



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

**5 Post Office Square, Suite 100
BOSTON, MA 02109-3912**

CERTIFIED MAIL RETURN RECEIPT REQUESTED

JAN 13 2015

Tom Sneesby
Project Manager
Environmental Strategies and Management
273 West Main Street
Norton, MA 02766

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000; Riverfront Drive Project in Attleboro, MA in Bristol County;
Authorization # MAG910651

Dear Mr. Sneesby:

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

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

Please note the enclosed checklist includes parameters that exceeded Appendix III limits. The checklist also includes other parameters for which data was not provided or for which your laboratory reports indicated there was insufficient sensitivity to detect these parameters at the minimum levels (ML) established in Appendix VI 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). Within the DFR range of 1-5, the specific metals limits are derived by calculating the value in the 1-5 column by the actual dilution available to the discharge. With the expected maximum

flow rate of the treatment system of 0.1 cubic feet per second (cfs) the available dilution to this discharge at the 7Q10 flow of 0.24 cfs, is 2.4. (See the RGP Appendix IV for Massachusetts facilities) Therefore, the following metals limits apply: antimony of 13.4 ug/l, arsenic of 24 ug/L, copper of 12.5 ug/l, lead of 3.1 ug/L, nickel of 70 ug/L, zinc of 160 ug/l, and iron of 2,400 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.

This EPA general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on March 31, 2015. You are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within thirty (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, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
City Planner, Town of Attleboro

**2010 Remediation General Permit
Summary of Monitoring Parameters^[1]**

NPDES Authorization Number:	MAG910651
Authorization Issued:	December 2014
Facility/Site Name:	Riverfront Drive
Facility/Site Address:	Riverfront Drive, Attleboro, MA Email address of owner: cityplanner@cityofattleboro.us Phone: (508) 223-2222 Ext.314
Legal Name of Operator:	City of Attleboro
Operator contact name, title, and Address:	Tom Sneesby, Project Manager, 253 Summer Street, Boston, MA 02210 Email: tsneesby@esm-inc.com
Estimated date of The Project Completion:	March 31, 2015
Category and Sub-Category:	Contaminated Construction Dewatering. Activity Sub-category A. General Urban Fill Sites
RGP Termination Date:	September 10, 2015
Receiving Water:	Ten Mile River

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

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

	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)
✓	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) ⁴	100 ug/L/ Me#8260C/ ML 2ug/L
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
	11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l/Me#8260C/ML 10ug/L
	12.tert-Butyl Alcohol (TBA) (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

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
	a. Benzo(a) Anthracene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	b. Benzo(a) Pyrene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	c. Benzo(b)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	d. Benzo(k)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, 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/ML 5ug/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/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) ^{8,9}	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
	38. Chloride	Monitor only/Me# 300.0/ ML 100 ug/L

	Metal parameter	Total Recoverable Metal Limit @ H¹⁰ = 50 mg/l CaCO₃ for discharges in Massachusetts (ug/l) ^{11/12} /ML	
		Freshwater	ML
✓	39. Antimony	13.4	10
✓	40. Arsenic **	24	20
	41. Cadmium **	0.2	10
	42. Chromium III (trivalent) **	48.8	15
	43. Chromium VI (hexavalent) **	11.4	10
✓	44. Copper **	12.5	15
✓	45. Lead **	3.1	20
	46. Mercury **	0.9	0.2
✓	47. Nickel **	70	20
	48. Selenium **	5	20
	49. Silver	1.2	10
✓	50. Zinc **	160	15
✓	51. Iron	2,400	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 "Aroclor 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

December 16, 2014

United States Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Subject: Notice of Intent for Remediation General Permit
Riverfront Drive Construction Project
Attleboro, MA

To whom it may concern:

Environmental Strategies & Management, Inc. (ES&M) is has prepared the attached Notice of Intent (NOI) package for a remediation general permit. The project is being conducted by the City of Attleboro, as they construct a new roadway as a part of their downtown redevelopment. The new roadway crosses several sites being managed under the Massachusetts Contingency Plan (MCP). The downtown redevelopment is designated as a special project under the MCP, with a primary release tracking number of 4-439. Construction dewatering will be necessary as the road is constructed.

The water would be run through bag filters and carbon tanks, as shown on the attached piping and instrumentation diagram. After treatment, the water would be discharged to the Ten Mile River. A test pit was excavated near the proposed discharge point, and a groundwater sample was collected for laboratory analysis. The results were used to complete Section 3 of the NOI, and the full laboratory analytical report is attached.

The expected 7Q10 flow for the Ten Mile River was calculated using the United States Geological Service StreamStats website.

Threatened and endangered species will not be impacted by this project. While the northern red-bellied cooter is present in ponds and rivers located in Bristol County, it is not expected to be present in Attleboro. A review was conducted using methodology described on the United States Fish and Wildlife. A no-species present letter is included as documentation.

Please call us at 508-226-1800 if you have any questions.

Sincerely,
Environmental Strategies & Management, Inc.



Angela Boyd
Environmental Scientist

Enc.: Notice of Intent
Figures
StreamStats flow calculations
Letter from US Fish and Wildlife Service
Test Pit laboratory Analytical Report

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 : Riverfront Drive		Facility/site mailing address:	
Location of facility/site :	Facility SIC code(s):	Street:	
longitude: 71°17'16.47"W	1611	Riverfront Drive	
latitude: 41°56'20.21"N			
b) Name of facility/site owner :		Town: Attleboro	
Email address of facility/site owner:		State:	Zip:
cityplanner@cityofattleboro.us		MA	02703
Telephone no. of facility/site owner :		County:	
(508)223-2222 Ext. 314		Bristol	
Fax no. of facility/site owner :	Owner is (check one): 1. Federal ☐ 2. State/Tribal ☐		
Address of owner (if different from site):	3. Private ☐ 4. Other ☒ if so, describe:		
	City		
Street: 77 Park Drive			
Town: Attleboro	State: MA	Zip: 02766	County: Bristol
c) Legal name of operator :		Operator telephone no: (508) 226-1800	
Environmental Strategies & Management		Operator fax no.: (508) 226-1811	Operator email: tsneesby@esm-inc.com
Operator contact name and title: Tom Sneesby, Project Manager			
Address of operator (if different from owner):		Street:	
		273 West Main Street	
Town: Norton	State: MA	Zip: 02766	County: Bristol

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.

<u>Activity Category</u>	<u>Activity Sub-Category</u>
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) ☐
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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:

Dewatering during construction of Riverfront drive, associated with the redevelopment of brownfields in downtown Attleboro

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 0.1 ft3/sec Is maximum flow a design value ? Y ☐ N ☒	Average flow (include units) 0.022 ft3/s Is average flow a design value or estimate? est
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3) Latitude and longitude of each discharge within 100 feet:

pt.1: lat. <input n"="" type="text" value="41°56'20.21"/>	long. <input type="text" value="71°17'16.47" w"=""/>	pt.2: lat.	long.	:
pt.3: lat.	long.	pt.4: lat.	long.	:
pt.5: lat.	long.	pt.6: lat.	long.	:
pt.7: lat.	long.	pt.8: lat.	long.	: etc.

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

5) Is the discharge intermittent ☐ or seasonal ☐?
Is discharge ongoing? Y ☐ N ☒

c) Expected dates of discharge (mm/dd/yy): start end

d) Please attach a line drawing or flow schematic showing water flow through the facility including:

1. sources of intake water. 2. contributing flow from the operation. 3. treatment units. and 4. discharge points and receiving waters(s).

