0			63.2	0-115		
Pyrene	**17.68**		ug/L	5.0			70.7	50-130		
2,4,5-Trichlorophenol	**19.59**		ug/L	5.0			78.4	50-110		
2,4,6-Trichlorophenol	**20.31**		ug/L	5.0			81.3	50-115		
Surrogate: 2-Fluorobiphenyl	*20.05*		ug/L				*80.2*	*50-110*		
Surrogate: 2-Fluorophenol	*17.92*		ug/L				*71.7*	*20-110*		
Surrogate: Nitrobenzene-d5	*22.04*		ug/L				*88.2*	*40-110*		
Surrogate: Phenol-d5	*17.79*		ug/L				*71.2*	*10-115*		
Surrogate: Terphenyl-d14	*18.47*		ug/L				*73.9*	*50-135*		
Surrogate: 2,4,6-Tribromophenol	*30.97*		ug/L				*124*	*40-125*		
LCS Dup (LCSD-64926)						Prepared: 02-Mar-12 Analyzed: 05-Mar-12				
Acenaphthene	**20.34**		ug/L	5.0			81.4	45-110	1.62	40.0
Acenaphthylene	**20.66**		ug/L	5.0			82.6	50-105	1.30	40.0
Anthracene	**20.82**		ug/L	5.0			83.3	55-110	1.18	40.0
Benzo(a)anthracene	**20.13**		ug/L	5.0			80.5	55-110	1.41	40.0
4-Methylphenol	**18.06**		ug/L	5.0			72.2	30-110	4.42	40.0
Benzo(a)pyrene	**20.41**		ug/L	5.0			81.6	55-110	1.48	40.0
Benzo(b)fluoranthene	**20.33**		ug/L	5.0			81.3	45-120	6.16	40.0

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 64926 - BNA_W_PR										
LCS Dup (LCSD-64926)					Prepared: 02-Mar-12 Analyzed: 05-Mar-12					
Benzo(g,h,i)perylene	**20.88**		ug/L	5.0			83.5	40-125	2.04	40.0
Benzo(k)fluoranthene	**21.12**		ug/L	5.0			84.5	45-125	9.90	40.0
Bis(2-ethylhexyl)phthalate	**18.64**		ug/L	5.0			74.6	40-125	2.38	40.0
Butylbenzylphthalate	**18.95**		ug/L	5.0			75.8	45-115	2.21	40.0
4-Chloro-3-methylphenol	**21.08**		ug/L	5.0			84.3	45-110	4.92	40.0
2-Chlorophenol	**18.93**		ug/L	5.0			75.7	35-105	1.57	40.0
Chrysene	**19.28**		ug/L	5.0			77.1	55-110	2.66	40.0
Dibenzo(a,h)anthracene	**22.33**		ug/L	5.0			89.3	40-125	1.75	40.0
2,4-Dichlorophenol	**20.50**		ug/L	5.0			82.0	50-105	4.15	40.0
Diethylphthalate	**22.96**		ug/L	5.0			91.8	40-120	0.611	40.0
Dimethylphthalate	**21.68**		ug/L	5.0			86.7	25-125	0.154	40.0
2,4-Dimethylphenol	**25.93**		ug/L	5.0			104	30-110	6.12	40.0
Di-n-butylphthalate	**21.87**		ug/L	5.0			87.5	55-115	2.71	40.0
4,6-Dinitro-2-methylphenol	**27.72**		ug/L	5.0			111	40-130	3.38	40.0
2,4-Dinitrophenol	**39.47**	S	ug/L	5.0			158	15-140	1.23	40.0
Di-n-octylphthalate	**19.71**		ug/L	5.0			78.8	35-135	1.49	40.0
Fluoranthene	**20.65**		ug/L	5.0			82.6	55-115	1.15	40.0
Fluorene	**21.56**		ug/L	5.0			86.2	50-110	4.03	40.0
Indeno(1,2,3-cd)pyrene	**21.41**		ug/L	5.0			85.6	45-125	1.17	40.0
2-Methylnaphthalene	**20.45**		ug/L	5.0			81.8	45-105	2.93	40.0
2-Methylphenol	**19.01**		ug/L	5.0			76.0	40-110	3.88	40.0
Naphthalene	**19.89**		ug/L	5.0			79.6	40-100	3.19	40.0
2-Nitrophenol	**21.82**		ug/L	5.0			87.3	40-115	5.69	40.0
4-Nitrophenol	**34.75**	S	ug/L	5.0			139	0-125	5.16	40.0
Pentachlorophenol	**24.69**		ug/L	5.0			98.8	40-115	4.96	40.0
Phenanthrene	**20.10**		ug/L	5.0			80.4	50-115	0.491	40.0
Phenol	**16.27**		ug/L	5.0			65.1	0-115	2.96	40.0
Pyrene	**18.10**		ug/L	5.0			72.4	50-130	2.33	40.0
2,4,5-Trichlorophenol	**20.23**		ug/L	5.0			80.9	50-110	3.21	40.0
2,4,6-Trichlorophenol	**21.48**		ug/L	5.0			85.9	50-115	5.56	40.0
Surrogate: 2-Fluorobiphenyl	*20.17*		ug/L				*80.7*	*50-110*		
Surrogate: 2-Fluorophenol	*18.09*		ug/L				*72.4*	*20-110*		
Surrogate: Nitrobenzene-d5	*23.11*		ug/L				*92.5*	*40-110*		
Surrogate: Phenol-d5	*18.36*		ug/L				*73.4*	*10-115*		
Surrogate: Terphenyl-d14	*19.34*		ug/L				*77.3*	*50-135*		
Surrogate: 2,4,6-Tribromophenol	*31.07*		ug/L				*124*	*40-125*		
Blank (MB-64926)					Prepared: 02-Mar-12 Analyzed: 05-Mar-12					
Acenaphthene	< 5.0	U	ug/L	5.0				-		
Acenaphthylene	< 5.0	U	ug/L	5.0				-		
Anthracene	< 5.0	U	ug/L	5.0				-		
Benzo(a)anthracene	< 5.0	U	ug/L	5.0				-		
4-Methylphenol	< 5.0	U	ug/L	5.0				-		
Benzo(a)pyrene	< 5.0	U	ug/L	5.0				-		
Benzo(b)fluoranthene	< 5.0	U	ug/L	5.0				-		
Benzo(g,h,i)perylene	< 5.0	U	ug/L	5.0				-		
Benzo(k)fluoranthene	< 5.0	U	ug/L	5.0				-		
Bis(2-ethylhexyl)phthalate	< 5.0	U	ug/L	5.0				-		
Butylbenzylphthalate	< 5.0	U	ug/L	5.0				-		
4-Chloro-3-methylphenol	< 5.0	U	ug/L	5.0				-		
2-Chlorophenol	< 5.0	U	ug/L	5.0				-		
Chrysene	< 5.0	U	ug/L	5.0				-		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 64926 - BNA_W_PR										
Blank (MB-64926)					Prepared: 02-Mar-12 Analyzed: 05-Mar-12					
Dibenzo(a,h)anthracene	< 5.0	U	ug/L	5.0				-		
2,4-Dichlorophenol	< 5.0	U	ug/L	5.0				-		
Diethylphthalate	< 5.0	U	ug/L	5.0				-		
Dimethylphthalate	< 5.0	U	ug/L	5.0				-		
2,4-Dimethylphenol	< 5.0	U	ug/L	5.0				-		
Di-n-butylphthalate	< 5.0	U	ug/L	5.0				-		
4,6-Dinitro-2-methylphenol	< 5.0	U	ug/L	5.0				-		
2,4-Dinitrophenol	< 5.0	U	ug/L	5.0				-		
Di-n-octylphthalate	< 5.0	U	ug/L	5.0				-		
Fluoranthene	< 5.0	U	ug/L	5.0				-		
Fluorene	< 5.0	U	ug/L	5.0				-		
Indeno(1,2,3-cd)pyrene	< 5.0	U	ug/L	5.0				-		
2-Methylnaphthalene	< 5.0	U	ug/L	5.0				-		
2-Methylphenol	< 5.0	U	ug/L	5.0				-		
Naphthalene	< 5.0	U	ug/L	5.0				-		
2-Nitrophenol	< 5.0	U	ug/L	5.0				-		
4-Nitrophenol	< 5.0	U	ug/L	5.0				-		
Pentachlorophenol	< 5.0	U	ug/L	5.0				-		
Phenanthrene	< 5.0	U	ug/L	5.0				-		
Phenol	< 5.0	U	ug/L	5.0				-		
Pyrene	< 5.0	U	ug/L	5.0				-		
2,4,5-Trichlorophenol	< 5.0	U	ug/L	5.0				-		
2,4,6-Trichlorophenol	< 5.0	U	ug/L	5.0				-		
Surrogate: 2-Fluorobiphenyl	*18.02*		ug/L				*72.1*	*50-110*		
Surrogate: 2-Fluorophenol	*17.03*		ug/L				*68.1*	*20-110*		
Surrogate: Nitrobenzene-d5	*20.27*		ug/L				*81.1*	*40-110*		
Surrogate: Phenol-d5	*15.92*		ug/L				*63.7*	*10-115*		
Surrogate: Terphenyl-d14	*18.96*		ug/L				*75.8*	*50-135*		
Surrogate: 2,4,6-Tribromophenol	*27.82*		ug/L				*111*	*40-125*		
Batch 64977 - BNA_W_PR										
LCS (LCS-64977)					Prepared & Analyzed: 06-Mar-12					
Acenaphthene	**21.65**		ug/L	5.0			86.6	45-110		
Acenaphthylene	**21.08**		ug/L	5.0			84.3	50-105		
Anthracene	**21.55**		ug/L	5.0			86.2	55-110		
Benzo(a)anthracene	**20.96**		ug/L	5.0			83.9	55-110		
4-Methylphenol	**17.81**		ug/L	5.0			71.2	30-110		
Benzo(a)pyrene	**21.48**		ug/L	5.0			85.9	55-110		
Benzo(b)fluoranthene	**21.90**		ug/L	5.0			87.6	45-120		
Benzo(g,h,i)perylene	**21.77**		ug/L	5.0			87.1	40-125		
Benzo(k)fluoranthene	**22.70**		ug/L	5.0			90.8	45-125		
Bis(2-ethylhexyl)phthalate	**18.93**		ug/L	5.0			75.7	40-125		
Butylbenzylphthalate	**19.29**		ug/L	5.0			77.2	45-115		
4-Chloro-3-methylphenol	**22.20**		ug/L	5.0			88.8	45-110		
2-Chlorophenol	**18.92**		ug/L	5.0			75.7	35-105		
Chrysene	**19.92**		ug/L	5.0			79.7	55-110		
Dibenzo(a,h)anthracene	**23.50**		ug/L	5.0			94.0	40-125		
2,4-Dichlorophenol	**21.81**		ug/L	5.0			87.2	50-105		
Diethylphthalate	**23.61**		ug/L	5.0			94.4	40-120		
Dimethylphthalate	**22.63**		ug/L	5.0			90.5	25-125		
2,4-Dimethylphenol	**24.23**		ug/L	5.0			96.9	30-110		
Di-n-butylphthalate	**21.99**		ug/L	5.0			88.0	55-115		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 64977 - BNA_W_PR										
LCS (LCS-64977)						Prepared & Analyzed: 06-Mar-12				
4,6-Dinitro-2-methylphenol	**28.31**		ug/L	10			113	40-130		
2,4-Dinitrophenol	**40.28**	S, E	ug/L	10			161	15-140		
Di-n-octylphthalate	**20.99**		ug/L	5.0			84.0	35-135		
Fluoranthene	**20.98**		ug/L	5.0			83.9	55-115		
Fluorene	**22.12**		ug/L	5.0			88.5	50-110		
Indeno(1,2,3-cd)pyrene	**22.61**		ug/L	5.0			90.4	45-125		
2-Methylnaphthalene	**21.51**		ug/L	5.0			86.0	45-105		
2-Methylphenol	**18.32**		ug/L	5.0			73.3	40-110		
Naphthalene	**21.26**		ug/L	5.0			85.0	40-100		
2-Nitrophenol	**22.89**		ug/L	5.0			91.5	40-115		
4-Nitrophenol	**33.67**	S	ug/L	10			135	0-125		
Pentachlorophenol	**26.01**		ug/L	10			104	40-115		
Phenanthrene	**21.23**		ug/L	5.0			84.9	50-115		
Phenol	**18.68**		ug/L	5.0			74.7	0-115		
Pyrene	**18.81**		ug/L	5.0			75.2	50-130		
2,4,5-Trichlorophenol	**21.55**		ug/L	10			86.2	50-110		
2,4,6-Trichlorophenol	**23.87**		ug/L	5.0			95.5	50-115		
Surrogate: 2-Fluorobiphenyl	*22.18*		ug/L				*88.7*	*50-110*		
Surrogate: 2-Fluorophenol	*18.64*		ug/L				*74.5*	*20-110*		
Surrogate: Nitrobenzene-d5	*23.05*		ug/L				*92.2*	*40-110*		
Surrogate: Phenol-d5	*21.05*		ug/L				*84.2*	*10-115*		
Surrogate: Terphenyl-d14	*20.03*		ug/L				*80.1*	*50-135*		
Surrogate: 2,4,6-Tribromophenol	*33.11*	S	ug/L				*132*	*40-125*		
LCS Dup (LCSD-64977)						Prepared & Analyzed: 06-Mar-12				
Acenaphthene	**20.85**		ug/L	5.0			83.4	45-110	3.78	40.0
Acenaphthylene	**20.74**		ug/L	5.0			83.0	50-105	1.61	40.0
Anthracene	**20.74**		ug/L	5.0			82.9	55-110	3.83	40.0
Benzo(a)anthracene	**20.41**		ug/L	5.0			81.6	55-110	2.67	40.0
Benzo(a)pyrene	**21.44**		ug/L	5.0			85.8	55-110	0.187	40.0
4-Methylphenol	**18.04**		ug/L	5.0			72.2	30-110	1.30	40.0
Benzo(b)fluoranthene	**21.83**		ug/L	5.0			87.3	45-120	0.319	40.0
Benzo(g,h,i)perylene	**21.83**		ug/L	5.0			87.3	40-125	0.272	40.0
Benzo(k)fluoranthene	**22.76**		ug/L	5.0			91.0	45-125	0.243	40.0
Bis(2-ethylhexyl)phthalate	**18.82**		ug/L	5.0			75.3	40-125	0.559	40.0
Butylbenzylphthalate	**18.85**		ug/L	5.0			75.4	45-115	2.31	40.0
4-Chloro-3-methylphenol	**21.08**		ug/L	5.0			84.3	45-110	5.18	40.0
2-Chlorophenol	**18.86**		ug/L	5.0			75.4	35-105	0.313	40.0
Chrysene	**19.34**		ug/L	5.0			77.3	55-110	2.95	40.0
Dibenzo(a,h)anthracene	**23.63**		ug/L	5.0			94.5	40-125	0.578	40.0
2,4-Dichlorophenol	**21.41**		ug/L	5.0			85.6	50-105	1.83	40.0
Diethylphthalate	**22.53**		ug/L	5.0			90.1	40-120	4.65	40.0
Dimethylphthalate	**21.53**		ug/L	5.0			86.1	25-125	5.01	40.0
2,4-Dimethylphenol	**23.96**		ug/L	5.0			95.8	30-110	1.14	40.0
Di-n-butylphthalate	**21.92**		ug/L	5.0			87.7	55-115	0.347	40.0
4,6-Dinitro-2-methylphenol	**26.83**		ug/L	10			107	40-130	5.39	40.0
2,4-Dinitrophenol	**38.14**	S	ug/L	10			153	15-140	5.47	40.0
Di-n-octylphthalate	**21.04**		ug/L	5.0			84.2	35-135	0.242	40.0
Fluoranthene	**20.67**		ug/L	5.0			82.7	55-115	1.50	40.0
Fluorene	**21.34**		ug/L	5.0			85.4	50-110	3.57	40.0
Indeno(1,2,3-cd)pyrene	**22.62**		ug/L	5.0			90.5	45-125	0.0195	40.0
2-Methylnaphthalene	**21.15**		ug/L	5.0			84.6	45-105	1.70	40.0