3. Contaminant information.

a) Based on the 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.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
1. Total Suspended Solids (TSS)		☒	☐								
2. Total Residual Chlorine (TRC)		☒	☐								
3. Total Petroleum Hydrocarbons (TPH)		☒	☐								
4. Cyanide (CN)	57125	☒	☐								
5. Benzene (B)	71432	☐	☒	1	grab	8260	2	8	1.92	0	0
6. Toluene (T)	108883	☐	☒	1	grab	8260	2	3	0.72	0	0
7. Ethylbenzene (E)	100414	☒	☐	1	grab	8260	2				
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☐	☒	1	grab	8260	2	3	0.72	0	0
9. Total BTEX ²	n/a	☐	☒	1	grab	8260	8	14	3.36	0	0
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³	106934	☒	☐	1	grab	8260	2				
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐	1	grab	8260	2				
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐	1	grab	8260	30				

* 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.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
13. tert-Amyl Methyl Ether (TAME)	9940508	☒	☐	1	grab	8260	2				
14. Naphthalene	91203	☒	☐	1	grab	8260	2				
15. Carbon Tetrachloride	56235	☒	☐	1	grab	8260	2				
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	1	grab	8260	2				
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	1	grab	8260	2				
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	1	grab	8260	2				
18a. Total dichlorobenzene		☒	☐	1	grab	8260	6				
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	1	grab	8260	2				
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	1	grab	8260	2				
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	1	grab	8260	2				
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	1	grab	8260	2				
23. Methylene Chloride	75092	☒	☐	1	grab	8260	2				
24. Tetrachloroethene (PCE)	127184	☒	☐	1	grab	8260	2				
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	1	grab	8260	2				
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	1	grab	8260	2				
27. Trichloroethene (TCE)	79016	☒	☐	1	grab	8260	2				

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	1	grab	8260	2				
29. Acetone	67641	☒	☐	1	grab	8260	10				
30. 1,4 Dioxane	123911	☒	☐	1	grab	8260	50				
31. Total Phenols	108952	☒	☐								
32. Pentachlorophenol (PCP)	87865	☒	☐								
33. Total Phthalates (Phthalate esters) ⁴		☒	☐								
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐								
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	1	grab	MaDEP EPH	3.5				
a. Benzo(a) Anthracene	56553	☒	☐	1	grab	MaDEP EPH	0.5				
b. Benzo(a) Pyrene	50328	☒	☐	1	grab	MaDEP EPH	0.5				
c. Benzo(b)Fluoranthene	205992	☒	☐	1	grab	MaDEP EPH	0.5				
d. Benzo(k)Fluoranthene	207089	☒	☐	1	grab	MaDEP EPH	0.5				
e. Chrysene	21801	☒	☐	1	grab	MaDEP EPH	0.5				
f. Dibenzo(a,h)anthracene	53703	☒	☐	1	grab	MaDEP EPH	0.5				
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	1	grab	MaDEP EPH	0.5				
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☐	☒	1	grab	MaDEP EPH	0.9				

⁴ The sum of individual phthalate compounds.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
h. Acenaphthene	83329	☒	☐	1	grab	MaDEP EPH	0.5				
i. Acenaphthylene	208968	☒	☐	1	grab	MaDEP EPH	0.5				
j. Anthracene	120127	☒	☐	1	grab	MaDEP EPH	0.5				
k. Benzo(ghi) Perylene	191242	☒	☐	1	grab	MaDEP EPH	0.5				
l. Fluoranthene	206440	☒	☐	1	grab	MaDEP EPH	0.5				
m. Fluorene	86737	☒	☐	1	grab	MaDEP EPH	0.5				
n. Naphthalene	91203	☐	☒	1	grab	MaDEP EPH	0.5	0.9	0.22	0	0
o. Phenanthrene	85018	☒	☐	1	grab	MaDEP EPH	0.5				
p. Pyrene	129000	☒	☐	1	grab	MaDEP EPH	0.5				
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐								
38. Chloride	16887006	☒	☐								
39. Antimony	7440360	☒	☐								
40. Arsenic	7440382	☐	☒	1	grab	SW3005A6010C	0.008	0.019	0.005	0	0
41. Cadmium	7440439	☒	☐	1	grab	SW3005A6010C	0.004				
42. Chromium III (trivalent)	16065831	☒	☐	1	grab	SW3005A6010C ⁺	0.005				
43. Chromium VI (hexavalent)	18540299	☒	☐								
44. Copper	7440508	☒	☐								
45. Lead	7439921	☐	☒	1	grab	SW3005A6010C	0.008	0.15	0.036	0	0
46. Mercury	7439976	☒	☐	1	grab	SW3005A6010C	0.0002				
47. Nickel	7440020	☒	☐								
48. Selenium	7782492	☒	☐	1	grab	SW3005A6010C	0.05				
49. Silver	7440224	☒	☐	1	grab	SW3005A6010C	0.007				
50. Zinc	7440666	☒	☐								
51. Iron	7439896	☒	☐								
Other (describe):		☐	☐								

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

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

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

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

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

Water is pumped into a frac tank, then into 2 bag filter units and through 2 carbon adsorbers. Discharge exits to the Ten Mile River.

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

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate(s)** (gallons per minute) of the treatment system:

Average flow rate of discharge gpm Maximum flow rate of treatment system gpm

Design flow rate of treatment system gpm

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

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

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

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

Water will flow from the effluent of the treatment system directly into the Ten Mile River

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:

1. For multiple discharges, number the discharges sequentially.

2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water

The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

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

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

Please attach any calculation sheets used to support stream flow and dilution calculations.

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

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

6. ESA and NHPA Eligibility.

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

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

A ☐ B ☐ C ☐ D ☒ E ☐ F ☐

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

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

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

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

1 ☐ 2 ☒ 3 ☐

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

7. Supplemental information.

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

Section 6 b) - Northern red-bellied cooter present in Bristol County, but not in Attleboro. No consultation will be conducted, as per instructions from US Fish and Wildlife Service Website. See attached form letter from Fish and Wildlife Service.