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 64977 - BNA_W_PR										
LCS Dup (LCSD-64977)						Prepared & Analyzed: 06-Mar-12				
2-Methylphenol	**18.59**		ug/L	5.0			74.4	40-110	1.49	40.0
Naphthalene	**20.56**		ug/L	5.0			82.2	40-100	3.33	40.0
2-Nitrophenol	**22.40**		ug/L	5.0			89.6	40-115	2.15	40.0
4-Nitrophenol	**32.71**	S	ug/L	10			131	0-125	2.92	40.0
Pentachlorophenol	**24.82**		ug/L	10			99.3	40-115	4.68	40.0
Phenanthrene	**20.75**		ug/L	5.0			83.0	50-115	2.28	40.0
Phenol	**18.03**		ug/L	5.0			72.1	0-115	3.50	40.0
Pyrene	**18.94**		ug/L	5.0			75.7	50-130	0.668	40.0
2,4,5-Trichlorophenol	**21.10**		ug/L	10			84.4	50-110	2.10	40.0
2,4,6-Trichlorophenol	**22.62**		ug/L	5.0			90.5	50-115	5.38	40.0
Surrogate: 2-Fluorobiphenyl	*21.83*		ug/L				*87.3*	*50-110*		
Surrogate: 2-Fluorophenol	*18.97*		ug/L				*75.9*	*20-110*		
Surrogate: Nitrobenzene-d5	*22.58*		ug/L				*90.3*	*40-110*		
Surrogate: Phenol-d5	*20.86*		ug/L				*83.5*	*10-115*		
Surrogate: Terphenyl-d14	*20.01*		ug/L				*80.0*	*50-135*		
Surrogate: 2,4,6-Tribromophenol	*32.12*	S	ug/L				*128*	*40-125*		
Blank (MB-64977)						Prepared & Analyzed: 06-Mar-12				
Acenaphthene	< 5.0	U	ug/L	5.0				-		
Acenaphthylene	< 5.0	U	ug/L	5.0				-		
Anthracene	< 5.0	U	ug/L	5.0				-		
Benzo(a)anthracene	< 5.0	U	ug/L	5.0				-		
Benzo(a)pyrene	< 5.0	U	ug/L	5.0				-		
4-Methylphenol	< 5.0	U	ug/L	5.0				-		
Benzo(b)fluoranthene	< 5.0	U	ug/L	5.0				-		
Benzo(g,h,i)perylene	< 5.0	U	ug/L	5.0				-		
Benzo(k)fluoranthene	< 5.0	U	ug/L	5.0				-		
Bis(2-ethylhexyl)phthalate	< 5.0	U	ug/L	5.0				-		
Butylbenzylphthalate	< 5.0	U	ug/L	5.0				-		
4-Chloro-3-methylphenol	< 5.0	U	ug/L	5.0				-		
2-Chlorophenol	< 5.0	U	ug/L	5.0				-		
Chrysene	< 5.0	U	ug/L	5.0				-		
Dibenzo(a,h)anthracene	< 5.0	U	ug/L	5.0				-		
2,4-Dichlorophenol	< 5.0	U	ug/L	5.0				-		
Diethylphthalate	< 5.0	U	ug/L	5.0				-		
Dimethylphthalate	< 5.0	U	ug/L	5.0				-		
2,4-Dimethylphenol	< 5.0	U	ug/L	5.0				-		
Di-n-butylphthalate	< 5.0	U	ug/L	5.0				-		
4,6-Dinitro-2-methylphenol	< 10	U	ug/L	10				-		
2,4-Dinitrophenol	< 10	U	ug/L	10				-		
Di-n-octylphthalate	< 5.0	U	ug/L	5.0				-		
Fluoranthene	< 5.0	U	ug/L	5.0				-		
Fluorene	< 5.0	U	ug/L	5.0				-		
Indeno(1,2,3-cd)pyrene	< 5.0	U	ug/L	5.0				-		
2-Methylnaphthalene	< 5.0	U	ug/L	5.0				-		
2-Methylphenol	< 5.0	U	ug/L	5.0				-		
Naphthalene	< 5.0	U	ug/L	5.0				-		
2-Nitrophenol	< 5.0	U	ug/L	5.0				-		
4-Nitrophenol	< 10	U	ug/L	10				-		
Pentachlorophenol	< 10	U	ug/L	10				-		
Phenanthrene	< 5.0	U	ug/L	5.0				-		
Phenol	< 5.0	U	ug/L	5.0				-		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 64977 - BNA_W_PR										
Blank (MB-64977)						Prepared & Analyzed: 06-Mar-12				
Pyrene	< 5.0	U	ug/L	5.0				-		
2,4,5-Trichlorophenol	< 10	U	ug/L	10				-		
2,4,6-Trichlorophenol	< 5.0	U	ug/L	5.0				-		
Surrogate: 2-Fluorobiphenyl	*20.38*		ug/L				*81.5*	*50-110*		
Surrogate: 2-Fluorophenol	*19.12*		ug/L				*76.5*	*20-110*		
Surrogate: Nitrobenzene-d5	*22.17*		ug/L				*88.7*	*40-110*		
Surrogate: Phenol-d5	*19.56*		ug/L				*78.2*	*10-115*		
Surrogate: Terphenyl-d14	*21.14*		ug/L				*84.6*	*50-135*		
Surrogate: 2,4,6-Tribromophenol	*31.53*	S	ug/L				*126*	*40-125*		

Notes and Definitions

E	Result is estimated due to possible interference or the result was greater than the calibration range
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
J	Reading was less than the PQL but greater than the MDL or Estimated concentration for Tentatively Identified Compound
QM1	The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
R01	The Reporting Limit has been raised to account for matrix interference.
S	Matrix spike recovery falls outside of the control limit
U	Compound not detected below method detection limit at or above the MRL.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
ClHT	The method for residual chlorine indicates that samples should be analyzed immediately. 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous residual chlorine samples not analyzed in the field are considered out of hold time at the time of sample receipt.

Interpretation of Total Petroleum Hydrocarbon Report

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

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

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

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

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

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

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

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

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

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

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

Validated by:
June O'Connor
Nicole Leja

SB44630 OK

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 2

Special Handling:

☐ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: 2-day approved by Dulce
All TATs subject to laboratory approval.
Min. 24-hour notification needed for rushes.
Samples disposed of after 60 days unless otherwise instructed.

Report To: Mary Cathey
GES-364 ~~Littleton~~ Rd, Ste 4
Westford, MA 01886

Telephone #: 800-221-6119 x3244
Project Mgr. Mary Cathey

Invoice To: GES.
364 Littleton Rd, Ste 4
Westford, MA

P.O. No.: 1604100 RQN:

Project No.: ~~MOBIL 1476~~ 1604100
Site Name: MOBIL 1476
Location: Acton, MA State: MA
Sampler(s): [signature]

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8=$NaHSO_4$ 9=Deionized Water 10= unpreserved 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

List preservative code below: 10 | 10 | 10 | 10 | 10 | 3

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	TSS	Chrom VI (total)	Chrom III (total)	Chloride	Total Resid Chlorine	TPH-1664	~~VOCs + oxygenates~~	~~EDB~~
SB44630-01	MW-6R	3/1/2012	11:20	[illegible]	[illegible]		2		2	X	[illegible]	[illegible]	X	X	X		
02	MW-9	3/1/2012	12:5[illegible]	[illegible]	[illegible]		[illegible]		2	X	X	X	X	X	X		

QA/QC Reporting Notes:
* additional charges may apply

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

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

State-specific reporting standards: per attached list.

Relinquished by:	Received by:	Date	Time:	Temp°C
[signature]	Spectrum	3/1/12	14:30	
[signature]	[signature]	3-1-12	1430	
[signature]	[signature]	3-1-12	1730	1.2

☐ EDD Format
☒ E-mail to mcathey@gesonline.com

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

✓ SB44630

CHAIN OF CUSTODY RECORD

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Page 2 of 2

Special Handling:
☒ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: 2-day TAT approved by Dulce
- All TATs subject to laboratory approval.
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- Samples disposed of after 60 days unless otherwise instructed.

Report To: Brian Horan & Mary Cathey
GES
364 Littleton Rd, Ste 4
Westford, MA 01886
Telephone #: 800-221-6119 x3244
Project Mgr. Mary Cathey

Invoice To: GES
364 Littleton Rd, Ste 4
Westford, MA 01886
P.O. No.: 1604100 RQN:

Project No.: 1604100
Site Name: MOBIL 1476
Location: Acton State: MA
Sampler(s): Jason Aleskevicz

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8= $NaHSO_4$ 9= Deionized Water 10= 11=

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

G=Grab C=Composite

List preservative code below: 10 10 10 10

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	PAHs (8270)	Total Phenols (8270)	Total Phthalates (8270)	Total PCBs
S31465-01	MW-6R	3/1/2012	11:20	G	GW		4			X	X	X	X
02	MW-9	3/1/2012	12:50	G	GW		4			X	X	X	X

QA/QC Reporting Notes:
* additional charges may apply

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

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

State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	Spectrum	3/1/12	1430	
Fnc C	[signature]	3-1-12	14[illegible]	
G. Kellan	[signature]	3-1-12	1730	1.2

☐ EDD Format
☒ E-mail to mcathey@gesonline.com

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

Category I - Petroleum Related Site Remediation
Sub-categories A (Gasoline) & B (fuel oil)
Category III - Contaminated Construction Dewatering

Analysis	Method	Spectrum Price per sample
TSS	~~Method 160.2~~ SM5 2540D (5 mg/L)	$10.00
TPH	Method 1664A (5 mg/l)	$47.00
TPH-GRO	SW846 8015 Mod	$45.00
Volatile Organics + EDB, oxygenates	Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)	$50.00
Total Metals - 13 Priority Pollutants	ICP/AES 2 Methods 200.7, 3010A/6010C & 245.1/7470A	$73.00
Mercury	Method 245.1,7470A (0.2 ug/L), ~~Methods 245.7, 1631 (0.001 ug/l)~~	$15.00
Total EPH & target PAHs	MA EPH (5 ug/L)	$50.00
Iron	ICP/AES 2 Methods 200.7, 3010A/6010C	$15.00
Total Chromium - hex	Method 7196A /SM3500CrD (10 ug/L), ~~Methods 218.6, 1636 (1 ug/L)~~	$16.00
Total Chromium - tri	3500 CrD	$21.00
Chloride	300.0, ~~SM5 4110B~~ (0.1 mg/L) SAI MRL 1.0 mg/L	$9.00
Total Group II PAHs	MA EPH (5 ug/L)	$50.00
Cyanide (total)	Method 335.4 / SW846 9012B (5 ug/L)	$13.00
Total residual chlorine (TRC)	Methods ~~330.1, 330.5, SM5 4500-Cl D (200 ug/L) SM5 4500-Cl E (10 ug/L)~~ SM4500-Cl-G at MRL of 20 ug/L	$9.00
Total Phenols	~~5 ug/L, Methods 8260C, 8270D, 2 ug/L, Methods 420.1, 420.2,~~ 50 ug/L, Method 420.4	$19.00
Total Phenols	5 ug/L, Methods ~~8260C,~~ 8270D, 2 ug/L, ~~Methods 420.1, 420.2, 50 ug/L, Method 420.4~~	$74.00
Pentachlorophenol (PCP)	Methods 3510C/8270D, ~~525 (5 ug/L)~~	$74.00
Total Phthalates (Phthalate esters)	Method 3510C/8270D (5 ug/L), ~~525.2 (0.5 ug/L)~~	$79.00
Bis (2-Ethylhexyl) Phthalate	Method 3510C/8270D (5 ug/L), ~~525.2 (0.5 ug/L)~~	$79.00
Total PCBs	Method 8082 (0.5 ug/L), ~~Method 1668b (0.00005 ug/L)~~	$42.00

Notes:
Priority Pollutant Metals (13) - Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn

SB44630 CL

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 2

Special Handling:
☐ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: 2-day approved by Dulce
All TATs subject to laboratory approval.
Min. 24-hour notification needed for rushes.
Samples disposed of after 60 days unless otherwise instructed.

Report To: Mary Cathey
GES-364 ~~Littleton~~ Rd, Ste 4
Westford, MA 01886
Telephone #: 800-221-6119 x3244
Project Mgr. Mary Cathey

Invoice To: GES
364 Littleton Rd, Ste 4
Westford, MA
P.O. No.: 1604100 RQN:

Project No.: ~~MOBIL 1476~~ 1604100
Site Name: MOBIL 1476
Location: Acton, MA State: MA
Sampler(s): [signature]

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8=$NaHSO_4$ 9=Deionized Water 10= unpreserved 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

List preservative code below: 10, 10, 10, 10, 10, 3

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Cyanide	TSS	Chrom VI (total)	Chrom III (total)	Chloride	Total Resid Chlorine	TPH-1664	~~VOCs + Oxygenates~~ MWC	~~EDB (low level) (504)~~ MWC
SB44630-01	MW-6R	3/1/2012	11:20				2		2	X	X			X	X	X		
02	MW-9	3/1/2012	12:50						2	X	X	X	X	X	X	X		

QA/QC Reporting Notes:
* additional charges may apply

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

QA/QC Reporting Level
☒ Standard ☐ No QC ☐ DQA*
☐ NY ASP A* ☐ NY ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ TIER II* ☐ TIER V*
☐ Other
State-specific reporting standards:

per attached list.

Cyanide added per client request

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	Spectrum	3/1/12	14:30	
[signature]	[signature]	3-1-12	1430	
[signature]	[signature]	3-1-12	1730	1.2

☐ EDD Format
☒ E-mail to mcathey@gesonline.com

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

Report Date:
27-Mar-12 09:21

☐ Final Report
☐ Re-Issued Report
☑ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

GES, Inc.
364 Littleton Road, Suite 4
Westford, MA 01886
Attn: Mary Cathey

Project: Mobil Station No. 1476 - Acton, MA
Project #: 1604100

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB44630-01	MW-6R	Ground Water	01-Mar-12 11:20	01-Mar-12 17:30
SB44630-02	MW-9	Ground Water	01-Mar-12 12:50	01-Mar-12 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

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes.
Please note that this report contains 22 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

CASE NARRATIVE:

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

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

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

Samples:

SB44630-01 *MW-6R*

The pH of this sample has been adjusted in the laboratory for the tests listed below in accordance with the preservation requirements of the applicable methods.

Cyanide, Total

SB44630-02 *MW-9*

The pH of this sample has been adjusted in the laboratory for the tests listed below in accordance with the preservation requirements of the applicable methods.

Cyanide, Total

EPA 300.0

Samples:

SB44630-01 *MW-6R*

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

Chloride

SB44630-02 *MW-9*

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

Chloride

SW846 7196A/SM3500CrD

Spikes:

1204660-MS1 *Source: SB44630-01*

The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.

Hexavalent Chromium

1204660-MSD1 *Source: SB44630-01*

The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.

Hexavalent Chromium

Samples:

SB44630-01 *MW-6R*

The Reporting Limit has been raised to account for matrix interference.

Hexavalent Chromium

SB44630-02 *MW-9*

The Reporting Limit has been raised to account for matrix interference.

Hexavalent Chromium

SW846 8270D

Blanks:

MB-64977

Matrix spike recovery falls outside of the control limit

2,4,6-Tribromophenol

Laboratory Control Samples:

64926 BS

2,4-Dinitrophenol percent recovery 156 (15-140) is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MW-9

4-Nitrophenol percent recovery 132 (0-125) is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MW-9

64977 BS

2,4-Dinitrophenol percent recovery 161 (15-140) is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MW-6R
MW-9

4-Nitrophenol percent recovery 135 (0-125) is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

MW-6R
MW-9

LCS-64926

Matrix spike recovery falls outside of the control limit

2,4-Dinitrophenol
4-Nitrophenol

LCS-64977

Matrix spike recovery falls outside of the control limit

2,4,6-Tribromophenol
2,4-Dinitrophenol
4-Nitrophenol

Result is estimated due to possible interference or the result was greater than the calibration range

2,4-Dinitrophenol

LCSD-64926

Matrix spike recovery falls outside of the control limit

2,4-Dinitrophenol
4-Nitrophenol

LCSD-64977

Matrix spike recovery falls outside of the control limit

2,4,6-Tribromophenol
2,4-Dinitrophenol
4-Nitrophenol

SW846 8270D

Samples:

SB44630-01 *MW-6R*

Matrix spike recovery falls outside of the control limit

2,4,6-Tribromophenol

SB44630-02 *MW-9*

Matrix spike recovery falls outside of the control limit

2,4,6-Tribromophenol
2-Fluorophenol
Phenol-d5

SB44630-02RE1 *MW-9*

Matrix spike recovery falls outside of the control limit

2-Fluorophenol
Phenol-d5

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-6R SB44630-01	1604100	Ground Water	01-Mar-12 11:20	01-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3510C													
12674-11-2	Aroclor-1016	< 0.213		µg/l	0.213	0.00915	1	SW846 8082A	02-Mar-12	02-Mar-12	IMR	1204677	
11104-28-2	Aroclor-1221	< 0.213		µg/l	0.213	0.0152	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 0.213		µg/l	0.213	0.0143	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 0.213		µg/l	0.213	0.00777	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 0.213		µg/l	0.213	0.0120	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 0.213		µg/l	0.213	0.0105	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 0.213		µg/l	0.213	0.00617	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 0.213		µg/l	0.213	0.00926	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 0.213		µg/l	0.213	0.0101	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*61*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*94*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*44*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*39*			*30-150 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
	Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0	0.6	1	EPA 1664 Rev. A	02-Mar-12	05-Mar-12	JK	1204669	
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Lab Preserved**		N/A			1	EPA 200/6000 methods	02-Mar-12	02-Mar-12	AMT	1204702	
Total Metals by EPA 200 Series Methods													
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0026	1	EPA 200.7	03-Mar-12	04-Mar-12	EDT	1204688	X
General Chemistry Parameters													
16065-83-1	Trivalent Chromium	< 0.0050		mg/l	0.0050	0.0034	1	Calculation	03-Mar-12	05-Mar-12	LR	1204688	
7782-50-5	Total Residual Chlorine	< 0.009	U,CIHT	mg/l	0.020	0.009	1	SM4500-Cl-G	01-Mar-12 17:30	01-Mar-12 17:30	GMA	1204649	X
16887-00-6	Chloride	**522**	GS1	mg/l	10.0	3.07	10	EPA 300.0	02-Mar-12	02-Mar-12	Jolan	1204835	X
18540-29-9	Hexavalent Chromium	< 0.010	R01	mg/l	0.010	0.005	1	SW846 7196A/SM3500C rD	01-Mar-12 18:15	01-Mar-12 18:52	GMA	1204660	
57-12-5	Cyanide (total)	< 0.00500		mg/l	0.00500	0.00498	1	EPA 335.4 / SW846 9012B	02-Mar-12	02-Mar-12	eemon	1204681	X
	Total Suspended Solids	**6**		mg/l	5	3	1	SM2540D	02-Mar-12	02-Mar-12	BD	1204719	X
Subcontracted Analyses													
Subcontracted Analyses Prepared by method BNA_W_PR													
Analysis performed by Spectrum Analytical, Inc.-- RI Division													
83-32-9	Acenaphthene	< 5.0		ug/L	5.0	0.33	1	SW846 8270D	06-Mar-12	06-Mar-12	MRI90	64977	
208-96-8	Acenaphthylene	< 5.0		ug/L	5.0	0.21	1	"	"	"	"	"	
120-12-7	Anthracene	< 5.0		ug/L	5.0	0.24	1	"	"	"	"	"	
56-55-3	Benzo(a)anthracene	< 5.0		ug/L	5.0	0.20	1	"	"	"	"	"	
106-44-5	4-Methylphenol	**7.1**		ug/L	5.0	0.70	1	"	"	"	"	"	
50-32-8	Benzo(a)pyrene	< 5.0		ug/L	5.0	0.60	1	"	"	"	"	"	
205-99-2	Benzo(b)fluoranthene	< 5.0		ug/L	5.0	0.47	1	"	"	"	"	"	
191-24-2	Benzo(g,h,i)perylene	< 5.0		ug/L	5.0	0.20	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-6R	1604100	Ground Water	01-Mar-12 11:20	01-Mar-12
SB44630-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Subcontracted Analyses													
Subcontracted Analyses													
Prepared by method BNA_W_PR													
Analysis performed by Spectrum Analytical, Inc.-- RI Division													
207-08-9	Benzo(k)fluoranthene	< 5.0		ug/L	5.0	0.60	1	SW846 8270D	06-Mar-12	06-Mar-12	MRI90	64977	
117-81-7	Bis(2-ethylhexyl)phthalate	< 5.0		ug/L	5.0	0.65	1	"	"	"	"	"	
85-68-7	Butylbenzylphthalate	< 5.0		ug/L	5.0	0.16	1	"	"	"	"	"	
59-50-7	4-Chloro-3-methylphenol	< 5.0		ug/L	5.0	0.30	1	"	"	"	"	"	
95-57-8	2-Chlorophenol	< 5.0		ug/L	5.0	0.31	1	"	"	"	"	"	
218-01-9	Chrysene	< 5.0		ug/L	5.0	0.21	1	"	"	"	"	"	
53-70-3	Dibenzo(a,h)anthracene	< 5.0		ug/L	5.0	0.22	1	"	"	"	"	"	
120-83-2	2,4-Dichlorophenol	< 5.0		ug/L	5.0	0.29	1	"	"	"	"	"	
84-66-2	Diethylphthalate	< 5.0		ug/L	5.0	0.23	1	"	"	"	"	"	
131-11-3	Dimethylphthalate	< 5.0		ug/L	5.0	0.19	1	"	"	"	"	"	
105-67-9	2,4-Dimethylphenol	< 5.0		ug/L	5.0	0.90	1	"	"	"	"	"	
84-74-2	Di-n-butylphthalate	< 5.0		ug/L	5.0	0.24	1	"	"	"	"	"	
534-52-1	4,6-Dinitro-2-methylphenol	< 5.0		ug/L	5.0	0.40	1	"	"	"	"	"	
51-28-5	2,4-Dinitrophenol	< 5.0		ug/L	5.0	1.8	1	"	"	"	"	"	
117-84-0	Di-n-octylphthalate	< 5.0		ug/L	5.0	0.24	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 5.0		ug/L	5.0	0.17	1	"	"	"	"	"	
86-73-7	Fluorene	< 5.0		ug/L	5.0	0.22	1	"	"	"	"	"	
193-39-5	Indeno(1,2,3-cd)pyrene	< 5.0		ug/L	5.0	0.19	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 5.0		ug/L	5.0	0.47	1	"	"	"	"	"	
95-48-7	2-Methylphenol	**7.0**		ug/L	5.0	0.48	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.0		ug/L	5.0	0.48	1	"	"	"	"	"	
88-75-5	2-Nitrophenol	< 5.0		ug/L	5.0	0.30	1	"	"	"	"	"	
100-02-7	4-Nitrophenol	< 5.0		ug/L	5.0	0.27	1	"	"	"	"	"	
87-86-5	Pentachlorophenol	**<0.85**	Ua	ug/L	5.0	0.85	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 5.0		ug/L	5.0	0.23	1	"	"	"	"	"	
108-95-2	Phenol	< 5.0		ug/L	5.0	0.38	1	"	"	"	"	"	
129-00-0	Pyrene	< 5.0		ug/L	5.0	0.22	1	"	"	"	"	"	
95-95-4	2,4,5-Trichlorophenol	< 5.0		ug/L	5.0	0.13	1	"	"	"	"	"	
88-06-2	2,4,6-Trichlorophenol	< 5.0		ug/L	5.0	0.27	1	"	"	"	"	"	
Surrogate recoveries:													
321-60-8	*2-Fluorobiphenyl*	*82.4*			*50-110 %*			"	"	"	"	"	
367-12-4	*2-Fluorophenol*	*46.4*			*20-110 %*			"	"	"	"	"	
4165-60-0	*Nitrobenzene-d5*	*81.5*			*40-110 %*			"	"	"	"	"	
4165-62-2	*Phenol-d5*	*30.0*			*10-115 %*			"	"	"	"	"	
1718-51-0	*Terphenyl-d14*	*84.2*			*50-135 %*			"	"	"	"	"	
118-79-6	*2,4,6-Tribromophenol*	*138*	S		*40-125 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9 SB44630-02	1604100	Ground Water	01-Mar-12 12:50	01-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3510C													
12674-11-2	Aroclor-1016	< 0.217		µg/l	0.217	0.00935	1	SW846 8082A	02-Mar-12	02-Mar-12	IMR	1204677	
11104-28-2	Aroclor-1221	< 0.217		µg/l	0.217	0.0155	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 0.217		µg/l	0.217	0.0146	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 0.217		µg/l	0.217	0.00793	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 0.217		µg/l	0.217	0.0123	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 0.217		µg/l	0.217	0.0108	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 0.217		µg/l	0.217	0.00630	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 0.217		µg/l	0.217	0.00946	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 0.217		µg/l	0.217	0.0103	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*75*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*57*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*44*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*31*			*30-150 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
	Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0	0.6	1	EPA 1664 Rev. A	02-Mar-12	05-Mar-12	JK	1204669	
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Lab Preserved**		N/A			1	EPA 200/6000 methods	02-Mar-12	02-Mar-12	AMT	1204702	
Total Metals by EPA 200 Series Methods													
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0026	1	EPA 200.7	03-Mar-12	04-Mar-12	EDT	1204688	X
General Chemistry Parameters													
16065-83-1	Trivalent Chromium	< 0.0050		mg/l	0.0050	0.0034	1	Calculation	03-Mar-12	05-Mar-12	LR	1204688	
7782-50-5	Total Residual Chlorine	< 0.009	U,CIHT	mg/l	0.020	0.009	1	SM4500-Cl-G	01-Mar-12 17:30	01-Mar-12 17:30	GMA	1204649	X
16887-00-6	Chloride	**617**	GS1	mg/l	10.0	3.07	10	EPA 300.0	02-Mar-12	02-Mar-12	Jolan	1204835	X
18540-29-9	Hexavalent Chromium	< 0.010	R01	mg/l	0.010	0.005	1	SW846 7196A/SM3500C rD	01-Mar-12 18:15	01-Mar-12 18:54	GMA	1204660	
57-12-5	Cyanide (total)	< 0.00500		mg/l	0.00500	0.00498	1	EPA 335.4 / SW846 9012B	02-Mar-12	02-Mar-12	eemon	1204681	X
	Total Suspended Solids	**5**		mg/l	5	3	1	SM2540D	02-Mar-12	02-Mar-12	BD	1204719	X
Subcontracted Analyses													
Subcontracted Analyses Prepared by method BNA_W_PR													
Analysis performed by Spectrum Analytical, Inc.-- RI Division													
83-32-9	Acenaphthene	< 5.0		ug/L	5.0	0.33	1	SW846 8270D	02-Mar-12	05-Mar-12	MRI90	64926	
208-96-8	Acenaphthylene	< 5.0		ug/L	5.0	0.21	1	"	"	"	"	"	
120-12-7	Anthracene	< 5.0		ug/L	5.0	0.24	1	"	"	"	"	"	
56-55-3	Benzo(a)anthracene	< 5.0		ug/L	5.0	0.20	1	"	"	"	"	"	
106-44-5	4-Methylphenol	< 5.0		ug/L	5.0	0.70	1	"	"	"	"	"	
50-32-8	Benzo(a)pyrene	< 5.0		ug/L	5.0	0.60	1	"	"	"	"	"	
205-99-2	Benzo(b)fluoranthene	< 5.0		ug/L	5.0	0.47	1	"	"	"	"	"	
191-24-2	Benzo(g,h,i)perylene	< 5.0		ug/L	5.0	0.20	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9	1604100	Ground Water	01-Mar-12 12:50	01-Mar-12
SB44630-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Subcontracted Analyses													
Subcontracted Analyses Prepared by method BNA_W_PR													
Analysis performed by Spectrum Analytical, Inc.-- RI Division													
207-08-9	Benzo(k)fluoranthene	< 5.0		ug/L	5.0	0.60	1	SW846 8270D	02-Mar-12	05-Mar-12	MRI90	64926	
117-81-7	Bis(2-ethylhexyl)phthalate	< 5.0		ug/L	5.0	0.65	1	"	"	"	"	"	
85-68-7	Butylbenzylphthalate	< 5.0		ug/L	5.0	0.16	1	"	"	"	"	"	
59-50-7	4-Chloro-3-methylphenol	< 5.0		ug/L	5.0	0.30	1	"	"	"	"	"	
95-57-8	2-Chlorophenol	< 5.0		ug/L	5.0	0.31	1	"	"	"	"	"	
218-01-9	Chrysene	< 5.0		ug/L	5.0	0.21	1	"	"	"	"	"	
53-70-3	Dibenzo(a,h)anthracene	< 5.0		ug/L	5.0	0.22	1	"	"	"	"	"	
120-83-2	2,4-Dichlorophenol	< 5.0		ug/L	5.0	0.29	1	"	"	"	"	"	
84-66-2	Diethylphthalate	< 5.0		ug/L	5.0	0.23	1	"	"	"	"	"	
131-11-3	Dimethylphthalate	< 5.0		ug/L	5.0	0.19	1	"	"	"	"	"	
105-67-9	2,4-Dimethylphenol	< 5.0		ug/L	5.0	0.90	1	"	"	"	"	"	
84-74-2	Di-n-butylphthalate	< 5.0		ug/L	5.0	0.24	1	"	"	"	"	"	
534-52-1	4,6-Dinitro-2-methylphenol	< 5.0		ug/L	5.0	0.40	1	"	"	"	"	"	
51-28-5	2,4-Dinitrophenol	< 5.0		ug/L	5.0	1.8	1	"	"	"	"	"	
117-84-0	Di-n-octylphthalate	< 5.0		ug/L	5.0	0.24	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 5.0		ug/L	5.0	0.17	1	"	"	"	"	"	
86-73-7	Fluorene	< 5.0		ug/L	5.0	0.22	1	"	"	"	"	"	
193-39-5	Indeno(1,2,3-cd)pyrene	< 5.0		ug/L	5.0	0.19	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 5.0		ug/L	5.0	0.47	1	"	"	"	"	"	
95-48-7	2-Methylphenol	< 5.0		ug/L	5.0	0.48	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.0		ug/L	5.0	0.48	1	"	"	"	"	"	
88-75-5	2-Nitrophenol	< 5.0		ug/L	5.0	0.30	1	"	"	"	"	"	
100-02-7	4-Nitrophenol	< 5.0		ug/L	5.0	0.27	1	"	"	"	"	"	
87-86-5	Pentachlorophenol	**<0.85**	Ua	ug/L	5.0	0.85	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 5.0		ug/L	5.0	0.23	1	"	"	"	"	"	
108-95-2	Phenol	< 5.0		ug/L	5.0	0.38	1	"	"	"	"	"	
129-00-0	Pyrene	< 5.0		ug/L	5.0	0.22	1	"	"	"	"	"	
95-95-4	2,4,5-Trichlorophenol	< 5.0		ug/L	5.0	0.13	1	"	"	"	"	"	
88-06-2	2,4,6-Trichlorophenol	< 5.0		ug/L	5.0	0.27	1	"	"	"	"	"	
Surrogate recoveries:													
321-60-8	*2-Fluorobiphenyl*	*79.7*			*50-110 %*			"	"	"	"	"	
367-12-4	*2-Fluorophenol*	*15.6*	S		*20-110 %*			"	"	"	"	"	
4165-60-0	*Nitrobenzene-d5*	*87.3*			*40-110 %*			"	"	"	"	"	
4165-62-2	*Phenol-d5*	*4.27*	S		*10-115 %*			"	"	"	"	"	
1718-51-0	*Terphenyl-d14*	*69.0*			*50-135 %*			"	"	"	"	"	
118-79-6	*2,4,6-Tribromophenol*	*5.14*	S		*40-125 %*			"	"	"	"	"	
Re-analysis of Subcontracted Analyses Prepared by method BNA_W_PR													
83-32-9	Acenaphthene	< 5.0		ug/L	5.0	0.33	1	SW846 8270D	06-Mar-12	06-Mar-12	MRI90	64977	
208-96-8	Acenaphthylene	< 5.0		ug/L	5.0	0.21	1	"	"	"	"	"	
120-12-7	Anthracene	< 5.0		ug/L	5.0	0.24	1	"	"	"	"	"	
56-55-3	Benzo(a)anthracene	< 5.0		ug/L	5.0	0.20	1	"	"	"	"	"	
106-44-5	4-Methylphenol	< 5.0		ug/L	5.0	0.70	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-9 SB44630-02	1604100	Ground Water	01-Mar-12 12:50	01-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Subcontracted Analyses													
Analysis performed by Spectrum Analytical, Inc.-- RI Division													
Re-analysis of Subcontracted Analyses Prepared by method BNA_W_PR													
50-32-8	Benzo(a)pyrene	< 5.0		ug/L	5.0	0.60	1	SW846 8270D	06-Mar-12	06-Mar-12	MRI90	64977	
205-99-2	Benzo(b)fluoranthene	< 5.0		ug/L	5.0	0.47	1	"	"	"	"	"	
191-24-2	Benzo(g,h,i)perylene	< 5.0		ug/L	5.0	0.20	1	"	"	"	"	"	
207-08-9	Benzo(k)fluoranthene	< 5.0		ug/L	5.0	0.60	1	"	"	"	"	"	
117-81-7	Bis(2-ethylhexyl)phthalate	< 5.0		ug/L	5.0	0.65	1	"	"	"	"	"	
85-68-7	Butylbenzylphthalate	< 5.0		ug/L	5.0	0.16	1	"	"	"	"	"	
59-50-7	4-Chloro-3-methylphenol	< 5.0		ug/L	5.0	0.30	1	"	"	"	"	"	
95-57-8	2-Chlorophenol	< 5.0		ug/L	5.0	0.31	1	"	"	"	"	"	
218-01-9	Chrysene	< 5.0		ug/L	5.0	0.21	1	"	"	"	"	"	
53-70-3	Dibenzo(a,h)anthracene	< 5.0		ug/L	5.0	0.22	1	"	"	"	"	"	
120-83-2	2,4-Dichlorophenol	< 5.0		ug/L	5.0	0.29	1	"	"	"	"	"	
84-66-2	Diethylphthalate	< 5.0		ug/L	5.0	0.23	1	"	"	"	"	"	
131-11-3	Dimethylphthalate	< 5.0		ug/L	5.0	0.19	1	"	"	"	"	"	
105-67-9	2,4-Dimethylphenol	< 5.0		ug/L	5.0	0.90	1	"	"	"	"	"	
84-74-2	Di-n-butylphthalate	< 5.0		ug/L	5.0	0.24	1	"	"	"	"	"	
534-52-1	4,6-Dinitro-2-methylphenol	< 5.0		ug/L	5.0	0.40	1	"	"	"	"	"	
51-28-5	2,4-Dinitrophenol	< 5.0		ug/L	5.0	1.8	1	"	"	"	"	"	
117-84-0	Di-n-octylphthalate	< 5.0		ug/L	5.0	0.24	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 5.0		ug/L	5.0	0.17	1	"	"	"	"	"	
86-73-7	Fluorene	< 5.0		ug/L	5.0	0.22	1	"	"	"	"	"	
193-39-5	Indeno(1,2,3-cd)pyrene	< 5.0		ug/L	5.0	0.19	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 5.0		ug/L	5.0	0.47	1	"	"	"	"	"	
95-48-7	2-Methylphenol	< 5.0		ug/L	5.0	0.48	1	"	"	"	"	"	
91-20-3	Naphthalene	< 5.0		ug/L	5.0	0.48	1	"	"	"	"	"	
88-75-5	2-Nitrophenol	< 5.0		ug/L	5.0	0.30	1	"	"	"	"	"	
100-02-7	4-Nitrophenol	< 5.0		ug/L	5.0	0.27	1	"	"	"	"	"	
87-86-5	Pentachlorophenol	**<0.85**	Ua	ug/L	5.0	0.85	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 5.0		ug/L	5.0	0.23	1	"	"	"	"	"	
108-95-2	Phenol	< 5.0		ug/L	5.0	0.38	1	"	"	"	"	"	
129-00-0	Pyrene	< 5.0		ug/L	5.0	0.22	1	"	"	"	"	"	
95-95-4	2,4,5-Trichlorophenol	< 5.0		ug/L	5.0	0.13	1	"	"	"	"	"	
88-06-2	2,4,6-Trichlorophenol	< 5.0		ug/L	5.0	0.27	1	"	"	"	"	"	
Surrogate recoveries:													
321-60-8	*2-Fluorobiphenyl*	*76.4*			*50-110 %*			"	"	"	"	"	
367-12-4	*2-Fluorophenol*	*14.1*	S		*20-110 %*			"	"	"	"	"	
4165-60-0	*Nitrobenzene-d5*	*73.0*			*40-110 %*			"	"	"	"	"	
4165-62-2	*Phenol-d5*	*3.40*	S		*10-115 %*			"	"	"	"	"	
1718-51-0	*Terphenyl-d14*	*80.7*			*50-135 %*			"	"	"	"	"	
118-79-6	*2,4,6-Tribromophenol*	*53.3*			*40-125 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204677 - SW846 3510C										
Blank (1204677-BLK1)					Prepared & Analyzed: 02-Mar-12					
Aroclor-1016	< 0.200		µg/l	0.200						
Aroclor-1016 [2C]	< 0.200		µg/l	0.200						
Aroclor-1221	< 0.200		µg/l	0.200						
Aroclor-1221 [2C]	< 0.200		µg/l	0.200						
Aroclor-1232	< 0.200		µg/l	0.200						
Aroclor-1232 [2C]	< 0.200		µg/l	0.200						
Aroclor-1242	< 0.200		µg/l	0.200						
Aroclor-1242 [2C]	< 0.200		µg/l	0.200						
Aroclor-1248	< 0.200		µg/l	0.200						
Aroclor-1248 [2C]	< 0.200		µg/l	0.200						
Aroclor-1254	< 0.200		µg/l	0.200						
Aroclor-1254 [2C]	< 0.200		µg/l	0.200						
Aroclor-1260	< 0.200		µg/l	0.200						
Aroclor-1260 [2C]	< 0.200		µg/l	0.200						
Aroclor-1262	< 0.200		µg/l	0.200						
Aroclor-1262 [2C]	< 0.200		µg/l	0.200						
Aroclor-1268	< 0.200		µg/l	0.200						
Aroclor-1268 [2C]	< 0.200		µg/l	0.200						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.193*		µg/l		*0.200*		*96*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.254*		µg/l		*0.200*		*127*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.217*		µg/l		*0.200*		*109*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.245*		µg/l		*0.200*		*123*	*30-150*		
LCS (1204677-BS1)					Prepared & Analyzed: 02-Mar-12					
Aroclor-1016	**2.52**		µg/l	0.200	2.50		101	50-140		
Aroclor-1016 [2C]	**2.59**		µg/l	0.200	2.50		103	50-140		
Aroclor-1260	**2.29**		µg/l	0.200	2.50		92	50-140		
Aroclor-1260 [2C]	**2.52**		µg/l	0.200	2.50		101	50-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.186*		µg/l		*0.200*		*93*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.208*		µg/l		*0.200*		*104*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.189*		µg/l		*0.200*		*94*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.202*		µg/l		*0.200*		*101*	*30-150*		
LCS Dup (1204677-BSD1)					Prepared & Analyzed: 02-Mar-12					
Aroclor-1016	**2.55**		µg/l	0.200	2.50		102	50-140	1	30
Aroclor-1016 [2C]	**2.60**		µg/l	0.200	2.50		104	50-140	0.7	30
Aroclor-1260	**2.39**		µg/l	0.200	2.50		95	50-140	4	30
Aroclor-1260 [2C]	**2.56**		µg/l	0.200	2.50		102	50-140	2	30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.201*		µg/l		*0.200*		*101*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.210*		µg/l		*0.200*		*105*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.196*		µg/l		*0.200*		*98*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.204*		µg/l		*0.200*		*102*	*30-150*		
Duplicate (1204677-DUP1)			**Source: SB44630-01**		Prepared & Analyzed: 02-Mar-12					
Aroclor-1016	< 0.215		µg/l	0.215		BRL				40
Aroclor-1016 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1221	< 0.215		µg/l	0.215		BRL				40
Aroclor-1221 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1232	< 0.215		µg/l	0.215		BRL				40
Aroclor-1232 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1242	< 0.215		µg/l	0.215		BRL				40

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204677 - SW846 3510C										
Duplicate (1204677-DUP1)			**Source: SB44630-01**			Prepared & Analyzed: 02-Mar-12				
Aroclor-1242 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1248	< 0.215		µg/l	0.215		BRL				40
Aroclor-1248 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1254	< 0.215		µg/l	0.215		BRL				40
Aroclor-1254 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1260	< 0.215		µg/l	0.215		BRL				40
Aroclor-1260 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1262	< 0.215		µg/l	0.215		BRL				40
Aroclor-1262 [2C]	< 0.215		µg/l	0.215		BRL				40
Aroclor-1268	< 0.215		µg/l	0.215		BRL				40
Aroclor-1268 [2C]	< 0.215		µg/l	0.215		BRL				40
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.101*		µg/l		*0.215*		*47*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.106*		µg/l		*0.215*		*49*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.0720*		µg/l		*0.215*		*33*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.0785*		µg/l		*0.215*		*36*	*30-150*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204669 - SW846 3510C										
Blank (1204669-BLK1)						Prepared: 02-Mar-12 Analyzed: 05-Mar-12				
Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0						
LCS (1204669-BS1)						Prepared: 02-Mar-12 Analyzed: 05-Mar-12				
Non-polar material (SGT-HEM)	**24.0**		mg/l		27.9		86	83-101		
Matrix Spike (1204669-MS1)			**Source: SB44630-01**			Prepared: 02-Mar-12 Analyzed: 05-Mar-12				
Non-polar material (SGT-HEM)	**23.4**		mg/l		27.9	BRL	84	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 1204688 - EPA 200 Series										
Blank (1204688-BLK1)						Prepared: 03-Mar-12 Analyzed: 04-Mar-12				
Chromium	< 0.0050		mg/l	0.0050						
LCS (1204688-BS1)						Prepared: 03-Mar-12 Analyzed: 04-Mar-12				
Chromium	**1.25**		mg/l	0.0050	1.25		100	85-115		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204649 - General Preparation										
Blank (1204649-BLK1)						Prepared & Analyzed: 01-Mar-12				
Total Residual Chlorine	< 0.009	U	mg/l	0.009						
LCS (1204649-BS1)						Prepared & Analyzed: 01-Mar-12				
Total Residual Chlorine	**0.048**		mg/l	0.009	0.0500		96	90-110		
Reference (1204649-SRM1)						Prepared & Analyzed: 01-Mar-12				
Total Residual Chlorine	**0.114**		mg/l	0.009	0.110		103	85-115		
Batch 1204660 - General Preparation										
Blank (1204660-BLK1)						Prepared & Analyzed: 01-Mar-12				
Hexavalent Chromium	< 0.005		mg/l	0.005						
LCS (1204660-BS1)						Prepared & Analyzed: 01-Mar-12				
Hexavalent Chromium	**0.051**		mg/l	0.005	0.0500		102	80-120		
Duplicate (1204660-DUP1)			**Source: SB44630-01**			Prepared & Analyzed: 01-Mar-12				
Hexavalent Chromium	< 0.010		mg/l	0.010		BRL				20
Matrix Spike (1204660-MS1)			**Source: SB44630-01**			Prepared & Analyzed: 01-Mar-12				
Hexavalent Chromium	**0.022**	QM1	mg/l	0.010	0.100	BRL	22	85-115		
Matrix Spike Dup (1204660-MSD1)			**Source: SB44630-01**			Prepared & Analyzed: 01-Mar-12				
Hexavalent Chromium	**0.024**	QM1	mg/l	0.010	0.100	BRL	24	85-115	9	20
Reference (1204660-SRM1)						Prepared & Analyzed: 01-Mar-12				
Hexavalent Chromium	**0.023**		mg/l	0.005	0.0248		93	85-115		
Batch 1204681 - General Preparation										
Blank (1204681-BLK1)						Prepared & Analyzed: 02-Mar-12				
Cyanide (total)	< 0.00500		mg/l	0.00500						
Blank (1204681-BLK2)						Prepared & Analyzed: 02-Mar-12				
Cyanide (total)	< 0.00500		mg/l	0.00500						
LCS (1204681-BS1)						Prepared & Analyzed: 02-Mar-12				
Cyanide (total)	**0.295**		mg/l	0.00500	0.300		98	90-110		
LCS (1204681-BS2)						Prepared & Analyzed: 02-Mar-12				
Cyanide (total)	**0.281**		mg/l	0.00500	0.300		94	90-110		
Reference (1204681-SRM1)						Prepared & Analyzed: 02-Mar-12				
Cyanide (total)	**0.174**		mg/l	0.00500	0.185		94	65-135		
Batch 1204719 - General Preparation										
Blank (1204719-BLK1)						Prepared & Analyzed: 02-Mar-12				
Total Suspended Solids	< 5		mg/l	5						
LCS (1204719-BS1)						Prepared & Analyzed: 02-Mar-12				
Total Suspended Solids	**90**		mg/l	10	96.6		93	90-110		
Batch 1204835 - General Preparation										
Blank (1204835-BLK1)						Prepared & Analyzed: 02-Mar-12				
Chloride	< 1.00		mg/l	1.00						
Blank (1204835-BLK2)						Prepared & Analyzed: 02-Mar-12				
Chloride	< 1.00		mg/l	1.00						
LCS (1204835-BS1)						Prepared & Analyzed: 02-Mar-12				
Chloride	**19.2**		mg/l	1.00	20.0		96	90-110		
LCS (1204835-BS2)						Prepared & Analyzed: 02-Mar-12				
Chloride	**3.71**		mg/l	1.00	4.00		93	90-110		
Reference (1204835-SRM1)						Prepared & Analyzed: 02-Mar-12				
Chloride	**24.9**		mg/l	1.00	25.0		99	90-110		
Reference (1204835-SRM2)						Prepared & Analyzed: 02-Mar-12				
Chloride	**4.63**		mg/l	1.00	5.00		93	90-110		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 64926 - BNA_W_PR										
LCS (LCS-64926)						Prepared: 02-Mar-12 Analyzed: 05-Mar-12				
Acenaphthene	**20.02**		ug/L	5.0			80.1	45-110		
Acenaphthylene	**20.39**		ug/L	5.0			81.6	50-105		
Anthracene	**20.57**		ug/L	5.0			82.3	55-110		
Benzo(a)anthracene	**20.42**		ug/L	5.0			81.7	55-110		
4-Methylphenol	**17.28**		ug/L	5.0			69.1	30-110		
Benzo(a)pyrene	**20.11**		ug/L	5.0			80.4	55-110		
Benzo(b)fluoranthene	**21.62**		ug/L	5.0			86.5	45-120		
Benzo(g,h,i)perylene	**20.46**		ug/L	5.0			81.8	40-125		
Benzo(k)fluoranthene	**19.13**		ug/L	5.0			76.5	45-125		
Bis(2-ethylhexyl)phthalate	**18.20**		ug/L	5.0			72.8	40-125		
Butylbenzylphthalate	**18.53**		ug/L	5.0			74.1	45-115		
4-Chloro-3-methylphenol	**20.07**		ug/L	5.0			80.3	45-110		
2-Chlorophenol	**18.63**		ug/L	5.0			74.5	35-105		
Chrysene	**18.77**		ug/L	5.0			75.1	55-110		
Dibenzo(a,h)anthracene	**21.95**		ug/L	5.0			87.8	40-125		
2,4-Dichlorophenol	**19.67**		ug/L	5.0			78.7	50-105		
Diethylphthalate	**22.82**		ug/L	5.0			91.3	40-120		
Dimethylphthalate	**21.65**		ug/L	5.0			86.6	25-125		
2,4-Dimethylphenol	**24.39**		ug/L	5.0			97.5	30-110		
Di-n-butylphthalate	**21.28**		ug/L	5.0			85.1	55-115		
4,6-Dinitro-2-methylphenol	**28.67**		ug/L	5.0			115	40-130		
2,4-Dinitrophenol	**38.98**	S	ug/L	5.0			156	15-140		
Di-n-octylphthalate	**19.41**		ug/L	5.0			77.7	35-135		
Fluoranthene	**20.42**		ug/L	5.0			81.7	55-115		
Fluorene	**20.71**		ug/L	5.0			82.8	50-110		
Indeno(1,2,3-cd)pyrene	**21.16**		ug/L	5.0			84.6	45-125		
2-Methylnaphthalene	**19.86**		ug/L	5.0			79.4	45-105		
2-Methylphenol	**18.28**		ug/L	5.0			73.1	40-110		
Naphthalene	**19.27**		ug/L	5.0			77.1	40-100		
2-Nitrophenol	**20.61**		ug/L	5.0			82.5	40-115		
4-Nitrophenol	**33.00**	S	ug/L	5.0			132	0-125		
Pentachlorophenol	**23.50**		ug/L	5.0			94.0	40-115		
Phenanthrene	**20.00**		ug/L	5.0			80.0	50-115		
Phenol	**15.80**		ug/L	5.0			63.2	0-115		
Pyrene	**17.68**		ug/L	5.0			70.7	50-130		
2,4,5-Trichlorophenol	**19.59**		ug/L	5.0			78.4	50-110		
2,4,6-Trichlorophenol	**20.31**		ug/L	5.0			81.3	50-115		
Surrogate: 2-Fluorobiphenyl	*20.05*		ug/L				*80.2*	*50-110*		
Surrogate: 2-Fluorophenol	*17.92*		ug/L				*71.7*	*20-110*		
Surrogate: Nitrobenzene-d5	*22.04*		ug/L				*88.2*	*40-110*		
Surrogate: Phenol-d5	*17.79*		ug/L				*71.2*	*10-115*		
Surrogate: Terphenyl-d14	*18.47*		ug/L				*73.9*	*50-135*		
Surrogate: 2,4,6-Tribromophenol	*30.97*		ug/L				*124*	*40-125*		
LCS Dup (LCSD-64926)						Prepared: 02-Mar-12 Analyzed: 05-Mar-12				
Acenaphthene	**20.34**		ug/L	5.0			81.4	45-110	1.62	40.0
Acenaphthylene	**20.66**		ug/L	5.0			82.6	50-105	1.30	40.0
Anthracene	**20.82**		ug/L	5.0			83.3	55-110	1.18	40.0
Benzo(a)anthracene	**20.13**		ug/L	5.0			80.5	55-110	1.41	40.0
4-Methylphenol	**18.06**		ug/L	5.0			72.2	30-110	4.42	40.0
Benzo(a)pyrene	**20.41**		ug/L	5.0			81.6	55-110	1.48	40.0
Benzo(b)fluoranthene	**20.33**		ug/L	5.0			81.3	45-120	6.16	40.0