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: River Road, Attleboro

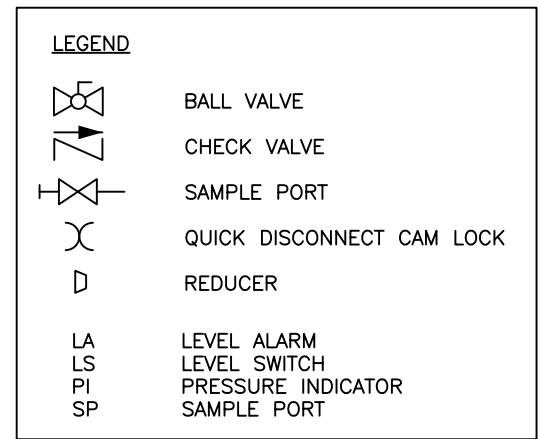
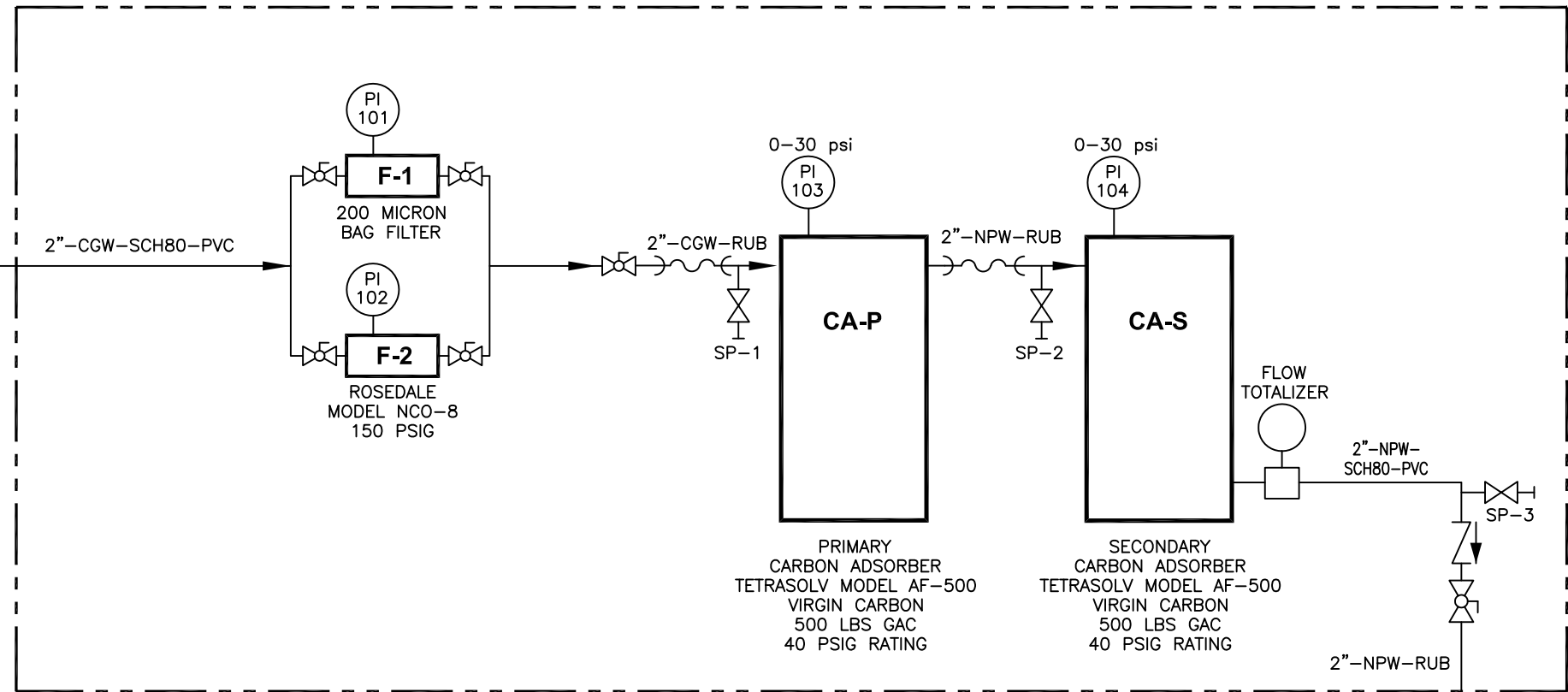
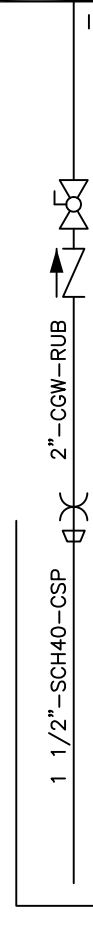
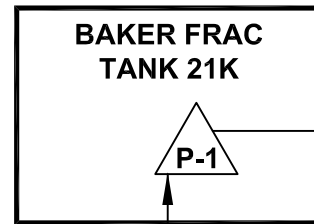
Operator signature:



Printed Name & Title: Tom Sneesby, Project Manager

Date: December 16, 2014

P-1
SUBMERSIBLE CENTRIFUGAL
PUMP WITH INTEGRATED
FLOAT CONTROL
ZOELLER MODEL #DX161
120V, 1PH, 1/3HP
50 GPM @ 38' TDH



NOT DRAWN TO SCALE

		<i>Environmental Strategies & Management</i>		<i>273 West Main Street Norton, MA 02766 (508) 226-1800 (508) 226-1811 fax info@esm-inc.com</i>	
GAUGING DATE: N/A		DRAWING DATE: 12/11/14		ACAD FILE: ATTLEBORO RIVERFRONT	
PIPING & INSTRUMENTATION DIAGRAM DEWATERING TREATMENT SYSTEM					
CLIENT: CITY OF ATTLEBORO				PM: TS	
LOCATION: ATTLEBORO RIVERFRONT ATTLEBORO, MASSACHUSETTS				LSP: DH	
RTN:	DWG: DMR	PROJECT NO.: 2014-050		FIGURE: 1	





0150300

SCALEFEET

AERIAL SOURCE: GOOGLE EARTH PRO IMAGERY DATE 4/27/2013



Environmental

Strategies

& Management

273 West Main Street

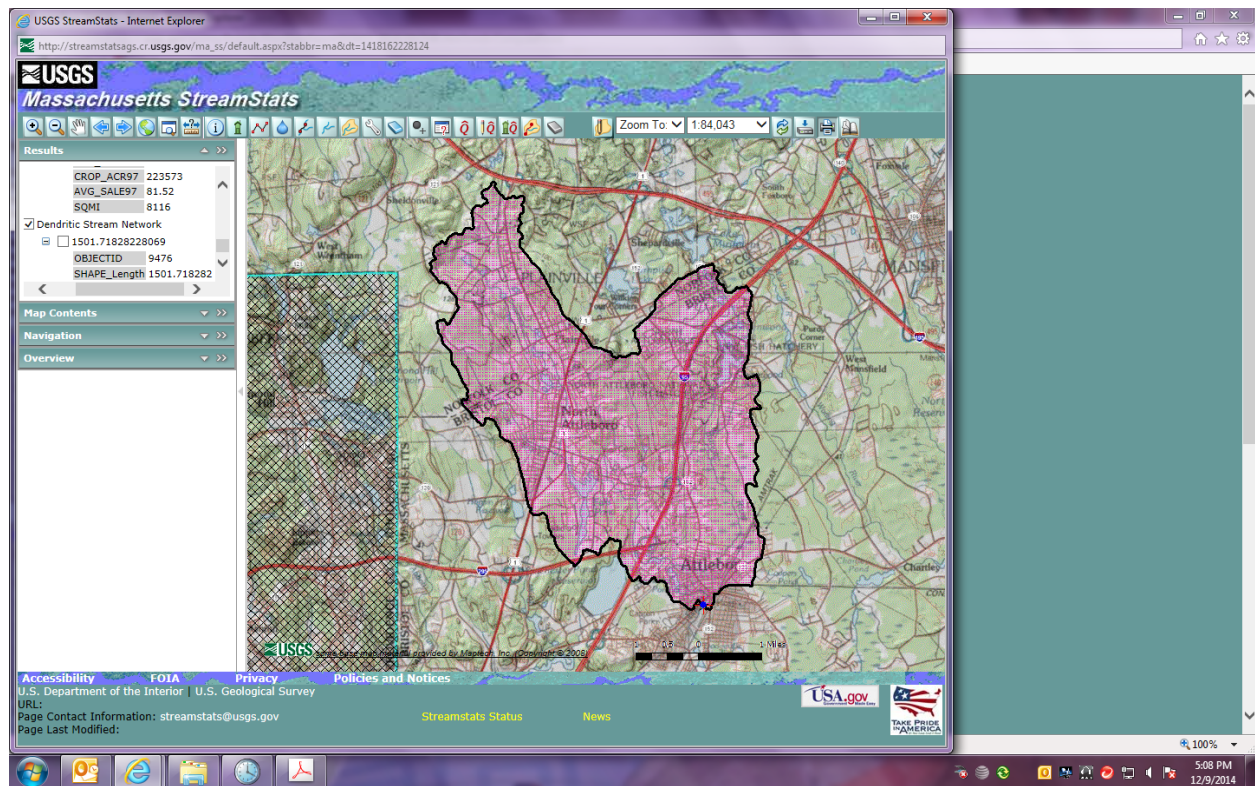
Norton, MA 02766

(508) 226-1800

(508) 226-1811 fax

info@esm-inc.com

GAUGING DATE: N/A		DRAWING DATE: 12/11/14		ACAD FILE: ATTLEBORO RIVERFRONT	
RIVERFRONT DRIVE AND DISCHARGE					
DEWATERING TREATMENT SYSTEM					
CLIENT: CITY OF ATTLEBORO				PM: TS	
LOCATION: ATTLEBORO RIVERFRONT ATTLEBORO, MASSACHUSETTS				LSP: DH	
RTN:	DWG: DMR	PROJECT NO.: 2014-050		FIGURE: 2	



Segment MA 52_03



Massachusetts StreamStats

Streamstats Ungaged Site Report

Date: Tue Dec 9 2014 15:07:46 Mountain Standard Time

Site Location: Massachusetts

NAD27 Latitude: 41.9420 (41 56 31)

NAD27 Longitude: -71.2870 (-71 17 13)

NAD83 Latitude: 41.9421 (41 56 31)

NAD83 Longitude: -71.2865 (-71 17 11)

ReachCode: 01090004001043

Measure: 28.54

Drainage Area: 19.6 mi²

Percent Urban: 48.9 %

Percent Impervious: 20.4 %

Low Flows Basin Characteristics			
100% Statewide Low Flow (19.6 mi ²)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	19.6	1.61	149
Mean Basin Slope from 250K DEM (percent)	1.5	0.32	24.6
Stratified Drift per Stream Length (square mile per mile)	0.24	0	1.29
Massachusetts Region (dimensionless)	0	0	1

Probability of Perennial Flow Basin Characteristics			
100% Perennial Flow Probability (19.6 mi ²)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	19.6 (above max value 1.99)	0.01	1.99
Percent Underlain By Sand And Gravel (percent)	51.98	0	100
Percent Forest (percent)	38.77	0	100
Massachusetts Region (dimensionless)	0	0	1

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Low Flows Streamflow Statistics					
Statistic	Flow (ft ³ /s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
D50	19.9	18		12	32.7
D60	15.2	20		7.2	31.9
D70	9.97	24		4.64	21.2
D75	7.94	26		3.73	16.7
D80	6.08	28		2.65	13.7
D85	4.5	32		1.9	10.5
D90	3.32	37		1.33	8.1
D95	1.96	46		0.69	5.4
D98	1.3	60		0.4	4.04
D99	0.99	65		0.28	3.28
M7D2Y	2.21	50		0.75	6.28
AUGD50	5	33		2.08	11.8
M7D10Y	0.9	71		0.24	3.12

The equation for estimating the probability of perennial flow is applicable for most areas of Massachusetts except eastern Buzzards Bay, Cape Cod, and the Island regions. The estimate obtained from the equation assumes natural flow conditions at the site. The equation also is best used for sites with drainage areas between 0.01 to 1.99 mi², as errors beyond for basins beyond these bounds are unknown.

Probability of Perennial Flow Statistics		
Statistic	Value	Standard Error (percent)
PROBPEREN	1	



United States Department of the Interior



FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
<http://www.fws.gov/newengland>

January 7, 2014

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm>

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Maria Tur of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office



Absolute Resource *associates*

124 Heritage Avenue Portsmouth NH 03801

Tom Sneesby
Environmental Strategies & Management
273 West Main Street
Norton, MA 02766

PO Number: None
Job ID: 31320
Date Received: 10/22/14

Project: Attleboro/Riverfront Drive 2014-050

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of Absolute Resource Associates' Quality Assurance Plan. The Standard Operating Procedures are based upon USEPA SW-846, USEPA Methods for Chemical Analysis of Water and Wastewater, Standard Methods for the Examination of Water and Wastewater and other recognized methodologies. The results contained in this report pertain only to the samples as indicated on the chain of custody.

Absolute Resource Associates maintains certification with the agencies listed below.

We appreciate the opportunity to provide laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be glad to assist you.

Sincerely,
Absolute Resource Associates



Sue Sylvester
Principal, General Manager

Date of Approval: 10/28/2014
Total number of pages: 21

Absolute Resource Associates Certifications

New Hampshire 1732
Maine NH903

Massachusetts M-NH902

Project ID: Attleboro/Riverfront Drive 2014-050

Lab ID: 31320

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
Test Pit-GW	Water	10/22/2014 13:30	31320-001	EPH in water by MADEP Method Water Digestion for ICP Analysis Silver in water by 6010 Arsenic in water by 6010 Barium in water by 6010 Cadmium in water by 6010 Chromium in water by 6010 Mercury in water by 7470 Lead in water by 6010 Selenium in water by 6010 VOCs in water by 8260

Project ID: Attleboro/Riverfront Drive 2014-050

Job ID: 31320

Sample#: 31320-001

Sample ID: Test Pit-GW

Matrix: Water

Received on ice at 3°C, in satisfactory condition.

Sampled: 10/22/14 13:30

Parameter	Result	Reporting		Instr	Dil'n	Analyst	Prep Date	Analysis		Reference
		Limit	Units					Batch	Date Time	
dichlorodifluoromethane	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
chloromethane	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
vinyl chloride	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
bromomethane	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
chloroethane	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
trichlorofluoromethane	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
diethyl ether	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
acetone	< 10	10	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
1,1-dichloroethene	< 1	1	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
methylene chloride	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
carbon disulfide	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
methyl t-butyl ether (MTBE)	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
trans-1,2-dichloroethene	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
isopropyl ether (DIPE)	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
ethyl t-butyl ether (ETBE)	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
1,1-dichloroethane	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
t-butanol (TBA)	< 30	30	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
2-butanone (MEK)	16	10	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
2,2-dichloropropane	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
cis-1,2-dichloroethene	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
chloroform	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
bromochloromethane	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
tetrahydrofuran (THF)	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
1,1,1-trichloroethane	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
1,1-dichloropropene	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
t-amyl-methyl ether (TAME)	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
carbon tetrachloride	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
1,2-dichloroethane	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
benzene	8	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
trichloroethene	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
1,2-dichloropropane	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
bromodichloromethane	< 0.6	0.6	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
1,4-dioxane	< 50	50	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
dibromomethane	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
4-methyl-2-pentanone (MIBK)	< 10	10	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
cis-1,3-dichloropropene	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
toluene	3	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
trans-1,3-dichloropropene	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
2-hexanone	< 10	10	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
1,1,2-trichloroethane	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
1,3-dichloropropane	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C
tetrachloroethene	< 2	2	ug/L	1		LMM		1402811	10/23/14 14:05	SW5030C8260C

Project ID: Attleboro/Riverfront Drive 2014-050

Job ID: 31320

Sample#: 31320-001

Sample ID: Test Pit-GW

Matrix: Water

Received on ice at 3°C, in satisfactory condition.

Sampled: 10/22/14 13:30

Parameter	Reporting		Units	Instr Dil'n	Analyst	Prep Date	Analysis			Reference
	Result	Limit					Batch	Date	Time	
dibromochloromethane	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
1,2-dibromoethane (EDB)	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
chlorobenzene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
1,1,1,2-tetrachloroethane	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
ethylbenzene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
m&p-xylenes	3	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
o-xylene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
styrene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
bromoform	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
isopropylbenzene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
1,1,2,2-tetrachloroethane	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
1,2,3-trichloropropane	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
n-propylbenzene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
bromobenzene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
1,3,5-trimethylbenzene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
2-chlorotoluene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
4-chlorotoluene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
tert-butylbenzene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
1,2,4-trimethylbenzene	2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
sec-butylbenzene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
1,3-dichlorobenzene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
4-isopropyltoluene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
1,4-dichlorobenzene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
1,2-dichlorobenzene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
n-butylbenzene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
1,2-dibromo-3-chloropropane (DBCP)	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
1,2,4-trichlorobenzene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
hexachlorobutadiene	< 0.5	0.5	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
naphthalene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
1,2,3-trichlorobenzene	< 2	2	ug/L	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
Surrogate Recovery		Limits								
dibromofluoromethane SUR	100	78-114	%	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
toluene-D8 SUR	104	88-110	%	1	LMM		1402811	10/23/14	14:05	SW5030C8260C
4-bromofluorobenzene SUR	100	86-115	%	1	LMM		1402811	10/23/14	14:05	SW5030C8260C

Note: Non-target compounds were observed in this sample.