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 64926 - BNA_W_PR										
LCS Dup (LCSD-64926)					Prepared: 02-Mar-12 Analyzed: 05-Mar-12					
Benzo(g,h,i)perylene	**20.88**		ug/L	5.0			83.5	40-125	2.04	40.0
Benzo(k)fluoranthene	**21.12**		ug/L	5.0			84.5	45-125	9.90	40.0
Bis(2-ethylhexyl)phthalate	**18.64**		ug/L	5.0			74.6	40-125	2.38	40.0
Butylbenzylphthalate	**18.95**		ug/L	5.0			75.8	45-115	2.21	40.0
4-Chloro-3-methylphenol	**21.08**		ug/L	5.0			84.3	45-110	4.92	40.0
2-Chlorophenol	**18.93**		ug/L	5.0			75.7	35-105	1.57	40.0
Chrysene	**19.28**		ug/L	5.0			77.1	55-110	2.66	40.0
Dibenzo(a,h)anthracene	**22.33**		ug/L	5.0			89.3	40-125	1.75	40.0
2,4-Dichlorophenol	**20.50**		ug/L	5.0			82.0	50-105	4.15	40.0
Diethylphthalate	**22.96**		ug/L	5.0			91.8	40-120	0.611	40.0
Dimethylphthalate	**21.68**		ug/L	5.0			86.7	25-125	0.154	40.0
2,4-Dimethylphenol	**25.93**		ug/L	5.0			104	30-110	6.12	40.0
Di-n-butylphthalate	**21.87**		ug/L	5.0			87.5	55-115	2.71	40.0
4,6-Dinitro-2-methylphenol	**27.72**		ug/L	5.0			111	40-130	3.38	40.0
2,4-Dinitrophenol	**39.47**	S	ug/L	5.0			158	15-140	1.23	40.0
Di-n-octylphthalate	**19.71**		ug/L	5.0			78.8	35-135	1.49	40.0
Fluoranthene	**20.65**		ug/L	5.0			82.6	55-115	1.15	40.0
Fluorene	**21.56**		ug/L	5.0			86.2	50-110	4.03	40.0
Indeno(1,2,3-cd)pyrene	**21.41**		ug/L	5.0			85.6	45-125	1.17	40.0
2-Methylnaphthalene	**20.45**		ug/L	5.0			81.8	45-105	2.93	40.0
2-Methylphenol	**19.01**		ug/L	5.0			76.0	40-110	3.88	40.0
Naphthalene	**19.89**		ug/L	5.0			79.6	40-100	3.19	40.0
2-Nitrophenol	**21.82**		ug/L	5.0			87.3	40-115	5.69	40.0
4-Nitrophenol	**34.75**	S	ug/L	5.0			139	0-125	5.16	40.0
Pentachlorophenol	**24.69**		ug/L	5.0			98.8	40-115	4.96	40.0
Phenanthrene	**20.10**		ug/L	5.0			80.4	50-115	0.491	40.0
Phenol	**16.27**		ug/L	5.0			65.1	0-115	2.96	40.0
Pyrene	**18.10**		ug/L	5.0			72.4	50-130	2.33	40.0
2,4,5-Trichlorophenol	**20.23**		ug/L	5.0			80.9	50-110	3.21	40.0
2,4,6-Trichlorophenol	**21.48**		ug/L	5.0			85.9	50-115	5.56	40.0
Surrogate: 2-Fluorobiphenyl	*20.17*		ug/L				*80.7*	*50-110*		
Surrogate: 2-Fluorophenol	*18.09*		ug/L				*72.4*	*20-110*		
Surrogate: Nitrobenzene-d5	*23.11*		ug/L				*92.5*	*40-110*		
Surrogate: Phenol-d5	*18.36*		ug/L				*73.4*	*10-115*		
Surrogate: Terphenyl-d14	*19.34*		ug/L				*77.3*	*50-135*		
Surrogate: 2,4,6-Tribromophenol	*31.07*		ug/L				*124*	*40-125*		
Blank (MB-64926)					Prepared: 02-Mar-12 Analyzed: 05-Mar-12					
Acenaphthene	< 5.0	Ua	ug/L	5.0				-		
Acenaphthylene	< 5.0	Ua	ug/L	5.0				-		
Anthracene	< 5.0	Ua	ug/L	5.0				-		
Benzo(a)anthracene	< 5.0	Ua	ug/L	5.0				-		
4-Methylphenol	< 5.0	Ua	ug/L	5.0				-		
Benzo(a)pyrene	< 5.0	Ua	ug/L	5.0				-		
Benzo(b)fluoranthene	< 5.0	Ua	ug/L	5.0				-		
Benzo(g,h,i)perylene	< 5.0	Ua	ug/L	5.0				-		
Benzo(k)fluoranthene	< 5.0	Ua	ug/L	5.0				-		
Bis(2-ethylhexyl)phthalate	< 5.0	Ua	ug/L	5.0				-		
Butylbenzylphthalate	< 5.0	Ua	ug/L	5.0				-		
4-Chloro-3-methylphenol	< 5.0	Ua	ug/L	5.0				-		
2-Chlorophenol	< 5.0	Ua	ug/L	5.0				-		
Chrysene	< 5.0	Ua	ug/L	5.0				-		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 64926 - BNA_W_PR										
Blank (MB-64926)					Prepared: 02-Mar-12 Analyzed: 05-Mar-12					
Dibenzo(a,h)anthracene	< 5.0	Ua	ug/L	5.0				-		
2,4-Dichlorophenol	< 5.0	Ua	ug/L	5.0				-		
Diethylphthalate	< 5.0	Ua	ug/L	5.0				-		
Dimethylphthalate	< 5.0	Ua	ug/L	5.0				-		
2,4-Dimethylphenol	< 5.0	Ua	ug/L	5.0				-		
Di-n-butylphthalate	< 5.0	Ua	ug/L	5.0				-		
4,6-Dinitro-2-methylphenol	< 5.0	Ua	ug/L	5.0				-		
2,4-Dinitrophenol	< 5.0	Ua	ug/L	5.0				-		
Di-n-octylphthalate	< 5.0	Ua	ug/L	5.0				-		
Fluoranthene	< 5.0	Ua	ug/L	5.0				-		
Fluorene	< 5.0	Ua	ug/L	5.0				-		
Indeno(1,2,3-cd)pyrene	< 5.0	Ua	ug/L	5.0				-		
2-Methylnaphthalene	< 5.0	Ua	ug/L	5.0				-		
2-Methylphenol	< 5.0	Ua	ug/L	5.0				-		
Naphthalene	< 5.0	Ua	ug/L	5.0				-		
2-Nitrophenol	< 5.0	Ua	ug/L	5.0				-		
4-Nitrophenol	< 5.0	Ua	ug/L	5.0				-		
Pentachlorophenol	< 5.0	Ua	ug/L	5.0				-		
Phenanthrene	< 5.0	Ua	ug/L	5.0				-		
Phenol	< 5.0	Ua	ug/L	5.0				-		
Pyrene	< 5.0	Ua	ug/L	5.0				-		
2,4,5-Trichlorophenol	< 5.0	Ua	ug/L	5.0				-		
2,4,6-Trichlorophenol	< 5.0	Ua	ug/L	5.0				-		
Surrogate: 2-Fluorobiphenyl	*18.02*		ug/L				*72.1*	*50-110*		
Surrogate: 2-Fluorophenol	*17.03*		ug/L				*68.1*	*20-110*		
Surrogate: Nitrobenzene-d5	*20.27*		ug/L				*81.1*	*40-110*		
Surrogate: Phenol-d5	*15.92*		ug/L				*63.7*	*10-115*		
Surrogate: Terphenyl-d14	*18.96*		ug/L				*75.8*	*50-135*		
Surrogate: 2,4,6-Tribromophenol	*27.82*		ug/L				*111*	*40-125*		
Batch 64977 - BNA_W_PR										
LCS (LCS-64977)					Prepared & Analyzed: 06-Mar-12					
Acenaphthene	**21.65**		ug/L	5.0			86.6	45-110		
Acenaphthylene	**21.08**		ug/L	5.0			84.3	50-105		
Anthracene	**21.55**		ug/L	5.0			86.2	55-110		
Benzo(a)anthracene	**20.96**		ug/L	5.0			83.9	55-110		
4-Methylphenol	**17.81**		ug/L	5.0			71.2	30-110		
Benzo(a)pyrene	**21.48**		ug/L	5.0			85.9	55-110		
Benzo(b)fluoranthene	**21.90**		ug/L	5.0			87.6	45-120		
Benzo(g,h,i)perylene	**21.77**		ug/L	5.0			87.1	40-125		
Benzo(k)fluoranthene	**22.70**		ug/L	5.0			90.8	45-125		
Bis(2-ethylhexyl)phthalate	**18.93**		ug/L	5.0			75.7	40-125		
Butylbenzylphthalate	**19.29**		ug/L	5.0			77.2	45-115		
4-Chloro-3-methylphenol	**22.20**		ug/L	5.0			88.8	45-110		
2-Chlorophenol	**18.92**		ug/L	5.0			75.7	35-105		
Chrysene	**19.92**		ug/L	5.0			79.7	55-110		
Dibenzo(a,h)anthracene	**23.50**		ug/L	5.0			94.0	40-125		
2,4-Dichlorophenol	**21.81**		ug/L	5.0			87.2	50-105		
Diethylphthalate	**23.61**		ug/L	5.0			94.4	40-120		
Dimethylphthalate	**22.63**		ug/L	5.0			90.5	25-125		
2,4-Dimethylphenol	**24.23**		ug/L	5.0			96.9	30-110		
Di-n-butylphthalate	**21.99**		ug/L	5.0			88.0	55-115		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 64977 - BNA_W_PR										
LCS (LCS-64977)					Prepared & Analyzed: 06-Mar-12					
4,6-Dinitro-2-methylphenol	**28.31**		ug/L	10			113	40-130		
2,4-Dinitrophenol	**40.28**	S, E	ug/L	10			161	15-140		
Di-n-octylphthalate	**20.99**		ug/L	5.0			84.0	35-135		
Fluoranthene	**20.98**		ug/L	5.0			83.9	55-115		
Fluorene	**22.12**		ug/L	5.0			88.5	50-110		
Indeno(1,2,3-cd)pyrene	**22.61**		ug/L	5.0			90.4	45-125		
2-Methylnaphthalene	**21.51**		ug/L	5.0			86.0	45-105		
2-Methylphenol	**18.32**		ug/L	5.0			73.3	40-110		
Naphthalene	**21.26**		ug/L	5.0			85.0	40-100		
2-Nitrophenol	**22.89**		ug/L	5.0			91.5	40-115		
4-Nitrophenol	**33.67**	S	ug/L	10			135	0-125		
Pentachlorophenol	**26.01**		ug/L	10			104	40-115		
Phenanthrene	**21.23**		ug/L	5.0			84.9	50-115		
Phenol	**18.68**		ug/L	5.0			74.7	0-115		
Pyrene	**18.81**		ug/L	5.0			75.2	50-130		
2,4,5-Trichlorophenol	**21.55**		ug/L	10			86.2	50-110		
2,4,6-Trichlorophenol	**23.87**		ug/L	5.0			95.5	50-115		
Surrogate: 2-Fluorobiphenyl	*22.18*		ug/L				*88.7*	*50-110*		
Surrogate: 2-Fluorophenol	*18.64*		ug/L				*74.5*	*20-110*		
Surrogate: Nitrobenzene-d5	*23.05*		ug/L				*92.2*	*40-110*		
Surrogate: Phenol-d5	*21.05*		ug/L				*84.2*	*10-115*		
Surrogate: Terphenyl-d14	*20.03*		ug/L				*80.1*	*50-135*		
Surrogate: 2,4,6-Tribromophenol	*33.11*	S	ug/L				*132*	*40-125*		
LCS Dup (LCSD-64977)					Prepared & Analyzed: 06-Mar-12					
Acenaphthene	**20.85**		ug/L	5.0			83.4	45-110	3.78	40.0
Acenaphthylene	**20.74**		ug/L	5.0			83.0	50-105	1.61	40.0
Anthracene	**20.74**		ug/L	5.0			82.9	55-110	3.83	40.0
Benzo(a)anthracene	**20.41**		ug/L	5.0			81.6	55-110	2.67	40.0
Benzo(a)pyrene	**21.44**		ug/L	5.0			85.8	55-110	0.187	40.0
4-Methylphenol	**18.04**		ug/L	5.0			72.2	30-110	1.30	40.0
Benzo(b)fluoranthene	**21.83**		ug/L	5.0			87.3	45-120	0.319	40.0
Benzo(g,h,i)perylene	**21.83**		ug/L	5.0			87.3	40-125	0.272	40.0
Benzo(k)fluoranthene	**22.76**		ug/L	5.0			91.0	45-125	0.243	40.0
Bis(2-ethylhexyl)phthalate	**18.82**		ug/L	5.0			75.3	40-125	0.559	40.0
Butylbenzylphthalate	**18.85**		ug/L	5.0			75.4	45-115	2.31	40.0
4-Chloro-3-methylphenol	**21.08**		ug/L	5.0			84.3	45-110	5.18	40.0
2-Chlorophenol	**18.86**		ug/L	5.0			75.4	35-105	0.313	40.0
Chrysene	**19.34**		ug/L	5.0			77.3	55-110	2.95	40.0
Dibenzo(a,h)anthracene	**23.63**		ug/L	5.0			94.5	40-125	0.578	40.0
2,4-Dichlorophenol	**21.41**		ug/L	5.0			85.6	50-105	1.83	40.0
Diethylphthalate	**22.53**		ug/L	5.0			90.1	40-120	4.65	40.0
Dimethylphthalate	**21.53**		ug/L	5.0			86.1	25-125	5.01	40.0
2,4-Dimethylphenol	**23.96**		ug/L	5.0			95.8	30-110	1.14	40.0
Di-n-butylphthalate	**21.92**		ug/L	5.0			87.7	55-115	0.347	40.0
4,6-Dinitro-2-methylphenol	**26.83**		ug/L	10			107	40-130	5.39	40.0
2,4-Dinitrophenol	**38.14**	S	ug/L	10			153	15-140	5.47	40.0
Di-n-octylphthalate	**21.04**		ug/L	5.0			84.2	35-135	0.242	40.0
Fluoranthene	**20.67**		ug/L	5.0			82.7	55-115	1.50	40.0
Fluorene	**21.34**		ug/L	5.0			85.4	50-110	3.57	40.0
Indeno(1,2,3-cd)pyrene	**22.62**		ug/L	5.0			90.5	45-125	0.0195	40.0
2-Methylnaphthalene	**21.15**		ug/L	5.0			84.6	45-105	1.70	40.0

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 64977 - BNA_W_PR										
LCS Dup (LCSD-64977)						Prepared & Analyzed: 06-Mar-12				
2-Methylphenol	**18.59**		ug/L	5.0			74.4	40-110	1.49	40.0
Naphthalene	**20.56**		ug/L	5.0			82.2	40-100	3.33	40.0
2-Nitrophenol	**22.40**		ug/L	5.0			89.6	40-115	2.15	40.0
4-Nitrophenol	**32.71**	S	ug/L	10			131	0-125	2.92	40.0
Pentachlorophenol	**24.82**		ug/L	10			99.3	40-115	4.68	40.0
Phenanthrene	**20.75**		ug/L	5.0			83.0	50-115	2.28	40.0
Phenol	**18.03**		ug/L	5.0			72.1	0-115	3.50	40.0
Pyrene	**18.94**		ug/L	5.0			75.7	50-130	0.668	40.0
2,4,5-Trichlorophenol	**21.10**		ug/L	10			84.4	50-110	2.10	40.0
2,4,6-Trichlorophenol	**22.62**		ug/L	5.0			90.5	50-115	5.38	40.0
Surrogate: 2-Fluorobiphenyl	*21.83*		ug/L				*87.3*	*50-110*		
Surrogate: 2-Fluorophenol	*18.97*		ug/L				*75.9*	*20-110*		
Surrogate: Nitrobenzene-d5	*22.58*		ug/L				*90.3*	*40-110*		
Surrogate: Phenol-d5	*20.86*		ug/L				*83.5*	*10-115*		
Surrogate: Terphenyl-d14	*20.01*		ug/L				*80.0*	*50-135*		
Surrogate: 2,4,6-Tribromophenol	*32.12*	S	ug/L				*128*	*40-125*		
Blank (MB-64977)						Prepared & Analyzed: 06-Mar-12				
Acenaphthene	< 5.0	Ua	ug/L	5.0				-		
Acenaphthylene	< 5.0	Ua	ug/L	5.0				-		
Anthracene	< 5.0	Ua	ug/L	5.0				-		
Benzo(a)anthracene	< 5.0	Ua	ug/L	5.0				-		
Benzo(a)pyrene	< 5.0	Ua	ug/L	5.0				-		
4-Methylphenol	< 5.0	Ua	ug/L	5.0				-		
Benzo(b)fluoranthene	< 5.0	Ua	ug/L	5.0				-		
Benzo(g,h,i)perylene	< 5.0	Ua	ug/L	5.0				-		
Benzo(k)fluoranthene	< 5.0	Ua	ug/L	5.0				-		
Bis(2-ethylhexyl)phthalate	< 5.0	Ua	ug/L	5.0				-		
Butylbenzylphthalate	< 5.0	Ua	ug/L	5.0				-		
4-Chloro-3-methylphenol	< 5.0	Ua	ug/L	5.0				-		
2-Chlorophenol	< 5.0	Ua	ug/L	5.0				-		
Chrysene	< 5.0	Ua	ug/L	5.0				-		
Dibenzo(a,h)anthracene	< 5.0	Ua	ug/L	5.0				-		
2,4-Dichlorophenol	< 5.0	Ua	ug/L	5.0				-		
Diethylphthalate	< 5.0	Ua	ug/L	5.0				-		
Dimethylphthalate	< 5.0	Ua	ug/L	5.0				-		
2,4-Dimethylphenol	< 5.0	Ua	ug/L	5.0				-		
Di-n-butylphthalate	< 5.0	Ua	ug/L	5.0				-		
4,6-Dinitro-2-methylphenol	< 10	Ua	ug/L	10				-		
2,4-Dinitrophenol	< 10	Ua	ug/L	10				-		
Di-n-octylphthalate	< 5.0	Ua	ug/L	5.0				-		
Fluoranthene	< 5.0	Ua	ug/L	5.0				-		
Fluorene	< 5.0	Ua	ug/L	5.0				-		
Indeno(1,2,3-cd)pyrene	< 5.0	Ua	ug/L	5.0				-		
2-Methylnaphthalene	< 5.0	Ua	ug/L	5.0				-		
2-Methylphenol	< 5.0	Ua	ug/L	5.0				-		
Naphthalene	< 5.0	Ua	ug/L	5.0				-		
2-Nitrophenol	< 5.0	Ua	ug/L	5.0				-		
4-Nitrophenol	< 10	Ua	ug/L	10				-		
Pentachlorophenol	< 10	Ua	ug/L	10				-		
Phenanthrene	< 5.0	Ua	ug/L	5.0				-		
Phenol	< 5.0	Ua	ug/L	5.0				-		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 64977 - BNA_W_PR										
Blank (MB-64977)						Prepared & Analyzed: 06-Mar-12				
Pyrene	< 5.0	Ua	ug/L	5.0				-		
2,4,5-Trichlorophenol	< 10	Ua	ug/L	10				-		
2,4,6-Trichlorophenol	< 5.0	Ua	ug/L	5.0				-		
Surrogate: 2-Fluorobiphenyl	*20.38*		ug/L				*81.5*	*50-110*		
Surrogate: 2-Fluorophenol	*19.12*		ug/L				*76.5*	*20-110*		
Surrogate: Nitrobenzene-d5	*22.17*		ug/L				*88.7*	*40-110*		
Surrogate: Phenol-d5	*19.56*		ug/L				*78.2*	*10-115*		
Surrogate: Terphenyl-d14	*21.14*		ug/L				*84.6*	*50-135*		
Surrogate: 2,4,6-Tribromophenol	*31.53*	S	ug/L				*126*	*40-125*		

Notes and Definitions

E	Result is estimated due to possible interference or the result was greater than the calibration range
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QM1	The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
R01	The Reporting Limit has been raised to account for matrix interference.
S	Matrix spike recovery falls outside of the control limit
U	Analyte included in the analysis, but not detected at or above the MDL.
Ua	Compound not detected below method detection limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
ClHT	The method for residual chlorine indicates that samples should be analyzed immediately. 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous residual chlorine samples not analyzed in the field are considered out of hold time at the time of sample receipt.

Interpretation of Total Petroleum Hydrocarbon Report

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

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

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

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

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

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

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

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

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

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

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

Validated by:
June O'Connor
Nicole Leja

SB44630 Ok

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 2

Special Handling:

☐ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: 2-day approved by Dulce
All TATs subject to laboratory approval.
Min. 24-hour notification needed for rushes.
Samples disposed of after 60 days unless otherwise instructed.

Report To: Mary Cathey
GES-364 Littleton Rd, Ste 4
Westford, MA 01886

Telephone #: 800-221-6119 x3244
Project Mgr. Mary Cathey

Invoice To: GES.
364 Littleton Rd, Ste 4
Westford, MA

P.O. No.: 1604100 RQN:

Project No.: ~~MOBIL 1476~~ 1604100
Site Name: MOBIL 1476
Location: Acton, MA State: MA
Sampler(s): [signature]

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8=$NaHSO_4$ 9=Deionized Water 10= unpreserved 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

List preservative code below: 10 | 10 | 10 | 10 | 10 | 3

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	TSS	Chrom VI (total)	Chrom III (total)	Chloride	Total Resid Chlorine	TPH-1664	~~VOCs + oxygenates~~	~~EDB (low level)~~	QA/QC Reporting Notes
SB44630-01	MW-6R	3/1/2012	11:20				2		2	X			X	X	X			per attached list.
↓ -02	MW-9	3/1/2012	12:50						2	X	X	X	X	X	X			

QA/QC Reporting Notes:
* additional charges may apply

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

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

State-specific reporting standards: per attached list.

Relinquished by:	Received by:	Date	Time:	Temp°C
[signature]	Spectrum	3/1/12	14:30	
[signature]	[signature]	3-1-12	1430	
[signature]	[signature]	3-1-12	17:30	1.2

☐ EDD Format
☒ E-mail to mcathey@gesonline.com

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

✓ SB44630 CL

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 2 of 2

Special Handling:
- ☒ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 2-day TAT approved by Dulce
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Brian Horan & Mary Cathey
GES
364 Littleton Rd, Ste 4
Westford, MA 01886
Telephone #: 800-221-6119 x3244
Project Mgr. Mary Cathey

Invoice To: GES
364 Littleton Rd, Ste 4
Westford, MA 01886
P.O. No.: 1604100 RQN:

Project No.: 1604100
Site Name: MOBIL 1476
Location: Acton State: MA
Sampler(s): Jason Aleskevicz

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8= $NaHSO_4$ 9= Deionized Water 10= 11=

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

G=Grab C=Composite

List preservative code below: 10 | 10 | 10 | 10

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	PAHs (8270)	Total Phenols (8270)	Total Phthalates (8270)	Total PCBs
SB44630-01	MW-6R	3/1/2012	11:20	G	GW		4			X	X	X	X
02	MW-9	3/1/2012	12:50	G	GW		4			X	X	X	X

QA/QC Reporting Notes:
* additional charges may apply

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

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

State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	Spectrum	3/1/12	1430	
Fred [signature]	[signature]	3-1-12	14[illegible]	
[signature]	[signature]	3-1-12	1730	1.2

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Category I - Petroleum Related Site Remediation
Sub-categories A (Gasoline) & B (fuel oil)
Category III - Contaminated Construction Dewatering

Analysis	Method	Spectrum Price per sample
TSS	~~Method 160.2~~ SM5 2540D (5 mg/L)	$10.00
TPH	Method 1664A (5 mg/l)	$47.00
TPH-GRO	SW846 8015 Mod	$45.00
Volatile Organics + EDB, oxygenates	Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)	$50.00
Total Metals - 13 Priority Pollutants	ICP/AES 2 Methods 200.7, 3010A/6010C & 245.1/7470A	$73.00
Mercury	Method 245.1,7470A (0.2 ug/L), ~~Methods 245.7, 1631 (0.001 ug/l)~~	$15.00
Total EPH & target PAHs	MA EPH (5 ug/L)	$50.00
Iron	ICP/AES 2 Methods 200.7, 3010A/6010C	$15.00
Total Chromium - hex	Method 7196A /SM3500CrD (10 ug/L), ~~Methods 218.6, 1636 (1 ug/L)~~	$16.00
Total Chromium - tri	3500 CrD	$21.00
Chloride	300.0, ~~SM5 4110B~~ (0.1 mg/L) SAI MRL 1.0 mg/L	$9.00
Total Group II PAHs	MA EPH (5 ug/L)	$50.00
Cyanide (total)	Method 335.4 / SW846 9012B (5 ug/L)	$13.00
Total residual chlorine (TRC)	Methods ~~330.1, 330.5, SM5 4500-Cl D (200 ug/L) SM5 4500-Cl E (10 ug/L)~~ SM4500-Cl-G at MRL of 20 ug/L	$9.00
Total Phenols	~~5 ug/L, Methods 8260C, 8270D, 2 ug/L, Methods 420.1, 420.2,~~ 50 ug/L, Method 420.4	$19.00
Total Phenols	5 ug/L, Methods ~~8260C,~~ 8270D, 2 ug/L, ~~Methods 420.1, 420.2, 50 ug/L, Method 420.4~~	$74.00
Pentachlorophenol (PCP)	Methods 3510C/8270D, ~~525 (5 ug/L)~~	$74.00
Total Phthalates (Phthalate esters)	Method 3510C/8270D (5 ug/L), ~~525.2 (0.5 ug/L)~~	$79.00
Bis (2-Ethylhexyl) Phthalate	Method 3510C/8270D (5 ug/L), ~~525.2 (0.5 ug/L)~~	$79.00
Total PCBs	Method 8082 (0.5 ug/L), ~~Method 1668b (0.00005 ug/L)~~	$42.00

Notes:
Priority Pollutant Metals (13) - Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn

SB44630 CL

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 2

Special Handling:
☐ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: 2-day approved by Dulce
All TATs subject to laboratory approval.
Min. 24-hour notification needed for rushes.
Samples disposed of after 60 days unless otherwise instructed.

Report To: Mary Cathey, GES-364 Littleton Rd, Ste 4, Westford, MA 01886
Telephone #: 800-221-6119 x3244
Project Mgr. Mary Cathey

Invoice To: GES, 364 Littleton Rd, Ste 4, Westford, MA
P.O. No.: 1604100 RQN:

Project No.: ~~MOBIL 1476~~ 1604100
Site Name: MOBIL 1476
Location: Acton, MA State: MA
Sampler(s): [signature]

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

List preservative code below: 10 10 10 10 10 3

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Cyanide	TSS	Chrom VI (total)	Chrom III (total)	Chloride	Total Resid Chlorine	TPH-1664	~~VOCs + Oxygenates~~	~~EDB (DW requirements)~~	State-specific reporting standards:
SB44630-01	MW-6R	3/1/2012	11:20				2		2	X	X			X	X	X			per attached list.
-02	MW-9	3/1/2012	12:50						2	X	X	X	X	X	X	X			

Cyanide added per client request

QA/QC Reporting Notes:
* additional charges may apply

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

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

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	Spectrum	3/1/12	14:30	
[signature]	[signature]	3-1-12	1430	
[signature]	[signature]	3-1-12	1730	1.2

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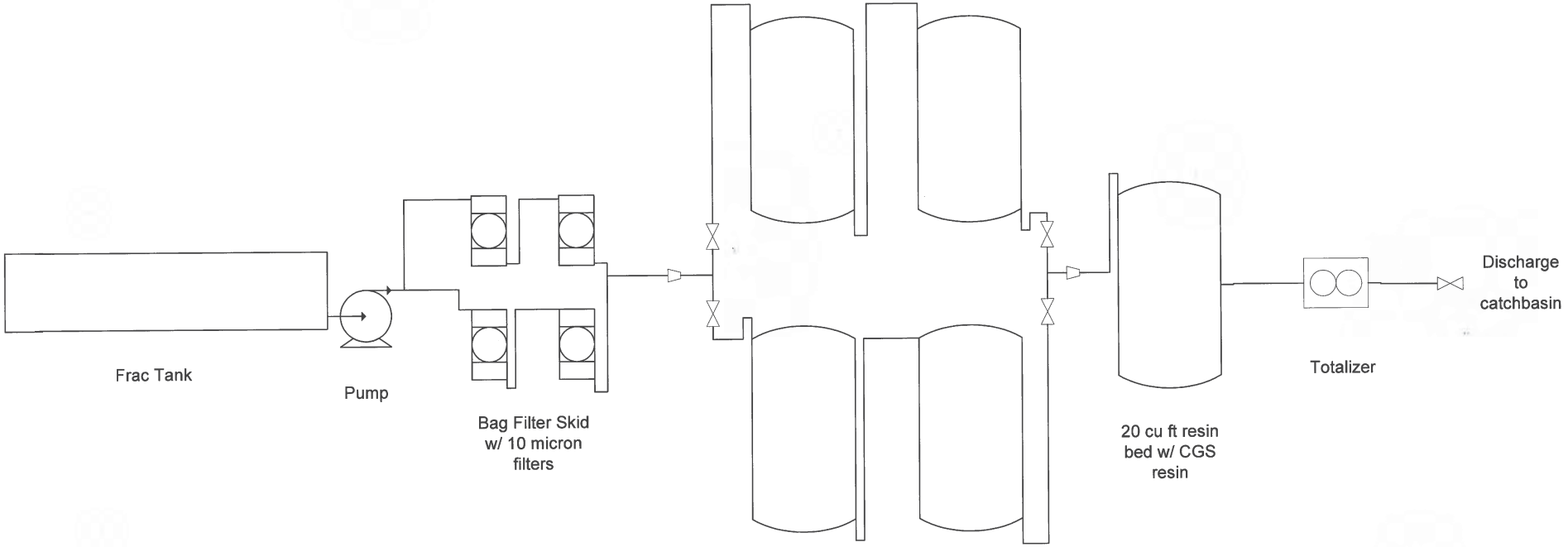
Attachment C

Global Companies LLC
Mobil Acton No. 1476
44 Great Road, Acton, MA

Process Flow Diagram



(4) 2,000 lb LGACs @ 50 gpm
(2) 2,000 lb LGACs @ 25 gpm

Attachment D

Global Companies, LLC - Mobil Acton No. 1476
Aerial View of Discharge Route

Attachment E

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National Park Service
U.S. Department of the Interior

National Register of Historic Places

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TITLE LIST DISPLAY

From: NPS Digital Library
Term(s) Searched: Massachusetts and Middlesex and Massachusetts and acton
Records Displayed: 1 to 7 of 7

Go back to: **Revise Search**

Sort By: **Title** | **Relevancy** | **Modified**

Acton Centre Historic District *[Image]*	8%
Davis, Isaac, Trail *[Image]*	8%
Exchange Hall *[Image]*	8%
Faulkner Homestead *[Image]*	8%
Hosmer, Jonathan and Simon, House *[Image]*	8%
Jones Tavern *[Image]*	8%
Robbins, John, House *[Image]*	8%

Prev | 1 | Next

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Last updated: 04/06/12

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

Search Criteria: Town(s): Acton; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
ACT.A	East Acton		Acton	
ACT.B	Acton Centre Historic District		Acton	
ACT.C	West Acton Village		Acton	
ACT.D	Mead, A. O. W. Company		Acton	
ACT.E	Hall Brothers Sawmill		Acton	
ACT.F	South Acton Village		Acton	
ACT.G	South Acton Lumber Company		Acton	
ACT.H	Faulkner Mills - Erikson Grain Mill		Acton	
act.i	Kinsley Lane Area		Acton	
ACT.J	Acton Main Street 20th Century Area		Acton	
ACT.K	Acton Centre Historic District		Acton	
ACT.L	Great Road Streetscape		Acton	
ACT.M	West Acton Village Historic District		Acton	
ACT.N	South Acton Village Historic District		Acton	
ACT.O	Forbes - Morrison Farm		Acton	
ACT.P	Wright - Holden Farm		Acton	
ACT.919	Arlington Street Bridge over Route 2	Arlington St	Acton	1950
ACT.191	Blanchard House	215 Arlington St	Acton	1865
ACT.192	Parker, E. C. and Sons Employee Housing	217-219 Arlington St	Acton	1900
ACT.194	Huggins, Eri House	220 Arlington St	Acton	1850
ACT.193	Parker, E. C. and Sons Employee Housing	221-223 Arlington St	Acton	1900
ACT.195	Durkee, Clark G. House	226 Arlington St	Acton	1895
ACT.196		227 Arlington St	Acton	1940
ACT.197		230 Arlington St	Acton	1920
ACT.198	Houghton, Warren House	232 Arlington St	Acton	1880
ACT.199	Hoar, Forestus K. House	235 Arlington St	Acton	1850
ACT.200	Parker, George B. House	239 Arlington St	Acton	1876
ACT.201		240 Arlington St	Acton	1980
ACT.202	U. S. Post Office - West Acton Branch	241 Arlington St	Acton	1945
ACT.203		245 Arlington St	Acton	1940
ACT.204		250-252 Arlington St	Acton	1889
ACT.205		253 Arlington St	Acton	1900
ACT.206		265-271 Arlington St	Acton	1900
ACT.207	Hall, A. F. House	276 Arlington St	Acton	1860
ACT.208	Mead, Walter E. House	278 Arlington St	Acton	1885
ACT.642	Mead, Walter E. Barn	278 Arlington St	Acton	1885
ACT.209		282-284 Arlington St	Acton	1889
ACT.210	Davis, Issac House	285 Arlington St	Acton	1835
ACT.903	Davis, Capt. Isaac Birthplace Marker	285 Arlington St	Acton	1900
ACT.164	Wheeler House	15 Barker Rd	Acton	1814
ACT.801	North Acton Cemetery	Carlisle Rd	Acton	1758
ACT.901	Heald, Capt. John House Marker	Carlisle Rd	Acton	1930
ACT.1	Heald, Dea. John House	42 Carlisle Rd	Acton	1743
ACT.638	Heald, Dea. John Barn	42 Carlisle Rd	Acton	1743
ACT.375		2 Central St	Acton	1925
ACT.374	Barker, Henry House	10-12 Central St	Acton	1870
ACT.373	Shattuck, William - Wheeler, Nathan H. House	11 Central St	Acton	1848
ACT.372	Gray, William H. House	14 Central St	Acton	1849
ACT.371		15 Central St	Acton	1965
ACT.370	Jones, Elnathan Jr. House	21 Central St	Acton	1873
ACT.650	Jones, Elnathan Jr. Carriage House	21 Central St	Acton	1873
ACT.369	Wetherbee, Jonathan K. W. House	27 Central St	Acton	1873
ACT.368	Tuttle, Henry Waldo House	31 Central St	Acton	1873
ACT.367	Tuttle, Arthur House	35 Central St	Acton	1895
ACT.366	Livermore, Hiram B. House	37 Central St	Acton	1910
ACT.365	Livermore, Jesse Chauffeur House	39 Central St	Acton	1913
ACT.364	Hunt, Simon House	53-55 Central St	Acton	1735
ACT.649	Hunt, Simon Barn	53-55 Central St	Acton	1735
ACT.363	Bursaw, Henry W. House	70 Central St	Acton	1920
ACT.362	Quirk, John Sullivan House	107 Central St	Acton	1860
ACT.361		132 Central St	Acton	1880
ACT.360	Downie House	136 Central St	Acton	1895
ACT.359	Hapgood, John House	149 Central St	Acton	1800
ACT.655	Mount Hope Cemetery Chapel	160-174 Central St	Acton	1908
ACT.803	Mount Hope Cemetery	160-174 Central St	Acton	1848
ACT.358		169 Central St	Acton	1890
ACT.328		186 Central St	Acton	1890
ACT.327	West Acton Butter and Cheese Factory	191 Central St	Acton	1870
ACT.326		194 Central St	Acton	1895
ACT.325		198 Central St	Acton	1875
ACT.324	Reed, Joseph Porter House	201 Central St	Acton	1870
ACT.323	Hayward, George House	204 Central St	Acton	1880
ACT.321		206-208 Central St	Acton	1900
ACT.322	Barrett, J. A. House	207 Central St	Acton	1870
ACT.320	Barrett, S. H. House	211 Central St	Acton	1870
ACT.319		216 Central St	Acton	1880
ACT.318	Davis, Jonathan Billings House	217 Central St	Acton	1860
ACT.317	Mace, Hannah Beard House	220 Central St	Acton	1860
ACT.316		221-223 Central St	Acton	1900
ACT.335		229 Central St	Acton	1920
ACT.310	Hall Brothers Sawmill Storehouse - Building A	230-236 Central St	Acton	1889
ACT.311	Hall Brothers Sawmill Dryhouse - Building B	230-236 Central St	Acton	1885
ACT.312	Hall Brothers Sawmill Churn Mill - Building C	230-236 Central St	Acton	1875
ACT.313	Laffin, Sidney Garage	230-236 Central St	Acton	1932
ACT.314	Sargent, Samuel Jr. House	231-233 Central St	Acton	1870
ACT.309	Stevens, Levi W. House	237 Central St	Acton	1880
ACT.308	Mead, A. O. W. Worker Housing	240-242 Central St	Acton	1870
ACT.307	Stevens, Levi W. House	241 Central St	Acton	1875
ACT.306	Wright, George Cleveland House	244 Central St	Acton	1844
ACT.305		248 Central St	Acton	1945
ACT.304	Houghton, John R. House	249 Central St	Acton	1860
ACT.303	West Acton Universalist Church	250 Central St	Acton	1868
ACT.302	Mott, Otis B. House	253 Central St	Acton	1900
ACT.301	Bowers, C. House	257 Central St	Acton	1850
ACT.300	West Acton Fire Station	258 Central St	Acton	1957
ACT.299	Mead, Oliver W. House	262 Central St	Acton	1872
ACT.298	Faulkner, Nathaniel S. House	269 Central St	Acton	1840
ACT.297	Stevens, Levi W. - Trasker, Dr. Frank House	272 Central St	Acton	1865
ACT.296	Blanchard House	274 Central St	Acton	1850
ACT.295		275-279 Central St	Acton	1920
ACT.294	West Acton Odd Fellows Hall	282 Central St	Acton	1906

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

Search Criteria: Town(s): Acton; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

ACT.292		283-295 Central St	Acton	1950
ACT.291	Stone, Charles B. House	292 Central St	Acton	1870
ACT.290	Hayward, Edwin A. House	294 Central St	Acton	1850
ACT.289	Knapp, Elijah House	296 Central St	Acton	1850
ACT.288	Knapp, Elijah House	298 Central St	Acton	1850
ACT.287		299 Central St	Acton	1950
ACT.286		301 Central St	Acton	1950
ACT.285	Stone, Bradley Miner House	302 Central St	Acton	1850
ACT.284		303 Central St	Acton	1950
ACT.283		305 Central St	Acton	1950
ACT.282	Handley, Reuben House	308 Central St	Acton	1865
ACT.281		309 Central St	Acton	1920
ACT.280	Teele, Jonathan B. House	311 Central St	Acton	1860
ACT.279	Teele, Jonathan B. Icehouse	315 Central St	Acton	1870
ACT.184	Brooks, Timothy - Reed, Isaac House	344 Central St	Acton	1735
ACT.183	Hapgood, Nathaniel House	375 Central St	Acton	1800
ACT.182	Blanchard, Simon House	422 Central St	Acton	1890
ACT.530	Merriam, Asaph House	5 Chadwick St	Acton	1892
ACT.531	Billings, Luther House	6 Chadwick St	Acton	1860
ACT.532	Dwight, Francis House	11-15 Chadwick St	Acton	1860
ACT.656	Acton High School	3 Charter Rd	Acton	1925
ACT.329		5 Church St	Acton	1885
ACT.331		6-8 Church St	Acton	1900
ACT.330		7 Church St	Acton	1885
ACT.332	Twitchell, Charles Stanley House	9 Church St	Acton	1865
ACT.333		11 Church St	Acton	1945
ACT.334		15 Church St	Acton	1945
ACT.596	Adams, John House	51 Conant St	Acton	1740
ACT.128	Acton Centre District Firehouse #1	7 Concord Rd	Acton	1952
ACT.129	Fletcher, John House	8 Concord Rd	Acton	1855
ACT.130	Evangelical Church	12 Concord Rd	Acton	1846
ACT.131	Hosmer, Abner House	20 Concord Rd	Acton	1846
ACT.663	Woodlawn Cemetery Chapel	104 Concord Rd	Acton	1938
ACT.664	Woodlawn Cemetery Hearse House - Tool Shop	104 Concord Rd	Acton	
ACT.665	Woodlawn Cemetery - Kennedy Service Building	104 Concord Rd	Acton	
ACT.802	Woodlawn Cemetery	104 Concord Rd	Acton	1740
ACT.930	Robbins, Capt. Alarm Stone	110 Concord Rd	Acton	1895
ACT.657	Forbes - Morrison House	116 Concord Rd	Acton	1932
ACT.658	Forbes - Morrison Barn	116 Concord Rd	Acton	1932
ACT.659	Forbes - Morrison Garage	116 Concord Rd	Acton	1932
ACT.660	Forbes - Morrison Hen House	116 Concord Rd	Acton	1932
ACT.923	Forbes - Morrison Stone Walls	116 Concord Rd	Acton	1750
ACT.924	Forbes - Morrison Pasture Land	116 Concord Rd	Acton	1650
ACT.925	Forbes - Morrison Woodland	116 Concord Rd	Acton	1935
ACT.926	Forbes - Morrison Farm - Ice House Pond	120-128 Concord Rd	Acton	1850
ACT.158	Coughlin, John House	12 Coughlin St	Acton	1853
ACT.623	Davis, Ebenezer House and Bellows Shop	Davis St	Acton	1814
ACT.624	Davis, Capt. Daniel House	Davis St	Acton	1838
ACT.186	Locke House	22 Elm St	Acton	1900
ACT.185	Wheeler, James W. House	34 Elm St	Acton	1835
ACT.73	Billings, Jonathan House	29 Esterbrook Rd	Acton	1801
ACT.74	Billings, Lt. Jonathan House	41 Esterbrook Rd	Acton	1736
ACT.75	Billings, Jonathan - Estabrook House	65 Esterbrook Rd	Acton	1860
ACT.76	Brooks, George H. House	73 Esterbrook Rd	Acton	1880
ACT.77		85 Esterbrook Rd	Acton	1916
ACT.616		2 Fletcher Ct	Acton	1925
ACT.911	Fitchburg Railroad Bridge (Milepost #27.46)	Fort Pond Brook	Acton	1929
ACT.912	Lancaster and Sterling Branch Railroad Bridge	Fort Pond Brook	Acton	1942
ACT.913	Fitchburg Railroad Bridge (Milepost #26.26)	Fort Pond Brook	Acton	1844
ACT.914	Fitchburg Railroad Bridge (Milepost #25.03)	Fort Pond Brook	Acton	1845
ACT.628	White, Capt. Daniel - White, Mark House	Great Rd	Acton	1740
ACT.57	Robbins, Julia House	2 Great Rd	Acton	1885
ACT.56	Robbins, Julia House	6 Great Rd	Acton	1885
ACT.55	Chandler, Henry P. House	7 Great Rd	Acton	1880
ACT.54	Dunn, William G. House	19 Great Rd	Acton	1880
ACT.53	Robbins, Warren O. House	29 Great Rd	Acton	1880
ACT.52	Robbins, Capt. Luke J. House	35 Great Rd	Acton	1876
ACT.51	Hayes, Michael G. House	38 Great Rd	Acton	1900
ACT.50	Reed, Nahum C. House	52 Great Rd	Acton	1875
ACT.49	Billings, James E. House	54 Great Rd	Acton	1875
ACT.639	Billings, James E. House	56 Great Rd	Acton	1875
ACT.48	Flagg, Isaac W. House	60-62 Great Rd	Acton	1875
ACT.47	Wetherbee, Edward and Daniel House	65 Great Rd	Acton	1802
ACT.46	Williams, Charles J. House	83 Great Rd	Acton	1875
ACT.45	Putney, Jonas K. House	93 Great Rd	Acton	1876
ACT.44	Wetherbee, Daniel James House	103 Great Rd	Acton	1873
ACT.41	Robbins, John House	144 Great Rd	Acton	1800
ACT.928	Forbes - Morrison Farm - Nashoba Brook Causeway	144R Great Rd	Acton	1850
ACT.40	Heywood, Calvin House	160 Great Rd	Acton	1797
ACT.39	Billing, James House	162 Great Rd	Acton	1787
ACT.626	Davis, Simon Jr. House	193 Great Rd	Acton	1748
ACT.36	White, Mark Jr. House	274 Great Rd	Acton	1740
ACT.627	Oliver, Joel House	283 Great Rd	Acton	1770
ACT.32	Robbins, Charles House	358 Great Rd	Acton	1755
ACT.31	Blanchard, Thomas House	416 Great Rd	Acton	1850
ACT.30	Robbins, Joseph Jr. House	457 Great Rd	Acton	1774
ACT.29	Hunt, Joshua House	498 Great Rd	Acton	1835
ACT.28	White, John Jr. House	502 Great Rd	Acton	1830
ACT.27	Lamson, David House	510 Great Rd	Acton	1753
ACT.26	White, Daniel House	514 Great Rd	Acton	1815
ACT.25	Handley, David House	518 Great Rd	Acton	1876
ACT.24		528 Great Rd	Acton	1916
ACT.23	Goward House	532 Great Rd	Acton	1900
ACT.915	Fitchburg Railroad Bridge (Milepost #27.19)	Guggins Brook	Acton	1844
ACT.629	Parlin, Samuel House	Hammond St	Acton	1772
ACT.148	Conant, Samuel Potter House	36 Hammond St	Acton	1808
ACT.22	Handley, Capt. John House	6 Harris St	Acton	1830
ACT.21	North Acton Schoolhouse	52 Harris St	Acton	1872
ACT.20	North Acton Schoolhouse	62 Harris St	Acton	1839
ACT.19	Dudley, James House	93 Harris St	Acton	1767
ACT.18	Cheney, Elmer House	100 Harris St	Acton	1900
ACT.900	Davis, Isaac Trail	Hayward Rd	Acton	1750
ACT.920	Hayward Road Bridge over Route 2	Hayward Rd	Acton	1950
ACT.157	Wheeler, Charles House	39 Hayward Rd	Acton	1850