Project ID: Attleboro/Riverfront Drive 2014-050

Job ID: 31320

Sample#: 31320-001

Sample ID: Test Pit-GW

Matrix: Water

Sampled: 10/22/14 13:30

Parameter	Result	Reporting		Instr	Dil'n	Prep		Analysis			Reference
		Limit	Units			Analyst	Date	Batch	Date	Time	
naphthalene	0.9	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
2-methylnaphthalene	1.0	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
phenanthrene	< 0.5	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
acenaphthene	< 0.5	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
acenaphthylene	< 0.5	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
fluorene	< 0.5	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
anthracene	< 0.5	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
fluoranthene	< 0.5	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
pyrene	< 0.5	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
benzo(a)anthracene	< 0.5	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
chrysene	< 0.5	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
benzo(b)fluoranthene	< 0.5	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
benzo(k)fluoranthene	< 0.5	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
benzo(a)pyrene	< 0.2	0.2	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
indeno(1,2,3-cd)pyrene	< 0.5	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
dibenzo(a,h)anthracene	< 0.5	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
benzo(g,h,i)perylene	< 0.5	0.5	ug/L	1		AJD	10/23/14	7312	10/23/14	20:52	MA EPH
Unadjusted C11-C22 Aromatics	5400	100	ug/L	1		JZ	10/23/14	7312	10/23/14	20:51	MA EPH
C9-C18 Aliphatics	< 100	100	ug/L	1		JZ	10/23/14	7312	10/24/14	10:08	MA EPH
C19-C36 Aliphatics	570	100	ug/L	1		JZ	10/23/14	7312	10/24/14	10:08	MA EPH
C11-C22 Aromatics	5400	100	ug/L	1		JZ	10/23/14	7312	10/23/14	20:51	MA EPH
Surrogate Recovery		Limits									
1-chloro-octadecane SUR	53	40-140	%	1		JZ	10/23/14	7312	10/24/14	10:08	MA EPH
o-terphenyl SUR	58	40-140	%	1		JZ	10/23/14	7312	10/23/14	20:51	MA EPH
2-fluorobiphenyl SUR	85	40-140	%	1		JZ	10/23/14	7312	10/23/14	20:51	MA EPH
2-bromonaphthalene SUR	85	40-140	%	1		JZ	10/23/14	7312	10/23/14	20:51	MA EPH

Project ID: Attleboro/Riverfront Drive 2014-050

Job ID: 31320

Sample#: 31320-001

Sample ID: Test Pit-GW

Matrix: Water

Sampled: 10/22/14 13:30

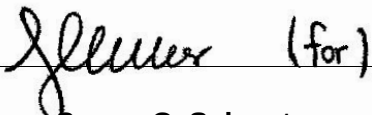
Parameter	Result	Reporting		Instr	Dil'n	Prep		Analysis			Reference
		Limit	Units			Analyst	Date	Batch	Date	Time	
Arsenic	0.019	0.008	mg/L		1	AB	10/23/14	7310	10/23/14	19:09	SW3005A6010C
Barium	0.73	0.05	mg/L		1	AB	10/23/14	7310	10/23/14	19:09	SW3005A6010C
Cadmium	< 0.004	0.004	mg/L		1	AB	10/23/14	7310	10/23/14	19:09	SW3005A6010C
Chromium	< 0.05	0.05	mg/L		1	AB	10/23/14	7310	10/23/14	19:09	SW3005A6010C
Lead	0.15	0.008	mg/L		1	AB	10/23/14	7310	10/23/14	19:09	SW3005A6010C
Mercury	< 0.0002	0.0002	mg/L		1	AB	10/24/14	7315	10/24/14	14:20	SW7470A
Selenium	< 0.05	0.05	mg/L		1	AB	10/23/14	7310	10/23/14	19:09	SW3005A6010C
Silver	< 0.007	0.007	mg/L		1	AB	10/23/14	7310	10/23/14	19:09	SW3005A6010C

Quality Control Report



124 Heritage Avenue Unit 16
Portsmouth, NH 03801
www.absoluteresourceassociates.com

MassDEP Analytical Protocol Certification Form

Laboratory Name: Absolute Resource Associates			Project #: 2014-050		
Project Location: Massachusetts			RTN:		
This Form provides certifications for the following data set: 31320					
Matrices: Groundwater/Surface Water ☒ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:					
CAM Protocol (check all that apply below):					
8260 VOC CAM II A ☒	7470/7471 Hg CAM III B ☒	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☒	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☒	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9014 Total Cyanide/PAC CAM VIA ☐	6860 Perchlorate CAM VIII B ☐	
Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status					
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				Yes ☒ No ☐
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				Yes ☒ No ☐
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				Yes ☒ No ☐
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				Yes ☒ No ☐
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modifications(s)? (Refer to the individual methods for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes ☐ No ☐ Yes ☐ No ☐
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?				Yes ☒ No ☐
Responses to Questions G, H and I below are required for "Presumptive Certainty" status					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				Yes ☒ No* ☐
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes ☒ No* ☐
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes ☐ No* ☒
* All negative responses must be addressed in an attached laboratory narrative.					
I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.					
Signature:  (for)			Position: Lab Director		
Printed Name: Susan C. Sylvester			Date: 10/28/14		

Sample Integrity Table

Parameter	Method	Matrix	Minimum Volume	Recommended Container(s)	Required Preservation	Holding Time
Volatile Organics	EPA 8260	Aqueous	40mL	2 x 40mL VOA Vials with Teflon lined septa	Cool to $\leq 6^{\circ}\text{C}$ 1:1 HCl to pH <2	14 Days
Volatile Organics	EPA 8260	Solid	40mL	1 x 40mL VOA Vial with 10mLs Methanol <u>and</u> 1 unpreserved container for percent moisture	Cool to $\leq 6^{\circ}\text{C}$ Methanol	14 Days
Semivolatile Organics	EPA 8270	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	7 Days
Semivolatile Organics	EPA 8270	Solid	20g	4oz Amber Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	14 Days
Organochlorine Pesticides	EPA 8081	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	7 Days
Organochlorine Pesticides	EPA 8081	Solid	20g	4oz Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	14 Days
PCBs	EPA 8082	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	365 Days
PCBs	EPA 8082	Solid	20g	4oz Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	365 Days
Herbicides (subcontracted)	EPA 8151	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	7 Days
Herbicides (subcontracted)	EPA 8151	Solid	30g	4oz Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	14 Days
MA DEP VPH	MADEP VPH	Aqueous	40mL	2 x 40mL VOA Vials with Teflon lined septa	Cool to $\leq 6^{\circ}\text{C}$ 1:1 HCl to pH <2	14 Days
MA DEP VPH	MADEP VPH	Solid	40mL	1 x 40mL VOA Vial with 10mLs Methanol <u>and</u> 1 unpreserved container for percent moisture	Cool to $\leq 6^{\circ}\text{C}$ Methanol	28 Days
MA DEP EPH	MADEP EPH	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$ 1:1 HCl to pH <2	14 Days
MA DEP EPH	MADEP EPH	Solid	30g	4oz Amber Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	14 Days
Total Metals	EPA 6010	Aqueous	100mL	250mL Polyethylene Bottle	1:1 HNO_3 to pH <2	180 Days
Dissolved Metals	EPA 6010	Aqueous	100mL	250mL Polyethylene Bottle	Filter First 1:1 HNO_3 to pH <2	180 Days
Total Metals	EPA 6010	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	180 Days
Total Mercury (may be combined with Total Metals)	EPA 7470	Aqueous	100mL	125mL Polyethylene Bottle	1:1 HNO_3 to pH <2	28 Days
Total Mercury (may be combined with Total Metals)	EPA 7471	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	28 Days
Chromium, Hexavalent	EPA 7196	Aqueous	100mL	125mL Polyethylene Bottle	Cool to $\leq 6^{\circ}\text{C}$ (NH_4) $_2$ SO $_4$ buffer	28 Days
Chromium, Hexavalent (subcontract)	EPA 7196	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	30 Days
Cyanide, Total	EPA 9014	Aqueous	125mL	125mL Polyethylene Bottle	Cool to $\leq 6^{\circ}\text{C}$ 1:1 NaOH to pH >8	14 Days
Cyanide, Total	EPA 9014	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to $\leq 6^{\circ}\text{C}$	14 Days



Case Narrative

Lab # 31320

Sample Receiving and Chain of Custody Discrepancies

Samples were received in acceptable condition, at 3 degrees C, on ice, and in accordance with sample handling, preservation and integrity guidelines.

Calibration

See the included table for a list of compounds quantitated by quadratic equation.

Method Blank

No exceptions noted.

Surrogate Recoveries

No exceptions noted.

Laboratory Control Sample Results

VOC: The LCS1402811 did not meet the acceptance criteria for t-butanol (TBA) and tetrahydrofuran (THF). These compounds showed high recovery. There is no impact to the data as these analytes were not detected in the associated samples.

Matrix Spike/Matrix Spike Duplicate/Duplicate Results

Not requested for this project.

Other

EPH: The fractionation check sample (LCS) for the batch of silica gel in use for these samples met the method acceptance criteria.

MassDEP Analytical Protocol Certification Form Questions A through I

No explanation is needed for Questions A through I answered in the affirmative.

Question I: Metals: The MCP required metals were not requested by the customer. Box I is "No."



Quantitation by Quadratic Equation
Lab # 31320

Quantitation of the following compounds was based on a quadratic equation

Bromomethane

1,1-Dichloroethene

Bromoform

1,2-dibromo-3-chloropropane (DBCP)

- QC Report -

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5030C8260C	BLK1402811	dichlorodifluoromethane		<	2	ug/L				
		chloromethane		<	2	ug/L				
		vinyl chloride		<	2	ug/L				
		bromomethane		<	2	ug/L				
		chloroethane		<	2	ug/L				
		trichlorofluoromethane		<	2	ug/L				
		diethyl ether		<	10	ug/L				
		acetone		<	50	ug/L				
		1,1-dichloroethene		<	1	ug/L				
		methylene chloride		<	5	ug/L				
		carbon disulfide		<	2	ug/L				
		methyl t-butyl ether (MTBE)		<	2	ug/L				
		trans-1,2-dichloroethene		<	2	ug/L				
		isopropyl ether (DIPE)		<	2	ug/L				
		ethyl t-butyl ether (ETBE)		<	2	ug/L				
		1,1-dichloroethane		<	2	ug/L				
		t-butanol (TBA)		<	30	ug/L				
		2-butanone (MEK)		<	10	ug/L				
		2,2-dichloropropane		<	2	ug/L				
		cis-1,2-dichloroethene		<	2	ug/L				
		chloroform		<	2	ug/L				
		bromochloromethane		<	2	ug/L				
		tetrahydrofuran (THF)		<	10	ug/L				
		1,1,1-trichloroethane		<	2	ug/L				
		1,1-dichloropropene		<	2	ug/L				
		t-amyl-methyl ether (TAME)		<	2	ug/L				
		carbon tetrachloride		<	2	ug/L				
		1,2-dichloroethane		<	2	ug/L				
		benzene		<	2	ug/L				
		trichloroethene		<	2	ug/L				
		1,2-dichloropropane		<	2	ug/L				
		bromodichloromethane		<	0.6	ug/L				
		1,4-dioxane		<	50	ug/L				
		dibromomethane		<	2	ug/L				
		4-methyl-2-pentanone (MIBK)		<	10	ug/L				
		cis-1,3-dichloropropene		<	2	ug/L				
		toluene		<	2	ug/L				
		trans-1,3-dichloropropene		<	2	ug/L				
		2-hexanone		<	10	ug/L				
		1,1,2-trichloroethane		<	2	ug/L				
		1,3-dichloropropane		<	2	ug/L				
		tetrachloroethene		<	2	ug/L				
		dibromochloromethane		<	2	ug/L				
		1,2-dibromoethane (EDB)		<	2	ug/L				
		chlorobenzene		<	2	ug/L				
		1,1,1,2-tetrachloroethane		<	2	ug/L				
		ethylbenzene		<	2	ug/L				
		m&p-xylenes		<	2	ug/L				
		o-xylene		<	2	ug/L				
		styrene		<	2	ug/L				

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5030C8260C	BLK1402811	bromoform		<	2	ug/L				
		isopropylbenzene		<	2	ug/L				
		1,1,2,2-tetrachloroethane		<	2	ug/L				
		1,2,3-trichloropropane		<	2	ug/L				
		n-propylbenzene		<	2	ug/L				
		bromobenzene		<	2	ug/L				
		1,3,5-trimethylbenzene		<	2	ug/L				
		2-chlorotoluene		<	2	ug/L				
		4-chlorotoluene		<	2	ug/L				
		tert-butylbenzene		<	2	ug/L				
		1,2,4-trimethylbenzene		<	2	ug/L				
		sec-butylbenzene		<	2	ug/L				
		1,3-dichlorobenzene		<	2	ug/L				
		4-isopropyltoluene		<	2	ug/L				
		1,4-dichlorobenzene		<	2	ug/L				
		1,2-dichlorobenzene		<	2	ug/L				
		n-butylbenzene		<	2	ug/L				
		1,2-dibromo-3-chloropropane (DBCP)		<	2	ug/L				
		1,2,4-trichlorobenzene		<	2	ug/L				
		hexachlorobutadiene		<	0.5	ug/L				
		naphthalene		<	5	ug/L				
		1,2,3-trichlorobenzene		<	2	ug/L				
		dibromofluoromethane SUR		100	%			78	114	
		toluene-D8 SUR		103	%			88	110	

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5030C8260C	LCS1402811	dichlorodifluoromethane		19	ug/L	20	94	70	130	
		chloromethane		19	ug/L	20	97	70	130	
		vinyl chloride		21	ug/L	20	105	70	130	
		bromomethane		17	ug/L	20	87	70	130	
		chloroethane		22	ug/L	20	112	70	130	
		trichlorofluoromethane		22	ug/L	20	110	70	130	
		diethyl ether		24	ug/L	20	120	70	130	
		acetone	<	50	ug/L	20	132			
		1,1-dichloroethene		21	ug/L	20	105	70	130	
		methylene chloride		21	ug/L	20	104	70	130	
		carbon disulfide		24	ug/L	20	121	70	130	
		methyl t-butyl ether (MTBE)		22	ug/L	20	110	70	130	
		trans-1,2-dichloroethene		22	ug/L	20	108	70	130	
		isopropyl ether (DIPE)		21	ug/L	20	107	70	130	
		ethyl t-butyl ether (ETBE)		21	ug/L	20	107	70	130	
		1,1-dichloroethane		21	ug/L	20	107	70	130	
		t-butanol (TBA)		130	ug/L	100	133	*	70	130
		2-butanone (MEK)		25	ug/L	20	126	70	130	
		2,2-dichloropropane		20	ug/L	20	102	70	130	
		cis-1,2-dichloroethene		21	ug/L	20	107	70	130	
		chloroform		22	ug/L	20	108	70	130	
		bromochloromethane		20	ug/L	20	100	70	130	
		tetrahydrofuran (THF)		27	ug/L	20	133	*	70	130
		1,1,1-trichloroethane		21	ug/L	20	104	70	130	
		1,1-dichloropropene		22	ug/L	20	110	70	130	
		t-amyl-methyl ether (TAME)		21	ug/L	20	106	70	130	
		carbon tetrachloride		22	ug/L	20	108	70	130	
		1,2-dichloroethane		23	ug/L	20	117	70	130	
		benzene		21	ug/L	20	107	70	130	
		trichloroethene		21	ug/L	20	106	70	130	
		1,2-dichloropropane		22	ug/L	20	109	70	130	
		bromodichloromethane		21	ug/L	20	105	70	130	
		1,4-dioxane		51	ug/L	40	128	70	130	
		dibromomethane		21	ug/L	20	106	70	130	
		4-methyl-2-pentanone (MIBK)		23	ug/L	20	116	70	130	
		cis-1,3-dichloropropene		20	ug/L	20	100	70	130	
		toluene		21	ug/L	20	105	70	130	
		trans-1,3-dichloropropene		22	ug/L	20	108	70	130	
		2-hexanone		24	ug/L	20	120	70	130	
		1,1,2-trichloroethane		21	ug/L	20	107	70	130	
		1,3-dichloropropane		21	ug/L	20	104	70	130	
		tetrachloroethene		18	ug/L	20	90	70	130	
		dibromochloromethane		20	ug/L	20	98	70	130	
		1,2-dibromoethane (EDB)		21	ug/L	20	104	70	130	
		chlorobenzene		20	ug/L	20	101	70	130	
		1,1,1,2-tetrachloroethane		17	ug/L	20	86	70	130	
		ethylbenzene		19	ug/L	20	95	70	130	
		m&p-xylenes		37	ug/L	40	92	70	130	
		o-xylene		19	ug/L	20	95	70	130	
		styrene		19	ug/L	20	93	70	130	
		bromoform		19	ug/L	20	94	70	130	