Massachusetts Cultural Resource Information System
MACRIS

MACRIS Search Results

Search Criteria: Town(s): Acton; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

ACT.490	Faulkner Homestead	5 High St	Acton	1707
ACT.491	Harrington, Charles A. House	22 High St	Acton	1867
ACT.492	Warren, William S. House	40 High St	Acton	1888
ACT.630	Hayward, Simeon House	298 High St	Acton	1801
ACT.293		7-9 Hillside Terr	Acton	1915
ACT.556		91 Hosmer St	Acton	1904
ACT.557	Cole, Joseph House	119 Hosmer St	Acton	1800
ACT.558	Fletcher, Peter House	4 Independence Rd	Acton	1769
ACT.337	Mahoney, Daniel House	21 Kinsley Ln	Acton	1870
ACT.338	Hurley, James House	23 Kinsley Ln	Acton	1870
ACT.339	Hurley, James Jr. House	25 Kinsley Ln	Acton	1870
ACT.478	Knight House	24 Liberty St	Acton	1710
ACT.902	Davis Monument	Main St	Acton	1851
ACT.906	Main Street Bridge over B & M Railroad	Main St	Acton	1906
ACT.908	Acton Town Common	Main St	Acton	1806
ACT.910	Mill Pond	Main St	Acton	1720
ACT.916	Main Street Bridge over B & M Railroad	Main St	Acton	1906
ACT.917	Main Street Bridge over Route 2	Main St	Acton	1950
ACT.601		48 Main St	Acton	1935
ACT.602		49 Main St	Acton	1925
ACT.603		50 Main St	Acton	1900
ACT.604		51 Main St	Acton	1920
ACT.605		52 Main St	Acton	1925
ACT.606		54 Main St	Acton	1930
ACT.607		55 Main St	Acton	1935
ACT.608		56 Main St	Acton	1920
ACT.609		59 Main St	Acton	1900
ACT.610		62 Main St	Acton	1920
ACT.611		64 Main St	Acton	1910
ACT.612		68 Main St	Acton	1930
ACT.613		74 Main St	Acton	1900
ACT.614		76 Main St	Acton	1930
ACT.615		78 Main St	Acton	1930
ACT.431	Gates, George W. House	94 Main St	Acton	1867
ACT.429	Robbins, Ithamar House	96 Main St	Acton	1848
ACT.430	Richardson, Edward F. House	97 Main St	Acton	1872
ACT.428	Stone, Joel R. House	99 Main St	Acton	1853
ACT.427		100 Main St	Acton	1920
ACT.426	Brooks, Charles G. House	101 Main St	Acton	1843
ACT.425	Brooks, Amos and Charles Wheelwright Shop	102 Main St	Acton	1856
ACT.424	Hildreth, Lemuel House	103 Main St	Acton	1846
ACT.423	Stone, Marshall V. House	104 Main St	Acton	1852
ACT.422	Faulkner, Winthrop Double House	105-107 Main St	Acton	1844
ACT.421	Lothrop, John J. Blacksmith Shop	106 Main St	Acton	1844
ACT.418	Faulkner Mills - Building #1	113 Main St	Acton	1848
ACT.419	Faulkner Mills - Building #2 and 3	113 Main St	Acton	1751
ACT.420	Faulkner Mills - Building #4	113 Main St	Acton	1850
ACT.905	Erikson Dam	113 Main St	Acton	1848
ACT.417	Central Hall	124 Main St	Acton	1852
ACT.416	Jones Cider Mill	127 Main St	Acton	1860
ACT.414	Jones, Abram Hapgood House	129-131 Main St	Acton	1860
ACT.413		130 Main St	Acton	1964
ACT.412	Conant, Francis House	132 Main St	Acton	1849
ACT.411		134 Main St	Acton	1935
ACT.410	Jones, Elnathan Jr. House	136 Main St	Acton	1851
ACT.409	First Universalist Church	140 Main St	Acton	1877
ACT.408		153 Main St	Acton	1961
ACT.407	Jones, Samuel Jr. House	154 Main St	Acton	1887
ACT.406	Hayward, Reuben House	158 Main St	Acton	1884
ACT.405		161 Main St	Acton	1962
ACT.404	Symonds, James A. House	164 Main St	Acton	1886
ACT.403	Barker, Henry House	167 Main St	Acton	1888
ACT.402	Barker, Henry Carriage House	169 Main St	Acton	1888
ACT.401	Bean, A. Percival House	170 Main St	Acton	1890
ACT.400		171 Main St	Acton	1950
ACT.399	Fairbanks, Charles House	172 Main St	Acton	1892
ACT.398		173 Main St	Acton	1950
ACT.397	Fairbanks, Charles House	174 Main St	Acton	1895
ACT.396	Burke, Fred House	177 Main St	Acton	1895
ACT.904	Slap-A-Phone Sculpture	177 Main St	Acton	1993
ACT.622		178 Main St	Acton	1950
ACT.395	Priest, Jacob House	183 Main St	Acton	1900
ACT.394	Tower, Alonzo House	184 Main St	Acton	1861
ACT.393	Fairbanks, Charles House	187 Main St	Acton	1900
ACT.392		188 Main St	Acton	1935
ACT.391	Fairbanks, Charles House	189 Main St	Acton	1900
ACT.390		190 Main St	Acton	1925
ACT.389	Graham, James House	196 Main St	Acton	1846
ACT.388	Fairbanks, Charles House	197 Main St	Acton	1911
ACT.387	Fairbanks, Charles House	203 Main St	Acton	1911
ACT.169		268 Main St	Acton	1910
ACT.168	Hosmer, Jonathan and Simon House	300 Main St	Acton	1760
ACT.621	Roche, Leo B. House	376 Main St	Acton	1926
ACT.167		401 Main St	Acton	1890
ACT.166		403 Main St	Acton	1809
ACT.113	Reed, R. L. House	427 Main St	Acton	1880
ACT.112	Fletcher, Hon. John House	430 Main St	Acton	1850
ACT.111	Jacobs, S. J. House	431 Main St	Acton	1850
ACT.110	Parson House	433 Main St	Acton	1926
ACT.108	Rouillard House	437-439 Main St	Acton	1870
ACT.109	Tuttle, Horace House	438 Main St	Acton	1865
ACT.107	Tuttle, William Davis House	445 Main St	Acton	1865
ACT.106	Tuttle, Horace House	446 Main St	Acton	1840
ACT.105	Edmunds, T. House	451 Main St	Acton	1850
ACT.104	Jones, Thomas Green - Jones, Daniel House	452 Main St	Acton	1850
ACT.103	Barker, Francis House	455 Main St	Acton	1799
ACT.101	Noyes, George L. Grocery Store	459 Main St	Acton	1914
ACT.102	White, Dea. John House	460 Main St	Acton	1806
ACT.100	Jones, Samuel Law Office	461 Main St	Acton	1805
ACT.99	Croft, Roger House	468 Main St	Acton	1913
ACT.96	Brooks - Noyes, William House	481 Main St	Acton	1821
ACT.97	Acton Town Hall	482 Main St	Acton	1862
ACT.95	Acton Memorial Library	486 Main St	Acton	1889
ACT.94	Jones, Rev. James House	487 Main St	Acton	1807
ACT.93	Law, Samuel House	491 Main St	Acton	1806
ACT.92	Acton Centre Store	492-496 Main St	Acton	1830

Massachusetts Cultural Resource Information System
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MACRIS Search Results

Search Criteria: Town(s): Acton; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

ACT.91	Weston, Stephen House	497 Main St	Acton	1836
ACT.90	Tuttle, Charles House	498 Main St	Acton	1817
ACT.89	Lothrop, William R. House	502 Main St	Acton	1849
ACT.88	Tuttle, Francis House	503 Main St	Acton	1840
ACT.87	Acton Women's Club - Chapel, The	504 Main St	Acton	1829
ACT.86	Tuttle, Francis - Robbins, M. House	505 Main St	Acton	1840
ACT.85	Central District School	507 Main St	Acton	1798
ACT.84	Cowdry, Dr. Harris House	508 Main St	Acton	1830
ACT.907	Meeting House Hill	510 Main St	Acton	1737
ACT.82	Morehouse, William House	511 Main St	Acton	1874
ACT.81	Stearns, Horatio H. House	517 Main St	Acton	1850
ACT.80	Davis, Dr. John House	562 Main St	Acton	1743
ACT.640	Davis, John Barn Complex	562 Main St	Acton	1820
ACT.79	Tuttle, George Washington House	588 Main St	Acton	1800
ACT.78	Wheeler, Josiah Davis House	594 Main St	Acton	1815
ACT.15	Davies, Gershom House	698 Main St	Acton	1820
ACT.14	Harris, Joseph and John House	713 Main St	Acton	1775
ACT.13	Harris, James House	725 Main St	Acton	1831
ACT.12	Miller, Charles I. House	737 Main St	Acton	1875
ACT.10	Harris, Joseph and John House	750 Main St	Acton	1769
ACT.11	Harris, John Jr. Barn	763 Main St	Acton	1820
ACT.9	Harris, David C. House	773 Main St	Acton	1895
ACT.7	Harris, David C. House	780 Main St	Acton	1885
ACT.8	Harris, David C. House	781 Main St	Acton	1903
ACT.6	Harris, David C. House	784 Main St	Acton	1885
ACT.5	Harris, David C. Business Office	788 Main St	Acton	1881
ACT.3	Spinney, Dexter House	836 Main St	Acton	1920
ACT.2	Frost, Allan Duplex House	864-866 Main St	Acton	1930
ACT.432	Tuttle, Francis House	10 Maple St	Acton	1845
ACT.433	Tuttle, Francis House	14 Maple St	Acton	1845
ACT.434	Tuttle, Varnum House	16 Maple St	Acton	1845
ACT.435	South Acton Lumber Company Office Building	17-21 Maple St	Acton	1870
ACT.651	South Acton Lumber Company Warehouse	17-21 Maple St	Acton	1950
ACT.437	Jones, Elnathan and Frank House	41 Maple St	Acton	1871
ACT.438	Robbins, Edward Nelson House	43 Maple St	Acton	1882
ACT.439	Tuttle, Abram House	44 Maple St	Acton	1872
ACT.440	Marshall, Ellen J. House	45 Maple St	Acton	1875
ACT.441	Jones, Ralph Thomas House	49 Maple St	Acton	1924
ACT.442	Reed, Lorenzo Everett House	50 Maple St	Acton	1895
ACT.443	Soper, Joseph House	54 Maple St	Acton	1872
ACT.444	Herrick, Annie A. House	55 Maple St	Acton	1953
ACT.445	Currie, Neil Double House	56-58 Maple St	Acton	1877
ACT.446	Wood, Eben F. House	57 Maple St	Acton	1871
ACT.447	Fletcher, Jonathan P. House	61 Maple St	Acton	1875
ACT.448	Newton, Theron F. House	62 Maple St	Acton	1872
ACT.449	Shapley, Evelina T. House	65 Maple St	Acton	1871
ACT.450	Hapgood, Hiram J. House	66-68 Maple St	Acton	1871
ACT.451	Fletcher, William S. House	70 Maple St	Acton	1892
ACT.452	Hayward, Francis House	71-73 Maple St	Acton	1870
ACT.453	Pratt, Herbert T. House	75 Maple St	Acton	1915
ACT.454	Fletcher, Aaron Swift House	76 Maple St	Acton	1864
ACT.455	Temple, John House	77 Maple St	Acton	1860
ACT.456	Macomber, George E. House	1 Martin St	Acton	1915
ACT.597		2 Martin St	Acton	1950
ACT.457		9 Martin St	Acton	1895
ACT.598		10 Martin St	Acton	1920
ACT.458		13 Martin St	Acton	1895
ACT.459	Foley, Michael House	14 Martin St	Acton	1892
ACT.460	Maillain, Daniel House	15 Martin St	Acton	1860
ACT.461	Cullinane, Daniel House	16 Martin St	Acton	1890
ACT.462	Jones, Francis House	21 Martin St	Acton	1854
ACT.463	Hayward, Francis House	25 Martin St	Acton	1854
ACT.464	Jones, Samuel Jr. House	27 Martin St	Acton	1876
ACT.465	Fletcher, Aaron Swift House	29 Martin St	Acton	1875
ACT.466	Hayward, Walter E. House	31 Martin St	Acton	1889
ACT.467	Fletcher, Aaron Swift House	36 Martin St	Acton	1875
ACT.468	Temple, Isaac F. B. House	39 Martin St	Acton	1884
ACT.469	Jackson, Loring M. House	45 Martin St	Acton	1870
ACT.470		91 Martin St	Acton	1910
ACT.471	Forbush, Capt. Abel House	92 Martin St	Acton	1820
ACT.472	Knight, Jonathan House	100 Martin St	Acton	1707
ACT.170	Wright, Joseph - Holden, Silas House	15 Massachusetts Ave	Acton	1830
ACT.661	Concord Reformatory Work Farm Garage	15 Massachusetts Ave	Acton	1915
ACT.662	Metropolitan District Commission Horse Stable	15 Massachusetts Ave	Acton	1986
ACT.173	Piper, Joseph Jr. - Tenney, Nelson House	373 Massachusetts Ave	Acton	1772
ACT.174	Hosmer, John E. House	426 Massachusetts Ave	Acton	1856
ACT.176	Whitcomb House	457 Massachusetts Ave	Acton	1850
ACT.177	Hosmer, Ephraim House	471 Massachusetts Ave	Acton	1750
ACT.247		520-526 Massachusetts Ave	Acton	1895
ACT.246	Knowlton, Franklin R. House	525 Massachusetts Ave	Acton	1880
ACT.245	Gardner, George Barn and Piano Warehouse	531 Massachusetts Ave	Acton	1856
ACT.244	Gardner, George House	533 Massachusetts Ave	Acton	1855
ACT.243	Robinson, Charles C. Building	536 Massachusetts Ave	Acton	1865
ACT.242		537 Massachusetts Ave	Acton	1880
ACT.241	Mead, Oliver W. Barn	539 Massachusetts Ave	Acton	1870
ACT.240		540 Massachusetts Ave	Acton	1905
ACT.239		542 Massachusetts Ave	Acton	1850
ACT.238	Saint Elizabeth of Hungary Catholic Church	543 Massachusetts Ave	Acton	1913
ACT.237	Robinson, Charles House	544 Massachusetts Ave	Acton	1865
ACT.236	Hayward, Cyrus House	550 Massachusetts Ave	Acton	1850
ACT.234	Green, Dr. Reuben House	552-554 Massachusetts Ave	Acton	1845
ACT.235		553 Massachusetts Ave	Acton	1980
ACT.233		555 Massachusetts Ave	Acton	1980
ACT.232	Hutchins, Dr. Isaiah House	556 Massachusetts Ave	Acton	1870
ACT.231	Blanchard, Luke House	560-564 Massachusetts Ave	Acton	1850
ACT.230	West Acton Pharmacy	563 Massachusetts Ave	Acton	1980
ACT.229	Mead Block	568-576 Massachusetts Ave	Acton	1922
ACT.227	Middlesex Savings Bank	577 Massachusetts Ave	Acton	1980
ACT.228	Robinson, Charles Store	578-590 Massachusetts Ave	Acton	1855
ACT.226	Whitcomb, Waldo E. Meat Market	583 Massachusetts Ave	Acton	1900
ACT.225	Stone, Bradley House	585 Massachusetts Ave	Acton	1832
ACT.224	West Acton Baptist Church	592 Massachusetts Ave	Acton	1854
ACT.223	Stockwell, I. A. House	603 Massachusetts Ave	Acton	1850

Massachusetts Cultural Resource Information System
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MACRIS Search Results

Search Criteria: Town(s): Acton; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