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5030C8260C	LCS1402811	isopropylbenzene		19	ug/L	20	95	70	130	
		1,1,2,2-tetrachloroethane		21	ug/L	20	107	70	130	
		1,2,3-trichloropropane		21	ug/L	20	107	70	130	
		n-propylbenzene		21	ug/L	20	103	70	130	
		bromobenzene		19	ug/L	20	97	70	130	
		1,3,5-trimethylbenzene		21	ug/L	20	103	70	130	
		2-chlorotoluene		21	ug/L	20	104	70	130	
		4-chlorotoluene		19	ug/L	20	96	70	130	
		tert-butylbenzene		21	ug/L	20	105	70	130	
		1,2,4-trimethylbenzene		21	ug/L	20	104	70	130	
		sec-butylbenzene		20	ug/L	20	102	70	130	
		1,3-dichlorobenzene		20	ug/L	20	99	70	130	
		4-isopropyltoluene		20	ug/L	20	100	70	130	
		1,4-dichlorobenzene		20	ug/L	20	99	70	130	
		1,2-dichlorobenzene		20	ug/L	20	99	70	130	
		n-butylbenzene		21	ug/L	20	104	70	130	
		1,2-dibromo-3-chloropropane (DBCP)		22	ug/L	20	112	70	130	
		1,2,4-trichlorobenzene		20	ug/L	20	101	70	130	
		hexachlorobutadiene		19	ug/L	20	96	70	130	
		naphthalene		22	ug/L	20	110	70	130	
		1,2,3-trichlorobenzene		21	ug/L	20	103	70	130	
		dibromofluoromethane SUR		99	%			78	114	
		toluene-D8 SUR		103	%			88	110	
		4-bromofluorobenzene SUR		101	%			86	115	

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5030C8260C	LCSD1402811	dichlorodifluoromethane		17	ug/L	20	86	70 130	8	20
		chloromethane		18	ug/L	20	92	70 130	6	20
		vinyl chloride		20	ug/L	20	98	70 130	6	20
		bromomethane		19	ug/L	20	95	70 130	8	20
		chloroethane		21	ug/L	20	104	70 130	8	20
		trichlorofluoromethane		20	ug/L	20	101	70 130	8	20
		diethyl ether		23	ug/L	20	116	70 130	3	20
		acetone	<	50	ug/L	20	128		3	20
		1,1-dichloroethene		19	ug/L	20	97	70 130	8	20
		methylene chloride		21	ug/L	20	104	70 130	0	20
		carbon disulfide		23	ug/L	20	114	70 130	6	20
		methyl t-butyl ether (MTBE)		21	ug/L	20	107	70 130	2	20
		trans-1,2-dichloroethene		20	ug/L	20	102	70 130	6	20
		isopropyl ether (DIPE)		21	ug/L	20	104	70 130	3	20
		ethyl t-butyl ether (ETBE)		21	ug/L	20	104	70 130	3	20
		1,1-dichloroethane		20	ug/L	20	102	70 130	5	20
		t-butanol (TBA)		120	ug/L	100	124	70 130	7	20
		2-butanone (MEK)		24	ug/L	20	118	70 130	6	20
		2,2-dichloropropane		19	ug/L	20	94	70 130	8	20
		cis-1,2-dichloroethene		20	ug/L	20	102	70 130	4	20
		chloroform		21	ug/L	20	104	70 130	4	20
		bromochloromethane		20	ug/L	20	98	70 130	2	20
		tetrahydrofuran (THF)		24	ug/L	20	122	70 130	9	20
		1,1,1-trichloroethane		20	ug/L	20	100	70 130	5	20
		1,1-dichloropropene		21	ug/L	20	103	70 130	7	20
		t-amyl-methyl ether (TAME)		21	ug/L	20	104	70 130	2	20
		carbon tetrachloride		20	ug/L	20	101	70 130	7	20
		1,2-dichloroethane		23	ug/L	20	113	70 130	3	20
		benzene		20	ug/L	20	102	70 130	5	20
		trichloroethene		21	ug/L	20	103	70 130	3	20
		1,2-dichloropropane		21	ug/L	20	106	70 130	3	20
		bromodichloromethane		21	ug/L	20	103	70 130	2	20
		1,4-dioxane	<	50	ug/L	40	116	70 130	10	20
		dibromomethane		20	ug/L	20	101	70 130	4	20
		4-methyl-2-pentanone (MIBK)		22	ug/L	20	108	70 130	7	20
		cis-1,3-dichloropropene		20	ug/L	20	99	70 130	1	20
		toluene		20	ug/L	20	100	70 130	5	20
		trans-1,3-dichloropropene		21	ug/L	20	107	70 130	1	20
		2-hexanone		22	ug/L	20	112	70 130	7	20
		1,1,2-trichloroethane		21	ug/L	20	104	70 130	2	20
		1,3-dichloropropane		20	ug/L	20	102	70 130	2	20
		tetrachloroethene		17	ug/L	20	86	70 130	4	20
		dibromochloromethane		19	ug/L	20	95	70 130	2	20
		1,2-dibromoethane (EDB)		20	ug/L	20	101	70 130	3	20
		chlorobenzene		19	ug/L	20	96	70 130	4	20
		1,1,1,2-tetrachloroethane		17	ug/L	20	85	70 130	2	20
		ethylbenzene		18	ug/L	20	90	70 130	5	20
		m&p-xylenes		35	ug/L	40	87	70 130	5	20
		o-xylene		18	ug/L	20	91	70 130	5	20
		styrene		18	ug/L	20	88	70 130	5	20
		bromoform		18	ug/L	20	91	70 130	4	20

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5030C8260C	LCSD1402811	isopropylbenzene		18	ug/L	20	90	70 130	6	20
		1,1,2,2-tetrachloroethane		20	ug/L	20	100	70 130	7	20
		1,2,3-trichloropropane		20	ug/L	20	101	70 130	6	20
		n-propylbenzene		19	ug/L	20	97	70 130	7	20
		bromobenzene		19	ug/L	20	93	70 130	5	20
		1,3,5-trimethylbenzene		19	ug/L	20	95	70 130	7	20
		2-chlorotoluene		19	ug/L	20	97	70 130	7	20
		4-chlorotoluene		18	ug/L	20	92	70 130	4	20
		tert-butylbenzene		20	ug/L	20	98	70 130	8	20
		1,2,4-trimethylbenzene		19	ug/L	20	97	70 130	7	20
		sec-butylbenzene		19	ug/L	20	95	70 130	8	20
		1,3-dichlorobenzene		19	ug/L	20	93	70 130	6	20
		4-isopropyltoluene		18	ug/L	20	92	70 130	8	20
		1,4-dichlorobenzene		19	ug/L	20	93	70 130	6	20
		1,2-dichlorobenzene		19	ug/L	20	94	70 130	5	20
		n-butylbenzene		19	ug/L	20	96	70 130	8	20
		1,2-dibromo-3-chloropropane (DBCP)		20	ug/L	20	102	70 130	9	20
		1,2,4-trichlorobenzene		19	ug/L	20	96	70 130	6	20
		hexachlorobutadiene		18	ug/L	20	89	70 130	7	20
		naphthalene		21	ug/L	20	104	70 130	5	20
		1,2,3-trichlorobenzene		20	ug/L	20	98	70 130	5	20
		dibromofluoromethane SUR		99	%			78 114		
		toluene-D8 SUR		104	%			88 110		
		4-bromofluorobenzene SUR		102	%			86 115		