ACT.222	West Acton Baptist Church Parsonage	608 Massachusetts Ave	Acton	1879
ACT.221		612 Massachusetts Ave	Acton	1920
ACT.220	Wright, George C. House	615 Massachusetts Ave	Acton	1861
ACT.219	Mead, Charles H. House	616 Massachusetts Ave	Acton	1880
ACT.644	Mead, Charles H. Garage	616 Massachusetts Ave	Acton	1880
ACT.218		622 Massachusetts Ave	Acton	1920
ACT.217		627 Massachusetts Ave	Acton	1885
ACT.216		631-637 Massachusetts Ave	Acton	1885
ACT.211		5-7 Mead Terr	Acton	1910
ACT.212	Davis, S. House	9 Mead Terr	Acton	1855
ACT.213	Wright, George Cleveland Barn	11 Mead Terr	Acton	1900
ACT.634	Skinner, Dr. Abraham House	Nagog Hill Rd	Acton	1794
ACT.142	Burnham, James H. House	46 Nagog Hill Rd	Acton	1865
ACT.121	Fletcher, Dea. John House	74 Nagog Hill Rd	Acton	1828
ACT.122	Fletcher - Taylor, Moses House (Ell)	77 Nagog Hill Rd	Acton	1828
ACT.654		78 Nagog Hill Rd	Acton	1978
ACT.124	Old Parsonage, The	84 Nagog Hill Rd	Acton	1741
ACT.144	Tuttle, Simon House	180 Nagog Hill Rd	Acton	1856
ACT.145	Adams, Moses House	217 Nagog Hill Rd	Acton	1755
ACT.146	Tuttle, Francis House	253 Nagog Hill Rd	Acton	1795
ACT.147		312 Nagog Hill Rd	Acton	1830
ACT.641		312 Nagog Hill Rd	Acton	1830
ACT.180	Hapgood, Ephraim Carriage House	4 Nashoba Rd	Acton	1760
ACT.181	Gilbert, Judge House	65 Nashoba Rd	Acton	1775
ACT.114	Lothrop, William R. House	6 Newtowne Rd	Acton	1851
ACT.115	King, Henry A. - Despeaux, Samuel House	10 Newtowne Rd	Acton	1854
ACT.116	Chaffin, Samuel House	14 Newtowne Rd	Acton	1847
ACT.117	Edwards, Alfred J. House	15 Newtowne Rd	Acton	1865
ACT.150	Chaffin, Robert House	225 Newtowne Rd	Acton	1755
ACT.149	Chaffin, John House	239 Newtowne Rd	Acton	1750
ACT.600		6 Pine St	Acton	1920
ACT.541	Tuttle, James Barn	4 Piper Ln	Acton	1855
ACT.542	Tuttle, James Grocery Store (Ell)	8 Piper Ln	Acton	1850
ACT.543	Piper, Luther W. House	1 Piper Rd	Acton	1861
ACT.544	Wetherbee, Hiram House	8 Piper Rd	Acton	1862
ACT.550	Law, John II House	44 Piper Rd	Acton	1737
ACT.552	Piper, Silas House	84 Piper Rd	Acton	1817
ACT.64	Heywood, John House	276 Pope Rd	Acton	1750
ACT.66	Wheeler, Addison House	304 Pope Rd	Acton	
ACT.67	Edwards, Col. Nathaniel House	328 Pope Rd	Acton	1750
ACT.376	Jones, Howard Louis House	5 Prospect St	Acton	1905
ACT.377	Kimball, Charles M. House	7 Prospect St	Acton	1885
ACT.378	Brown, Charlotte House	11 Prospect St	Acton	1889
ACT.379	Tolman, Charlotte Francis House	15-17 Prospect St	Acton	1895
ACT.380		16 Prospect St	Acton	1967
ACT.381	Tolman, Henry Everett House	21 Prospect St	Acton	1916
ACT.382	Fletcher, Jonathan P. House	22 Prospect St	Acton	1897
ACT.383		28 Prospect St	Acton	1925
ACT.384	Harris, Elwyn House	29 Prospect St	Acton	1910
ACT.385		31 Prospect St	Acton	1950
ACT.386	Taylor, Lyman C. House	34 Prospect St	Acton	1895
ACT.554	Cutting, William House	88 Prospect St	Acton	1735
ACT.555	Hosmer, Nathaniel Davies - Aaron House	138 Prospect St	Acton	1837
ACT.487		5 Railroad St	Acton	1965
ACT.488	Shattuck, George W. Jewelry Shop	9 Railroad St	Acton	1852
ACT.599		13 Railroad St	Acton	1980
ACT.489	American Hotel	19 Railroad St	Acton	1845
ACT.922	River Street Bridge over Fort Pond Brook	River St	Acton	1937
ACT.533	Worster, George W. House	1 River St	Acton	1894
ACT.534	Reed, J. Everett House	20 River St	Acton	1873
ACT.535	Harrington, Charles A. Worker Housing	24-26 River St	Acton	1892
ACT.536	Holmes, J. A. and Company Woolen Mill Office	50 River St	Acton	1872
ACT.537	Lazaro, B. J. Paving and Contracting Company	53 River St	Acton	1957
ACT.538	Rand, George W. House	62 River St	Acton	1861
ACT.539	Dwight, Francis Woodworking Mill Worker Housing	65 River St	Acton	1860
ACT.540	Lothrop Wire Smooth Wound Ferrule Mill	81 River St	Acton	1902
ACT.561	Hannon, Michael House	91 River St	Acton	1858
ACT.918	Route 111 Bridge over Route 2	Rt 111	Acton	1951
ACT.493	South Acton Fire Department	3 School St	Acton	1927
ACT.494	Exchange Hall	4-6 School St	Acton	1860
ACT.495	Tuttle, Varnum House	12 School St	Acton	1856
ACT.496	Gray, William H. House and Store	20 School St	Acton	1856
ACT.635	South Acton Railroad Station	21 School St	Acton	1902
ACT.497	Cole, Nelson Jones Ginger Ale Bottling Building	25 School St	Acton	1910
ACT.498	Harris, James E. House	26 School St	Acton	1860
ACT.499	Dwight's Block	27 School St	Acton	1848
ACT.500	South Acton Congregational Church	29 School St	Acton	1891
ACT.501	Tuttle, Joseph Warren House	30 School St	Acton	1875
ACT.502	Jones, Abel House	34 School St	Acton	1845
ACT.503	Conant, Francis House	39 School St	Acton	1890
ACT.504	Ames, George T. House	40 School St	Acton	1880
ACT.505	Conant, Francis House	43-45 School St	Acton	1890
ACT.506	Conant, Francis House	47 School St	Acton	1860
ACT.507	Jones, James Francis House	48 School St	Acton	1860
ACT.508	Conant, Francis House	49-51 School St	Acton	1860
ACT.509	Acton District #2 Fire Department	52 School St	Acton	1961
ACT.510	Wetherbee, Jonathan Kimball Wood House	53 School St	Acton	1860
ACT.511	Butters, Hiram House	55 School St	Acton	1845
ACT.512	Fletcher, Guildford House	60 School St	Acton	1870
ACT.513	Hosmer, Francis House	64 School St	Acton	1893
ACT.514	Harrington, Charles A. House	65 School St	Acton	1882
ACT.515	Haynes, Abel G. House	66 School St	Acton	1861
ACT.517	Harrington, Charles A. House	69-71 School St	Acton	1880
ACT.516	White, Howard B. House	70 School St	Acton	1888
ACT.518	Harvey, James R. House	75 School St	Acton	1845
ACT.519		76 School St	Acton	1950
ACT.520	Walcott, Jabez House	80 School St	Acton	1846
ACT.521	Richardson, Samuel S. House	81 School St	Acton	1843
ACT.522		85 School St	Acton	1951
ACT.523	Walcott, Jabez House	86 School St	Acton	1797
ACT.524		87 School St	Acton	1955
ACT.525	Noyes, Cyrus House	90 School St	Acton	1846
ACT.526		95 School St	Acton	1973
ACT.527	Wheeler, Ezra House	105 School St	Acton	1760
ACT.528	Lothrop, Alvin M. House	111-113 School St	Acton	1900
ACT.652	Lothrop, Alvin M. Barn	111-113 School St	Acton	1847
ACT.529	Merriam, Frank House	115 School St	Acton	1896
ACT.567	Wood, Lewis House	125 School St	Acton	1854

Massachusetts Cultural Resource Information System
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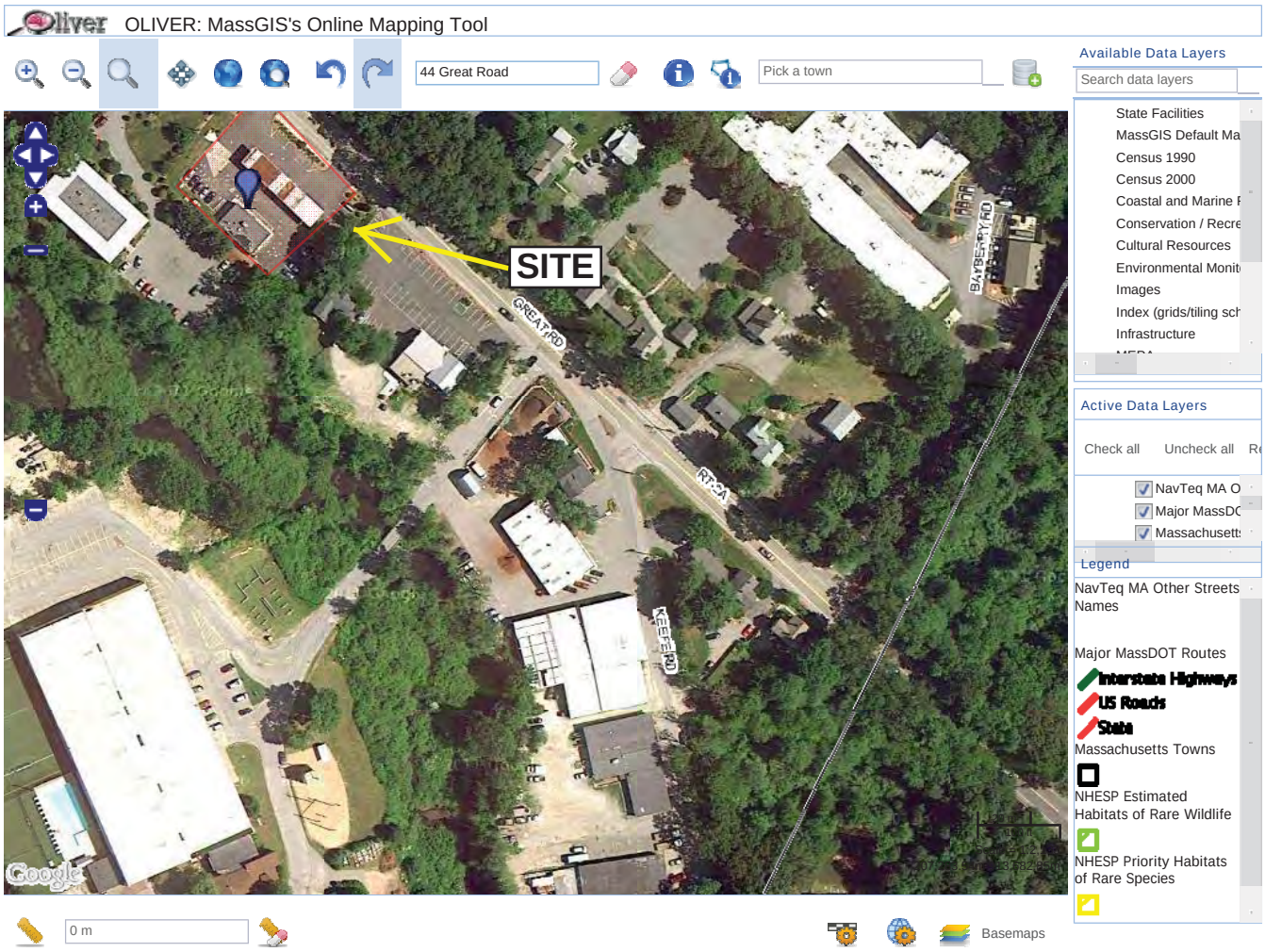
MACRIS Search Results

Search Criteria: Town(s): Acton; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

ACT.568	Barker, Jonathan House	154 School St	Acton	1804
ACT.569	Brooks, Dea. John House	186 School St	Acton	1725
ACT.570	Conant, John House	246 School St	Acton	1860
ACT.571	Law, John House	266 School St	Acton	1775
ACT.572	Conant, Joel House	267 School St	Acton	1820
ACT.573	Hayward, Frank Conant House	271 School St	Acton	1895
ACT.574		282 School St	Acton	1925
ACT.575		285 School St	Acton	1905
ACT.576	Haynes, Henry House	299 School St	Acton	1850
ACT.653	Haynes, Henry Barn Complex	299 School St	Acton	1850
ACT.577		300 School St	Acton	1900
ACT.415	Jones Tavern	128 South Main St	Acton	1732
ACT.645	Mead, A. O. W. Company - Building A	5 Spruce St	Acton	1900
ACT.646	Mead, A. O. W. Company - Building B	5 Spruce St	Acton	1890
ACT.647	Mead, A. O. W. Company - Building C	5 Spruce St	Acton	1920
ACT.248	Mead, Varnum B. House	7-9 Spruce St	Acton	1847
ACT.249	West Acton Car Wash	10 Spruce St	Acton	1980
ACT.250		11 Spruce St	Acton	1980
ACT.251		13-15 Spruce St	Acton	1980
ACT.252	Gilmore, W. M. Barn	30 Spruce St	Acton	1856
ACT.253	West Acton Schoolhouse	33-35 Spruce St	Acton	1846
ACT.254	Moran, J. House	34-36 Spruce St	Acton	1870
ACT.255	Sweat, D. - Davis, S. House	37-39 Spruce St	Acton	1850
ACT.256	Tilden, Lucy Handley House	40 Spruce St	Acton	1880
ACT.257	Shattuck, Martha R. House	42-44 Spruce St	Acton	1897
ACT.258	Gates, J. C. House	51 Spruce St	Acton	1885
ACT.473	Law, Cyrus House	20 Stow St	Acton	1873
ACT.474	Hayward, Moses House	45-47 Stow St	Acton	1815
ACT.637	Brooks, Seth House	Strawberry Hill Rd	Acton	1773
ACT.636	Brabrook, Benjamin House	77 Strawberry Hill Rd	Acton	1751
ACT.69	White, Ens. Mark House	108 Strawberry Hill Rd	Acton	1750
ACT.336		12 Summer St	Acton	1890
ACT.342	Hayward, Dea. Benjamin House	67 Summer St	Acton	1779
ACT.617		4 Sylvia St	Acton	1930
ACT.618		8 Sylvia St	Acton	1920
ACT.619		12 Sylvia St	Acton	1920
ACT.159	Reed Barn	3 Taylor Rd	Acton	
ACT.160	Campbell - Torkelsen, E. John House	30 Taylor Rd	Acton	
ACT.161	Richardson, Allan House	42 Taylor Rd	Acton	1819
ACT.162	Taylor, Lyman C. House	49 Taylor Rd	Acton	1875
ACT.163	Taylor, Moses Apple Barn - Dunn, William House	62 Taylor Rd	Acton	1880
ACT.921	Wetherbee Street Bridge over Nashoba Brook	Wetherbee St	Acton	1915
ACT.16	Wheeler, Cyrus House	9 Wheeler Ln	Acton	1856
ACT.17	Wheeler, Samuel House	12 Wheeler Ln	Acton	1840
ACT.347		5 Willow St	Acton	1900
ACT.348		13 Willow St	Acton	1900
ACT.349	King, Benjamin Arthur House	45 Willow St	Acton	1910
ACT.350		46-48 Willow St	Acton	1900
ACT.351	Creely, Dr. House	60 Willow St	Acton	1890
ACT.352	Hall, Eugene House	63 Willow St	Acton	1890
ACT.353		76 Willow St	Acton	1890
ACT.354		80 Willow St	Acton	1890
ACT.355		84 Willow St	Acton	1890
ACT.356		90 Willow St	Acton	1890
ACT.259		11-17 Windsor Ave	Acton	1922
ACT.260	West Acton Fire Station	12 Windsor Ave	Acton	1903
ACT.261	Citizens' Library	21 Windsor Ave	Acton	1840
ACT.262	Hall, Edgar H. House	24 Windsor Ave	Acton	1889
ACT.263	Clare, Col. James P. House	25 Windsor Ave	Acton	1925
ACT.264	Wetherbee, John H. House	29 Windsor Ave	Acton	1846
ACT.265	Hall, Delette H. House	30 Windsor Ave	Acton	1880
ACT.266		33 Windsor Ave	Acton	1880
ACT.267		37 Windsor Ave	Acton	1945
ACT.268	Hayward, Edwin L. House	38 Windsor Ave	Acton	1880
ACT.269	Wetherbee, Lois House	42 Windsor Ave	Acton	1845
ACT.270	Hall, Bertram D. House	43 Windsor Ave	Acton	1897
ACT.271		46 Windsor Ave	Acton	1890
ACT.272		48 Windsor Ave	Acton	1890
ACT.273	Hoar, John Sherman, Jr. House	49 Windsor Ave	Acton	1891
ACT.274	Mead, Hobart House	53 Windsor Ave	Acton	1890
ACT.275	Blanchard, Arthur F. House	56 Windsor Ave	Acton	1892
ACT.648	Blanchard, Arthur F. Carriage House	56 Windsor Ave	Acton	1892
ACT.276	Gould, Herman House	57 Windsor Ave	Acton	1897
ACT.277	Vose, John House	59-61 Windsor Ave	Acton	1892
ACT.278	Blanchard, Webster S. House	62 Windsor Ave	Acton	1925
ACT.357	Redfern, John House	110 Windsor Ave	Acton	1890
ACT.125	Second Evangelical Church Parsonage	1 Wood Ln	Acton	1875
ACT.126	Jones, Samuel House	10 Wood Ln	Acton	1807
ACT.909	Jones Blacksmith Shop Site	11 Wood Ln	Acton	1806
ACT.118	Wheeler, D. House	12 Woodbury Ln	Acton	1865
ACT.119	Acton First Evangelical Church Parsonage	16 Woodbury Ln	Acton	1855
ACT.120	Parlin, Asa House	17 Woodbury Ln	Acton	1860
ACT.156	Harrington, Edward Double House	53 Woodbury Ln	Acton	1810
ACT.214	Cram, Lowell Harrison House	15 Wright Terr	Acton	1922
ACT.215	Mead, George Varnum House	18 Wright Terr	Acton	1911
ACT.643	Mead, George Varnum Garage	18 Wright Terr	Acton	1911

608 total


OLIVER: MassGIS's Online Mapping Tool
44 Great Road
Pick a town
Available Data Layers
Search data layers
State Facilities
MassGIS Default Ma
Census 1990
Census 2000
Coastal and Marine
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Interstate Highways
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Massachusetts Towns
NHESP Estimated Habitats of Rare Wildlife
NHESP Priority Habitats of Rare Species
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Basemaps