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
MA EPH	BLK7312	naphthalene		<	0.5	ug/L				
		2-methylnaphthalene		<	0.5	ug/L				
		phenanthrene		<	0.5	ug/L				
		acenaphthene		<	0.5	ug/L				
		acenaphthylene		<	0.5	ug/L				
		fluorene		<	0.5	ug/L				
		anthracene		<	0.5	ug/L				
		fluoranthene		<	0.5	ug/L				
		pyrene		<	0.5	ug/L				
		benzo(a)anthracene		<	0.5	ug/L				
		chrysene		<	0.5	ug/L				
		benzo(b)fluoranthene		<	0.5	ug/L				
		benzo(k)fluoranthene		<	0.5	ug/L				
		benzo(a)pyrene		<	0.2	ug/L				
		indeno(1,2,3-cd)pyrene		<	0.5	ug/L				
		dibenzo(a,h)anthracene		<	0.5	ug/L				
		benzo(g,h,i)perylene		<	0.5	ug/L				
		Unadjusted C11-C22 Aromatics		<	100	ug/L				
		C9-C18 Aliphatics		<	100	ug/L				
		C19-C36 Aliphatics		<	100	ug/L				
		C11-C22 Aromatics		<	100	ug/L				
		1-chloro-octadecane SUR		57	%			40	140	
		o-terphenyl SUR		62	%			40	140	
		2-fluorobiphenyl SUR		79	%			40	140	
		2-bromonaphthalene SUR		81	%			40	140	
MA EPH	LCS7312	naphthalene		30	ug/L	60	51	40	140	
		2-methylnaphthalene		33	ug/L	60	55	40	140	
		phenanthrene		39	ug/L	60	66	40	140	
		acenaphthene		32	ug/L	60	54	40	140	
		acenaphthylene		34	ug/L	60	56	40	140	
		fluorene		36	ug/L	60	61	40	140	
		anthracene		39	ug/L	60	66	40	140	
		fluoranthene		41	ug/L	60	68	40	140	
		pyrene		42	ug/L	60	71	40	140	
		benzo(a)anthracene		47	ug/L	60	79	40	140	
		chrysene		45	ug/L	60	75	40	140	
		benzo(b)fluoranthene		43	ug/L	60	72	40	140	
		benzo(k)fluoranthene		50	ug/L	60	83	40	140	
		benzo(a)pyrene		44	ug/L	60	73	40	140	
		indeno(1,2,3-cd)pyrene		36	ug/L	60	61	40	140	
		dibenzo(a,h)anthracene		38	ug/L	60	63	40	140	
		benzo(g,h,i)perylene		32	ug/L	60	53	40	140	
		Unadjusted C11-C22 Aromatics		810	ug/L	1020	80	40	140	
		C9-C18 Aliphatics		180	ug/L	360	51	40	140	
		C19-C36 Aliphatics		330	ug/L	480	69	40	140	
		C11-C22 Aromatics		150	ug/L					
		1-chloro-octadecane SUR		54	%			40	140	
		o-terphenyl SUR		71	%			40	140	
		2-fluorobiphenyl SUR		91	%			40	140	
		2-bromonaphthalene SUR		93	%			40	140	

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
MA EPH	LCSD7312	naphthalene		33	ug/L	60	54	40 140	7	25
		2-methylnaphthalene		35	ug/L	60	58	40 140	6	25
		phenanthrene		41	ug/L	60	69	40 140	5	25
		acenaphthene		34	ug/L	60	57	40 140	6	25
		acenaphthylene		36	ug/L	60	59	40 140	6	25
		fluorene		39	ug/L	60	65	40 140	6	25
		anthracene		41	ug/L	60	69	40 140	4	25
		fluoranthene		42	ug/L	60	71	40 140	4	25
		pyrene		42	ug/L	60	69	40 140	2	25
		benzo(a)anthracene		48	ug/L	60	80	40 140	2	25
		chrysene		45	ug/L	60	76	40 140	1	25
		benzo(b)fluoranthene		45	ug/L	60	75	40 140	3	25
		benzo(k)fluoranthene		49	ug/L	60	82	40 140	1	25
		benzo(a)pyrene		44	ug/L	60	74	40 140	2	25
		indeno(1,2,3-cd)pyrene		37	ug/L	60	62	40 140	3	25
		dibenzo(a,h)anthracene		39	ug/L	60	65	40 140	2	25
		benzo(g,h,i)perylene		33	ug/L	60	54	40 140	3	25
		Unadjusted C11-C22 Aromatics		830	ug/L	1020	82	40 140	2	25
		C9-C18 Aliphatics		180	ug/L	360	51	40 140	0	25
		C19-C36 Aliphatics		300	ug/L	480	62	40 140	11	25
		C11-C22 Aromatics		150	ug/L					
		1-chloro-octadecane SUR		52	%			40 140		
		o-terphenyl SUR		71	%			40 140		
		2-fluorobiphenyl SUR		88	%			40 140		
		2-bromonaphthalene SUR		91	%			40 140		

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW3005A6010C	BLK7310	Silver		< 0.005	mg/L					
		Arsenic		< 0.008	mg/L					
		Barium		< 0.05	mg/L					
		Cadmium		< 0.004	mg/L					
		Chromium		< 0.05	mg/L					
		Lead		< 0.01	mg/L					
		Selenium		< 0.05	mg/L					
SW3005A6010C	DUP7310	Arsenic	31215-001	0.012	mg/L				5	20
		Lead	31215-001	< 0.01	mg/L				2E	20
SW3005A6010C	LCS7310	Silver		0.24	mg/L	0.25	95	80	120	
		Arsenic		0.52	mg/L	0.5	104	80	120	
		Barium		0.51	mg/L	0.5	101	80	120	
		Cadmium		0.51	mg/L	0.5	102	80	120	
		Chromium		0.52	mg/L	0.5	104	80	120	
		Lead		0.52	mg/L	0.5	103	80	120	
		Selenium		0.53	mg/L	0.5	105	80	120	
SW3005A6010C	LCSD7310	Silver		0.24	mg/L	0.25	97	80	120	2
		Arsenic		0.52	mg/L	0.5	104	80	120	0
		Barium		0.51	mg/L	0.5	103	80	120	1
		Cadmium		0.52	mg/L	0.5	103	80	120	1
		Chromium		0.52	mg/L	0.5	105	80	120	1
		Lead		0.53	mg/L	0.5	105	80	120	2
		Selenium		0.53	mg/L	0.5	106	80	120	1
SW3005A6010C	MS7310	Arsenic	31215-001	0.54	mg/L	0.5	105	70	130	
		Lead	31215-001	0.52	mg/L	0.5	104	70	130	
SW7470A	BLK7315	Mercury		< 0.0002	mg/L					
SW7470A	LCS7315	Mercury		0.0019	mg/L	0.002	94	80	120	
SW7470A	LCSD7315	Mercury		0.0019	mg/L	0.002	96	80	120	3

